Special Meeting of the Planning Commission
City Council Chambers
18747 Clarkdale Avenue
Artesia, CA 90701
(562) 865-6262

Monday, March 10, 2025
7:00 p.m.

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

4. PUBLIC COMMENTS

This is the portion of the meeting set aside to invite public comments. Under California law, public comments at special meetings are limited to subjects on the agenda only. Those wishing to speak are asked to add your information at the digital public kiosk located at the entrance of the Council Chamber; comments are limited to three minutes each. Public comments may also be submitted by email at publiccomments@cityofartesia.us before 12:00 p.m. on the date of the meeting.

5. CONSENT CALENDAR - NONE

6. NEW BUSINESS - NON-PUBLIC HEARING - NONE

7. NEW BUSINESS - PUBLIC HEARING

7A. Draft Environmental Impact Report (EIR) for the proposed Artesia Downtown Specific Plan (ADSP)

8. DISCUSSION / REPORT ITEMS FROM STAFF - NONE

9. COMMUNITY DEVELOPMENT DIRECTOR UPDATES

10. COMMISSIONER COMMENTS

11. ADJOURNMENT

The City of Artesia complies with the Americans with Disabilities Act of 1990. If you require special assistance to attend or participate in this meeting, please call the City Clerk's office at 562-865-6262 at least 72 hours prior to the meeting. Copies of Staff Reports are on file in the Office of the City Clerk and are available for inspection.

Date Posted: March 6, 2025

PLANNING COMMISSION AGENDA REPORT

MEETING DATE: March 10, 2025 **ITEM NO: 7A.**

TO: Honorable Chairperson and Members of the Planning Commission

SUBJECT: Draft Environmental Impact Report (EIR) for the proposed Artesia Downtown Specific Plan (ADSP)

FROM: Art Bashmakian, Acting Planning Manager
Sal Lopez, Interim Community Development Director

REVIEWED AND APPROVED BY:
Nick Papajohn, Deputy City Attorney
Abel Avalos, City Manager

RECOMMENDATION:

That the Planning Commission take public comment on the Draft Environmental Impact Report (DEIR) prepared for the proposed Artesia Downtown Specific Plan (Plan).

BACKGROUND:

The Los Angeles County Metropolitan Transit Authority (Metro) plans to construct the Southeast Gateway Line (SGL), which includes a future station at Pioneer Boulevard (see page 1-7 of the Plan for the map of the SGL). Upon completion of the SGL, Downtown Artesia will have a single-seat connection to Downtown Los Angeles. Pioneer Station will directly connect Artesia with major destinations and employment centers in the region – Downtown Los Angeles, Union Station, and South Los Angeles. Transferring at Union Station, passengers will be able to connect as far as Santa Monica, Los Angeles International Airport, Pasadena, East Los Angeles, Azusa, and Pomona.

Recognizing that upon completion, the SGL will enhance Downtown Artesia's position as a gateway between Los Angeles and Orange County, the City Council on August 22, 2016, approved a grant agreement between the City and Metro to fund the preparation of the Artesia Downtown Specific Plan in order to facilitate new transit-oriented development. A second grant was approved on November 8, 2021 between the City and Metro as the original boundary of the proposed Plan area was expanded.

The City Council on April 10, 2023, approved a Professional Services Agreement with PlaceWorks to prepare the Specific Plan. Since April of 2023, PlaceWorks and city staff have hosted community workshops, and other events to hear from various members of the community. On September 12, 2023, a study session was held regarding the proposed Plan during a special meeting of the Planning Commission in order to gain feedback from the Commission and the public. On September 25, 2023 a similar study session was held before the City Council.

After many months of work, on February 28, 2025, the City of Artesia released the draft Artesia Downtown Specific Plan (Plan) for public review. Concurrently with the release of the draft Plan, the City also released the DEIR for public review and comment. The EIR is available for public review commencing on February 28, 2025 and ending on April 14, 2025. To further facilitate public participation, the March 10, 2025 special meeting of the Planning Commission provides a forum for the public, other agencies and the Commission to comment on the DEIR during the 46 day public review period.

Plan Overview/Summary

The Artesia Downtown Specific Plan (ADSP) area encompasses 70.8 acres, including the blocks adjoining Pioneer Boulevard to the southeast and ending at 180th Street to the north. The northern portion of the project site (north of Metro's Southeast Gateway Line light rail project) is bounded by Alburtis Avenue and Corby Avenues to the west, 180th Street to the north, Arline Avenue to the east, and 188th Street to the south. The project site extends south of the Southeast Gateway Line to the future Pioneer Boulevard light rail station and includes the area between 188th Street and the La Belle Chateau Mobile Home Park, Pioneer Boulevard on the east, and Jersey Avenue on the west.

To facilitate new transit-oriented development, the Plan will implement new land use, zoning, and development standards thereby creating incentives for new investment in the downtown. The Plan encourages new opportunities for jobs, housing, recreation, entertainment, and retail as the city prepares for the Metro extension.

The Plan will dictate the scale of future development growth in Artesia's Downtown district, enhance pedestrian and bicyclist experience, curate community gathering spaces and create a sense of place.

The Vision of the Plan includes the preservation of residential uses along Corby Avenue, Airline Avenue and at the mobile home park at the south end of downtown. Large commercial parcels along 183rd Street and South Street present opportunities for new 4-5 story mixed use development and creating gateway anchors at the north and south ends of Downtown. The downtown core connects the north and south anchors with small scale boutique shopping, dining, and entertainment, in a manner analogous to traditional shopping malls anchored by department stores. In addition to existing on street parking, additional parking is provided via a parking structure adjacent to the transit station and at the north gateway to accommodate visitors arriving south bound along Pioneer Boulevard from the 91 freeway. The area south of 188th Street and west of Corby Avenue includes infill development with low intensity residential and commercial office and retail uses that complement the residential character of the neighborhood.

The Plan divides the project site into six zoning districts that would allow for a range of land uses and density within a defined building envelope. The Plan establishes goals and objectives, development standards, and implementation actions associated with land use, mobility, and infrastructure and establishes a transit-oriented plan that would provide new opportunities for housing, retail/commercial, and entertainment uses. The six zoning districts are as follows:

- **Downtown North.** The Downtown North District encompasses 15.3 acres and would become the northern gateway and anchor to downtown Artesia. This district would allow for higher density mixed-use development at 65 dwelling units per acre (du/ac). The southwest corner of this district would allow four- to five-story mixed-use development and two- and three-story townhomes. Where the city owns property at the northwest corner of 183rd Street and Pioneer Boulevard, a public-private partnership would be encouraged for development of a public parking structure with ground-floor retail uses. The parking structure would serve visitors, residents, and employees as they travel to and from Downtown Artesia and the 91 freeway to the north. The post office at 183rd Street and Albertis Avenue is expected to remain.
- **Pioneer Boulevard.** The Pioneer Boulevard District encompasses 8.8. acres, fronts Pioneer Boulevard north of the future Metro transit station, and is in the center of downtown Artesia. This area is composed of narrow parcels with a continuous street frontage of one-story commercial establishments such as restaurants,

markets, jewelry shops, and other retail establishments. Although significant new development is not expected in this district, the district would allow for three-story buildings at 50 du/ac or 60 du/ac by utilizing the Downtown Density Bonus Program.

- **Downtown South.** The Downtown South District encompasses 23.1 acres and would become the southern gateway to downtown Artesia and the City. The district would allow four- to six-story mixed-use development at 75 du/ac and incorporate land uses such as ground-floor retail, a hotel, townhomes, and neighborhood parks for residents and visitors. A Metro parking structure is planned in the South Street Mixed District just south of the transit station.
- **188th Street / Corby Avenue.** The 188th Street/Corby Avenue District encompasses 4.6 acres and would be south of the future Metro station; it presently includes residential and light industrial uses. This district would allow for residential uses such as duplex, triplex, and townhomes at 65 du/ac and commercial office and retail in a horizontal mixed-use format.
- **Downtown Neighborhood.** The Downtown Neighborhood District encompasses 9.4 acres and would be in the residential west and east edges of the Downtown area along Corby Avenue and Arline Avenue. The downtown neighborhood would retain its residential character at 40 du/ac.
- **Chateau Estates.** The Le Belle Chateau Estates Mobile Home Park District encompasses 9.6 acres and sits at the southern edge of the project site. The mobile home park use would be maintained in this district. The Chateau Estates District would retain its residential character at 11 du/ac.

Draft Environmental Impact Report (DEIR) – Public Notice and Comment

In conformance with the California Environmental Quality Act (CEQA), the City has prepared a Draft Environmental Impact Report (DEIR), which analyzes potential environmental effects of adopting the Plan. CEQA aims to protect the environment by requiring public agencies to consider the environmental effects of their actions. CEQA also encourages public participation in the decision-making process. CEQA requires public agencies to disclose the potential environmental impacts of projects to the public.

In accordance with CEQA, the City sent a Notice of Availability (NOA) of the DEIR to various state, regional and local agencies including public utilities and Native American Tribes, to solicit their input and comment on the DEIR during the 46 day public review period which commenced on February 28, 2025 and will conclude on April 14, 2025. The NOA also listed the March 10, 2025 special meeting of the Planning Commission, offering additional opportunity for agencies and the public to make comments in addition to members of the Planning Commission. The NOA was also published in the Cerritos Community Newspaper on February 28, 2025 and posted on the City's website along with a link to the DEIR and the Draft Specific Plan.

DEIR Overview

This DEIR fulfills the requirements for a Program EIR. Although the legally required contents of a Program EIR are the same as for a Project EIR, Program EIRs are typically more conceptual than Project EIRs, with a more general discussion of impacts, alternatives, and mitigation measures, commensurate with the level of detail available for a project. According to Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that can be characterized as one large project. Use of a Program EIR gives the lead agency an opportunity to consider broad policy alternatives and program-wide mitigation measures as well as greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive scale. Since there is no particular development project associated with the proposed ADSP, the Program EIR is appropriate in this case.

The purpose of the EIR is to serve as an informational document for the public and City of Artesia decision-makers. The EIR is intended to provide decision-makers and the public with information that enables them to intelligently consider the environmental consequences of the proposed action (the adoption of the ADSP). This EIR identifies significant or potentially significant environmental effects that cannot be mitigated to the level of less than significant level, as well as ways in which other identified impacts can be reduced to less-than-significant levels, whether through the imposition of mitigation measures or through the implementation of specific alternatives to the project. In a practical sense, the EIR functions as a technique for fact-finding, allowing concerned citizens and agency staff an opportunity to collectively review and evaluate the project impacts through a process of full disclosure.

Summary of Environmental Impacts and Mitigation Measures

Based on the scope of the Artesia Downtown Specific Plan, significant and unavoidable impacts could result from future development of the proposed Plan in the following areas:

- Air Quality
- Greenhouse Gas Emissions
- Noise

A detailed discussion of these impacts can be found in Section 5.2 (Air Quality), Section 5.6 (Greenhouse Gas Emissions) and Section 5.9 (Noise) of the DEIR. Table 1-1, summarizing the impacts and mitigation measures is available in Chapter 1 (Executive Summary), pages 1-10 through 1-26 of the DEIR.

Alternatives Analysis

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines § 15126.6[a]).

Chapter 7 of the DEIR includes a discussion and evaluation of three alternatives to the proposed Artesia Downtown Specific Plan including:

- **Alternative 1: No Project/Existing General Plan**– This legally mandated alternative, which is not subject to the requirements to meet most of the project objectives of the proposed Plan or to substantially lessen any of the significant effects of the project, reflects conditions likely to occur in the future without the adoption of the proposed Plan. Future land uses in the study area would be guided by continued implementation of the General Plan land use designations and zoning, as applicable. Alternative 1 would result in 1,783 housing units (1,764 net units), 6,241 residents (6,175 net residents), and 326 employees (26 net employees). No land use or zoning amendments would be processed under this alternative.

- **Alternative 2: Redevelopment at Reduced Commercial Incentives** - This alternative assumes that in the proposed Downtown South, Pioneer Boulevard, and Downtown North Mixed Use Districts, the development of commercial uses (at 20 percent of the land maximum) would not utilize the Downtown Density Bonus Program and therefore would not increase residential density through density bonus. Alternative 2 would result in 1,754 housing units (1,735 net housing units), 6,139 residents (6,073 net residents), and 178 employees (122 less employees). Alternative 2 was included for further analysis as an approach to meet the City's Regional Housing Needs Assessment (RHNA) allocation with the goal of decreasing the severity of the proposed project's environmental impacts.

- **Alternative 3: Redevelopment With No Reduced Commercial Incentives** - This alternative assumes that in the proposed Downtown South, Pioneer Boulevard, and Downtown North Mixed Use Districts, the development of commercial uses (at 20 percent of the land maximum) would not utilize the Downtown Density Bonus Program and therefore would not receive a density bonus to increase residential density. Alternative 3 would result in 1,498 housing units (1,479 net housing units), 5,243 residents (5,177 net residents), and 178 employees (122 less employees). Alternative 3 was included for further analysis as an approach to meet the City's Regional Housing Needs Assessment (RHNA) allocation with the goal of decreasing the severity of the proposed project's environmental impacts.

RECOMMENDED ACTION:

Staff is seeking comments from the public, other agencies, and the Commission on the DEIR for the Artesia Downtown Specific Plan. The Final Environmental Impact Report (comprised of the DEIR and Responses to Comments received on the DEIR) will also be considered by the Planning Commission, and City Council, as part of the future public hearing process required for certification of the EIR and adoption of the Plan. It is anticipated that the public hearing before the Planning Commission may occur in June and with the City Council in July. The time and date of hearings will be appropriately noticed.

Attachments

DRAFT Environmental Impact Report.pdf
Appendices for DRAFT Environmental Impact Report.pdf
Artesia Downtown Specific Plan.pdf

February 2025 | **Draft Environmental Impact Report**
State Clearinghouse No. 2024020999

ARTESIA DOWNTOWN SPECIFIC PLAN

for City of Artesia

Prepared for:

City of Artesia
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Prepared by:

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PLACEWORKS

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ABBREVIATIONS AND ACRONYMS

AAQS	ambient air quality standards
AB	Assembly Bill
ACM	asbestos-containing materials
ADT	average daily traffic
amsl	above mean sea level
AQMP	air quality management plan
AST	aboveground storage tank
BAU	business as usual
bgs	below ground surface
BMP	best management practices
CAA	Clean Air Act
CAFE	corporate average fuel economy
CalARP	California Accidental Release Prevention Program
CalEMA	California Emergency Management Agency
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cfs	cubic feet per second
CGS	California Geologic Survey
CMP	congestion management program

Abbreviations and Acronyms

CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
Corps	US Army Corps of Engineers
CSO	combined sewer overflows
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
GWP	global warming potential
HCM	Highway Capacity Manual
HQTA	high quality transit area
HVAC	heating, ventilating, and air conditioning system
IPCC	Intergovernmental Panel on Climate Change
L_{dn}	day-night noise level
L_{eq}	equivalent continuous noise level
LBP	lead-based paint
LCFS	low-carbon fuel standard
LOS	level of service
LST	localized significance thresholds
M_W	moment magnitude
MCL	maximum contaminant level
MEP	maximum extent practicable

Abbreviations and Acronyms

mgd	million gallons per day
MMT	million metric tons
MPO	metropolitan planning organization
MT	metric ton
MWD	Metropolitan Water District of Southern California
NAHC	Native American Heritage Commission
NO_X	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
O_3	ozone
OES	California Office of Emergency Services
PM	particulate matter
POTW	publicly owned treatment works
ppm	parts per million
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RMP	risk management plan
RMS	root mean square
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	state implementation plan
SLM	sound level meter
SoCAB	South Coast Air Basin
SO_X	sulfur oxides
SQMP	stormwater quality management plan
SRA	source receptor area [or state responsibility area]
SUSMP	standard urban stormwater mitigation plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

Abbreviations and Acronyms

TAC	toxic air contaminants
TNM	transportation noise model
tpd	tons per day
TRI	toxic release inventory
TTCP	traditional tribal cultural places
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	urban water management plan
V/C	volume-to-capacity ratio
VdB	velocity decibels
VHFHSZ	very high fire hazard severity zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	water quality management plan
WSA	water supply assessment

1. Executive Summary

The executive summary provides an overview of the Arteria Downtown Specific Plan (proposed project) and the potential environmental impacts of implementing the proposed project. In accordance with State California Environmental Quality Act (CEQA) Guidelines Section 15123, this summary identifies: "1) each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; 2) areas of controversy known to the Lead Agency including issues raised by agencies and the public; and 3) issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects."

1.1 INTRODUCTION

CEQA requires that local government agencies consider the environmental consequences before taking action on projects over which they have discretionary approval authority. An environmental impact report (EIR) analyzes potential environmental consequences to inform the public and support informed decisions by local and state governmental agency decision makers. This Draft Environmental Impact Report (DEIR) addresses the potential environmental effects associated with the implementation of the proposed project, focusing on impacts determined to be potentially significant in the Initial Study (IS) completed for this project (see Appendix A).

This DEIR has been prepared pursuant to the requirements of CEQA and the City of Artesia's (City) CEQA procedures. The City, as the lead agency, has reviewed and revised all submitted drafts, technical studies, and reports as necessary to reflect its own independent judgment, including reliance on City technical personnel from other departments and review of all technical subconsultant reports.

Data for this DEIR derive from onsite field observations, analysis of adopted plans and policies; review of available studies, reports, data and similar literature; and specialized environmental assessments (air quality, energy, greenhouse gas emissions, geological resources [paleontological resources], hydrology and water quality, noise, and transportation).

1.2 ENVIRONMENTAL PROCEDURES

This DEIR has been prepared pursuant to CEQA and the CEQA Guidelines to assess the environmental effects associated with implementation of the proposed project, as well as anticipated future discretionary actions and approvals. CEQA establishes six main objectives for an EIR:

1. Disclose to decision makers and the public the significant environmental effects of proposed activities.
2. Identify ways to avoid or reduce environmental damage.
3. Prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.

4. Disclose to the public reasons for agency approval of projects with significant environmental effects.

5. Foster interagency coordination in the review of projects.

6. Enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation in CEQA and the CEQA Guidelines; it is intended to provide an objective, factually supported analysis and full disclosure of the environmental consequences of a proposed project with the potential to result in significant, adverse environmental impacts, and identifies ways to avoid or minimize those impacts to the extent feasible.

Before approving a proposed project, the lead agency must consider the information in the EIR; determine whether the EIR was prepared in accordance with CEQA and the CEQA Guidelines; determine that it reflects the independent judgment of the lead agency; adopt findings concerning the project's significant environmental impacts and alternatives; and adopt a statement of overriding considerations if significant impacts cannot be avoided.

1.2.1 EIR Format

Chapter 1. Executive Summary: Summarizes the background and description of the proposed project, the format of this EIR, project alternatives, any critical issues remaining to be resolved, and the potential environmental impacts and mitigation measures identified for the project.

Chapter 2. Introduction: Describes the purpose of this EIR, the environmental process including the Notice of Preparation (NOP)/Initial Study and Final EIR process, and the use of incorporation by reference.

Chapter 3. Project Description: A detailed description of the project including its objectives, definition of the project area and location, approvals anticipated to be required as part of the project, necessary environmental clearances, and the intended uses of this EIR.

Chapter 4. Environmental Setting: A description of the physical environmental conditions in the vicinity of the project as they existed at the time the NOP was published, from local and regional perspectives. These provide the baseline physical conditions from which the lead agency determines the significance of the project's environmental impacts.

Chapter 5. Environmental Analysis: Each environmental topic is analyzed in a separate section that discusses: the existing environmental setting; the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the project; the potential adverse and beneficial environmental effects of the project; the level of impact significance before mitigation; the mitigation measures for the proposed project as appropriate; the level of significance after mitigation is incorporated; the potential cumulative impacts of the proposed project and other existing, approved, and proposed development in the area; and a list of all references used to prepare the analysis.

Chapter 6. Significant Unavoidable Adverse Impacts: Identifies the significant unavoidable adverse impacts of the proposed project.

Chapter 7. Alternatives to the Proposed Project: Describes alternatives to the proposed project and compares their impacts to the impacts of the proposed project. Alternatives include the No Project/Existing General Plan Alternative, Redevelopment at Reduced Commercial Incentive Alternative, and Redevelopment with No Commercial Incentives Alternative. It identifies the alternatives that were considered but rejected from analysis and the environmentally superior alternative.

Chapter 8. Impacts Found Not to Be Significant: Briefly describes the potential impacts of the proposed project that were determined not to be significant by the Initial Study and were therefore not discussed in further detail in this EIR.

Chapter 9. Significant Irreversible Changes Due to the Proposed Project: Describes the significant irreversible environmental changes associated with the proposed project.

Chapter 10. Growth-Inducing Impacts of the Proposed Project: Describes the ways in which the proposed project would cause increases in employment or population that could result in new physical or environmental impacts.

Chapter 11. Organizations and Persons Consulted: Lists the people and organizations that were contacted during the preparation of this EIR.

Chapter 12. Qualifications of Persons Preparing EIR: Identifies the people who are responsible for preparation of EIR .

Appendices: The appendices for this document comprise these supporting documents:

- Appendix A: Initial Study, Notice of Preparation, and Public Comment Letters
- Appendix B: Buildout Scenarios Memo
- Appendix C: Air Quality and Greenhouse Gas Emissions Modeling Data
- Appendix D: Records Search Results from South Central Coastal Information Center at California State University, Fullerton
- Appendix E: Paleontological Records Search Results from the Natural History Museum of Los Angeles County
- Appendix F: Noise Modeling Data
- Appendix G: Local Transportation Assessment
- Appendix H: Transportation Impact Study

1. Executive Summary

1.2.2 Type and Purpose of This DEIR

This DEIR fulfills the requirements for a Program EIR. Although the legally required contents of a Program EIR are the same as for a Project EIR, Program EIRs are typically more conceptual than Project EIRs, with a more general discussion of impacts, alternatives, and mitigation measures, commensurate with the level of detail available for a project. According to Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that can be characterized as one large project. Use of a Program EIR gives the lead agency an opportunity to consider broad policy alternatives and program-wide mitigation measures as well as greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive scale.

Agencies prepare Program EIRs for programs or a series of related actions that are linked geographically; logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or individual activities carried out under the same authority and having generally similar environmental effects that can be mitigated in similar ways. This is applicable to the City's review of the Artesia Downtown Specific Plan, which is a long-range policy document with no specific development projects proposed, within a defined geographic area.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether an additional CEQA document is necessary. However, if the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities may be within the Program EIR's scope, and additional environmental documentation may not be required (Guidelines Section 15168[c]). When a lead agency relies on a Program EIR for a subsequent activity, it must incorporate feasible mitigation measures and alternatives from the Program EIR into the subsequent activities (Guidelines Section 15168[c][3]). If a subsequent activity would have effects outside the scope of the Program EIR, the lead agency must prepare a CEQA Section 15183, Projects Consistent with a Community Plan or Zoning, findings, and new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR. Even in this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The CEQA Guidelines encourage the use of Program EIRs, citing five advantages (CEQA Guidelines Section 15168(b)):

- Provide a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR;
- Focus on cumulative impacts that might be slighted in a case-by-case analysis;
- Avoid continual reconsideration of recurring policy issues;
- Consider broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them;
- Reduce paperwork by encouraging the reuse of data (through tiering).

1.3 PROJECT LOCATION

The Artesia Downtown Specific Plan area (Specific Plan area or project site) is in an urbanized area in the City of Artesia (City), Los Angeles County. The City is 19 miles southeast of Downtown Los Angeles and 10 miles northwest of the City of Anaheim; it shares its eastern, southern, and western boundaries with the City of Cerritos and its northern boundary with the City of Norwalk.

The project site encompasses 70.8 acres, including the blocks adjoining Pioneer Boulevard to the southeast and ending at 180th Street to the north. The northern portion of the project site (north of Metro's Southeast Gateway Line light rail project) is bounded by Alburtis Avenue and Corby Avenues to the west, 180th Street to the north, Arline Avenue to the east, and 188th Street to the south. The project site extends south of the Southeast Gateway Line to the future Pioneer Boulevard light rail station and includes the area between 188th Street and the La Belle Chateau Mobile Home Park, Pioneer Boulevard on the east, and Jersey Avenue on the west. The nearest freeway providing regional access to the project site is State Route (SR-) 91, a multilane freeway that divides the northern end of the City.

1.4 PROJECT SUMMARY

The proposed project is a planning document that would implement new land use, zoning, and development standards to guide the scale and future development and growth within the City's Downtown district as the City prepares for the planned expansion of a new Los Angeles County Metropolitan Transportation Authority (Metro) light rail line (referred to as the Southeast Gateway Line) that would connect southeastern Los Angeles County communities, including the City, to Downtown Los Angeles.

The proposed project would divide the project site into six zoning districts that would allow for a range of land uses and density within a defined building envelope. While there are no specific development projects proposed at this time, the proposed project would establish goals and objectives, development standards, and implementation actions associated with land use, mobility, and infrastructure and establish a transit-oriented plan that would provide new opportunities for housing, retail/commercial, and entertainment uses. The proposed project would divide the project site into six zoning districts:

- **Downtown North.** The Downtown North District encompasses 15.3 acres and would become the northern gateway and anchor to Downtown Artesia. This district would allow for higher density mixed-use development at 65 dwelling units per acre (du/ac). The southwest corner of this district would allow four- to five-story mixed-use development and two- and three-story townhomes. Where the City owns property at the northwest corner of 183rd Street and Pioneer Boulevard, a public-private partnership would be encouraged for development of a public parking structure with ground-floor retail uses. The parking structure would serve visitors, residents, and employees as they travel to and from Downtown Artesia and the 91 freeway to the north. The post office at 183rd Street and Albertis Avenue is expected to remain.

- **Pioneer Boulevard.** The Pioneer Boulevard District encompasses 8.8. acres, fronts Pioneer Boulevard north of the future Metro Pioneer Boulevard light rail station and is in the center of Downtown Artesia. This area is composed of narrow parcels with a continuous street frontage of one-story commercial

establishments such as restaurants, markets, and jewelry shops. Although significant new development is not expected in this district, the district would allow for three-story buildings at 50 du/ac or 60 du/ac by utilizing the Downtown Density Bonus Program.

- **Downtown South.** The Downtown South District encompasses 23.1 acres and would become the southern gateway to Downtown Artesia and the City. The district would allow four- to six-story mixed-use development at 75 du/ac and incorporate land uses such as ground-floor retail, a hotel, townhomes, and neighborhood parks for residents and visitors. A Metro parking structure[1] is planned in the South Street Mixed District just south of the transit station.

- **188th Street / Corby Avenue.** The 188th Street/Corby Avenue District encompasses 4.6 acres and would be south of the future Metro Pioneer Boulevard light rail station; it presently includes residential and light industrial uses. This district would allow for residential uses such as duplex, triplex, and townhomes at 65 du/ac and commercial office and retail in a horizontal mixed-use format.

- **Downtown Neighborhood.** The Downtown Neighborhood District encompasses 9.4 acres and would be in the residential west and east edges of the Downtown area along Corby Avenue and Arline Avenue. The Downtown Neighborhood District would retain its residential character at 40 du/ac.

- **Chateau Estates.** The Le Belle Chateau Estates Mobile Home Park District encompasses 9.6 acres and sits at the southern edge of the project site. The mobile home park use would be maintained in this district. The Chateau Estates District would retain its residential character at 11 du/ac.

The proposed project has identified 53 parcels within the project site that could support future redevelopment (Redevelopment Opportunity Sites). At buildout (for purposes of this EIR estimated to be in 2045), the proposed project would allow for a total of 1,981 housing units (1,962 net increase in housing units), 502,919 square feet of commercial space (78,901 net increase in commercial square feet), 6,935 residents (6,868 net increase in residents), and 356 jobs (56 net increase in jobs). The proposed project, combined with total existing development on parcels that would not undergo land use or zoning changes, would result in 2,276 housing units, 1,052,850 square feet of nonresidential land use, 7,967 residents, and 745 jobs in the project site.

1.5 SUMMARY OF PROJECT ALTERNATIVES

Three alternatives have been determined to represent a reasonable range of alternatives that have the potential to feasibly attain most of the basic objectives of the proposed project which may avoid or substantially lessen the proposed project's significant effects. An EIR must identify an "environmentally superior" alternative, and where the No Project Alternative is identified as environmentally superior, the EIR is then required to identify as environmentally superior alternative from among the others evaluated. Each alternative's environmental impacts are compared to the proposed project and determined to be environmentally superior, neutral, or

[1] The planned Metro parking structure is part of the Southeast Gateway Line project (formerly West Santa Ana Branch Corridor Project) and is analyzed in the West Santa Ana Branch Transit Corridor Project EIR (SCH No. 2017061007).

inferior. Section 7.7 of this DEIR identifies the environmentally superior alternative. The preferred land use alternative (proposed project) is analyzed in detail in Chapter 5 of this DEIR.

1.5.1 No-Project/Existing General Plan Alternative (Alternative 1)

Section 15126.6(e) of the State CEQA Guidelines requires that an EIR evaluate the specific alternative of "no project" along with its impact. As stated in this section of the State CEQA Guidelines, the purpose of describing and analyzing a No Project/Existing General Plan Alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving a proposed project. As specified in Section 15126.6(e)(3)(A), when a project is the revision of an existing land use or regulatory plan or policy or an ongoing operation, the No Project/Existing General Plan Alternative (Alternative 1) will be the continuation of the plan, policy, or operation into the future. Therefore, the Alternative 1, as required by the State CEQA Guidelines, analyzes the effects of not adopting and implementing the Artesia Downtown Specific Plan.

Under Alternative 1 the proposed Artesia Downtown Specific Plan would not be adopted, and the transit-oriented development would not occur. Instead, this alternative assumes the project site is redeveloped in accordance with the site's existing land use designations and zoning. Alternative 1 would result in 1,783 housing units (1,764 net units), 6,241 residents (6,175 net residents), and 326 employees (26 net employees). No land use or zoning amendments would be processed under this alternative.

1.5.2 Redevelopment at Reduced Commercial Incentive Alternative (Alternative 2)

The Redevelopment at Reduced Commercial Incentives Alternative (Alternative 2) assumes the adoption of the proposed Artesia Downtown Specific Plan and includes estimates for full redevelopment of the 53 selected sites identified by the proposed project. However, this alternative assumes that in the proposed Downtown South, Pioneer Boulevard, and Downtown North Mixed Use Districts, the development of commercial uses (at 20 percent of the land maximum) would not utilize the Downtown Density Bonus Program and therefore would not increase residential density through density bonus. Alternative 2 would result in 1,754 housing units (1,735 net housing units), 6,139 residents (6,073 net residents), and 178 employees (122 less employees). Alternative 2 was included for further analysis as an approach to meet the City's Regional Housing Needs Assessment (RHNA) allocation with the goal of decreasing the severity of the proposed project's environmental impacts.

1.5.3 Redevelopment with No Commercial Incentive Alternative (Alternative 3)

The Redevelopment with No Commercial Incentives Alternative (Alternative 3) assumes the adoption of the proposed Artesia Downtown Specific Plan and includes estimates for full redevelopment of the 53 selected sites identified by the proposed project at a reduced intensity and density as compared to the proposed project. This alternative assumes that in the proposed Downtown South, Pioneer Boulevard, and Downtown North Mixed Use Districts, the development of commercial uses (at 20 percent of the land maximum) would not utilize the Downtown Density Bonus Program and therefore would not increase residential density through

density bonus. Alternative 3 would result in 1,498 housing units (1,479 net housing units), 5,243 residents (5,177 net residents), and 178 employees (122 less employees). Alternative 3 was included for further analysis as an approach to meet the City's Regional Housing Needs Assessment (RHNA) allocation with the goal of decreasing the severity of the proposed project's environmental impacts.

1.6 ISSUES TO BE RESOLVED

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR contain issues to be resolved, including the choice among alternatives and whether or how to mitigate significant impacts. With regard to the proposed project, the major issues to be resolved include decisions by the lead agency as to:

1. Whether this DEIR adequately describes the environmental impacts of the project.
2. Whether the benefits of the project override those environmental impacts which cannot be feasibly avoided or mitigated to a level of insignificance.
3. Whether the proposed land use changes are compatible with the character of the existing area.
4. Whether the identified goals, policies, or mitigation measures should be adopted or modified.
5. Whether there are other mitigation measures that should be applied to the project besides the Mitigation Measures identified in the DEIR.
6. Whether there are any alternatives to the project that would substantially lessen any of the significant impacts of the proposed project and achieve most of the basic project objectives.

1.7 AREAS OF CONTROVERSY

Prior to the preparation of this DEIR, the City issued an NOP consistent with the requirements of Section 15082 of the CEQA Guidelines. The NOP was accompanied by an Initial Study, which provided an assessment of the anticipated environmental effects. The 30-day public review period began on February 26, 2024, and concluded March 27, 2024. An in-person public scoping meeting was held on March 4, 2024, to provide information to interested members of the public and agencies of the project and the EIR process. Three comment letters were received during the NOP public review period and one comment letter was received during the public scoping meeting. Summaries of the NOP comment letters and scoping meeting comment letter are provided in Table 2-1, *Summary of Scoping Comments Received*, in Chapter 2, *Introduction*, and the letters are included in Appendix A of this DEIR. Based on the scoping process, the primary areas of controversy known to the City included:

- Impacts to aesthetics, development standards, public safety, and circulation and access associated with future development of the proposed Southeast Gateway Line Branch Transit Station and associated parking garage in downtown Artesia. These concerns are related to the project components analyzed in the West Santa Ana Branch Transit Corridor Project EIR. The proposed project's components are discussed and or

analyzed throughout this DEIR. (Chapter 3, *Project Description*, Chapter 4, *Environmental Setting*, Section 5.1, *Aesthetics*, Section 5.11, *Public Services (Police)*, and Section 5.14, *Transportation*, respectively).

- Proposed land use changes and zoning updates (Sections 5.1, *Aesthetics*, 5.8, *Land Use and Planning*, and 5.13, *Transportation*).
- Concerns regarding development and/or redevelopment in areas that are traditionally and culturally affiliated with California Native American tribes (Section 5.14, *Tribal Cultural Resources*).

1.8 SUMMARY OF ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE AFTER MITIGATION

Table 1-1 summarizes the conclusions of the environmental analysis contained in this EIR. Impacts are identified as significant or less than significant, and mitigation measures are identified for all significant impacts. The level of significance after imposition of the mitigation measures is also presented.

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.1 AESTHETICS			
Impact 5.1-1: Would the Project, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.1-2: Would the Project create a new source of substantial light or glare which would adversely	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.2 AIR QUALITY			
Impact 5.2-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?	Potentially Significant	Mitigation Measures GHG-1 through GHG-3 and T-1 and T-2 shall apply	Significant and Unavoidable
Impact 5.2-2: Would construction of the Project result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard?	Potentially Significant	AQ 1 Prior to discretionary approval by the City of Artesia for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City of Artesia Planning Department for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the South Coast AQMD–adopted thresholds of significance, the City of Artesia Building and Safety Department shall require feasible mitigation measures to reduce air quality emissions. Potential measures shall be incorporated as conditions of approval for a project and may include, but are not limited to the following: • Require fugitive dust control measures that exceed South Coast Air Quality Management District's Rule 403, such as:	Significant and Unavoidable

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		o Requiring use of nontoxic soil stabilizers to reduce wind erosion. o Applying water every four hours to active soil disturbing activities. o Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials. • Using construction equipment rated by the United States Environmental Protection Agency as having Tier 4 interim or higher exhaust emission limits. • Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards. • Limiting nonessential idling of construction equipment to no more than five consecutive minutes. • Using Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufactures can be found on the South Coast Air Quality Management District's website at: https://www.aqmd.gov/home/rules-compliance/compliance/vocs/architectural-coatings/super-compliant-coatings. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Planning Department.	
Impact 5.2-3: Would construction of the Project expose sensitive receptors to substantial pollutant concentrations?	Potentially Significant	Mitigation Measures GHG-1 through GHG-3 and T-1 and T-2 shall apply.	Significant and Unavoidable
Impact 5.2-4: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Potentially Significant	Mitigation Measure AQ-1 shall apply.	Significant and Unavoidable
5.3 CULTURAL RESOURCES			
Impact 5.3-1: Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	Potentially Significant	CUL-1 Historic Resources Assessment. Prior to the approval of a discretionary project proposed on a parcel(s) within the Artesia Downtown Specific Plan area that includes a building or structure more than 45 years old and that has not previously been evaluated for potential historic significance, the City shall	Less Than Significant

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		require the project proponent to retain an architectural historian meeting the minimum professional qualifications standards (PQS) set forth by the Secretary of the Interior (codified in 36 Code of Federal Regulations [CFR] Part 61; 48 Federal Register 44738–44739) (Qualified Architectural Historian) to conduct a historic resources assessment of affected properties. The assessment shall include a records search at the South Central Coastal Information Center or review of a prior record search conducted within the previous one year; a review of other pertinent archives and sources; a pedestrian field survey; recordation of all identified historic architectural resources on California Department of Parks and Recreation (DPR) 523 forms; evaluation of resources which may be eligible for listing in the California Register (i.e., meets the definition for historical resource in CEQA Guidelines Section 15064.5[a]), and for local listing; and preparation of a technical report documenting the methods and results of the assessment for each future project facilitated by Artesia Downtown Specific Plan measures and actions. If a historic architectural resource is found eligible by the Qualified Architectural Historian, then the Qualified Architectural Historian shall coordinate with the project proponent and City to ensure the project is constructed in conformance with the Secretary of the Interior's Standards. All reports resulting from implementation of this measure shall be filed with the South Central Coastal Information Center (including but not limited to historic resources assessments and Secretary of the Interior's Standards plan reviews). On the basis of this evaluation, if it is determined that the subject property contains a historic resource, Mitigation Measure CUL-2 shall be implemented. CUL-2 Avoidance or Minimization of Effects on Identified Historic Resources. If it is determined that the subject property contains a historic resource the project proponent shall consult with City staff to determine whether a project can be feasibly redesigned or modified to avoid significant adverse impacts on listed and identified eligible historic resource(s), including historic districts. If avoidance of historic resource(s) is not feasible, where feasibility is defined as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors," the project proponent shall seek to reduce the effect on	

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		historic resource(s) to a less-than-significant level pursuant to CEQA Guidelines Section 15364. Projects that conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties are considered to have a less-than-significant effect on historic architectural resources.	
Impact 5.3-2: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Potentially Significant	CUL-3 Cultural Resources Assessment. For discretionary projects that involve ground-disturbing activities during construction on areas within the Artesia Downtown Specific Plan area where no previous ground disturbance or excavation has occurred, or ground-disturbing activities would occur in native soil, a site-specific cultural resources study shall be completed prior to project approval. The study shall include records searches of the California Historical Resources Information System and the Sacred Lands File maintained by the Native American Heritage Commission. The records searches shall determine if the proposed project has been previously surveyed for archaeological resources, identify, and characterize the results of previous cultural resource surveys, and disclose any cultural resources that have been recorded and/or evaluated. If the records search identifies a sensitivity for archaeological resources, an archaeological resources assessment shall be performed under the supervision of an archaeologist that meets the Secretary of the Interior's Professional Qualification Standards (PQS) in either prehistoric or historic archaeology. If the archaeological assessment indicates the area to be of medium sensitivity for archaeological resources, an archaeologist who meets the PQS shall be retained on an on-call basis. If the archaeological assessment indicated the area to be highly sensitive for archaeological resources, a qualified archaeologist shall monitor all ground-disturbing construction and pre-construction activities. CUL-4 All Projects. If cultural resources are discovered during ground-disturbing activities, all ground-disturbing activities within 50 feet of the find shall be halted until a meeting is convened between the developer, archaeologist, tribal representatives, and the Director of the Community Development Department. At the meeting, the significance of the discoveries shall be	Less Than Significant

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		discussed and after consultation with the tribal representatives, developer, and archaeologist, a decision shall be made, with the concurrence of the Director of the Community Development Department, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources.	
Impact 5.3-3: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.4 ENERGY			
Impact 5.4-1: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.4-2: Would the Project conflict with or obstruct a state or local plan for renewable or energy efficiency?	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.5 GEOLOGY AND SOILS			
Impact 5.5-1: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Potentially Significant	GEO-1 Low-to-High Sensitivity. For discretionary projects that involve ground-disturbing activities during construction on areas within the Artesia Downtown Specific Plan area where no previous ground disturbance or excavation has occurred, or ground-disturbing activities would occur in native soil, the project applicant shall consult with a geologist or paleontologist to confirm the level of sensitivity for paleontological resources. If confirmed that underlying sediments may have moderate to high sensitivity, a qualified paleontologist shall be retained to develop and implement a Paleontological Resources Impact Mitigation Plan. The paleontologist shall have the authority to halt construction during ground disturbing activities as outlined in Mitigation Measure GEO-2. GEO-2 All Projects. In the event of any fossil discovery, regardless of depth or geologic formation, ground disturbing activities shall halt within a 50-foot	Less Than Significant

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures		Level of Significance After Mitigation
			radius of the find until its significance can be determined by a qualified paleontologist. Significant fossils shall be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the Society of Vertebrate Paleontology. The most likely repository is the Natural History Museum of Los Angeles County. The repository shall be identified, and a curatorial arrangement shall be signed as part of the Paleontological Impact Mitigation Plan (GEO-1) and prior to collection of the fossils.	
5.6 GREENHOUSE GAS EMISSIONS				
Impact 5.6-1: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Potentially Significant	GHG-1	New development within the Artesia Downtown Specific Plan shall implement the following, voluntary provisions of the California Green Building Standards Code (CALGreen). The project applicant/developer(s) shall provide documentation (e.g., building plans) of implementation of the applicable voluntary measures to the City of Artesia Building and Safety Department prior to the issuance of building permits. Residential Structures with Three or Fewer Stories. For residential land uses with three or fewer stories, the project developer(s) shall: • Design and build condominium/townhouses dwellings that have an attached private garage to have a dedicated electric circuit to support electric vehicle charging, as outlined in the Residential Voluntary Measures of CALGreen, Division A4.1, Planning and Design, as outlined under Section A4.106.8.1. • Design and build residential buildings to, at a minimum, meet the Tier 2 electric vehicle parking standards of the Residential Voluntary Measures of CALGreen, Division A4.1, Planning and Design, as outlined under Section A4.106.8.2.1. • Design and build residential buildings to meet the short- and long-term bicycle parking standards of the Residential Voluntary Measures of CALGreen, Division A4.1, Planning and Design, as outlined under Section A4.106.9.	Significant and Unavoidable

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Design and build residential buildings to meet energy efficiency requirements of the Residential Voluntary Measures of CALGreen, Division A4.2, Energy Efficiency, as outlined under Section A4.203.1. Nonresidential Structures and Residential Structures with Four or More Stories. For nonresidential land uses and residential land uses that are four or more stories, the applicant/developer shall: • Design and build structures to, at a minimum, meet the Tier 2 advanced energy efficiency requirements of the Nonresidential Voluntary Measures of CALGreen, Division A5.2, Energy Efficiency, as outlined under Section A5.203.1.2.2. • For projects with off-street parking, design the proposed parking to provide parking for low-emitting, fuel-efficient, and carpool/van vehicles. At minimum, the number of preferential parking spaces shall equal the Tier 2 Nonresidential Voluntary Measures of CALGreen, Division A5.1, Planning and Design, Section A5.106.5.1.2. • For projects with off-street parking, design the proposed parking to provide electric vehicle (EV) charging stations. At minimum, the number of EV charging stations shall comply with the Tier 2 Nonresidential Voluntary Measures of CALGreen, Division A5.1, Planning and Design, Section A5.106.5.3.3 or Section A5.106.5.3.4. GHG-2 For residential and nonresidential land use development projects, the project applicant/developer shall comply with the following: • All major appliances (e.g., dishwashers, refrigerators, clothes washers and dryers, and water heaters) provided/installed shall be Energy Star certified or of equivalent energy efficiency where applicable. • Installed water heaters shall meet a zero NOX emissions standard. • Installed central furnaces with a Rated Heat Input Capacity less than or equal to 2,000,000 British thermal units (Btu) per hour shall meet a zero NOX emissions standard.	

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Installed fireplaces shall be electric-powered only. Prior to the issuance of the certificate of occupancy, the City of Artesia Building and Safety Department shall verify implementation of these requirements. GHG-3 For nonresidential land use development projects, prior to issuance of the certificate of occupancy, the property owner shall provide documentation to the City of Artesia Building and Safety Department demonstrating enrollment in a 100 percent carbon-free electricity energy plan, such as Southern California Edison's Green Rate program, for proposed project building(s) when feasible. If a 100 percent carbon-free electricity plan is not available, the property owner shall enroll in an energy plan with the next highest carbon-free electricity until a 100 percent carbon-free electricity energy plan becomes available. Measures to achieve 100 percent carbon-free electricity use for the proposed project building(s) may include, but are not limited to, plans for 100 percent renewable electricity. If such carbon-free electricity energy plans are waitlisted, the property owner shall sign up onto the waiting list until such time a plan is available.	
Impact 5.6-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.7 HYDROLOGY AND WATER QUALITY			
Impact 5.7-1: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.7-2: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner	Less Than Significant	No mitigation measures are required.	Less Than Significant

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			
5.8 LAND USE AND PLANNING			
Impact 5.8-2: Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.9 NOISE			
Impact 5.9-1: Would the Project result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Potentially Significant	N-1 Prior to any construction activity such as grading, site prep or issuance of building permits a, a note shall be provided on construction plans indicating that during construction activities and phasing the project applicant shall be responsible for requiring contractors to implement the following measures to limit construction-related noise to a performance standard of 80 dBA Leq at the property line of the nearest sensitive receptor: • Per Section 5-2.06 of the Artesia Municipal Code, construction activity is limited to the daytime hours 7:00 a.m. and 7:00 p.m. on weekdays or at any time on Sunday or Federal holiday. If construction outside of these hours is necessary for construction of a project under the Specific Plan, construction noise shall be limited to the City of Artesia nighttime exterior and interior noise standards for residential uses of 50 dBA and 45 dBA, respectively. • During the entire active construction period, equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible.	Significant and Unavoidable

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Require that impact tools (e.g., jack hammers and hoe rams) be hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools. • Stationary equipment such as generators, air compressors shall be located as far as feasible from nearby noise-sensitive uses. • Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors. • Construction traffic shall be limited—to the extent feasible—to approved haul routes established by the City. • At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City. • Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes. • During the entire active construction period and to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws. • Erect temporary noise barriers, where feasible, when construction noise is predicted to exceed the noise standards after other measures have been considered, would occur at nighttime, or when the anticipated construction duration is greater than is typical (e.g., two years or greater).	

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Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures		Level of Significance After Mitigation
Impact 5.9-2: Would the Project result in the generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less Than Significant	No mitigation measures are required.		Less Than Significant
Impact 5.9-3: Would the Project result in the generation of excessive groundborne vibration or groundborne noise levels?	Potentially Significant	N-2	Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration (FTA) architectural damage thresholds (e.g., 0.12 in/sec PPV for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses such as static rollers and drilling piles as opposed to pile driving shall be used.	Less Than Significant
5.10 POPULATION AND HOUSING				
Impact 5.10-1: Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Less Than Significant	No mitigation measures are required.		Less Than Significant

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.11 PUBLIC SERVICES			
FIRE PROTECTION AND EMERGENCY SERVICES			
Impact 5.11-1: Would the Project result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services?	Less Than Significant	No mitigation measures are required.	Less Than Significant
POLICE PROTECTION			
Impact 5.11-2: Would the Project result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection facilities and personnel?	Less Than Significant	No mitigation measures are required.	Less Than Significant
SCHOOL SERVICES			
Impact 5.11-3: Would the Project result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
other performance objectives for school facilities?			
LIBRARY SERVICES			
Impact 5.11-4: Would the Project result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for library facilities?	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.12 RECREATION			
Impact 5.12-1: Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.12-2: Would the Project include recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.13 TRANSPORTATION			
Impact 5.13-1: Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 5.13-2: Would the Project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	Potentially Significant	T-1 At the time of project entitlement, the project developer shall ensure the implementation of California Air Pollution Control Officer's Association (CAPCOA) 2021 Handbook Transportation Demand Management (TDM) Program T-16. • T-16. Unbundle Residential Parking Costs from Property Cost According to the CAPCOA 2021 Handbook, "this measure will unbundle or separate a residential project's parking costs from property costs, requiring those who wish to purchase parking spaces do so at an additional cost. On the assumption that parking costs are passed to the vehicle owners/drivers utilizing the parking spaces, this measure results in decreased vehicle ownership and, therefore, a reduction in VMT and GHG emissions." It is assumed that qualifying residential project within the Specific Plan area will comply with the provisions of California Civil Code Section 1947.1 resulting from Assembly Bill 1317 (2023, Carillo), which requires residential developments of 16 or more units located in Los Angeles County to unbundle parking from the cost of rent. A cost of $25.00 per month, or $300.00 per year, per leased parking space, is assumed for analysis purposes. No action is required by the City of Artesia to implement this measure, as project developers would be required to comply with all applicable State laws as the time of project entitlement. T-2 At the time of project operation, the developer shall and City shall continue to enforce California Air Pollution Control Officer's Association (CAPCOA) 2021 Handbook Transportation Demand Management (TDM) Program T-24. • T-24. Implement Market Price Public Parking (On-Street) According to the CAPCOA 2021 Handbook, "this measure will price all on-street parking in a given community. Increasing the costs of parking increases the total coast of driving to a location, incentivizing shifts to other modes and thus decreasing total VMT to and from the priced areas." The	

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		City of Artesia currently provides priced on-street parking within the Specific Plan area, primarily along Pioneer Boulevard, 186th Street, and 187th Street. The City of Artesia should continue to implement the priced on-street parking which currently exists within the Specific Plan area.	
Impact 5.13-3: Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.13-4: Would the Project result in inadequate emergency access?	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.14 TRIBAL CULTURAL RESOURCES			
Impact 5.14-1: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In	Potentially Significant	Mitigation Measures CUL-3 and CUL-4 shall apply.	Less Than Significant

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			
5.15 UTILITIES AND SERVICE SYSTEMS			
Impact 5.15-1: Would the Project require or result in the relocation or construction of new or expanded wastewater treatment, the construction or relocation of which could cause significant environmental effects?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.15-2: Would the Project result in a determination by the waste water treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.15-3: Would the Project require or result in the relocation or construction of new or expanded water, the construction or relocation of which could cause significant environmental effects?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.15-4: Would the Project result in insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Less Than Significant	No mitigation measures are required.	Less Than Significant

1. Executive Summary

Table 1-1 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 5.15-5: Would the Project require or result in the relocation or construction of new or expanded storm water drainage, the construction or relocation of which could cause significant environmental effects?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.15-6: Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals or would the Project conflict with federal, state, and local management and reduction statutes and regulations related to solid waste?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.15-7: Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less Than Significant	No mitigation measures are required.	Less Than Significant

2. Introduction

2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The California Environmental Quality Act (CEQA) requires that all state and local governmental agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. This draft environmental impact report (DEIR) has been prepared to satisfy CEQA and the CEQA Guidelines. An EIR is the public document designed to provide decision makers and the public with an analysis of the environmental effects of the proposed project, to indicate possible ways to reduce or avoid environmental damage and to identify alternatives to the project. An EIR must also disclose significant environmental impacts that cannot be avoided; growth-inducing impacts; effects not found to be significant; and significant cumulative impacts of all past, present, and reasonably foreseeable future projects.

The lead agency means "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (Public Resource Code Section 21067). The City of Artesia has the principal responsibility for approval of the Artesia Downtown Specific Plan (proposed project). For this reason, the City of Artesia is the CEQA lead agency for this project.

The intent of the DEIR is to provide sufficient information on the potential environmental impacts of the proposed project to allow the City of Artesia to make an informed decision regarding approval of the project. Specific discretionary actions to be reviewed by the City are described in Section 3.4, *Intended Uses of the EIR*.

This DEIR has been prepared in accordance with requirements of the:

- CEQA of 1970, as amended (Public Resources Code, Sections 21000 et seq.)
- State Guidelines for the Implementation of CEQA of 1970 (CEQA Guidelines), as amended (California Code of Regulations, Sections 15000 et seq.)

The overall purpose of this DEIR is to inform the lead agency, responsible agencies, decision makers, and the general public about the environmental effects of the development and operation of the proposed project. This DEIR addresses effects that may be significant and adverse; evaluates alternatives to the project; and identifies mitigation measures to reduce or avoid adverse effects.

2.2 NOTICE OF PREPARATION AND INITIAL STUDY

The City of Artesia determined that an EIR would be required for this project and issued a Notice of Preparation (NOP) and Initial Study on February 26, 2024 (see Appendix A). The NOP was distributed to

2. Introduction

the State Clearinghouse, public agencies, special districts, responsible and trustee agencies, and other interested parties; and was filed with the Los Angeles County Clerk. Printed copies of the NOP were available for public review at the Artesia Public Library and Artesia City Hall, Planning Department. In addition, electronic copies were made available for download on the City's website at: https://www.cityofartesia.us/522/Artesia-Downtown-Specific-Plan. Comments received during the 30-day public review period, from February 26 to March 27, 2024, are provided in Appendix A and summarized in Table 2-1, *Summary of Scoping Comments Received*.

A public scoping meeting was held during the public review period, on March 4, 2024, from 6:00 p.m. to 7:00 p.m. at the City of Artesia's Albert O. Little Community Center. At the conclusion of the presentation, attendees of the scoping meeting were able to provide comments and questions about the project to City staff and the project consultant during the question-and-answer portion of the meeting.

The NOP process helps determine the scope of the environmental issues to be addressed in the DEIR. Based on this process and the analysis in the Initial Study for the project, certain environmental categories were identified as having the potential to result in significant impacts. Issues considered Potentially Significant are addressed in this DEIR, and issues identified as Less Than Significant or No Impact are addressed in the Initial Study. Please refer to the Initial Study in Appendix A for a discussion of how these determinations were made.

Table 2-1 Summary of Scoping Comments Received

Agency/Organization/Individual	Date	Comment Summary	Issue Addressed In:
City of Cerritos	3/12/2024	• Requests that any potential impacts to the City of Cerritos that may result from the project's proposed development standards be appropriately addressed and/or mitigated.	Section 5.1, Aesthetics; Section 5.8, Land Use; Section 5.13, Transportation
Department of Transportation	3/18/2024	• Recommends eliminating car parking requirements. • Recommends adopting Form-Based Codes. • Recommends investments in connecting all areas of the Plan area to the network of transit stops. • Recommends protecting pedestrians and bicyclists through the construction of bike lanes and sidewalks.	Section 5.13, Transportation
Native American Heritage Commission	2/27/2024	• Recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.	Section 5.14, Tribal Cultural Resources
Lorelei Hellena Bailey	3/04/2024	• Expresses concerns about health, fiscal, and ecological impacts of various levels of multi-modal transit infrastructure options, modal filters for low traffic neighborhoods, and different levels of housing density.	Section 5.8, Land Use; Section 5.13, Transportation

2.3 SCOPE OF THIS DEIR

The scope of the DEIR was determined based on the City's Initial Study, comments received in response to the NOP, and comments received at the scoping meeting conducted by the City. Pursuant to Sections 15126.2 and 15126.4 of the CEQA Guidelines, the DEIR should identify any potentially significant adverse impacts and recommend mitigation that would reduce or eliminate these impacts to levels of less than significant.

The information in Chapter 3, *Project Description*, establishes the basis for analyzing future, project-related environmental impacts associated with the adoption of the proposed Specific Plan. However, there are no specific development projects proposed at this time, and further environmental review by the City may be required as more detailed information and plans are submitted on a project-by-project basis.

2.3.1 Potentially Significant Adverse Impacts

As detailed in the Initial Study, the City of Artesia determined that the following environmental factors have potentially significant impacts if the proposed project is implemented, and they are therefore addressed in detail in this EIR.

- Aesthetics
- Air Quality
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

2.3.2 Unavoidable Significant Adverse Impacts

This DEIR identifies three significant and unavoidable adverse impact, as defined by CEQA, that would result from implementation of the proposed project. Unavoidable adverse impacts may be considered significant on a project-specific basis, cumulatively significant, and/or potentially significant. The City must prepare a "statement of overriding considerations" before it can approve the project, attesting that the decision-making body has balanced the benefits of the proposed project against its unavoidable significant environmental effects and has determined that the benefits outweigh the adverse effects, and therefore the

adverse effects are considered acceptable. The impacts that were found in the DEIR to be significant and unavoidable are:

- Air Quality
- Greenhouse Gas Emissions
- Noise

2.4 INCORPORATION BY REFERENCE

Some documents are incorporated by reference into this DEIR, consistent with Section 15150 of the CEQA Guidelines, and they are available for review at the City of Artesia City Hall at 18747 Clarkdale Avenue.

- City of Artesia Municipal Code
- City of Artesia General Plan, 2010

2.5 FINAL EIR CERTIFICATION

This DEIR is being circulated for public review for 45 days. Interested agencies and members of the public are invited to provide written comments on the DEIR to the City address shown on the title page of this document. After completion of the 45-day review period, the City of Artesia will review all written comments received and prepare written responses for each. A Final EIR (FEIR) will incorporate the received comments, responses to the comments, and any changes to the DEIR that result from comments. The FEIR will be presented to the City of Artesia for potential certification as the environmental document for the project. All persons who comment on the DEIR will be notified of the availability of the FEIR and the date of the public hearing before the City.

The DEIR is available to the general public for review at the following locations:

- Artesia Public Library, 18801 Elaine Avenue, California 90701
- Artesia City Hall, Planning Department, 18747 Clarkdale Avenue, Artesia, California 90701
- Online at the City website at https://www.cityofartesia.us/522/Artesia-Downtown-Specific-Plan

2.6 MITIGATION MONITORING

Public Resources Code Section 21081.6 requires that agencies adopt a monitoring or reporting program for any project for which it has made findings pursuant to Public Resources Code Section 21081 or adopted a Negative Declaration pursuant to Section 21080(c). Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration.

The Mitigation Monitoring Program for the Artesia Downtown Specific Plan will be completed as part of the Final EIR, prior to consideration of the project by the Artesia City Council.

3. Project Description

The purpose of this chapter is to describe the proposed Artesia Downtown Specific Plan (proposed project) in a manner that will be meaningful for review by the public, reviewing agencies, and decisionmakers in accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code Sections 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Title 14, Sections 15000 et seq.).

3.1 PROJECT LOCATION

The proposed Artesia Downtown Specific Plan area (Specific Plan area or project site) is in an urbanized area in the City of Artesia, Los Angeles County. The City is 19 miles southeast of Downtown Los Angeles; it shares its eastern, southern, and western boundaries with the City of Cerritos and its northern boundary with the City of Norwalk. See Figure 3-1, *Regional Location*.

The project site encompasses 70.8 acres known as the Artesia Downtown district, including the blocks adjoining Pioneer Boulevard to the southeast and ending at 180th Street to the north. The northern portion of the project site (north of Metro's Southeast Gateway Line light rail project) is bounded by Alburtis Avenue and Corby Avenue to the west, 180th Street to the north, Arline Avenue to the east, and 188th Street to the south. The project site extends south of the Southeast Gateway Line to the future Pioneer Boulevard light rail station and includes the area between 188th Street and the La Belle Chateau Mobile Home Park, and to Pioneer Boulevard on the east and Jersey Avenue on the west. The nearest freeway providing regional access to the project site is State Route (SR-) 91, a multilane freeway that divides the northern end of the City. See Figure 3-2, *Local Vicinity* and Figure 3-3, *Aerial Photograph*.

3.1.1 Existing Land Use Summary

As shown on Figure 3-3, *Aerial Photograph,* the project site is fully built up and consists primarily of one- and two-story commercial uses and multifamily residential properties. The southern portion of the project site is anchored by a shopping center and La Belle Chateau Estates Mobile Home Park, and is bordered by South Street to the north, the City of Cerritos to the west and south, and Pioneer Boulevard to the east. The northern portion of the project site is anchored by a shopping center to the north and south of 183rd Street, to the east of Arline Avenue, and to the west of Alburtis Avenue. The north and south ends of the project site are connected by the Pioneer Boulevard corridor, which includes one- and two-story retail, restaurant, and office uses. Multifamily residential, mixed-use residential, commercial, general office, and industrial uses are on various parcels throughout the entire project site to the east and west of Pioneer Boulevard. Limited vacant parcels exist within the project area south of 188th Street. The Southeast Gateway Line bisects the project site. Table 3-1, *Existing Development*, reflects the built environment of project site, which includes 314 dwelling units and 973,949 square feet of nonresidential uses.

Table 3-1 Existing Development

Land Use	Units
Residential Dwelling Units	314
Nonresidential Square Feet[1]	973,949

Source: PlaceWorks 2025.
[1] Nonresidential uses include South Street Specific Plan, Commercial Planned Development, Commercial General, Service & Professional, and Light Industrial

3.1.1.1 ZONING DESIGNATIONS

As shown in Figure 3-4, *Existing Zoning Map*, the primary zoning designation in the project site is Commercial General, located in the northern area, along Pioneer Boulevard, and on the south part of the project site. Multi-Family Residential zoning is designated along the east side of the project site, fronting Arline Avenue, and on the west side of the project site, fronting Corby Avenue. Multi-Family Residential zoning is also designated between 188th Street to the north and to the Commercial General zoning designation to south. Light Manufacturing/Industrial zoning is designated along Corby Avenue to the east and west, between 187th Street to the north, and South Street to the South. Zoning designations in the southern portion of the project site, located south of South Street, include Commercial Planned Development and the South Street Specific Plan.

3.1.1.2 GENERAL PLAN LAND USE DESIGNATIONS

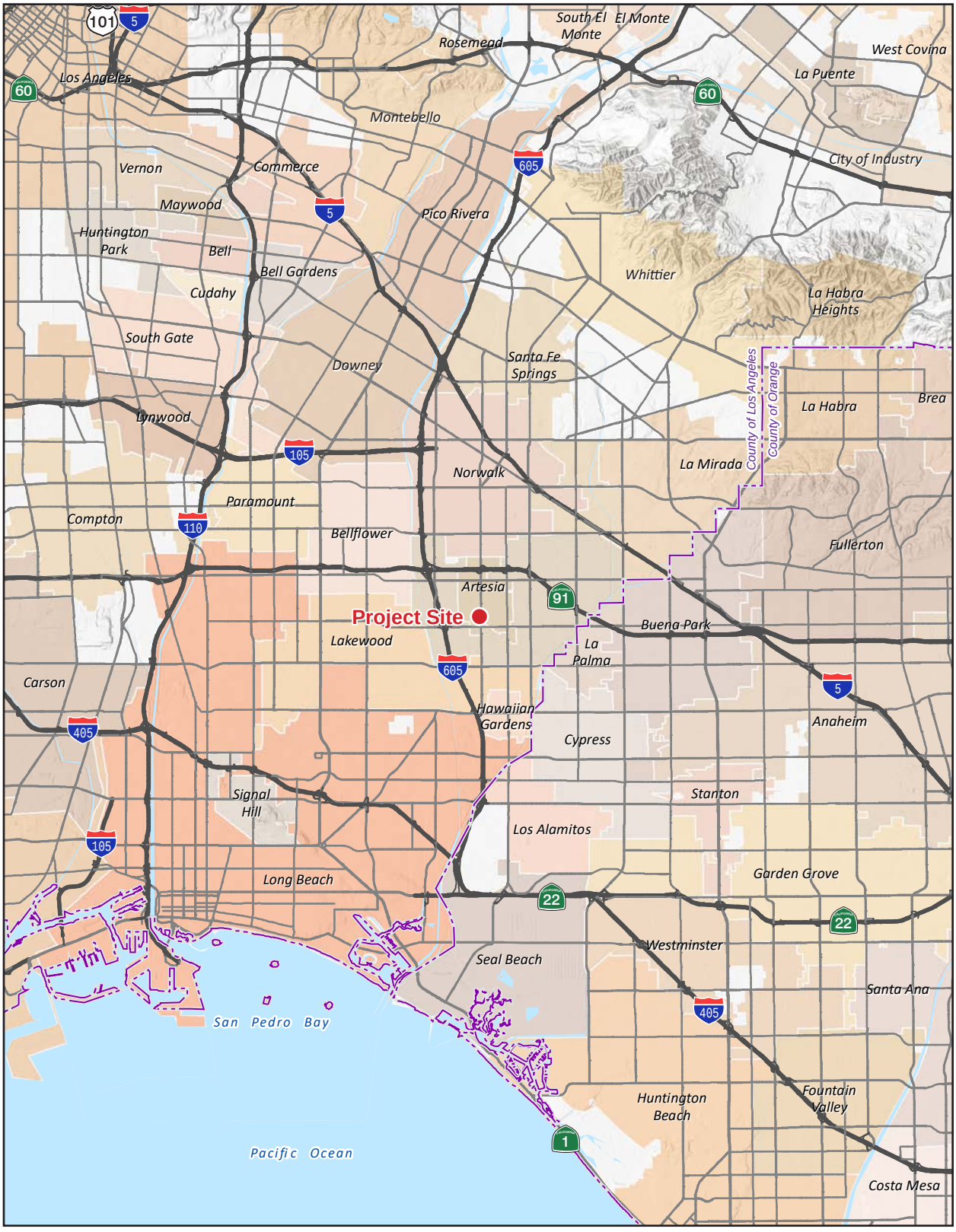
As shown on Figure 3-5, *Existing General Plan Land Use Map*, the project site includes two General Plan land use designations. Between the future Pioneer Boulevard Light Rail Station in the south to 180th Street in the north, the project site has a General Plan land use designation of City Center Mixed-Use. Between the future Pioneer Boulevard Light Rail Station to the north and the La Belle Chateau Estates Mobile Home Park to the south, the project site has a General Plan land use designation of South Street Gateway Commercial.

3.2 STATEMENT OF OBJECTIVES

The proposed project would establish strategic land use designations to connect the community to housing, jobs, and recreation; create a connected business district to facilitate new economic opportunities, build a vibrant and scenic downtown reflective of a diverse community; beautify downtown through building design, landscape, and art; and enhance streetscapes to increase multimodal accessibility and safety. Objectives for proposed project will aid decision makers in their review of the project and associated environmental impacts:

1. Provide strategic land use designations to connect the community to housing, jobs, and recreation.
2. Provide a connected business district to facilitate new economic opportunities.
3. Create a vibrant and scenic downtown reflective of a diverse community.
4. Beautification through building design, landscape, and art.

Figure 3-1 - Regional Location



Source: Generated using ArcMap 2023.

3. Project Description

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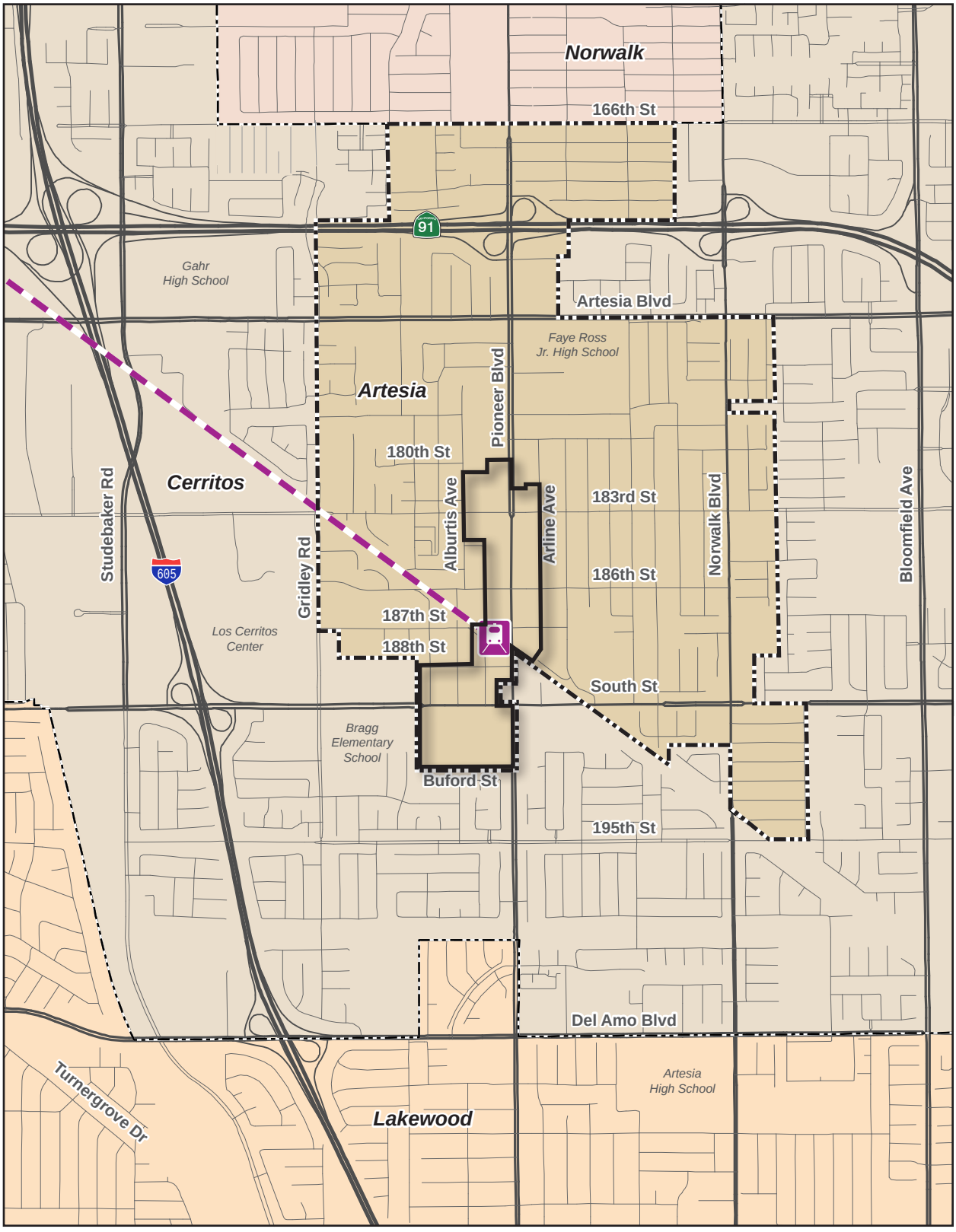
Figure 3-2 - Local Vicinity



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3. Project Description

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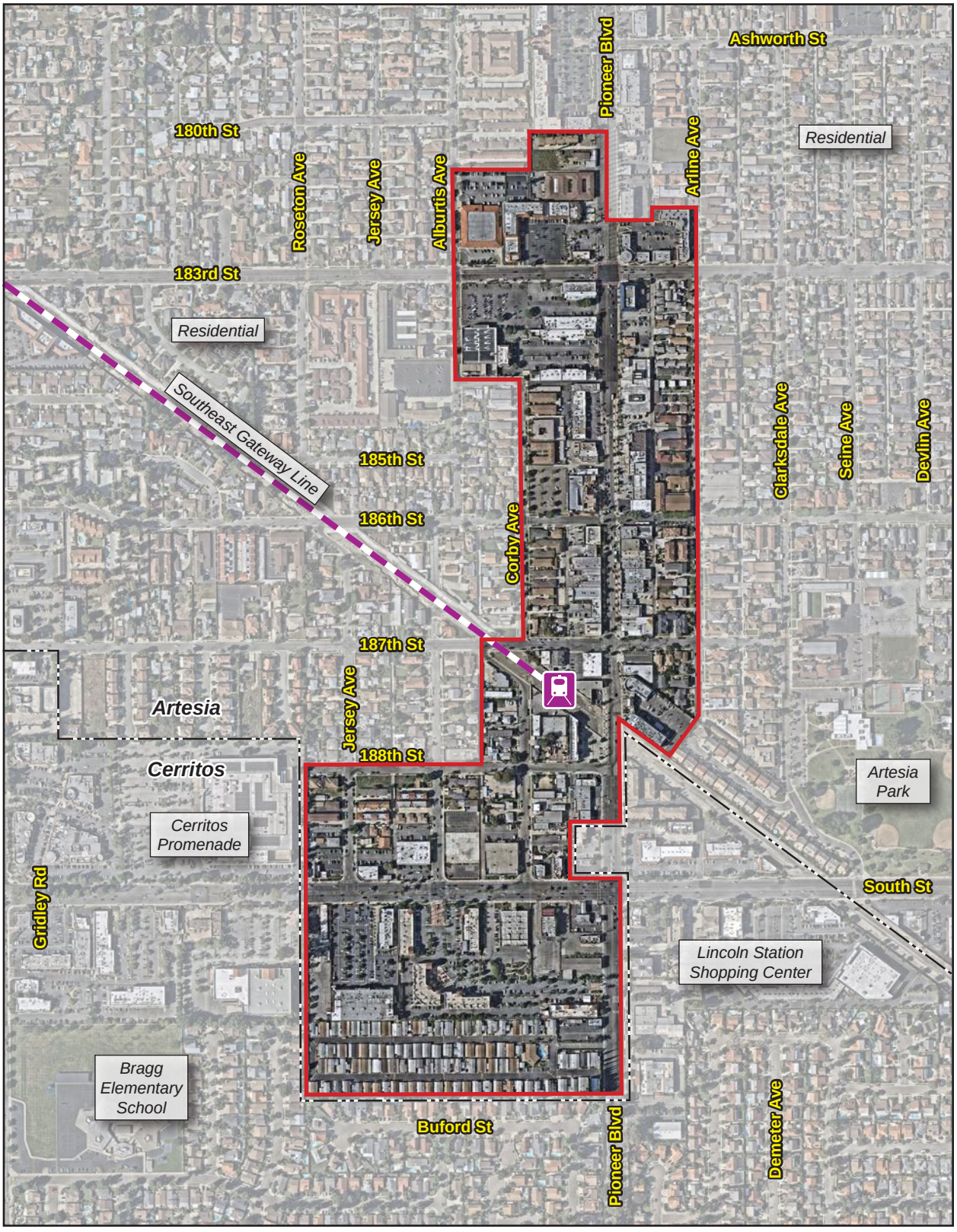
Figure 3-3 - Aerial Photograph



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3. Project Description

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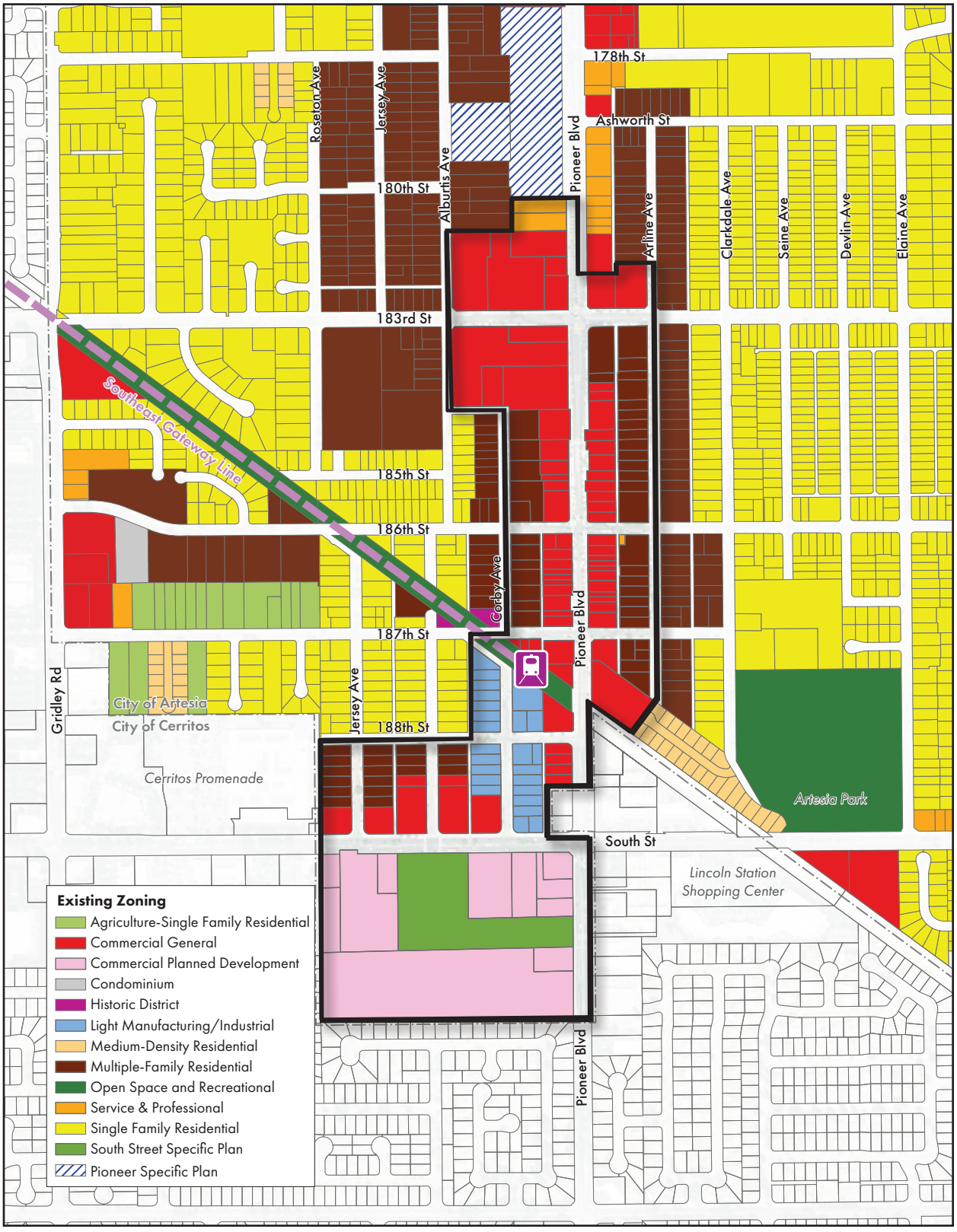
Figure 3-4 - Existing Zoning Map



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3. Project Description

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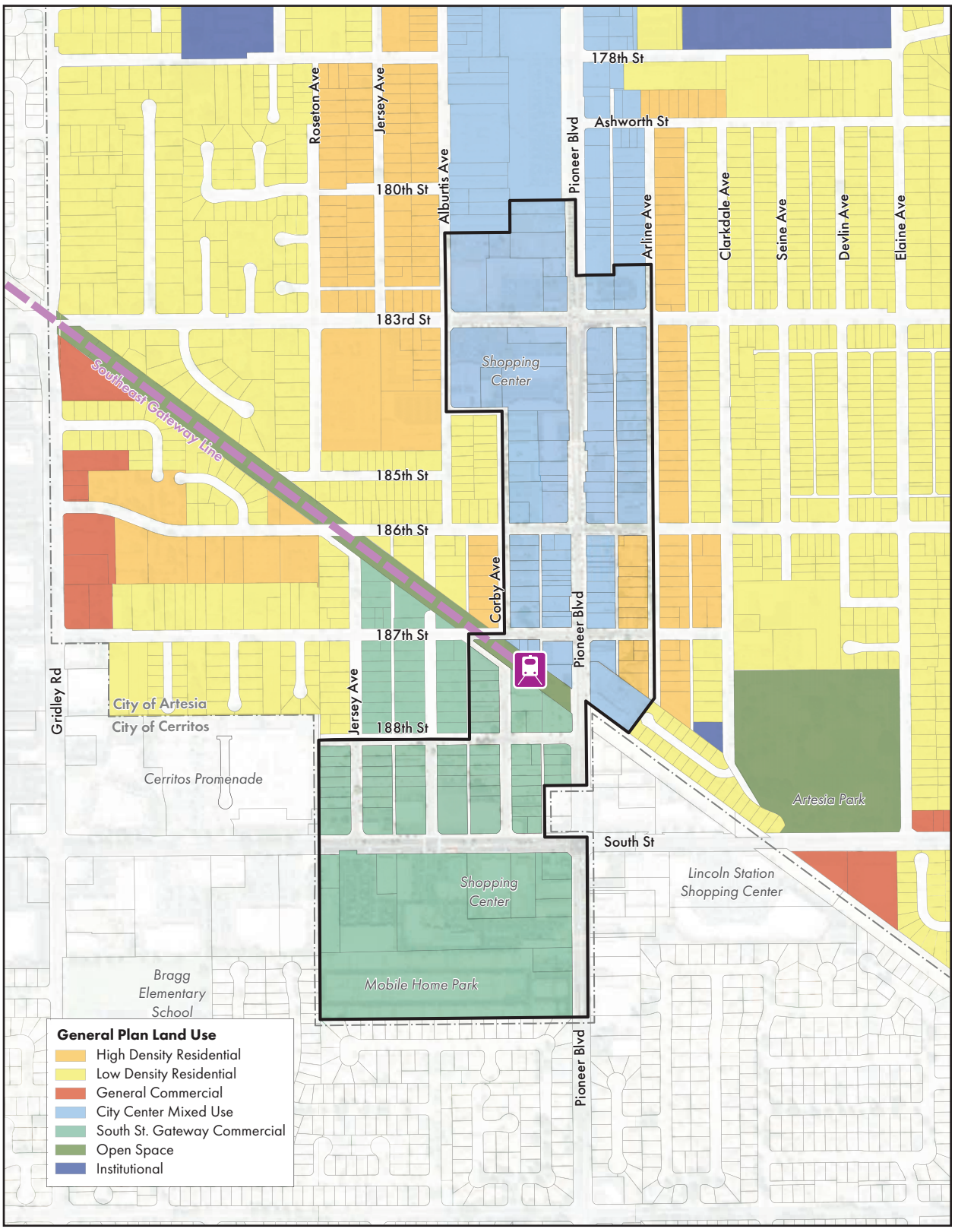
Figure 3-5 - Existing General Plan Land Use Map



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3. Project Description

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5. Enhance connectivity and streetscapes to increase multimodal accessibility and safety.
6. Plan for and build a transit ready Downtown Artesia.
7. Facilitate the City in reaching its Regional Housing Needs Assessment allocation of 1,069 units.
8. Promote higher-density, mixed-use development in proximity to the Southeast Gateway Line station to encourage transit ridership.
9. Balance increased density and commercial activity with design standards that respect and enhance the character of existing neighborhoods, ensuring compatibility with the surrounding community.

3.3 PROJECT CHARACTERISTICS

"Project," as defined by the CEQA Guidelines, means:

> ... the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and that is any of the following: (1)…enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements thereof pursuant to Government Code Sections 65100–65700. (14 Cal. Code of Reg. § 15378[a])

3.3.1 Description of the Project

The proposed project would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district as the City prepares for the planned expansion of a new Metro light rail line (referred to as the Southeast Gateway Line) that would connect southeastern Los Angeles County communities, including Artesia, to Downtown Los Angeles. The new Metro light rail line extension is anticipated to connect to Pioneer Boulevard in 2035.[1] The Final EIR for the Metro light rail line extension was certified April 2024 (Metro 2024).

While there are no specific development projects proposed at this time, the Artesia Downtown Specific Plan would establish goals and objectives, development standards, and implementation actions associated with land use, mobility, and infrastructure and establish a transit-oriented plan that would provide new opportunities for housing, retail/commercial, and entertainment uses. The proposed project would establish the necessary plans, development standards, regulations, infrastructure requirements, and implementation programs on which subsequent project-related development activities in the Specific Plan area would be based. Below is a discussion of each component of the proposed project.

Land Use Plan

As shown on Figure 3-6, *Proposed Zoning Districts*, the land use plan divides the project site into six zoning districts that allow for a range of land uses and density within a defined building envelope. The zones would

[1] The Pioneer Boulevard Light Rail Station would be developed as the southern terminus of a 14.5-mile segment that connects southeast Los Angeles to downtown Los Angeles. The forecast completion date is 2035 (Metro 2024).

also implement the City's urban design objectives for each part of the project site to establish and maintain attractive distinctions between each zone. The six zoning districts include:

- **Downtown North.** The Downtown North District encompasses 15.3 acres and would become the northern gateway and anchor to Downtown Artesia. This district would allow for higher density mixed-use development at 65 dwelling units per acre (du/ac). The southwest corner of this district would allow four- to five-story mixed-use development and two- and three-story townhomes. Where the City owns property at the northwest corner of 183rd Street and Pioneer Boulevard, a public-private partnership would be encouraged for development of a public parking structure with ground-floor retail uses. The parking structure would serve visitors, residents, and employees as they travel to and from Downtown Artesia and the 91 freeway to the north. The post office at 183rd Street and Albertis Avenue is expected to remain.

- **Pioneer Boulevard.** The Pioneer Boulevard District encompasses 8.8. acres, fronts Pioneer Boulevard north of the future Metro Pioneer Boulevard light rail station and is in the center of Downtown Artesia. This area is composed of narrow parcels with a continuous street frontage of one-story commercial establishments such as restaurants, markets, and jewelry shops. Although significant new development is not expected in this district, the district would allow for three-story buildings at 50 du/ac or 60 du/ac by utilizing the Downtown Density Bonus Program.

- **Downtown South.** The Downtown South District encompasses 23.1 acres and would become the southern gateway to downtown Artesia and the City. This district would allow four- to six-story mixed-use development at 75 du/ac and incorporate land uses such as ground-floor retail, a hotel, townhomes, and neighborhood parks for residents and visitors. A Metro parking structure is planned in the South Street Mixed District just south of the transit station.[2]

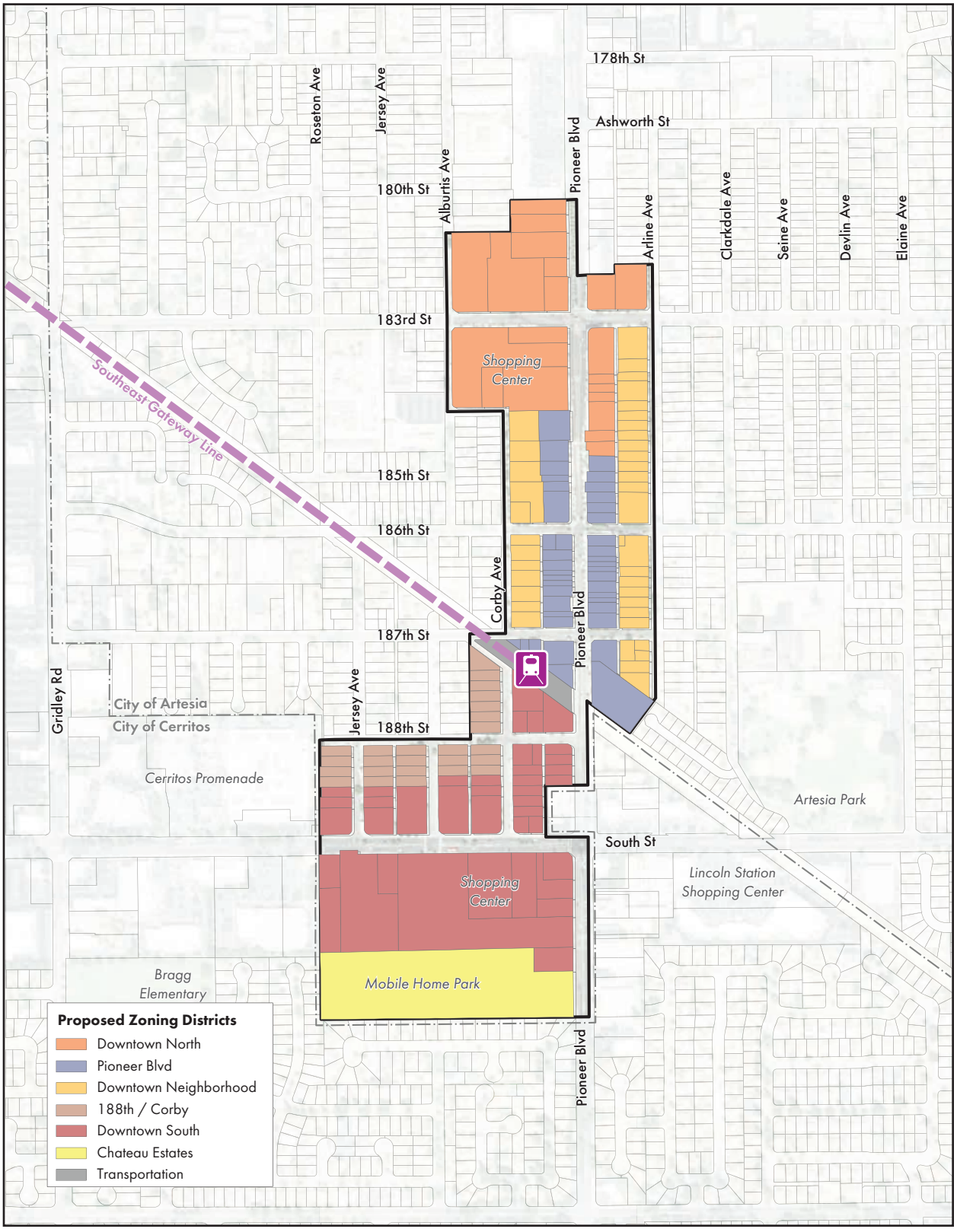
- **188th Street / Corby Avenue.** The 188th Street/Corby Avenue District encompasses 4.6 acres and would be south of the future Metro station; it presently includes residential and light industrial uses. This district would allow for residential uses such as duplex, triplex and townhomes at 65 du/ac and commercial office and retail in a horizontal mixed-use format.

- **Downtown Neighborhood.** The Downtown Neighborhood District encompasses 9.4 acres and would be in the residential west and east edges of the Downtown area along Corby Avenue and Arline Avenue. The Downtown Neighborhood District would retain its residential character at 40 du/ac.

- **Chateau Estates.** The Le Belle Chateau Estates Mobile Home Park District encompasses 9.6 acres and sits at the southern edge of the project site. Although the proposed project would establish new development standards for the Chateau Estates District, the mobile home park use would be maintained in this district. The Chateau Estates District would retain its residential character at 11 du/ac.

[2] A 3.3-acre, four-story parking structure with up to 1,100 parking spaces would be located south of the Pioneer Station. Access to the parking facility and station platform would be via Pioneer Boulevard and Corby Avenue. Pedestrian access from Pioneer Boulevard to the parking facility would be via Pioneer Boulevard from the southeast end of the station platform (Metro 2021).

Figure 3-6 - Proposed Zoning Districts



Source: Generated using ArcMap 2023.

3. Project Description

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Certain standards, such as maximum density and building heights, would be regulated within each of the districts. The proposed standards for each proposed district are shown in Table 3-2, *District Standards*.

Table 3-2 District Development Standards

	Pioneer Boulevard	Downtown South	Downtown North	188th Street / Corby Avenue	Downtown Neighborhood	Chateau Estates
Site Design & Building Form Standards by Right						
Maximum Building Height	3 stories/ 45 ft	5 stories/ 65 ft	4 stories/ 55 ft	4 stories/ 55 ft	3 stories/ 45 ft	2 stories/ 24 ft
Maximum Residential Density	50 du/ac	75 du/ac	65 du/ac	65 du/ac	40 du/ac	11 du/ac
Maximum Intensity	1.5 FAR	3.0 FAR	2.5 FAR	2.0 FAR	1.25 FAR	0.75 FAR
Site Design & Building Form Standards with Community Benefits[1]						
Maximum Building Height	3 stories/ 45 ft	6 stories/ 80 ft	5 stories/ 65 ft	N/A	N/A	N/A
Maximum Residential Density	60 du/ac	85 du/ac	75 du/ac	N/A	N/A	N/A
Maximum Intensity	2.0 FAR	2.5 FAR	3.0 FAR	N/A	N/A	N/A

Notes: ft = feet, FAR = floor area ratio, du/ac = dwelling unit per acre

[1] If an applicant chooses to participate in the Community Benefit program, the project shall be eligible for additional height as measures in stories/feet and density as measured in Floor Area Ratio (FAR) or units/acre. Under no circumstances except in the application of Government Code Section 65915, et seq (Senate Bill 1818 Affordable Housing Densit Bonus Law). shall any project exceed the maximum allowable height or floor.

Development Standards

The proposed project would establish development standards related to the physical form and design of both new and renovated buildings and properties in the project site. Development standards would include requirements for site planning (i.e., setbacks from public rights-of-way and other structures), open space and landscaping standards; building mass, scale, and maximum heights; materials and finishes; parking and loading; and frontage design standards.

Mobility and Infrastructure

The proposed project includes mobility policies and standards reflective of a long-term vision to maximize accessibility of Downtown Artesia that is centered around the development of a transit-oriented community, enhancing first and last mile and complete street elements that dedicate space and amenities for people walking, bicycling, and accessing transit. The proposed project aims to complete the gaps in the bicycle network, enhance the pedestrian network, boost transportation options by adding micro-mobility, and adjust the parking network to manage the curb space for continuously changing needs and to construct parking structures at the edges of Downtown. Additionally, the proposed project identifies improvements to the infrastructure system as a result of implementation of the Specific Plan with respect to water supply, sewage, and storm drainage.

3. Project Description

Implementation Actions

The goals and objectives of the proposed project would be implemented through a number of implementation policies and programs. The proposed project would establish the implementation process associated with the Specific Plan.

Incentives and Bonuses

Community benefits have been included as part of the proposed project and create the Downtown Density Bonus Program. Additional development potential in exchange for community benefits would be granted to applicants by the City Council, following policies and procedures adopted by the City of Artesia. Applicants utilizing the Downtown Density Bonus program would require a statutory development agreement with the City or a covenant between the City and developer.

Opportunity Sites

Redevelopment Opportunity Sites buildout projections represent likely redevelopment based on the anticipated levels of density and intensity for each land use category. The proposed project has identified 53 parcels within the Specific Plan area that could support future redevelopment (Redevelopment Opportunity Sites). Criteria for selecting these site is described in detail in the Specific Plan. For purposes of analysis, this Draft EIR conservatively assumes redevelopment of the 53 Redevelopment Opportunity Sites using the by-right development standards shown in Table 3-2. Table 3-3, *Buildout of Units on Opportunity Sites*, identifies the forecast residential and employment population projections of the proposed project under horizon year conditions (2045).

Table 3-3 Buildout of Units on Opportunity Sites (2045)

Proposed Zone	Acreage	Proposed Density/Intensity		Proposed Development	
		DU/AC[1]	FAR	DU	Non-Residential SF
Downtown North	15.3	75	2.5	634	
Pioneer Boulevard	8.8	60	1.5	90	
Downtown Neighborhood	9.4	40	1.25	13	
188th/Corby	4.6	65	2.0	150	
Downtown South	23.1	85	3.0	1,094	
Chateau Estates	9.6	11	0.75	0	
Commercial as Mixed Use[2]	-	-		-	502,919 sf
Total Residential	70.8	-		1,981	502,919

Source: PlaceWorks 2025
Notes: du= dwelling unit, sf= square feet
[1] Uses the maximum densities permitted within each district, including districts that allow the Downtown Density Bonus Program.
[2] Commercial buildout assumes 20% of land at a minimum of 2 stories on selected sites in the Downtown South Mixed Use, 188th Street/Corby Avenue Mixed Use, and the Pioneer Boulevard Mixed Use zones.

3.3.1.1 COMPARISON OF EXISTING LAND USES AND LAND USES AT PROJECT BUILDOUT

As detailed in Table 3-4, *Comparison of Existing Conditions to Buildout of the Proposed Project (2045)*, the proposed project allow for an increase of 1,981 housing units, 502,919 square feet of commercial space, 6,934

residents, and 356 jobs within the Specific Plan area. The proposed project, combined with total existing development on parcels that would not undergo land use or zoning changes, would result in 2,276 housing units, 1,052,850 square feet of nonresidential land use, 7,967 residents, and 745 jobs in the Specific Plan area. Buildout projections shown in Table 3-4 are used throughout this DEIR to estimate the magnitude of development that could likely occur in the Specific Plan area upon implementation of the proposed project to year 2045.

Table 3-4 Comparison of Existing Conditions to Buildout of the Proposed Project (2045)

Scenario	Housing Units	Nonresidential Square Feet	Residential Population[1]	Employees[2]
Existing Conditions				
Existing Conditions	314	973,949	1,099	689
Existing to be Redeveloped[3]	(19)	(424,018)	(67)	(300)
Proposed Project Conditions (2045)				
Total Existing Development to Remain	295	549,931	1,033	389
Proposed Project	1,981	502,919	6,934	356
Total	2,276	1,052,850	7,967	745
Net Difference (Less Existing Conditions)	1,962	78,901	6,868	56

Source: PlaceWorks 2025 (see Appendix B); LLG 2025 (see Appendix F).

[1] Based on the person per household generation rate of 3.5 as derived from Table 13 from Connect SoCal's Demographics and Growth Forecast Appendix (SCAG 2024)

[2] 10,321,542 sf nonresidential (excluding open space and ROW from General Plan Table LU-3 and 20% commercial for mixed use)/7,300 employees (California Economic Development Department Data) = 1,414 sf nonresidential/employee (City of Artesia 2010; EDD 2024)

[3] Of the 53 parcels selected for redevelopment, there are several parcels that are developed with existing uses that would be demolished and redeveloped with the proposed project's uses under proposed project conditions.

3.4 INTENDED USES OF THE EIR

This Draft EIR is a programmatic DEIR that examines the environmental impacts of the proposed project. This DEIR also addresses various actions by the City and others to adopt and implement the proposed project. It is the intent of this DEIR to evaluate the environmental impacts of the proposed project, thereby enabling the City of Artesia, other responsible agencies, and interested parties to make informed decisions with respect to the requested entitlements. However, there are no specific development projects proposed at this time, and further environmental review by the City may be required as more detailed information and plans are submitted on a project-by-project basis. The anticipated approvals required for this project are in Table 3-5, *Project Approvals Needed*.

Table 3-5 Project Approvals Needed

Lead Agency	Action
Artesia City Council	Adoption of the Artesia Downtown Specific Plan. Amendment to the City of Artesia Zoning Ordinance and Zoning Map Amendment to the City of Artesia General Plan Certification of the Artesia Downtown Specific Plan Final EIR

3.5 REFERENCES

Artesia, City of. 2010. City of Artesia General Plan 2030. https://www.cityofartesia.us/DocumentCenter/View/226/Artesia-General-Plan?bidId=.

California Economic Development Department (EDD). 2024. Monthly Labor Force Data for Cities and Census Designated Places Annual Average 2023. https://labormarketinfo.edd.ca.gov/file/lfhist/23aasub.xls.

Linscott, Law and Greenspan Engineers (LLG). 2024. Transportation Impact Study Scope of Work. (Appendix F)

Los Angeles County Metropolitan Transit Authority (Metro). 2024. Southeast Gateway Line (previously West Santa Ana Branch Transit Corridor). https://www.metro.net/projects/southeastgateway/.

PlaceWorks. 2025. Artesia Downtown Specific Plan Buildout Scenarios Memo. (Appendix B)

Southern California Association of Governments (SCAG). Connect SoCal 2024: Demographics and Growth Forecast Appendix. https://scag.ca.gov/sites/main/files/file-attachments/23-2987-tr-demographics-growth-forecast-final-040424.pdf?1712261839.

4. Environmental Setting

4.1 INTRODUCTION

This section provides a "description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, ... from both a local and a regional perspective" (California Environmental Quality Act [CEQA] Guidelines Section 15125[a]), pursuant to provisions of CEQA and the CEQA Guidelines The environmental setting provides the baseline physical conditions from which the lead agency will determine the significance of environmental impacts resulting from the proposed project.

4.2 REGIONAL ENVIRONMENTAL SETTING

4.2.1 Regional Location

The City of Artesia is approximately 19 miles southeast of downtown Los Angeles and 10 miles northwest of the city of Anaheim. Artesia is bordered by the city of Norwalk to the north, and the city of Cerritos to the south, east, and west. Regional access is provided via State Route (SR-) 91 (Artesia Freeway) and Interstate (I-) 605 (San Gabriel River Freeway). Local access is provided via Pioneer Boulevard, Artesia Boulevard, 183rd Street, and South Street. The City is a suburban jurisdiction with a mix of residential densities, although low-density residential uses are most common. It also contains a mix of retail commercial, office, and industrial uses.

4.2.2 Regional Planning Considerations

4.2.2.1 SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

The Southern California Association of Governments (SCAG) is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. SCAG is the federally recognized metropolitan planning organization for this region, which encompasses over 380,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs.

The 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal) was adopted in April 2024. Major themes in Connect SoCal are:

- Integrating strategies for land use and transportation.
- Striving for sustainability.

- Protecting and preserving existing transportation infrastructure.
- Increasing capacity through improved system management.
- Providing more transportation choices.
- Leveraging technology.
- Responding to demographic and housing market changes.
- Supporting commerce, economic growth, and opportunity.
- Promoting the links between public health, environmental protection, and economic opportunity.
- Incorporating the principles of social equity and environmental justice into the plan.

Connect SoCal outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation (excluding goods movement). Connect SoCal is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets identified by the California Air Resources Board (CARB). However, Connect SoCal does not require that local general plans, specific plans, or zoning be consistent with the SCS; instead, it provides incentives to government and developers for consistency.

4.2.2.2 SOUTH COAST AIR BASIN AIR QUALITY MANAGEMENT PLAN

Artesia is in the South Coast Air Basin (SoCAB), which is managed by the South Coast Air Quality Management District (AQMD). Pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law, and standards are detailed in the SoCAB Air Quality Management Plan (AQMP). Air pollutants for which ambient air quality standards (AAQS) have been developed are known as criteria air pollutants, including ozone (O_3), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide, coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead. VOC and NO_x are criteria pollutant precursors and go on to form secondary criteria pollutants, such as O_3, through chemical and photochemical reactions in the atmosphere. Air basins are classified as attainment/nonattainment areas for particular pollutants depending on whether they meet AAQS for that pollutant. Based on the SoCAB AQMP, the SoCAB is designated nonattainment for O_3, $PM_{2.5}$, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for NO_2 under the California AAQS.

4.2.2.3 GREENHOUSE GAS EMISSIONS REDUCTION LEGISLATION

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in a number of State regulations. Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction goals for the State of California:

- 2000 levels by 2010
- 1990 levels 2020
- 80 percent below 1990 levels by 2050

Assembly Bill (AB) 32, the Global Warming Solutions Act (2006), was passed by the State legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32

established a legislative target for the year 2020 goal outlined in Executive Order S-03-05. CARB prepared its first Scoping Plan in 2008, which outlined the State's plan for achieving the 2020 targets of AB 32.

In 2008, Senate Bill (SB) 375 was adopted to connect passenger-vehicle GHG emissions reduction targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled (VMT) and vehicle trips.

In September 2016, Governor Brown signed SB 32, making the Executive Order B-15-30 goal for year 2030 of a 40 percent reduction below 1990 levels by 2030 into a statewide-mandated legislative target. CARB issued an update to its Scoping Plan in 2017, with programs for meeting the SB 32 reduction target.

On August 31, 2022, the California Legislature passed AB 1279, which requires California to achieve net-zero GHG emissions no later than 2045 and to achieve and maintain negative GHG emissions thereafter. Additionally, AB 1279 also establishes a GHG emissions reduction goal of 85 percent below 1990 levels by 2045. CARB will be required to update the scoping plan to identify and recommend measures to achieve the net-zero and GHG emissions-reduction goals.

4.2.2.4 SENATE BILL 743

On September 27, 2013, SB 743 was signed into law and started a process that has fundamentally changed transportation impact analysis for CEQA compliance. With the adoption of SB 375, the State signaled its commitment to encourage land use and transportation planning decisions and investments that reduce VMT and contribute to the reduction of GHG emissions, as required by the California Warming Solutions Act of 2006 (AB 32).

SB 743 generally eliminates auto delay, level of service, and other similar measures of vehicular capacity or traffic congestion as the basis for determining significant impacts under CEQA. Pursuant to the CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code Section 21099[b][1]).

Pursuant to SB 743, the Natural Resources Agency adopted revisions to the CEQA Guidelines to implement SB 743 on December 28, 2018. Under the new guidelines, VMT-related metric(s) that evaluate the significance of transportation-related impacts under CEQA for development projects, land use plans, and transportation infrastructure projects, were required beginning July 1, 2020. The legislation does not preclude the application of local general plan policies, zoning codes, conditions of approval, or any other planning requirements for evaluation of level of service, but these metrics can no longer be the basis for determining transportation impacts under CEQA.

4.3 LOCAL ENVIRONMENTAL SETTING

4.3.1 Location and Land Use

The project site is fully built up and consists primarily of one- and two-story commercial uses and multifamily residential properties, as seen in Table 3-1, *Existing Development*, in Chapter 3, *Project Description*. The Artesia Downtown Specific Plan (proposed project) area focuses on the blocks adjoining Pioneer Boulevard, beginning with the area around the future Pioneer Station to the south and ending just beyond 183rd Street to the north. To the east and west, the study area is bounded by Arline, Corby, and Alburtis Avenues. The southern portion of the project site is anchored by a shopping center and La Belle Chateau Estates Mobile Home Park, which is bordered by South Street to the north, the City of Cerritos to the west and south, and Pioneer Boulevard to the east. The northern portion of the project site is anchored by a shopping center to the north and south of 183rd Street and to the east and west of Arline Avenue and Alburtis Avenue, respectively. The north and south ends of the project site are connected by the Pioneer Boulevard corridor, which includes one- and two-story retail, restaurant, and office uses. Multifamily residential, mixed-use residential, commercial, general office, and industrial uses are on various parcels throughout the entire project site to the east and west of Pioneer Boulevard. Civic institutions within a half mile from the future Pioneer Station include Artesia City Hall, Albert O. Little Community Center, Artesia Library, a fire station, and a post office. The post office is located at the northern end of the study area. Artesia Park is the only park within walking distance from the future Metro station. Limited vacant parcels exist within the project area south of 188th Street. The Southeast Gateway Line bisects the project site.

4.3.2 General Plan and Zoning

As shown in Figure 3-4, *Existing Zoning Map*, the project site includes two General Plan land use designations. Between the future Pioneer Boulevard Light Rail Station in the south to 180th Street in the north, the project site has a General Plan land use designation of City Center Mixed-Use. Between the future Pioneer Boulevard Light Rail Station to the north and the La Belle Chateau Estates Mobile Home Park to the south, the project site has a General Plan land use designation of South Street Gateway Commercial.

4.3.3 Biological Resources

The project site is in a highly urbanized and developed area of the city and surrounded by urban uses, including various commercial and residential uses. The project site does not contain any natural habitat that could contain any sensitive species or other sensitive natural communities.

4.3.4 Climate and Air Quality

Artesia is in the SoCAB and is subject to the AQMP prepared by the South Coast AQMD. Implementation of the proposed project would potentially generate criteria air pollutants that have the potential to increase the severity of the nonattainment designation of the SoCAB or exceed the assumptions of the South Coast AQMD's AQMP.

4.3.5 Geology and Landform

There are no mapped surface or subsurface faults that traverse Artesia, and the city is not listed in a State-designated Alquist-Priolo Earthquake Fault Zone (DOC 2023). The faults nearest to Artesia are the Norwalk Fault, approximately 2.5 miles northeast of the project site, and Newport-Inglewood Fault, approximately 5.0 miles southwest of the project site (DOC 2023). The soils in the project site consist of sand, silt, and clay silt soils, which have a high erodibility potential. However, Artesia is approximately 99 percent built out and has a relatively flat topography (Artesia 2010a). Therefore, conditions that contribute to substantial soil erosion or loss of topsoil are not present in the city.

4.3.6 Hydrology

The project site receives its potable water service from the Golden State Water Company, which owns and operates the Artesia System. According to the 2020 Urban Water Management Plan, water supply for the Artesia System is obtained from local groundwater, recycled water, and imported water and expected to supply water through 2045. Groundwater within the Artesia System is supplied by six active wells in the Central Basin of the Coastal Plain of Los Angeles. Development in accordance to the proposed project would increase demand for water.

4.3.7 Public Services and Utilities

Fire protection services in Artesia are provided through the Los Angeles County Fire Department. Two fire stations provide services to the city; Fire Station #30 is at 19030 Pioneer Boulevard in Cerritos to the south, and Fire Station #115 is at 11317 Alondra Boulevard in Norwalk to the north. The land use changes associated with the proposed project would result in an increase in residential and commercial uses in the project area, which would increase demand for fire protection services. Police protection services to Artesia are provided under contract with the County of Los Angeles Sheriff's Department. The city is served by the Lakewood Sheriff's Station at 5130 Clark Avenue in the city of Lakewood. The Lakewood Station provides general and specialized community-oriented law enforcement services in contract with the Cities of Artesia, Bellflower, Hawaiian Gardens, Lakewood, and Paramount. Wastewater treatment and storm drainage are provided by and under the management of the Golden State Water Company. Natural gas is provided by SoCalGas, and electricity service is provided by Southern California Edison.

4.4 ASSUMPTIONS REGARDING CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines states that cumulative impacts shall be discussed when a project's incremental effect is cumulatively considerable. It further states that this discussion shall reflect the level and severity of the impact and the likelihood of occurrence, but not in as great a level of detail as that necessary for the proposed project alone. Section 15355 of the CEQA Guidelines defines cumulative impacts to be "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Cumulative impacts represent the change caused by the incremental impact of the proposed project when added to effects of past projects, other current projects and probable future projects in the vicinity.

4. Environmental Setting

Section 15130 (b)(1) of the CEQA Guidelines states that the information utilized in an analysis of cumulative impacts should come from one of two methods, either:

a) A list of past, present, and probable future projects producing related cumulative impacts, including, if necessary, those projects outside the control of the agency; or

b) A summary of projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions.

Table 4-1, *Cumulative Projects*, shows a list of past, present, and probable future projects.

Table 4-1 Cumulative Projects

No.	Project Location	City	Land Use	Size
1. Pioneer Place	Pioneer Boulevard and 176th Street	Artesia	Mixed use residential and commercial	83 du Rooftop restaurant
2. Artesia Square	11746 South Street	Artesia	Mixed use residential and commercial	168 du 7,000 sf commercial
3. Artesia Place	Artesia Boulevard and Alburtis Avenue	Artesia	Mixed use residential commercial	80 du 11,257 sf commercial/office
4. Arkansas Street Specific Plan Project	11700 Arkansas Street	Artesia	Mixed use residential, residential and commercial	59 du 4,544 sf commercial
5. Southeast Gateway Line Project (Metro)	Central Los Angeles, Gateway Cities - Artesia	Central Los Angeles, Gateway Cities	Light Rail Transit	14.5 miles of new light rail 9 stations C Line infill station 5 parking facilities Ancillary facilities and Maintenance and Storage Facility
6. Pioneer Transit Station and Garage (Metro)	Pioneer Boulevard/187th Street	Artesia	Light Rail Transit Station	Light Rail Transit Station 3.3-acre 4-story parking structure 1,100 parking stalls
7. Del Amo Boulevard Bridge Replacement and Signal Enhancement Project	2-mile long portion of Del Amo Boulevard (From Interstate 605 to Denni Street)	Cerritos	Major four-lane arterial	2 miles of improvements
8. Artesia Botanical Garden	11504 178th Street	Artesia	Botanical Gardens	1.43 acres

Source: City of Artesia 2024; PlaceWorks 2024.
sf= square feet
du= dwelling units

The cumulative impacts of the proposed project have been addressed for each environmental category study described in detail in Chapter 5, *Environmental Analysis*, of this Draft Environmental Impact Report (DEIR).

4.5 REFERENCES

Artesia, City of. 2010a. *City of Artesia General Plan 2030 Environmental Impact Report.* https://www.cityofartesia.us/DocumentCenter/View/100/Sec0503Aesthetics?bidId=.

———. 2010b. *City of Artesia General Plan 2030*. https://www.cityofartesia.us/DocumentCenter/View/226/Artesia-General-Plan?bidId=.

———. 2024. *Community Development*. https://www.cityofartesia.us/336/Community-Development

DOC. 2023. *Alquist-Priolo Earthquake Fault Zones*. https://www.conservation.ca.gov/cgs/alquist-priolo

4. Environmental Setting

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5. Environmental Analysis

This chapter examines the regulatory and environmental setting of the proposed project, describes applicable policies of the Artesia Downtown Specific Plan (proposed project), analyzes its effects and the significance of its impacts, and recommends mitigation measures to reduce or avoid impacts where necessary. This chapter has a separate section for each environmental issue area that was determined to need further study in the Draft Environmental Impact Report (DEIR). This scope was determined in the Initial Study and Notice of Preparation (NOP), which were published February 26, 2024, and through public and agency comments received during the NOP comment period from February 26 to March 27, 2024 (see Appendix A). Environmental issues and their corresponding sections are:

- 5.1 Aesthetics
- 5.2 Air Quality
- 5.3 Cultural Resources
- 5.4 Energy
- 5.5 Geology and Soils
- 5.6 Greenhouse Gas Emissions
- 5.7 Hydrology and Water Quality
- 5.8 Land Use and Planning
- 5.9 Noise
- 5.10 Population and Housing
- 5.11 Public Services
- 5.12 Recreation
- 5.13 Transportation
- 5.14 Tribal Cultural Resources
- 5.15 Utilities and Service Systems

Sections 5.1 through 5.15 provide a detailed discussion of the environmental setting, impacts associated with the proposed project, and mitigation measures designed to reduce significant impacts where required and when feasible. The residual impacts following the implementation of any mitigation measure are also discussed.

Issues considered Potentially Significant are addressed in this DEIR, and issues identified as Less Than Significant or No Impact are addressed in the Initial Study. Please refer to the Initial Study in Appendix A for discussion of how these determinations were made.

5. Environmental Analysis

Organization of Environmental Analysis.

To assist the reader with comparing information between environmental issues, each section is organized under the following major headings:

- Environmental Setting
  - Regulatory Background
  - Existing Conditions
- Thresholds of Significance
- Environmental Impacts
  - Methodology
  - Proposed Specific Plan Goals and Policies
  - Impact Analysis
- Cumulative Impacts
- Level of Significance Before Mitigation
- Mitigation Measures
- Level of Significance After Mitigation
- References

In addition, Chapter 1, *Executive Summary,* has a table that summarizes all impacts by environmental issue.

Terminology Used in This DEIR

The level of significance is identified for each impact in this DEIR. Although the criteria for determining significance are different for each topic area, the environmental analysis applies a uniform classification of the impacts based on definitions consistent with the California Environmental Quality Act (CEQA) and the CEQA Guidelines:

- **No impact.** The project would not change the environment.
- **Less than significant.** The project would not cause any substantial, adverse change in the environment.
- **Less than significant with mitigation incorporated.** The EIR includes mitigation measures that avoid substantial adverse impacts on the environment.
- **Significant and unavoidable.** The project would cause a substantial adverse effect on the environment, and no feasible mitigation measures are available to reduce the impact to a less-than-significant level.

5.1 AESTHETICS

This section identifies and evaluates issues related to aesthetics to determine whether implementation of the Artesia Downtown Specific Plan (proposed project) could result in a significant impact related to existing visual character or quality and shadows, light, or glare that would adversely affect day or nighttime views in the area. Impacts related to scenic vistas and scenic resources in a State scenic highway were determined to be less than significant in the Initial study. This section describes the environmental and regulatory setting, the criteria and thresholds used to evaluate the significance of impacts, the methods used in evaluating these impacts, and the results of the impact assessment.

During the scoping period for the Draft Environmental Impact Report (DEIR), written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Notice of Preparation and Comment Letters Summary*, in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

5.1.1 Environmental Setting

5.1.1.1 REGULATORY BACKGROUND

Federal

There are no federal regulations, plans, or policies applicable to aesthetics issues relevant to the proposed project.

State

Modernization of Analysis for Transit-Oriented Infill Projects (Senate Bill 743)

Enacted in 2013, Senate Bill (SB) 743 implemented a number of changes to the California Environmental Quality Act (CEQA; California Public Resources Code [PRC] Section 21000 et seq.) that are designed to streamline some of its procedures for certain projects, including infill residential, mixed-use residential, and employment center projects near transit services. As specified in CEQA PRC Section 21099(d)(1), aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site in a transit priority area shall not be considered significant impacts on the environment, provided the project meets all the following three criteria:

- The project is in a transit priority area.[1]
- The project is on an infill site.[2]

[1] CEQA PRC Section 21099(a)(7) defines a "transit priority area" as an area within one-half mile of an existing or planned major transit stop. A "major transit stop" is defined in CEQA Section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the a.m. and p.m. peak commute periods.

[2] CEQA Section 21099(a)(4) defines an "infill site" as either (1) a lot within an urban area that was previously developed; or (2) a vacant site where at least 75 percent of the site perimeter adjoins (or is separated by only an improved public right-of-way from) parcels that are developed with qualified urban uses.

- The project is residential, mixed-use residential, or an employment center.[3]

CEQA PRC Section 21099(d)(2)(A) specifies that this subdivision does not affect, change, or modify the authority of a lead agency to consider aesthetic impacts pursuant to local design review ordinances or other discretionary powers provided by other laws or policies. CEQA PRC Section 21099(e) further specifies that this section does not affect the authority of a public agency to establish or adopt thresholds of significance that are more protective of the environment.

Caltrans Scenic Highway Program

In 1963, California's Scenic Highway Program was created to preserve and protect the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The state laws governing this program are in the Streets and Highways Code, Sections 260 to 2684, and Caltrans oversees the program. Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Suitability for designation as a State Scenic Highway is based on the following criteria described in Caltrans's Guidelines for Official Designation of Scenic Highways (Caltrans 2008):

- The State or county highway consists of a scenic corridor that is comprised of a memorable landscape that showcases the natural scenic beauty or agriculture of California; "vividness" is used to assess visual quality, and is the extent to which the landscape is memorable. This is associated with the distinctiveness, diversity and contrast of visual elements. A vivid landscape makes an immediate and lasting impression on the viewer.

- Existing visual intrusions do not significantly impact the scenic corridor; this is based on intactness (the integrity of visual order in the landscape and the extent to which the natural landscape is free from visual intrusions) and unity (the extent to which visual intrusions are sensitive to and in visual harmony with the natural landscape).

- Demonstration of strong local support for the proposed scenic highway designation.

- The length of the proposed scenic highway is not less than a mile and is not segmented.

There are no officially designated state scenic highways or eligible state scenic highways that traverse the City of Artesia.

California Building Code

The California Building Code, Part 2 of Title 24 in the California Code of Regulations, is based on the International Building Code and combines three types of building standards from three different origins:

[3] CEQA Section 21099(a)(1) defines an "employment center" as a project situated on property zoned for commercial uses with a floor area ratio of no less than 0.75 and in a transit priority area.

- Building standards that have been adopted by State agencies without change from building standards contained in the International Building Code.
- Building standards that have been adopted from the International Building Code to meet California conditions.
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the International Building Code that have been adopted to address particular California concerns.

The code includes standards for outdoor lighting that are intended to improve energy efficiency and reduce light pollution and glare by regulating light power and brightness, shielding, and sensor controls.

Local

City of Artesia General Plan

Land Use Element

- **Policy LU 1.4.** Ensure mixed-use developments are integrated with surrounding uses to become part of the neighborhood by utilizing cohesive architecture, lively streetscapes, interesting urban spaces and attractive landscaping.
- **Policy LU 2.2.** Encourage uniformly high standards of residential property maintenance to preserve real estate values and high quality of life.
- **Policy LU 2.3.** Prohibit uses that lead to deterioration of residential neighborhoods, or adversely impact the safety or the residential character of a neighborhood.
- **Policy LU 2.4.** Ensure that the distinct character of Artesia's neighborhoods are preserved and reflected in all new development and redevelopment projects.
- **Policy LU 3.2.** Monitor the appearance of commercial and retail service facilities to prevent areas of decline by requiring improved maintenance of rehabilitation, as necessary.
- **Policy LU 3.3.** Work with property owners of commercial developments that are currently in a state of deterioration to revitalize these centers.

Circulation and Mobility Element

- **Policy CIR 2.1.** Provide landscaped medians and greenbelts along major arterials, highways, and freeways where economically feasible.

Community Resources and Wellness Element

- **Policy OS 3.1.** Promote visually appealing landscaped corridors and landscape buffers to introduce plant materials into urbanized areas.

Sustainability Element

- **Policy SUS 3.4.** Promote neighborhood identity and conservation of individual neighborhood character. Retain Artesia's history and heritage.
- **Policy SUS 4.1.** Increase tree canopy and provide natural landscape elements throughout the City.

City of Artesia Zoning Code

The "Zoning Law of the City of Artesia" is provided in Title 9, Chapter 2, Zoning, of the City of Artesia Municipal Code (AMC). The purpose of Chapter 2 is to:

> Encourage, classify, designate, regulate, restrict, and segregate the highest and best locations and uses of buildings, structures, and land to serve the needs of residence, commerce, industry, and other purposes in appropriate places; to regulate and limit the height, number of stories, and size of buildings and other structures designed, erected, and altered; to regulate and determine the size of yards and other open spaces; to regulate and limit the density of population; to facilitate adequate provisions for community utilities, such as transportation, water, sewage, schools, parks, and other public requirements; to lessen congestion on streets; and to promote the public health, safety, welfare, and general prosperity with the aim of preserving a wholesome, serviceable, and attractive community.

The provisions of this chapter also assist with the implementation of the City's General Plan.

Development standards and regulations for residential and nonresidential developments, which influence the City's visual character, are specified in the following articles/sections in AMC Chapter 2, Zoning.

- Article 8, Lots
- Article 9, Yards
- Article 10, Streets and Highways
- Article 11, Off-Street Parking and Loading
- Article 12, Signs
- Article 12.5, Lighting
- Article 13, Performance Standards
- Article 14, Fences, Walls, and Hedges
- Article 15, Landscaping
- Articles 27 to 42, Development standards for each of the respective zoning districts and various specified land uses

Additionally, the provisions of AMC Chapter 2, Article 20, Design Review Approval, are intended to establish a process by which certain types of development projects and structures are subject to a discretionary review approval process before the City's Planning Commission, and under specified circumstances before the City Council or Planning Director. The following categories of development projects are subject to the design review approval process:

> Any building or structure requiring a building permit, or the modification of the exterior design or color of an existing structure or element thereof, including architectural accents, that is located on a site in any zone other than the Single-Family Residential (R-1) Zone or the Agricultural (A-1) Zone;
>
> a) Any building or structure requiring a building permit, or the modification of the exterior design or color of any existing structure or element thereof, that is located in the Single-Family Residential (R-1) Zone or Agricultural (A-1) Zone that is designed for use other than as a dwelling unit or dwelling units; and
>
> b) Any major wall sign as specified in Chapter 2, Article 12 or 12.5.

City of Artesia Design Guidelines

The City of Artesia developed Community Design Guidelines (Design Guidelines) in February 2006. The purpose of the Design Guidelines is to ensure quality development and improvements by establishing and implementing stated design and architectural guidelines. The Design Guidelines do not constitute specific development standards but provide a framework for preferred construction design and materials while promoting individual creativity and unique architectural styles that will be an asset to the City.

5.1.1.2 EXISTING CONDITIONS

The City, including the project site, is entirely built out, and the City's aesthetic is one of a fully urbanized community. Additionally, the areas surrounding the City are fully developed and urbanized with similar land use patterns, density, and character. The predominant land uses in the project site include one- and two-story commercial uses and multifamily residential properties. The southern portion of the project site is anchored by a shopping center and La Belle Chateau Estates Mobile Home Park, which is bordered by South Street to the north, the City of Cerritos to the west and south, and Pioneer Boulevard to the east. The northern portion of the project site is anchored by a shopping center to the north and south of 183rd Street and to the east and west of Arline Avenue and Alburtis Avenue, respectively. The north and south ends of the project site are connected by the Pioneer Boulevard corridor, which includes one- and two-story retail and restaurant and office uses. Multifamily residential, mixed-use residential, commercial, general office, and industrial uses are on various parcels throughout the entire project site to the east and west of Pioneer Boulevard. Limited vacant parcels exist in the project area south of 188th Street. The Southeast Gateway Line bisects the project site.

Scenic Resources

There are no designated scenic vistas or other scenic resources, such as natural landforms, present within the City (Artesia 2010a).

State Scenic Highway

No officially designated or eligible State scenic highways are in the City (Caltrans 2024; Artesia 2010b).

Visual Character

The City's visual character, including the project site, is influenced by its transportation infrastructure and system. The pattern of arterial roadways in the City reflects the standard land plotting system of a one-mile grid of arterial streets running north-south and east-west. As a result, the community's design is largely reactive to these transportation facilities. Because of the dominant role roadways had in the City's development, streetscape appearance is a critical element in the City's visual character.

The following discussion provides a general overview of the City's visual character according to primary land uses.

Residential Character

Most of the City's residential development occurred during the post-war boom evidenced in northern Los Angeles County during the 1950s and into the 1960s. The City's post-war residential development resulted in architecture that reflects the dominant styles of that period. The architectural style of the post-wartime tracts is characterized as small one-story buildings set on a concrete perimeter foundation with a pitched roof. More specifically, these homes were primarily built in the California Ranch architectural style, characterized by its one-story, pitched-roof construction, built-in garage, wood or brick exterior walls, sliding and picture windows, and sliding doors leading to patios. Over time, these single-family homes in established communities have been remodeled, altering communities' cohesiveness. Landscaping in these areas is generally mature and extends out to the back of the curb face. Expansive front lawns and deep setbacks create a more rural feel in an otherwise urban environment. Artesia's multifamily residences typically include one- or two-story buildings set back from the street (Artesia 2010b).

Commercial Character

Most of the City's commercial development is in downtown Artesia along Pioneer Boulevard, Artesia Boulevard, and South Street. Commercial activities range from neighborhood grocery stores to community shopping centers, motels, hotels, restaurants, and offices. Commercial development in the City previously focused on strip commercial development dominated by parking and automobiles. However, several commercial areas in the City have been developed that have common distinguishing characteristics and/or functions that make them identifiable as a distinct place from other areas. Other commercial concentrations are found at key intersections of most major streets (Artesia 2010b).

Industrial Character

Industrial development is concentrated in the area north of Artesia Boulevard and west of Pioneer Boulevard. Industrial development in Artesia is very diverse and consists of small business parks, heavy and light industrial and commercial service land uses. Architecture associated with industrial uses varies noticeably, from single-story ,flat-roof structures to tilt-up concrete buildings with modern window treatments (Artesia 2010b).

Light and Glare

Lighting effects are associated with the use of artificial light during the evening and nighttime hours. There are two primary sources of light: light emanating from building interiors passing through windows and light from exterior sources (i.e. street lighting, building illumination, security lighting, parking lot lighting, and landscape lighting). Light introduction can be a nuisance to adjacent residential areas; diminish the view of the clear night sky; and, if uncontrolled, cause disturbances. Uses such as residences and hotels are considered light sensitive since occupants have expectations of privacy during evening hours and may be subject to disturbance by bright light sources. Light spill is typically defined as the presence of unwanted light on properties adjacent to the property being illuminated. With respect to lighting, the degree of illumination may vary widely depending on the amount of light generated, height of the light sources, presence of barriers or obstructions, type of light source, and weather conditions.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces. Perceived glare is the unwanted and potentially objectionable sensation observed by a person as they look directly into the light sources of a luminaire. Daytime glare generation is common in urban areas and is typically associated with buildings with exterior facades largely or entirely composed of highly reflective glass. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources such as automobile headlights. Glare-sensitive uses include residences, hotels, transportation corridors, and aircraft landing corridors.

The project site is in a highly urbanized and developed part of the City. Sources of light in the project site include building lighting (interior and exterior), security lighting, sign illumination, street lighting, and parking area lighting. These sources of light and glare are mostly associated with the residential, commercial, and industrial uses in the project site. Other sources of nighttime light and glare include streetlights, vehicular traffic along surrounding roadways, and ambient lighting from surrounding developments.

5.1.2 Thresholds of Significance

Appendix G of the CEQA Guidelines states that, "except as provided in Public Resources Code Section 21099," a project would normally have a significant effect on the environment if the project would:

AE-1 Have a substantial adverse effect on a scenic vista.

AE-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

AE-3 In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.

AE-4 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The Initial Study, included as Appendix A, substantiates that no impacts would occur associated with the following thresholds:

- Threshold AE-1
- Threshold AE-2

These impacts were addressed in the Initial Study (Appendix A), and can also be found in Chapter 8, *Impacts Found Not to Be Significant*, of this DEIR.

5.1.3 Environmental Impacts

5.1.3.1 METHODOLOGY

The evaluation of aesthetics and aesthetic impacts is highly subjective, yet it must objectively identify the visual features of the existing environment and their importance. The characterization of aesthetics involves establishing existing visual character, including resources and scenic vistas unique to the City. Visual resources are determined by identifying existing landforms (e.g., topography and grading), views (e.g., scenic resources such as natural features or urban characteristics), viewing points/locations, and existing light and glare (e.g., nighttime illumination). Changes to the existing aesthetic environment that would result from implementation of the proposed project are identified and qualitatively evaluated based on the proposed modifications to the existing setting and the viewer's sensitivity. This analysis focuses on the proposed project's potential to conflict with applicable zoning and other regulations governing scenic quality and create a new source of substantial light and glare in the City.

5.1.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

Goal 3 Encourage a vibrant and scenic downtown reflective of a diverse community.

- Affirm community character and culture through restaurants, retail, and design.
- The restoration and reuse of buildings and places of historical or cultural significance.

Goal 4 Beautify Downtown Artesia through building design, landscape, and art.

- Implement standards that encourage high quality design.
- Encourage design that is reflective of the diverse community.
- Improve community experience in public space through landscape design and greening practices.
- Improve community experience in public spaces through public art.
- Use of murals, outdoor galleries, installations, and pop-us to enhance the downtown environment.

5.1.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.1-1: The project would not conflict with applicable zoning and other regulations governing scenic quality. [Thresholds AE-3]

As previously discussed, the project site is within a highly urbanized and developed area of the City. Thus, the analysis below identifies the proposed project's potential to conflict with applicable zoning and other regulations governing scenic quality.

Under existing conditions, the project site is zoned Commercial General, Multi-Family Residential, Light Manufacturing/Industrial, Commercial Planned Development, and South Street Specific Plan (refer to Figure 3-4, *Existing Zoning Map*, of this DEIR) and is fully developed. The proposed project would amend the zoning code to establish new zoning and development standards and zoning map to classify the project site as Specific Plan. It should be noted that no specific development projects are proposed at this time.

Future residential and mixed-use development that could result from implementation of the proposed project, particularly development within one-half mile of the future Pioneer Boulevard Light Rail Station, which is considered an existing or planned major transit stop as defined in PRC Section 21064.3, would meet the criteria under which aesthetic impacts are not required to be considered.

Under existing conditions, the project site is zoned Commercial General, Commercial Planned Development, Light Manufacturing/Industrial, Multiple-Family Residential, Service & Professional, and South Street Specific Plan. The proposed project's new zoning and development standards would guide the scale of future development and growth within the project site and would ensure that future development would preserve and enhance the project site's visual character and quality. Table 5.1-1, *Existing and Proposed Development Standards*, below provides a comparison of existing and proposed development standards for the project site.

Table 5.1-1 Existing and Proposed Development Standards

	Maximum Height	Maximum Density/Intensity
Existing Zoning[1]		
Commercial General	35 ft	1.0 FAR
Commercial Planned Development	35 ft	1.0 FAR
Light Manufacturing/Industrial	35 ft	1.0 FAR
Multiple-Family Residential	35 ft / two stories	30 du/ac
Service & Professional	35 ft / two stories	2.0 FAR
South Street Specific Plan[2]	45 ft	1.5 FAR
Proposed Zoning		
Pioneer Boulevard	3 stories / 45 ft	60 du/ac / 2.0 FAR
Downtown South	6 stories / 80 ft	85 du/ac / 2.5 FAR
Downtown North	5 stories / 65 ft	75 du/ac / 3.0 FAR
188th Street/Corby Avenue	4 stories / 55 ft	6 du/ac / 2.0 FAR
Downtown Neighborhood	3 stories / 45 ft	40 du/ac / 1.25 FAR
Chateau Estates	2 stories / 24 ft	11 du/ac / 0.75 FAR

Notes: ft = feet, FAR = floor area ratio, du/ac = dwelling unit per acre
[1] City of Artesia 2024
[2] City of Artesia 2000

Although the proposed project would increase the height and density/intensity in most zoning districts, the proposed project would not substantially change the scenic quality of the project site or surrounding area. Proposed Specific Plan Chapter 5.0, Land Use, establishes the permitted uses and regulations for the planned development within the project site. Proposed Specific Plan Chapter 6.0, Development Standards, provides the development standards including maximum densities, floor area, maximum intensities, maximum height, wall dimensions, open space, encroachments, and required building setbacks (see also Chapter 3, *Project Description*, Table 3-2, *District Development Standards*). The regulations and standards identified in proposed Specific Plan Chapters 5.0 and 6.0, respectively, would ensure the proposed project meets applicable General Plan Policies. The proposed project would comply with policies LU 1.4, LU 2.2 LU 2.3, LU 2.4, LU 3.2, LU 3.3, and SUS 3.4 which aim to create a cohesive and high quality neighborhood with a distinct character. Additionally, the proposed project would comply with policies CIR 2.1, OS 3.1, and SUS 4.1 which aim to promote appealing landscaped areas.

The development standards identified in Specific Plan Chapter 6.0 would adhere to and in specific instances supersede those standards and regulations established in the City's Municipal Code, Title 9, Chapter 2, Zoning. Future development in accordance with the proposed project would be required to comply with the proposed Development Standards and would be regulated through the City's design review process for consideration for consistency with the Specific Plan Design Guidelines. The City would utilize the Specific Plan's Development Standards and Design Guidelines and the City's Design Guidelines to review subsequent plan submittals to ensure that future development meets the requirements of the proposed project and complies with City requirements. The proposed project would be consistent with the General Plan policies related to scenic quality. The proposed project would not conflict with any applicable zoning or other regulations governing scenic quality. Although future development in accordance with the proposed project would change the existing visual

character of the project site, the development would create an attractive, well-designed, mixed-use community with a high-quality pedestrian environment. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: Less Than Significant

Impact 5.1-2: The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. [Threshold AE-4]

The two major causes of light pollution are glare and spill light. Spill light is caused by misdirected light that illuminates outside the intended area. Glare is light that shines directly or is reflected from a surface into a viewer's eyes. Spill light and glare are effects of a project's exterior lighting on adjoining uses and areas.

The project site is in a highly urbanized and developed part of the City. Sources of light in the project site include building lighting (interior and exterior), security lighting, sign illumination, street lighting, and parking area lighting. These sources of light and glare are mostly associated with the residential, commercial, and industrial uses in the project site and surrounding areas. Other sources of nighttime light and glare include streetlights, vehicular traffic along surrounding roadways, and ambient lighting from surrounding developments. The proposed project includes land use and zoning changes specific to the 52 identified Redevelopment Opportunity Sites. As such, future redevelopment would occur in areas where development, and associated light and glare sources, already exists.

Future redevelopment would increase lighting at the project site compared to existing conditions, given the proposed increase in density and a mix of land uses on-site. However, all proposed lighting would be required to comply with the exterior lighting requirements included in proposed Specific Plan Chapter 6.0 and AMC Article 12.5, Lighting. As indicated in proposed Specific Plan Chapter 6.0, all lighting shall be directed, oriented, and shielded to prevent light trespassing or glaring onto adjacent properties. Resulting developments would also be in an urban setting where street lighting, parking area lighting, and auto traffic are common. For these reasons, the development would not create a new source of substantial light or glare that would adversely affect day or nighttime views. Additionally, the California Building Code contains standards for outdoor lighting that are intended to reduce light pollution and glare by regulation of light power and brightness, shielding, and sensor controls. These regulations would serve to mitigate potential impacts of new land uses. The proposed project would result in a less than significant impact with respect to light or glare.

Level of Significance Before Mitigation: Less Than Significant

5.1.4 Cumulative Impacts

This section presents an analysis of the cumulative effects of the proposed project in combination with other past, present, and reasonably foreseeable future projects that could cause cumulatively considerable impacts. Significant cumulative impacts related to aesthetics could occur if the incremental impacts of the proposed project combined with the incremental impacts of one or more cumulative projects.

Scenic Quality

As discussed, the City is mostly built out with relatively little land available for new development. As such, the cumulative development projects identified in Table 4-1, *List of Cumulative Projects*, primarily consist of infill development and would result in development similar to what currently exists in the surrounding vicinity. Additionally, the City would review site-specific development proposals against the AMC requirements for all future projects requiring discretionary and ministerial approvals. This regulatory procedure would ensure cumulative development is reviewed against the qualities and characteristics expected of development and major renovations in the City. Cumulative development would be reviewed against applicable General Plan policies.

As indicated in Impact 5.1-1, the proposed project would be consistent with applicable zoning and regulations related to scenic quality upon approval of the proposed project. Further, project implementation would be subject to the Specific Plan Development Standards and Design Guidelines. Overall, these standards would serve to improve the scenic quality within the project site. Thus, cumulative impacts to scenic quality regulations would be less than significant, and the proposed project would not significantly contribute to cumulative impacts in this regard.

Light and Glare

Development of cumulative projects could result in increased light and glare in the City during construction and operational activities. However, all cumulative development would be required to undergo separate environmental review under CEQA to evaluate project-level impacts associated with light and glare. Additionally, similar to the proposed project, cumulative project would be required to comply with outdoor lighting requirement as detailed in AMC.

As indicated in Impact 5.1-2, proposed Specific Plan Chapter 6.0 would require outdoor lighting fixtures to be located and designed to minimize light spill. Following compliance with the Specific Plan Development Standards and Design Guidelines and applicable AMC regulations, the proposed project would result in a less than significant impact with respect to light and glare. Thus, the proposed project would not cumulatively contribute to the creation of substantial light and glare, and impacts would be less than significant.

5.1.5 Level of Significance Before Mitigation

No impacts were identified as being potentially significant.

5.1.6 Mitigation Measures

No significant adverse impacts related to aesthetics were identified and no mitigation measures are required.

5.1.7 Level of Significance After Mitigation

No significant unavoidable adverse impacts related to aesthetics have been identified.

5.1.8 References

Artesia, City of. 2000. South Street Specific Plan. https://www.cityofartesia.us/DocumentCenter/View/4752/South-Street-Specific-Plan-Color.

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California Department of Transportation (Caltrans). 2024. California State Scenic Highways. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa.

5. Environmental Analysis
AESTHETICS

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5.2 AIR QUALITY

This section provides an analysis of potential local and regional impacts on air quality from future development facilitated by adoption of the Artesia Downtown Specific Plan (Specific Plan or proposed project), including those related to air quality plans and standards, criteria pollutants, sensitive receptors, and objectionable odors. This section provides context regarding air quality standards and local air quality, as well as relevant federal, State, and local regulations and programs.

This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (South Coast AQMD) and focuses on criteria air pollutants and toxic air contaminants. Greenhouse gases (GHGs) are evaluated in Section 5.6, *Greenhouse Gas Emissions*, of this Draft Environmental Impact Report (DEIR). Criteria air pollutant emissions modeling is included in Appendix C of this DEIR. The analysis in this section is based on trip generation and average trip distance data as provided by Linscott, Law & Greenspan, Engineers (LLG) (see Appendix H). Cumulative impacts related to air quality are based on the regional boundaries of the South Coast Air Basin (SoCAB).

During the scoping period for the DEIR, written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Summary of Scoping Comments Received*, in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

Terminology

The following are definitions for terms used throughout this section.

- **AAQS:** Ambient Air Quality Standards that define clean air, established to protect the health of sensitive communities.
- **CES:** CalEnviroScreen, a mapping tool that helps identify the California communities most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects.
- **Concentrations:** The amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ($\mu g/m^3$).
- **Criteria Air Pollutants:** Those air pollutants specifically identified for control under the Federal Clean Air Act (currently six: carbon monoxide, nitrogen oxides, lead, sulfur oxides, ozone, and particulates).
- **DPM:** Diesel particulate matter, exhaust from trucks, buses, trains, ships, and other equipment with diesel engines, containing a mixture of gases and solid particles.
- **Emissions:** The actual quantity of pollutant, measured in pounds per day or tons per year.
- **ppm:** Parts per million.

- **Sensitive receptor:** Land uses that are considered more sensitive to air pollution compared to others due to the types of population groups or activities involved. These land uses include residential, retirement facilities, hospitals, and schools.
- **TAC:** Toxic air contaminant.
- **µg/m³:** Micrograms per cubic meter.
- **VMT:** Vehicle miles traveled.

5.2.1 Environmental Setting

5.2.1.1 AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_X), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, nitrogen dioxide (NO_2), PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that ambient air quality standards (AAQS) have been established for them. VOC and NO_X are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and NO_2 are the principal secondary pollutants.

Each of the primary and secondary criteria air pollutants and its known health effects are described below.

- **Carbon Monoxide (CO)** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines and motor vehicles operating at slow speeds are the primary source of CO in the SoCAB, the highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (South Coast AQMD 2005, 2022; US EPA 2024a). The SoCAB is designated as being in attainment under the California AAQS and attainment (serious maintenance)[1] under the National AAQS (CARB 2024a).
- **Volatile Organic Compounds (VOC)** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (South Coast AQMD 2005). There are no AAQS for VOCs. However, because they

[1] A maintenance area refers to a previously nonattainment area that has been redesignated to "maintenance" after it meets the standards and additional redesignation requirements in the Clean Air Act Section 107(d)(3)(E).

contribute to the formation of O_3, South Coast AQMD has established a significance threshold (South Coast AQMD 2023a). The health effects for ozone are described later in this section.

- **Nitrogen Oxides (NO_X)** are a by-product of fuel combustion and contribute to the formation of ground-level O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_X produced by combustion is NO, but NO reacts quickly with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO_2 is only potentially irritating. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO_2 exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO_2 concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (South Coast AQMD 2005, 2022; US EPA 2024a). The SoCAB is designated in attainment (maintenance) under the National AAQS and attainment under the California AAQS (CARB 2024a).

- **Sulfur Dioxide (SO_2)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2. When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO_2, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing) at lower concentrations, and when combined with particulates, SO_2 may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (South Coast AQMD 2005, 2022; US EPA 2024a). The SoCAB is designated as attainment under the California and National AAQS (CARB 2024a).

- **Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤0.01 millimeter). Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤0.002.5 millimeter). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The US Environmental Protection Agency's (EPA) scientific review

concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (South Coast AQMD 2005, 2022). There has been emerging evidence that ultrafine particulates, which are even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.0001 millimeter) have human health implications because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (South Coast AQMD 2022). However, the EPA and the California Air Resources Board (CARB) have not adopted AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen (CARB 1999, 2024b). Particulate matter can also cause environmental effects such as visibility impairment,[2] environmental damage,[3] and aesthetic damage[4] (South Coast AQMD 2005, 2022; US EPA 2024a). The SoCAB is a nonattainment area for $PM_{2.5}$ under California and National AAQS and a nonattainment area for PM_{10} under the California AAQS (CARB 2024a).[5]

- **Ozone (O_3)** is a key ingredient of "smog" and is a gas that is formed when VOCs and NO_X, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O_3 also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O_3 also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O_3 harms sensitive vegetation during the growing season (South Coast AQMD 2005, 2022; US EPA 2024a). The SoCAB is designated extreme nonattainment under the California AAQS (one-hour and eight-hour) and National AAQS (eight-hour) (CARB 2024a).

- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of

[2] $PM_{2.5}$ is the main cause of reduced visibility (haze) in parts of the United States.

[3] Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

[4] Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

[5] CARB approved the South Coast AQMD's request to redesignate the SoCAB from serious nonattainment for PM_{10} to attainment for PM_{10} under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM_{10} standards from 2004 to 2007. The EPA approved the State of California's request to redesignate the South Coast PM_{10} nonattainment area to attainment of the PM_{10} National AAQS, effective on July 26, 2013.

lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (South Coast AQMD 2005, 2022; US EPA 2024a). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.[6] As a result of these violations, the Los Angeles County portion of the SoCAB is designated as nonattainment under the National AAQS for lead (South Coast AQMD 2012; CARB 2024a). However, lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011 (South Coast AQMD 2012). Because emissions of lead are found only in projects that are permitted by South Coast AQMD, lead is not a pollutant of concern for the proposed project.

Table 5.2-1, *Criteria Air Pollutant Health Effects Summary*, summarizes the potential health effects associated with criteria air pollutants.

Table 5.2-1 Criteria Air Pollutant Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	• Chest pain in heart patients • Headaches, nausea • Reduced mental alertness • Death at very high levels	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Ozone (O_3)	• Cough, chest tightness • Difficulty taking a deep breath • Worsened asthma symptoms • Lung inflammation	Atmospheric reaction of organic gases with nitrogen oxides in sunlight
Nitrogen Dioxide (NO_2)	• Increased response to allergens • Aggravation of respiratory illness	Same as carbon monoxide sources
Particulate Matter (PM_{10} and $PM_{2.5}$)	• Hospitalizations for worsened heart diseases • Emergency room visits for asthma • Premature death	Cars and trucks (particularly diesels) Fireplaces and woodstoves Windblown dust from overlays, agriculture, and construction
Sulfur Dioxide (SO_2)	• Aggravation of respiratory disease (e.g., asthma and emphysema) • Reduced lung function	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes
Lead (Pb)	• Behavioral and learning disabilities in children • Nervous system impairment	Contaminated soil

Source: CARB 2024c.

[6] Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (South Coast AQMD 2012).

Toxic Air Contaminants

CARB has identified other air pollutants as TACs, which are pollutants that may cause serious, long-term effects. People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (US EPA 2024b). By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. There are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most relevant to the proposed project being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified DPM as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. Long-term (chronic) inhalation of DPM is likely a lung cancer risk. Short-term (i.e., acute) exposure can cause irritation and inflammatory systems and may exacerbate existing allergies and asthma systems (US EPA 2002).

Ambient air quality standards have been adopted at the state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of TACs. The proposed project is in the SoCAB and is subject to the rules and regulations imposed by the South Coast AQMD, the California AAQS adopted by CARB, and National AAQS adopted by the EPA. Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized in this section.

5.2.1.2 REGULATORY BACKGROUND

Federal and State

Ambient Air Quality Standards

The Clean Air Act (CAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 CAA amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 5.2-2, *Ambient Air Quality Standards for Criteria Air Pollutants*. These pollutants are O_3, NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$, and Pb. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 5.2-2 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Ozone (O_3)[3]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 $\mu g/m^3$	
Respirable Fine Particulate Matter ($PM_{2.5}$)[4]	Annual Arithmetic Mean	12 µg/m^3	9 $\mu g/m^3$	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 $\mu g/m^3$	

Table 5.2-2 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Lead (Pb)	30-Day Average	1.5 $\mu g/m^3$	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 $\mu g/m^3$	
	Rolling 3-Month Average	*	0.15 $\mu g/m^3$	
Sulfates (SO_4)[5]	24 hours	25 $\mu g/m^3$	*	Industrial processes.
Visibility-Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016.
Notes: ppm: parts per million; $\mu g/m^3$: micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
[1] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
[2] National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
[3] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
[4] On February 7, 2024, the national annual $PM_{2.5}$ primary standard was lowered from 12.0 $\mu g/m^3$ to 9.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
[5] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions:

- **Assembly Bill (AB) 1493: Pavley Fuel Efficiency Standards.** Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025.

- **Senate Bill (SB) 1078 and SB 107: Renewables Portfolio Standards.** A major component of California's Renewable Energy Program is the renewables portfolio standard established under SB 1078 (Sher) and SB 107 (Simitian). Under the renewables portfolio standard, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent to reach at least 20 percent by December 30, 2010.

- **Title 20 of California Code of Regulations (CCR): Appliance Energy Efficiency Standards.** The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601–1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances.

- **24 CCR, Part 6: Building and Energy Efficiency Standards.** Energy conservation standards for new residential and nonresidential buildings adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977.

- **24 CCR, Part 11: Green Building Standards Code.** Establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[7]

California Air Resources Board

CARB is a part of the California Environmental Protection Agency and responsible for the coordination and administration of both federal and state air pollution control programs in California. In this capacity, CARB conducts research, sets the California AAQS (see Table 5.2-2), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's State Implementation Plan (SIP), working closely with the federal government and the local air districts. The SIP is required for the State to take over implementation of the federal CAA from the EPA.

Nuisance Regulations

Health and Safety Code Section 41700 states,

[7] The green building standards became mandatory in the 2010 edition of the code.

> ... a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property.

This section also applies to objectionable odors.

Tanner Air Toxics Act and Air Toxics Hot Spot Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health" (17 CCR Section 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal CAA (42 US Code Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate "toxics best available control technology" to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **13 CCR Chapter 10, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.** Regulation generally restricting on-road diesel-powered commercial motor vehicles with a gross vehicle weight rating of greater than 10,000 pounds from idling more than five minutes.

- **13 CCR Chapter 10, Section 2480: Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools.** Generally restricts a school bus or transit bus from idling for more than five minutes when within 100 feet of a school.

- **13 CCR Section 2477 and Article 8: Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate.** Regulations established to control emissions associated with diesel-powered TRUs.

Regional

Air Quality Management Planning

The South Coast AQMD is the agency responsible for improving air quality in the SoCAB and ensuring that the National and California AAQS are attained and maintained. South Coast AQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). The AQMP is a regional strategy plan to achieve air quality standards by examining emissions, looking at regional growth projections, and the impact of existing and proposed control measures to provide healthful air in the long-term. Since 1979, a number of AQMPs have been prepared.

The CAA requires CARB to develop a SIP that describes how an area will attain National AAQS. The AQMP provides the framework for air quality basins to achieve attainment of the State and federal AAQS through the SIP. Areas are classified as attainment or nonattainment areas for a particular pollutant depending on whether they meet the AAQSs.

2022 AQMP

South Coast AQMD adopted the 2022 AQMP on December 2, 2022, as an update to the 2016 AQMP. On October 1, 2015, the EPA strengthened the National AAQS for ground-level ozone, lowering the primary and secondary ozone standard levels to 70 parts per billion (ppb) (2015 Ozone National AAQS). The SoCAB is currently classified as an "extreme" nonattainment for the 2015 Ozone National AAQS. Meeting the 2015 federal ozone standard requires reducing NO_X emissions, the key pollutant that creates ozone, by 67 percent more than is required by adopted rules and regulations by 2037. The only way to achieve the required NO_X reductions is through extensive use of zero emission (ZE) technologies across all stationary and mobile sources. South Coast AQMD's primary authority is over stationary sources which account for approximately 20 percent of NO_X emissions. The overwhelming majority of NO_X emissions are from heavy-duty trucks, ships, and other State and federally regulated mobile sources that are mostly beyond the South Coast AQMD's control. The region will not meet the standard without significant federal action. In addition to federal action, the 2022 AQMP requires substantial reliance on future deployment of advanced technologies to meet the standard. The control strategy for the 2022 AQMP includes aggressive new regulations and the development of incentive programs to support early deployment of advanced technologies. The two key areas for incentive programs are (1) promoting widespread deployment of available ZE and low-NO_X technologies and (2) developing new ZE and ultra-low NO_X technologies for use in cases where the technology is not currently available. South Coast AQMD is prioritizing distribution of incentive funding in environmental justice areas and seeking opportunities to focus benefits on the most disadvantaged communities (South Coast AQMD 2022).

South Coast AQMD $PM_{2.5}$ Redesignation Request and Maintenance Plan

In 1997, the EPA adopted the 24-hour fine $PM_{2.5}$ standard of 65 $\mu g/m^3$. In 2006, this standard was lowered to a more health-protective level of 35 $\mu g/m^3$. The SoCAB is designated nonattainment for both the 65 $\mu g/m^3$ and 35 $\mu g/m^3$ 24-hour $PM_{2.5}$ standards (24-hour $PM_{2.5}$ standards). In 2020, monitored data demonstrated that the SoCAB attained both 24-hour $PM_{2.5}$ standards. The South Coast AQMD developed the "2021 Redesignation Request and Maintenance Plan" for the 1997 and 2006 24-hour $PM_{2.5}$ Standards for the SoCAB $PM_{2.5}$ Redesignation Request and Maintenance Plan, demonstrating that the SoCAB has met the requirements to be redesignated to attainment for the 24-hour $PM_{2.5}$ standards (South Coast AQMD 2021b). Additionally, South Coast AQMD released the "Draft Final South Coast Air Basin Attainment Plan for the 2012 Annual $PM_{2.5}$ Standard". This plan requests a 5-year extension from the current attainment deadline of December 31, 2025 established under the 2016 AQMP and demonstrates attainment of the 2012 12 $\mu g/m^3$ annual $PM_{2.5}$ standard by December 31, 2030 (South Coast AQMD 2024c).

Lead Implementation Plan

In 2008, the EPA designated the Los Angeles County (County) portion of the SoCAB as a nonattainment area under the federal lead (Pb) classification because of the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in the City of Vernon and the City of Industry that exceeded the new standard in the 2007 to 2009 period. The remainder of the SoCAB, outside the County nonattainment area, remains in attainment of the new 2008 lead standard. On May 24, 2012, CARB approved the SIP revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to the EPA for approval and was approved in March 2014.

Assembly Bill 617, Community Air Protection Program

AB 617 (C. Garcia, Chapter 136, Statutes of 2017) requires local air districts to monitor and implement air pollution control strategies that reduce localized air pollution in communities that bear the greatest burdens. In response to AB 617, CARB established the Community Air Protection Program.

Air districts are required to host workshops to help identify disadvantaged communities disproportionately affected by poor air quality. Once the criteria for identifying the highest priority locations have been identified and the communities have been selected, new community monitoring systems are installed to track and monitor community-specific air pollution goals. In 2018 CARB prepared an air monitoring plan (Community Air Protection Blueprint) that evaluates the availability and effectiveness of air monitoring technologies and existing community air monitoring networks. Under AB 617, the Blueprint is required to be updated every five years.

Under AB 617, CARB is also required to prepare a statewide strategy to reduce TACs and criteria pollutants in impacted communities; provide a statewide clearinghouse for best available retrofit control technology; adopt new rules requiring the latest best available retrofit control technology for all criteria pollutants for which an area has not achieved attainment of California AAQS; and provide uniform, statewide reporting of emissions inventories. Air districts are required to adopt a community emissions reduction program to achieve reductions for the communities impacted by air pollution that CARB identifies.

South Coast AQMD Rules and Regulations

All projects are subject to South Coast AQMD rules and regulations in effect at the time of activity, including:

- **Rule 401, Visible Emissions.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than three minutes in any one hour that is as dark as or darker than designated No. 1 on the Ringelmann Chart, as published by the US Bureau of Mines.

- **Rule 402, Nuisance.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits any person from discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

- **Rule 403, Fugitive Dust.** This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth-moving and grading activities.

- **Rule 445, Wood Burning Devices.** In general, the rule prohibits new developments from installing wood-burning devices. This rule is intended to reduce the emission of particulate matter from such devices and applies to manufacturers and sellers of wood-burning devices, commercial sellers of firewood, and property owners and tenants that operate a wood-burning device.

- **Rule 1113, Architectural Coatings.** This rule serves to limit the VOC content of architectural coatings used on projects in the South Coast AQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the South Coast AQMD must comply with the current VOC standards in this rule.

- **Rule 1403, Asbestos Emissions from Demolition/Renovation Activities.** The purpose of this rule is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials. All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

- **Rule 1166, Volatile Organic Compound Emissions from Decontaminated Soil.** Under this rule, an excavation plan is required, and excavation operations are required to be monitored for VOC concentrations.

- **Rule 1466, Control of Particulate Emissions from Soils with Toxic Air Contaminants,** to minimize the amount of off-site fugitive dust emissions containing TACs by reducing particulate emissions in the ambient air as a result of earthmoving activities, including excavating, grading, handling, treating, stockpiling, transferring, and removing soil that contains applicable TACs. Components of the fugitive dust control plan are required to include the following measures: fencing that is a minimum of six feet tall and at least as tall as the height of the tallest stockpile, with a windscreen with a porosity of 50 ± 5 percent; monitoring; notification; signage; and recordkeeping.

- **Rule 1113, Architectural Coatings.** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

- **Rule 1403, Asbestos Emissions from Demolition/Renovation Activities.** This rule states that an owner or operator of any demolition or renovation activity is required to have an asbestos study performed prior to demolition and to provide notification to South Coast AQMD prior to commencing demolition activities.

Local

City of Artesia General Plan

The Artesia General Plan (General Plan) was adopted in July 2010. The General Plan includes the following goals and policies in the Sustainability Element to reduce air quality impacts.

- **Policy SUS 3.1.** Adopt sustainable building measures for new municipal buildings and major renovations.
  - **Policy Action SUS 3.1.1.** Educate municipal employees about sustainable building design and operations.
  - **Policy Action SUS 3.1.2.** Consider adopting green building standards for municipal buildings.

- **Policy SUS 3.2.** Strongly encourage the use of green building techniques in new construction and major renovations throughout the City.
  - **Policy Action SUS 3.2.1:** Prioritize the development and implementation of an outreach and education program to promote green building practices by residents and businesses.
  - **Policy Action SUS 3.2.2.** Encourage and explore incentives or mandates for green building techniques in existing building retrofits as well as new buildings.

- **Policy SUS 3.3.** Achieve and maintain a mix of affordable, livable and green housing types throughout the City for people of all socioeconomic, cultural, and household groups (including seniors, families, singles and disabled).

- **Policy SUS 5.1.** Decrease vehicle miles traveled by increasing per vehicle ridership and decreasing the number of trips by autos and trucks.
  - **Policy Action SUS 5.1.2.** Wherever possible, encourage opportunities for "park-once" habits for business patrons. Reduce current subsidies to auto commuting by reducing parking required for new transit-oriented or mixed-use developments—with convenient parking reserved for carpoolers, bicycles, customers and guests.

- **Policy SUS 5.2.** Decrease congestion on local and regional roadways to improve safety, reduce emissions and maintain mobility.
  - **Policy Action SUS 5.2.1.** Prioritize development and implementation of a traffic signal synchronization and optimization program.

- **Policy SUS 6.2.** Protect and enhance environmental and public health by reducing or eliminating the use of hazardous and toxic materials; minimizing pollutants entering the air, soil, and water; and lessening the risks which environmental problems pose to human health and prosperity.
  - **Policy Action SUS 6.2.3.** Develop protocol to ensure that no one geographic or socioeconomic group in the City is being unfairly affected by environmental pollution.

  - **Policy Action SUS 6.2.5.** Investigate the feasibility of requiring parking lots to incorporate landscaping plans with greenery that holds and filters stormwater runoff while also reducing the heat island effect and creating a comfortable and safe pedestrian environment.

- **Policy SUS 7.3.** Work with community and regional partners to reduce the number of unhealthy air quality days per year based on an established baseline.
  - **Policy Action SUS 7.3.1.** Promote and participate in cooperative efforts with agencies and communities in the South Coast Air Basin to achieve clean air.

  - **Policy Action SUS 7.3.2.** Continue to implement the provisions of the Transportation Demand Management Ordinance.

5.2.1.3 EXISTING ENVIRONMENTAL CONDITIONS

South Coast Air Basin Meteorology

The Specific Plan area is in the SoCAB, which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (South Coast AQMD 2005).

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The lowest average mean temperature for Artesia is 47.8°F in December, and the highest average temperature is 85.1°F in August (USA.com 2024). Overall mean average temperature for the city is 65.4°F (USA.com 2024).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from October through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall historically averages 15.84 inches per year in the City (USA.com 2024).

Humidity

Although the SoCAB has a semiarid climate, the air near the Earth's surface is typically moist because of a shallow marine layer. This "ocean effect" is dominant except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds. Periods of heavy fog are frequent, given the air basin's location along the coast. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (South Coast AQMD 1993).

Wind

Wind patterns across the southern coastal region are characterized by westerly or southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.

Between periods of wind, air stagnation may occur in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB combined with other meteorological conditions can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east inhibit the eastward transport and diffusion of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (South Coast AQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions[8] control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion (sinking air from high pressure

[8] Air temperature typically decreases with an increase in altitude. In a temperature inversion, the normal temperature pattern of the atmosphere is reversed and the air temperature increases rather than decreases with height above mean sea level.

systems) and the radiation inversion (cooling of the earth's surface by radiation). The height of the base of the inversion at any given time is known as the "mixing height." The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the air basin (South Coast AQMD 2005).

SoCAB Nonattainment Areas

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the SIP. Areas are classified as attainment or nonattainment areas for particular pollutants depending on whether they meet the AAQS. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- ***Unclassified.*** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- ***Attainment.*** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- ***Nonattainment.*** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area during a three-year period.
- ***Nonattainment/Transitional.*** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 5.2-3, *Attainment Status of Criteria Air Pollutants in the South Coast Air Basin*.

Table 5.2-3 Attainment Status of Criteria Air Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM_{10}	Serious Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment[1]
CO	Attainment	Attainment
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only)[2]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2024a.

[1] The SoCAB is pending a resignation request from nonattainment to attainment for the 24-hour federal $PM_{2.5}$ standards. The *2021* $PM_{2.5}$ *Redesignation Request and Maintenance Plan* demonstrates that the SoCAB meets the requirements of the CAA to allow US EPA to re-designate the SoCAB to attainment for the 65 µg/m^3 and 35 µg/m^3 24-hour $PM_{2.5}$ standards. CARB has reviewed and adopted the *2021* $PM_{2.5}$ *Redesignation Request and Maintenance Plan* to the US EPA as a revision to the California State Implementation Plan (SIP) (CARB 2021).

[2] In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new 2008 federal AAQS as a result of large industrial emitters. Remaining areas for lead in the SoCAB are unclassified. However, lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011 (South Coast AQMD 2012). CARB's SIP revision was submitted to the EPA for approval.

Multiple Air Toxics Exposure Study V

MATES is a monitoring and evaluation study on existing ambient concentrations of TACs and the potential health risks from air toxics in the SoCAB. In April 2021, South Coast AQMD released the latest update to the MATES study, MATES V. The first MATES analysis, MATES I, began in 1986 but was limited because of the technology available at the time. Conducted in 1998, MATES II was the first MATES iteration to include a comprehensive monitoring program, an air toxics emissions inventory, and a modeling component. MATES III was conducted in 2004 to 2006, with MATES IV following in 2012 to 2013.

MATES V uses measurements taken during 2018 and 2019, with a comprehensive modeling analysis and emissions inventory based on 2018 data. The previous MATES studies quantified cancer risks based on the inhalation pathway only. MATES V includes information on the chronic noncancer risks from inhalation and non-inhalation pathways for the first time. Cancer risks and chronic noncancer risks from MATES II through IV measurements have been reexamined using current Office of Environmental Health Hazards Assessment and California Environmental Protection Agency risk assessment methodologies and modern statistical methods to examine the trends over time.

The MATES V study showed that cancer risk in the SoCAB decreased to 454 in a million from 997 in a million in the MATES IV study. Overall, air toxics cancer risk in the SoCAB decreased by 54 percent since 2012 when MATES IV was conducted. MATES V showed the highest risk locations near the Los Angeles International Airport and the Ports of Long Beach and Los Angeles. DPM continues to be the major contributor to air toxics cancer risk (approximately 72 percent of the total cancer risk). Goods movement and transportation corridors have the highest cancer risk. Transportation sources account for 88 percent of carcinogenic air toxics emissions, and the remainder is from stationary sources, which include large industrial operations such as refineries and power plants as well as smaller businesses such as gas stations and chrome-plating facilities. (South Coast AQMD 2021a).

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the Specific Plan area are best documented by measurements taken by the South Coast AQMD. The Specific Plan area is located within Source Receptor Areas (SRA) 4 – South Coastal LA County. The air quality monitoring station closest to the Specific Plan area is the Long Beach – Signal Hill Monitoring Station, which is one of 31 monitoring stations South Coast AQMD operates and maintains within the SoCAB. Data from this station is summarized in Table 5.2-4, *Ambient Air Quality Monitoring Summary*. The data show that the area has exceeded the State and federal one-hour and eight-hour O_3 standards within the last five recorded years. Additionally, the area has exceeded the State PM_{10} standards and federal $PM_{2.5}$ standard.

Table 5.2-4 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations[1]				
	2019	2020	2021	2022	2023
Ozone (O_3)					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	*	1	0	1	0
State & Federal 8-hour ≥ 0.070 ppm (days exceed threshold)	*	4	0	1	0
Max. 1-Hour Conc. (ppm)	*	0.105	0.086	0.108	0.089
Max. 8-Hour Conc. (ppm)	*	0.083	0.064	0.077	0.065
Nitrogen Dioxide (NO_2)					
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	*	0	0	0	0
Federal 1-Hour ≥ 0.100 ppm (days exceed threshold)	*	0	0	0	0
Max. 1-Hour Conc. (ppb)	*	0.0753	0.0590	0.0581	0.0562
Coarse Particulates (PM_{10})					
State 24-Hour > 50 µg/m³ (days exceed threshold)	2	3	0	0	*
Federal 24-Hour > 150 µg/m³ (days exceed threshold)	0	0	0	0	*
Max. 24-Hour Conc. (µg/m³)	72.7	68.3	48.7	48.9	*
Fine Particulates ($PM_{2.5}$)					
Federal 24-Hour > 35 µg/m³ (days exceed threshold)	0	10	4	4	*
Max. 24-Hour Conc. (µg/m³)	30.6	63.7	42.9	42.9	*

Source: CARB 2024d.
Notes: ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter; * = Data not available
[1] Data obtained from the Long Beach – Signal Hill Monitoring Station.

Existing Emissions

The existing land uses in the Specific Plan area consist of residential, commercial, office and industrial uses. These operations currently generate criteria air pollutant emissions from area sources (e.g., consumer cleaning products, landscaping equipment, and VOC emissions from paints), energy consumption (e.g., natural gas used for cooking, heating, etc.), and mobile sources (e.g., vehicle trips). Table 5.2-5, *Maximum Daily Operation Emissions: Existing Uses Designated for Redevelopment*, shows the daily emissions generated by the existing uses designated for redevelopment (see Table 3-1, *Existing Development*, of this DEIR).

Table 5.2-5 Maximum Daily Regional Operation Emissions: Existing Uses Designated for Redevelopment

Source	Maximum Daily Emissions (lbs/Day)					
	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Mobile[1]	99	78	786	2	149	39
Area	14	<1	1	<1	<1	<1
Energy	<1	1	1	<1	<1	<1
Maximum Daily Total	113	79	807	2	150	39

Source: CalEEMod Version 2022. Highest winter or summer emissions are reported.
Notes: lbs = Pounds.
[1] Based on CalEEMod calendar year 2024 emissions data.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution (i.e., TACs) than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent because the majority of workers tend to stay indoors most of the time. In addition, the workforce is generally the healthiest segment of the population.

The planning area is generally surrounded by residential uses. Other nearby sensitive receptors include Bragg Elementary School to the southwest of the planning area, CPC Preschool and Ross Academy of Creative and Media Arts Media School to the northeast. There is also the Artesia Christian Home nursing care facility near the northwest portion of the planning area and Luther Burbank Elementary School farther to the northwest.

5.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.

AQ-2 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

AQ-3 Expose sensitive receptors to substantial pollutant concentrations.

AQ-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

5.2.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

Regional Emissions

South Coast AQMD has established thresholds of significance for air quality for construction activities and project operation in the SoCAB, as shown in Table 5.2-6, *South Coast AQMD Significance Thresholds*. The table lists thresholds that are applicable for all projects uniformly, regardless of size or scope. As discussed in Section 5.2.1.1, there is growing evidence that although ultrafine particulate matter contributes a very small portion of the overall atmospheric mass concentration, it represents a greater proportion of the health risk

from PM. However, because the EPA and CARB have not adopted AAQS to regulate ultrafine particulate matter, South Coast AQMD has not developed thresholds for it.

Table 5.2-6 South Coast AQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Volatile Organic Compounds (VOC)	75 lbs./day	55 lbs./day
Carbon Monoxide (CO)	550 lbs./day	550 lbs./day
Nitrogen Oxides (NO_X)	100 lbs./day	55 lbs./day
Sulfur Oxides (SO_X)	150 lbs./day	150 lbs./day
Coarse Particulates (PM_{10})	150 lbs./day	150 lbs./day
Fine Particulates ($PM_{2.5}$)	55 lbs./day	55 lbs./day

Source: South Coast AQMD 2023a.

Health Outcomes Associated with the AQMD Regional Significance Thresholds

Projects that exceed the AQMD's regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health effects. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Increases cancer risk ($PM_{2.5}$, TACs)
- Aggravates respiratory disease (O_3, $PM_{2.5}$)
- Increases bronchitis (O_3, $PM_{2.5}$)
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O_3)
- Reduces resistance to infections and increases fatigue (O_3)
- Reduces lung growth in children ($PM_{2.5}$)
- Contributes to heart disease and heart attacks ($PM_{2.5}$)
- Contributes to premature death (O_3, $PM_{2.5}$)
- Contributes to lower birth weight in newborns ($PM_{2.5}$) (South Coast AQMD 2015a)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of $PM_{2.5}$ is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists, in a landmark children's health study, found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (South Coast AQMD 2015b).

South Coast AQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SoCAB and has established thresholds that would be protective of these individuals. To achieve the health-based standards established by the EPA, South Coast AQMD prepares an AQMP that details regional programs to attain the AAQS. Mass emissions

thresholds shown in Table 5.2-6 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. These thresholds are based on the trigger levels for the federal New Source Review Program, which was created to ensure projects are consistent with attainment of health-based federal AAQS. Regional emissions from a single project do not trigger a regional health impact, and it is speculative to identify how many more individuals in the air basin would be affected by the health effects listed previously. Projects that do not exceed the South Coast AQMD regional significance thresholds in Table 5.2-6 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

If projects exceed the emission levels in Table 5.2-6, those emissions would cumulatively contribute to the nonattainment status of the air basin and would contribute to elevating health effects associated with these criteria air pollutants. Reducing emissions would contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions in Table 5.2-6, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment, because mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects cited previously.

South Coast AQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health to address the issue raised in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 ("Friant Ranch"). South Coast AQMD currently does not have methodologies that would provide the County with a consistent, reliable, and meaningful analysis to correlate specific health impacts that may result from a proposed project's mass emissions.[9] Ozone concentrations are dependent on a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National and California AAQS, and the absence of modeling tools that could provide statistically valid data and meaningful additional information regarding health effects from criteria air pollutants generated by individual projects, it is not possible to link specific health risks to the magnitude of emissions exceeding the significance thresholds. However, if a project in the SoCAB exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standards are met in the SoCAB.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard

[9] In April 2019, the Sacramento Metropolitan Air Quality Management District (SMAQMD) published an Interim Recommendation on implementing *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 ("Friant Ranch") in the review and analysis of proposed projects under CEQA in Sacramento County. Consistent with the expert opinions submitted to the court in Friant Ranch by the San Joaquin Valley Air Pollution Control District (SJVAPCD) and South Coast AQMD, the SMAQMD guidance confirms the absence of an acceptable or reliable quantitative methodology that would correlate the expected criteria air pollutant emissions of projects to likely health consequences for people from project-generated criteria air pollutant emissions. The SMAQMD guidance explains that while it is in the process of developing a methodology to assess these impacts, lead agencies should follow the Friant Court's advice to explain in meaningful detail why this analysis is not yet feasible. Since this interim memorandum SMAQMD has provided methodology to address health impacts. However, a similar analysis is not available for projects within the South Coast AQMD region.

of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQSs is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles and introduction of cleaner fuels, as well as implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined.

In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hotspot analysis conducted for attainment by South Coast AQMD did not predict a violation of CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon periods.[10] As identified in South Coast AQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in years before the 2007 redesignation were a result of unusual meteorological and topographical conditions and not of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection to more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—to generate a significant CO impact (BAAQMD 2023).[11]

Localized Significance Thresholds

South Coast AQMD identifies localized significance thresholds (LST), shown in Table 5.2-7, *South Coast AQMD Localized Significance Thresholds*. Emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at a project site could expose sensitive receptors to substantial concentrations of criteria air pollutants. Off-site mobile-source emissions are not included in the LST analysis. A project would generate a significant impact if it generates emissions that, when added to the local background concentrations, violate the AAQS.

Table 5.2-7 South Coast AQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO_2 Standard (CAAQS)	0.18 ppm
Annual NO_2 Standard (CAAQS)	0.03 ppm

[10] The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour.

[11] The CO hotspot analysis refers to the modeling conducted by the Bay Area Air Quality Management District for its CEQA Guidelines because it is based on newer data and considers the improvement in mobile-source CO emissions. Although meteorological conditions in the Bay Area differ from those in the Southern California region, the modeling conducted by BAAQMD demonstrates that the net increase in peak hour traffic volumes at an intersection in a single hour would need to be substantial. This finding is consistent with the CO hotspot analysis South Coast AQMD prepared as part of its 2003 AQMP to provide support in seeking CO attainment for the SoCAB. Based on the analysis prepared by South Coast AQMD, no CO hotspots were predicted for the SoCAB. As noted in the preceding footnote, the analysis included some of Los Angeles' busiest intersections, with daily traffic volumes of 100,000 or more peak hour vehicle trips operating at LOS E and F (South Coast AQMD 2003).

Table 5.2-7 South Coast AQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
24-Hour PM_{10} Standard – Construction (South Coast AQMD)[1]	10.4 µg/m^3
24-Hour $PM_{2.5}$ Standard – Construction (South Coast AQMD)[1]	10.4 µg/m^3
24-Hour PM_{10} Standard – Operation (South Coast AQMD)[1]	2.5 µg/m^3
24-Hour $PM_{2.5}$ Standard – Operation (South Coast AQMD)[1]	2.5 µg/m^3
Annual Average PM_{10} Standard (South Coast AQMD)[1]	1.0 µg/m^3

Source: South Coast AQMD 2023a.
Notes: ppm – parts per million; µg/m^3 – micrograms per cubic meter
[1] Threshold is based on South Coast AQMD Rule 403. Since the SoCAB is in nonattainment for PM_{10} and $PM_{2.5}$, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

Health Risk

Whenever a project would require use of chemical compounds that have been identified in South Coast AQMD Rule 1401, placed on CARB's air toxics list pursuant to AB 1807, or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the South Coast AQMD. Table 5.2-8, *South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. The type of land uses that typically generate substantial quantities of criteria air pollutants and TACs from operations include industrial (stationary sources) and warehousing (truck idling) land uses (CARB 2005). Thus, these thresholds are typically applied to new industrial projects only. Additionally, the purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project. *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478).

Table 5.2-8 South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk (Project-Level)	≥ 10 in 1 million
Cancer Burden (in areas ≥ 1 in 1 million)	> 0.5 excess cancer cases
Hazard Index (project increment)	≥ 1.0

Source: South Coast AQMD 2023a.

5.2.3 Environmental Impacts

5.2.3.1 METHODOLOGY

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the proposed project. South Coast AQMD's *CEQA Air Quality Handbook* (Handbook) and updates on its website are intended to provide local governments with guidance for analyzing and mitigating

project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs that were used in this analysis.

Construction

Implementation of the Specific Plan would generally occur over a period of 20 years or potentially longer. However, because the proposed project is a broad-based policy plan, how development would occur for the individual land uses accommodated under the Specific Plan is unknown. For purposes of project-related construction emissions estimates, the CalEEMod default construction durations for construction activities are utilized based on the anticipated new land uses under the proposed project. In addition, although the specific timeline for individual project development is unknown, this analysis assumes that the various construction activities (e.g., site preparation, demolition, building construction) would overlap. Furthermore, the analysis accounts for the potential demolition of the 19 residential dwelling units and 424,018 building square feet of the non-residential land uses designated for potential future redevelopment (see Appendix B for further details). Construction assumptions such as construction equipment mix and construction worker trips were based on CalEEMod defaults, given lack of any development-specific information at this time. Table 5.2-9, *Construction Activities, Phasing, and Equipment*, shows the assumed construction activities and the start and end dates and equipment mix for each of the activities.

Table 5.2-9 Construction Activities, Phasing and Equipment

Activities[1]	Start/End Dates[2]	Equipment[1]
Demolition	1/1/2025 to 2/12/2025	1 concrete/industrial saw; 3 excavators; 2 rubber tired dozers
Site Preparation	1/1/2025 to 1/2/2025	3 rubber tired dozers; 4 tractors/loaders/backhoes; 4 water trucks[3]
Grading	1/1/2025 to 3/5/2025	2 excavators; 1 grader; 1 rubber tired dozer; 2 scrapers; 2 tractors/loaders/backhoes; 8 water trucks[3]
Building Construction	1/1/2025 to 12/2/2026	1 crane; 3 forklifts; 1 generator set; 3 tractors/loaders/backhoes; 1 welder
Asphalt Paving	1/1/2025 to 2/19/2025	2 pavers; 2 paving equipment; 2 rollers
Architectural Coating	1/1/2025 to 2/19/2025	1 air compressor

Source: CalEEMod Version 2022.1.
Notes:
[1] Based on CalEEMod defaults.
[2] Durations based on CalEEMod defaults and assumes construction activities overlap for purposes of modeling.
[3] Number of water trucks based on daily acreage disturbed, 10,000 gallons per acre disturbed, and a 4.000 gallon-capacity water truck (Maricopa 2005).

Operational Phase

- **Transportation.** The primary source of mobile-source emissions is from the combustion of fuel (i.e., gasoline and diesel). Mobile-source emissions for existing baseline are based on calendar year 2024 CalEEMod default emissions data. Project-related mobile-source emissions are based on calendar year 2045 CalEEMod default emissions data for the project's buildout year. Additionally, mobile emissions are based on and derived from the average daily trip (ADT) generation data and vehicle miles traveled (VMT) data provided by Linscott, Law, and Greenspan Engineers (LLG).

- **Area Sources.** Area sources generated from use of consumer products and cleaning supplies are based on CalEEMod default emission rates and on the assumed net increase in dwelling units and retail square footage.

- **Energy.** The California Emissions Estimator Model (CalEEMod) Version 2022.1 default energy (i.e., natural gas) rates for nonresidential land uses are based on the CEC's 2018-2030 Uncalibrated Commercial Sector Forecast (commercial forecast), which was compiled by the CEC in 2019 (CAPCOA 2022). Use of the CalEEMod default natural gas usage rates for the non-residential land uses result in conservative estimates compared to the recently adopted 2022 Building Energy Efficiency Standards because the commercial forecast is based on the energy demand per square foot of building space, land use subtype, and end use for the year 2019. In addition, CalEEMod default natural gas usage rates for residential uses are based the CEC Residential Appliance Saturation Study (RASS) also completed in 2019. The RASS surveyed 40,000 homes built between 1935 and 2015 with the average home constructed in 1974 (CAPCOA 2022). Thus, the CalEEMod default natural gas usage rates for residential uses also result in conservative energy demand estimates compared to the 2022 Building Energy Efficiency Standards.[12] It is anticipated new buildings under the 2022 Standards would generally result in lower natural gas demand compared to the CalEEMod default energy rates.

5.2.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

The proposed Specific Plan does not include any policies or goals specifically related to air quality.

5.2.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.2-1: The proposed project would conflict with or obstruct implementation of the applicable air quality plans of the South Coast Air Quality Management District (South Coast AQMD). [Threshold AQ-1]

The South Coast AQMD is directly responsible for reducing emissions from area, stationary, and mobile sources in the SoCAB to achieve the National and California AAQS and has responded to this requirement by preparing an AQMP. The South Coast AQMD Governing Board adopted the 2022 AQMP, which is a regional and multiagency effort (South Coast AQMD, CARB, SCAG, and EPA).

A consistency determination with the AQMP plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration early enough to ensure that air quality

[12] As seen in Appendix D of the CalEEMod Users' Guide, the default energy dataset is based on 2019 consumption estimates from the CEC's Commercial Forecast and the Residential Appliance Saturation Survey (RASS). While these surveys were completed in 2019, the energy intensity estimates derived from the dataset represent buildings constructed in compliance with energy efficiency requirements of the 2019 Energy Code as well as older buildings that would, which have higher energy use rates. Therefore, the default energy consumption estimates provided in CalEEMod are conservative and overestimate expected energy use.

concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the AQMP.

The two principal criteria for conformance with an AQMP are:

1. Whether the project would exceed the assumptions in the AQMP.

2. Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timeline attainment of air quality standards.

SCAG is South Coast AQMD's partner in the preparation of the AQMP, providing the latest economic and demographic forecasts and developing transportation measures. Regional population, housing, and employment projects developed by SCAG are based, in part, on general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP.

Criterion 1

CEQA Guidelines Section 15206(b) states that a proposed project is of statewide, regional, or area-wide significance if the project is a residential development or more than 500 dwelling units or a commercial office building of 250,000 square feet or more or that employs 1,000 or more employees. The proposed project would introduce a net increase of approximately 1,962 new dwelling units. Therefore, it is a project of statewide, regional, or area-wide significance. As described under Impact 5.10-1, the anticipated net population growth of 6,868 residents and 56 jobs associated with the proposed project would be within the assumed population growth and forecasted numbers of jobs under SCAG projections for the City. Thus, implementation of the proposed project would not substantially affect demographic projections beyond what is accounted for in the AQMP. Therefore, the proposed project would not be considered inconsistent with the AQMP under the first criterion.

Criterion 2

The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS,[13] nonattainment for PM_{10} under the California AAQS, and nonattainment for lead (Los Angeles County only) under the National AAQS (CARB 2024a). As evaluated under Impact 5.2-3, the proposed project would generate long-term emissions of criteria air pollutants that would exceed South Coast AQMD's regional operation-phase significance thresholds, which were established to determine whether a project has the potential to cumulatively contribute to the SoCAB's nonattainment designations. Thus, implementation of the proposed project would result in an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of the AAQS. Therefore, overall, the proposed project would be considered inconsistent with the AQMP under the second criterion.

[13] The SoCAB is pending a redesignation request from nonattainment to attainment for the 24-hour federal $PM_{2.5}$ standards. The 2021 $PM_{2.5}$ Redesignation Request and Maintenance Plan demonstrates that the South Coast meets the requirements of the CAA to allow the EPA to redesignate the SoCAB to attainment for the 65 $\mu g/m^3$ and 35 $\mu g/m^3$ 24-hour $PM_{2.5}$ standards. CARB will submit the 2021 $PM_{2.5}$ Redesignation Request to the EPA as a revision to the California SIP (CARB 2021).

Summary

As discussed above, the projected net growth resulting from implementation of the proposed project would be within the forecasted growth for the City. However, the estimated long-term emissions generated under full buildout of the proposed project would exceed the South Coast AQMD's regional operational significance thresholds (see Table 5.2-6) and would cumulatively contribute to the nonattainment designations in the SoCAB. Therefore, the proposed project would be considered inconsistent with the AQMP, and impacts are considered potentially significant.

Level of Significance Before Mitigation: *Potentially Significant.*

Impact 5.2-2: Construction activities associated with the proposed project would violate air quality standards or contribute substantially to an existing or projected air quality violation based on South Coast AQMD's threshold criteria. [Threshold AQ-2]

Construction activities under the proposed project would also temporarily increase PM_{10}, $PM_{2.5}$, VOC, NO_X, SO_X, and CO regional emissions in the SoCAB. The primary source of NO_X, CO, and SO_X emissions is the operation of construction equipment. The primary sources of particulate matter (PM_{10} and $PM_{2.5}$) emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary sources of VOC emissions are the application of architectural coating and off-gas emissions associated with asphalt paving. A discussion of health impacts associated with air pollutant emissions generated by construction activities is included under Section 5.2.1.1, *Air Pollutants of Concern.*

Construction activities associated with the proposed project would occur over the 20-year plus building period, causing short-term emissions of criteria air pollutants. For the Specific Plan, which is a broad-based policy plan, it is not possible to determine whether the scale and phasing of individual projects would exceed the South Coast AQMD's short-term regional construction emissions thresholds. However, for purposes of this analysis, an estimate of construction emissions for the Specific Plan is provided to show the potential maximum daily emissions that could result from implementation of the proposed land uses accommodate under the Specific Plan. The estimate of maximum daily emissions provided in Table 5.2-10, *Maximum Daily Regional Construction Emissions,* is based on a scenario where several construction projects occur at one time, and all construction phases overlap.

Table 5.2-10 Maximum Daily Regional Construction Emissions

Construction Phase(s)	Criteria Air Pollutants (pounds per day)[1, 2]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition[3]	3	37	27	<1	19	4
Site Preparation	3	32	31	<1	10	5
Grading	3	30	30	<1	7	3
Building Construction	8	29	130	<1	24	6
Paving	1	7	11	<1	<1	<1
Architectural Coating	510	2	18	<1	4	1
Maximum Daily Emissions[4]	529	139	249	<1	66	20
South Coast AQMD Regional Thresholds	75	100	550	150	150	55
Significant?	Yes	Yes	No	No	No	No

Source: CalEEMod Version 2022.1. Highest winter or summer emissions are reported.
Notes:
[1] Construction equipment mix is based on CalEEMod default construction mix. See Appendix C for a list of assumptions on emissions generated on a worst-case day.
[2] Includes implementation of fugitive dust control measures consistent with South Coast AQMD Rule 403, which includes watering disturbed areas a minimum of two times per day, reducing speed limit to 25 miles per hour on unpaved surfaces, and street sweeping with Rule 1186–compliant sweepers.
[3] For purposes of this analysis, it is assumed that up to 447,718 building square feet of existing land use structures would be demolished.
[4] Based on overlap of all the construction phases for year 2025. Manual summation of sources may not equal to the total amounts shown due to rounding.

As shown in the table, construction activities associated with development of the Specific Plan could potentially exceed the South Coast AQMD regional threshold for VOC and NO_X. The primary source of NO_X emissions is vehicle and construction equipment exhaust. NO_X is a precursor to the formation of both O_3 and particulate matter (PM_{10} and $PM_{2.5}$). VOC is a precursor to the formation of O_3. Project-related emissions of VOC and NO_X would contribute to the O_3, NO_2, PM_{10}, and $PM_{2.5}$ nonattainment designations of the SoCAB. Overall, air quality emissions related to construction must be addressed on a project-by-project basis, and information regarding specific development projects such as construction activities needed, construction schedule, and construction equipment mix, would be needed in order to quantify the level of impact associated with construction activity. It is possible that future individual projects accommodated under the Specific Plan may not exceed the South Coast AQMD regional significance thresholds. However, the likely scale and extent of construction activities associated with all the future development projects accommodated under the Specific Plan would likely exceed the relevant South Coast AQMD thresholds for the criteria air pollutants other than VOC and NO_X. Therefore, construction-related regional air quality impacts of developments that would be accommodated by the proposed project would be potentially significant.

Level of Significance Before Mitigation: *Potentially Significant.*

Impact 5.2-3: Long-term operation of the proposed project would violate air quality standards or contribute substantially to an existing or projected air quality violation based on South Coast AQMD's threshold criteria. [Threshold AQ-2]

Buildout of the proposed project would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area sources (e.g., aerosols and landscaping equipment).

Mobile-source criteria air pollutant emissions are based on the traffic analysis conducted by LLG (see Appendix H of this DEIR). The Specific Plan objectives emphasize increasing multi-modal accessibility and facilitating transit-oriented development. Furthermore, the proposed project would accommodate improvements to the bicycle, pedestrian, and transit infrastructure. For example, Class III bicycle lanes are planned along Pioneer Boulevard from Park Avenue north to 184th Street in addition to Alburtis Avenue. Furthermore, Class IV separated bikeways are planned on South Street and on Pioneer Boulevard through the entirety of Downtown Artesia, except on the segment that would have a Class III route. The Specific Plan also accommodates pedestrian corridor improvements along Pioneer Boulevard, South Street, 187th Street, and 183rd Street such as new or improved sidewalks, traffic calming features, high-visibility crosswalks, signalized crossings, landscaping and shade, and human-scale lighting. In addition, the Specific Plan includes guidelines that would support transit-oriented land use development such as the following:

- Ensure all Downtown transit stops have a bus shelter with seating, shade, lighting, and trash receptables.
- Support transit expansion and supporting programming for Rapid Bus, Busways, and Light Rail, especially near new developments and to existing key destinations.
- Increase bicycle, pedestrian, and micromobility amenities at and near transit stops to encourage first and last mile connections.
- Install bus shelter and upgrade other bus stop amenities at the southbound stop at Pioneer Boulevard and South Street and the east and westbound stops on South Street at Jersey Avenue and Pioneer Boulevard.
- Add Wayfinding signage at Pioneer Boulevard from 180th Street to the south City limit.

The Specific Plan also includes planning for future mobility hubs, which can provide first and last mile connectivity. To support future mobility hubs, the proposed project includes the following guidelines:

- Bikeshares, electric scooters, or carshares should be located at or near future parking structures and the existing public parking lot at 186th Street and Corby Avenue.
- Implement pedestrian amenities at mobility hubs to facilitate safe crossings and promote a walkable Downtown, such as human-scale lighting, high-visibility crosswalks, curb ramps, and shade
- Introduce a Green Zone adjacent to Pioneer Station to accommodate clean transportation options
- Adopt a Neighborhood Electric Vehicle (NEV) program and locate charging stations in Green Zones or mobility hubs.
- Wayfinding signage should be located at or near parking structures, as well as throughout Downtown, to guide visitors to key destinations.

- Explore alternative uses for on-street parking after the completion of each parking structure through the development of a curb space management plan for ridesharing services, loading zones, micromobility, or activations.

The features of the proposed project outlined above would promote alternative modes of transportation such as walking and biking in addition to utilizing public transit, which could contribute to minimizing passenger vehicle trips and VMT. However, as shown in Table 5.2-11, *Maximum Daily Regional Operational Phase Emissions*, due to the projected proposed growth, operation of the land uses accommodated under the proposed project at buildout would generate a net increase in criteria air pollutant emissions that exceed South Coast AQMD's regional significance thresholds for VOC and NO_x. Emissions of VOC and NO_x that exceed the South Coast AQMD regional threshold would cumulatively contribute to the O_3 nonattainment designation of the SoCAB. Emissions of NO_x that exceed South Coast AQMD's regional significance thresholds would cumulatively contribute to the O_3 and particulate matter (PM_{10} and $PM_{2.5}$) nonattainment designations of the SoCAB. Therefore, the project would result in a potentially significant impact because it would significantly contribute to the nonattainment designations of the SoCAB.

Table 5.2-11 Maximum Daily Regional Operational Phase Emissions

Phase	Operation-Related Regional Emissions (pounds/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Existing Uses Designated for Redevelopment (Year 2045)						
Mobile[1]	54	33	450	1	147	38
Area	14	<1	20	<1	<1	<1
Energy	<1	1	1	<1	<1	<1
Total	68	34	470	1	148	38
Proposed Project (Year 2045)						
Mobile[1]	64	41	514	1	159	41
Area	76	34	149	<1	3	3
Energy	1	15	9	<1	1	1
Total	140	89	672	2	163	45
Net Change (Project – Existing)						
Net Change	72	55	202	<1	15	7
South Coast AQMD Regional Thresholds	55	55	550	150	150	55
Significant?	Yes	Yes	No	No	No	No

Source: CalEEMod Version 2022.1. Based on highest winter or summer emissions. Totals may not equal 100 percent due to rounding.
[1] Based on calendar year 2045 CalEEMod default vehicle emissions data.

Level of significance Before Mitigation: *Potentially Significant.*

Impact 5.2-4: Construction of the proposed project would expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-3]

This impact analysis describes changes in localized impacts from short-term construction activities. The proposed project could expose sensitive receptors to elevated pollutant concentrations during construction

activities from construction equipment and vehicle exhaust and fugitive dust (criteria air pollutants only) if it would cause or contribute significantly to elevated levels. Unlike the emissions shown in Table 5.2-10, which are described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects.

Construction-Phase LSTs

The LSTs are the amount of project-related emissions at which localized concentrations (ppm or $\mu g/m^3$) would exceed the ambient air quality standards for criteria air pollutants for which the SoCAB is designated a nonattainment area. Buildout of the proposed project would occur over a 20-year or longer period and would consist of several smaller projects with their own construction time frames and equipment. Per the LST methodology, information regarding specific development projects and the locations of receptors would be needed in order to quantify the levels of localized operation and construction-related impacts associated with future development projects. Because the proposed project is a broad-based policy plan, it is not possible to calculate individual, project-related, operation emissions at this time. The LST analysis can only be conducted at a project level. Per South Coast AQMD methodology, quantification of LSTs is not applicable for this program-level environmental analysis. However, because potential development and redevelopment could occur close to existing sensitive receptors, the proposed project has the potential to expose sensitive receptors to substantial pollutant concentrations. Construction equipment exhaust combined with fugitive particulate matter emissions have the potential to expose sensitive receptors to substantial concentrations of criteria air pollutant emissions and result in a potentially significant impact.

Construction Health Risk

South Coast AQMD currently does not require health risk assessments to be conducted for short-term emissions from construction equipment. Health risks associated with emissions from construction equipment primarily are due to diesel particulate matter (DPM). OEHHA adopted new guidance for the preparation of health risk assessments that was issued in March 2015 (OEHHA 2015). OEHHA has developed a cancer risk factor and non-cancer chronic reference exposure level for DPM, but these factors are based on continuous exposure over a 30-year time frame. No short-term acute exposure levels have been developed for DPM.

Construction associated with future development projects facilitated by the proposed project would be implemented over a period of 20 years or longer. It is anticipated that construction of individual developments accommodated under the proposed Specific Plan would likely be spread out incrementally over this period of time, which would limit the exposure of on- and off-site receptors to elevated concentrations of DPM. However, similar to the LST analysis, construction health risk can only be conducted at a project level; therefore, quantification of construction-related health risk is not applicable for this program-level environmental analysis. Because potential development and redevelopment could occur close to existing sensitive receptors, the proposed project has the potential to expose sensitive receptors to substantial pollutant concentrations. Construction equipment exhaust has the potential to expose sensitive receptors to substantial concentrations of TACs and result in a potentially significant impact.

Level of Significance Before Mitigation: *Potentially Significant.*

Impact 5.2-5: Operation of the land uses accommodated under the proposed project would not expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-3]

Operation of new land uses that would be accommodated under the proposed project could generate new sources of criteria air pollutants and TACs in the Specific Plan area from area/stationary sources and mobile sources. Unlike the mass operation emissions shown in Table 5.2-11, described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects.

Operation Phase Localized Significance Thresholds (LSTs)

As stated, LSTs are the amount of project-related stationary and area sources of emissions at which localized concentrations (ppm or $\mu g/m^3$) would exceed the ambient air quality standards for criteria air pollutants for which the SoCAB is designated a nonattainment area. Typical sources of criteria air pollutant emissions within the Specific Plan area from stationary and area sources include energy use (natural gas used for cooking and water heating) and landscaping fuel and aerosols. Types of land uses that typically generate substantial quantities of criteria air pollutants and TACs include industrial (stationary sources) and warehousing (truck idling) land uses. The proposed project would permit development of new multifamily residential, office, retail, and hotel uses only, and would not accommodate the types of land uses that could result in major air pollutant emissions sources. Thus, the proposed project would not result in creation of land uses that would generate substantial concentrations of criteria air pollutant emissions. Therefore, localized operation-related air quality impacts are considered less than significant.

Operational Phase Toxic Air Contaminants (TACs)

Types of land uses that typically generate substantial quantities of criteria air pollutants and TACs include industrial (stationary sources) and warehousing (truck idling) land uses. These types of major air pollutant emissions sources would not be accommodated under the Specific Plan. Therefore, the proposed project would not result in creation of land uses that would generate substantial concentrations of TACs.

Development of the commercial land uses that are allowed under the Specific Plan may result in stationary sources of TACs emissions—e.g., dry cleaners, restaurants with charbroilers, or buildings with emergency generators and boilers. However, these sources are not considered by South Coast AQMD to be large emitters. Furthermore, these types of stationary sources are subject to South Coast AQMD's new source review through their permitting requirements and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under South Coast AQMD Rule 1401. The permitting process ensures that stationary source emissions would be below the South Coast AQMD significance thresholds of 10 in a million cancer risk and 1 for acute risk at the maximally exposed individual. Therefore, overall, impacts related to TACs are considered less than significant.

Operational Phase CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO referred to as hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9.0

ppm. Because CO is produced in the greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. The SoCAB has been designated as in attainment of both the National and California AAQS for CO. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—to generate a significant CO impact (BAAQMD 2023). Under full buildout conditions, the proposed project would result in overall maximum peak hour turning movement of 4,449 peak-hour trips during the PM peak hour, which is substantially below the incremental increase in peak-hour vehicle trips needed to generate a significant CO impact. Implementation of the proposed project would not have the potential to substantially increase CO hotspots at intersections in the Specific Plan study area. Impacts would be less than significant.

Level of Significance Before Mitigation: *Less Than Significant.*

Impact 5.2-6: The proposed project would not result in other emissions that would adversely affect a substantial number of people. [Threshold AQ-4]

Nuisance odors from land uses in the SoCAB are regulated under South Coast AQMD Rule 402, *Nuisance*, which states:

> A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Industrial and South Coast AQMD Permitted Land Uses

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. These types of uses and industrial land use types in general would not be accommodated under the proposed project.

Residential and Other Non-residential Land Uses

Residential and other non-residential (excluding industrial) land uses accommodated under the proposed project could result in generation of odors such as exhaust from landscaping equipment and cooking. However, unlike industrial land uses, these are not considered potential generators of odor that could affect a substantial number of people. Additionally, for uses that could generate food odors such as restaurants, coffee roasters, and breweries, these types of uses would be subject to South Coast AQMD Rule 402 which

would minimize and provide a control for odors. Therefore, impacts from potential odors generated from residential and other non-residential land uses associated with the proposed project are considered less than significant.

Construction

During construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern and are not expected to affect a substantial number of people. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of odor-producing materials. Therefore, impacts associated with construction-generated odors are considered less than significant.

Level of Significance Before Mitigation: *Less Than Significant.*

5.2.4 Cumulative Impacts

In accordance with the South Coast AQMD methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Cumulative projects in the local area include new development and general growth in the project area. The greatest source of emissions in the SoCAB is mobile sources. Due to the extent of the area potentially impacted by cumulative project emissions (i.e., the SoCAB), the South Coast AQMD considers a project cumulatively significant when project-related emissions exceed the South Coast AQMD regional emissions thresholds shown in Table 5.2-6. In addition, per the draft guidelines released by the South Coast AQMD cumulative risk Working Group, projects that result in project risk impacts are also considered to result in cumulative risk impacts (South Coast AQMD 2023b).

Construction

The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS and nonattainment for PM_{10} and lead (Los Angeles County only) under the National AAQS. Construction of cumulative projects will further degrade the regional and local air quality. Air quality will be temporarily impacted during construction activities. Implementation of mitigation measures for related projects would reduce cumulative impacts. However, project-related construction emissions could still potentially exceed the South Coast AQMD significance thresholds on a project and cumulative basis. Thus, the proposed project's contribution to cumulative air quality impacts would be cumulatively considerable and would therefore be significant.

Operation

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values is not considered by South Coast AQMD to be a substantial source of air

pollution and does not add significantly to a cumulative impact. Operation of the project would result in emissions in excess of the South Coast AQMD regional emissions thresholds for VOC and NO_X and potentially for the other criteria air pollutants. Therefore, the air pollutant emissions associated with the proposed project would be cumulatively considerable and therefore significant.

5.2.5 Level of Significance Before Mitigation

After implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.2-5 and 5.2-6.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.2-1** The proposed project would conflict with or obstruct implementation of the applicable air quality plans of the South Coast Air Quality Management District (South Coast AQMD).
- **Impact 5.2-2** Construction activities associated with the proposed project would violate air quality standards or contribute substantially to an existing or projected air quality violation based on South Coast AQMD's threshold criteria.
- **Impact 5.2-3** Long-term operation of the proposed project would violate air quality standards or contribute substantially to an existing or projected air quality violation based on South Coast AQMD's threshold criteria.
- **Impact 5.2-4** Construction of the proposed project would expose sensitive receptors to substantial pollutant concentrations.

5.2.6 Mitigation Measures

Impact 5.2-1

Implementation of Mitigation Measures GHG-1 through GHG-3 and T-1 and T-2.

Impact 5.2-2

AQ-1 Prior to discretionary approval by the City of Artesia for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City of Artesia Planning Department for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the South Coast AQMD–adopted thresholds of significance, the City of Artesia Building and Safety Department shall require feasible mitigation measures to reduce air quality emissions. Potential measures shall be incorporated as conditions of approval for a project and may include, but are not limited to the following:

- Require fugitive dust control measures that exceed South Coast Air Quality Management District's Rule 403, such as:
  - Requiring use of nontoxic soil stabilizers to reduce wind erosion.
  - Applying water every four hours to active soil disturbing activities.
  - Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 4 interim or higher exhaust emission limits.
- Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limiting nonessential idling of construction equipment to no more than five consecutive minutes.
- Using Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufactures can be found on the South Coast Air Quality Management District's website at: https://www.aqmd.gov/home/rules-compliance/compliance/vocs/architectural-coatings/super-compliant-coatings.

These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Planning Department.

Impact 5.2-3

Mitigation Measures GHG-1 through GHG-3 from Section 5.6, *Greenhouse Gas Emissions*, apply and would contribute to reduce mobile-source, area-source, and energy sector criteria air pollutant emissions of the proposed project.

GHG-1 New development within the Artesia Downtown Specific Plan shall implement the following, voluntary provisions of the California Green Building Standards Code (CALGreen). The project applicant/developer(s) shall provide documentation (e.g., building plans) of implementation of the applicable voluntary measures to the City of Artesia Building and Safety Department prior to the issuance of building permits.

Residential Structures with Three or Fewer Stories. For residential land uses with three or fewer stories, the project developer(s) shall:

- Design and build condominium/townhouses dwellings that have an attached private garage to have a dedicated electric circuit to support electric vehicle charging, as outlined in the Residential Voluntary Measures of CALGreen, Division A4.1, Planning and Design, as outlined under Section A4.106.8.1.

- Design and build residential buildings to, at a minimum, meet the Tier 2 electric vehicle parking standards of the Residential Voluntary Measures of CALGreen, Division A4.1, Planning and Design, as outlined under Section A4.106.8.2.1.
- Design and build residential buildings to meet the short- and long-term bicycle parking standards of the Residential Voluntary Measures of CALGreen, Division A4.1, Planning and Design, as outlined under Section A4.106.9.
- Design and build residential buildings to meet energy efficiency requirements of the Residential Voluntary Measures of CALGreen, Division A4.2, Energy Efficiency, as outlined under Section A4.203.1.

Nonresidential Structures and Residential Structures with Four or More Stories. For nonresidential land uses and residential land uses that are four or more stories, the applicant/developer shall:

- Design and build structures to, at a minimum, meet the Tier 2 advanced energy efficiency requirements of the Nonresidential Voluntary Measures of CALGreen, Division A5.2, Energy Efficiency, as outlined under Section A5.203.1.2.2.
- For projects with off-street parking, design the proposed parking to provide parking for low-emitting, fuel-efficient, and carpool/van vehicles. At minimum, the number of preferential parking spaces shall equal the Tier 2 Nonresidential Voluntary Measures of CALGreen, Division A5.1, Planning and Design, Section A5.106.5.1.2.
- For projects with off-street parking, design the proposed parking to provide electric vehicle (EV) charging stations. At minimum, the number of EV charging stations shall comply with the Tier 2 Nonresidential Voluntary Measures of CALGreen, Division A5.1, Planning and Design, Section A5.106.5.3.3 or Section A5.106.5.3.4.

GHG-2 For residential and nonresidential land use development projects, the project applicant/developer shall comply with the following:

- All major appliances (e.g., dishwashers, refrigerators, clothes washers and dryers, and water heaters) provided/installed shall be Energy Star certified or of equivalent energy efficiency where applicable.
- Installed water heaters shall meet a zero NO_X emissions standard.
- Installed central furnaces with a Rated Heat Input Capacity less than or equal to 2,000,000 British thermal units (Btu) per hour shall meet a zero NO_X emissions standard.
- Installed fireplaces shall be electric-powered only.

Prior to the issuance of the certificate of occupancy, the City of Artesia Building and Safety Department shall verify implementation of these requirements.

GHG-3 For non-residential land use development projects, prior to issuance of the certificate of occupancy, the property owner shall provide documentation to the City of Artesia Building and Safety Department demonstrating enrollment in a 100 percent carbon-free electricity energy plan, such as Southern California Edison's Green Rate program, for proposed project building(s) when feasible. If a 100 percent carbon-free electricity plan is not available, the property owner shall enroll in an energy plan with the next highest carbon-free electricity until a 100 percent carbon-free electricity energy plan becomes available. Measures to achieve 100 percent carbon-free electricity use for the proposed project building(s) may include, but are not limited to, plans for 100 percent renewable electricity. If such carbon-free electricity energy plans are waitlisted, the property owner shall sign up onto the waiting list until such time a plan is available.

Mitigation Measures T-1 and T-2 from Section 5.13, *Transportation*, apply and would contribute to reduce mobile-source criteria air pollutant emissions of the proposed project.

T-1 At the time of project entitlement, the project developers shall ensure the implementation of California Air Pollution Control Officer's Association (CAPCOA) 2021 Handbook Transportation Demand Management (TDM) Program T-16.

- T-16. Unbundle Residential Parking Costs from Property Cost

According to the CAPCOA 2021 Handbook, "this measure will unbundle or separate a residential project's parking costs from property costs, requiring those who wish to purchase parking spaces do so at an additional cost. On the assumption that parking costs are passed to the vehicle owners/drivers utilizing the parking spaces, this measure results in decreased vehicle ownership and, therefore, a reduction in VMT and GHG emissions." It is assumed that qualifying residential projects within the Specific Plan area will comply with the provisions of California Civil Code Section 1947.1 resulting from Assembly Bill 1317 (2023, Carillo), which requires residential developments of 16 or more units located in Los Angeles County to unbundle parking from the cost of rent. A cost of $25.00 per month, or $300.00 per year, per leased parking space, is assumed for analysis purposes. No action is required by the City of Artesia to implement this measure, as project developers would be required to comply with all applicable State laws as the time of project entitlement.

T-2 At the time of project operation, the developer shall and City shall continue to enforce California Air Pollution Control Officer's Association (CAPCOA) 2021 Handbook Transportation Demand Management (TDM) Program T-24.

- T-24. Implement Market Price Public Parking (On-Street)

According to the CAPCOA 2021 Handbook, "this measure will price all on-street parking in a given community. Increasing the costs of parking increases the total coast of driving to a location, incentivizing shifts to other modes and thus decreasing total VMT to and from the priced areas." The City of Artesia currently provides priced on-street parking within the

Specific Plan area, primarily along Pioneer Boulevard, 186th Street, and 187th Street. The City of Artesia should continue to implement the priced on-street parking which currently exists within the Specific Plan area.

Impact 5.2-4

Implementation of Mitigation Measure AQ-1.

5.2.7 Level of Significance After Mitigation

Impact 5.2-1

Mitigation Measures GHG-1 through GHG-3 and T-1 and T-2 would reduce project-related regional operational phase criteria air pollutant emissions to the extent feasible. However, operation of the land uses accommodated by the proposed project would continue to exceed the South Coast AQMD regional significance thresholds and have the potential to conflict with the South Coast AQMD's AQMP. Therefore, Impact 5.2-1 would be ***significant and unavoidable***.

Impact 5.2-2

Buildout of the proposed project would occur over approximately 20 years or longer. Construction activities associated with buildout of the proposed project could generate short-term emissions that exceed the South Coast AQMD'S significance thresholds during this time and cumulatively contribute to the nonattainment designations of the SoCAB. Implementation of Mitigation Measure AQ-1 would reduce criteria air pollutant emissions from construction-related activities to the extent feasible. However, construction time frames and equipment for individual site-specific projects are not available and there is a potential for multiple developments to be constructed at any one time, resulting in significant construction-related emissions. Therefore, despite adherence to Mitigation Measure AQ-1, Impact 5.2-2 would remain ***significant and unavoidable***.

Impact 5.2-3

Buildout in accordance with the proposed project would generate long-term emissions that would exceed South Coast AQMD's regional significance thresholds and cumulatively contribute to the nonattainment designations of the SoCAB. Mitigation Measures GHG-1 through GHG-3 and T-1 and T-2 would contribute to reducing criteria air pollutant criteria air pollutant emissions to the extent feasible. However, due to the magnitude of emissions generated by the land uses that would be accommodated by the proposed project, long-term criteria air pollutant emissions generated from the proposed project could still exceed the South Coast AQMD's regional significance thresholds. Therefore, Impact 5.2-3 would remain ***significant and unavoidable***.

Health Impacts from Regional Air Pollutants

Contributing to the nonattainment status would also contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma,

and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants.

It is speculative for this broad-based policy plan to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment—since mass emissions are not correlated with concentrations of emissions—or how many additional individuals in the air basin would be affected by the health effects cited above.

This DEIR quantifies the increase in criteria air pollutants emissions in the plan area. However, at a programmatic level analysis, it is not feasible to quantify the increase in TACs from stationary sources associated with the proposed project or meaningfully correlate how regional criteria air pollutant emissions above the South Coast AQMD significance thresholds correlate with basin-wide health impacts.

To determine cancer and noncancer health risk, the location, velocity of emissions, meteorology and topography of the area, and locations of receptors are equally important model parameters as the quantity of TAC emissions. The white paper in Appendix C, "We Can Model Regional Emissions, But Are the Results Meaningful for CEQA?" describes several of the challenges of quantifying local effects—particularly health risks—for large-scale, regional projects, and these are applicable to both criteria air pollutants and TACs. Similarly, the two amicus briefs filed by the air districts on the Friant Ranch case (see Appendix C) describe two positions regarding CEQA requirements, modeling feasibility, variables, and reliability of results for determining specific health risks associated with criteria air pollutants. The discussions also include the distinction between criteria air pollutant emissions and TACs with respect to health risks. Additionally, the South Coast AQMD's Significance Thresholds and Monitoring demonstrate the infeasibility based on the current guidance/methodologies. The following paragraphs summarize major points about the infeasibility of assessing health risks of criteria air pollutant emissions and TACs associated with implementation of a specific plan.

To achieve and maintain air quality standards, the South Coast AQMD has established numerical emission indicators of significance for regional and localized air quality impacts for both construction and operational phases of a local plan or project. The South Coast AQMD has established the thresholds based on "scientific and factual data that is contained in the federal and state Clean Air Acts" and recommends "that these thresholds be used by lead agencies in making a determination of significance" (South Coast AQMD 1993). The numerical emission indicators are based on the recognition that the air basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health. The thresholds represent the maximum emissions from a plan or project that are expected not to cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard. By analyzing the plan's emissions against the thresholds, an EIR assesses whether these emissions directly contribute to any regional or local exceedances of the applicable ambient air quality standards and exposure levels.

South Coast AQMD currently does not have methodologies that would provide the City with a consistent, reliable, and meaningful analysis to correlate specific health impacts that may result from a proposed project's mass emissions.[14] For criteria air pollutants, exceedance of the regional significance thresholds cannot be used to correlate a project to quantifiable health impacts unless emissions are sufficiently high to use a regional model. South Coast AQMD has not provided methodology to assess the specific correlation between mass emissions generated and their effect on health (see Appendix C: San Joaquin Valley Air Pollution Control District's amicus brief, and South Coast AQMD's amicus brief).

Ozone concentrations depend on a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Secondary formation of particulate matter (PM) and ozone can occur far from sources as a result of regional transport due to wind and topography (e.g., low-level jet stream). Photochemical modeling depends on all emission sources in the entire domain (i.e., modeling grid). Low resolution and spatial averaging produce "noise" and modeling errors that usually exceed individual source contributions. Because of the complexities of predicting ground-level ozone concentrations in relation to the National and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds.

Current models used in CEQA air quality analyses are designed to estimate potential construction and operation emissions for defined projects. The estimated emissions are compared to significance thresholds, which are keyed to reducing emissions to levels that will not interfere with the region's ability to attain the health-based standards. This serves to protect public health in the overall region, but there is currently no CEQA methodology to determine the impact of mass emissions (e.g., pounds per day) on future concentration levels (e.g., parts per million or micrograms per cubic meter) in specific geographic areas. CEQA thresholds, therefore, are not specifically tied to potential health outcomes in the region. Furthermore, the South Coast AQMD 2022 AQMP identifies that despite the substantial increase in population growth in the SoCAB, emissions are declining (South Coast AQMD 2022).

The DEIR must provide an analysis that is understandable for decision making and public disclosure. Regional-scale modeling may provide a technical method for this type of analysis, but it does not necessarily provide a meaningful way to connect the magnitude of a project's criteria pollutant emissions to health effects without speculation. Additionally, this type of analysis is not feasible at this programmatic level because the location of emissions sources and quantity of emissions are not known. However, because cumulative development within the plan area would exceed the regional significance thresholds, the proposed project

[14] In April 2019, the Sacramento Metropolitan Air Quality Management District (SMAQMD) published an Interim Recommendation on implementing *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 ("Friant Ranch") in the review and analysis of proposed projects under CEQA in Sacramento County. Consistent with the expert opinions submitted to the court in Friant Ranch by the San Joaquin Valley Air Pollution Control District and South Coast AQMD, the SMAQMD guidance confirms the absence of an acceptable or reliable quantitative methodology that would correlate the expected criteria air pollutant emissions of projects to likely health consequences for people from project-generated criteria air pollutant emissions. The SMAQMD guidance explains that while it is in the process of developing a methodology to assess these impacts, lead agencies should follow the Friant Court's advice to explain in meaningful detail why this analysis is not yet feasible. Since this interim memorandum SMAQMD has provided methodology to address health impacts. However, a similar analysis is not available for projects in the South Coast AQMD region.

could contribute to an increase in health effects in the basin until the attainment standards are met in the SoCAB.

Impact 5.2-4

Mitigation Measure AQ-1 (applied for Impact 5.2-2) would reduce the proposed project's regional construction emissions and therefore, also result in a reduction of localized construction-related criteria air pollutant and TACs emissions to the extent feasible. However, because existing sensitive receptors may be close to project-related construction activities, construction emissions generated by individual development projects have the potential to exceed South Coast AQMD's LSTs and health risk thresholds. Furthermore, because of the scale of development activity associated with buildout of the proposed project, it is not possible to determine whether the scale and phasing of individual development projects would result in the exceedance of the localized emissions thresholds and cancer risk and contribute to known health effects. Therefore, Impact 5.2-4, regarding construction-related localized impacts associated with buildout of the proposed project, would remain ***significant and unavoidable***.

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5.3 CULTURAL RESOURCES

Cultural resources comprise archaeological and historical resources. Archaeology studies human artifacts, such as places, objects, and settlements that reflect group or individual religious, cultural, or everyday activities. Historical resources include sites, structures, objects, or places that are at least 50 years old and are significant for their engineering, architecture, cultural use or association, etc. In California, historic resources cover human activities over the past 12,000 years. Cultural resources provide information on scientific progress, environmental adaptations, group ideology, or other human advancements. This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Artesia Downtown Specific Plan project (proposed project) to impact cultural resources in the City of Artesia (City). Tribal cultural resources are discussed in Section 5.14, *Tribal Cultural Resources*, of this DEIR. The analysis in this section is based in part on the following information:

- *Records Search Results for the Artesia Downtown Specific Plan*, South Central Coastal Information Center at California State University, Fullerton, March 2024

A copy of these search results is included in Appendix D to this DEIR.

During the scoping period for the DEIR, written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Notice of Preparation and Comment Letters Summary*, in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

5.3.1 Environmental Setting

5.3.1.1 REGULATORY BACKGROUND

Federal

National Historic Preservation Act

The National Historic Preservation Act of 1966 coordinates public and private efforts to identify, evaluate, and protect the nation's historic and archaeological resources. The act authorized the National Register of Historic Places, which lists districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.

Section 106 (Protection of Historic Properties) of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. Section 106 Review ensures that historic properties are considered during federal project planning and implementation. The Advisory Council on Historic Preservation, an independent federal agency, administers the review process with assistance from state historic preservation offices.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 regulates the protection of archaeological resources and sites on federal and Indian lands.

Native American Graves Protection and Repatriation Act

Native American Graves Protection and Repatriation Act is a federal law passed in 1990 that mandates museums and federal agencies to return certain Native American cultural items—such as human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants or culturally affiliated Indian tribes.

State

California Public Resources Code

Archaeological, paleontological, and historical sites are protected under a wide variety of state policies and regulations in the California Public Resources Code (PRC). In addition, cultural and paleontological resources are recognized as nonrenewable resources and receive protection under the PRC and CEQA.

PRC Sections 5020 to 5029.5 continued the former Historical Landmarks Advisory Committee as the State Historical Resources Commission. The commission oversees the administration of the California Register of Historical Resources and is responsible for designating State Historical Landmarks and Historical Points of Interest.

PRC Sections 5079 to 5079.65 define the functions and duties of the Office of Historic Preservation (OHP), which administers federal- and state-mandated historic preservation programs in California as well as the California Heritage Fund.

PRC Sections 5097.9 to 5097.991 provide protection to Native American historical and cultural resources and sacred sites; identify the powers and duties of the Native American Heritage Commission (NAHC); require that descendants be notified when Native American human remains are discovered; and provide for treatment and disposition of human remains and associated grave goods.

California Register of Historical Resources

The State Historical Resources Commission has designed this program for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The California Register of Historic Resources (CRHR) is an authoritative guide to the state's significant historical and archaeological resources.

The CRHR program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance; identifies historical resources for State and local planning purposes; determines eligibility for State historic preservation grant funding; and affords certain protections under CEQA.

To be eligible for listing in the CRHR, a resource must meet at least one of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

- Is associated with the lives of persons important to local, California, or national history.
- Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values.
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance. Alterations to a resource or changes in its use over time may change its historical, cultural, or architectural significance. Resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

California Historical Landmarks

California Historical Landmarks are buildings, structures, sites, or places that have been determined to have statewide historical significance. The resource must be approved for designation by the county board of supervisors or the city/town council in whose jurisdiction it is located; be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks. A resource must meet at least one of these following criteria:

- Be the first, last, only, or most significant of its type in the state or within a large geographic region (northern, central, or southern California).
- Be associated with an individual or group having a profound influence on the history of California.
- Be a prototype of, or an outstanding example of, a period, style, architectural movement, or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Points of Historical Interest

California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historical resource may be designated as both a landmark and a point. If a point is subsequently granted as a landmark, the point designation is retired.

To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

- Be the first, last, only, or most significant of its type within the local geographic region (city or county).
- Be associated with an individual or group having a profound influence on the history of the local area.
- Be a prototype of, or an outstanding example of, a period, style, architectural movement or construction or be one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

California Historic Building Code

The California Historic Building Code—California Code of Regulations, Title 24, Part 8—provides regulations for the preservation, restoration, rehabilitation, relocation, or reconstruction of buildings or properties designated as qualified historical buildings or properties. The California Historic Building Code is intended to provide solutions for the preservation of qualified historical buildings or properties, to promote sustainability, to provide access for persons with disabilities, to provide a cost-effective approach to preservation, and to provide for the reasonable safety of the occupants or users.

California Health and Safety Code

California Health and Safety Code Section 7050.5 requires that if human remains are discovered on the project site, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and recognizes or has reason to believe the human remains are those of Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

Local

City of Artesia General Plan

The City of Artesia General Plan Cultural and Historic Sub-element contains the following policies for the treatment of historic and cultural resources.

Community Culture and Economy Element

- **Community Policy CHR 1.1:** Enhance and protect resources that have cultural and historic significance.
- **Community Policy CHR 1.2:** Strengthen cultural and historic preservation planning.
- **Community Policy CHR 2.1:** Foster public appreciation for Artesia's cultural and historic resources.

City of Artesia Municipal Code

According to City of Artesia Municipal Code (AMC) Title 5, Chapter 16, Designation of Local Historical Landmarks, the City Council may designate a building, landmark, or other property as a local historical landmark in special recognition of the property's role during the formation or existence of the city. AMC Section 5-16.02, Method of Designation, outlines the process for designation of local historical landmarks.

Additionally, AMC Title 9, Chapter 2, Article 31.5, Historic District (H-D) Zone, is established to preserve the historic nature of buildings located within the Historic District Zone. The Historic District Zone is established to promote the general welfare, education, and recreational pleasure of the public through the identification, preservation, and enhancement of those buildings, structures, neighborhoods, landscapes, places, and areas that have special historical, cultural, architectural, or archaeological significance. The project site is not within the Historic District Zone.

5.3.1.2 EXISTING CONDITIONS

The City of Artesia is built out and fully developed with buildings, roadways, and other improvements typical of a city. The project site is currently developed with one- and two-story commercial uses and, single-family residential properties, and multifamily residential properties. The southern portion of the project site is anchored by a shopping center and La Belle Chateau Estates Mobile Home Park, which is bordered by South Street to the north, the City of Cerritos to the west and south, and Pioneer Boulevard to the east. The northern portion of the project site is anchored by a shopping center to the north and south of 183rd Street and to the east and west of Arline Avenue and Alburtis Avenue, respectively. The north and south ends of the project site are connected by the Pioneer Boulevard corridor, which includes one- and two-story retail and restaurant and office uses. Multifamily residential, mixed-use residential, commercial, general office, and industrial uses are on various parcels throughout the entire project site to the east and west of Pioneer Boulevard. Limited vacant parcels exist within the project area south of 188th Street. The Southeast Gateway Line bisects the project site.

5.3.1.3 CULTURAL SETTING

Historical Background

The Los Angeles Basin has a rich cultural history that dates to early settlement by American Indians. The Gabrielino Indians, also known as the Tong-va, occupied an extensive region stretching from the San Gabriel Mountains to the coast, including the area now occupied by the City of Artesia. The tribe had a large village known as Puvunga, near the present-day site of California State University, Long Beach. Native American tribes that lived in the village often hunted in Artesia. Evidence of this tribe's presence in the area was substantiated when artifacts such as shells, stone utensils, and arrow points were discovered on Pioneer Boulevard during the construction of Bloomfield Park in the City of Lakewood (Artesia 2010).

The village of Artesia became a formally recognized community when the Artesia School District was established on May 3, 1875. The first school was on 183rd Street and Alburtis Avenue. The City of Artesia was named from the many naturally flowing Artesian wells in the area. The rural countryside was ideal for

farming. In the 1920s and 1930s, Dutch and Portuguese farmers developed Artesia into one of the most important dairy districts in southern California. By 1925, the Pacific Electric Red Car had a station on Pioneer Boulevard. Distinctive street-fronting "main street" buildings line Pioneer Boulevard between 186th Street and 187th Street. (PlaceWorks 2024).

After World War II, as with many other cities in the region, Artesia was pressured by developers to build residential tracts. The City of Dairy Valley was incorporated in 1956 and later became the City of Cerritos. As the demand for housing continued, dairymen moved their operations further east into the City of Chino and north into the Central Valley. Artesia was incorporated on May 29, 1959 (Artesia 2010). Historic maps from the 1940s indicate that the project site was mostly developed, and the Pacific Electric Railroad (later the Southern Pacific Railroad) bisected the project site. Therefore, the project site contains buildings or structures that are 50 years of age or older. The San Gabriel River is near the western portion of the project site. Archaeological resources could be found buried or on the ground surface.

Historic and Archaeological Resources

As discussed further below, a records search was conducted by the South Central Coastal Information Center (SCCIC) at California State University, Fullerton (Cal State Fullerton). Provided below is a summary of records search, which indicates that two reports and studies have been conducted for sites within the project site and one site is listed in the Office of Historic Preservation's Built Environment Resources Directory (BERD), which provides information regarding non-archaeological resources in the OHP's inventory. Additionally, a Sacred Lands File search was conducted by the NAHC and the results were positive. A discussion of these results is provided in Section 5.18, *Tribal Cultural Resources*, of this DEIR (see also Appendix G)

Table 5.3-1 Records Search Results Summary

Records Search	Results	
	Within Project Site	Within 0.25-Mile Radius
Archaeological Resources	0	0
Built-Environment Resources	0	1
Reports and Studies	2	1
OHP Built Environment Resources Directory (BERD) 2022	1	9
California Points of Historical Interest (SPHI) 2022	0	0
California Register of Landmarks (SHL) 2022	0	0
California Register of Historical Resources (CAL REG) 2022	0	0
National Register of Historic Places (NRHP) 2022	0	0

Source: (SCCIC 2024)

Artesia Water Tower

The Artesia Water Tower is an inactive 50,000-gallon water storage tank located on Clarkdale Avenue, south of 183rd Street. This tower has been a familiar site for citizens of Artesia for many years. Although the Tower site was the actual site of an artesian well in 1911, no records can be found of when the existing tower was actually built. It also may have been the site of a smaller wood structure water tower. (Artesia 2010)

The Tower was once owned by the Southern California Water Company, and was sold to the City of Artesia in 1988. The tower was purchased by the City to be used only as a point of historical interest, and to provide a special identity to the community. When the City of Artesia purchased the tower, the then green tower was quickly painted to its current color with the addition of the name Artesia painted on two sides. (Artesia 2010)

It should be noted that the Artesia Water Tower is located outside the boundaries of the proposed Artesia Downtown Specific Plan area.

Frampton-Dantema Home

Constructed in 1929, the Spanish Style Frampton/Dantema House was originally located on Pioneer Boulevard. In partnership with the City of Artesia, the Artesia Historical Society saved and moved the historic structure in 2003 to its present location at 18644 Alburtis Avenue. The home was restored and has become the Artesia Historical Museum, which is open to the public. (Artesia 2010)

It should be noted that the Artesia Historical Museum is located outside the boundaries of the proposed Artesia Downtown Specific Plan area.

5.3.2 Thresholds of Significance

CEQA Guidelines Section 15064.5 provides direction on determining significance of impacts to archaeological and historical resources. Generally, a resource shall be considered "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history. (PRC § 5024.1; 14 CCR § 4852)

The fact that a resource is not listed in the CRHR, not determined to be eligible for listing, or not included in a local register of historical resources does not preclude a lead agency from determining that it may be a historical resource.

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

C-1 Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.

C-2 Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

C-3 Disturb any human remains, including those interred outside of dedicated cemeteries.

5.3.3 Environmental Impacts

5.3.3.1 METHODOLOGY

A records search was conducted on March 21, 2024, by the South Central Coastal Information Center at Cal State Fullerton. The search included a review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports on file. The records search included the project site and a 0.25-mile radius. Additionally, the California Points of Historical Interest, the California Historical Landmarks, the CRHR, the National Register of Historic Places (NRHP), and California State Built Environment Resources Directory listings were reviewed for the project site and 0.25-mile radius. Additionally, a Sacred Lands File search was conducted by the NAHC and the results were positive. A discussion of these results is provided in Section 5.14, *Tribal Cultural Resources*, of this DEIR (see also Appendix G).

5.3.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

Goal 3: Encourage a **vibrant and scenic downtown reflective of a diverse community.**

- The restoration and reuse of buildings and places of historical or cultural significance.

5.3.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.3-1: The project would not cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5. [Threshold C-1]

The proposed project is a regulatory document that sets forth the framework for future growth and development within the project site and does not directly result in development. The adoption of the proposed project would not lead to the demolition or material alteration of any historic resources.

The project site contains the City's downtown area, developed over the last century as a center for commercial uses around what was the original City commercial core on Pioneer Boulevard between 186th and 187th Streets. There are no officially State designated historic sites in the City (OHP 2024; Artesia 2010). Notwithstanding, pursuant to AMC Title 5, Chapter 16, Designation of Local Historical Landmarks, the City Council may designate a building, landmark, or property as a local historical landmark. As identified in Table 5.3-1, one resource in the project site is included in the OHP BERD 2022 database.

Historic structures and sites that are potentially eligible for future historic resources listing may be vulnerable to development activities accompanying infill, redevelopment, or revitalization that would be accommodated

by land use and zoning changes facilitated by the proposed project. The placement of new buildings adjacent to a historic resource may result in indirect impacts to access, visibility, and visual context, and renovations or modifications to historic resources may deteriorate or destroy the characteristics that make those resources important or unique. Additionally, other buildings or structures that could meet the NRHP criteria upon reaching 50 years of age might be impacted by development or redevelopment activity that would be accommodated by the proposed project. The Cultural and Historic Sub-element of the General Plan provides policies to protect cultural and historical resources within the City limits. AMC Title 5, Chapter 16, and Title 9, Chapter 2, provide regulations to protect cultural and historical resources in the City limits. Notwithstanding, impacts to historic resources are considered potentially significant.

Level of Significance Before Mitigation: Potentially Significant.

Impact 5.3-2: The project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5. [Threshold C-2]

The entire project site is in a heavily urbanized area and has been subject to disturbance by past development. However, as identified in Table 5.3-1, the project site has not been subjected to any previous archaeological studies; consequently, the cultural resource sensitivity of the project site is unknown and could vary significantly depending on the exact location of future redevelopment projects. The past discovery of Native American artifacts in neighboring cities (i.e., city of Lakewood) and the potential presence in the City of unknown artifacts that may have archaeological importance, contribute to the City's recognition of the importance of preserving cultural resources. Thus, there is a potential for archaeological resources to be present in the project site. Therefore, proposed land use and zoning changes that could facilitate future redevelopment resulting in ground-disturbing activities, such as grading or excavation, have the potential to unearth undocumented subsurface archaeological resources. Therefore, impacts would be potentially significant.

Level of Significance Before Mitigation: Potentially Significant.

Impact 5.3-3: The project would not disturb any human remains, including those interred outside of dedicated cemeteries. [Threshold C-3]

No known dedicated cemeteries or other places of human interment are present on or adjacent to the project site. The project site has been previously graded and developed so the upper levels of sediment and fill are not likely to contain any human remains. In the unlikely event that human remains are unearthed during project construction, California Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the county coroner has made the necessary findings as to origin and disposition pursuant to California PRC Section 5097.98. If human remains of Native American origin are discovered during ground-disturbing activities, such as grading or excavation, associated with buildout facilitated by the proposed project, State laws that fall within the jurisdiction of the NAHC (PRC Section 5097) related to the disposition of Native American burials will be adhered to. Therefore, following compliance with the established regulatory framework described above, the project's potential impacts concerning disturbance to human remains would be less than significant.

Level of Significance Before Mitigation: Less Than Significant

5.3.4 Cumulative Impacts

The context for analysis of impacts to historic and archaeological resources and human remains is generally site specific rather than cumulative in nature because each project site has a different set of geologic and historic considerations that would be subject to further assessment depending on existing site conditions, location, and sensitivity to cultural resources. Future development and redevelopment pursuant to the proposed project and other development projects in the surrounding area would involve grading and excavation activities on individual sites, which could uncover cultural resources. Compliance with local, State, and federal regulations and implementation of mitigation (CUL-1 and CUL-2) would reduce impacts to cultural resources and human remains, respectively, due to new development or redevelopment projects. Other projects under development would be subject to project-level review and project-specific measure would be required, as needed, to reduce significant impacts. This would include studies of historical, archaeological, and tribal cultural resources that are present or could be present within a development site. Additionally, cumulative development would be subject to compliance with the established federal, State, and local regulatory framework. Concerning the protection of cultural resources on a project-by-project basis. Where significant or potentially significant impacts are identified, implementation of all feasible site-specific mitigation measures would be required to avoid or reduce impacts. Consequently, the proposed project combined with other cumulative development would not result in significant cumulative environmental impacts concerning cultural resources. Therefore, the project would not cause a cumulatively considerable impact related to cultural resources.

5.3.5 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.3-3.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.3-1** Implementation of the proposed project could impact historical resources.
- **Impact 5.3-2** Implementation of the proposed project could impact archaeological resources.

5.3.6 Mitigation Measures

Impact 5.3-1

CUL-1 **Historic Resources Assessment.** Prior to the approval of a discretionary project proposed on a parcel(s) within the Artesia Downtown Specific Plan area that includes a building or structure more than 45 years old and that has not previously been evaluated for potential historic significance, the City shall require the project proponent to retain an architectural historian meeting the minimum professional qualifications standards (PQS) set forth by the Secretary of the Interior (codified in 36 Code of Federal Regulations [CFR] Part 61;

48 Federal Register 44738–44739) (Qualified Architectural Historian) to conduct a historic resources assessment of affected properties. The assessment shall include a records search at the South Central Coastal Information Center or review of a prior record search conducted within the previous one year; a review of other pertinent archives and sources; a pedestrian field survey; recordation of all identified historic architectural resources on California Department of Parks and Recreation (DPR) 523 forms; evaluation of resources which may be eligible for listing in the California Register (i.e., meets the definition for historical resource in CEQA Guidelines Section 15064.5[a]), and for local listing; and preparation of a technical report documenting the methods and results of the assessment for each future project facilitated by Artesia Downtown Specific Plan measures and actions.

If a historic architectural resource is found eligible by the Qualified Architectural Historian, then the Qualified Architectural Historian shall coordinate with the project proponent and City to ensure the project is constructed in conformance with the Secretary of the Interior's Standards. All reports resulting from implementation of this measure shall be filed with the South Central Coastal Information Center (including but not limited to historic resources assessments and Secretary of the Interior's Standards plan reviews). On the basis of this evaluation, if it is determined that the subject property contains a historic resource, Mitigation Measure CUL-2 shall be implemented.

CUL-2 **Avoidance or Minimization of Effects on Identified Historic Resources.** If it is determined that the subject property contains a historic resource the project proponent shall consult with City staff to determine whether a project can be feasibly redesigned or modified to avoid significant adverse impacts on listed and identified eligible historic resource(s), including historic districts. If avoidance of historic resource(s) is not feasible, where feasibility is defined as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors," the project proponent shall seek to reduce the effect on historic resource(s) to a less-than-significant level pursuant to CEQA Guidelines Section 15364. Projects that conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties are considered to have a less-than-significant effect on historic architectural resources.

Impact 5.3-2

CUL-3 **Cultural Resources Assessment.** For discretionary projects that involve ground-disturbing activities during construction on areas within the Artesia Downtown Specific Plan area where no previous ground disturbance or excavation has occurred, or ground-disturbing activities would occur in native soil, a site-specific cultural resources study shall be completed prior to project approval. The study shall include records searches of the California Historical Resources Information System and the Sacred Lands File maintained by the Native American Heritage Commission. The records searches shall determine if the proposed project has been previously surveyed for archaeological resources, identify, and

characterize the results of previous cultural resource surveys, and disclose any cultural resources that have been recorded and/or evaluated.

If the records search identifies a sensitivity for archaeological resources, an archaeological resources assessment shall be performed under the supervision of an archaeologist that meets the Secretary of the Interior's Professional Qualification Standards (PQS) in either prehistoric or historic archaeology. If the archaeological assessment indicates the area to be of medium sensitivity for archaeological resources, an archaeologist who meets the PQS shall be retained on an on-call basis.

If the archaeological assessment indicated the area to be highly sensitive for archaeological resources, a qualified archaeologist shall monitor all ground-disturbing construction and pre-construction activities.

CUL-4 **All Projects.** If cultural resources are discovered during ground-disturbing activities, all ground-disturbing activities within 50 feet of the find shall be halted until a meeting is convened between the developer, archaeologist, tribal representatives, and the Director of the Community Development Department. At the meeting, the significance of the discoveries shall be discussed and after consultation with the tribal representatives, developer, and archaeologist, a decision shall be made, with the concurrence of the Director of the Community Development Department, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources.

5.3.7 Level of Significance After Mitigation

The mitigation measures would reduce potential impacts to cultural resources to a level that is less than significant. Therefore, no significant unavoidable adverse impacts to cultural resources have been identified.

5.3.8 References

Artesia, City of. 2010. City of Artesia General Plan 2030 Environmental Impact Report. https://www.cityofartesia.us/DocumentCenter/View/107/Sec0510CulturalResources?bidId=.

California Office of Historic Preservation (OHP). 2024. California Historical Landmarks by County – Los Angeles. https://ohp.parks.ca.gov/?page_id=21427

South Central Coastal Information Center (SCCIC). 2024. Records Search Results for the Artesia Downtown Specific Plan. (DEIR Appendix D)

5.4 ENERGY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for energy-related impacts associated with the Artesia Downtown Specific Plan (Specific Plan or proposed project) and ways in which it would reduce unnecessary energy consumption, consistent with the suggestions in Appendix F of the California Environmental Quality Act (CEQA) Guidelines. Energy service providers to the Specific Plan area include Southern California Edison (SCE) for electrical service and Southern California Gas Company (SoCalGas) for natural gas.

During the scoping period for the DEIR, written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Summary of Scoping Comments Received.*, in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

5.4.1 Environmental Setting

Section 21100(b)(3) of the CEQA Guidelines requires that an EIR include a detailed description of mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Appendix F of the CEQA Guidelines states that, to ensure that energy implications are considered in project decisions, the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the project description, environmental setting, and impact analysis portions of technical sections as well as through mitigation measures and alternatives.

In accordance with Appendices G and F of the CEQA Guidelines, this DEIR includes relevant information and analyses that address the energy implications of the proposed project. This section summarizes the proposed project's anticipated energy needs, impacts, and conservation measures. Other aspects of the proposed project's energy implications are discussed elsewhere in this DEIR, including Chapter 3, *Project Description*, and Sections 5.2, *Air Quality,* and 5.6, *Greenhouse Gas Emissions*.

5.4.1.1 REGULATORY BACKGROUND

Federal

Federal Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 was established in response to the 1973 oil crisis. The act created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of U.S. crude oil (with a few limited exceptions). It also created Corporate Average Fuel Economy (CAFE) standards for passenger cars starting in model year 1978. The CAFE standards are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

The federal government issued new CAFE standards in 2012 for model years 2017 to 2025 that required a fleet average of 54.5 miles per gallon (mpg) for model year 2025. However, on March 30, 2020, the

U.S. Environmental Protection Agency (USEPA) finalized an updated CAFE and greenhouse gas (GHG) emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021–2026. Under SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 mpg for model year 2026 vehicles (85 Federal Register 24174 [April 30, 2020]).

Under direction of Executive Order (EO) 13990 issued by President Biden on December 21, 2021, the National Highway Traffic Safety Administration repealed Safer Affordable Fuel Efficient Vehicles Rule Part One, which had preempted State and local laws related to fuel economy standards. In addition, on March 31, 2022, the National Highway Traffic Safety Administration finalized new fuel standards in response to EO 13990. Fuel efficiency under the standards proposed will increase 8 percent annually for model years 2024 to 2025 and 10 percent annually for model year 2026. Overall, the new CAFE standards require a fleet average of 49 mpg for passenger vehicles and light trucks for model year 2026, which would be a 10 mpg increase relative to model year 2021 (87 Federal Register 25710 [May 2, 2022]).

On July 28, 2023, National Highway Traffic Safety Administration proposed new CAFE standards for passenger cars and light trucks built in model years 2027 to 2032, and new fuel efficiency standards for heavy-duty pickup trucks and vans built in model years 2027 to 2035. If finalized, the proposal would require an industry fleet-wide average of approximately 58 miles per gallon for passenger cars and light trucks in model year 2032, by increasing fuel economy by 2 percent year over year for passenger cars and by 4 percent year over year for light trucks. For heavy-duty pickup trucks and vans, the proposal would increase fuel efficiency by 10 percent year over year (NHTSA 2023).

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The act set higher CAFE standards; the Renewable Fuel Standard; appliance energy-efficiency standards; building energy-efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration (USEPA 2022).

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This act includes tax incentives for energy conservation improvements in commercial and residential buildings, fossil fuel production and clean coal facilities, and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, the National Energy Policy is designed to help the private sector and State and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the United States Department of Transportation to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration within the Department of Transportation develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system.

State

California Energy Commission

The California Energy Commission (CEC) was created in 1974 under the Warren-Alquist Act as the State's principal energy planning organization to meet the energy challenges facing the state in response to the 1973 oil embargo. The CEC is charged with six basic responsibilities when designing state energy policy:

- Forecast statewide electricity needs
- License power plants to meet those needs
- Promote energy conservation and efficiency measures
- Develop renewable energy resources and alternative energy technologies
- Promote research, development, and demonstration
- Plan for and direct the State's response to energy emergencies

California Public Utilities Commission

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long-Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-term, mid-term, and long-term strategies to assist in achieving these goals. This plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020.
- All new commercial construction in California will be zero net energy by 2030.

- Heating, Ventilation, and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate.
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

With respect to the commercial sector, the Long-Term Energy Efficiency Strategic Plan notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California. The commercial sector's five-billion-plus square feet of space accounts for 38 percent of the State's power use and over 25 percent of natural gas consumption. Lighting, cooling, refrigeration, and ventilation account for 75 percent of all commercial electric use, and space heating, water heating, and cooking account for over 90 percent of gas use. In 2006, schools and colleges were in the top-five facility types for electricity and gas consumption, accounting for approximately 10 percent of the state's electricity and gas use.

The CPUC and CEC have adopted the following goals to achieve zero net energy (ZNE) levels by 2030 in the commercial sector:

- **Goal 1:** New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- **Goal 2:** 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.
- **Goal 3:** Transform the commercial lighting market through technological advancement and innovative utility initiatives.

Renewables Portfolio Standard

Senate Bills 1078, 107, X1-2, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewables portfolio standard (RPS) established under Senate Bills (SB) 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent to reach at least 20 percent by December 30, 2010. EO S-14-08, signed in November 2008, expanded the State's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production decreases indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Governor Jerry Brown signed SB 350 on October 7, 2015, which expands the RPS by establishing a goal of 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 includes the goal to double the energy-efficiency savings in electricity and natural gas final

end uses (such as heating, cooling, lighting, or class of energy uses upon which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. SB 350 also provides for the transformation of the California Independent System Operator (CAISO) into a regional organization to promote the development of regional electricity transmission markets in the western states and to improve the access of consumers served by the CAISO to those markets, pursuant to a specified process.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which replaces the SB 350 requirements. Under SB 100, the RPS for publicly owned facilities and retail sellers consists of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Senate Bill 1020

SB 1020 was signed into law on September 16, 2022. It requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, SB 1020 requires all state agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (California Code of Regulations [CCR] Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy-efficiency technologies and methods (CEC 2017).

Title 24, Part 6, Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (24 CCR Part 6). Part 6 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy-efficiency technologies and methods.

On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards went into effect on January 1, 2023, replacing the 2019 standards. The 2022 Standards require

mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements (prescriptive pathway) for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

Under the prescriptive pathway, a new development's building design is considered the "Standard Design Building," which represents the energy-efficiency performance of that project should it include all prescribed features (e.g., solar, battery storage) with no additional energy-efficiency features beyond what is required at minimum under the mandatory requirements and prescriptive pathway. A project may still demonstrate compliance using the performance pathway without inclusion of prescriptive features like solar or battery storage. However, that building design must match or exceed the energy-efficiency performance of the Standard Design Building. For example, if a project would be required to include solar and battery storage under the prescriptive pathway, it can choose to comply with the performance pathway and not include solar and battery storage so long as it can demonstrate that it would achieve the same energy-efficiency performance as if solar and battery storage were included.

Title 24, Part 11, Green Building Standards

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of CALGreen became effective January 1, 2011. In 2021, the CEC approved the 2022 CALGreen, which went into effect on January 1, 2023.

Assembly Bill 1493

California vehicle GHG emission standards were enacted under Assembly Bill (AB) 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the USEPA. In 2012, the USEPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards in the "Federal Regulations" section above). In January 2012, the California Air Resources Board (CARB) approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions (CARB 2017).

Executive Order N-79-20

On September 23, 2020, EO N-79-20 was issued to set a time frame for the transition to zero-emissions (ZE) passenger vehicles, trucks, and off-road equipment. It directs CARB to develop and propose:

- Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs (sold in California toward the target of 100 percent of in-state sales by 2035.
- Medium- and heavy-duty vehicle regulations requiring increasing volumes of new ZE trucks and buses sold and operated in California toward the target of 100 percent of the fleet transitioning to ZEVs by 2045 everywhere feasible, and for all drayage trucks to be ZE by 2035.
- Strategies to achieve 100 percent zero emissions from all off-road vehicles and equipment operations in California by 2035, in cooperation with other State agencies, the USEPA, and local air districts.

On August 25, 2022, CARB adopted the Advanced Clean Cars II (ACC II) regulations that codifies the EO goal of 100 percent of in-state sales of new passenger vehicles and trucks are ZE by 2035. Starting in year 2026, ACC II requires that 35 percent of new vehicles sold be ZE or plug-in hybrids (CARB 2024).

Energy Storage

California has set ambitious long-term goals for energy storage beyond 2026 to support its clean energy and climate goals. The state aims to reach 100 percent carbon-free electricity by 2045, which will require significant investment in renewable energy sources like wind and solar, as well as energy storage technologies to balance the variability of these sources.

The CAISO has a total energy storage capacity of more than 3,160 megawatts (MW) as of June 2022 (CAISO 2022). This includes both large-scale and distributed energy storage systems, such as batteries, pumped hydroelectric storage, and thermal storage. CAISO is responsible for managing the electricity grid for much of California, and it has set a target of adding 3,300 MW of additional energy storage capacity by 2024 to support the integration of more renewable energy sources like wind and solar. As part of SB 100, load serving entities (LSE) were required to procure no less than 1.3 gigawatts (GW) of energy storage capacity by 2020, and 3 GW by 2030. Additionally, the CPUC has established a target of 15 GW of energy storage capacity by 2030 (CPUC 2022).

Integrated Resource Plan

CAISO develops a coordinated grid management plan to integrate the generation and storage capacities of LSEs, called the Integrated Resource Plan (IRP). The IRP is a comprehensive planning document that outlines CAISO's forecasts for electricity demand, supply, and transmission needs over a 20-year planning horizon, as well as its strategies for integrating renewable energy resources and other grid services to meet those needs. The plan is developed in collaboration with LSEs, regulators, and other stakeholders and is updated periodically to reflect changes in the energy landscape and evolving policy goals. Overall, the IRP plays a critical role in ensuring the reliability and resilience of California's electricity grid as the state continues to transition to a cleaner and more sustainable energy system.

When an individual Battery Energy Storage (BES) facility or generation infrastructure (i.e., solar panels) comes online in California, it is typically included in the IRP through a process known as the Interconnection Queue. The Interconnection Queue is managed by the CAISO, which oversees the operation of the State's electricity grid.

Interconnection Queue

The Interconnection Queue is an application process that functions as a waiting list of proposed electricity generation and storage projects that are seeking to connect to the grid. When a new BES facility or generation infrastructure is proposed, the developer submits an application to CAISO to request an interconnection to the grid. CAISO evaluates the application to ensure that the facility meets technical and operational requirements, such as voltage regulation and frequency response, and that it can be integrated effectively into the grid.

Once the BES facility or generation infrastructure is approved by CAISO, it is assigned a point of interconnection on the grid, and its output is added to the IRP as a resource that can provide electricity and other grid services, such as frequency regulation or ramping support. The facility is then dispatched by CAISO based on its bids into the day-ahead and real-time electricity markets, and its output is used to help balance supply and demand on the grid in real-time.

Overall, the Interconnection Queue is an important mechanism for integrating new BES facilities and other electricity resources into the California grid, and for ensuring that the grid remains reliable and resilient as the state continues to transition to a cleaner and more sustainable energy system.

5.4.1.2 EXISTING CONDITIONS

Electricity

Southern California Edison

The Specific Plan area is within the service area of SCE, which provides electrical services to much of southern California—from Orange and Riverside Counties in the south to Santa Barbara County in the west to Mono County in the north (SCE 2024a). Total electricity consumption in SCE's service area was 107,876 gigawatt-hours in 2022 (CEC 2024a).[1] Sources of electricity sold by SCE in 2022, the latest year for which data are available, were:

- 33.2 percent renewable, consisting mostly of solar and wind
- 3.4 percent large hydroelectric
- 24.7 percent natural gas
- 8.3 percent nuclear
- 0.1 percent other

[1] One gigawatt-hour is equivalent to one million kilowatt-hours.

- 30.3 percent unspecified sources—that is, not traceable to specific sources (SCE 2024b)[2]

Existing Electricity Demand

The existing electricity demand for the existing uses designated for redevelopment under the Specific Plan is shown in Table 5.4-1, *Electricity Demand: Existing Uses Designated for Redevelopment*.

Table 5.4-1 Electricity Demand: Existing Uses Designated for Redevelopment

Land Use	Electricity (kWh/year)
Single-Family	27,581
Apartment Low-Rise	57,526
General Office Building	773,792
Regional Shopping Center	3,039,772
Strip Mall Retail	439,123
General Light Industrial	253,047
Total	4,590,840

Source: CalEEMod Version 2022.1.
Note: kWh = kilowatt-hour

Gas

SoCalGas provides gas service to Artesia. The service area of SoCalGas spans much of the southern half of California, from Imperial County in the southeast to San Luis Obispo County in the northwest, to part of Fresno County in the north to Riverside County and most of San Bernardino County in the east (CEC 2024b). Total natural gas consumption in SoCalGas's service area was 6,566 million therms for 2022 (CEC 2024c).

Existing Natural Gas Demand

The existing natural gas demand for the existing uses designated for redevelopment under the Specific Plan is shown in Table 5.4-2, *Natural Gas Demand: Existing Uses Designated for Redevelopment*.

[2] The electricity sources listed reflect changes after the 2013 closure of the San Onofre Nuclear Generating Station, which is owned by SCE. Numbers are rounded up and may cause the total to not add up to exactly 100 percent.

Table 5.4-2 Natural Gas Demand: Existing Uses Designated for Redevelopment

Land Use	Natural Gas (KBTU/year)
Single-Family	153,341
Apartment Low-Rise	244,585
General Office Building	1,100,594
Regional Shopping Center	1,852,995
Strip Mall Retail	267,682
General Light Industrial	1,129,072
Total	4,748,271

Source: CalEEMod Version 2022.1.
Note: KBTU=kilo-British thermal unit

Fuel Consumption

California is among the top producers of petroleum in the country, with crude oil pipelines throughout the state connecting to oil refineries in the Los Angeles, San Francisco Bay, and Central Valley regions. In addition to producing petroleum, California is also one of the top consumers of fuel for transportation. With this sector accounting for approximately 61 percent of California's total energy demand in 2021, amounting to approximately 2,785.1 trillion British Thermal Units (BTU) (EIA 2024a). In addition, in 2022, California's transportation sector consumed approximately 534 million barrels of petroleum fuels (EIA 2024b). Furthermore, according to the CEC, California's 2022 fuel sales were approximately 13,640 million gallons of gasoline and 3,067 million gallons of diesel (CEC 2024d). In Los Angeles County, approximately 3,070 million gallons of gasoline and 295 million gallons of diesel fuel were sold in 2022 (CEC 2023).

Table 5.4-3, *Annual Fuel Usage: Existing Uses Designated for Redevelopment*, shows the fuel usage associated with vehicle miles traveled (VMT) currently generated by the existing uses designated for redevelopment under the proposed project.

Table 5.4-3 Annual Fuel Usage: Existing Uses Designated for Redevelopment

Fuel Type	Existing Baseline Year 2024
Gasoline	
VMT Per Year	58,437,609
Gallons Per Year	2,381,955
Miles Per Gallon	24.53
Diesel	
VMT Per Year	2,077,248
Gallons Per Year	196,924
Miles Per Gallon	10.55

Table 5.4-3 Annual Fuel Usage: Existing Uses Designated for Redevelopment

Fuel Type	Existing Baseline Year 2024
Compressed Natural Gas	
VMT Per Year	87,300
Gallons Per Year	16,537
Miles Per Gallon	5.28
Electricity	
VMT Per Year	2,672,940
Kilowatt Hour Per Year	976,504
Miles Per kWh	2.74

Source: CalEEMod Version 2022.1; EMFAC2021, Version 1.0.2.

5.4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

E-1 Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

E-2 Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

5.4.3 Environmental Impacts

5.4.3.1 METHODOLOGY

Based on CEQA Guidelines Appendix F, *Energy Conservation*, to ensure energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential impacts of proposed projects, with particular emphasis on avoiding or reducing wasteful, unnecessary, or inefficient use of energy resources. Environmental effects may include the proposed project's energy requirements and its energy use efficiencies by amount and fuel type during construction and operation; the effects of the proposed project on local and regional energy supplies; the effects of the proposed project on peak and base period demands for electricity and other forms of energy; the degree to which the proposed project complies with existing energy standards; the effects of the proposed project on energy resources; and the proposed project's projected transportation energy use requirements and its overall use of efficient transportation alternatives, if applicable. The provided energy and fuel usage information provided in this section are based on the following:

- **Building Energy.** The California Emissions Estimator Model (CalEEMod) Version 2022.1 default energy (i.e., electricity and natural gas) rates for nonresidential land uses are based on the CEC's 2018-2030 Uncalibrated Commercial Sector Forecast (commercial forecast), which was compiled by the CEC

in 2019 (CAPCOA 2022). Use of the CalEEMod default energy rates for the nonresidential land uses result in conservative estimates compared to the recently adopted 2022 Building Energy Efficiency Standards because the commercial forecast is based on the energy demand per square foot of building space, land use subtype, and end use for the year 2019. In addition, CalEEMod default energy rates for residential uses are based the CEC Residential Appliance Saturation Study (RASS) also completed in 2019. The RASS surveyed 40,000 homes built between 1935 and 2015 with the average home constructed in 1974 (CAPCOA 2022). Thus, the CalEEMod default energy rates for residential uses also result in conservative energy demand estimates compared to the 2022 Building Energy Efficiency Standards.[3] It is anticipated new buildings under the 2022 Standards would generally result in lower electricity and natural gas demand compared to the CalEEMod default energy rates.

- **Fuel Usage.** Fuel usage associated with the existing uses designated for redevelopment and the proposed project-related vehicle trips fuel usage data was obtained from EMFAC2021, Version 1.0.2. Additionally, operational fuel usage calculations utilized average daily trip (ADT) generation and VMT data provided by Linscott, Law, and Greenspan Engineers (LLG).

5.4.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

The proposed Specific Plan does not include any policies or goals specifically related to energy.

5.4.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.4-1: Implementation of the proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. [Threshold E-1]

Short-Term Construction Impacts

Construction of development associated with the proposed project would create temporary increased demands for electricity and vehicle fuels compared to existing conditions and would result in short-term transportation-related energy use.

Electrical Energy

Construction activities associated with the proposed project would require electricity to power the construction equipment. Construction of the proposed project would generate criteria air pollutants associated with construction equipment exhaust and fugitive dust from site preparation, rough grading, fine

[3] As seen in Appendix D of the CalEEMod Users' Guide, the default energy dataset is based on 2019 consumption estimates from the CEC's Commercial Forecast and the Residential Appliance Saturation Survey (RASS). While these surveys were completed in 2019, the energy intensity estimates derived from the dataset represent buildings constructed in compliance with energy-efficiency requirements of the 2019 Energy Code as well as older buildings that would, which have higher energy use rates. Therefore, the default energy consumption estimates provided in CalEEMod are conservative and overestimate expected energy use.

grading, utilities trenching, building construction, paving, architectural coating, and finishing and landscaping as well as off-site improvements and sewer and storm drain construction. The electricity use during construction would vary during different phases of construction. The majority of construction equipment during demolition and grading would be gas or diesel powered, and the later construction phases would require electricity-powered equipment for interior construction and architectural coatings. Overall, the use of electricity would be temporary in nature and would fluctuate according to the phase of construction. Additionally, it is anticipated that the majority of electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities. Therefore, construction activities of the proposed project would not result in wasteful, inefficient, or unnecessary electricity demands as electricity consumption would be limited to tasks necessary to complete project construction, and impacts would be less than significant.

Natural Gas Energy

It is not anticipated that construction equipment used for development accommodated by the proposed project would be powered by natural gas, and no natural gas demand is anticipated during construction. Therefore, no impact is anticipated with respect to natural gas usage during the proposed project's construction.

Liquid Fuels and Transportation Energy

Transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. Additionally, transportation energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel and/or gasoline.

The use of energy resources by these vehicles would fluctuate according to the phase of construction and would be temporary. It is anticipated that the majority of off-road construction equipment, such as those used during demolition and grading, would be gas or diesel powered. In addition, all construction equipment would cease operating upon completion of the proposed project's construction. Thus, impacts related to transportation energy use during construction would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Furthermore, to limit wasteful and unnecessary energy consumption, the construction contractors would minimize nonessential idling of construction equipment during construction, in accordance with Section 2449 of CCR, Title 13, Article 4.8, Chapter 9, which limits nonessential idling of diesel-powered off-road equipment to five minutes or less. Also, construction trips would not result in unnecessary use of energy since the Specific Plan area is centrally located and is served by numerous regional freeway systems (e.g., Interstate 605 and State Route 91) that provide the most direct routes from various areas of the region. Thus, energy use during construction of the proposed project would not be considered inefficient, wasteful, or unnecessary. Impacts would be less than significant.

Long-Term Impacts During Operation

Operation of buildings associated with new land uses accommodated under the proposed project would create additional demands for electricity and natural gas as compared to existing conditions due to the

increase in building square footage. Operational use of energy would also include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems, use of on-site equipment and appliances; and indoor and outdoor lighting.

Building Energy: Electricity and Natural Gas

The electricity and natural gas consumption from implementation of the proposed project is shown in Table 5.4-4, *Operation-Related Electricity and Natural Gas Consumption*. As shown in the table, implementation of the proposed project would result in a net increase in electricity demand of 13,059,835 kWh/yr and natural gas demand of 51,751,687 KBTU/yr. As described under Section 5.4.3.1, *Methodology*, CalEEMod default energy rates were used to estimate energy demand of the proposed project. The CalEEMod default energy rates for residential and nonresidential uses are based on surveys conducted in 2019 of older homes and nonresidential buildings built prior to the 2022 Building Energy Efficiency Standards. Thus, the energy demand for the proposed project does not account for increases in energy efficiency and reduction in overall energy demand associated with the 2022 Building Energy Efficiency Standards.

Table 5.4-4 Operation-Related Electricity and Natural Gas Consumption

Land Use	Electricity (kWh/year)[1]	Natural Gas (kBTU/year)[1]
Apartment Low-Rise	7,597,225	32,301,543
General Office	1,884,139	2,679,882
Quality Restaurant	810,973	2,696,152
High Turnover Sit Down Restaurant	4,681,223	15,563,145
Regional Shopping Center	1,314,276	801,161
Strip Mall Retail	243,344	148,339
Hotel	1,119,496	2,309,736
Total	17,650,675	56,499,958
Existing Uses	4,590,840	4,748,271
Net Change	13,059,835	51,751,687

Source: CalEEMod Version 2022.1.
Note: kWh=kilowatt-hour; KBTU=kilo-British thermal unit
[1] Does not account for effects of the Building Energy Efficiency Standards to overall electricity and natural gas demand.

While the proposed project would generate an increase in electricity and natural gas demand compared to the existing uses to be redeveloped, the new land uses under the proposed project would be required to comply with the applicable Building Energy Efficiency Standards and CALGreen requirements. Compliance with the current and future iterations of Building Energy Efficiency Standards and CALGreen would be consistent with the goals outlined in Appendix F of the CEQA Guidelines, as the proposed project would promote the use of renewable energy and decrease reliance on fossil fuels to meet the energy demands of the proposed project. The 2022 Building Energy Efficiency Standards include electric ready require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances.

Additionally, the 2022 Building Energy Efficiency Standards include prescriptive photovoltaic (PV) system standards for both residential and nonresidential land uses in addition to battery storage standards for nonresidential uses and multifamily residential uses of four stories or more. Compliance with the prescriptive standards would result in the installation of on-site PV systems and battery storage. Furthermore, the 2022 Building Energy Efficiency Standards include energy storage systems (ESS) ready requirements for single-family residences that include one or two dwelling units. While the ESS ready requirement would not result in the installation of a battery storage unit, it would further support and remove potential barriers in the installation of an on-site battery storage unit.

The 2022 Building Energy Efficiency Standards also have performance standards as an alternative to the prescriptive standards pathway for residential and nonresidential uses. Although the performance standards pathway does not require installation of a PV system and where applicable, battery storage, it does require land uses that would opt for this compliance option to achieve an energy-efficiency performance of the "Standard Design Building." As stated, the "Standard Design Building" represents the energy-efficiency performance of a project should it include all prescribed features (e.g., solar, battery storage) with no additional energy-efficiency features beyond what is required at minimum under the mandatory requirements and prescriptive pathway. Thus, future land use development projects that opt for the performance pathway would still achieve a similar level of energy efficiency as those that opt for compliance with the prescriptive pathway. Because the proposed project would comply with these regulations and would provide features to promote the use of renewable energy and energy efficiency, it would not result in wasteful, inefficient, or unnecessary electricity demands. Therefore, operation of the proposed project would result in a less-than-significant impact related to electricity and natural gas.

Transportation Energy

The new land uses accommodated under the proposed project would result in the consumption of transportation energy during operation from the use of motor vehicles. Table 5.4-5, *Operation-Related Fuel Usage,* shows the net change in VMT, fuel usage, and fuel efficiency under buildout year 2045 conditions from existing baseline year 2024 conditions and existing uses under year 2045 conditions.

Table 5.4-5 Operation-Related Fuel Usage

Fuel Type	Existing Baseline Year 2024	Existing Year 2045	Proposed Project Building Year 2045	Net Change From Existing Baseline Year 2024	Net Change From Existing Year 2045
Gasoline					
VMT	58,437,609	54,094,266	59,712,994	1,275,385	5,618,729
Gallons	2,381,955	1,783,850	1,969,137	-412,819	185,287
Miles Per Gallon	24.53	30.32	30.32	5.79	0
Diesel					
VMT	2,077,248	2,031,032	2,241,994	164,745	210,962
Gallons	196,924	175,845	194,110	-2,814	18,265

Table 5.4-5 Operation-Related Fuel Usage

Fuel Type	Existing Baseline Year 2024	Existing Year 2045	Proposed Project Building Year 2045	Net Change From Existing Baseline Year 2024	Net Change From Existing Year 2045
Miles Per Gallon	10.55	11.55	11.55	1.00	0
Compressed Natural Gas					
VMT	87,300	46,314	51,124	-36,176	4,811
Gallons	16,537	3,975	4,388	-12,149	413
Miles Per Gallon	5.28	11.65	11.65	6.37	0
Electricity					
VMT	2,672,940	7,185,947	7,932,345	5,259,405	746,399
Kilowatt Hour	976,504	2,191,445	2,419,068	1,442,564	227,624
Miles Per kWh	2.74	3.28	3.28	0.54	0

Source: CalEEMod Version 2022.1; EMFAC2021, Version 1.0.2.

As shown in the table, when compared to existing year 2024 conditions, the proposed project would result in an increase in VMT for gasoline-, diesel-, and electric-powered vehicles. While VMT for gasoline- and diesel-powered vehicles would increase, overall annual fuel demand would decrease and the fuel efficiency for these fuel types would increase. For electric vehicles, while demand would increase, efficiency would increase compared to existing conditions. The decrease in fuel usage for gasoline-powered vehicles and large increase in VMT and energy usage for electric-powered vehicles are primarily based on the assumption in EMFAC that a greater mix of light-duty automobiles would be electric-powered in future years based on regulatory (e.g., Advanced Clean Cars) and consumer trends. For CNG-powered vehicles, there would be a net decrease in VMT and total fuel demand and an increase in fuel efficiency.

Compared to existing uses under year 2045 conditions, the proposed project would result in an increase in VMT and fuel usage for all fuel types (see "Net Change from Existing Year 2045" column of Table 5.4-5). However, the fuel efficiency would be the same, and implementation of the proposed project would not result in less fuel efficiency across the various fuel types.

The increases in VMT, as shown in Table 5.4-5, would be primarily attributable to the overall growth associated with the proposed project. While implementation of the proposed project could result in increases in VMT and fuel usage for some fuel types, as shown in Table 5.4-5, the fuel efficiency of vehicles for all fuel types under year 2045 conditions would improve compared to baseline year 2024. The improvement would be attributable to regulatory compliance (e.g., CAFE standards) that trend towards producing cars that are more fuel efficient and the natural turnover of older, less-fuel-efficient vehicles for newer, more-fuel-efficient vehicles. The CAFE standards are not directly applicable to residents or land use development projects, but to car manufacturers. Thus, residents and employees within the Specific Plan do not have direct control in determining the fuel efficiency of vehicles manufactured and that are made available. However, compliance with the CAFE standards by car manufacturers would ensure that vehicles produced in future years have

greater fuel efficiency and would generally result in an overall benefit of reducing fuel usage by providing more fuel-efficient vehicle options.

Although VMT associated with electric vehicles (EVs) and thus electricity usage would increase under the with-project horizon year 2045 scenario when compared to existing baseline, it is also anticipated that EVs will improve in energy efficiency. In conjunction with the regulatory (i.e., RPS, SB 350, SB 100, SB 1020) and general trend toward increasing the supply and production of energy from renewable sources, it is anticipated that a greater share of electricity used to power EVs will be from renewable sources in future years (e.g., individual PV systems and/or purchased electricity from SCE that is generated from renewable sources).

Additionally, as discussed further under Impact 5.13-1 in Chapter 5.13, *Transportation*, of this DEIR, the proposed project would accommodate improvements to the bicycle, pedestrian, and transit infrastructure. For example, Class III bicycle lanes are planned along Pioneer Boulevard from Park Avenue north to 184th Street in addition to Alburtis Avenue. Furthermore, Class IV separated bikeways are planned on South Street and on Pioneer Boulevard through the entirety of Downtown Artesia, except on the segment that would have a Class III route. The Specific Plan also accommodates pedestrian corridor improvements along Pioneer Boulevard, South Street, 187th Street, and 183rd Street such as new or improved sidewalks, traffic calming features, high-visibility crosswalks, signalized crossings, landscaping and shade, and human-scale lighting. In addition, the Specific Plan includes guidelines that would support transit-oriented land use development such as the following:

- Ensure all downtown transit stops have a bus shelter with seating, shade, lighting, and trash receptables.
- Support transit expansion and programming for Rapid Bus, Busways, and Light Rail, especially near new developments and to existing key destinations.
- Increase bicycle, pedestrian, and micromobility amenities at and near transit stops to encourage first- and last-mile connections.
- Install bus shelter and upgrade other bus stop amenities at the southbound stop at Pioneer Boulevard and South Street and the east and westbound stops on South Street at Jersey Avenue and Pioneer Boulevard.
- Add wayfinding signage at Pioneer Boulevard from 180th Street to the south city limit.

The Specific Plan also includes planning for future mobility hubs, which can provide first- and last-mile connectivity. To support future mobility hubs, the proposed project includes the following guidelines:

- Bikeshares, electric scooters, or carshares should be located at or near future parking structures and the existing public parking lot at 186th Street and Corby Avenue.
- Implement pedestrian amenities at mobility hubs to facilitate safe crossings and promote a walkable downtown, such as human-scale lighting, high-visibility crosswalks, curb ramps, and shade.
- Introduce a Green Zone adjacent to Pioneer Station to accommodate clean transportation options.

- Adopt a Neighborhood Electric Vehicle (NEV) program and locate charging stations in Green Zones or mobility hubs.
- Wayfinding signage should be located at or near parking structures, as well as throughout downtown, to guide visitors to key destinations.
- Explore alternative uses for on-street parking after the completion of each parking structure through the development of a curb space management plan for ridesharing services, loading zones, micromobility, or activations.

The features of the proposed project outlined above would promote alternative modes of transportation, such as walking and biking, in addition to using public transit, which could contribute to minimizing passenger vehicle trips and transportation-related fuel usage. Overall, it is expected that operation-related fuel usage associated with the proposed project would not be inefficient, wasteful, or unnecessary. Therefore, impacts would be less than significant with respect to operation-related fuel usage.

Level of Significance Before Mitigation: *Less Than Significant.*

Impact 5.6-2: The proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. [Threshold E-2]

The following evaluates consistency of the proposed project with California's RPS program.

California Renewables Portfolio Standard Program

California's electricity grid is transitioning to renewable energy under California's RPS Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The RPS goals have been updated since adoption of SB 1078 in 2002. In general, California has RPS requirements of 33 percent renewable energy by 2020 (SB X1-2), 40 percent by 2024 (SB 350), 50 by 2026 (SB 100), 60 percent by 2030 (SB 100), 90 percent by 2035 (SB 1020), 95 percent by 2040 (SB 1020), and 100 percent by 2045 (SB 100). SB 100 also establishes RPS requirements for publicly owned utilities that consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 1020 requires all State agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as SCE, whose compliance with RPS requirements would contribute to the State objective of transitioning to renewable energy. The proposed land uses accommodated under the proposed project would comply with the current and future iterations of the Building Energy Efficiency Standards and CALGreen and would be more energy efficient than the existing land uses designated for redevelopment. The 2022 Building Energy Efficiency Standards include standards for installation of on-site PV systems for both residential and nonresidential land uses in addition to battery storage requirements for nonresidential land uses and multifamily residential uses of four stories and more. Therefore, implementation of the proposed

project would not conflict with or obstruct implementation of California's RPS Program, and impacts would be less than significant.

Level of Significance Before Mitigation: *Less Than Significant.*

5.4.4 Cumulative Impacts

The area considered for cumulative impacts to electricity and natural gas supplies are the service areas of SCE and SoCalGas. Other projects in the SCE and SoCalGas service areas would be required to comply with the Building Energy Efficiency Standards and CALGreen, which would contribute to minimizing wasteful energy consumption and promoting renewable energy sources. Furthermore, vehicles complying with the CAFE standards would be available statewide. Overall, as discussed under Impact 5.4-1, energy consumption (i.e., building energy and transportation fuels) resulting from implementation of the proposed project would not be considered inefficient, wasteful, or unnecessary. Implementation of the proposed project would therefore not contribute to any cumulative energy impacts when considered together with cumulative development projects and would not be cumulatively considerable.

5.4.5 Level of Significance Before Mitigation

After implementation of regulatory requirements and standard conditions of approval, Impacts 5.4-1 and 5.4-2 would be less than significant.

5.4.6 Mitigation Measures

No mitigation measures required.

5.4.7 Level of Significance After Mitigation

Impacts 5.4-1 and 5.4-2 would be less than significant and do not require mitigation.

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5. Environmental Analysis
ENERGY

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5.5 GEOLOGY AND SOILS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Artesia Downtown Specific Plan (proposed project) to impact paleontological resources, or unique geologic features in the City of Artesia. A description of existing environmental and regulatory conditions relating to paleontological resources is also provided in this section. The analysis in this section is based in part on the following Record Search(s):

- *Paleontological Resources for the Artesia Downtown Specific Plan*, City of Artesia, Los Angeles County, California, Natural History Museum of Los Angeles County, January, 2024.

A copy of this Record Search is included in Appendix D to this Draft EIR.

During the scoping period for the Draft Environmental Impact Report (DEIR), written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Notice of Preparation and Comment Letters Summary*, in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

5.5.1 Environmental Setting

5.5.1.1 REGULATORY BACKGROUND

Federal

Paleontological Resources Preservation Act

The federal Paleontological Resources Preservation Act of 2002 (PRPA) limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the appropriate State or federal agency. Additionally, it specifies these researchers must agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers. This Act incorporates key findings of a report, "Fossils on Federal Land and Indian Lands," issued by the Secretary of Interior in 2000, which establishes that most vertebrate fossils and some invertebrate and plant fossils are considered rare resources (USDI 2000). In passing the PRPA, Congress officially recognized the scientific importance of paleontological resources on some federal lands by declaring that fossils from these lands are federal property that must be preserved and protected. The PRPA codifies existing policies of the Bureau of Land Management, National Park Service, US Forest Service, Bureau of Reclamation, and US Fish and Wildlife Service, and provides the following:

- Uniform criminal and civil penalties for illegal sale and transport, and theft and vandalism of fossils from federal lands.
- Uniform minimum requirements for paleontological resource-use permit issuance (terms, conditions, and qualifications of applicants).
- Uniform definitions for "paleontological resources" and "casual collecting."

- Uniform requirements for curation of federal fossils in approved repositories.

Antiquities Act of 1906

The Antiquities Act of 1906 states, in part:

> That any person who shall appropriate, excavate, injure or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which said antiquities are situated, shall upon conviction, be fined in a sum of not more than five hundred dollars or be imprisoned for a period of not more than ninety days, or shall suffer both fine and imprisonment, in the discretion of the court. (16 US Code secs. 431–433)

Although there is no specific mention of natural or paleontological resources in the act itself or in the act's uniform rules and regulations (Code of Federal Regulations, Title 43 Part 3), the term "objects of antiquity" has been interpreted to include fossils by the National Park Service, Bureau of Land Management, the US Forest Service, and other federal agencies. Permits to collect fossils on lands administered by federal agencies are authorized under this act; however, large gray areas, left open to interpretation, are due to the imprecision of the wording, so agencies are hesitant to interpret this act as governing paleontological resources.

State

Public Resources Code Section 5097.5 and Section 30244

Paleontological sites are protected under a wide variety of state policies and regulations in the California Public Resources Code (PRC). In addition, paleontological resources are recognized as nonrenewable resources and receive protection under the PRC and CEQA. PRC Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244 state:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

This statute prohibits the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. As a result, local agencies are required to comply with PRC 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others. PRC Section 5097.5 establishes the removal of paleontological resources as a misdemeanor and requires reasonable mitigation of adverse impacts to paleontological resources from developments on public lands (state, county, city, and district).

Paleontological Assessment Standards

The California Environmental Quality Act (CEQA) also directs agencies to assess whether a project would have an adverse effect on unique paleontological resources. The Society of Vertebrate Paleontology (SVP) has established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources. Most practicing paleontologists in the United States adhere closely to the SVP's assessment, mitigation, and monitoring requirements as outlined in these guidelines, which were approved through a consensus of professional paleontologists. The SVP has helped define the value of paleontological resources and, in particular, indicates that geologic units of high paleontological potential are those from which vertebrate or significant invertebrate or plant fossils have been recovered in the past (i.e., are represented in institutional collections). Only invertebrate fossils that provide new information on existing flora or fauna or on the age of a rock unit would be considered significant. Geologic units of low paleontological potential are those that are not known to have produced a substantial body of significant paleontological material. As such, the sensitivity of an area with respect to paleontological resources hinges on its geologic setting and whether significant fossils have been discovered in the area or in similar geologic units.

Local

City of Artesia General Plan

The City of Artesia General Plan does not contain any goals or policies concerning paleontological resources.

City of Artesia Municipal Code

The City of Artesia Municipal Code does not contain any standards concerning paleontological resources.

5.5.1.2 EXISTING CONDITIONS

The City of Artesia is in the Los Angeles basin. This part of Southern California is characterized by elongated northwest-southeast trending ridges, valleys, and structural features. The City is in the alluvial plain of the San Gabriel River, which consists primarily of rocks, sand, and soil from the mountains to the north. The soils underlying Artesia are younger alluvium, consisting predominantly of marine and non-marine sand and silt (Artesia 2010). Artesia is characterized by level topography with slopes of less than 5 percent. Ground elevations are approximately 65 feet above sea level to the north, sloping south to 45 feet above sea level (Artesia 2010).

Paleontological Resources

Paleontological resources are the fossilized remains of plants and animals, including vertebrates (animals with backbones; mammals, birds, fish, etc.), invertebrates (animals without backbones; starfish, clams, coral, etc.), and microscopic plants and animals (microfossils), and can include mineralized body parts, body impressions, or footprints and burrows. They are valuable, nonrenewable, scientific resources used to document the existence of extinct life forms and to reconstruct the environments in which they lived. Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is

determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit.

Paleontological Records Search

A records search was conducted by the Natural History Museum of Los Angeles County (see Appendix D). According to the records search, no known fossil localities lie directly within the proposed project area, but there are fossil localities nearby from the same sedimentary deposits that may occur in the proposed project area, either at the surface or at depth.

Paleontological Sensitivity

A multilevel ranking system was developed by professional resource managers within the U.S. Bureau of Land Management as a practical tool to assess the sensitivity of sediments for fossils. The Potential Fossil Yield Classification (PFYC) system has a multilevel scale based on demonstrated yield of fossils. The PFYC system provides additional guidance regarding assessment and management for different fossil yield rankings. The probability for finding significant fossils in a project area can be broadly predicted from previous records of fossils recovered from the geologic units present in and/or adjacent to the project area. The geological setting and the number of known fossil localities help determine the paleontological sensitivity according to PFYC criteria.

Sediments that are close to their basement rock source are typically coarse; those farther from the basement rock source are finer. The chance of fossils being preserved greatly increases once the average size of the sediment particles is reduced to 5 millimeters or less in diameter. Moreover, fossil preservation also greatly increases after natural burial in rivers, lakes, or oceans. Remains left on the ground surface become weathered by the sun or consumed by scavengers and bacterial activity, usually within 20 years or less. Therefore, the sands, silts, and clays of rivers, lakes, and oceans are the most likely sediments to contain fossils.

Using the PFYC system, geologic units are classified according to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts within the known extent of the geological unit. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher PFYC value; instead, the relative abundance of localities is intended to be the major determinant for the value assignment (BLM 2016).

5.5.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

G-1 Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on

other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42.)

ii) Strong seismic ground shaking.

iii) Seismic-related ground failure, including liquefaction.

iv) Landslides.

G-2 Result in substantial soil erosion or the loss of topsoil.

G-3 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

G-4 Be located on expansive soil, as defined in Table 18-1B of the Uniform building Code (1994), creating substantial direct or indirect risks to life or property.

G-5 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

G-6 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Initial Study, included as Appendix A, substantiates that no impacts would occur associated with the following thresholds:

- Threshold G-1
- Threshold G-2
- Threshold G-3
- Threshold G-4
- Threshold G-5

These impacts are addressed in the Initial Study (Appendix A), and can also be found in Chapter 8, *Impacts Found Not to Be Significant*, of this Draft EIR.

5.5.3 Environmental Impacts

5.5.3.1 METHODOLOGY

Analysis of paleontological resources in this section is based on review of available literature as well as a records search conducted by the Natural History Museum of Los Angeles County (see Appendix D). The following analysis evaluates the proposed projects' potential impact with regard to paleontological resources.

5.5.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

The proposed Specific Plan does not include any policies or goals specifically related to geology and soil.

5.5.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.5-1: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? [Threshold G-6]

Paleontological resources are recognized as nonrenewable resources and therefore receive protection under the California Public Resources Code and CEQA. According to the records search, no known fossil localities lie in the project site itself, but there are fossil localities nearby from the same sedimentary deposits that may occur in the project site, either at the surface or at depth. (See Appendix D). The city is in the alluvial plain of the San Gabriel River, which consists primarily of rocks, sand, and soil from the mountains to the north. The soils underlying Artesia are younger alluvium, consisting predominantly of marine and non-marine sand and silt (Artesia 2010). Given the geology of the City, it is unlikely that future development resulting from the proposed project would encounter unique paleontological resources. In addition, the future development sites have already been subject to extensive ground disturbance and/or development. As such, any paleontological resources, which may have existed within the City, have likely been disturbed.

However, grading and construction activities in undeveloped areas or redevelopment that requires more intensive soil excavation than in the past could potentially disturb paleontological resources. Long-term implementation of the proposed project could allow development, including grading, of known and unknown sensitive areas. Therefore, future development accommodated by the proposed project could potentially unearth previously unrecorded resources. As such, it is recommended that a paleontological assessment be conducted by a paleontologist on a project-by-project basis and implement applicable thresholds and mitigation measures. All development would be subject to compliance with the established federal, State, and local regulatory framework concerning protection of paleontological resources. Implementation of Mitigation Measures GEO-1 would require evaluating paleontological sensitivities prior to grading, and GEO-2 dictates the required process in the event of fossil discovery.

Level of Significance Before Mitigation: Potentially significant.

5.5.4 Cumulative Impacts

For purposes of the paleontological resources impact analysis, cumulative impacts are considered for cumulative development within the City of Artesia. The geographic context of cumulative analysis for paleontological resources is the City of Artesia. Should fossil resources be present in the project site's subsurface, ground disturbing activities associated with excavations could directly or indirectly destroy a unique paleontological resource. Following compliance with GEO-1 and GEO-2, the proposed project would not destroy a unique paleontological resource or site or unique geologic feature, and impacts would be less than significant. Cumulative projects could involve excavations that could destroy known or as-yet-undiscovered paleontological resources specific to those development sites. Other related projects under development would also be subject to project-level review and project-specific measures would be required, as needed, to reduce significant impacts. All development would be subject to compliance with the established

federal, State, and local regulatory framework concerning protection of paleontological resources on a project-by-project basis. Where significant or potentially significant impacts are identified, implementation of all feasible site-specific mitigation would be required to avoid or reduce impacts. Therefore, the proposed project combined with other cumulative development would not result in significant cumulative environmental impacts concerning paleontological resources.

5.5.5 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, without mitigation, these impacts would be **potentially significant**:

- **Impact 5.5-1** Implementation of the proposed project could impact paleontological resources.

5.5.6 Mitigation Measures

Impact 5.7-1

GEO-1 **Low-to-High Sensitivity.** Prior to issuance of a grading permit for projects that involve ground disturbance in previously undisturbed areas mapped with "low-to-high" potential for paleontological sensitivity the project applicant shall consult with a geologist or paleontologist to confirm the level of sensitivity for paleontological resources. If confirmed that underlying sediments may have moderate to high sensitivity, a qualified paleontologist shall be retained to develop and implement a Paleontological Resources Impact Mitigation Plan. The paleontologist shall have the authority to halt construction during ground disturbing activities as outlined in Mitigation Measure GEO-2.

GEO-2 **All Projects.** In the event of any fossil discovery, regardless of depth or geologic formation, ground disturbing activities shall halt within a 50-foot radius of the find until its significance can be determined by a qualified paleontologist. Significant fossils shall be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the Society of Vertebrate Paleontology. The most likely repository is the Natural History Museum of Los Angeles County. The repository shall be identified, and a curatorial arrangement shall be signed as part of the Paleontological Impact Mitigation Plan (GEO-1) and prior to collection of the fossils.

5.5.7 Level of Significance After Mitigation

Mitigation Measure GEO-1 would require all projects to obtain a grading permit prior to performing grading to assess paleontological sensitivity at project sites. GEO-2 would apply to any project that encounters any paleontological resource, regardless of depth, to coordinate with a qualified paleontologist and any applicable experts in order to collect the resources. Adherence to the mitigation measures would reduce impacts to less than significant.

5.5.8 References

Artesia, City of. 2010. City of Artesia General Plan 2030.

Bureau of Land Management (BLM). 2016. Potential Fossil Yield Classification System. https://www.blm.gov/sites/blm.gov/files/uploads/IM2016-124_att1.pdf.

Natural History Museum of Los Angeles County. January 2024. Paleontological Resources for the Artesia Downtown Specific Plan Project, City of Artesia, Los Angeles County. (Appendix D)

5.6 GREENHOUSE GAS EMISSIONS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Artesia Downtown Specific Plan (Specific Plan or proposed project) to cumulatively contribute to greenhouse gas (GHG) emissions impacts. Because no single project is large enough to result in a measurable increase in global concentrations of GHG, climate change impacts of a project are considered on a cumulative basis. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (South Coast AQMD). GHG emissions modeling was conducted using the California Emissions Estimator Model (CalEEMod), Version 2022.1, and model outputs are in Appendix C of this DEIR. Cumulative impacts related to GHG emissions are based on the regional boundaries of the South Coast Air Basin (SoCAB).

5.6.1 Environmental Setting

5.6.1.1 TERMINOLOGY

The following are definitions for terms used throughout this section.

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO_2) over a given period of time (20, 100, and 500 years). CO_2 has a GWP of 1.
- **Carbon-dioxide equivalent (CO_2e).** The standard unit to measure the amount of GHGs in terms of the amount of CO_2 that would cause the same amount of warming. CO_2e is based on the GWP ratios between the various GHGs relative to CO_2.
- **$MTCO_2e$.** Metric ton of CO_2e.
- **$MMTCO_2e$.** Million metric tons of CO_2e.

Greenhouse Gases and Climate Change

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the twentieth and twenty-first centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride

(SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).[1,2] The major GHGs applicable to the proposed project are briefly described.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.

- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 5.6-1, *GHG Emissions and Their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2 equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under the IPCC Sixth Assessment Report (AR6), GWP values for CH_4, a project that generates 10 MT of CH_4 would be equivalent to 273 MT of CO_2.[3]

Table 5.6-1 GHG Emissions and Their Relative Global Warming Potential Compared to CO_2

GHGs	Fourth Assessment Report Global Warming Potential Relative to CO_2[1]	Fifth Assessment Report Global Warming Potential Relative to CO_2[1]	Sixth Assessment Report Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	1	1	1
Methane (CH_4)[2]	25	28	30
Nitrous Oxide (N_2O)	298	265	273

Source: IPCC 2007, 2013, 2022.
Notes: The IPCC published updated GWP values in its Sixth Assessment Report (AR6) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2. However, GWP values identified in AR4 are used by the California Emissions Estimator Model (CalEEMod) program.
1 Based on 100-year time horizon of the GWP of the air pollutant compared to CO_2.
2 The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

1 Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change.

2 Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2017). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

3 The global warming potential of a GHG is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. However, during the twentieth century, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities.

The recent IPCC Sixth Assessment Report (AR6) summarizes the latest scientific consensus on climate change. It finds that atmospheric concentrations of CO_2 have increased by 50 percent since the Industrial Revolution and continue to increase at a rate of two parts per million each year. By the 2030s, and no later than 2040, the world will exceed 1.5 degrees Celsius (°C) warming (CARB 2022). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006). In the past, gradual changes in the Earth's temperature changed the distribution of species, availability of water, and other conditions. Human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily on future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in frequency of warm spells/heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

Potential Climate Change Impacts for California

There is at least a greater than 50 percent likelihood that global warming will reach or exceed 1.5°C in the near-term, even for the very low GHG emissions scenario (IPCC 2022). Climate change is already impacting California and will continue to affect it for the foreseeable future. For example, the average temperature in most areas of California is already 1 degrees Fahrenheit (°F) (~0.56°C) higher than historical levels, and some areas have seen average increases in excess of 2°F (~1.1°C) (CalOES 2020). The California Fourth Climate Change Assessment identifies the following climate change impacts under a business-as-usual scenario, in which no new actions are taken to curb GHG emissions:

- Annual average daily high temperatures in California are expected to rise by 2.7°F by 2040, 5.8°F by 2070, and 8.8°F by 2100 compared to observed and modeled historical conditions. These changes are statewide averages. Heat waves are projected to become longer, more intense, and more frequent.
- Warming temperatures are expected to increase soil moisture loss and lead to drier seasonal conditions. Summer dryness may become prolonged, with soil drying beginning earlier in the spring and lasting longer into the fall and winter rainy season.
- High heat increases the risk of death from cardiovascular, respiratory, cerebrovascular, and other diseases.
- Droughts are likely to become more frequent and persistent through 2100.[4]
- Climate change is projected to increase the strength of the most intense precipitation and storm events affecting California.
- Mountain ranges in California are already seeing a reduction in the percentage of precipitation falling as snow. Snowpack levels are projected to decline significantly by 2100 due to reduced snowfall and faster snowmelt.
- Marine layer clouds are projected to decrease, though more research is needed to better understand their sensitivity to climate change.
- Extreme wildfires (i.e., fires larger than 10,000 hectares or 24,710 acres) would occur 50 percent more frequently. The maximum area burned statewide may increase 178 percent by the end of the century.
- Exposure to wildfire smoke is linked to increased incidence of respiratory illness.
- Sea level rise is expected to continue to increase erosion of beaches, cliffs, and bluffs. (CalOES 2020)

Global climate change risks to California are shown in Table 5.6-2, *Summary of GHG Emissions Risks to California*, and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy demand.

[4] Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, and with unprecedented dry years in 2014 and 2015 (OEHHA 2018). Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years occurring from 2012 to 2015 (OEHHA 2018).

Table 5.6-2 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006, 2009; CCCC 2012; CNRA 2014; CalOES 2020.

5.6.1.2 REGULATORY BACKGROUND

This section describes the federal, State, regional, and local regulations applicable to GHG emissions.

Federal

United States Environmental Protection Agency

The US Environmental Protection Agency (USEPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The USEPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not impose any emission reduction requirements, but allow the USEPA to finalize the GHG standards proposed

in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009).

To regulate GHGs from passenger vehicles, the USEPA was required to issue an endangerment finding (USEPA 2024c). The finding identified emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the proposed project's GHG emissions inventory because they constitute the majority of GHG emissions, and according to guidance by the South Coast AQMD, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US Mandatory Reporting Rule for GHGs (2009)

In response to the endangerment finding, the USEPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (e.g., large stationary sources) to report GHG emissions data. Facilities that emit 25,000 $MTCO_2e$ or more per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2021 to 2035)

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon (mpg) in 2025. On March 30, 2020, the USEPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 to 2026.

On December 21, 2021, under direction of Executive Order (EO) 13990 issued by President Biden, the National Highway Traffic Safety Administration repealed SAFE Vehicles Rule Part One, which had preempted State and local laws related to fuel economy standards. In addition, on March 31, 2022, the National Highway Traffic Safety Administration finalized new fuel standards in response to EO 13990. Fuel efficiency under the standards proposed will increase 8 percent annually for model years 2024 to 2025 and 10 percent annual for model year 2026. Overall, the new CAFE standards require a fleet average of 49 mpg for passenger vehicles and light trucks for model year 2026, which would be a 10 mpg increase relative to model year 2021 (NHTSA 2022).

On July 28, 2023, NHTSA proposed new CAFE standards for passenger cars and light trucks built in model years 2027-2032, and new fuel efficiency standards for heavy-duty pickup trucks and vans built in model years 2027-2035. If finalized, the proposal would require an industry fleet-wide average of approximately 58 mpg for passenger cars and light trucks in model year 2032, by increasing fuel economy by 2 percent year over year for passenger cars and by 4 percent year over year for light trucks. For heavy-duty pickup trucks and vans, the proposal would increase fuel efficiency by 10 percent year over year (NHTSA 2023).

Multipollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles

In 2024, the USEPA issued a final rule, Multipollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles, that sets new, more protective standards to reduce harmful air

pollutant emissions from light-duty and medium-duty vehicles starting with model year 2027 (USEPA 2024a). The final rule builds on USEPA's final standards for federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026 and leverages advances in clean car technology to help improve public health from vehicle emissions. These standards will phase in over model years 2027 through 2032. For light-duty vehicles, the standards are projected to result in an industry-wide average target for the light-duty fleet of 85 grams/mile (g/mile) of CO_2 in model year 2032, representing a nearly 50 percent reduction in projected fleet average emissions target levels relative to the existing model year 2026 standards (USEPA 2024b). The medium-duty vehicle standards are projected to result in an average target of 274 g/mile of CO_2 by model year 2032, representing a 44 percent reduction in projected fleet average emissions target levels relative to the existing model year 2026 standards (USEPA 2024b). Overall, USEPA projects that cumulative CO_2 reductions as a result of the new standards are approximately 7.2 billion metric tons over the life of the program (USEPA 2024b).

State

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in EO S-03-05 and EO B-30-15, EO B-55-18, Assembly Bill (AB) 32, Senate Bill (SB) 32, AB 1279, and SB 375.

Executive Order S-03-05

EO S-03-05 was signed June 1, 2005, and set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill 32, the Global Warming Solutions Act (2006)

AB 32 was passed by the California State legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in EO S-03-05. The California Air Resources Board (CARB) prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of AB 32.

Executive Order B-30-15

EO B-30-15, signed April 29, 2015, set a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. EO B-30-15 also directed CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires State agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in EO S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaptation strategy, "Safeguarding California," in order to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the EO B-30-15 goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

Executive Order B-55-18

EO B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant State agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Assembly Bill 1279

On August 31, 2022, the California Legislature passed AB 1279, which requires California to achieve net-zero GHG emissions no later than 2045 and to achieve and maintain negative GHG emissions thereafter. Additionally, AB 1279 also establishes a GHG emissions reduction goal of 85 percent below 1990 levels by 2045. CARB will be required to update the scoping plan to identify and recommend measures to achieve the net-zero and GHG emissions-reduction goals.

2022 Climate Change Scoping Plan

CARB adopted the *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) on December 15, 2022, which lays out a path to achieve carbon neutrality by 2045 or earlier and to reduce the state's anthropogenic (human-caused) GHG emissions (CARB 2022). The Scoping Plan provides updates to the previously adopted 2017 Scoping Plan and addresses the carbon neutrality goals of EO B-55-18 and the ambitious GHG reduction target as directed by AB 1279. Previous Scoping Plans focused on specific GHG reduction targets for our industrial, energy, and transportation sectors—to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. The 2022 Scoping Plan updates the target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. Carbon neutrality takes it one step further by expanding actions to capture and store carbon including through natural and working lands and mechanical technologies, while drastically reducing anthropogenic sources of carbon pollution at the same time.

The path forward was informed by the recent Sixth Assessment Report (AR6) of the IPCC and the measures would achieve 85 percent below 1990 levels by 2045 in accordance with AB 1279. CARB's 2022 Scoping Plan identifies strategies as shown in Table 5.6-3, *Priority Strategies for Local Government Climate Action Plans*, which would be most impactful at the local level for ensuring substantial progress toward the State's carbon neutrality goals.

Table 5.6-3 Priority Strategies for Local Government Climate Action Plans

Priority Area	Priority Strategies
Transportation Electrification	Convert local government fleets to zero-emission vehicles (ZEV) and provide EV charging at public sites.
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans).
VMT Reduction	Reduce or eliminate minimum parking standards.
	Implement Complete Streets policies and investments, consistent with general plan circulation element requirements.
	Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, micro transit, etc.
	Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking.
	Implement parking pricing or transportation demand management pricing strategies.
	Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing allowable density of the neighborhood).
	Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements).
Building Decarbonization	Adopt all-electric new construction reach codes for residential and commercial uses.
	Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers).
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances.
	Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing).
	Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings).

Source: CARB 2022.

Based on Appendix D of the 2022 Scoping Plan, for residential and mixed-use development projects, CARB recommends first demonstrating that these land use development projects are aligned with State climate goals based on the attributes of land use development that reduce operational GHG emissions while advancing fair housing. Attributes that accommodate growth in a manner consistent with the GHG and equity goals of SB 32 have all the following attributes:

- Transportation Electrification
  - Provide electric vehicle (EV) charging infrastructure that, at a minimum, meets the most ambitious voluntary standards in the California Green Building Standards Code at the time of project approval.
- Vehicle Miles Traveled (VMT) Reduction

- Locate projects on infill sites that are surrounded by existing urban uses and reuse or redevelop previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).
- The project does not result in the loss or conversion of the State's natural and working lands.
- The project consists of transit-supportive densities (minimum of 20 residential dwelling units/acre), or is in proximity to existing transit stops (within a half mile), or satisfies more detailed and stringent criteria specified in the region's Sustainable Communities Strategy (SCS).
- The project reduces parking requirements by:
  - Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or
  - Providing residential parking supply at a ratio of <1 parking space per dwelling unit; or
  - For multifamily residential development, require parking costs to be unbundled from costs to rent or own a residential unit.
- At least 20 percent of the units are affordable to lower-income residents.
- Result in no net loss of existing affordable units.

- Building Decarbonization
  - Uses all electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking (CARB 2022).

The second approach to project-level alignment with State climate goals is net-zero GHG emissions, especially for new residential development. The third approach to demonstrating project-level alignment with State climate goals is to align with GHG thresholds of significance, which many local air quality management and air pollution control districts have developed or adopted (CARB 2022).

Senate Bill 375

SB 375, the Sustainable Communities and Climate Protection Act, was adopted in 2008 to connect the GHG emissions reduction targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPO). The Southern California Association of Governments (SCAG) is the MPO for the Southern California region, which includes Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial Counties. Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per-capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. CARB adopted revised SB 375 targets for the MPOs in March 2018 that became effective in October 2018. All SCSs adopted after October 1, 2018, are subject to these new targets. CARB's updated SB 375 targets for the SCAG region were an 8 percent per-capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per-capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent) (CARB 2018).

The targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of "percent per capita" reductions in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies, such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translate into proposed targets that either match or exceed the emission reduction levels in the MPO's currently adopted SCS to achieve the SB 375 targets. CARB foresees that the additional GHG emissions reductions in 2035 may be achieved from land use changes, transportation investment, and technology strategies (CARB 2018).

Transportation Sector Specific Regulations

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Health and Safety Code Sections 42823 and 43018.5) (also known as the Pavley I standards). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) manufactured in and after 2009 and was anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the USEPA. In 2012, the USEPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles (see also the earlier discussion on the update to the CAFE standards under the "Federal" heading). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combined the control of smog, soot, and GHGs with requirements for greater numbers of zero-emissions (ZE) vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions.

Executive Order S-01-07

On January 18, 2007, the State set a new low-carbon fuel standard (LCFS) for transportation fuels sold in the state. EO S-01-07 mandated the following actions: (1) establish a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) adopt an LCFS for transportation fuels in California. EO S-01-07 set a declining standard for GHG emissions measured in grams of CO_2e per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applied to refiners, blenders, producers, and importers of transportation fuels and used market-based

mechanisms to allow these providers to choose the most economically feasible methods for reducing emissions during the "fuel cycle." In 2018, CARB amended the LCFS to strengthen the carbon intensity benchmarks through 2030 in line with California's 2030 GHG emissions reduction target enacted through SB 32.

Executive Order B-16-2012

On March 23, 2012, the State identified that CARB, the California Energy Commission (CEC), the California Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). EO B-16-2012 also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The EO also established a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

Executive Order N-79-20

On September 23, 2020, Governor Newsom signed EO N-79-20, which sets a course to end sales of internal combustion passenger vehicles. EO N-79-20 set a statewide goal that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035. Additionally, the fleet goals for truck are that 100 percent of drayage trucks be ZE by 2035 and 100 percent of medium- and heavy-duty vehicles in the state be ZE by 2045, where feasible. EO N-79-20 also identifies a goal for the state to transition to 100 percent ZE off-road vehicles and equipment by 2035, where feasible.

Renewables Portfolio: Carbon Neutrality Regulations

Senate Bills 1078, 107, and X1-2, and Executive Order S-14-08

The State of California has adopted regulations that establishes the Renewables Portfolio Standard (RPS) to increase the proportion of electricity from renewable sources. A major component of California's Renewable Energy Program is the RPS established under SB 1078 (Sher) and SB 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent to reach at least 20 percent by December 30, 2010. EO S-14-08 was signed in November 2008, which expanded the State's RPS to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production decreases indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

SB 350 (de Leon) was signed into law in September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy-efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which increased the RPS to require 50 percent renewable resources by December 31, 2026, and 60 percent by December 31, 2030, while requiring retail sellers and local publicly owned electric utilities to meet interim targets of 44 percent of retail sales by December 31, 2024, and 52 percent by December 31, 2027. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Senate Bill 1020

SB 1020 was signed into law on September 16, 2022. It requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, SB 1020 requires all State agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

Energy-Efficiency Regulations

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (24 California Code of Regulations [CCR] Part 6). Part 6 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy-efficiency technologies and methods.

On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards went into effect on January 1, 2023, replacing the 2019 standards. The 2022 standards require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements (prescriptive pathway) for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

Under the prescriptive pathway, a new development's building design is considered the "Standard Design Building," which represents the energy-efficiency performance of that project should it include all prescribed features (e.g., solar, battery storage) with no additional energy-efficiency features beyond what is required at minimum under the mandatory requirements and prescriptive pathway. A project may still demonstrate compliance using the performance pathway without inclusion of prescriptive features like solar or battery storage. However, that building design must match or exceed the energy efficiency performance of the Standard Design Building. For example, if a project would be required to include solar and battery storage under the prescriptive pathway, it can choose to comply with the performance pathway and not include solar

and battery storage so long as it can demonstrate that it would achieve the same energy-efficiency performance as if solar and battery storage were included.

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2022. The 2022 CALGreen standards became effective January 1, 2023.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally-regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Diversion Regulations

AB 939: Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code Section 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per-capita requirement rather than tonnage. To help achieve this, the act required that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code Section 42900 et seq.) required areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.

Water-Efficiency Regulations

SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to SB 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of 20 percent reduction in urban per-capita water use by 2020 compared to 2005 baseline use.

AB 1881: Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also required the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Short-Lived Climate Pollutant Reduction Strategy

Senate Bill 1383

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH_4. Black carbon is the light-absorbing component of fine particulate matter produced during the incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills.

On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (e.g., charbroiling), and industrial processes. According to CARB, ambient levels of black

carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB 2017). In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020. South Coast AQMD is one of the air districts that requires air pollution control technologies for chain-driven broilers, which reduces particulate emissions from these charbroilers by over 80 percent (CARB 2017). Additionally, South Coast AQMD Rule 445 limits installation of new fireplaces in SoCAB.

Regional

SCAG's 2024-2050 RTP/SCS

SB 375 requires each MPO to prepare an SCS in its regional transportation plan (RTP/SCS). For the SCAG region, the 2024-2050 RTP/SCS, Connect SoCal, was adopted on April 4, 2024, and is an update to the 2020-2045 RTP/SCS. In general, the RTP/SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce VMT from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources.

Connect SoCal focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land use strategies in development of the SCAG region through the horizon year 2050 (SCAG 2024). Connect SoCal forecasts that the SCAG region will meet its GHG per-capita reduction targets of 8 percent by 2020 and 19 percent by 2035. It also forecasts that implementation of the plan will reduce VMT per capita in year 2050 by 6.3 percent compared to baseline conditions for that year. Connect SoCal includes a "Core Vision" that centers on maintaining and better managing the transportation network for moving people and goods, while expanding mobility choices by locating housing, jobs, and transit closer together; and increasing investments in transit and complete streets (SCAG 2024).

Local

City of Artesia General Plan

The Artesia General Plan (General Plan) was adopted in July 2010. The General Plan includes the following goals and policies in the Sustainability Element to reduce air quality and GHG impacts.

- **Policy SUS 3.1.** Adopt sustainable building measures for new municipal buildings and major renovations.
  - **Policy Action SUS 3.1.1.** Educate municipal employees about sustainable building design and operations.
  - **Policy Action SUS 3.1.2.** Consider adopting green building standards for municipal buildings.
- **Policy SUS 3.2.** Strongly encourage the use of green building techniques in new construction and major renovations throughout the City.
  - **Policy Action SUS 3.2.1.** Prioritize the development and implementation of an outreach and education program to promote green building practices by residents and businesses.

- **Policy Action SUS 3.2.2.** Encourage and explore incentives or mandates for green building techniques in existing building retrofits as well as new buildings.

- **Policy SUS 3.3.** Achieve and maintain a mix of affordable, livable and green housing types throughout the City for people of all socio-economic, cultural, and household groups (including seniors, families, singles and disabled).

- **Policy SUS 5.1.** Decrease vehicle miles traveled by increasing per vehicle ridership and decreasing the number of trips by autos and trucks.

  - **Policy Action SUS 5.1.2.** Wherever possible, encourage opportunities for "park-once" habits for business patrons. Reduce current subsidies to auto commuting by reducing parking required for new transit-oriented or mixed-use developments—with convenient parking reserved for carpoolers, bicycles, customers and guests.

  - **Policy Action SUS 5.1.3.** Coordinate with neighboring jurisdictions to create an integrated system of bike routes, through such improvements as signage, additional bicycle lanes and paths, and additional bicycle racks.

  - **Policy Action SUS 5.1.4.** Coordinate with regional agencies to provide convenient access to commuter-rail and other transit opportunities.

  - **Policy Action SUS 5.1.7.** Encourage and explore incentives or mandates for green building techniques in existing building retrofits as well as new buildings.

- **Policy SUS 5.2.** Decrease congestion on local and regional roadways to improve safety, reduce emissions and maintain mobility.
  - **Policy Action SUS 5.2.1.** Prioritize development and implementation of a traffic signal synchronization and optimization program.

- **Policy SUS 7.1.** Encourage and, where feasible, mandate the implementation of best practices towards reducing greenhouse gas emissions.

- **Policy SUS 7.2.** Cooperate with the State, the Southern California Association of Governments, and the Gateway Cities Council of Governments to achieve mandates imposed by AB 32, which calls for reduction of greenhouse gas emissions to 1990 levels by 2020;, [sic] by Executive Order S-3-05, which calls for a reduction of GHG emissions to 80% below 1990 levels by 2050; and by SB 375, which promotes and prioritizes transit-oriented development.

  - **Policy Action SUS 7.2.1.** Coordinate with Gateway Cities COG and participate in development of their Sustainable Communities Strategy, including a regional inventory of current GHG emissions, in compliance with SB 375.

  - **Policy Action SUS 7.2.2.** Consider pursuit of State or Federal funding available for sustainable planning efforts and projects that aim to reduce GHG emissions.

5.6.1.3 EXISTING CONDITIONS

California's GHG Sources and Relative Contribution

In 2023, the statewide GHG emissions inventory was updated for 2000 to 2021 emissions using the GWPs in IPCC's AR4 and reported that California produced 381.3 $MMTCO_2e$ GHG emissions in 2021 (49.7 $MMTCO_2e$ below the 2020 GHG Limit of 431 $MMTCO_2e$) (IPCC 2013). The growth in statewide emissions from 2020 to 2021 was likely due in large part to the increase of transportation and other economic activity that occurred in 2021 relative to 2020 as California emerged from the COVID-19 pandemic.

California's transportation sector was the single-largest generator of GHG emissions, producing 38.2 percent of the state's total emissions. Industrial sector emissions made up 19.4 percent, and electric power generation made up 16.4 percent of the state's emissions inventory. Other major sectors of GHG emissions include residential and commercial (10.2 percent), agriculture and forestry (8.1 percent), high GWP (5.6 percent), and recycling and waste (2.2 percent) (CARB 2023).

Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2014, statewide GHG emissions dropped below the 2020 GHG Limit (AB 32 target for year 2020) and have remained below the limit since that time. Additionally, per-capita GHG emissions have dropped from a 2001 peak of 13.8 $MTCO_2e$ per person to 9.7 $MTCO_2e$ per person in 2021, a 30 percent decrease.

Transportation emissions increased from 2020, likely from passenger vehicles whose emissions rebounded after COVID-19 shelter-in-place orders were lifted. Electricity emissions also increased compared to 2020; however, there has been continued growth of in-state solar generation and imported renewable electricity. High-GWP emissions have continued to increase as high-GWP gases replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also continue to demonstrate that the carbon intensity of California's economy (i.e., the amount of carbon pollution per million dollars of gross domestic product) is declining. From 2000 to 2021, the carbon intensity of California's economy decreased by 50.8 percent while the gross domestic product increased by 67.9 percent (CARB 2023).

Existing Emissions

The existing land uses within the Specific Plan area consist primarily of residential uses and involve a mix of residential, office, retail, and light industrial land uses. These operations currently generate GHG emissions from vehicle trips, building energy use, water use, solid waste generation, and refrigerants. Table 5.6-4, *GHG Emissions Inventory: Existing Uses Designated for Redevelopment*, shows the existing emissions associated with existing land uses designated for redevelopment under the proposed project.

Table 5.6-4 GHG Emissions Inventory: Existing Uses Designated for Redevelopment

Sector	GHG Emissions $MTCO_2e$/Year	Percentage of Total
Mobile[1]	23,294	95%
Area	10	<1%
Energy	1,096	4%
Water	65	<1%
Waste	143	1%
Refrigerants	1	<1%
Total	24,610	100%

Source: CalEEMod Version 2022.1.
Notes: Totals may not add to 100 percent due to rounding.
[1] Based on CalEEMod calendar year 2024 emissions data.

5.6.2 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project would normally have a significant effect on the environment if the project would:

GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

GHG-2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

5.6.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

South Coast AQMD has adopted a significance threshold of 10,000 $MTCO_2e$ per year for permitted (stationary) sources of GHG emissions for which South Coast AQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, South Coast AQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) in September 2010, South Coast AQMD identified a tiered approach for evaluating GHG emissions for development projects where South Coast AQMD is not the lead agency (South Coast AQMD 2010a). The following tiered approach has not been formally adopted by South Coast AQMD.

- **Tier 1.** If a project is exempt from CEQA, project-level and contribution to significant cumulative GHG emissions are less than significant.
- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (e.g., city or county), project-level and contribution to significant cumulative GHG emissions are less than significant.

- **Tier 3.** If GHG emissions are less than the screening-level criterion, project-level and contribution to significant cumulative GHG emissions are less than significant.

  For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, South Coast AQMD requires an assessment of GHG emissions. Project-related GHG emissions include on-road transportation, energy use, water use, wastewater generation, solid waste disposal, area sources, off-road emissions, and construction activities. The South Coast AQMD Working Group identified that because construction activities would result in a "one-time" net increase in GHG emissions, construction activities should be amortized into the operational phase GHG emissions inventory based on the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation. South Coast AQMD identified a screening-level threshold of 3,000 $MTCO_2e$ annually for all land use types. The bright-line screening-level criteria are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact on GHG emissions. South Coast AQMD recommends use of the 3,000 $MTCO_2e$ interim bright-line screening-level criterion for all project types (South Coast AQMD 2010b).

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.[5] The South Coast AQMD Working Group has identified an efficiency target for projects that exceed the screening threshold of 4.8 $MTCO_2e$ per year per service population ($MTCO_2e$/year/SP) for project-level analyses and 6.6 $MTCO_2e$/year/SP for plan-level projects (e.g., program-level projects such as general plans) for the year 2020.[6] The per-capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.[7]

For purposes of this analysis, the bright-line threshold of 3,000 $MTCO_2e$/year is used to determine the project's impacts.

5.6.2.2 MASS EMISSIONS AND HEALTH EFFECTS

On December 24, 2018, in *Sierra Club et al. v. County of Fresno et al.* (Friant Ranch), the California Supreme Court determined that the EIR for the proposed Friant Ranch project failed to adequately analyze the project's air quality impacts on human health. The EIR prepared for the project, which involved a master planned retirement community in Fresno County, showed that project-related mass emissions would exceed

[5] South Coast AQMD had identified an efficiency target for projects that exceed the bright-line threshold: a 2020 efficiency target of 4.8 $MTCO_2e$ per year per service population ($MTCO_2e$/year/SP) for project-level analyses and 6.6 $MTCO_2e$/year/SP for plan-level projects (e.g., general plans). Service population is generally defined as the sum of residential and employment population of a project. The per-capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.[5]

[6] It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this Working Group meeting.

[7] South Coast AQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per-capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

the San Joaquin Valley Air Pollution Control District's regional significance thresholds. In its findings, the California Supreme Court affirmed the holding of the Court of Appeal that EIRs for projects must not only identify impacts to human health, but also provide an "analysis of the correlation between the project's emissions and human health impacts" related to each criterion air pollutant that exceeds the regional significance thresholds or explain why it could not make such a connection. In general, the ruling focuses on the correlation of emissions of toxic air contaminants and criteria air pollutants and their impact to human health.

In 2009, the USEPA issued an endangerment finding for six GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and SF_6—to regulate GHG emissions from passenger vehicles. The endangerment finding is based on evidence that shows an increase in mortality and morbidity associated with increases in average temperatures, which increase the likelihood of heat waves and ozone levels. The effects of climate change are identified in Table 5.6-2. Though identified effects such as sea level rise and increased extreme weather can indirectly impact human health, neither the USEPA nor CARB has established ambient air quality standards for GHG emissions. The state's GHG reduction strategy outlines a path to avoid the most catastrophic effects of climate change, and the state's GHG reduction goals and strategies are based on the path to reducing statewide cumulative GHGs as outlined in AB 32, SB 32, and EO S-03-05.

Because no single project is large enough to result in a measurable increase in global concentration of GHG emissions, climate change impacts of a project are considered on a cumulative basis. Without federal ambient air quality standards for GHG emissions and given the cumulative nature of GHG emissions and the South Coast AQMD's significance thresholds, which are tied to reducing the state's cumulative GHG emissions, it is not feasible at this time to connect the project's specific GHG emissions to the potential health impacts of climate change.

5.6.3 Environmental Impacts

5.6.3.1 METHODOLOGY

This GHG evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG impacts are likely in conjunction with implementation of the proposed project. South Coast AQMD has published guidelines that are intended to provide local governments with guidance for analyzing and mitigating environmental impacts, and they were used in this analysis. The analysis in this section is based on buildout of the proposed project as modeled using CalEEMod, Version 2022.1.

Construction Phase

Implementation of the Specific Plan would generally occur over a period of 20 years or potentially longer. However, because the proposed project is a broad-based policy plan, how development would occur for the individual land uses accommodated under the Specific Plan is unknown. For purposes of project-related construction emissions estimates, the CalEEMod default construction durations for construction activities are utilized based on the anticipated new land uses under the proposed project. In addition, although the specific timeline for individual project development is unknown, this analysis assumes that the various construction activities (e.g., site preparation, demolition, building construction) would overlap. Furthermore,

the analysis accounts for demolition of the 19 residential dwelling units and 424,018 building square feet of the nonresidential land uses designated for redevelopment (see Appendix B for further details). Construction assumptions such as construction equipment mix and construction worker trips were based on CalEEMod default. Table 5.6-5, *Construction Activities, Phasing, and Equipment*, shows the assumed construction activities and the start and end dates and equipment mix for each of the activities.

Table 5.6-5 Construction Activities, Phasing and Equipment

Activities[1]	Start/End Dates[2]	Equipment[1]
Demolition	1/1/2025 to 2/12/2025	1 concrete/industrial saw; 3 excavators; 2 rubber-tired dozers
Site Preparation	1/1/2025 to 1/2/2025	3 rubber-tired dozers; 4 tractors/loaders/backhoes; 4 water trucks[3]
Grading	1/1/2025 to 3/5/2025	2 excavators; 1 grader; 1 rubber-tired dozer; 2 scrapers; 2 tractors/loaders/backhoes; 8 water trucks[3]
Building Construction	1/1/2025 to 12/2/206	1 crane; 3 forklifts; 1 generator set; 3 tractors/loaders/backhoes; 1 welder
Asphalt Paving	1/1/2025 to 2/19/2025	2 pavers; 2 paving equipment; 2 rollers
Architectural Coating	1/1/2025 to 2/19/2025	1 air compressor

Source: CalEEMod Version 2022.1.
Notes:
1 Based on CalEEMod defaults.
2 Durations based on CalEEMod defaults and assumes construction activities overlap for purposes of modeling.
3 Number of water trucks based on daily acreage disturbed, 10,000 gallons per acre disturbed, and a 4.000 gallon-capacity water truck (Maricopa 2005).

Annual construction emissions were amortized over 30 years and included in the emissions inventory to account for one-time GHG emissions from the construction phase of the proposed project (South Coast AQMD 2009).

Operational Phase

- **Transportation.** The primary source of mobile-source emissions is from the combustion of fuel (i.e., gasoline and diesel). Mobile-source emissions for existing baseline are based on calendar year 2024 CalEEMod default emissions data. Project-related mobile-source emissions are based on calendar year 2045 CalEEMod default emissions data for the project's buildout year. Additionally, mobile emissions are based on and derived from the average daily trip (ADT) generation data and vehicle miles traveled (VMT) data provided by Linscott, Law, and Greenspan Engineers (LLG).

- **Area Sources.** Area sources generated from use of consumer products and cleaning supplies are based on CalEEMod default emission rates and on the assumed net increase in dwelling units and retail square footage.

- **Energy.** The California Emissions Estimator Model (CalEEMod) Version 2022.1 default energy (i.e., electricity and natural gas) rates for nonresidential land uses are based on the CEC's 2018-2030 Uncalibrated Commercial Sector Forecast (commercial forecast), which was compiled by the CEC in 2019 (CAPCOA 2022). Use of the CalEEMod default energy rates for the nonresidential land uses result in conservative estimates compared to the recently adopted 2022 Building Energy Efficiency Standards because the commercial forecast is based on the energy demand per square foot of building space, land

use subtype, and end use for the year 2019. In addition, CalEEMod default energy rates for residential uses are based the CEC Residential Appliance Saturation Study (RASS) also completed in 2019. The RASS surveyed 40,000 homes built between 1935 and 2015 with the average home constructed in 1974 (CAPCOA 2022). Thus, the CalEEMod default energy rates for residential uses also result in conservative energy demand estimates compared to the 2022 Building Energy Efficiency Standards.[8] It is anticipated new buildings under the 2022 Standards would generally result in lower electricity and natural gas demand compared to the CalEEMod default energy rates. Furthermore, the carbon intensity factor is based on the CO_2e intensity factor of 405 pounds per megawatt hour (lbs/MWh) as reported for year 2022 in Southern California Edison's 2023 Sustainability Report (SCE 2024). Overall, using the AR4 GWPs and the default CalEEMod intensity factors of 0.033 lb/MWh for CH_4 and 0.004 lb/MWh for N_2O, the adjusted intensity factor for CO_2 is 402.98 lbs/MWh.

- **Solid Waste Disposal.** Indirect emissions from waste generation are based on a total daily solid waste generation estimates in Table 5.15-8, *Estimated Solid Waste Generation*, of Section 5.15, *Utilities and Service System*, of this DEIR. Solid waste generation for the existing uses designated for redevelopment is estimated at 4,369 pounds per day (ppd) or 797 tons per year (tpy) based on 365 days per year. For the proposed project, solid waste generation is estimated at 46,997 ppd, or 8,577 tpy based on 365 days per year.

- **Water/Wastewater.** Water use and wastewater generation is based on water demand estimates in Table 5.15-6, *Net Increase in Water Demand Under the Proposed Project*, of Section 5.15, *Utilities and Service Systems*, of this DEIR. Total water demand for existing uses designated for redevelopment is estimated at 86,155 gallons per day (gpd) or 31,446,582 gallons per year (gpy) based on 365 days per year. Water demand for the proposed project is estimated to be 510,065 gpd or 186,173,734 gpy based on 365 days per year.

- **Refrigerants.** GHG emissions from operation of building air conditioning and refrigeration equipment are based on CalEEMod default values based on land use type.

Life cycle emissions are not included in the GHG analysis, consistent with California Resources Agency directives.[9] Black carbon emissions are not included in the GHG analysis because CARB does not include this pollutant in the state's AB 32 inventory but treats this short-lived climate pollutant separately.[10] Additionally,

[8] As seen in Appendix D of the CalEEMod Users' Guide, the default energy dataset is based on 2019 consumption estimates from the CEC's Commercial Forecast and the Residential Appliance Saturation Survey (RASS). While these surveys were completed in 2019, the energy intensity estimates derived from the dataset represent buildings constructed in compliance with energy efficiency requirements of the 2019 Energy Code as well as older buildings that would, which have higher energy use rates. Therefore, the default energy consumption estimates provided in CalEEMod are conservative and overestimate expected energy use.

[9] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

[10] Particulate matter emissions, which include black carbon, are analyzed in DEIR Section 5.2, *Air Quality*. Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The

while not anticipated, industrial sources of emissions that require a permit from South Coast AQMD (permitted sources) are not included in the proposed project's community inventory since they have separate emission reduction requirements. GHG modeling is included in Appendix C of this DEIR.

5.6.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

The proposed Specific Plan does not include any policies or goals specifically related to greenhouse gas emissions.

5.6.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.6-1: The proposed project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. [Threshold GHG-1]

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough GHG emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact.

Implementation of the proposed project would contribute to global climate change through direct emissions of GHG from on-site area sources and vehicle trips generated by the proposed project, and indirectly through off-site energy production required for on-site activities, water use, and waste disposal. The total and net annual GHG emissions associated with full buildout of the proposed project are shown in Table 5.6-6, *Project-Related GHG Emissions*. Annual GHG emissions were calculated for construction and operation of the proposed project. The project operational phase emissions are from operation of the land uses accommodated under the proposed project. Total construction emissions were amortized over 30 years and included in the emissions inventory to account for the short-term, one-time GHG emissions from the construction phase of the proposed project. As shown in the table, implementation of the proposed project would result in a net increase in GHG emissions of 6,017 $MTCO_2e$ per year compared to the existing conditions. The primary contributing sources for this increase would be the energy and solid waste sectors due to the growth accommodated by the proposed project. While the proposed project would result in a total increase in VMT, project-related mobile emissions under buildout year 2045 conditions would result in a net decrease in mobile-source emissions when accounting for existing land uses designated for redevelopment under the proposed project. This is due to a general assumption that there would be a greater number of cleaner vehicles in the general vehicle fleet mix in year 2045 conditions than baseline year 2024 conditions. However, the overall net increase of 6,017 $MTCO_2e$/year from project implementation would exceed South Coast AQMD's bright-line threshold of 3,000 $MTCO_2e$ per year. Therefore, the proposed project's

State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (CARB 2017).

cumulative contribution to the long-term GHG emissions in the state would be considered potentially significant.

Table 5.6-6 Project-Related GHG Emissions

Source	GHG Emissions				
	Existing Uses Designated for Redevelopment $MTCO_2e$ Per Year	Percentage Proportion	Proposed Project $MTCO_2e$ Per Year	Percentage Proportion	Net Change $MTCO_2e$ Per Year
Mobile[1]	23,294	95%	20,236	66%	(3,059)
Area	10	<1%	518	2%	508
Energy	1,096	4%	6,249	20%	5,153
Water	65	<1%	605	2%	540
Solid Waste	143	1%	2,684	9%	2,541
Refrigerants	1	<%	64	<1%	63
Amortized Construction Emissions[2]	NA	NA	271	1%	271
Total	22,670	100%	30,627	100%	6,017
South Coast AQMD Bright-Line Threshold	NA	NA	NA	NA	3,000 $MTCO_2e$/Yr
Exceeds Bright-Line Threshold?	NA	NA	NA	NA	Yes

Source: CalEEMod, Version 2022.1.

Notes: MTons = metric tons; $MTCO_2e$ = metric ton of carbon dioxide equivalent

[1] Mobile emissions for the existing uses designated for redevelopment and the proposed project are based on calendar year 2024 and calendar year 2045 CalEEMod emissions data, respectively.

[2] Total construction emission are amortized over 30 years per South Coast AQMD methodology (South Coast AQMD 2009).

Level of Significance Before Mitigation: Potentially Significant.

Impact 5.6-2: The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. [Threshold GHG-2]

Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan and SCAG's RTP/SCS. A consistency analysis with these plans follows.

CARB 2022 Scoping Plan

CARB's latest Climate Change Scoping Plan (2022) outlines the State's strategies to reduce GHG emissions in accordance with the targets established under AB 32, SB 32, and AB 1279. The Scoping Plan is applicable to State agencies and is not directly applicable to cities/counties and individual projects. However, new regulations adopted by the State agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that would affect a local jurisdiction's emissions inventory from the top down.

Statewide strategies to reduce GHG emissions include the low carbon fuel standards, California Appliance Energy Efficiency regulations, California Renewable Energy Portfolio standard, changes in the CAFE standards, and other early action measures as necessary to ensure the State is on target to achieve the GHG emissions reduction goals of AB 32, SB 32, and AB 1279. In addition, new developments are required to comply with the current Building Energy Efficiency Standards and CALGreen. The proposed project would comply with these GHG emissions reduction measures since they are statewide strategies. The proposed project's GHG emissions would be reduced from compliance with statewide measures that have been adopted since AB 32, SB 32, and AB 1279 were adopted. Overall, development of the proposed project would not obstruct implementation nor be inconsistent with the CARB Scoping Plan. Therefore, impacts would be less than significant.

SCAG's Regional Transportation Plan / Sustainable Communities Strategy

SCAG adopted the 2024-2050 RTP/SCS, Connect SoCal, in April 2024. Connect SoCal is a long-term plan for the Southern California region that details the development, integrated management, and operation of transportation systems and facilities that will function as an intermodal transportation network for the SCAG metropolitan planning area (SCAG 2024). This plan outlines a forecasted development pattern that demonstrates how the region can sustainably accommodate needed housing and job centers with multimodal mobility options. The overarching vision is to expand alternatives to driving, advance the transition to clean-transportation technologies, promote integrated and safe transit networks, and foster transit-oriented development in compact and mixed-use developments (SCAG 2024).

In addition, Connect SoCal is supported by a combination of transportation and land use strategies that outline how the region can achieve California's GHG-emission-reduction goals and federal Clean Air Act requirements. The regional transportation network envisioned in Connect SoCal would reduce per-capita GHG emissions related to vehicular travel associated with the proposed project and assist in meeting the GHG reduction per-capita targets for the SCAG region (SCAG 2024).

The Connect SoCal Plan does not require that local general plans, proposed projects, or zoning be consistent with the SCS, but provides incentives for consistency to governments and developers. The purpose of the 2024–2050 RTP/SCS is to achieve the regional per-capita GHG reduction targets for the passenger vehicle and light-duty truck sector established by CARB pursuant to SB 375. SCAG's Program EIR for the 2024–2050 RTP/SCS, certified on May 7, 2020, states that "[e]ach [metropolitan planning organization] is required to prepare an SCS as part of their RTP in order to meet these GHG emissions reduction targets by aligning transportation, land use, and housing strategies with respect to [Senate Bill] 375" (SCAG 2024). The 2024–2050 RTP/SCS seeks improved mobility and accessibility, which is defined as "the ability to reach desired destinations with relative ease and within a reasonable time, using reasonably available transportation choices" (SCAG 2024). The 2024–2050 RTP/SCS seeks to implement a strategy that "alleviates development pressure in sensitive resource areas by promoting compact, focused infill development in established communities with access to high-quality transportation" (SCAG 2024). Furthermore, the 2024–2050 RTP/SCS includes "more compact, infill, walkable and mixed-use development strategies to accommodate new region's growth" and "accommodate increases in population, households, employment, and travel demand" (SCAG 2024). Moreover, the 2024–2050 RTP/SCS states that while "[t]ransportation emissions are most prevalent relative

to all other sectors in California and specifically in the SCAG region," the RTP/SCS would focus "growth in existing urban regions and opportunity areas, where transit and infrastructure are already in place. Locating new growth near bikeways, greenways, and transit would increase active transportation options and the use of other transit modes, thereby reducing number of vehicle trips and trip lengths and associated emissions" (SCAG 2024).

As discussed in Table 5.8-1, *SCAG Connect SoCal Consistency Analysis*, of Section 5.8, *Land Use and Planning*, the proposed project would not conflict with the 2024-2050 RTP/SCS. In general, the proposed project would provide a new, high-quality, walkable mixed-use community with various compatible uses. The proposed project would encourage and support current and future transit use and other alternative forms of transportation. The proposed project would facilitate pedestrian connectivity within the project site and to the greater community and transit. Bike lanes, sidewalks, and improved intersection crossings would be included to maximize connectivity. Additionally, the proposed project would facilitate future development of a transit-oriented community that would increase access to and promote ridership of the local and regional transit system by locating new residential and commercial uses in the vicinity of a planned public transit facility. Therefore, the proposed project would not conflict with or interfere with SCAG's ability to implement the regional strategies in 2024-2050 RTP/SCS, and impacts would be less than significant.

Level of Significance Before Mitigation: *Less Than Significant.*

5.6.4 Cumulative Impacts

Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, Impact 5.6-1 is not a project-specific impact, but the Specific Plan's contribution to a cumulative impact. Implementation of the proposed project would result in annual emissions that would exceed South Coast AQMD's bright-line threshold. Therefore, project-related GHG emissions and their contribution to global climate change would be cumulatively considerable, and GHG emissions impacts would be potentially significant.

5.6.5 Level of Significance Before Mitigation

After implementation of regulatory requirements and standard conditions of approval, Impact 5.6-2 would be less than significant.

Without mitigation, Impact 5.6-1 would be **potentially significant**:

- **Impact 5.6-1** Operation of the proposed project would generate a cumulatively considerable increase in GHG emissions that would exceed the South Coast AQMD Working Group bright-line threshold.

5.6.6 Mitigation Measures

Impact 5.6-1

GHG-1 All new future development within the Artesia Downtown Specific Plan area shall implement the following provisions of the California Green Building Standards Code (CALGreen) as mandatory and not voluntary. The project applicant(s)/developer(s) shall provide documentation (e.g., building plans) of implementation of the applicable measures to the City of Artesia Building and Safety Department prior to the issuance of building permits.

Residential Structures with Three or Fewer Stories. For residential land uses with three or fewer stories, the project developer(s) shall:

- Design and build condominium/townhouses dwellings that have an attached private garage to have a dedicated electric circuit to support electric vehicle charging, as outlined in the Residential Voluntary Measures of CALGreen, Division A4.1, Planning and Design, as outlined under Section A4.106.8.1.
- Design and build residential buildings to, at a minimum, meet the Tier 2 electric vehicle parking standards of the Residential Voluntary Measures of CALGreen, Division A4.1, Planning and Design, as outlined under Section A4.106.8.2.1.
- Design and build residential buildings to meet the short- and long-term bicycle parking standards of the Residential Voluntary Measures of CALGreen, Division A4.1, Planning and Design, as outlined under Section A4.106.9.
- Design and build residential buildings to meet energy-efficiency requirements of the Residential Voluntary Measures of CALGreen, Division A4.2, Energy Efficiency, as outlined under Section A4.203.1.

Nonresidential Structures and Residential Structures with Four or More Stories. For nonresidential land uses and residential land uses that are four or more stories, the applicant/developer shall:

- Design and build structures to, at a minimum, meet the Tier 2 advanced energy efficiency requirements of the Nonresidential Voluntary Measures of CALGreen, Division A5.2, Energy Efficiency, as outlined under Section A5.203.1.2.2.
- For projects with off-street parking, design the proposed parking to provide parking for low-emitting, fuel-efficient, and carpool/van vehicles. At minimum, the number of preferential parking spaces shall equal the Tier 2 Nonresidential Voluntary Measures of CALGreen, Division A5.1, Planning and Design, Section A5.106.5.1.2.
- For projects with off-street parking, design the proposed parking to provide electric vehicle (EV) charging stations. At minimum, the number of EV charging stations shall

comply with the Tier 2 Nonresidential Voluntary Measures of CALGreen, Division A5.1, Planning and Design, Section A5.106.5.3.3 or Section A5.106.5.3.4.

GHG-2 For residential and nonresidential land use development projects, the project applicant/developer shall comply with the following:

- All major appliances (e.g., dishwashers, refrigerators, clothes washers and dryers, and water heaters) provided/installed shall be Energy Star certified or of equivalent energy efficiency where applicable.
- Installed water heaters shall meet a zero NO_X emissions standard.
- Installed central furnaces with a Rated Heat Input Capacity less than or equal to 2,000,000 British thermal units (Btu) per hour shall meet a zero NO_X emissions standard.
- Installed fireplaces shall be electric-powered only.

Prior to the issuance of the certificate of occupancy, the City of Artesia Building and Safety Department shall verify implementation of these requirements.

GHG-3 For nonresidential land use development projects, prior to issuance of the certificate of occupancy, the property owner shall provide documentation to the City of Artesia Building and Safety Department demonstrating enrollment in a 100 percent carbon-free electricity energy plan, such as Southern California Edison's Green Rate program, for proposed project building(s) when feasible. If a 100 percent carbon-free electricity plan is not available, the property owner shall enroll in an energy plan with the next highest carbon-free electricity until a 100 percent carbon-free electricity energy plan becomes available. Measures to achieve 100 percent carbon-free electricity use for the proposed project building(s) may include, but are not limited to, plans for 100 percent renewable electricity. If such carbon-free electricity energy plans are waitlisted, the property owner shall sign up for the waiting list until such time a plan is available.

Mitigation Measures T-1 and T-2 from Section 5.13, *Transportation*, apply and would contribute to reduce mobile-source GHG emissions of the proposed project.

T-1 At the time of project entitlement, the project developer shall ensure the implementation of California Air Pollution Control Officer's Association (CAPCOA) 2021 Handbook Transportation Demand Management (TDM) Program T-16.

- T-16. Unbundle Residential Parking Costs from Property Cost

According to the CAPCOA 2021 Handbook, "this measure will unbundle or separate a residential project's parking costs from property costs, requiring those who wish to purchase parking spaces do so at an additional cost. On the assumption that parking costs are passed to the vehicle owners/drivers utilizing the parking spaces, this measure results in decreased

vehicle ownership and, therefore, a reduction in VMT and GHG emissions." It is assumed that qualifying residential project within the Specific Plan area will comply with the provisions of California Civil Code Section 1947.1 resulting from Assembly Bill 1317 (2023, Carillo), which requires residential developments of 16 or more units located in Los Angeles County to unbundle parking from the cost of rent. A cost of $25.00 per month, or $300.00 per year, per leased parking space, is assumed for analysis purposes. No action is required by the City of Artesia to implement this measure, as project developers would be required to comply with all applicable State laws as the time of project entitlement.

T-2 At the time of project operation, the developer shall and City shall continue to enforce California Air Pollution Control Officer's Association (CAPCOA) 2021 Handbook Transportation Demand Management (TDM) Program T-24.

- T-24. Implement Market Price Public Parking (On-Street)

According to the CAPCOA 2021 Handbook, "this measure will price all on-street parking in a given community. Increasing the costs of parking increases the total coast of driving to a location, incentivizing shifts to other modes and thus decreasing total VMT to and from the priced areas." The City of Artesia currently provides priced on-street parking within the Specific Plan area, primarily along Pioneer Boulevard, 186th Street, and 187th Street. The City of Artesia should continue to implement the priced on-street parking which currently exists within the Specific Plan area.

5.6.7 Level of Significance After Mitigation

Impact 5.6-1

Implementation of Mitigation Measures GHG-1 through GHG-3 and T-1 and T-2 would contribute to reducing project-related GHG emissions to the extent feasible. For example, requirements for installation of EV charging units and infrastructure under Mitigation Measure GHG-1 would support and encourage the use of EVs. Requirements under Mitigation Measure GHG-2 would contribute to reducing energy demand and use of appliances that minimize the generation of GHG emissions from area sources and from the energy sector. As discussed in Section 5.13.7, *Level of Significance After Mitigation*, of this DEIR, Mitigation Measures T-1 and T-2 would contribute to reducing VMT, which would reduce mobile-source GHG emissions. As for GHG emissions from the solid waste sector, compliance with the diversion and organic waste recycling requirements under AB 939, AB 341, and AB 1826 in addition to compliance with the City's waste and recyclable collection and disposal requirements under Article 1, Garbage, Rubbish, of Title 6, Chapter 2, Solid Waste and Recycling, of the City's Municipal Code would minimize emissions from this sector for residential and nonresidential land uses to the extent feasible. However, due to the planned growth associated with the proposed project, it is anticipated that the proposed project could still exceed the South Coast AQMD bright-line GHG emissions threshold. Therefore, Impact 5.6-1 would remain significant and unavoidable.

5.6.8 References

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5.7 HYDROLOGY AND WATER QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts of the Artesia Downtown Specific Plan (proposed project) to hydrology and water quality conditions in the City of Artesia. Hydrology deals with the distribution and circulation of water, both on land and underground. Water quality deals with the quality of surface- and groundwater. Surface water includes lakes, rivers, streams, and creeks; groundwater is under the earth's surface.

During the scoping period for the DEIR, written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Summary of Scoping Comments Received* in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

5.7.1 Environmental Setting

5.7.1.1 REGULATORY BACKGROUND

Federal

Clean Water Act

The United States Environmental Protection Agency (USEPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) of 1972 is the primary federal law that governs and authorizes water quality control activities by the USEPA and the states (33 US Code Sections 1251 to 1376). Various elements of the CWA, which address water quality, are discussed herein.

Permits to dredge or fill waters of the United States are administered by the US Army Corps of Engineers (USACE) under Section 404 of the CWA. "Waters of the United States" are defined as territorial seas and traditional navigable waters, perennial and intermittent tributaries to those waters, lakes and ponds and impoundments of jurisdictional waters, and wetlands adjacent to jurisdictional waters. The regulatory branch of the USACE is responsible for implementing and enforcing Section 404 of the CWA and issuing permits. Any activity that discharges fill material and/or requires excavation in waters of the United States must obtain a Section 404 permit. Before issuing the permit, the USACE requires that an analysis be conducted to demonstrate that the proposed project is the least environmentally damaging practicable alternative. Also, the USACE is required to comply with the National Environmental Policy Act before it can issue an individual Section 404 permit.

Under Section 401 of the CWA, every applicant for a Section 404 permit that may result in a discharge to a water body must first obtain State water quality certification that the proposed activity will comply with State water quality standards. Certifications are issued in conjunction with USACE Section 404 permits for dredge and fill discharges. In addition, an application for individual water quality certification and/or waste discharge requirements must be submitted for any activity that would result in the placement of dredged or fill material in waters of the State that are not jurisdictional to the USACE, such as isolated wetlands, to ensure that the proposed activity complies with State water quality standards. In California, the authority to either grant water

quality certification or waive the requirement is delegated by the State Water Resources Control Board (SWRCB) to the nine Regional Water Quality Control Boards (RWQCBs).

Under federal law, the USEPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question and (2) criteria that protect the designated uses. Section 304(a) requires the USEPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use.

When water quality does not meet CWA standards and compromises designated beneficial uses of a receiving water body, Section 303(d) of the CWA requires that the water body be identified and listed as "impaired." Once a water body has been designated as impaired, a total maximum daily load (TMDL) must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a water body may receive without exceeding applicable water quality standards, with a factor of safety included. Once established, the TMDL allocates the loads among current and future pollutant sources to the water body.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States, including discharges from municipal separate storm sewer systems (MS4). Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. Requirements for stormwater discharges are also regulated under this program. In California, the NPDES permit program is administered by the SWRCB through the nine RWQCBs. The City lies within the jurisdiction of the Los Angeles RWQCB (Region 4).

State

Porter-Cologne Water Quality Control Act

Responsibility for the protection of water quality in California rests with the SWRCB and nine RWQCBs. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The RWQCBs develop and implement Water Quality Control Plans (Basin Plans) that consider regional beneficial uses, water quality

characteristics, and water quality problems. In cases where the Basin Plan does not contain a standard for a particular pollutant, other criteria are used to establish a standard. Other criteria may be applied from SWRCB documents (e.g., the Inland Surface Waters Plan and the Pollutant Policy Document, California Toxics Rule) or from USEPA water quality criteria developed under Section 304(a) of the CWA. Numeric criteria are required by the CWA for many priorities toxic pollutants. To fill in the gap between the water quality control plans and CWA requirements, on May 18, 2000, the USEPA promulgated the California Toxics Rule based on the Administrator's determination that numeric criteria are necessary in California to protect human health and the environment. These federal criteria are numeric water quality criteria for priority toxic pollutants and other provisions for water quality standards legally applicable in California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the CWA (USEPA 2012).

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) of 2014 was a comprehensive, three-bill package that provides a framework for the sustainable management of groundwater supplies by local authorities. SGMA requires the formation of local groundwater sustainability agencies (GSA) to assess local water basin conditions and adopt locally based groundwater sustainability plans (GSP). SGMA gives GSAs 20 years to implement plans, achieve long-term groundwater sustainability, and protect existing surface water and groundwater rights. SGMA also provides local GSAs with the authority to require registration of groundwater wells, measure and manage extractions, require reports and assess fees, and request revisions of basin boundaries, including establishing new subbasins. The Department of Water Resources (DWR) identifies the status of water basins by overdraft and priority levels (e.g., very low, low, medium, or high) (DWR 2024).

Regional

Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

The Los Angeles RWQCB's Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan:

- Designates beneficial uses for surface and ground waters.
- Sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's antidegradation policy.
- Describes implementation programs to protect all waters in the region.

In addition, the Basin Plan incorporates (by reference) all applicable SWRCB and RWQCB plans and policies and other pertinent water quality policies and regulations.

The Basin Plan is a resource for the RWQCB and others who use water and/or discharge wastewater in Region 4. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. Finally, the Basin Plan provides valuable information to the public about local water quality issues (LAWQCB 2014).

Los Angeles RWQCB (MS4) Permit for the Coastal Watershed of Los Angeles and Ventura Counties

On July 23, 2021, the Los Angeles RWQCB adopted a Regional Phase I MS4 Permit for discharges within the coastal watersheds of Los Angeles and Ventura Counties (Order No. R4-2021-0105, NPDES No. CAS004004). The permit establishes performance criteria for new development and redevelopment projects in the Coastal Zone, including low-impact development (LID). The permit also requires each regulated entity, including the City of Artesia, to participate in regional watershed working groups to identify regional projects to improve water quality in the local receiving waters (LARWQCB 2021).

The Los Angeles County Flood Control District and County of Los Angeles; 85 incorporated cities within the coastal watersheds of Los Angeles County, including Redondo Beach; Ventura County Watershed Protection District; County of Ventura; and 10 incorporated cities in Ventura County are subject to waste discharge requirements for MS4 discharges originating from within their jurisdiction.

Groundwater from Construction and Project Dewatering to Surface Waters

On June 6, 2013, the Los Angeles RWQCB adopted Order No. R4-2018-0215—Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties. The order covers discharges to surface waters from dewatering operations and other types of wastewaters, as deemed appropriate, and authorizes discharges of treated or untreated groundwater generated from dewatering operations, or other applicable wastewater discharges not specifically covered, or fill material that have received water quality certification pursuant to Section 401 of the CWA (LARWQCB 2018).

To be authorized to discharge, the discharger must submit a notice of intent. If the discharge is eligible, the Los Angeles RQWCB will notify the discharger that the discharge is authorized and prescribes an appropriate monitoring and reporting program. For new discharges, the discharge shall not commence until receipt of the Los Angeles RWQCB's written determination of eligibility or until an individual NPDES permit is issued.

Standard Urban Stormwater Mitigation Plan

The NPDES MS4 Permit defines the minimum required best management practices (BMPs) that must be adopted by the permittee municipalities and included by developers within plans for facility operations. To obtain coverage under this permit, a developer must obtain approval of a project-specific Standard Urban Stormwater Mitigation Plan (SUSMP) from the appropriate permittee municipality. A SUSMP addresses the discharge of pollutants within stormwater generated following new construction or redevelopment. Under recent regulations adopted by the Los Angles RWQCB, projects are required to implement a SUSMP during the operational life of a project to ensure that stormwater quantity and quality is addressed by incorporating BMPs into project design. This plan defines water quality design standards to ensure that stormwater runoff is managed for water quality concerns and to ensure that pollutants carried by stormwater are confined and not delivered to receiving waters. Applicants are required to abide by source control and treatment control BMPs from the list approved by the Los Angles RWQCB and included in the SUSMP. These measures include infiltration of stormwater as well as filtering runoff before it leaves a site. This can be accomplished

through various means, including the use of infiltration pits, flow-through planter boxes, hydrodynamic separators, and catch basin filters.

In combination, these treatment control BMPs must be sufficiently designed and constructed to treat or filter the first 0.75 inches of stormwater runoff from a 24-hour storm event, and post-development peak runoff rates and volumes cannot exceed peak runoff rates and volumes of pre-development conditions where the increased peak stormwater discharge rate will result in increased potential for downstream erosion (LARWQCB 2000). Permittees are required to adopt the requirements set forth herein in their own SUSMP. Additional BMPs may be required by ordinance or code adopted by the permittee and applied in a general way to all projects or on a case-by-case basis.

Los Angeles County Flood Control District Permits

The Los Angeles County Flood Control District (LACFCD) administers permits for any work, encroachment, or activity within or affecting the LACFCD right-of-way, facilities, interests, or jurisdiction. These include access permits for temporary uses of the LACFCD rights-of-way, construction permits for encroachment onto/or alteration of LACFCD right-of-way for new construction, connection permits for proposed connections to an existing LACFCD facility, and temporary discharge permits for the discharge of non-storm water into LACFCD facilities (LACFCD 2024).

Los Angeles County Department of Public Works Design Manuals

Hydraulic Design Manual

This manual establishes the Los Angeles County Department of Public Works' (LACDPW's) Hydraulic Design Procedures and was adopted in 1982. The manual contains hydrological design criteria for specific conditions including close conduits, open channels, and pump stations (LACDPW 1982).

Hydrology Manual

The LACDPW Hydrology Manual establishes county hydrologic design procedures and serves as a reference and training guide. The manual outlines county standards to be used when converting rainfall to runoff flow rates and volumes based on collected historic rainfall and runoff data specific to the County of Los Angeles. The standards set forth in this manual govern all hydrology calculations done under LACDPW jurisdiction. The hydrologic techniques in this manual apply to the design of local storm drains, retention and detention basins, pump stations, and major channel projects. The techniques also apply to storm drain deficiency and flood hazard evaluations (LACDPW 2006).

Low Impact Development Standards Manual

The County of Los Angeles prepared the 2013 Low Impact Development (LID) Standards Manual to comply with the requirements of the NPDES MS4 Permit. The LID Standards Manual provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-stormwater discharges (LACDPW 2014).

Los Angeles County Department of Public Works' Construction Site Best Management Practices Manual

The LACDPW prepared a Construction Site BMP Manual to assist contractors in the process of selection and implementation of construction site BMPs. The BMP Manual includes the LACDPW requirements for the implementation of construction site BMPs. As site conditions change or as deemed necessary, LACDPW may impose additional construction site BMPs for contractor activities. Additional BMPs may be included in the project's contract Special Provisions or may be required by the LACDPW Engineer.

The BMP manual does not permit the discharge of groundwater during dewatering activities to the sanitary sewer system, street/gutter, ground, or any other location, whether contaminated, treated, or not, until approved by the LACDPW Engineer. A construction dewatering plan in accordance with contract Special Provisions and NPDES Permit issued by the RWQCB, must be submitted to the Engineer for approval, prior to any dewatering discharge (LACDPW 2010).

Water Replenishment District of Southern California: Groundwater Basins Master Plan

The Water Replenishment District (WRD) of Southern California, in coordination with other basin stakeholders, developed the Groundwater Basins Master Plan. The intent of the plan is to provide a single reference document for parties operating within and maintaining the Coastal Plain of Los Angeles' West Coast and Central Basins. The plan is intended to help guide the stakeholders to develop and assess initial concepts for additional recharge and pumping from these basins to utilize the basins fully and reduce dependence on imported water. Furthermore, the plan identifies projects and programs to enhance basin replenishment, increase the reliability of groundwater resources, improve and protect groundwater quality, and ensure that the groundwater supplies are suitable for beneficial uses (WRD 2016).

Los Angeles RWQCB (MS4) Permit for the Coastal Watershed of Los Angeles and Ventura Counties

On July 23, 2021, the Los Angeles RWQCB adopted a Regional Phase I Municipal Separate Stormwater Sewer System (MS4) Permit for discharges in the coastal watersheds of Los Angeles and Ventura Counties (Order No. R4-2021-0105, NPDES No. CAS004004). The municipal discharges of stormwater and non-stormwater by the City of Artesia are subject to waste discharge requirements in this MS4 permit.

Lower San Gabriel River Watershed Management Program

The Lower San Gabriel River Watershed Management Program was developed to implement the Los Angeles RWQCB's NPDES requirements on a watershed scale. The program is a long-term planning document that takes a comprehensive look at the Lower San Gabriel River Watershed, including its land uses, MS4 system, existing and planned control measures (both structural and nonstructural), existing stormwater treatment systems, historical monitoring data, and the various segments of the San Gabriel River and its tributaries that have been identified as impaired by pollutants. Using that data, the Watershed Management Modeling System was used to generate a "reasonable assurance" analysis that predicts an optimal combination of structural treatment systems and construction timelines to achieve the goals of the MS4 Permit (John L. Hunter and Associates 2017).

Los Angeles County Low Impact Development Standards Manual

The County of Los Angeles prepared the 2013 Low Impact Development (LID) Standards Manual to comply with the requirements of the NPDES MS4 Permit. The LID Standards Manual provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-stormwater discharges.

Local

City of Artesia General Plan

Community Facilities and Infrastructure Element

- **Policy CFI 1.1.** Maintain facilities and infrastructure to serve diverse community needs.
- **Policy CFI 1.2.** Promote equitable distribution of community facilities and infrastructure.
- **Policy CFI 1.3.** Require new development to provide proportionate facilities and infrastructure improvements as the new development occurs.
- **Policy CFI 2.1.** Employ ongoing maintenance and upgrades to protect the City's long-term investment in community facilities.
- **Policy 3.1.** Promote green and sustainable practices and approaches in planning, design, construction, renovation and maintenance of public facilities.

Sustainability Element

- **Policy SUS 6.2.** Protect and enhance environmental and public health by reducing or eliminating the use of hazardous and toxic materials; minimizing pollutants entering the air, soil, and water; and lessening the risks which environmental problems pose to human health and prosperity.
- **Policy SUS 8.1.** Maximize water efficiency and the use of alternative sources of water in City operations.
- **Policy SUS 8.2.** Implement outreach and education programs that promote best practices in water conservation.

City of Artesia Municipal Code

Title 6, Sanitation and Health, Chapter 7, Storm Water Management and Discharge Control, sets forth standards that intend to reduce pollutants in stormwater discharges to the maximum extent possible, regulate illicit connections and illicit discharges, and regulate non-stormwater discharges into the municipal water system. This chapter also implements the Standard Urban Stormwater Mitigation Plan (SUSMP) and Low-Impact Development Requirements required under the Los Angeles County NPDES MS4 Permit.

5.7.1.2 EXISTING CONDITIONS

Groundwater

The City of Artesia is in the Coastal Plain of the Los Angeles Central Basin (Central Basin), and 31 percent of its potable water is groundwater from the adjudicated Central Basin Aquifer. The Central Basin covers approximately 270 square miles and is bounded on the north by the Hollywood Basin and the Elysian, Repetto, Merced, and Puente Hills Basins; to the east by the Los Angeles County/Orange County line; and to the south and west by the Newport Inglewood Uplift, a series of discontinuous faults and folds that form a prominent line of northwest-trending hills, including the Baldwin Hills, Dominguez Hills, and Signal Hill. Golden State Water Company (GSWC), which extracts groundwater from the Central Basin, provides water service to the Specific Plan area.

Water Quality

The Central Basin needs to be protected from seawater intrusion where the San Gabriel River meets the Pacific Ocean. The Alamitos Seawater Barrier was implemented to prevent ocean water from migrating underground into the Central Basin aquifers. The barrier is formed by injecting freshwater into the ground near where seawater is likely to enter the aquifers, creating a pressure ridge that blocks the seawater's migration. The water injected into the Alamitos Seawater Barrier is either potable water from the Metropolitan Water District, highly purified recycled water from the Water Replenishment District of Southern California's Leo J. Vander Lans Advanced Water Treatment Facility, or a combination of the two (GSWC 2021).

Recharge

Groundwater in the Central Basin is recharged via surface spreading at the Whittier Narrows Dam, Montebello Forebay Spreading Grounds, which consists of the Rio Hondo Spreading Grounds, the San Gabriel Coastal Spreading Grounds, infiltration in the unlined portions of the Lower San Gabriel River, and via direct injection at the Alamitos Barrier Project (WRD 2021). The Specific Plan Area is not within these active recharge sites.

Management

The Central Basin was adjudicated in 1965. The Adjudication has a total extraction limit of 217,367 acre-feet per year, which is divided among all the parties subject to the Adjudication. Three additional regional agencies work with the water producers to ensure that the total extraction limit is available to the groundwater users in the Central Basin. Specifically, the LACDPW, the Water Replenishment District of Southern California (WRDSC), and the Central Basin Municipal Water District (CBMWD) work collaboratively to support the Adjudication's objectives. LACDPW operates and maintains the Rio Hondo and San Gabriel spreading grounds in the Montebello Forebay. GSWC has a total Allowed Pumping Allocation (APA) of 16,439 acre-feet per year (afy) for all seven of its service areas subject to the Central Basin Adjudication. The GSWC Artesia service area has six active wells with a reasonable maximum extraction at 11,372 afy (GSWC 2021).

Hydrology

Regional Drainage

The Los Angeles RWQCB encompasses all coastal watersheds and drainages flowing to the Pacific Ocean between Rincon Point (on the coast of western Ventura County) and the eastern Los Angeles County line. In addition, the Los Angeles RWQCB includes all coastal waters within three miles of the continental and island coastlines.

Local Drainage

The Specific Plan area is within the Lower San Gabriel River Watershed, which encompasses approximately 78.5 square miles (50,240 acres) in Los Angeles County and has approximately 150 stream miles. The main reach through the watershed is the San Gabriel River; Coyote Creek and San Jose Creek are major tributaries. Within the watershed, the San Gabriel River consists of a concrete-lined channel spanning a width of 140 to 200 feet. Coyote Creek and San Jose Creek also have concrete channels at their confluence with the San Gabriel River. The Coyote Creek sub-watershed drains approximately 185 square miles to its confluence with the San Gabriel River. The San Jose Creek sub-watershed drains approximately 7.29 square miles to its confluence with the San Gabriel River (John L. Hunter and Associates 2017).

The Lower San Gabriel River watershed is predominantly served by storm drain systems that extend across 15 agency jurisdictions and connect drainage in urbanized areas with the main tributaries. Although most agencies are not directly adjacent to the San Gabriel River, their runoff ultimately reaches the river through its tributaries and connected storm drain systems (John L. Hunter and Associates 2017).

The Specific Plan area is fully developed by existing urban uses and contains existing storm drainage network owned and maintained by the Los Angeles County Flood Control District (LACFCD), as shown in Figure 8.2, *Existing Storm Drain Systems*, in the Specific Plan.

5.7.2 Thresholds of Significance

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project would normally have a significant effect on the environment if the project would:

HYD-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

HYD-2 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

HYD-3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in a substantial erosion or siltation on- or off-site.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

iv) Impede or redirect flood flows.

HYD-4 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

HYD-5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold HYD-1
- Threshold HYD-3 (i, iii, iv)
- Threshold HYD-4
- Threshold HYD-5

These impacts are addressed in the Initial Study (Appendix A), and can also be found in Chapter 8, *Impacts Found Not to Be Significant*, of this DEIR.

5.7.3 Environmental Impacts

5.7.3.1 METHODOLOGY

The analysis presented in this section relies on the water demand calculations generated by PlaceWorks and GSWC's Urban Water Management Plan (UWMP) for the Artesia service area to determine the impacts of groundwater recharge and sustainable groundwater management from the proposed project. The analysis of surface runoff impacts includes a discussion of applicable regulations that projects under the proposed Specific Plan would be required to comply with to reduce these impacts to less than significant.

5.7.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

The goals and objectives of the proposed Specific Plan do not specifically address hydrology and water quality; however, Chapter 8, *Infrastructure*, of the proposed Specific Plan includes a discussion of the Specific Plan area's stormwater drainage system.

5.7.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.7-1: The proposed project would not decrease groundwater supplies nor substantially interfere with groundwater recharge that would impede the sustainable management of the Central Basin. [Threshold HYD-2]

Artesia receives water service from the GSWC, which owns and operates the Artesia System. Water supply for the Artesia System is obtained from local groundwater, recycled water, and imported water and is expected to supply water through 2045. Groundwater in the Artesia System is supplied by six active wells in the Central Basin of the Coastal Plain of Los Angeles. In 2020, the GSWC Artesia service area used 4,253 afy of groundwater; however, the Artesia service area has a reasonable maximum extraction for 11,372 afy and all service areas under GSWC in the Central Basin have an APA of 16,439 afy (GSWC 2021). The Central Basin is adjudicated and is not considered a high- and medium-priority groundwater by the DWR and therefore does not require implementation of a GSP. Additionally, the adjudication of groundwater from the Central Basin ensures that excess production is restricted to emergencies. Individual development projects under the proposed project would not utilize site-specific wells for groundwater supply.

GSWC Artesia's 2020 UWMP estimates that from 2020 to 2045, water supply will increase from 5,109 to 5,284 afy during a normal year. GSWC Artesia also anticipates that it would be able to meet project water demands, in addition to its current and projected demands for the service area, with projected supplies from 2020 to 2045 during normal years, single-dry years, and multiple-dry years (GSWC 2021). As described in detail in DEIR Section 5.15, *Utilities and Service Systems*, development under the proposed project would result in a net increase in demand for water by 474.8 afy. However, GSWC supplies are available to serve several neighboring GSWC service areas, including the Artesia service area, and GSWC manages and moves its water supplies depending on the needs in a particular GSWC service area. GSWC has a total supply pool of 23,639 afy available for use by GSWC Artesia and the neighboring GSWC service areas and GSWC Artesia has the capability of obtaining additional water supplies from GSWC's pool if the need arises (Norwalk 2022).

While the proposed project is anticipated to increase water demand by 474.8 afy by 2045, GSWC would have available water supplies to serve this buildout. Additionally, because the Specific Plan area is built-out, any proposed development would occur in areas that would not further interfere with groundwater recharge. Overall, impacts to groundwater recharge and supply would be less than significant.

Level of Significance Before Mitigation: Less than significant.

Impact 5.7-2: The proposed project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. [Threshold HYD-3(ii)]

The Specific Plan area is fully developed with urban uses that contain primarily impervious surfaces. The proposed project envisions the redevelopment of existing uses in the Specific Plan area that could result in the addition of new impervious surfaces (i.e., roads, parking lots, buildings). These new impervious surfaces could potentially reduce the amount of rainfall that can infiltrate into the subsurface. Increase in runoff could amplify drainage volumes and velocities, causing storm drainage facilities that are at or near capacity to fail during peak events. Excess runoff could potentially result in localized ponding and/or flooding.

Per the requirements of the regional Los Angeles RWQCB MS4 Permit, regulated projects in Artesia are required to implement BMPs to effectively minimize imperviousness, retain or detain stormwater on-site, decrease surface water flows, and slow runoff rates. The LACDPW details these requirements for development that would connect to LACFCD systems in the Los Angeles County Hydrology Manual and the Los Angeles County Hydraulic Design Manual. Development under the proposed project would be required to have site-specific hydrology and hydraulic studies to determine the capacity of the existing storm drain systems and project impacts on such systems prior to approval by the LACDPW. Individual projects would be required to comply with site-specific "allowable discharge rates," by implementing LID BMPs, as identified by the LACDPW that limit post-project peak-flow discharges compared to existing conditions, thus minimizing the potential for flooding on- or off-site and exceedance of the capacity of the existing LACFCD stormwater drainage system in the Specific Plan area. Additionally, Chapter 14 of the 2006 Los Angeles County Department of Public Works Hydrology Manual includes procedures for requesting Q-allowable, or the maximum stormwater discharges that would be allowed from the proposed development associated with any proposed storm drain connections. Project developers would also be required to submit the hydrology and hydraulic studies to the LACDPW for review and approval prior to the issuance of grading permits. Therefore, potential future development under the proposed project would not result in flooding on- or off-site, and impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant.

5.7.4 Cumulative Impacts

Groundwater

The geographic area for cumulative impacts to groundwater supply is the Central Basin of the Coastal Plain of Los Angeles. The proposed project would not result in impacts to the groundwater supply. The water suppliers that use these groundwater supplies are subject to the APA of the Central Basin adjudication, ensuring that groundwater from the Central Basin is managed sustainably. Therefore, the proposed project would not result in cumulative impacts to groundwater and impacts would be less than significant.

Surface Runoff

Cumulative projects in the Lower San Gabriel River watershed management area could increase impervious areas and thus increase local runoff rates at those project sites. However, other projects in the region would be required to manage runoff on-site as applicable in accordance with the Los Angeles County MS4 permit. Projects in the region would also be required to limit post-development runoff discharges per the requirements of the LACDPW, as detailed in the Los Angeles County Hydrology Manual and the Los Angeles County Hydraulic Design Manual. Compliance with these countywide requirements would ensure that impacts are not cumulatively considerable. Therefore, cumulative impacts would be less than significant.

5.7.5 Level of Significance Before Mitigation

After implementation of regulatory requirements and standard conditions of approval, Impacts 5.7-1 and 5.7-2 would be less than significant.

5.7.6 Mitigation Measures

No mitigation measures are required.

5.7.7 Level of Significance After Mitigation

All impacts would be less than significant.

5.7.8 References

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5.8 LAND USE AND PLANNING

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts to land use in the City of Artesia from implementation of the proposed Artesia Downtown Specific Plan (proposed project).

Land use impacts can be either direct or indirect. Direct impacts are those that result in land use incompatibilities, division of neighborhoods or communities, or interference with other land use plans adopted for the purpose of reducing environmental effects, including habitat for wildlife conservation plans. This section focuses on direct land use impacts. Indirect impacts are secondary effects resulting from land use policy implementation, such as an increase in demand for public utilities or services, or increased traffic on roadways. Indirect impacts are addressed in other sections of this DEIR.

During the scoping period for the Draft Environmental Impact Report (DEIR), written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Notice of Preparation and Comment Letters Summary*, in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

5.8.1 Environmental Setting

5.8.1.1 REGULATORY BACKGROUND

State

California Government Code

California Government Code Chapter 18.39 (Specific Plans) provides authority for a city/county to adopt a specific plan by ordinance (as a regulatory plan) or resolution (as a policy). When a specific plan is adopted by ordinance, the specific plan effectively replaces a portion or all the current zoning regulations for specified parcels. It becomes an independent set of zoning regulations that provide clear direction to the type and intensity of uses permitted or define other types of design and permitting criteria.

Regional

Southern California Association of Governments

SCAG is a council of governments representing Imperial, Los Angeles, Orange, San Bernardino, and Ventura counites. SCAG is the federally recognized metropolitan planning organization for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. SCAG cooperates with the South Coast Air Quality Management District, the California Department of Transportation, and other agencies in preparing regional planning documents. SCAG has developed regional plans to achieve specific regional objectives. The plans most applicable to the proposed project are discussed below.

2024-2050 Regional Transportation Plan/Sustainable Communities Strategy

Every four years, the Southern California region has the opportunity to readjust its vision for the future, assess challenges, and rearticulate goals. On April 4, 2024, SCAG's Regional Council approved and fully adopted Connect SoCal, the 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy (SCAG 2024). Connect SoCal 2024 remains focused on its core responsibilities and on the requirements of comprehensive regional transportation planning integrated with the development of a Sustainable Communities Strategy. It also encompasses a holistic approach to programs and strategies that support the Regional Transportation Plan and Sustainable Communities Strategy, such as a workforce development, broadband, and mobility hubs. Connect SoCal is a long-term plan for the Southern California region that details investment in the transportation system and development in communities to meet the needs of the region both today and tomorrow. The horizon year for Connect SoCal is 2050. SCAG's vision for Southern California in the year 2050 is a healthy, prosperous, accessible, and connected region for a more resilient and equitable future. Connect SoCal identifies various goals in four categories: economy, mobility, environment, and healthy/complete communities. Regionally significant projects[1] are required to be evaluated for consistency with the Connect SoCal goals. The proposed project would be regionally significant and thus is evaluated for consistency with the goals of Connect SoCal (refer to Table 5.8-1, *SCAG Connect SoCal Consistency Analysis*).

South Coast Air Quality Management Plan

The South Coast Air Quality Management District is the regulatory agency responsible for improving air quality for large areas of Los Angeles, Orange, Riverside, and San Bernardino counties, including the Coachella Valley. The South Coast Air Quality Management Plan (AQMP) to accomplish an annual reduction in emissions. The primary purpose of the 2022 AQMP is to identify, develop, and implement strategies and control measures to meet the 2015 8-hour ozone National Ambient Air Quality Standards as expeditiously as possible; but no later than the statutory attainment deadline of August 3, 2038. Refer to Section 5.2, *Air Quality*, of this DEIR for an evaluation of the project's consistency with the AQMP.

Local

City of Artesia General Plan

The General Plan is intended to guide the City's growth and development through 2030. The document provides goals and policies to assist the City in achieving its economic and community development objectives. The General Plan comprises the following elements and sub-elements.

- Community Development and Design Element: Land Use, Housing, Circulation and Mobility, Community, Facilities and Infrastructure
- Community Resources and Wellness Element: Air Quality and Climate Change, Open Space and Conservation, Community Safety, Noise

[1] A project is deemed regionally significant if it meets this criteria: "[1] A proposed local general plan, element, or amendment thereof for which an EIR was prepared…" (State CEQA Guidelines Section 15206[b][1]).

- Community Culture and Economy Element: Cultural and Historic Resources, Economic Development
- Sustainability Element

The General Plan goals and policies applicable to the proposed project are identified in Table 5.8-2, *General Plan Consistency Analysis*.

Land Use Sub-element

The Land Use Sub-element provides a plan to guide the physical development of the City in an orderly, functional, and compatible manner. As required by Government Code Section 65302(a), the Land Use Element organizes and defines land uses according to permitted intensity of physical development and types of uses appropriate on a given property over the General Plan's 30-year time period. The land use map assigns a land use classification to each property in the city. Each land use classification, or designation, is defined in terms of permissible uses and intensity of physical development. The use and intensity classifications are the basis for permitted uses. Together, the land use plan and land use map establish the desired pattern of development for the city.

General Plan Exhibit LU-3, *General Plan 2030 Land Use*, depicts the general patterns and relationship of the City's various land uses. As depicted on General Plan Exhibit LU-3 (see Figure 3-5 in Chapter 3, *Project Description*), the project site is designated as City Center Mixed-Use and South Street Gateway Commercial. The City Center Mixed-Use designation encourages the development and redevelopment of a complementary mix of commercial retail, office, and residential uses to expand economic vibrancy and livability in the city's core commercial area. The City Center Mixed-Use designation is intended to serve as the city's core. The South Street Gateway Commercial designation provides for the enhancement of retail and service uses along the South Street corridor. The South Street Gateway Commercial area is envisioned as a commercial node that enhances functional connectivity with the City Center Mixed Use area. (Artesia 2010)

General Plan Table LU-3, *2030 General Plan Land Use Summary*, summarizes the intensity/density standards for the City's land use designations. As indicated in Table LU-3, approximately 59.65 acres are designated as City Center Mixed Use and 43.93 acres are designated as South Street Gateway Commercial. Additionally, approximately 474 acres are designated for residential land uses (approximately 414 acres of Low Density Residential and approximately 60 acres of High Density Residential). (Artesia 2010)

City of Artesia Municipal Code

The City of Artesia Municipal Code (AMC) consists of all the regulatory, penal, and administrative law of general application of the City. The AMC standards relevant to the proposed project are listed below.

AMC Title 9, Chapter 2, Zoning. The "Zoning Law of the City of Artesia" is in AMC Title 9, Chapter 2, which encourages and regulates development standards to encourage the most appropriate use of land and to promote the public health, safety, and general welfare. AMC Chapter 2 establishes the City's 13 zones, and their designations, locations, and boundaries are depicted on the "Official Zoning Map of the City of Artesia, as amended." As shown on the Official Zoning Map, the project site is zoned Commercial General, Multi-Family

Residential, Light Manufacturing/Industrial, Commercial Planned Development, and South Street Specific Plan.

AMC Title 9, Chapter 2, Article 34.5, Specific Plan Zones (SP). Article 34.5 establishes Specific Plan Zones and the procedures for consideration of specific plans as authorized by Government Code Section 65450 et seq. and other applicable provisions of law. It also describes the relationship between an adopted specific plan and other provisions of AMC Title 9.

5.8.1.2 EXISTING CONDITIONS

Regional Setting

The approximately 70.8-acre project site is in the City of Artesia, which encompasses 1.6 square miles in southeast Los Angeles County. Artesia is approximately 19 miles southeast of the city of Los Angeles and 10 miles northeast of Long Beach. It is bordered by Norwalk to the north and Cerritos to the south, east, and west. Regional access is provided via the Artesia Freeway (SR-91) and the San Gabriel River Freeway (I-605). Local access is provided via Pioneer Boulevard, Artesia Boulevard, 183rd Street, and South Street.

Local Setting

Artesia is a suburban jurisdiction with a mix of residential densities, although low-density residential uses predominate. The city also contains a mix of retail commercial, office, and industrial uses. The existing population is approximately 16,093 people with a housing stock of 4,771 dwelling units, mostly consisting of single-family detached units (approximately 71 percent or 3,406 units) (DOF 2023).

As shown on Figure 3-3, *Aerial Photograph*, the project site is fully built up and consists primarily of one- and two-story commercial uses and multifamily residential properties. The southern portion of the project site is anchored by a shopping center and La Belle Chateau Estates Mobile Home Park, which is bordered by South Street to the north, the City of Cerritos to the west and south, and Pioneer Boulevard to the east. The northern portion of the project is anchored by a shopping center to the north and south of 183rd Street, to the east of Arline Avenue, and west of Alburtis Avenue. The north and south ends of the project site are connected by the Pioneer Boulevard corridor, which includes one- and two-story retail and office uses. Multifamily residential, mixed-use residential, commercial, general office, and industrial uses are on various parcels throughout the entire project site to the east and west of Pioneer Boulevard. Limited vacant parcels exist within the project site south of 188th Street. The Southeast Gateway Line bisects the project site.

Surrounding Uses

As shown on Figure 3-3, *Aerial Photograph*, and similar to the project site, existing land uses surrounding the project site primarily include one- and two-story multifamily and single-family residences. The multifamily residential buildings within the east and west areas of the project site create a transition to the single-family homes just outside the project site—beyond Alburtis Street to the west and Arline Avenue to the east.

Parcels to the east and west of the project site are zoned Multi-Family Residential and Single Family Residential. Parcels directly to the west of the project site are designated as High Density Residential north of 185th Street

and Low Density Residential south of 185th Street. Parcels north of the project site are classified as Pioneer Specific Plan, Multi-Family Residential, and Service and Professional and Commercial General. Parcels south of the project site are in the city of Cerritos and include Single Family Residential: minimum lot size 5,000 square feet (RS-5000) and Single Family Residential: minimum lot size 6,500 square feet) (RS-6500) to the east and west of Pioneer Boulevard, as well as Community Commercial (CC), Industrial Commercial (MC), and Open Space (OS) according to the City of Cerritos Zoning Map. (Cerritos 2020)

Parcels directly to the east of the project site are designated as High Density Residential between Ashworth Street in the north to 187th Street to the south, followed by Low Density Residential east of Clarkdale Street. Parcels south of the project site in Cerritos are designated as Low Density Residential (2 to 5.5 units per acre), Community Commercial, Industrial/Commercial, and Public and Quasi Public (Cerritos 2010b).

5.8.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

LU-1 Physically divide an established community.

LU-2 Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The Initial Study, included as Appendix A, substantiates that no impacts would occur associated with the following threshold:

- Threshold LU-1 (Impact 5.8-1)

5.8.3 Environmental Impacts

5.8.3.1 METHODOLOGY

The evaluation of impacts related to land use and planning is based on a review of existing policies, plans, and regulations that guide development and growth in the city. Information obtained from these sources was reviewed and summarized to describe existing conditions and identify environmental effects based on the proposed project's consistency with the regulatory background in this section. In determining the level of significance, the analysis assumes that future projects facilitated by the proposed project would comply with relevant federal, State, and local laws, ordinances, and regulations.

5.8.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

Goal 1: Connect the community to housing, jobs, and recreation.

- New housing opportunities for all household sizes, types, and income levels.
- A place for community gathering, socializing, and rest.

- Maintenance of existing local businesses, restaurants, and shopping.
- Facilitation of housing near retail and shopping.

5.8.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable threshold is identified in brackets after the impact statement.

Impact 5.8-2: The project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. [Threshold LU-2]

Connect SoCal Consistency

SCAG reviews environmental documents for regionally significant projects for their consistency with the adopted Connect SoCal. Based on CEQA Guidelines Section 15206, *Projects of Statewide, Regional, or Areawide Significance*, the proposed project is considered regionally significant.

The Connect SoCal performance goals were adopted to help focus future investments on the best-performing project and strategies to preserve, maintain, and optimize the performance of the existing transportation system. The proposed project's consistency with SCAG's goals is presented in Table 5.8-1, *SCAG Connect SoCal Consistency Analysis*.

Table 5.8-1 SCAG Connect SoCal Consistency Analysis

Connect SoCal Goals	Project Consistency Analysis
Mobility: Build and maintain an integrated multimodal transportation network.	
Support investments that are well-maintained and operated, coordinated, resilient and result in improved safety, improved air quality and minimized greenhouse gas emissions.	Consistent. No specific development projects are proposed at this time. The proposed project would provide a new, high-quality, walkable mixed-use community with various compatible uses. The proposed project would encourage alternative modes of transportation, including the future Pioneer Boulevard Light Rail Station. The mixed-use nature of the proposed project would reduce greenhouse gas emissions and thereby improve air quality due to people being able to use alternative modes of transportation. As discussed in Section 5.13, *Transportation*, of this DEIR, the proposed project would result in less than significant impacts to hazards due to geometric design and incompatible uses for emergency access. Therefore, the proposed project would not conflict with this goal.
Ensure that reliable, accessible, affordable and appealing travel options are readily available, while striving to enhance equity in the offerings in high-need communities.	Consistent. The proposed project would facilitate future transit-oriented development that would result in compact, walkable, high-density mixed-use residential and commercial areas within 0.25 to 0.50 miles of a planned transit station (Southeast Gateway Line). The proposed project would incorporate features that would encourage transit use. Therefore, the proposed project would not conflict with this goal.
Support planning for people of all ages, abilities and backgrounds.	Consistent. The proposed project would facilitate future mixed-use development consisting of 1,981 multifamily residential units and 502,919 square feet of nonresidential uses in the downtown area. The proposed project, combined with the total existing development that would remain on the project site, would result in a total of 2,276 housing units (net difference 1,962 units) and 1,052,850 square feet of nonresidential land use (net difference 78,901 square feet). The proposed project would facilitate pedestrian and bicycle connectivity within the project site and to the greater community and transit, such as the future Southeast Gateway Line.

Table 5.8-1 SCAG Connect SoCal Consistency Analysis

Connect SoCal Goals	Project Consistency Analysis
Communities: Develop, connect and sustain livable and thriving communities.	
Create human-centered communities in urban, suburban and rural settings to increase mobility options and reduce travel distances.	Consistent. The proposed project is in the downtown area. The proposed project would encourage and support current and future transit use and other alternative forms of transportation. The proposed project would facilitate pedestrian connectivity within the project site and to the greater community and transit. Bike lanes, sidewalks, and improved intersection crossings would be included to maximize connectivity. Therefore, the proposed project would not conflict with this goal.
Produce and preserve diverse housing types in an effort to improve affordability, accessibility and opportunities for all households.	Consistent. The proposed project would facilitate the development of 1,981 multifamily housing units with a mix of unit types and provide clear incentives for the development of affordable housing. The proposed project, combined with total existing development to remain would result in 2,276 units (net difference of 1,962 units). Therefore, the proposed project would not conflict with this goal.
Environment: Create a healthy region for the people of today and tomorrow.	
Develop communities that are resilient and can mitigate, adapt to and respond to chronic and acute stresses and disruptions, such as climate change.	Consistent. The proposed project would dictate the scale and future development growth in the city's downtown district, enhance pedestrian and bicyclist experience, and curate community gathering spaces. The mixed-use nature of the proposed project would reduce greenhouse gas emissions and thereby improve air quality due to people being able to use alternative modes of transportation. The proposed Downtown South district is envisioned to include neighborhood parks for residents and visitors. Therefore, the proposed project would not conflict with this goal.
Integrate the region's development pattern and transportation network to improve air quality, reduce greenhouse gas emission and enable more sustainable use of energy and water.	Not Applicable. This goals addresses climate change and the regional development pattern and transportation network that is beyond the proposed project's scope. However, the proposed project is the result of the extension of the Los Angeles County Metropolitan Transit Authority (Metro) system and the future Pioneer Boulevard Light Rail Station. Therefore, this goal is not applicable to the proposed project.
Conserve the region's resources.	Not Applicable. There are no natural lands, agricultural lands, or critical habitats in the project site. As discussed in Chapter 8.0, *Impacts Determined to Be Less Than Significant*, of this DEIR, implementation of the proposed project would not result in significant impacts on biological resources or agricultural resources Therefore, this goal is not applicable to the proposed project.
Economy: Support a sustainable, efficient and productive regional economic environment that provides opportunities for all people in the region.	
Improve access to jobs and educational resources.	Consistent. The project would facilitate future development of a transit-oriented community that would increase access to and promote ridership of the local and regional transit system by locating new residential and commercial uses in the vicinity of a planned public transit facility. The proposed project would incorporate features to encourage transit uses. The proposed nonresidential uses would consist of commercial retail uses that would contribute to the City's economic base. The mixed-use nature of the proposed project and its proximity to the future Southeast Gateway Line would improve access to jobs. Therefore, the proposed project would not conflict with this goal.
Advance a resilient and efficient goods movement system that supports the economic vitality of the region, attainment of clean air and quality of life for our communities.	Consistent. The proposed project would encourage and support current and future transit use and other alternative forms of transportation. The proposed project would facilitate pedestrian and bicycle connectivity within the project site and to the greater community, and transit (Southeast Gateway Line), sidewalks, and improved intersection crossings would be included to maximize connectivity. Additionally, the mixed-use nature of the proposed project would reduce greenhouse gas emissions and thereby improve air quality due to people being able to use alternative modes of transportation. Therefore, the proposed project would not conflict with this goal.

As indicated in Table 5.8-1, the proposed project would be consistent with SCAG's regional planning efforts and a less than significant impact would occur.

General Plan Consistency

The proposed project would serve as an implementation tool of the General Plan. To ensure the land use designation for the project site is consistent with the General Plan, a general plan amendment is required. The proposed general plan amendment would revise the existing land use designation of the project site from City Center Mixed-Use and South Street Gateway Commercial to Artesia Downtown Specific Plan. Table 5.8-2, *General Plan Consistency*, provides an analysis of the proposed project's consistency with relevant general plan policies adopted for the purpose of avoiding or mitigating an environmental effect.

Table 5.8-2 General Plan Consistency Analysis

Applicable General Plan Policies	Project Consistency Analysis
Community Development and Design Element – Land Use Sub-element	
Community Policy LU-1.1. Identify appropriate locations for residential and non-residential development to accommodate growth through the year 2030 on the General Plan Land Use Diagram. Community Policy LU 1.2. Encourage a wide variety of retail and commercial services in appropriate locations.	Consistent. The proposed project is an implementation tool of the City's General Plan. The project site is currently developed with commercial uses, multifamily residences, light industrial uses, and single-family residences. No specific development projects are proposed at this time; however, 53 parcels have been identified for redevelopment for high-density mixed-use development. Future projects developed in accordance with the proposed project would result in the construction of residential and nonresidential (mixed use and commercial) land uses. Therefore, the proposed project would not conflict with these policies.
Community Policy LU 1.3. Encourage active and inviting pedestrian-friendly street environments that include a variety of uses within commercial and mixed-use areas.	Consistent. The purpose of the proposed project is to dictate the scale of future development growth, which includes mixed uses, in the city's downtown district, enhance pedestrian and bicyclist experience, and create community gathering spaces. The proposed project would facilitate new transit-oriented development in anticipation of the construction of the Southeast Gateway Line by Metro with a planned station at Pioneer Boulevard. The proposed project includes design standards that would promote pedestrian-friendly street environments. Therefore, the proposed project would not conflict with this policy.
Community Policy LU 1.4. Ensure mixed-use developments are integrated with surrounding uses to become part of the neighborhood by utilizing cohesive architecture, lively streetscape , interesting urban spaces and attractive landscaping.	Consistent. The proposed project identifies permitted uses and development standards that are intended to integrate future development within the project site with the surrounding community. Additionally, the proposed project includes complementary designs and uses that are compatible with existing surrounding neighborhoods by continuing active ground-level retail. The proposed project also identifies landscaping standards that conform to the City's Urban Forestry Manual to ensure attractive and cohesive landscaping. Therefore, the proposed project would not conflict with this policy.
Community Policy LU 2.1. Protect residential areas from the effects of potentially incompatible uses.	Consistent. The proposed project would adhere to all required City standards for circulation, noise, setbacks, buffer areas, landscaping, and architecture to ensure compatibility between different uses. Therefore, the proposed project would not conflict with this policy.

Table 5.8-2 General Plan Consistency Analysis

Applicable General Plan Policies	Project Consistency Analysis
Community Policy LU 2.3. Prohibit uses that lead to deterioration of residential neighborhoods, or adversely impact the safety or the residential character of a neighborhood.	Consistent. The proposed project has identified 53 parcels eligible for redevelopment for mixed uses consisting of high density residential and commercial retail. The proposed project identifies development standards that would enhance the surrounding neighborhood and would not lead to deterioration of surrounding uses, including single-family residences, or adversely impact the safety of residential character of a neighborhood. Therefore, the proposed project would not conflict with this policy.
Community Policy LU 2.4. Ensure that the distinct character of Artesia's neighborhoods are preserved and reflected in all new development and redevelopment projects.	Consistent. The proposed project would provide a high-quality, varied, and modern architectural and landscape design that is compatible with its surrounding context and utilizes the project site's unique characteristics. The proposed project would ensure that the distinct character of Artesia's neighborhoods would be preserved and reflected within the project site. Therefore, the proposed project would not conflict with this policy.
Community Policy 3.1. Encourage a mix of retail shops and services along the commercial corridors and in centers that better meet the needs of the area's present and future customers.	Consistent. The proposed project would allow for mixed uses consisting of high density residential and commercial retail. The proposed project aims to facilitate mixed-use developments that enhance the city's position as a gateway between Los Angeles and Orange counties. Additionally, the proposed project would encourage new opportunities for jobs, housing, recreation, entertainment, and retail as the city prepares for the Southeast Gateway Line. The project's proposed uses would better meet the needs for the area's present and future customers and residents than the existing uses. Therefore, the proposed project would not conflict with this policy.
Housing Sub-element	
Policy HE 1.3. Encourage mixed-use (residential/commercial) development on existing commercial zoned land.	Consistent. The project site is currently zoned Commercial General, Multi-Family Residential, Light Manufacturing/Industrial, Commercial Planned Development, and South Street Specific Plan. The proposed project would include a zone change to change the project site's existing zoning to Specific Plan. The proposed project would permit infill development of mixed uses comprising of high density residential and commercial retail. Therefore, the proposed project would not conflict with this policy.
Policy HE 1.5. Encourage energy conservation in new residential development and rehabilitation or remodeling of existing housing units.	Consistent. No specific development projects are proposed. Future development constructed in accordance with the proposed project would be required to comply with the adopted Energy Code Building Efficiency Standards in effect at the time of construction. Therefore, the proposed project would not conflict with this policy.
Policy HE 3.1. Identify properties within the City that are suitable for housing development.	Consistent. The proposed project has identified 53 parcels within the project site that are suitable for future redevelopment for high-density mixed uses. The proposed project would include 1,981 dwelling units. Therefore, the proposed project would not conflict with this policy.

Table 5.8-2 General Plan Consistency Analysis

Applicable General Plan Policies	Project Consistency Analysis
Circulation and Mobility Sub-element	
Community Policy CIR 3.1. Create disincentives for traffic traveling through neighborhoods, where feasible.	Consistent. Future projects facilitated by the proposed project would undergo the City's review process to identify potential traffic intrusion impacts. Should potential traffic intrusion impacts be identified, future projects would be required to implement access and traffic management plans that may include strategies such as turn restrictions, diverters, and entrance treatments. Therefore the proposed project would not conflict with this policy.
Community Policy CIR 4.1. Promote a balance of residential, commercial, institutional and recreational uses with adjacencies that reduce vehicle miles traveled. Community Policy CIR 4.2. Encourage practices which reduce dependency on single-occupant vehicle trips. Community Policy CIR 5.1. Promote the use of public transit.	Consistent. The proposed project would permit infill mixed-use development consisting of high-density residential and commercial retail. The purpose of the proposed project is to facilitate new, infill, transit-oriented development and create incentives for new investment in the city's downtown district. The proposed project would encourage new opportunities for jobs, housing, recreation, entertainment, and retail as the city prepares for the Metro extension. The proposed project would encourage alternative modes of transportation. Therefore, the proposed project would not conflict with these policies.
Community Policy CIR 5.3. Provide for safe pedestrian access throughout the City.	Consistent. The proposed project identifies development standards for streets and rights-of-way that would encourage a more walkable environment. Therefore, the proposed would not conflict with this policy.
Community Development and Design Element – Community Facilities and Infrastructure Sub-element	
Community Policy CFI 1.3. Require new development to provide proportionate facilities and infrastructure improvements as the new development occurs	Consistent. No specific development projects are proposed at this time. Required improvements associated with the implementation of the proposed project would be required to be completed as development occurs, and the Project Applicant would be required to pay applicable improvement securities that would be held by the City until the improvement is constructed Therefore, the proposed project would not conflict with this policy.
Community Resources and Wellness Element – Air Quality and Climate Change Sub-element	
Community Policy AQ 1.3. Strive to reduce particulate emissions from paved and unpaved roads, parking lots, and building construction	Consistent. No specific development projects are proposed at this time. Future implementing projects would be required to comply with South Coast Air Quality Management District Rule 403, Fugitive Dust Control Measures, that requires dust to be controlled from building demolition, grading, and construction activities. Therefore, the proposed project would not conflict with this policy.
Community Policy 2.1. Encourage and, where feasible, mandate the implementation of best practices towards reducing greenhouse gas emissions.	Consistent. No specific development projects are proposed at this time. The proposed project would encourage alternative transportation (such as transit with the future Pioneer Boulevard Light Rail Station as well as bicycle and walking) that would reduce greenhouse gas emissions. Additionally, the project's facilitation of future infill mixed-uses would be closer to the local workforce and provide commercial uses in an infill urbanized environment that could reduce VMT. The proximity for future housing units to commercial uses within the project site and surrounding area would reduce VMT by supporting and encouraging alternative modes of traveling throughout the city. Therefore, the proposed project would not conflict with this policy.

Table 5.8-2 General Plan Consistency Analysis

Applicable General Plan Policies	Project Consistency Analysis
Community Policy 2.2. Promote a balance of residential, commercial, institutional and recreational uses with adjacencies that reduce vehicle miles traveled.	**Consistent.** The project's proposed facilitation of future infill mixed-uses would allow for high density residential and commercial retail. The proposed project aims to create an infill mixed use development that would enhance the city's position as a gateway between Los Angeles and Orange counties. The proposed project would encourage new opportunities for jobs, housing, recreation, entertainment, and retail as the city prepares for the Metro extension. Therefore, the proposed project would not conflict with this policy.
Community Resources and Wellness Element – Open Space and Conservation Sub-element	
Community Policy OS 1.1. Ensure no net loss of open space acreage occurs.	**Consistent.** Under existing conditions, the project site is not designated as open space. The proposed Downtown South Zoning District is envisioned with neighborhood parks for residents and visitors. As such, the proposed project would not result in the net loss of open space. Therefore, the proposed project would not conflict with this policy.
Community Policy OS 3.1. Promote visually appealing landscaped corridors and landscape buffers to introduce plant materials into urbanized areas.	**Consistent.** The proposed project's Chapter 6.0, Development Standards, identifies landscape development standards in accordance with the City's Urban Forestry Manual. Therefore, the proposed project would not conflict with this policy.
Community Resources and Wellness Element – Community Safety Sub-element	
Community Policy SAF 2.1. Ensure that new structures and alterations to existing structures minimize seismic hazards through proper design and construction	**Consistent.** No specific development projects are proposed at this time. The City would review the future implementing projects to evaluate the presence of any geological and/or seismic problems and require mitigation measures if necessary. Additionally, the future development projects would be required to comply with the adopted version of the California Building Code at the time of construction, which includes regulations for seismic hazards. Therefore, the proposed project would not conflict with this policy.
Community Policy SAF 6.2. Ensure that new structures and alterations to existing structures are properly designed and constructed to minimize fire hazards	**Consistent.** No specific development projects are proposed at this time. Future development projects would be reviewed by Fire Protection Engineers for compliance with national, State, and City codes and standards. This review would ensure that the project's proposed future development would be properly designed and constructed to minimize fire hazards. Therefore, the proposed project would not conflict with this policy.
Noise Sub-element	
Community Policy N 1.1. Permit only those new development or redevelopment projects that have incorporated appropriate mitigation measures, so that standards contained in the Noise Sub-Element or adopted ordinances are met.	**Consistent.** No specific development project are proposed at this time. Future development project would only be permitted after any required noise mitigation measures are incorporated to ensure the proposed project complies with the General Plan noise sub-element and AMC standards are met. Therefore, the proposed project would not conflict with this policy.

Table 5.8-2 General Plan Consistency Analysis

Applicable General Plan Policies	Project Consistency Analysis
Sustainability Element	
Community Policy SUS 3.5. Prioritize transit-oriented development within the city in accordance with SB375 and other planning initiatives from the State and Federal governments.	Consistent. The proposed project would encourage new opportunities for jobs, housing, recreation, entertainment, and retail as the City prepares for the Metro extension. The proposed project would facilitate new infill transit-oriented development by implementing new land use, zoning, and development standards, which would provide incentives for new investment in the city's downtown district. Therefore, the proposed project would not conflict with this policy.
Community Policy SUS 5.1. Decrease vehicle miles traveled by increasing per vehicle ridership and decreasing the number of trips by autos and trucks	Consistent. The project's proposed mixed-uses consists of high density residential and commercial retail. The proposed project identifies development standards for streets and rights-of-way to ensure pedestrian friendly street environments. Additionally, the proposed project would promote alternative modes of transportation. Therefore, the proposed project would not conflict with this policy.

As demonstrated in Table 5.8-2, the proposed project would be consistent with applicable General Plan policies, and impacts would be less than significant.

City of Artesia Municipal Code Consistency

The proposed project involves adopting the Artesia Downtown Specific Plan and would require a zone amendment to change the zoning of the project site to Specific Plan. The proposed project would allow for the development of a mixed-use transit-oriented community with a mix of high-density residential uses and commercial retail uses. Approval of the zone amendment (Artesia Downtown Specific Plan) would allow development of the mixed-use transit-oriented community.

Additionally, the proposed project includes a number of design guidelines and development standards that would guide future development of the project site. The proposed Specific Plan Chapter 5.0, Land Use Plan, identifies permitted uses within each proposed zoning district. The proposed Specific Plan Chapter 6.0, Development Standards, includes standards and provisions for the proposed zoning districts within the project site. Development standards identified include maximum densities, floor area, heights, façade length, parcel size, landscaping and open space, setbacks, pedestrian paseos, and materials and finishes. Design guidelines include those related to site planning, architectural integrity, landscape and open space, signage, and sustainability.

Future development on-site would be required to comply with Specific Plan development standards and guidelines. Thus, upon approval of the proposed Zone Amendment, the proposed project would not conflict with the AMC. Impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant impact.

5.8.4 Cumulative Impacts

For purposes of land use and planning impact analysis, cumulative impacts are considered for cumulative development within the city and neighboring cities; see Table 4-1, *List of Cumulative Projects*. The geographic contexts of the land use and planning cumulative analysis are the city, county, and SCAG planning region.

As substantiated above, the proposed project would not result in a significant environmental impact concerning a conflict with the General Plan, the AMC, and Connect SoCal. Similar to the proposed project, each cumulative project would be expected to show its consistency with the applicable goals and policies that are adopted for the purpose of avoiding or mitigating an environmental effect. It is not anticipated that the proposed project and the cumulative projects would contribute to significant cumulative impacts concerning these goals and policies. Consequently, the proposed project combined with other cumulative development would not result in significant cumulative environmental impacts causing a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the proposed project would not cause a cumulatively considerable impact concerning land use and planning.

5.8.5 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.8-2.

5.8.6 Mitigation Measures

No mitigation measures are required.

5.8.7 Level of Significance After Mitigation

No significant unavoidable impacts related to land use and planning are identified.

5.8.8 References

Artesia, City of. 2010. City of Artesia General Plan 2030. https://www.cityofartesia.us/DocumentCenter/View/226/Artesia-General-Plan?bidId=.

Cerritos, City of. 2020a. Zoning Map. http://www.cerritos.us/BUSINESSES/_pdfs/zoning_map.pdf.

———. 2020b. Land Use Map. http://www.cerritos.us/BUSINESSES/_pdfs/land_use_map.pdf.

Southern California Association of Governments (SCAG). 2024. Connect SoCal 2024. https://scag.ca.gov/sites/main/files/file-attachments/23-2987-connect-socal-2024-final-complete-040424.pdf?1714175547.

5. Environmental Analysis
LAND USE AND PLANNING

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5.9 NOISE

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Artesia Downtown Specific Plan (proposed project) to result in noise impacts in the City of Artesia. This section discusses the fundamentals of sound; examines federal, State, and local noise guidelines, policies, and standards; evaluates potential noise and vibration impacts associated with the proposed project; and provides feasible mitigation to reduce noise and vibration impacts at sensitive locations. This evaluation uses procedures and methodologies specified by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) and is based in part on the noise modeling data in Appendix F to this DEIR.

During the scoping period for the DEIR, written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Summary of Scoping Comments Received,* in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

5.9.1 Environmental Setting

5.9.1.1 NOISE AND VIBRATION FUNDAMENTALS

Noise is defined as unwanted sound and, when overexposed, is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness." Following are brief definitions of terminology used in this section.

Terminology

- **Sound.** A disturbance created by a vibrating object, which when transmitted by pressure waves through a medium such as air, is capable of being detected by the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Continuous Noise Level (L_{eq}).** The mean of the noise level, energy averaged over the measurement period.
- **L_{max}.** The maximum root-mean-square noise level during a measurement period.
- **Statistical Sound Level (L_n).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period), meaning that half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound

level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (*i.e.,* near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

- **Community Noise Equivalent Level (CNEL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the levels occurring during the period from 7:00 p.m. to 10:00 p.m., and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. Note: For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent/interchangeable and are treated as such in this assessment.

- **Peak Particle Velocity (PPV).** The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.

- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

- **Vibration Decibel (VdB).** A unitless measure of vibration, expressed on a logarithmic scale and with respect to a defined reference vibration velocity. In the U.S., the standard reference velocity is 1 micro-inch per second ($1x10^{-6}$ in/sec).

Sound Fundamentals

When an object vibrates, it radiates part of its energy in the form of a pressure wave. Sound is that pressure wave transmitted through the air. Technically, airborne sound is a rapid fluctuation or oscillation of air pressure above and below atmospheric pressure that creates sound waves. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel. The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are "felt" more like a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. Therefore, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A weighting and is expressed in units of dBA. Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

Changes of 1 to 3 dBA are detectable under quiet, controlled conditions and changes of less than 1 dBA are usually indiscernible. A 3 dBA change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dBA is readily discernable to most people in an exterior environment whereas a 10 dBA change is perceived as a doubling (or halving) of the sound.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time; half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2, L_8 and L_{25} values represent the noise levels that exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour, respectively. These "n" values are typically used to demonstrate compliance for stationary noise sources with many cities' noise ordinances. Other values typically noted during a noise survey are the L_{min} and L_{max}. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law and many local jurisdictions use an adjusted 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment (or "penalty") of 5 dBA be added to the actual noise level for the hours from 7:00 p.m. to 10:00 p.m. and 10 dBA for the hours from 10:00 p.m. to 7:00 a.m. The L_{dn} descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 p.m. and 10:00 p.m. Both descriptors give roughly the same 24-hour level, with the CNEL being only slightly more restrictive (i.e., higher). The CNEL or L_{dn} metrics are commonly applied to the assessment of roadway and airport-related noise sources.

Sound Measurement and Propagation

Sound pressure is measured through the A-weighted measure to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies.

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dBA is 10 times more intense than 1 dBA, 20 dBA is 100 times more intense, and 30 dBA is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dBA. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single-point source, sound levels decrease by approximately 6 dBA for each doubling of distance from the source (conservatively neglecting ground attenuation effects, air absorption factors, and barrier shielding). For example, if a backhoe at 50 feet generates 84 dBA, at 100 feet the noise level would be 78 dBA, and at 200 feet it would be 72 dBA. This drop-off rate is appropriate for noise generated by on-site

operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dBA for each doubling of distance over a reflective ("hard site") surface such as concrete or asphalt. Line source noise in a relatively flat environment with ground-level absorptive vegetation decreases by an additional 1.5 dBA for each doubling of distance.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure, functions of the heart, and the nervous system. Extended periods of noise exposure above 90 dBA can result in permanent cell damage, which is the main driver for employee hearing protection regulations in the workplace. For community environments, the ambient or background noise problem is widespread, through generally worse in urban areas than in outlying, less-developed areas. Elevated ambient noise levels can result in noise interference (e.g., speech interruption/masking, sleep disturbance, disturbance of concentration) and cause annoyance. Although the A-weighted scale and the energy-equivalent metric are commonly used to quantify the range of human response to individual events or general community sound levels, the degree of annoyance or other response also depends on several other perceptibility factors, including:

- Ambient (background) sound level
- General nature of the existing conditions (e.g., quiet rural or busy urban)
- Difference between the magnitude of the sound event level and the ambient condition
- Duration of the sound event
- Number of event occurrences and their repetitiveness
- Time of day that the event occurs

Since most people do not routinely work with decibels or A-weighted sound levels, it is often difficult to appreciate what a given sound pressure level number means. To help relate noise level values to common experience, Table 5.9-1, *Typical Noise Levels*, shows typical noise levels from familiar sources.

Table 5.9-1 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Onset of physical discomfort	120+	
	110	Rock band (near amplification system)
Jet flyover at 1,000 feet		
	100	
Gas lawn mower at 3 feet		
	90	
Diesel truck at 50 feet, at 50 miles per hour		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher, next room
Quiet urban nighttime	40	Theater or large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night or concert hall (background)
	20	
		Broadcast/recording studio
	10	
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2013.
dBA = A-weighted decibels.

Vibration Fundamentals

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities such as railroads or vibration-intensive stationary sources but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Vibration displacement is the distance that a point on a surface moves from its original static position. The instantaneous speed that a point on a surface moves is the velocity, and the rate of change of the speed is the acceleration. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During project construction, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to

noise generated from vibration of a structure or items within a structure. These types of vibration are best measured and described in terms of velocity and acceleration.

Vibration amplitudes are usually described in terms of either the peak particle velocity (PPV) or the root mean square (RMS) velocity. PPV is the maximum instantaneous peak of the vibration signal and RMS is the square root of the average of the squared amplitude of the signal. PPV and RMS are related to each other by the signal's crest factor. PPV is more appropriate for evaluating potential building damage.

The units for PPV are normally inches per second (in/sec). In this analysis, all PPV levels are in in/sec. Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Even the more-persistent Rayleigh waves decrease relatively quickly as they move away from the source of the vibration. Human-made vibration impacts are, therefore, usually confined to short distances from the source. Construction operations generally include a wide range of activities that can generate groundborne vibration. In general, blasting, pile driving, and demolition of structures generate the highest vibrations. Trains generate substantial quantities of vibration due to wheel-rail interactions, steel wheels, heavy loads, and engine operations. Table 5.9-2, *Human Reaction to Typical Vibration Levels,* presents the human reaction to various levels of peak particle velocity.

Table 5.9-2 Human Reaction to Typical Vibration Levels

Vibration Level Peak Particle Velocity (in/sec)	Human Reaction	Effect on Buildings
0.006–0.019	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibration begins to annoy people	Virtually no risk of "architectural" (i.e., not structural) damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk to "architectural" damage to normal dwelling—houses with plastered walls and ceilings
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Caltrans 2020.
in/sec = inches per second.

Vibrations also vary in frequency, and this affects perception. Typical construction vibrations fall in the 10 to 30 Hz range and usually occur around 15 Hz. Traffic vibrations exhibit a similar range of frequencies; however, due to their suspension systems, buses often generate frequencies around 3 Hz at high vehicle speeds. It is less common, but possible, to measure traffic frequencies above 30 Hz.

The way in which vibration is transmitted through the earth is called propagation. As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the

form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

5.9.1.2 REGULATORY BACKGROUND

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise.

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (USEPA) has identified the relationship between noise levels and human response. The USEPA determined that over a 24-hour period, an L_{eq} of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an L_{eq} of 55 dBA and interior levels at or below 45 dBA. These levels are relevant to planning and design and useful for informational purposes, but they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community; therefore, they are not mandated.

The USEPA also set 55 dBA L_{dn} as the basic goal for exterior residential noise intrusion. However, other federal agencies, in consideration of their own program requirements and goals, as well as the difficulty of actually achieving a goal of 55 dBA L_{dn}, have settled on the 65 dBA L_{dn} level as their standard. At 65 dBA L_{dn}, activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

United States Department of Housing and Urban Development

The United States Department of Housing and Urban Development (HUD) has set a goal of 65 dBA L_{dn} as a desirable maximum exterior standard for residential units developed under HUD funding. (This level is also generally accepted by the State of California.) While HUD does not specify acceptable interior noise levels, standard construction of residential dwellings typically provides more than 20 dBA of attenuation with the windows closed. Based on this premise, the interior L_{dn} should not exceed 45 dBA.

Federal Highway Administration

Proposed federal or federal-aided highway construction projects at a new location, or the physical alteration of an existing highway that significantly changes the horizontal or vertical alignment or increases the number of through-traffic lanes, require an assessment of noise and consideration of noise abatement per the Code of Federal Regulations Title 23, Part 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise." The FHWA has adopted noise abatement criteria for sensitive receivers—such as picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals—when "worst-hour" noise levels approach or exceed 67 dBA Leq (FHWA 2017a).

Federal Transit Administration

The FTA has identified construction noise thresholds in the *Transit Noise and Vibration Impact Assessment Manual*, which limits daytime construction noise to 80 dBA L_{eq} at residential land uses and to 90 dBA L_{eq} at commercial and industrial land uses. The FTA also provides damage criteria during construction vibration exposure. The criteria are summarized in Table 5.9-3, *Construction Vibration Damage Criteria*.

Table 5.9-3 Construction Vibration Damage Criteria

Building/Structural Category	PPV (in/sec)	Approximate LV [a]
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: US Department of Transportation Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.
Note:
in/sec = inches per second; LV = velocity; PPV = peak particle velocity.
a. Root-mean square velocity in decibels, VdB re 1 micro-in/sec

The FTA has identified vibration impact criteria for sensitive buildings, residences, and institutional land uses near rail transit and railroads (Table 5.9-4, *FTA Groundborne Vibration Impact Criteria*). The thresholds for residences and buildings where people normally sleep (e.g., nearby residences) are 72 VdB for frequent events (more than 70 events of the same source per day), 75 VdB for occasional events (30 to 70 vibration events of the same source per day), and 80 VdB for infrequent events (less than 30 vibration events of the same source per day).

Table 5.9-4 FTA Groundborne Vibration Impact Criteria

	Impact Levels (VdB re 1 micro-inch/sec)		
Land Use Category	Frequent Events [a]	Occasional Events [b]	Infrequent Events [c]
Category 1: Buildings where vibration would interfere with interior operations	65 VdB [d]	65 VdB [d]	65 VdB [d]
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB

Source: FTA 2018.
Notes:
VdB = vibration decibel
a Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.
b Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
c Infrequent Events" is defined as fewer than 30 vibration events per day. This category includes most commuter rail systems.
d This limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes.

State

State of California General Plan Guidelines

The State of California, through its General Plan Guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements. The General Plan Guidelines provide cities with recommended community noise and land use compatibility standards that can be adopted or modified at the local level based on conditions and types of land uses specific to that jurisdiction.

California Building Code

The State of California provides a minimum standard for building design through Title 24, Part 2, of the California Code of Regulations, commonly referred to as the "California Building Code" (CBC). The CBC is updated every three years. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. The City of Artesia Building Regulations are presented in Title 8 of the City's Municipal Code.

The State of California's noise insulation standards for non-residential uses are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 11, California Green Building Standards Code (CALGreen). CALGreen noise standards are applied to new or renovation construction projects in California to control interior noise levels resulting from exterior noise sources. Future individual projects may use either the prescriptive method (Section 5.507.4.1) or the performance method (Section 5.507.4.2) to show compliance. Under the prescriptive method, a project must demonstrate transmission loss ratings for the wall and roof-ceiling assemblies and exterior windows when located within a noise environment of 65 dBA CNEL or higher. Under the performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA L_{eq}(1 hour).

Airport Noise Standards

California Code of Regulations Title 21, Section 5012, establishes 65 dBA CNEL as the acceptable level of aircraft noise for persons living in the vicinity of airports. Noise-sensitive land uses are generally incompatible in locations where the aircraft exterior noise level exceeds 65 dBA CNEL unless an aviation easement for aircraft noise has been acquired by the airport proprietor. Assembly Bill (AB) 2776 requires any person who intends to sell or lease residential properties in an Airport Influence Area to disclose that fact to the person buying the property.

California Department of Transportation

The California Department of Transportation (Caltrans) recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards. A conservative vibration limit of

0.25 to 0.30 in/sec PPV has been used for older buildings that are found to be structurally sound but cosmetic damage to plaster ceilings or walls is a major concern. For historic buildings or buildings that are documented to be structurally weakened, a conservative limit of 0.08 in/sec PPV is often used to provide the highest level of protection. All of these limits have been used successfully and compliance with these limits has not been known to result in appreciable structural damage. All vibration limits referred to herein apply on the ground level and take into account the response of structural elements (i.e., walls and floors) to groundborne excitation.

Assembly Bill 1307

Signed into law on September 7, 2023, AB 1307 amends the California Environmental Quality Act (CEQA) and adds Public Resources Code (PRC) Section 21085. Pursuant to PRC Section 20185 for residential projects, the effects of noise generated by project occupants and their guests on human beings is not a significant effect on the environment. Accordingly, the noise from residential development projects is limited to construction noise, noise from the operation of the house (e.g., heating, ventilation, and air conditioning equipment), and increases in transportation noise from vehicle trips generated from the residential project.

Regional

Los Angeles County Airport Land Use Commission

The Los Angeles County Airport Land Use Commission's Airport Land Use Plan (adopted in 1991 and revised in 2004) covers all of the public airports in Los Angeles County, including the Long Beach Airport approximately five miles southwest of the Specific Plan boundary and the :Los Alamitos Joint Forces Training Base approximately five miles south. The Los Angeles County Airport Land Use Commission is responsible for promoting land use compatibility around the County's airports in order to minimize public exposure to excessive noise and safety hazards, and the Commission's Los Angeles County Airport Land Use Plan identifies noise compatibility zones in the form of airport noise contour graphics that are intended to prevent development that is incompatible with airport operations.

Local

City of Artesia General Plan

The City of Artesia includes goals and policies in the Noise Sub-Element of the 2030 General Plan to control or mitigate potential noise impacts. Current land uses located within the City of Artesia that are sensitive to intrusive noise include residential uses, schools, churches, and parks. Table 5.9-5, *Noise and Land Use Compatibility Matrix*, illustrates the guidelines established by the State Department of Health Services for acceptable noise levels. These guidelines are incorporated into the land use planning process to reduce future noise and land use incompatibilities. This table is the primary tool that allows the City to ensure integrated planning for compatibility between land uses and outdoor noise.

Table 5.9-5 Noise and Land Use Compatibility Matrix

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70 - 75	75 - 85
Residential - Multiple Family	50 - 65	60 - 70	70 - 75	70 - 85
Transient Lodging - Motel, Hotels	50 - 65	60 - 70	70 - 80	80 - 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	80 - 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 - 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 - 85
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 - 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 70	NA	70 - 80	80 - 85
Office Buildings, Business Commercial and Professional	50 - 70	67.5 - 77.5	75 - 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	75 - 85	NA

Notes:
NA= Not Applicable.
Normally Acceptable - Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Normally Unacceptable - New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable - New construction or development should generally not be undertaken.
Source: OPR 2003.

The City of Artesia General Plan Noise Sub-Element contains the following goals and policies that are applicable to the project (Artesia 2010).

Goal N 1: Land use planning decisions, including planning for new development, consider noise impacts.

- **Policy N 1.1.** Permit only those new development or redevelopment projects that have incorporated appropriate mitigation measures, so that standards contained in the Noise Sub-Element or adopted ordinances are met.
  - **Policy Action N 1.1.1.** Enforce noise standards, as contained in the City's Noise Ordinance.
  - **Policy Action N 1.1.2.** Require a noise impact evaluation for projects, if determined necessary through the environmental review process. If noise abatement is found necessary, require implementation mitigation measures based on a technical study prepared by a qualified acoustical professional.
  - **Policy Action N 1.1.3.** Implement noise mitigation by placing conditions of approval on development projects, and require a clear description of mitigation on subdivision maps, site plans, and building plans for inspection purposes.

- **Policy N 1.2.** Consider noise impacts associated with the development of non-residential uses in the vicinity of residential uses.
  - **Policy Action N 1.2.1.** Require that any proposed development near existing residential land uses demonstrate compliance with the City's Noise Ordinance prior to the approval of the project.
  - **Policy Action N 1.2.2.** Review the Noise Ordinance to determine if additional or modified standards are necessary to address mixed use development.
  - **Policy Action N 1.2.3.** Require the design of mixed-use structures to incorporate techniques to prevent the transfer of noise and vibration from the non-residential to residential uses.
  - **Policy Action N 1.2.4.** Encourage commercial uses that are not noise intensive in mixed use developments.
  - **Policy Action N 1.2.5.** Orient residential uses away from major noise sources, particularly in mixed use areas.

Goal N 2: Noise impacts from transportation sources are minimized.

- **Policy N 2.1.** Encourage outside agencies to minimize impacts of noise from regional transportation corridors.
  - **Policy Action N 2.1.1.** Coordinate sound attenuation projects with Caltrans to meet the State standard of 65 dBA CNEL for exterior noise levels for the 91 Freeway.
  - **Policy Action N 2.1.2.** Coordinate sound attenuation projects with Caltrans to mitigate noise to keep interior residential levels below the State standard of 45 dBA CNEL.
- **Policy N 2.2.** .Reduce noise impacts from transportation corridors under the City's jurisdiction.
  - **Policy Action N 2.2.1.** Ensure the inclusion of noise mitigation measures in the design of new roadway projects in the City to reduce noise impacts to residential neighborhoods.
  - **Policy Action N 2.2.2.** Evaluate truck movements and routes in the City to provide effective separation from residential or other noise sensitive land uses.
  - **Policy Action N 2.2.3.** Discourage through traffic on residential local streets to reduce noise.
- **Policy N 2.3.** Encourage programs to retrofit existing homes to reduce noise impacts in the homes.

Goal N 3: Noise impacts from non-transportation sources are minimized.

- **Policy N 3.1.** Ensure non-transportation sources of noise have incorporated appropriate mitigation measures, so that standards contained in the Noise Sub-Element or adopted ordinances are met.
  - **Policy Action N 3.1.1.** Require that noise mitigation techniques are incorporated into all construction related activities.

- **Policy Action N 3.2.1.** Enforce the Noise Ordinance to ensure that stationary noise and noise emanating from construction activities, private development, and/or special events are minimized.

Goal N 4: Noise impacts to noise sensitive receptors are minimized, ensuring that City and State interior and exterior noise levels are not exceeded.

- **Policy N 4.1.** Ensure Community Noise Equivalent Levels (CNEL) for noise sensitive land uses meet normally acceptable levels, as defined by State standards.
  - **Policy Action N 4.1.1.** Require buffers or appropriate mitigation of potential noise sources on noise sensitive areas.

City of Artesia Municipal Code

The City of Artesia has established citywide interior and exterior noise level standards in a comprehensive Noise Ordinance in the Municipal Code. The purpose of the Ordinance is to control loud, unnecessary and unusual noises, sounds, or vibrations emanating from areas of the city. The Noise Ordinance (Municipal Code Title 5, Chapter 2: Noise) establishes daytime and nighttime permissible sound limits or levels for all residentially zoned properties in the city as well as prohibited noises (Artesia 2019).

Section 5-2.03. Permissible Exterior Sound Limits or Levels.

(a) The noise, sound, or vibration limits or levels imposed by this section shall apply to all residentially zoned properties in the City.

(b) Except as otherwise allowed in this chapter, no person, from any location within the City, shall create or allow the creation of noise, sound or vibration on any property owned, leased, occupied, or other controlled by such person, which causes the noise level on any residential property to exceed the greater of either the actual measured ambient noise level, or the following ambient noise level for a cumulative period of more than 30 minutes in any hour as measured at any property line:

Time Period	Permissible Noise Level
7:00 a.m. - 10:00 p.m.	55 dB(A)
10:00 p.m. - 7:00 a.m.	50 dB(A)

If the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, the permissible noise level set forth above shall be reduced by five dB(A).

(c) If the intruding noise source is continuous and cannot be reasonably discontinued for sufficient time in which the ambient noise level can be determined, the presumed ambient noise level shall be used.

(d) Increases in noise levels prescribed in this section are permitted in accordance with the following:

Permitted Increase in Noise Level	Duration of Increase in Minutes Per Hour
5 dB(A)	15
10 dB(A)	5
15 dB(A)	1
20 dB(A)	Less than one minute

Section 5-2.04. Permissible Interior Sound Limits or Levels.

(a) The noise, sound or vibration limits or levels imposed by this section shall apply to all interior spaces within buildings or structures on residentially zoned properties in the City.

(b) Except as otherwise allowed in this chapter, no person, from any location within the City, shall create or allow the creation of noise, sound or vibration on any property owned, leased, occupied, or other controlled by such person, which causes the noise level on any residential property to exceed the greater of either the actual measured ambient noise level, or the following ambient noise level for a cumulative period of more than five minutes in any hour:

Time Period	Permissible Noise Level
7:00 a.m. - 10:00 p.m.	55 dB(A)
10:00 p.m. - 7:00 a.m.	45 dB(A)

If the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, the permissible noise level set forth above shall be reduced by five dB(A).

(c) If the intruding noise source is continuous and cannot be reasonably discontinued for sufficient time in which the ambient noise level can be determined, the presumed ambient noise level shall be used.

(d) Increases in noise levels prescribed in this section are permitted in accordance with the following:

Permitted Increase in Noise Level	Duration of Increase in Minutes Per Hour
5 dB(A)	1
10 dB(A)	Less than one minute

Section 5-2.06. Prohibited Noises-Specific Violations.

Except as set forth in Section 5-2.07 of this chapter, the following acts and the causing or permitting thereof, are specifically declared to be a violation of this chapter:

(a) *Radios, Phonographs, Etc.* The using, operating or permitting to be played, used or operated between the hours of 10:00 p.m. and 7:00 a.m. of any radio, musical instrument, phonograph, television set, or instrument or device similar to those heretofore specifically mentioned (hereinafter" device") for the production or reproduction of sound in volume sufficiently loud as to be plainly audible at a distance of 50 feet or more from the property line of the property from which the noise, sound or vibration is emanating, and the using, operating or permitting to be played, used or operated between the hours of

7:00 a.m. and 10:00 p.m. of any such device for the production or reproduction of sound in volume sufficiently loud as to be plainly audible at a distance of 200 feet or more from the property line of the property from which the noise, sound or vibration is emanating.

(b) *Band or Orchestral Rehearsals*. The conducting of or carrying on, or allowing the conducting or carrying on of band or orchestral concerts or rehearsals or practice between the hours of 10:00p.m. and 7:00 a.m. sufficiently loud as to be plainly audible at a distance of 50 feet or more from the property line of the property where the concert, rehearsal or practice is occurring, and the conducting of or carrying on, or allowing the conducting or carrying on of band or orchestral concerts or rehearsals or practice between the hours of 7:00 a.m. and 10:00 p.m. sufficiently loud as to be plainly audible at a distance of 200 feet or more from the property line of the property where the concert, rehearsal or practice is occurring.

(c) *Engines, Motors and Mechanical Devices Near Residential District*. The sustained, continuous or repeated operation or use between the hours of 8:00 p.m. and 7:00 a.m. of any motor or engine or the repair, modification, reconstruction, testing or operation of any automobile, motorcycle, machine, contrivance, or mechanical device or other contrivance or facility unless such motor, engine, automobile, motorcycle, machine or mechanical device is enclosed within a sound insulated structure so as to prevent noise and sound from being plainly audible at: (1) a distance of50 feet or more from the property line of the property from which the noise, sound or vibration is emanating or (2) the exterior wall of any adjacent residence, whichever is less.

(d) *Motor Vehicles*. Racing the engine of any motor vehicle or needlessly bringing to a sudden start or stop of any motor vehicle.

(e) *Loading and Unloading*. Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans or similar objects between the hours of 8:00 p.m. and7:00 a.m. in volume sufficiently loud as to be plainly audible at a distance of 50 feet or more from the property line of the property where the activity is occurring.

(f) *Construction*. Operating or causing the operation of any tools, equipment, impact devices, derricks or hoists used on construction, drilling, repair, alteration, demolition or earthwork, between the hours of 7:00 p.m. and 7:00 a.m. on weekdays or at any time on Sunday or Federal holiday.

(g) *Nonemergency Signaling Devices*. Sounding or permitting the sounding of any bell, chime, siren, whistle or similar device, intended primarily for nonemergency purposes between the hours of 8:00p.m. and 7:00 a.m. Sound sources included within this provision may be exempted by a variance issued by the Planning Commission.

Emergency Signaling Devices.

1) The intentional sounding, or permitting the sounding, outdoors of any emergency signaling device including fire, burglar, civil defense alarm, siren, whistle or similar emergency signaling device, for testing, except as provided in Subsection 5-2.06(h)(2) 5-2.06(h)(2).

2) Testing of an emergency signaling device shall not occur between the hours of 8:00 p.m. and 7:00 a.m. Any such testing shall use only the minimum cycle test time. In no case shall such test time exceed 60 seconds. Testing of the emergency signaling system shall not occur more than once in each calendar month.

3) Sounding or permitting the sounding of any exterior burglar or fire alarm unless such alarm is terminated within 15 minutes of activation.

4) Sounding or permitting the sounding of any motor vehicle alarm unless such alarm is terminated within five minutes of activation.

5) Sounding or permitting the sounding of any motor vehicle alarm more than three times of any duration in any 24 hour period.

(h) *Commercial Establishments Adjacent to Residential Property*. Continuous, repeated or sustained noise, sound or vibration from the premises of any commercial establishment, including any outdoor area that is a part or under the control of the establishment, which is licensed by the City and is adjacent to one or more residential dwelling units, between the hours of 10:00 p.m. and 7:00a.m., that is plainly audible from the exterior wall of the adjacent residential dwelling unit.

(i) *Leaf Blowers*. The use or operation or allowing the use or operation of any leaf blower, as defined and regulated in Chapter 12 of Title 5 of this Code, between the hours of 8:00 p.m. and 8:00 a.m. of the next day.

Section 5-2.07. Exemptions.

The following activities shall be exempt from the provisions of this chapter:

(a) Outdoor events, such as gatherings, fairs, bazaars, festivals and similar events if and to the extent the events are conducted pursuant to a temporary use permit issued by the City.

(b) The emission of sound for the purpose of alerting persons to the existence of an emergency or the emission of sound in the performance of emergency work. For the purposes of this section, "emergency" means a condition that constitutes an immediate threat to public safety, health or welfare or to property.

(c) Noise sources associated with the maintenance of real property such as the operation of any mechanically powered saw, sander, drill, grinder, lawn or garden tool or similar tool, provided such activities take place between 7:00 a.m. and 7:00 p.m. on weekdays and the hours of 9:00 a.m. and6:00 p.m. on weekends and holidays.

(d) Any activity to the extent regulation thereof has been preempted by State or Federal law.

(e) Activities of the Federal, State or local jurisdiction while performing governmental duties.

(f) Warning devices necessary for the protection of public safety as for example, police, fire and ambulance sirens and train horns.

(g) Activities conducted on public playgrounds, public or private school grounds including, but not limited to, school athletic and school entertainment events and band or orchestral rehearsals for school athletic or school entertainment events.

5.9.1.3 EXISTING CONDITIONS

Project and Nearby Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration. In Artesia, these uses include residential uses, schools, churches, and parks. Commercial uses are not considered noise- or vibration-sensitive uses. Sensitive receptors include single- and multifamily residential uses throughout, and surrounding, the project area. The Artesia Cerritos United Methodist Church lies within the project area and First Christian Reformed Church, City Bible Church, and Holy Family Catholic Church are near the project area. The nearest school in the vicinity of the project area is Bragg Elementary School (550 feet to the southwest of the proposed project boundary).

Transportation Source Noise

Noise from motor vehicles is generated by engine vibrations, the interaction between tires and the road, and the exhaust system. Reducing the average motor vehicle speed reduces the noise exposure of receptors adjacent to the road. Given the prevalence of mobile-source noise in the vicinity of the project, it is necessary to determine the noise currently generated by vehicles traveling through the project area. Average daily traffic volumes were based on the existing daily traffic volumes calculated using peak hour intersection movements provided by Linscott, Law & Greenspan (LLG 2024).

The traffic noise levels for this project were estimated using a version of the FHWA Highway Traffic Noise Prediction Model. The FHWA model determines a predicted noise level through a series of adjustments to a reference sound level. These adjustments account for traffic flows, speed, truck mix, varying distances from the roadway, length of exposed roadway, and noise shielding. Vehicle speeds on each roadway were assumed to be the posted speed limit, and no reduction in speed was assigned due to congested traffic flows. Current roadway characteristics, such as the number of lanes and speed limits, were determined from field observations and according to roadway classification.

Roadways that run through the project area and contribute a notable amount of noise to the ambient environment include Pioneer Boulevard, South Street, and 183rd Street. The results of traffic noise modeling indicate that average noise levels along project area roadway segments currently range from approximately 53 dBA to 72 dBA CNEL (as calculated at a distance of 50 feet from the centerline of the road). Traffic noise levels for existing conditions, including distances to the 70 dBA, 65 dBA, and 60 dBA CNEL contours, along analyzed roadways are presented in Table 5.9-6. *Existing Conditions Traffic Noise Levels*.

Table 5.9-6 Existing Conditions Traffic Noise Levels

Roadway	Segment		Daily Traffic Volumes	Noise Level at 50 Feet (dBA CNEL)	Distance to Noise Contour (feet)		
	From	To			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Pioneer Road	the South	South St	11,980	68	31	97	308
Pioneer Road	South St	187th St	8,960	62	9	28	87
Pioneer Road	187th St	183rd St	8,040	60	5	16	52
Pioneer Road	183rd St	SR-91 EB Ramps	11,650	65	17	54	171
Pioneer Road	SR-91 WB Ramps	the North	19,520	69	37	118	374
Gridley Rd	the North	South St	15,550	68	30	94	298
Gridley Rd	South St	the South	9,970	66	19	60	191
South St	the West	I-605 SB Ramps	30,320	72	78	246	778
South St	I-605 NB Ramps	Gridley Rd	34,550	72	89	280	887
South St	Gridley Rd	Pioneer Blvd	21,540	70	55	175	553
South St	Pioneer Blvd	the East	19,670	70	50	160	505
187th St	the West	Pioneer Blvd	2,000	54	1	4	13
187th St	Pioneer Blvd	the East	1,710	53	1	3	11
183rd St	the West	Pioneer Blvd	14,220	66	21	66	209
183rd St	Pioneer Blvd	the East	13,170	66	19	61	194

Source: FHWA Highway Traffic Noise Prediction Model based on traffic volumes provided by Linscott, Law & Greenspan in 2024 (LLG 2024).
Calculations included in Appendix F.

Stationary Source Noise

Stationary sources of noise may occur from all types of land uses. Whereas mobile-source noise affects many receptors along an entire length of roadway, stationary noise sources affect only their immediate areas. Many processes and activities in cities produce noise, most notably the operation of commercial, warehousing, industrial uses, schools, and at-grade railroad crossings. Residential uses would generate noise from trash pick-up, maintenance activities, and air conditioning systems. Commercial uses would generate noise from heating, ventilation, air conditioning (HVAC) systems, loading docks and other sources. Industrial uses may generate noise from HVAC systems, loading docks, and possibly machinery. Noise generated by residential or commercial uses are generally short and intermittent. Industrial uses may generate noise on a more continual basis. Outdoor dining areas, gas stations, fire stations, drive-throughs, playgrounds, and public parks are other common noise sources. For the developed land within the project area, land uses are primarily commercial uses along Pioneer Boulevard, South Street, and 183rd Street with residential uses located along Airline Avenue, Corby Avenue and at the La Belle Chateau Estates Mobile Home Park. Noise from stationary sources within the project area are regulated through the City of Artesia Municipal Code Chapter 2: Noise.

Existing Vibration

Commercial and industrial operations in the Specific Plan Area can generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations

spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the vibration source varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. In addition, future sensitive receptors could be placed within close proximity to the new Metro light rail line extension in the Pioneer Boulevard district of the project site.

5.9.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would result in:

N-1 Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

N-2 Generation of excessive groundborne vibration or groundborne noise levels.

N-3 For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold N-3

This impact will not be addressed in the following analysis.

5.9.2.1 CONSTRUCTION NOISE THRESHOLDS

The City of Artesia does not have an established noise threshold for construction noise. The FTA provides criteria for acceptable construction noise levels and recommends a daytime noise threshold of 80 dBA L_{eq} for residential uses, 85 dBA L_{eq} for commercial uses, and 90 dBA L_{eq} for industrial uses. For the purposes of this analysis, the FTA criterion is used for nearby receptors.

5.9.2.2 TRANSPORTATION NOISE THRESHOLDS

A project will normally have a significant effect on the environment related to noise if it substantially increases the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA are detectable under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an exterior environment. Based on the noise standards from Table 5.9-5, noise levels above 70 dBA CNEL are normally unacceptable at sensitive receptor locations such as residences, and noise

environments in these areas would be considered degraded. Based on this, the following thresholds of significance are used to assess traffic noise impacts at sensitive receptor locations:

- Up to 1.5 dBA increase for ambient noise environments of 70 dBA CNEL and higher;
- Up to 3 dBA increase for ambient noise environments of 60 to 69 CNEL; and
- Up to 5 dBA increase for ambient noise environments of less than 60 dBA CNEL.

5.9.2.3 STATIONARY NOISE THRESHOLDS

As discussed in Section 5.9.1.2, *Regulatory Background*, the City's noise ordinance establishes exterior noise levels at receiving residential property lines per Section 5-2.03 and 5-2.01, the noise standards also apply to churches while they are in use. These exterior noise standards are used as stationary source thresholds for projects under the Specific Plan.

5.9.2.4 VIBRATION THRESHOLDS

Architectural Damage

The City of Artesia does not have specific limits or thresholds for vibration-induced architectural damage related to construction activities. The FTA provides criteria for acceptable levels of ground-borne vibration for various types of buildings, which are used for this analysis. These criteria are shown in Table 5.9-7, *Groundborne Vibration Criteria: Architectural Damage*. Category III, non-engineered timber and masonry buildings, threshold of 0.2 in/sec PPV would apply to surrounding residential structures.

Table 5.9-7 Groundborne Vibration Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA 2018.
in/sec = inches per second; PPV = peak particle velocity

Vibration Annoyance

The City of Artesia does not have specific limits or thresholds for vibration-induced annoyance related to construction activities. The FTA provides criteria for acceptable levels of ground-borne vibration for various types of sensitive buildings, which are used for this analysis. These criteria are shown in Table 5.9-4, *FTA Groundborne Vibration Impact Criteria*, and would apply to surrounding sensitive buildings.

5.9.3 Environmental Impacts

5.9.3.1 METHODOLOGY

This section analyzes impacts related to short-term construction noise and vibration, as well as operational noise and vibration due to buildout of the proposed Specific Plan. Noise increases from vehicular traffic was assessed using a version of the FHWA Traffic Noise Prediction Model and the traffic forecasts used in the Transportation Impact Analysis (Appendix H of this DEIR).

As a result of the Supreme Court decision regarding the assessment of the environment's impacts on projects (*California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD)*, 62 Cal. 4th 369 (No. S 213478) issued December 17, 2015), it is generally no longer the purview of the CEQA process to evaluate the impact of existing environmental conditions on any given project. As a result, while the noise from existing sources is taken into account as part of the baseline, the direct effects of exterior noise from nearby noise sources relative to land use compatibility of a future project as a result of General Plan buildout is typically no longer a required topic for impact evaluation under CEQA. Generally, no determination of significance is required with the exception of certain school projects, projects affected by airport noise, and projects that would exacerbate existing conditions (i.e., projects that would have a significant operational impact). At the discretion of the City of Artesia's Building Division, a project applicant may be required to obtain a detailed acoustical report outlining any necessary noise reduction features in the final design to comply with City and State CBC provisions for indoor and outdoor noise levels.

5.9.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

The proposed Specific Plan does not include any policies or goals specifically related to noise and/or vibration.

5.9.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.9-1: Construction activities would result in temporary noise increases in the vicinity of the proposed project. [Threshold N-1]

The Artesia Downtown Specific Plan would implement the objectives described in Chapter 3, *Project Description*, and result in development of 1,981 housing units and 502,919 square feet of commercial space. The proposed project would facilitate the construction of multistory mixed uses with ground-floor retail, hotel, townhomes, neighborhood parks, and parking structures in the Downtown North and South Districts. The Specific Plan would allow for multistory and higher density in the Pioneer Boulevard and 188th Street/Corby Districts, although significant new development is not expected in these districts. The Downtown Neighborhood District would retain its residential character and the Chateau Estates District would be maintained as a mobile home park.

Construction Noise Impacts

Two types of temporary noise impacts could occur during construction. First, the transport of workers and movement of materials to and from the site could incrementally increase noise levels along local access roads. The second type of temporary noise impact is related to construction activities during developmental phases during the implementation of the project. Construction is performed in distinct steps, each of which has its own mix of equipment, and, consequently, its own noise characteristics. Table 5.9-8, *Construction Equipment Noise Emission Levels*, lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet from the equipment.

Table 5.9-8 Construction Equipment Noise Emission Levels

Construction Equipment	Typical Noise Levels at 50 feet, dBA
Air Compressor	80
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pile-Driver (Impact)	101
Pile-Driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Rail Saw	90
Rock Drill	85
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	84

Table 5.9-8 Construction Equipment Noise Emission Levels

Construction Equipment	Typical Noise Levels at 50 feet, dBA

Source: FTA 2018.
dBA = A-weighted decibels.

As shown in Table 5.9-8, construction equipment generates high levels of noise, generally ranging from 76 dBA to 101 dBA at a distance of 50 feet. Construction of developments associated with the implementation of the proposed project would temporarily increase the ambient noise environment and would have the potential to affect noise-sensitive receptors in the vicinity of an individual project.

Noise generated by on-site construction equipment is based on the type of equipment used, its location relative to sensitive receptors, site conditions, and the timing and duration of noise-generating activities. Each construction activity phase of construction involves different types of equipment and has distinct noise characteristics. Noise levels from construction activities are typically dominated by the loudest several pieces of equipment. The dominant equipment noise source is typically the engine, although work-piece noise (such as dropping of materials) can also be noticeable.

The noise produced at each construction activity phase is determined by combining the L_{eq} contributions from each piece of equipment used at a given time, while accounting for the ongoing time-variations of noise emissions (commonly referred to as the usage factor). Overall noise emissions vary considerably, depending on what specific activity is being performed at any given moment. Noise attenuation due to distance, the number and type of equipment, and the load and power requirements to accomplish tasks at each construction phase would result in different noise levels from construction activities at a given receptor. Since noise from construction equipment is intermittent and diminishes at a rate of at least 6 dBA per doubling of distance (conservatively ignoring other attenuation effects from air absorption, ground effects, and shielding effects), the average noise levels at noise-sensitive receptors could vary considerably, because mobile construction equipment would move around the site with different loads and power requirements.

Because the proposed project is a long-term planning document with no specific projects identified, specific project-level information is inherently not available, and it is not possible to quantify the estimated construction noise levels at specific sensitive receptors due to a given project. In most cases, construction of individual developments associated with implementation of the proposed project would temporarily increase the environment's ambient noise in the vicinity of each individual project, potentially affecting existing and future nearby sensitive uses, such as residences, parks, and schools. All future projects are required to comply with Section 5-2.06, which prohibits construction activities between the hours of 7:00 p.m. and 7:00 a.m. on weekdays or at any time on Sunday or federal holidays. However, construction noise could potentially exceed the FTA 80 dBA L_{eq} threshold, which would be considered potentially significant. Construction activities associated with any individual development may occur near noise-sensitive receptors, and depending on the project type, equipment list, time of day, phasing, and overall construction durations, noise disturbances may occur for prolonged periods of time or during the more sensitive nighttime hours. Therefore, construction noise impacts associated with implementation of the proposed project are considered potentially significant.

Level of Significance Before Mitigation: Potentially significant.

Impact 5.9-2	Project implementation would result in long-term operation-related noise that would not exceed local standards. [Threshold N-1]

Mobile Source Noise

As discussed previously, traffic noise increases were calculated using a version of the FHWA's Traffic Noise Prediction Model based on existing and future traffic volumes and vehicle mix (auto, medium-duty trucks, and heavy-duty trucks) provided by the project traffic consultant (LLG 2024). Table 5.9-9, *Plan-Related Increase in Traffic Noise*, shows the existing and future predicted noise levels at 50 feet from the nearest travel centerline, as well as the predicted traffic noise increase with implementation of the Specific Plan. Appendix F contains the traffic noise modeling inputs and outputs.

As shown in Table 5.9-9, there are no roadway segments that would experience a traffic noise increase of 1.5 dBA CNEL or greater with buildout of the proposed project. The highest traffic noise increase is predicted to be 1 dBA CNEL along Pioneer Boulevard and 187th Street. Therefore, traffic noise impacts due to buildout of the proposed project would be less than significant.

Stationary Source Noise

Stationary noise sources can be generated from new office, retail, hotel, and residential development, such as HVAC, parking structures, truck deliveries, trash collection, human activity in open spaces and parks, and landscaping maintenance. Stationary noise sources, such as mechanical equipment or parking structures, as part of future projects under the Specific Plan would be required to comply with the exterior and interior noise level standards in the City's Municipal Code Sections 5-2.03 and 5-2.04 for residential uses. This would be achieved through proper equipment selection, setbacks, enclosures, and/or parapet walls. Section 5-2.06 of the Municipal Code establishes daytime operational hours for loading and unloading activities, commercial and automotive uses adjacent to residential property, and leaf blowers. Per Section 5-2.07 of the Municipal Code, noise associated with outdoor events or activities conducted on any public playground are exempt from the City's noise standards. Noise sources associated with the maintenance of real property, provided the activities take place between 7:00 a.m. and 7:00 p.m. on weekdays and the hours of 9:00 a.m. and 6:00 p.m. on weekends and holidays are also exempt. Therefore, adherence to the City's Municipal Code, stationary noise impacts due to buildout of the Specific Plan would be less than significant.

Level of Significance Before Mitigation: Less than significant.

Table 5.9-9 Plan-Related Increase in Traffic Noise

Roadway	Segment		dBA CNEL at 50 Feet				Existing Noise Increase, CNEL	Buildout Noise Increase, CNEL	Significant Increase?
	From	To	Existing	Existing With Project	Buildout Without Project	Buildout With Project			
Pioneer Road	the South	South Street	68	68	68	68	<1	<1	No
Pioneer Road	South St	187th Street	62	63	63	63	1	1	No
Pioneer Road	187th St	183rd Street	60	61	60	61	1	1	No
Pioneer Road	183rd St	SR-91 EB Ramps	65	66	66	66	1	1	No
Pioneer Road	SR-91 WB Ramps	the North	69	69	69	69	<1	<1	No
Gridley Road	the North	South Street	68	68	68	68	<1	<1	No
Gridley Road	South St	the South	66	66	66	66	<1	<1	No
South Street	the West	I-605 SB Ramps	72	72	72	72	<1	<1	No
South Street	I-605 NB Ramps	Gridley Road	72	73	72	73	<1	<1	No
South Street	Gridley Road	Pioneer Boulevard	70	71	70	71	<1	<1	No
South Street	Pioneer Boulevard	the East	70	70	70	70	<1	<1	No
187th Street	the West	Pioneer Boulevard	54	55	54	55	1	1	No
187th Street	Pioneer Boulevard	the East	53	53	54	53	<1	<1	No
183rd Street	the West	Pioneer Boulevard	66	66	66	66	<1	<1	No
183rd Street	Pioneer Boulevard	the East	66	66	66	66	<1	<1	No

Source: LLG 2025.
Calculations included in Appendix F.

Impact 5.9-3: The project would create groundborne construction vibration that could exceed standards. [Threshold N-2]

Construction Vibration Impacts

Construction activity at project sites in the Specific Plan area would generate varying degrees of ground vibration, depending on the construction procedures and equipment. Operation of construction equipment generates vibrations that spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures but can achieve the audible and perceptible ranges in buildings close to the construction site. However, groundborne vibration is almost never annoying to people who are outdoors, so it is usually evaluated in terms of indoor receivers (FTA 2018). Table 5.9-10, *Vibration Levels for Construction Equipment*, lists reference vibration levels for construction equipment.

Table 5.9-10 Vibration Levels for Construction Equipment

Equipment	Approximate RMS Vibration Level at 25 Feet (VdB)	Approximate PPV Vibration Level at 25 Feet (in/sec)
Pile Driver, Impact (Upper Range)	112	1.518
Pile Driver, Impact (Typical)	104	0.644
Pile Driver, Sonic (Upper Range)	105	0.734
Pile Driver, Sonic (Typical)	93	0.170
Vibratory Roller	94	0.210
Large Bulldozer	87	0.089
Caisson Drilling	87	0.089
Loaded Trucks	86	0.076
Jackhammer	79	0.035
Small Bulldozer	58	0.003

Source: FTA 2018.
Notes: in/sec = inches per second; RMS = root-mean-square; PPV = peak particle velocity; VdB = vibration decibel.

As shown in Table 5.9-10, vibration generated by construction equipment has the potential to be substantial, since it has the potential to exceed the FTA criteria for human annoyance architectural damage thresholds shown in Table 5.9-3 (e.g., 0.2 in/sec PPV for non-engineered timber and masonry buildings such as most residences) and Table 5.9-4 (e.g., 80 VdB for infrequent events at buildings where people normally sleep). Construction details and equipment for future project-level developments under the Specific Plan are not known at this time but may cause vibration impacts. Therefore, this would be considered a potentially significant impact.

Operational Vibration Impacts

The Specific Plan proposes development of 1,981 housing units and 502,919 square feet of commercial space, including mixed uses and multifamily housing. In addition to residential land uses, the Specific Plan proposes nonresidential land uses, such as neighborhood parks and parking structures. These proposed land uses would not be associated with substantial operational vibration and, therefore, this impact would be less than significant.

Level of Significance Before Mitigation: Potentially significant.

5.9.4 Cumulative Impacts

The analysis of the proposed project in Section 5.9.3 addresses cumulative impacts with regard to operational and construction noise as well as groundborne noise and vibration in the project area. The Specific Plan proposes the long-term buildout and operation of many different uses. Although multiple simultaneous nearby noise sources may, in combination, result in higher overall noise levels, this effect is captured and accounted for by the community noise level metrics that form the basis of the standards of significance for noise analysis. To specifically estimate the Specific Plan's contribution to traffic noise, existing noise levels were compared to those projected with completion of the plan. As demonstrated previously, the proposed project's contribution to increases in ambient noise levels results in a less-than-significant impact.

Additionally, construction activities may occur simultaneously and close to noise-sensitive receptors, that could result in significant impacts. As details of individual development projects in the area are currently unknown, it cannot be determined whether Mitigation Measure N-1 would reduce potentially significant impacts to less than significant. The proposed project would therefore contribute to cumulatively considerable construction-related noise, and the cumulative impact would be significant and unavoidable.

5.9.5 Level of Significance Before Mitigation

After implementation of regulatory requirements and standard conditions of approval, Impacts 5.9-2 and 5.9-4 would be less than significant.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.9-1** Construction activities associated with buildout of the proposed project would result in a temporary increase in noise levels at sensitive receptors.
- **Impact 5.9-3** Construction activities associated with buildout of the proposed project may expose sensitive uses to excessive levels of groundborne vibration.

5.9.6 Mitigation Measures

Impact 5.9-1

N-1 Prior to any construction activity such as grading, site prep, or issuance of building permits, a note shall be provided on construction plans indicating that during construction activities and phasing the project applicant shall be responsible for requiring contractors to implement the following measures to limit construction-related noise to a performance standard of 80 dBA L_{eq} at the property line of the nearest sensitive receptor:

- For construction of a project under the Specific Plan requiring nighttime work between the hours of 7:00 p.m. and 7:00 a.m., construction noise shall be limited to the City of Artesia nighttime exterior and interior noise standards for residential uses of 50 dBA and 45 dBA, respectively.
- During the entire active construction period, equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible.
- Impact tools (e.g., jack hammers and hoe rams) shall be hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.
- Stationary equipment, such as generators and air compressors, shall be located as far as feasible from nearby noise-sensitive uses.
- Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors.
- Construction traffic shall be limited—to the extent feasible—to approved haul routes established by the City.
- At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City.
- Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than five minutes.
- During the entire active construction period and to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which

automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws.

- Erect temporary noise barriers, where feasible, when construction noise is predicted to exceed the noise standards after other measures have been considered, would occur at nighttime, or when the anticipated construction duration is greater than is typical (e.g., two years or greater).

Impact 5.9-3

N-2 Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures such as historical resources, 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed Federal Transit Administration (FTA) architectural damage thresholds (e.g., 0.12 inches per second [in/sec' peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses such as static rollers and drilling piles, as opposed to pile driving, shall be used.

5.9.7 Level of Significance After Mitigation

Impact 5.9-1

Implementation of Mitigation Measure N-1 would reduce potential noise impacts during construction to the extent feasible through implementation of construction best management practices. However, due to the potential for proximity of construction activities to sensitive uses, the number of construction projects occurring simultaneously, and the potential duration of construction activities, Impact 5.9-1 (construction noise) could result in a temporary substantial increase in noise levels above ambient conditions. Therefore, project impacts and cumulative impacts would remain ***significant and unavoidable***. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects analyzed at the project level.

Impact 5.9-3

Implementation of Mitigation Measure N-2 would reduce Impact 5.9-3 to a less-than-significant level. Specifically, Mitigation Measure N-2 would require use of alternative construction techniques for construction activities proximate to historic resources to reduce potential vibration impacts during construction below the pertinent thresholds. No significant and unavoidable vibration impacts would remain.

5.9.8 References

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5.10 POPULATION AND HOUSING

This section of the Draft Environmental Impact Report (DEIR) examines the potential for socioeconomic impacts of the proposed Artesia Downtown Specific Plan (proposed project) in the City of Artesia, including changes in population, employment, and demand for housing. This section describes the environmental and regulatory setting, the criteria and thresholds used to evaluate the significance of impacts, the methods used in evaluating these impacts, and the results of the impact assessment.

During the scoping period for the Draft Environmental Impact Report (DEIR), written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Notice of Preparation and Comment Letters Summary*, in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

5.10.1 Environmental Setting

5.10.1.1 REGULATORY BACKGROUND

State

California Housing Element Law

California planning and zoning law requires each city and county to adopt a general plan for future growth (California Government Code Section 65300). This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the state level, the Housing and Community Development Department (HCD) estimates the relative share of California's projected population growth that would occur in each county based on California Department of Finance (DOF) population projections and historical growth trends. These figures are compiled by HCD in a Regional Housing Needs Assessment (RHNA) for each region of California. Where there is a regional council of governments, the HCD provides the RHNA to the council, and the council assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares gives cities and counties the opportunity to comment on the proposed allocations. HCD oversees the process to ensure that the council of governments distributes its share of the state's projected housing need.

California housing element laws (California Government Code Sections 65580–65589) require that each city and county identify and analyze existing and projected housing needs within its jurisdiction and prepare goals, policies, and programs to further the development, improvement, and preservation of housing for all economic segments of the community commensurate with local housing needs. State law recognizes the vital role local governments play in the supply and affordability of housing. To that end, California Government Code requires that the housing element achieve legislative goals to:

- Identify adequate sites to facilitate and encourage the development, maintenance, and improvement of housing for households of all economic levels, including persons with disabilities.

- Remove, as legally feasible and appropriate, governmental constraints to the production, maintenance, and improvement of housing for persons of all incomes, including those with disabilities.
- Assist in the development of adequate housing to meet the needs of low- and moderate-income households.
- Conserve and improve the condition of housing and neighborhoods, including existing affordable housing. Promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, familial status, or disability.
- Preserve for lower-income households the publicly assisted multifamily housing developments in each community.

California Health and Safety Code

In addition to the regulations in the California Government Code, provisions related to housing and local policy are in Health and Safety Code Division 13, Housing, and Division 24, Community Development and Housing. Division 13 and Division 24 provides rules and regulations related to employee housing, manufactured housing, mobile home parks, elderly housing, access for physically handicapped persons, and building standards for new, existing, and historic structures to ensure the health, safety, and welfare of all California residents.

Regional

Southern California Association of Governments

SCAG is a regional council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties, which encompass over 38,000 square miles. SCAG is the federally recognized metropolitan planning organization for this region and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the Southern California region's metropolitan planning organization, SCAG cooperates with the South Coast Air Quality Management District, the California Department of Transportation, and other agencies to prepare regional planning documents.

Regional Transportation Plan/Sustainable Community Strategy

Every four years, the Southern California region has the opportunity to readjust its vision for the future, assess challenges, and rearticulate goals. SCAG has developed regional plans to achieve specific regional objectives. On April 4, 2024, SCAG adopted Connect SoCal, the 2024–2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals (SCAG 2024). Connect SoCal 2024 remains focused on its core responsibilities, and on the requirements of comprehensive regional transportation planning integrated with the development of a Sustainable Communities Strategy (SCS), it also encompasses a holistic approach to programs and strategies that support the Regional Transportation Plan, such as a workforce development,

broadband, and mobility hubs. Connect SoCal is a long-term plan for the Southern California regional that details investment in SCAG transportation system and development in SCAG's communities to meet the needs of the region both today and tomorrow, the horizon year for Connect SoCal is 2050. A component of Connect SoCal is a set of growth forecasts that estimate employment, population, and housing growth. These estimates are used by SCAG, transportation agencies, and local agencies to anticipate and plan for growth. For more information regarding SCAG and the 2024–2050 RTP/SCS, see Section 5.10, *Land Use and Planning*, of this DEIR.

Local

City of Artesia 2021-2029 Housing Element

The City of Artesia's 6th Cycle Housing Element was adopted on March 14, 2022. The housing element is the component of the General Plan that addresses housing needs and opportunities for present and future Artesia residents through 2029. The housing element provides the primary policy guidance for local decision-making related to housing. The housing element is the only General Plan element that requires review and certification by the State of the California. The City of Artesia's assigned share of regional housing needs during the 2021-2029 planning period is 1,069 units.

The housing element provides a detailed analysis of Artesia's demographic, economic, and housing characteristics as required by State law. It also provides a comprehensive evaluation of the City's progress in implementing the past policy and action programs related to housing production, preservation, conservation, and rehabilitation. Based on the community's housing needs, available resources, constraints, opportunities and past performance, the housing element identifies goals, policies, actions and objectives that address the housing needs of present and future Artesia residents. The City's housing goals are organized to address five key areas:

- Provision of Affordable Housing
- Conservation and Improvement of Existing Housing Stock
- Provision of Adequate Housing Sites
- Provision of Equal Housing Opportunities
- Removal of Governmental Constraints

Artesia Municipal Code

Title 9, Chapter 2, Zoning, of the Artesia Municipal Code serves to encourage, classify, designate, regulate, restrict, and segregate the highest and best locations and uses of buildings, structures, and land to serve the needs of residence, commerce, industry, and other purposes in appropriate places; to regulate and limit the height, number of stories, and size of buildings and other structures designed, erected, and altered; to regulate and determine the size of yards and other open spaces; to regulate and limit the density of population; to facilitate adequate provisions for community utilities, such as transportation, water, sewage, schools, parks, and other public requirements; to lessen congestion on streets; and to promote the public health, safety, welfare, and general prosperity with the aim of preserving a wholesome, serviceable, and attractive community. The provisions of this chapter shall also assist with the implementation of the General Plan of the City and other precise plans.

Title 8, Building Regulations, of the City of Artesia Municipal Code include development standards in the various zoning districts in the city.

City of Artesia General Plan

Land Use Element

The General Plan Land Use Element contains the following goals and policies:

Goal LU 1: A well planned community with sufficient land uses and intensities to meet the need of anticipated growth and achieve the community's vision.

- **Policy LU 1.1.** Identify appropriate locations for residential and non-residential development to accommodate growth through the year 2030 on the General Plan Land Use Diagram.
- **Policy LUS 1.2.** Encourage a wide variety of retail and commercial services in appropriate locations.
- **Policy LU 1.4.** Ensure mixed-use developments are integrated with surrounding uses to become part of the neighborhood by utilizing cohesive architecture, lively streetscapes, interesting urban spaces and attractive landscaping.

Goal LU 2: Stable, well-maintained residential neighborhoods.

- **Policy LU 2.1.** Protect residential areas from the effects of potentially incompatible uses.
- **Policy LU 2.2.** Encourage uniformly high standards of residential property maintenance to preserve real estate values and high quality of life.
    - **Policy Action LU 2.2.1.** Continue to monitor maintenance standards in neighborhoods to maintain high standards of appearance and stability in the neighborhood.
    - **Policy Action LU 2.2.2.** Encourage the use of property owner and other neighborhood-based associations to maintain neighborhood amenities and character.
- **Policy LU 2.3.** Prohibit uses that lead to deterioration of residential neighborhoods, or adversely impact the safety or the residential character of a neighborhood.
    - **Policy Action LU 2.3.1.**Require that the commercial and industrial developments adjoining residential uses be adequately screened and buffered from residential areas.

Sustainability Element

The General Plan Sustainability Use Element contains the following goals and policies:

Urban Design

Goal SUS 3: Approach land use planning with an emphasis on higher density, compact and mixed uses, suitable building design, transit-oriented districts, and pedestrian and bicycle friendly circulation systems.

- **Policy SUS 3.3.** Achieve and maintain a mix of affordable, livable and green housing types throughout the City for people of all socio-economic, cultural, and household groups (including seniors, families, singles and disabled).
- **Policy SUS 3.**4. Promote neighborhood identity and conservation of individual neighborhood character.
  - **Policy Action SUS 3.4.2.** Encourage the preservation of existing housing stock in well maintained condition.
  - **Policy Action SUS 3.4.3.**Support adaptive reuse and rehabilitation of existing residential, commercial, and industrial buildings where possible.

5.10.1.2 EXISTING CONDITIONS

The proposed project would establish land use designations to allow for future redevelopment that better connects the community to housing, jobs, and recreation and creates a connected business district to facilitate new economic opportunities around the future Pioneer Boulevard Light Rail Station. The proposed project would result in a potential buildout total of 1,981 housing units; 502,975 square feet of nonresidential space, including the South Street Specific Plan, Commercial Planned Development, Commercial General, Service & Professional, and Light Industrial zoning districts; 6,934 people; and 356 jobs.

Population

Table 5.10-1, *Population Estimates and Forecasts*, shows the County of Los Angeles' and City of Artesia's existing (2023) and forecast 2050 populations. The DOF population estimates are derived by multiplying the number of occupied housing units by the average persons per household. As of January 1, 2023, according to the DOF, Los Angeles County has a population of 9,761,210 persons, and the City of Artesia has a population of approximately 16,093 persons. Artesia is the 71st largest city in the county, representing less than 1.0 percent of the county's total population.

The RTP/SCS provides population, household, and employment data for counties and cities in the SCAG region for 2050. SCAG's forecasts are based on a jurisdiction's existing land uses and General Plan land use designations. Population forecasts are calculated based on household growth and household size. As shown in Table 5.14-1, the RTP/SCS forecasts that county and city populations would increase by approximately 18 percent and 10 percent, respectively, between 2023 and 2050.

As discussed in Chapter 3, *Project Description*, Table 3-4, *Comparison of Existing Conditions to Buildout of the Proposed Project (2045)*, the existing residential population of the Specific Plan area is 1,099 residents.

Table 5.10-1 Population Estimates and Forecasts

Jurisdiction	2023	2050	Change (Numeric/Percent)
County of Los Angeles	9,761,210	11,674,000	+1,912,790 +18.4%
City of Artesia	16,903	17,800	+897 +9.7%

Source: DOF 2023; SCAG 2024.

Housing

Table 5.10-2, *Housing Estimates*, shows the county's and city's existing housing units and occupancy. The DOF estimates that the county's housing stock totals 3,664,182 units, with 3,471,993 households and an average of 2.75 persons per household (DOF 2023). The DOF also estimates that the city's housing stock totals 4,771 units by adding new construction and land annexations, subtracting housing that is removed, and adjusting units lost or gained by conversions. Annual housing-unit-change data are supplied to the DOF by local jurisdictions and the U.S. Census Bureau. The City's final RHNA allocation for 2021-2029 ensures that sufficient sites are planned and zoned for housing to accommodate its housing needs need and to implement proactive programs that facilitate and encourage the production of housing. Artesia's assigned share of regional housing needs during the 2021-2029 planning period is 1,069 units.

As discussed in Chapter 3, *Project Description*, Table 3-4, *Comparison of Existing Conditions to Buildout of the Proposed Project (2045)*, the Specific Plan area includes 314 existing housing units.

Table 5.10-2 Housing Estimates (2023)

	County of Los Angeles	City of Artesia
Single-Family Homes: Attached and Detached	2,004,733	3,788
Multifamily Homes: 2+ Units	1,603,151	949
Mobile Homes	56,298	34
Total Housing Units	3,664,182	4,771
Vacancy Rate	5.2%	3.3%
Average Persons per Household	2.75	3.33
Total Occupied Units (Households)	3,471,993	4,615

Source: DOF 2023.

Employment

Table 5.10-3*, Employment Estimates and Forecasts*, shows the county's and city's existing (2024) and forecast 2050 employment. The county's employment totaled 4,767,300 jobs and is forecast to increase by approximately 10.0 percent to 5,392,000 jobs by 2050. The city's employment totaled 7,300 jobs and is forecast to decrease by 14.3 percent to 6,600 jobs by 2050.

The ratio of jobs to housing is a means of determining the general economic health of a region. SCAG applies the job-housing ratio at the regional and subregional levels to analyze the fit between jobs, housing, and infrastructure. A focus of SCAG's regional planning efforts has been to improve this balance; however, job-

housing goals and ratios are only advisory. Based on SCAG's growth projections for 2050, shown in Table 5.14-4, SCAG *Growth Projections*, SCAG is forecasting that the city will have a jobs-housing ratio of 1.32, meaning the number of jobs surpasses the number of housing units available. As discussed in Chapter 3, Project Description, Table 3-4, *Comparison of Existing Conditions to Buildout of the Proposed Project (2045)*, there are 689 existing employees in the Specific Plan area.

Table 5.10-3 Employment Estimates and Forecasts

Jurisdiction	2023	2050	Change (Numeric/Percent)
County of Los Angeles	4,767,300	5,382,000	+614,700 +10.0%
City of Artesia	7,300	6,600	-1,300 -14.3%
Source: DOF 2023; SCAG 2024.			

Table 5.10-4 SCAG Growth Projections

	City of Artesia
	2050
Population	17,800
Households	5,000
Employment	6,600
Jobs Housing Ratio	1.32
Source: SCAG 2024.	

5.10.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

P-1 Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

The Initial Study, included as Appendix A, substantiates that no impacts would occur associated with the following thresholds:

- Threshold P-2 (Impact 5.10-2)

These impacts are addressed in the Initial Study (Appendix A), and can also be found in Chapter 8, *Impacts Found Not to Be Significant*, of this Draft EIR.

5.10.3 Environmental Impacts

5.10.3.1 METHODOLOGY

The project area's demographics are examined in the context of existing and projected populations and housing units for Los Angeles County and the City of Artesia. Information on population, housing, and employment for the project area is available from several sources.

- **California Department of Finance.** The DOF prepares and administers California's annual budget. Other duties include estimating population demographics and enrollment projections.
- **California Employment Development Department.** The EDD collects, analyzes, and publishes statistical data and reports on California's labor force, industries, occupations, employment projections, wages, and other important labor market and economic data.
- **Southern California Association of Governments.** Policies, programs, employment, housing, and population projections adopted by SCAG to achieve regional objectives are expressed in the RTP/SCS.

5.10.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

Goals and Objectives 1: Connect the community to housing, jobs, and recreation.

- New housing options for all household sizes, types, and income levels.
- A place for community gathering, socializing, and rest.
- Maintenance of existing local businesses, restaurants, and shopping.
- Facilitation of housing near retail and shopping.
- Opportunity for street markets, farmers markets, fairs, pop-ups, and other community-focused events.

Goals and Objectives 2: Create a connected business district to facilitate new economic opportunities.

- New opportunities for essential retail, such as grocery stores.
- Focused preservation of local business ownership on Pioneer Boulevard.
- Attract new restaurants, retail, and other commercial industries.
- Allow for office and business park with a focus on companies that will provide technical jobs.
- Expand the job market and job opportunities in Artesia.

5.10.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.10-1: The proposed project would result in population growth in the project area. [Threshold P-1]

There are no specific development projects that are identified or included as part of the proposed project. The proposed project would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district. The proposed project's land use plan divides the project site into six zoning districts (refer to Figure 3-4, *Existing Zoning Map*, of this DEIR). These distinct zoning districts would allow for a range of land uses and density within a defined building envelope. The proposed project would result in a potential buildout total of 1,981 housing units, 502,975 square feet of nonresidential space, 6,934 people, and 356 jobs. The nonresidential element of the proposed project would allow for future development of job-generating land uses, such as commercial, office, industrial, and institutional uses.

The proposed project would encourage development by implementing land use and zoning changes that support efficient development while maintaining the unique character of the project area. The growth and increases in density under the proposed project are guided by SCAG's Connect SoCal, which assumes a population of 17,800 in the city by 2050. The proposed project would result in 1,981 housing units with a population increase of 6,868 people, or approximately 40 percent of the existing population and 38 percent of SCAG's forecast 2050 population in the city. SCAG's 2021-2029 RHNA allocation for the city is 1,069 dwelling units. The proposed project would provide 912 dwelling units above the RHNA allocation. SCAG's Connect SoCal RTP/SCS assumes 6,600 jobs in the city by 2050. The proposed project would generate approximately 356 jobs, or approximately 0.7 percent of the existing jobs and 0.8 percent of SCAG's forecast 2050 jobs in the city. The proposed project would place growth near planned or existing transit stations and areas, commercial retail service areas, and active transportation corridors. General Plan Policies LU 1.1, LU 1.2, and LU 1.4 ensure that residential and non-residential development are within appropriate locations, encourage retail and commercial services and ensure mixed-use developments are integrated with surrounding uses. Along with Goals 1 and 2 proposed under the Specific Plan, land use designations are focused on connectivity to housing, jobs and recreation and promote new opportunities for essential commercial businesses. While the implementation of the proposed project would result in increases in density and development intensity that could result in population growth, this growth would not be unplanned and would be consistent with existing regional planning assumptions regarding population growth. Impacts of unplanned population or housing growth in areas not targeted for growth or at unanticipated levels would be less than significant.

Level of Significance Before Mitigation: Less than significant.

5.10.4 Cumulative Impacts

Potential cumulative population and housing impacts are assessed relative to General Plan and regional plans, including SCAG'S Connect SoCal 2024-2050 RTP/SCS population, housing, and employment projects. SCAG's regional growth projections reflect recent and past trends, key demographic and economic assumptions

and include local and regional policies. Local jurisdictions participate in the growth forecast development process.

Cumulative impacts would occur if development of the proposed project would induce substantial unplanned population growth. The proposed project would not conflict with the General Plan, which identifies the need for new housing to meet demands throughout Southern California and specifically within the City, to account for a growing and aging population, replacement of older housing stock, and to ensure reasonable levels of choice and mobility in the marketplace. Other projects under development would be subject to project-by-project level review and project-specific measures would be required, as needed, to reduce significant impacts. Given the proposed project consistency with the General Plan and SCAG policies, as well as the potential for other related projects to be generally consistent with the population and housing policies, the proposed project would not result in significant population and housing impacts, and therefore impacts are not considered cumulatively considerable.

5.10.5 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.10-1 would be less than significant.

5.10.6 Mitigation Measures

No mitigation measures are required.

5.10.7 Level of Significance After Mitigation

Impacts are less than significant.

5.10.8 References

Artesia, City of. 2010. City of Artesia General Plan 2030. Artesia, CA.

———. 2021. 2021-2029 Housing Element Draft. Artesia, CA.

California Department of Finance (CDOF). 2023. Report E-5 Population and Housing Estimates for Cities, and Counties, and the State. Sacramento, CA: California Department of Finance.

California Economic Development Department (CEDD), Labor Market Information Division. 2023. Monthly Labor Data for Cities and Census Designated Places. Sacramento, CA: Employment Development Department.

Southern California Association of Governments (SCAG). 2024a. Connect SoCal: 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy.

———. 2024b. Connect SoCal: 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy: Demographics and Growth Forecast Technical Report.

5.11 PUBLIC SERVICES

This section evaluates the potential impacts of the Artesia Downtown Specific Plan (proposed project) to public services, specifically the proposed project's potential impacts from new or expanded facilities associated with fire protection and emergency services, police protection, school services, and library services. Park and recreation services are addressed in Section 5.12, *Recreation*.

During the scoping period for the Draft Environmental Impact Report (DEIR), written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Notice of Preparation and Comment Letters Summary*, in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping period.

5.11.1 Fire Protection and Emergency Services

5.11.1.1 ENVIRONMENTAL SETTING

Regulatory Background

State

California Building Code

The State of California provides a minimum standard for building design through the California Building Code (CBC) (California Code of Regulations, Title 24, Part 2). The CBC is based on the International Building Code but has been modified for California conditions. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local city building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Government Code

Section 65302 of the California Government Code requires general plans to include a safety element, which must include an assessment of wildland and urban fire hazards. The Safety Element in the proposed General Plan Focused Update satisfies this requirement.

California Fire Code

The California Fire Code (California Code of Regulations, Title 24, Part 9) contains fire-safety-related building standards that are referenced in other parts of Title 24 of the California Code of Regulations. The code is updated once every three years.

California Health and Safety Code

Sections 13000 et seq. of the California Health and Safety Code include fire regulations for building standards (also in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

Regional

Los Angeles County Unit Strategic Fire Plan

The Los Angeles County Fire Department is a contract county with the State of California to provide fire protection on State Responsibility Areas. It therefore functionally operates as a CAL FIRE unit and is responsible for implementing all Strategic Fire Plan activities in the county. The Los Angeles County Unit Strategic Fire Plan outlines methods to implement the 2018 Strategic Fire Plan for California. The plan identifies and prioritizes pre- and post-fire management strategies and tactics meant to reduce the loss of values at risk within the unit.

2020 Los Angeles County Fire Code Title 32

Los Angeles County Fire Code Title 32 (LACFC Title 32) establishes minimum requirements consistent with nationally recognized good practices for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures, and premises. It also provides a reasonable level of safety to firefighters and emergency responders during emergency operations. LACFC Title 32 establishes regulations affecting or relating to structures, processes, premises, and safeguards regarding, but not limited to, fire hydrant systems, water supply, fire equipment access, and posting of fire equipment access.

Local

City of Artesia Municipal Code

Title 8, Chapter 7, Fire Code adopts LACFC Title 32 as the City's Fire Code Ordinance. Fire codes are intended to provide protection of life and property from hazards of fire and explosive materials.

City of Artesia General Plan

The General Plan Community Safety Element provides the following goals and polices relevant to fire protection and disaster planning:

Goal SAF 6: Artesia's residents, employees and visitors are protected from the threat of urban fires.

- **Policy SAF 6.1.** Ensure quality fire prevention and protection services are provided to meet the needs of all Artesia community members.
- **Policy SAF 6.2**. Ensure that new structures and alterations to existing structures are properly designed and constructed to minimize fire hazards.

Existing Conditions

The City of Artesia contracts with the County of Los Angeles Fire Department (LACFD) to provide fire and emergency services. The LACFD provides services in 60 cities and unincorporated areas of Los Angeles County. The LACFD is responsible for fire response, vehicle accidents, public assistance, medical emergencies, water rescue, and hazardous material response (LACFD 2021). LACFD is also responsible for disaster preparedness and other services such as building plan review, fire prevention, and fire hydrant testing,

LACFD Fire Station 30 serves the project area. It is on the corner of South Street and Pioneer Boulevard along the project area boundaries and in the City of Cerritos.

5.11.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

FP-1 Result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services.

5.11.1.3 ENVIRONMENTAL IMPACTS

Methodology

Evaluation of impacts related to fire protection and emergency services is based on a review of existing policies, documents, and studies that address these services in Artesia. Information obtained from these sources was reviewed and summarized to describe existing conditions and to identify environmental effects based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that future projects facilitated by the proposed project would comply with relevant federal, state, and local laws, ordinances, and regulations.

Proposed Specific Plan Goals and Policies

The proposed Specific Plan does not include any policies or goals specifically related to fire protection services.

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.11-1: The proposed project would introduce new structures and residents/workers into the LACFD service boundaries, thereby increasing the requirement for fire protection facilities and personnel. [Threshold FP-1]

The LACFD operates one fire station that serves the project area; Fire Station 30 is on the corner of South Street and Pioneer Boulevard directly outside the project area boundaries. There are no specific development projects that are identifies or included as part of the proposed project, which would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district. The proposed project would result in a potential buildout total of 1,981 housing units; 502,919 square feet of nonresidential space, including the South Street Specific Plan, Commercial Planned Development, Commercial General, Service & Professional, and Light Industrial; 6,934 people; and 356 jobs . However, because the project area is in an urban setting where fire protection services and equipment/infrastructure are already in place, the proposed project is not anticipated to require construction of new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts. Future residential development projects in the project area could increase the overall population and may require the construction or expansion of fire facilities. At the planning level of analysis, it is speculative and infeasible to evaluate project-specific environmental impacts associated with the construction of future fire facilities since specific sites and time frames for development are unknown. When specific projects are necessary to meet the growth demands from buildout of the proposed project, the appropriate level of analysis required under CEQA would be conducted by the LACFD. Therefore, a less than significant impact would occur, and no mitigation is required.

Level of Significance Before Mitigation: Less than significant.

5.11.1.4 CUMULATIVE IMPACTS

The geographic context for the cumulative analysis of fire protection services is the LACFD service area. The LACFD operates on a regional aid approach where emergency response units are dispatched as needed based on unit availability rather than municipal or determined service boundaries. This regional response concept ensures that service levels are maintained throughout the entire LACFD service area. Further, because cumulative development would occur as redevelopment in urban areas where government services and facilities are already provided, cumulative development is not anticipated to result in adverse physical impacts associated with the provision of new/physically altered fire protection facilities because it is anticipated none would be needed. Consequently, the proposed project combined with other cumulative development would result in less than significant cumulative environmental impacts concerning fire protection. Therefore, the proposed project would not cause a cumulatively considerable impact concerning fire protection services.

5.11.1.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of the proposed project, the following impacts would be less than significant: 5.11-1.

5.11.1.6 MITIGATION MEASURES

No mitigation measures are required.

5.11.1.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impact are less than significant.

5.11.2 Police Protection

5.11.2.1 ENVIRONMENTAL SETTING

Regulatory Background

Local

City of Artesia Municipal Code

The City if Artesia Municipal Code does not contain any standards concerning police protection.

City of Artesia General Plan

The General Plan Community Safety Element provides the following goals and polices relevant to fire protection and disaster planning:

Goal SAF 1: Community Safety is achieved through ongoing collaborative efforts between the community, the City of Artesia, and outside agencies.

- **Policy SAF 1.1.** Provide opportunities for community involvement in crime prevention and control through. community policing and public participation programs.

Goal SAF 5: Artesia is a community with low crime rates and safe neighborhoods.

- **Policy SAF 5.1** Ensure quality police protection services are provided to meet the needs of all Artesia community members.

Existing Conditions

The Los Angeles County Sheriff's Department (LASD) provides police protection services to the City of Artesia. The LASD is the largest Sheriff's department in the world and serves approximately 10 million people over 4,084 square miles (LASD 2023). Artesia is served by the Lakewood Sheriff's Station at 5130 Clark Avenue, Lakewood (LASD 2023). The Lakewood Station provides general and specialized community-oriented law enforcement services to over 270,000 residents in the contract cities of Artesia, Bellflower, Hawaiian Gardens, Lakewood, and Paramount.

5.11.2.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

PP-1 Result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the

construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection services.

5.11.2.3 ENVIRONMENTAL IMPACTS

Methodology

Evaluation of impacts related to police protection services is based on a review of existing policies, documents, and studies that address these services in the county. Information obtained from these sources was reviewed and summarized to describe existing conditions and to identify environmental effects based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that future projects facilitated by the proposed project would comply with relevant federal, state, and local laws, ordinances, and regulations.

Proposed Specific Plan Goals and Policies

The proposed Specific Plan does not include any policies or goals specifically related to police protection services.

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.11-2: The proposed project would introduce new structures and residents and workers into the Los Angeles County Sheriff's Department service boundaries, thereby increasing the requirement for police protection facilities and personnel. [Threshold PP-1]

The proposed project would be served by the Los Angeles County Sheriff's Department. The sheriff's station nearest to the project area is the Lakewood Sheriff's Station at 5130 Clark Avenue in Lakewood. There are no specific development projects that are identified or included as part of the proposed project. The proposed project would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district. The proposed project would result in a potential buildout total of 1,981 housing units; 502,919 square feet of nonresidential space, including the South Street Specific Plan, Commercial Planned Development, Commercial General, Service & Professional, and Light Industrial; 6,934 people; and 356 jobs. However, because the project area is in an urban setting where police protection services are already in place, the proposed project is not anticipated to require construction of new or physically altered police protection facilities, the construction of which could cause significant environmental impacts. Additionally General Plan Policy SAF 5.1 would ensure that all members of the community are provided with quality police protection services to meet community needs. As future projects are developed, this may increase the overall population and may require the construction or expansion of police facilities which would require the appropriate level of CEQA to evaluate environmental impacts. Future development projects would also be subject to development impact fees that would help fund necessary public services, including police facilities. Additionally, through the City's Site Plan Review process, the Artesia Planning Department and

Building and Safety Department would review future development projects and ensure projects have adequate access and implement safety measures if needed. At the planning level of analysis, it is speculative and infeasible to evaluate project-specific environmental impacts associated with the construction of future police facilities since specific sites and time frames for development are unknown. Therefore, a less than significant impact would occur.

Level of Significance Before Mitigation: Less than significant.

5.11.2.4 CUMULATIVE IMPACTS

The geographic context for the cumulative analysis of police protection services is the Los Angeles County Sheriff's Department service area. Through the City's Site Plan Review process, the Artesia Planning Department and Building and Safety Department would review the cumulative development projects on a project-by-project basis concerning access and other safety measures. Further, as the cumulative development would occur as redevelopment in urban areas where government services and facilities are already provided, cumulative development is not anticipated to result in adverse physical impacts associated with the provision of new/physically altered police protection facilities, as it is anticipated none would be needed. The payment of development impact fees would help fund any potential additional public facilities needed to accommodate future projects. Consequently, the proposed project combined with other cumulative development would result in less than significant cumulative environmental impacts concerning police protection. Therefore, the proposed project would not cause a cumulatively considerable impact concerning police protection services.

5.11.2.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of the proposed project, the following impacts would be less than significant: 5.11-2.

5.11.2.6 MITIGATION MEASURES

No mitigation measures are required.

5.11.2.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts are less than significant.

5.11.3 School Services

5.11.3.1 ENVIRONMENTAL SETTING

Regulatory Background

State

California State Assembly Bill 2926: Facilities Act of 1986

To assist in providing school facilities to serve students generated by new development, Assembly Bill (AB) 2926 was enacted in 1986 and authorizes a levy of impact fees on new residential, commercial, and industrial development. AB 2926 was expanded and revised in 1987 through the passage of AB 1600, which added

Government Code Sections 66000 et seq. Under this statute, payment of school impact fees by developers serves as CEQA mitigation to satisfy the impact of development on school facilities.

Senate Bill 50

Senate Bill (SB) 50 (1998), which is funded by Proposition 1A, limits the power of cities and counties to require mitigation of developers as a condition of approving new development and provides instead for a standardized fee. SB 50 generally provides for a 50/50 State and local school facilities match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether State funding is available; whether the school district is eligible for State funding; and whether the school district meets certain additional criteria involving bonding capacity, year-round schools, and the percentage of moveable classrooms in use.

Local

City of Artesia Municipal Code

The City of Artesia Municipal Code does not contain any standards concerning school services.

City of Artesia General Plan

The City of Artesia General Plan does not contain any standards concerning school services.

Existing Conditions

The project area is within the jurisdictional boundaries of ABC Unified School District (ABCUSD), which provides educational services and facilities for students from kindergarten through 12th grade. ABCUSD serves over 19,000 students at 29 schools in Artesia, Cerritos, Hawaiian Gardens, Lakewood, Long Beach, and Norwalk. The public schools that serve the project site are Burbank Elementary School (K-6), Ross Middle School (7-8), and Gahr High School (9-12). Table 5.15-1, *School Facilities*, show student enrollment and capacity for the year 2022-2023.

Table 5.11.1 ABCUSD Student Enrollment and Capacity 2022-2023

School Serving the Project Area	Student Enrollment	Capacity
Burbank Elementary School (K-6)	406	635
Ross Middle School (7-8)	522	679
Gahr High School (9-12)	1,682	1,666

Source: ABCUSD 2023.

5.11.3.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

SS-1 Result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the

construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for school services.

5.11.3.3 ENVIRONMENTAL IMPACTS

Methodology

Evaluation of impacts related to school facilities is based on a review of existing policies, documents, and studies that address these services in the City of Artesia. Information obtained from these sources was reviewed and summarized to describe existing conditions and to identify environmental effects based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that future projects facilitated by the proposed project measures and actions would comply with relevant federal, state, and local laws, ordinances, and regulations.

Proposed Specific Plan Goals and Policies

The proposed Specific Plan does not include any policies or goals specifically related to school services.

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.11-3: The proposed project would generate new students who would impact the school enrollment capacities of area schools. [Threshold SS-1]

Implementation of the proposed project would result in the development of additional dwelling units and an increase in population, thereby resulting in an increase in student population. Table 5.11-2, *ABCUSD Student Generation Factors*, shows the generation factors for multifamily dwelling units. The proposed project would result in an additional 1,962 dwelling units. Based on the generation factors, this would result in approximately 541 elementary school students, 169 middle school students, and 344 high school students through the buildout horizon year of 2045. A total of approximately 1,000 additional students would incrementally increase the demand for school facilities and services.

Table 5.11-2 ABCUSD Student Generation Factors

School Level	Multifamily Attached	Number of Proposed Students
Elementary School	0.2758	541
Middle School	0.0863	169
High School	0.1754	344
Total	0.5375	1,054

Source: ABCUSD 2020.

If and when any ABCUSD needs to expand or construct new facilities to accommodate future growth in the region as well as that generated by buildout of the proposed project, funding for new schools would be obtained

from the fee program pursuant to SB 50 and state and federal funding programs. Pursuant to Section 65996 of the Government Code, payment of school fees is deemed to provide full and complete school facilities mitigation. At this planning level of analysis, it is speculative and infeasible to evaluate project-specific environmental impacts associated with the construction of future school facilities since specific sites and time frames for development are unknown. When specific projects are necessary to meet the growth demands from buildout of the proposed project, the appropriate level of analysis required under CEQA would be conducted by the respective district. Therefore, the buildout of the proposed project would result in a less than significant impact related to schools.

Level of Significance Before Mitigation: Less than significant.

5.11.3.4 CUMULATIVE IMPACTS

The geographic context for the cumulative analysis of schools is the ABCUSD jurisdiction. Development facilitated by the proposed project, along with cumulative development of projects within ABCUSD jurisdiction, would incrementally increase student population and thus demand for ABCUSD facilities. The potential growth associated with cumulative development within the ABCUSD is not anticipated to require new or physically altered school facilities, as excess capacity currently exists, the ABCUSD would assess development fees against cumulative residential, commercial, and industrial development, which would mitigate impacts resulting from the increased demand for school-related facilities services. Consequently, the proposed project combined with other cumulative development would not result in significant cumulative environmental impacts concerning schools. Therefore, the proposed project would not cause a cumulatively considerable impact concerning schools.

5.11.3.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of the proposed project, the following impacts would be less than significant: 5.11-3.

5.11.3.6 MITIGATION MEASURES

No mitigation measures are required.

5.11.3.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts are less than significant.

5.11.4 Library Services

5.11.4.1 ENVIRONMENTAL SETTING

Regulatory Background

State Laws

Mello-Roos Community Facilities Act of 1982

The Mello-Roos Community Facilities Act provides an alternative method of financing certain public capital facilities and services, especially in developing areas and areas undergoing rehabilitation. This state law empowers local agencies to establish Community Facilities Districts, special districts established by local governments in California, as a means of obtaining community funding.

Local

City of Artesia Municipal Code

The City of Artesia Municipal Code does not contain any standards concerning library services.

City of Artesia General Plan

The City of Artesia General Plan does not contain any standards concerning library services.

Existing Conditions

The Los Angeles County Public Library (LACL) system serves Artesia and provides library services to over 3.4 million residents living in unincorporated and incorporated cities in the county. The Los Angeles County Library system has 86 libraries and a 7.5-million-volume book collection. The network also offers an expansive online database, newspapers, magazines, and government publications. (DRP 2015; Los Angeles 2024). The LACL is responsible for maintenance and library improvements to meet future library service's demands. The LACL Strategic Plan identifies goals and objectives including financial management and fundraising strategies to maintain and enhance library facilities to meet future demands. Initiatives associated with the strategic plan include Tell the Library Story; Affirm the Library as a Center for Learning; Expand and Support the Digital Library; Transform the Role of the Library as Place; Support and Cultivate the Community's Creativity; Develop the Library as a Center for Community Engagement; and Develop Staff Prepared for the Future. There are three branches within a two-mile radius of the project area; the Artesia Library, the Alondra Library, and the Cerritos Library.

5.11.4.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

LS-1 Result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the

construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services.

5.11.4.3 ENVIRONMENTAL IMPACTS

Methodology

Evaluation of impacts related to library facilities is based on a review of existing policies, documents, and studies that address these services in the City of Artesia. Information obtained from these sources was reviewed and summarized to describe existing conditions and to identify environmental effects based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that future projects facilitated by the proposed project measures and actions would comply with relevant federal, state, and local laws, ordinances, and regulations.

Proposed Specific Plan Goals and Policies

The proposed Specific Plan does not include any policies or goals specifically related to library services.

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.11-4:	Result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services. [Threshold LS-1]

The proposed project forecast population growth would incrementally increase the demand for library services. The LACL facilities nearest the project area are the Artesia Library, the Alondra Library, and the Cerritos Library. There are three public libraries near the project area, so the proposed project would not stimulate the need for new facilities because adequate facilities are available. The proposed project does not propose and would not create a need for new or physically altered library facilities to maintain acceptable service ratios and standards. Therefore, the proposed project would not result in adverse physical impacts associated with the provision of such facilities. Proposed project impacts to libraries would be less than significant, and no mitigation is required.

Level of Significance Before Mitigation: Less than significant.

5.11.4.4 CUMULATIVE IMPACTS

The geographic context for the cumulative analysis of libraries is the LACL system. Development of the proposed project, combined with other cumulative development, would create additional demand on the LACL system. Through the development review process, cumulative development would be evaluated on a project-by-project basis to determine their library demands and the conditions for their establishment and operation.

Further, as the cumulative development would occur as redevelopment in urban areas where government services and facilities are already provided, cumulative development is not anticipated to result in adverse physical impacts associated with the provision of new/physically altered library facilities, as it is anticipated none would be needed. Consequently, the proposed project combined with other cumulative development would not result in significant cumulative environmental impacts concerning libraries. Therefore, the proposed project would not cause a cumulatively considerable impact concerning libraries.

5.11.4.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of the proposed project, the following impacts would be less than significant: 5.11-4.

5.11.4.6 MITIGATION MEASURES

No mitigation measure are required.

5.11.4.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts are less than significant.

5.11.5 References

ABC Unified School District. 2020. Residential and Commercial/Industrial Development School Fee Justification Study, Table 22: Maximum J, Adjusted Student Generation Factors. https://4.files.edl.io/60a9/10/22/20/190750-c177b75a-5123-47d3-a71e-5a651c3e9973.pdf.

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5.12 RECREATION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the proposed Artesia Downtown Specific Plan (proposed project) to impact public parks and recreational facilities in the City of Artesia.

During the scoping period for the Draft Environmental Impact Report (DEIR), written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Notice of Preparation and Comment Letters Summary*, in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

5.12.1 Environmental Setting

5.12.1.1 REGULATORY BACKGROUND

State

Quimby Act

The Quimby Act was established by the California Legislature in 1965 to provide parks for the growing communities in California. The act authorizes cities to adopt ordinances addressing parkland and/or fees for residential subdivisions for the purpose of providing and preserving open space and recreational facilities and improvements and requires the provision of three acres of park area per 1,000 persons residing within a subdivision, unless the amount of existing neighborhood and community park area exceeds that limit, in which case the city may adopt a higher standard not to exceed five acres per 1,000 residents. The Quimby Act also specifies acceptable uses and expenditures of such funds.

Mitigation Fee Act

The California Mitigation Fee Act (Government Code Sections 66000 et seq.) allows cities to establish fees that will be imposed upon development projects for the purpose of mitigating the impact that the development projects have upon city's ability to provide specified public facilities. To comply with the Mitigation Fee Act, the City must follow four primary requirements: 1) Make certain determinations regarding the purpose and use of a fee and establish a nexus or connection between a development project or class of project and the public improvement being financed with the fee; 2) Segregate fee revenue from the General Fund to avoid commingling of capital facilities fees and general funds; 3) Make findings each fiscal year describing the continuing need for fees that have been in the possession of the City for five years or more and that have not been spent or committed to a project; and 4) Refund any fees with interest for developer deposits for which the findings noted above cannot be made.

California Public Park Preservation Act

The primary instrument for protecting and preserving parkland is California's Public Park Preservation Act of 1971. Under the Public Resource Code, cities and counties may not acquire any real property that is in use as a

public park for any nonpark use unless compensation, land, or both are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

California Landscaping and Lighting Act

The California Landscaping and Lighting Act of 1972 authorizes local legislative bodies to establish benefit related assessment districts, or landscaping and lighting districts, and to levy assessments for the construction, installation, and maintenance of certain public landscaping and lighting improvements. Landscaping and lighting districts may be established to maintain local public parks.

Mello-Roos Community Facilities Act

The Mello-Roos Community Facilities Act provides an alternative method of financing certain public capital facilities and services, especially in developing areas and areas undergoing rehabilitation. This State law empowers local agencies to establish Community Facilities Districts, special districts established by local governments in California, as a means of obtaining community funding

Regional

Los Angeles County General Plan

Parks and Recreation Element

The purpose of the Los Angeles County General Plan Parks and Recreation Element is to plan and provide for an integrated parks and recreation system that meets the needs of residents. The element delineates classifications of parkland, identifies general issues, provides goals and policies as well as implementation programs for the maintenance and expansion of the County's parks and recreation system.

Conservation and Natural Resources Element

The Conservation and Natural Resources Element of the Los Angeles County General Plan guides the long-term conservation of natural resources and preservation of available open space areas and addresses numerous conservation areas, including open space resources; biological resources; local water resources; agricultural resources; mineral and energy resources; scenic resources; and historical, cultural, and paleontological resources. The Open Space Resources section in particular addresses open space and natural area resources, including County parks and open spaces such as beaches.

Local

City of Artesia Municipal Code

The City of Artesia Municipal Code does not contain any standards concerning recreation facilities.

City of Artesia General Plan

General Plan Sustainability and Open Space Elements provide the following goals and polices relevant to public services and recreation:

Goal SUS 4: Preserve, sustain, and restore natural resources within the local, regional, and global community in order to increase opportunities for interaction with nature.

- **Policy SUS 4.1.** Increase tree canopy and provide natural landscape elements throughout the City.
- **Policy SUS 4.2.** Expand public space in the City by establishing new parks, civic plazas, and open space as funding allows. Prioritize development of new park facilities in currently underserved areas within the City.

Goal OS 1: Parks and open space are preserved, enhanced, and expanded to provide access to open space in all of Artesia's Neighborhoods.

- **Policy Action OS 1.1.1.** Continue joint-use agreements with the ABC Unified School District to utilize school sites as community open space resources.
- **Policy OS 1.2.4.** Pursue available resources to fund parkland acquisitions and development including Federal, State, and local funding grants or donations.

Resolution No. 19-2742

On May 13, 2019, the City of Artesia City Council adopted Resolution No. 19-2742, Adopting a Development Impact Fee Schedule for New Development within the City of Artesia for Public, Traffic, Storm Drain, Parks and Recreation, and Community Center Facilities Fees. Development Impact fees (DIF) are used to mitigate the impacts of new residents and visitors on the community as a result of new development. DIFs may not exceed the cost of providing the services or facilities necessitated by the development and proceeds must be spent on such services or facilities.

5.12.1.2 EXISTING CONDITIONS

The City of Artesia is in a highly urbanized area and is generally built out with no undeveloped/open spaces. The city's open spaces are predominantly developed as recreational areas. They include parks, community centers, and schools with joint-use facilities. The City is currently developing the Artesia Botanical Gardens, which will provide additional community and recreational facilities. The nearest park is less than one mile east of the project site. Table 5.12-1, *Parks and Recreational Facilities*, shows the parks and recreational facilities available to city residents.

Table 5.12-1 Parks and Recreational Facilities

Facility	Address	Classification	Size (acres)
City of Artesia			
Artesia Botanical Garden	11504 178th Street	Community Park	1.34
Artesia Park	18750 Clarkdale Avenue	Community Park	14.79
A.J. Padelford Park	11870 169th Street	Neighborhood Park	1.56
Baber Park	17189 Avenue	Pocket Park	0.9
ABC Unified School District Properties (Joint-Use Opportunities)			
Faye Ross Junior High	17707 Elaine Avenue	Joint Use	12.99
John H. Niemes Elementary	16715 Jersey Avenue	Joint Use	7.74
Luther Burbank Elementary	17711 Roseton Avenue	Joint Use	4.96
William F. Elliot Elementary	18415 Cortner Avenue	Joint Use	5.72
Regional Parks			
Don Knabe Community Regional Park	19700 Bloomfield Avenue Cerritos, Ca	Regional Park	84.00
Ralph B. Clark Regional Park	8800 Rosecrans Avenue Buena Park, CA	Regional Park	105.00
El Dorado East Regional Park	7550 East Spring Street Long Beach, CA 90815	Regional Park	388.2

Source: Artesia 2024.

The City currently owns and maintains three parks totaling 17.25 acres. To satisfy the Quimby Act based on 3 acres of parkland per 1,000 residents, based on the current population, the City of Artesia would need an additional 33 acres of parkland. The City also has a joint-use agreement with the ABC Unified School District (ABCUSD) to utilize school sites as a community open space resource. ABCUSD properties are currently developed as school sites but maintain a considerable amount of open space for community use when school is not in session. The ABCUSD owns and maintains four school sites that provide 31.41 acres of open space in the city. Regional recreational facilities are situated outside Artesia city limits but are within a reasonable travelling distance for city residents. The Don Knabe Community Regional Park in Cerritos, the Ralph B. Clark Regional Park in Buena Park, and El Dorado East Regional Park in Long Beach provide supplemental recreational opportunities and amenities to Artesia residents. Combined, City and ABCUSD facilities provide approximately 49 acres of parkland/open space.

5.12.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

R-1 Would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

R-2 Includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

5.12.3 Environmental Impacts

5.12.3.1 METHODOLOGY

The Quimby Act standard requires a minimum of three acres of parkland per 1,000 residents. Local parkland includes active, passive, special use, neighborhood, and community parks, but does not include regional parks, open space, National Forest land, or regional trails.

Parks, recreation, and open space resources range from vibrant community and regional parks to natural areas, trails, and open spaces. Active and passive recreation facilities are available at the parks, including but not limited to athletic fields, playgrounds, picnic areas, and multiuse trails for biking. These facilities also offer many sports, special interests, and educational classes. For the purposes of this analysis, parks are identified as either local or regional, which are defined as follows:

- **Local Park.** Local park spaces typically provide facilities for active recreation and gathering that meet neighborhood needs, offer opportunities for daily recreation, and are highly utilized. Local parks have facilities such as picnic areas and playgrounds, and they can accommodate a variety of organized sports, including soccer, baseball, tennis, volleyball, basketball, and skateboarding.

- **Regional Park.** Regional recreation parks are over 100 acres and of regional importance. These facilities contain active amenities such as athletic courts and fields, playgrounds, and swimming pools. They also offer opportunities for wildlife viewing, beautiful scenery, conservation, and outdoor recreation, including hiking, biking, and equestrian trails, that serve residents and visitors throughout the county. Other types of regional facilities besides parks in the Planning Area include trails, trailheads, staging areas, equestrian parks, natural areas, and golf courses.

Additionally, for purposes of this analysis, active and passive recreation facilities are defined as follows:

- **Active.** Active recreation includes organized play areas such as sports facilities for softball, baseball, football, and soccer fields; volleyball, tennis, and basketball courts, swimming pools, and/or forms of playground equipment.

- **Passive.** Passive recreation typically does not require organized play areas or sports facilities and such parks are often irregular in shape. Passive recreation often includes open space areas and trails; it also includes facilities for walking, picnicking, and water sports such as fishing or rowing.

School facilities may also provide land and facilities for recreational use on a limited basis through a joint-use agreement between the City and school districts. In general, public school recreational facilities are open to the public during non-school hours. Elementary schools may provide adjunct recreation opportunities to surrounding neighborhoods during non-school hours. Junior high schools and high schools may provide adjunct community-wide facilities for public use.

This analysis section evaluates the potential impacts of the proposed project's policies on existing parks and recreational facilities within the City of Artesia using the State CEQA Guidelines' thresholds of significance.

This impact analysis evaluates if the proposed goals and policies would result in significant environmental impacts as a result of use, construction, expansion, or interference with existing parks, open space, and recreational resources in the project area.

5.12.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

Open Space and Landscaping

2.4.1 Open Space Requirements. General. Open Space shall be provided per the following standards:

a) A minimum of two hundred (200) square feet of open space per unit, with dimensions no less than ten (10) feet. The provided open space may be private, common, or a combination of both.

b) New non-residential development over twenty-thousand (20,000) square feet shall provide open space equal to five (5) percent of the overall development parcel(s), inclusive of any easements, but not including any dedications.

c) Mixed-use projects shall proved open space based on the combined requirements of both residential units and non-residential as described above in (a) and (b).

d) New projects over twenty-five (25) units and/or forty-thousand (40,000) square feet are required to provide publicly accessible open space in addition to the standards above. Publicly accessible open space shall be equal to ten (10) percent of the overall development parcel(s), inclusive of any easements, but not including any dedications.

5.12.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.12-1: The proposed project would generate additional residents that would increase the use of existing park and recreational facilities. [Threshold R-1]

There are no specific development projects that are identified or included as part of the proposed project. The proposed project would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district. The proposed project would result in a potential buildout total of 1,981 housing units, 502,919 square feet of nonresidential space, 6,934 people, and 356 jobs.

Each jurisdiction determines the appropriate park standard based on the guidance provided by Section 66472 of the California Government Code, commonly referred to as the Quimby Act, which allows a city to require a standard of 3 acres of parkland per 1,000 residents. Currently, there is a total of 17.25 acres of parkland in Artesia, not including joint-use recreational facilities at schools or other private facilities. The proposed project's forecast population growth would create a demand for an additional 3.4 acres of parkland. Additionally, the City is currently constructing the Artesia Botanical Gardens, which will add an additional 1.34 acres of parkland and recreational amenities, reducing impacts on existing park facilities. The proposed project would not

deteriorate or physically alter a park facility as a result of increased population's use of existing parks. Therefore, the proposed project would not result in adverse physical impacts associated with such facilities. In addition, the proposed project would be subject to compliance with City Resolution No. 19-2742, which requires payment of DIFs to mitigate the impacts of new residents and visitors on parks and recreation facilities (i.e., parkland) as a result of new development. Payment of in-lieu fees, as permitted by the Quimby Act, would minimize the proposed project's impacts concerning demand for parkland. The proposed Specific Plan outlines open space requirements based on future development of housing units and nonresidential development that will connect the area to provide access to diverse recreational amenities. Therefore, a less than significant impact would occur.

Level of Significance Before Mitigation: Less than significant.

Impact 5.12-2: Project implementation would result in environmental impacts to provide new and/or expanded recreational facilities. [Threshold R-2]

As described above, there are no specific development projects that are identified or included as part of the proposed project, though open space standards are included as part of the proposed project for future developments. The proposed project would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district. Development standards would include requirements for open space and landscaping. Indirect but forecast population growth would be anticipated within the areas proposed for increased residential density based on the proposed land use and zoning changes associated with the proposed project; however, open space standards would reduce the impact on existing parks and recreational facilities.

Addressing the site-specific impacts of future park development is beyond the scope of this EIR, and subsequent environmental review for any future park improvements would be required. The expansion of existing recreational facilities or construction of new recreational facilities may result in construction impacts related to site demolition, grading, building development, and landscaping. However, is it speculative to determine what impacts may arise because the exact location and extent of these future projects is unknown. Potential physical impacts on the environment related to future parks and recreational facilities projects would be analyzed and mitigated, if required, on a project-by-project basis in compliance with CEQA. State and local regulations would require project-level mitigation for potentially significant impacts to the environment that may result from the construction or expansion of parks and recreational facilities. Therefore, implementation of the proposed project as a programmatic document directing future growth and development within the project area would not result in the construction or expansion of recreational facilities that may have the potential to result in adverse effects on the environment. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant.

5.12.4 Cumulative Impacts

The geographic context for the cumulative analysis of parks and recreation is the City of Artesia. Development of the proposed project, combined with other cumulative development, would create additional demand on

the existing City parks and recreational facilities due to population growth. Through the development review process, cumulative developments would be evaluated on a project-by-project basis to determine their parkland demands and the conditions for their establishment and operation. The Artesia Botanical Gardens are currently under development and will add additional parkland that would aid in reducing impacts to existing parks and recreational facilities. Payment of Quimby fees, DIFs, and/or land dedications by cumulative developments would mitigate the impacts from cumulative demands for parkland to less than significant levels. Consequently, the proposed project combined with other cumulative development would not result in significant cumulative environmental impacts concerning parks and recreational facilities. Therefore, the proposed project would not cause a cumulatively considerable impact concerning parks and recreational facilities.

5.12.5 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.12-1 and 5.12-2.

5.12.6 Mitigation Measures

No mitigation measures are required.

5.12.7 Level of Significance After Mitigation

Impacts are less than significant.

5.12.8 References

Artesia, City of. 2010. City of Artesia General Plan 2030 Environmental Impact Report. http://www.cityofartesia.us/DocumentCenter/View/92/Sec00TableofContents?bidId=.

———. 2024. Recreation Facilities. https://ca-artesia2.civicplus.com/367/Recreation-Facilities.

5.13 TRANSPORTATION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Artesia Downtown Specific Plan (proposed project) to result in transportation and traffic impacts in the City of Artesia. The analysis in this section is based in part on the following technical report(s):

- *Local Transportation Assessment Artesia Downtown Specific Plan*, Linscott, Law & Greenspan Engineers (LLG), February 5, 2025
- *Transportation Impact Study Artesia Downtown Specific Plan*, LLG, February 5, 2025

Complete copies of these studies are in the technical appendices to this DEIR (Appendices G and H)

During the scoping period for the DEIR, written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Summary of Scoping Comments Received*, in Chapter 2, *Introduction*, of this DEIR includes a summary of all comments received during the scoping comment period. Comments from the City of Cerritos, California Department of Transportation (Caltrans), and the public were received related to transportation.

5.13.1 Environmental Setting

5.13.1.1 REGULATORY BACKGROUND

Federal

Americans with Disabilities Act

The 1990 Americans with Disabilities Act (ADA) prohibits discrimination toward people with disabilities and guarantees they have the same opportunities as the rest of society to become employed, purchase goods and services, and participate in government programs and services, and participate in government programs and services. The ADA includes requirements pertaining to transportation infrastructure. The Department of Justice's regulations for Titles II and III of the ADA, known as the 2010 ADA Standards for Accessible Designs, set minimum requirements for newly designed and constructed or altered State and local government facilities, public accommodations, and commercial facilities to be readily accessible to and usable by individuals with disabilities. These standards apply to accessible walking routes, curb ramps, and other facilities.

Highway Performance Monitoring System

The Highway Performance Monitoring System (HPMS) is a federally mandated inventory system and planning tool designed to assess the nation's highway system. HPMS is used as a management tool by State and federal governments and local agencies to analyze the system's condition and performance. The HPMS data are used for the allocation of federal funds, identification of travel trends and future forecasts, Environmental Protection Agency air quality conformity tracking, and biennial reports to the United States Congress on the state of the nation's highways. The HPMS is administered by Caltrans, with additional technical data provided by local agencies.

State

Sustainable Communities Strategies: Senate Bill 375

Senate Bills (SB) 375 provides a planning process to coordinate land use planning and regional transportation plans (RTP) and funding priorities to help California meet the greenhouse gas (GHG) reduction goals establish in Assembly Bill (AB) 32. SB 375 requires that RTPs developed by metropolitan planning organizations (MPO) (e.g., Southern California Association of Governments [SCAG]) incorporate a "sustainable communities strategy" (SCS) that would achieve GHG emission reduction targets set by the California Air Resources Board (CARB). SB 375 also includes provisions for streamlined California Environmental Quality Act (CEQA) review for some infill projects, such as Transit-Oriented Developments (TODs).

Senate Bill 743

SB)743, approved in 2013, mandated a change in the way transportation impacts are determined according to the CEQA. The Governor's Office of Planning and Research (OPR) directed the use of vehicle miles traveled (VMT) as the replacement for automobile delay-based level of service (LOS) for purposes of determining a significant transportation impact under CEQA. As of December 2018, the Natural Resources Agency finalized updates to the CEQA Guidelines to incorporate SB 743 (i.e., VMT). To assist in the implementation of VMT as the primary measure of a transportation impact under CEQA, the OPR published an updated Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR Technical Advisory) in December 2018. Statewide application of the new guidelines went into effect on July 1, 2020.

The OPR Technical Advisory includes the following main components for the assessment of development projects.

- **Analysis Methodologies –** Identification of potential threshold that can be considered when establishing thresholds of significance for VMT assessment and recommendation of analysis methodologies for VMT impact screening and analysis.
- **Mitigation Memorandum –** Types of mitigation that can be considered for VMT mitigation.

The City has not yet adopted a methodology and significance threshold for use in CEQA compliance. Therefore, the project's VMT analysis was based on the Los Angeles County Transportation Impact Analysis Guidelines (TIA Guidelines) (July 23, 2020), which are based on the OPR Technical Advisory.

Regional

Connect SoCal 2024

In compliance with SB 375, on April 4, 2024, the SCAG Regional Council adopted the *Connect SoCal 2024-2050 Regional Transportation Plan/Sustainability Communities Strategy* (Connect SoCal). Connect SoCal is a long-range visioning plan that incorporates land use and transportation strategies to increase mobility options and achieve a more sustainable growth pattern. A sustainable concentration and share of growth is directed to Priority Development Areas (PDAs), which include high-quality transit corridors (HQTCs), Transit Priority Areas

(TPAs), job centers, Neighborhood Mobility Area (NMAs), Livable Corridors, and Spheres of Influence (SOIs) (in unincorporated areas only). These areas account for 8.2 percent of SCAG's total land area but most of the directed growth. (SCAG 2024)

Connect SoCal "Core Vision" prioritizes maintenance and management of the region's transportation network, expanding mobility choices by co-locating housing, jobs, and transit, and increasing investment in transit and complete streets. Strategies to achieve the Core Vision include, but are not limited to, Smart Cities and Mobility Innovations, Housing and Sustainable Development, and Active Transportation and Safety. Connect SoCal intends to create benefits for the SCAG region by achieving regional goals for sustainability and transportation.

Los Angeles Metro Long Range Transportation Plan (LRTP)

The Los Angeles County Metropolitan Transportation Authority (Metro) adopted the 2020 LRTP, "Our Next LA," in September 2020 (Metro 2020). It is the first update to the LRTP since 2009 and provides a vision for transportation in Los Angeles County through 2047. The plan aims to address population growth, changing mobility needs and preferences, technological advances, equitable access to opportunity, and adaptation to a changing environment. The plan details construction of an additional 100 miles of fixed-guideway transit, investments in arterial and freeway projects to reduce congestion, and construction of regional-scale bicycle and pedestrian projects to increase active transportation. Other efforts detailed in the plan include traffic management practices for congested roadways (e.g., Express Lanes and toll lanes); maintaining and upgrading the existing transportation system for all modes; and partnering with local, state, and federal agencies and the private sector. Our Next LA includes transit and highway improvements funded by Measure M; expansion of off-peak transit service, of the active transportation network, and of programs such as Express Lanes; partnerships to provide bus only lanes and freight management policies; and bold policy proposals, including more affordable transit, faster bus trips, and subregional congestion pricing.

In the City of Artesia, Metro is planning the construction of a new Metro light rail line (referred to as the Southeast Gateway Line Branch) that would connect southeastern Los Angeles County communities, including Artesia, to Downtown Los Angeles. The new Metro light rail line extension is anticipated to connect to Pioneer Boulevard in 2035.[1] The Final EIR for the Metro light rail line extension was certified April 2024 (Metro 2024).

Metro Vision 2028 Plan

The Metro Vision 2028 Plan is a strategic plan that lays the foundation for transforming mobility across the county over the 10-year period ending in 2028 (Metro 2018). The plan seeks to increase prosperity for all by removing mobility barriers, provide swift and easy mobility anytime throughout Los Angeles County, and accommodate more trips through a variety of high-quality mobility options. The plan seeks to increase mobility across the county by reducing the number of people who drive alone and increasing the number of trips people take by transit, walking, rolling modes such as biking and scootering, shared rides, and carpooling. It also seeks to improve the customer experience by reducing maximum wait times for any transit trip to 15 minutes or less,

[1] The Pioneer Boulevard Light Rail Station would be developed as the southern terminus of a 14.5-mile segment that connects southeast Los Angeles to downtown Los Angeles. The forecast completion date is 2035 (Metro 2024).

even during peak periods, improving bus travel speeds by 30 percent, and providing reliable, convenient options for users to bypass congestion.

Metro Active Transportation Strategic Plan

Adopted in 2016, the Metro Active Transportation Strategic Plan (ATSP) sets goals and objectives for implementing active transportation improvements across Los Angeles County. The plan established existing conditions and defined implementation steps, funding strategies, and performance metrics for the countywide active transportation network. Metro updated the 2016 ATSP in 2023; the 2023 ATSP Update was adopted by the Metro Board in November 2023 (Metro 2023). Updating the 2016 ATSP furthered Metro's mission of providing world-class transportation system, focusing specifically on the regional active transportation network and first/last mile connectivity to transit. Relevant goals of the 2023 ATSP include the following:

- **Equity.** Low-income populations, communities of color, and other vulnerable and underserved people have equitable access to safe and convenient active transportation options.
- **Safety and Comfort.** Bicycling, walking, and rolling are increasingly safe and comfortable.
- **Accessibility.** Bicycle and pedestrian access to transit, jobs and other destinations is increasingly convenient and competitive.
- **Connectivity.** An expansive and connected world-class bicycle and pedestrian network serves a growing share of countywide trips.
- **Sustainability.** Active transportation is an integral component of a sustainable transportation system that contributes to regional climate change mitigation efforts.

Metro NextGen Bus Plan

Adopted in 2020, Metro's NextGen Bus Plan reimagines its bus network to be more relevant, reflective of, and attractive to the diverse customer needs within Los Angeles County (Metro 2020). The plan proposes major bus service changes across the Metro service area, including the development of a new bus network to improve service to current customers, attract new customers, and win back past customers. The NextGen Bus Plan represents the first major overhaul to Metro bus service in more than a quarter century. The plan's five main goals include:

1. Doubling the number of frequent Metro bus lines.
2. Providing more than 80 percent of current bus riders with 10-minute or better frequencies.
3. Expansion of midday, evening, and weekend service, creating an all-day, seven-days-a-week service.
4. Ensuring a quarter-mile walk to a bus stop for 99 percent of current riders.
5. Creating more comfortable and safer transit stops.

Additional plan strategies include:

- Align travel patterns with travel propensity.
- Develop service tiers.
- Establish seamless connectivity with local municipal operators.
- Increase the number of routes operating frequently.
- Ensure all fixed-route services provide headways of 30 minutes or better.
- Create standardized frequencies by service tier.
- Make the network easier for riders to understand.
- Align schedules with midday, evening, and weekend riders.
- Consolidate Rapids/Locals into a single service.
- Consolidate stops.
- Apply all strategies through an equity lens.
- Equity, improved public health and safety, and enhancement of the region's overall quality of life.

Los Angeles County Bicycle Transportation Strategic Plan

The Los Angeles County Bicycle Transportation Strategic Plan is "designed to be used by the cities, the County, and transit agencies in planning regionally significant bicycle facilities, setting priorities for improving mobility through the use of bicycles with transit, and filing gaps in the interjurisdictional bikeway network." The goal is to integrate bicycle use in all transportation planning: existing and future transit and transportation-oriented development. This plan provides a new look at bicycle use to relieve congestions, improve air quality, reduce VMT, and increase transit viability. One gap identified in the inter-jurisdictional bicycle network falls within Artesia along the West Santa Ana Branch Metro Right-of-Way with the suggested improvement of a bike path between Bellflower and Coyote Creek/Orange County border.

Access Services

Access Services is a State-mandated local governmental agency created by Los Angeles County's public transit agencies to administer and manage the delivery of regional ADA paratransit service. Access Services was established by 44 public fixed route transit operators in the county. It is governed by a nine-member board appointed by the County municipal fixed-route operators, the Los Angeles County local fixed-route operators, the City of Los Angeles, the County of Los Angeles, the Transportation Corridor Representatives of the Los Angeles branch of the League of Cities, the Los Angeles County Commission on Disabilities, and the Coalition of Independent Living Center. Access Services promotes access to all modes of transportation and provides quality ADA paratransit service on behalf of public transit agencies in Los Angeles County, including those serving Artesia.

Local

City of Arteria General Plan

The General Plan Community Development Element provides a Circulation and Mobility Sub-Element that contains the following goals and policies that are applicable to the proposed project.

Goal CIR 4: Reduce vehicle miles traveled.

- **Policy CIR 4.1.** Promote a balance of residential, commercial, institutional, and recreational uses with adjacencies that reduce vehicle miles traveled.
- **Policy CIR 4.2.** Encourage practices which reduce dependency on single-occupant vehicle trips.

Goal CIR 5: Increased awareness and use of alternate forms of transportation to circulate in the City and to/from surrounding communities.

- **Policy CIR 5.1.** Promote the use of public transit.
- **Policy CIR 5.2.** Encourage bicycling as an alternate mode of transportation in the City
- **Policy CIR 5.3.** Provide for safe pedestrian access throughout the City.

The General Plan Community Safety Sub-Element that contains the following goals and policies that are applicable to the proposed project:

Goal SAF 5: Artesia is a community with low crime rates and safe neighborhoods.

- **Policy SAF 5.1.** Ensure quality police protection services are provided to meet the needs of all Artesia community members.

Artesia Municipal Code

Arteria Municipal Code (AMC) Title 9, Chapter 2, Article 11.5, Transportation Demand Management, requires environmental review of a project's transit impacts and specifies travel demand management measure to be incorporated into certain nonresidential development projects in the city.

AMC Section 9-2.1153, Environmental Review of Transit Impacts, specifies that "prior to approval of any development project for which an EIR will be prepared pursuant to the requirements of CEQA or based on a local determination, regional and municipal fixed-route transit operators providing service to the project shall be identified and consulted with." The "Transit Impact Review Worksheet," contained in the Los Angeles County Congestion Management Program (CMP) Manual, or similar worksheets, shall be used in assessing impacts. This section requires that transit operators be given opportunity to comment on a project's impacts to identify recommended transit service or capital improvements that may be required as a result of the project, and to recommend mitigation measures that minimize automobile trips on the CMP network.

AMC Section 9-2.1154, Transportation Demand and Trip Reduction Measures, specifies that prior to approval of any development project, the applicant shall make provision for, at a minimum, all the applicable transportation demand management and trip reduction measures identified in the section. Additionally, the section specifies that "all facilities and improvements construction or otherwise required shall be maintained in a state of good repair. The property owner shall be responsible for complying with the provisions of this article either directly or by delegating such responsibility as may be appropriate to a tenant or to an agent."

Artesia Emergency Operations Plan

The City of Artesia Emergency Operations Plan (EOP) provides for the mobilization of all the resources of the City to meet any condition constituting a local emergency, state of emergency, or state of war emergency; and provides for the organization, powers and duties, services, and staff of the emergency organization.

The EOP continues the City's compliance with the California Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). It facilitates multiagency and multi-jurisdictional coordination during emergency operations, public information functions, and resource management. The EOP also tasks the Emergency Service Coordinator (as assigned by the City Manager) with ensuring staff receive initial and refresher training in the use of the EOP. (Artesia 2020)

5.13.1.2 EXISTING CONDITIONS

The City is bordered by the City of Norwalk to the north and the City of Cerritos to the south, east, and west; therefore, circulation issues and travel patterns extend beyond the City's limits. Arterial roadways extend through the city and beyond the city boundaries into neighboring cities. The land use and traffic patterns in nearby jurisdictions have the potential to affect the quality of traffic flow and mobility in the city, and conversely, traffic conditions and decisions made by the City of Artesia can affect its neighbors.

Roadway Network

Street Classification

The roadway network in the project site is made up of the following street types:

- **Primary Arterial.** Primary arterial roadways provide access to important local destinations and are multi-lane, high-volume, car-oriented corridors with left-turn-only lanes or medians. The Circulation Element defines primary arterials to have an Average Daily Traffic (ADT) capacity of 25,000. Artesia's primary arterials are characterized as mostly divided four-lane roads, 80-foot right-of-way, with intersections at grade and partial control of access.

- **Secondary Arterial.** Secondary arterial roadways connect primary arterial roadways to collector streets and local roads. Primary arterials tend to be multi-lane, moderate-to-high volume, and car-oriented, with a capacity of 20,000 ADT. Artesia's secondary arterials are defined as undivided, four-lane roads with intersections at grade and partial control of access with a 20,000 ADT.

- **Collector Road.** Collector roads are local roadways that connect neighborhoods to arterials and can sometimes serve as alternative routes to arterial roadways. Collector roads tend to have lower volumes, speeds, and numbers of lanes than arterial roadways, with a capacity of 5,000 ADT.

- **Local Road.** Local roads provide direct access to individual properties within residential areas and tend to be two-lane, low-speed, and low-volume corridors.

Figure 5.13-1, *Street Classifications*, identifies the street classifications within the boundaries of the Specific Plan area.

Roadway Access

Two major freeways provide regional access to the project site: Artesia Freeway (State Route 91 [SR-91]) to the north and Interstate 605 (I-605) to the west. From SR-91 access to the project site is provided via Pioneer Boulevard, which bisects the project site. From I-605, access to the project site is provided via South Street, which traverses through the southern portion of the project site. Both Pioneer Boulevard and South Street are designated as Primary Arterial Highways. Additional vehicular access within the Specific Plan area is provided by 183rd Street, which is designated as a Secondary Arterial Highway.

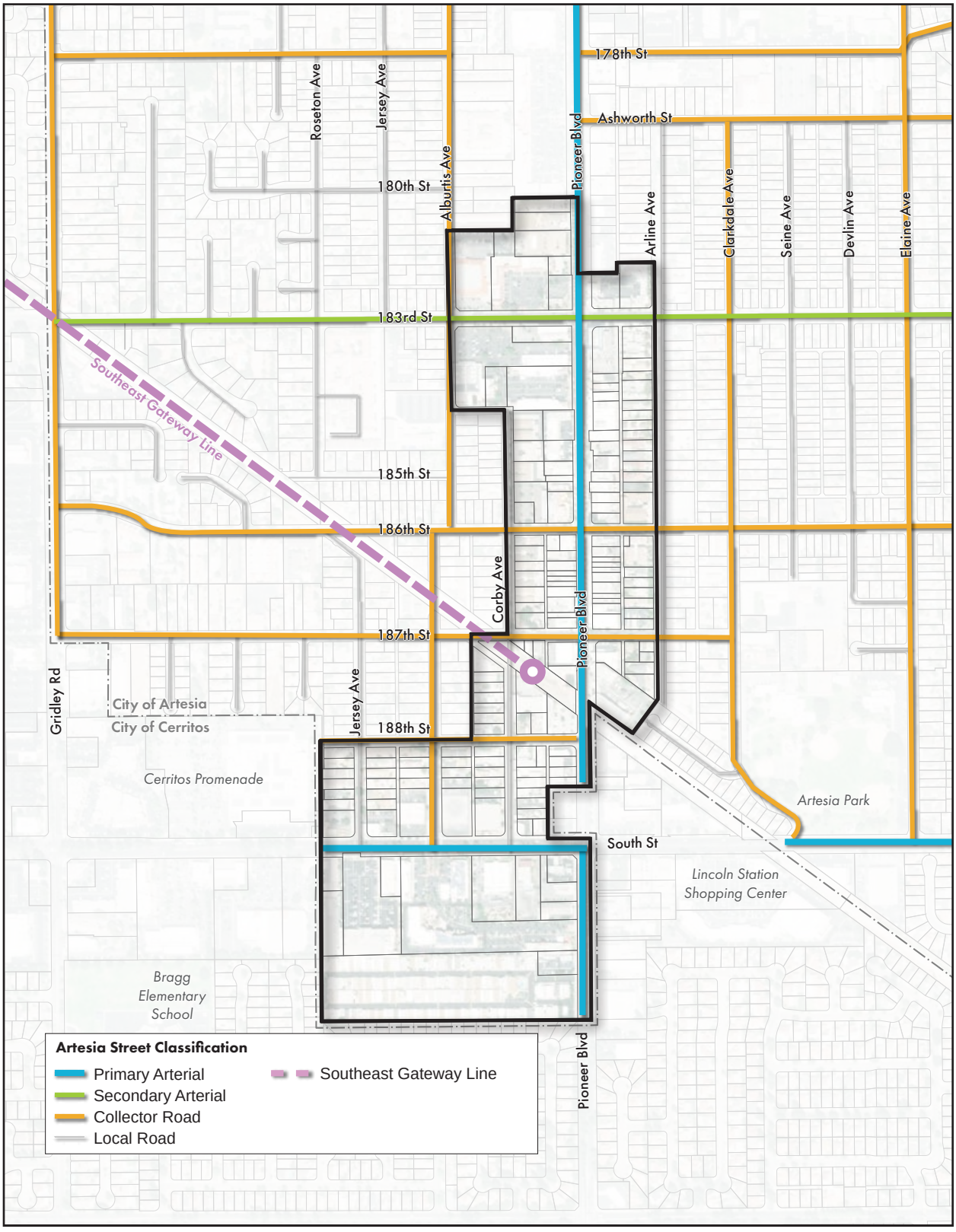
Artesia is served by a traditional grid system of north-south and east-west arterials, with approximately 0.50-mile spacing and signals at each arterial intersection. Smaller collector and neighborhood streets connect neighborhoods and commercial land uses to the arterial street system. Specifically, 186th Street and 187th Street are designated as Collector roadways. These roadways, along with local streets, provide direct access to the parcels included in the project area.

Pedestrian Infrastructure

Sidewalk Network

The project area consists of a traditional grid of streets with a complete network of sidewalks and curb ramps. Sidewalk widths range from four feet on residential streets to 20 feet along the downtown core and vary in design elements. With a complete sidewalk network, the project site has the fundamental infrastructure needed to facilitate safe off-street pedestrian connectivity. Public sidewalks are provided along all roadways in the project area, including Pioneer Boulevard, 183rd Street, 187th Street, and South Street. Striped crosswalks are along Pioneer Boulevard and South Street, and pedestrian signals are provided at all intersections at all signalized intersections.

Figure 5.13-1 - Streets Classifications



Source: PlaceWorks 2024.

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Curb Ramps

The American with Disabilities Act (ADA) requires State and local governments to provide curb ramps with detectable warnings at pedestrian crossings and at public transportation stops where walkways intersect with a curb. A curb ramp is a short ramp that cuts through or is built up to a curb to facilitate access between a sidewalk and a roadway for people using wheelchairs, walkers, strollers, skateboards, scooters, mobility devices, or health-related mobility limitations. ADA curb ramps with tactile warning strips consisting of yellow or grey truncated dome pads are provided at most major intersections in the project area; however, truncated dome pads are not provided for all existing curb ramps at the intersections of Pioneer Boulevard/186th Street or Pioneer Boulevard/187th Street.

Streetscape Enhancements

Streetscape enhancements refer to design features that make the pedestrian experience more comfortable and enjoyable. Streetscape enhancements include street trees, public art, seating, pedestrian-scale lighting, decorative pavement, and more. Some streets, such as portions of Pioneer Boulevard, have enhanced sidewalks with greater widths, pedestrian-scale lighting, decorative pavement, seating, trash receptacles, and street trees. Other sidewalks, such as the northeast corner of Pioneer Boulevard and 183rd Street, have meandering sidewalks with landscaping, which provide shade and natural scenery. These existing design elements help to distinguish Downtown Artesia from other neighborhoods.

Bicycle Facilities

Bicycle infrastructure consists of both facilities within the roadway as well as public bicycle parking spaces. The federal and State transportation systems recognize the following bikeway facilities. Bicycle facilities are defined as:

- **Class I (Multi-use Path).** Class I multi-use paths (frequently referred to as "bicycle paths") are physically separated from motor vehicle travel routes, with exclusive rights-of-way for nonmotorized users like bicyclists and pedestrians.
- **Class II (Bicycle Lane).** Class II bicycle lanes are one-way facilities that carry bicycle traffic in the same direction as the adjacent motor vehicle traffic. They are typically located along the right side of the street between the adjacent travel lane and the curb, road edge, or parking lane.
- **Class III (Bicycle Route).** Class III bicycle routes are suggested bicycle corridors marked by signs designating a preferred street between destinations. They are recommended where traffic volumes and roadway speeds are low (35 mph or less) since bicyclists and motor vehicles share the road.
- **Class IV (Separated Bikeway).** Class IV separated bikeways, also known as cycle tracks, are physically separated from motor vehicle traffic, and are designed to be distinct from any adjoining sidewalk.

Figure 5.13-2, *Existing Bicycle Facility Network*, depicts the existing bicycle facility network in the project site. Currently, a Class I bicycle path is provided along the West Santa Ana Branch Transit Corridor right-of-way in Artesia. Within the Specific Plan area, Class II bicycle lanes are provided on both sides of South Street between Park Place Center and Pioneer Boulevard and along Pioneer Boulevard between 188th Street and the city limit.

The Artesia Active Transportation Plan identifies additional planned facilities within the city, including a planned extension of the Class I bicycle path to the eastern city limit, as well as Class IV separated bikeway along Pioneer Boulevard north of 184th Street. Class II bike lanes are proposed along 183rd Street, while a Class III Bike Route is proposed along 187th Street.

Public Transit

Public transit services are provided within the City by Los Angeles County Metropolitan Transportation Authority (Metro), Artesia City Transit (Artesia Transit), Long Beach Transit, Norwalk Transit System (Norwalk Transit), City of Cerritos (Cerritos on Wheels) and Orange County Transit Authority (OCTA) provide public transit service in Downtown Artesia. The existing public transit routes in the vicinity of the project site are illustrated in Figure 5.13-3, *Existing Transit Network*. A summary of the existing transit service within approximately 0.5-mile of the project site, including the transit line number, corridor(s) served, nearest stop, and typical number of buses per hour is provided in Table 5.13-1, *Existing Transit Facilities*. There are no existing passenger rail lines through Downtown Artesia. However, as previously mentioned, the planned Southeast Gateway Line by Metro will bisect Downtown Artesia and add a new light-rail station between Pioneer Boulevard and 187th Street. The addition of the Southeast Gateway Line and station to Downtown Artesia will expand multimodal transportation options for community members and support the use of public transit as a viable option for traveling to and from Downtown Artesia.

Bus Stop Facilities

Table 5.13-1, *Existing Transit Facilities*, identifies seven public bus transit routes provide service in the vicinity of the project site. Each line provides service approximately every 20 to 60 minutes during the morning and evening peak commute hours (LLG 2024a).

Table 5.13-1 Existing Transit Facilities

Route	Destination	Transit Corridor(s) in Vicinity of Project Site	Nearest Transit Stop to Project Site
Metro 62	Hawaiian Gardens, Artesia, Cerritos, Norwalk, Pico Rivera, Boyle Heights, Downtown Los Angeles	Gridley Road, South Street, Pioneer Boulevard, 183rd Street	Pioneer Boulevard/183rd Street
OCTA 30	Anaheim, Placentia, Fullerton, La Palma, Artesia, Cerritos	Gridley Road, South Street	Pioneer Boulevard/South Street
OCTA 38	Anaheim Hills, Anaheim, Buena Park, La Palma, Artesia, Cerritos, Lakewood	Gridley Road, South Street, Pioneer Boulevard	Pioneer Boulevard/South Street
Long Beach 173	Norwalk, Bellflower, Artesia, Cerritos, La Palma, Hawaiian Gardens, Los Alamitos, Long Beach	Gridley Road, South Stret	Pioneer Boulevard/South Street
Norwalk Transit 2	Cerritos Mall, Cerritos College via Artesia	Pioneer Boulevard, 183rd Street	Pioneer Boulevard/183rd Street
Cerritos on Wheel 1C/2B	Lakewood, Artesia, Cerritos, Norwalk, La Palma	South Street, Gridley Road	Pioneer Boulevard/South Street
Artesia Transit	Artesia	183rd Street, Gridley Road, South Street, Pioneer Boulevard	Alburtis Avenue/183rd Street Alburtis Avenue/South Street

Source: LLG 2025a, Table 3-1.

Figure 5.13-2 - Existing and Proposed Bicycle Network

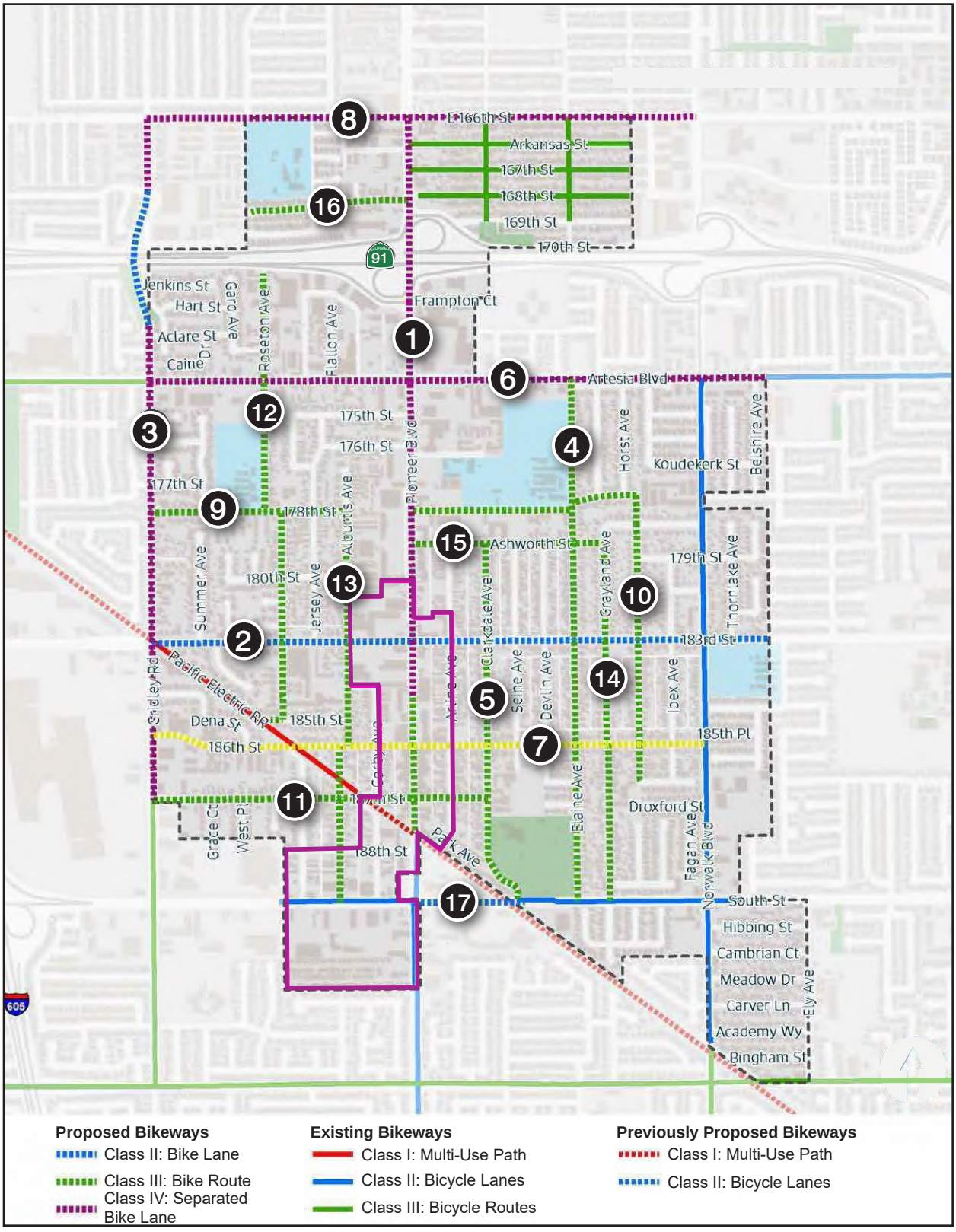

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Figure 5.13-3 - Existing Transit Routes

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Regular public bus transit services are provided along Pioneer Boulevard from north of the project site to 183rd Street and from South Street to south of the project site. Regular public bus transit services are also provided along South Street from Gridley Road to east of the project site. Additional service is provided along 183rd Street by local transit operators. It is noted that the majority of public bus routes traveling along Pioneer Boulevard and South Street are routed so as to provide service to the Los Cerritos Center Transit Center west of the project site on Gridley Road between 183rd Street and South Street.

As previously discussed, Metro has approved plans to construct the new Southeast Gateway Light Rail Line, as part of the West Santa Ana Branch Transit Corridor project, which will connect communities in southeast Los Angeles County to Downtown Los Angeles. The new line, planned for completion in 2035, will include 14.8 miles of new light rail transit connecting from the A (previously Blue) Line Slauson Station to the southern terminus at the Pioneer Station located in the City of Artesia. The project will construct nine new stations along the Southeast Gateway Line and one new infill station on the C (previously Green) Line. Four surface parking lots will be provided, and one parking garage will be constructed at the Pioneer Station in the City of Artesia. The Pioneer Station is planned to be located on the west side of Pioneer Boulevard between 187th Street and 188th Street. Construction of the Southeast Gateway Line and Pioneer Station is expected to result in the closure of the 186th Street but will maintain through access along 187th Street.

Existing Trips Generation

Traffic Generation

Traffic trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or existing the generating land use. The existing land uses on the parcels selected for redevelopment are expected to generate 734 vehicle trips (473 inbound trips and 261 outbound trips) during the weekday morning (AM) peak hour. During the weekday evening (PM) peak hour, the existing uses are expected to generate 1,990 vehicle trips (953 inbound trips and 1,037 outbound trips). On a typical weekday, the existing uses are expected to generate 24,040 daily trip ends (12,020 inbound trips and 12,020 outbound trips) over a 24-hour period (LLG 2024b).

Pedestrian and Bicycle Trip Generation

Pedestrian activity is moderate in the vicinity of the project site, with between 45 and 60 pedestrians documented at each local intersection during the peak AM period and between 100 and 160 pedestrians documented at each local intersection during the peak PM period. Between 50 to 100 pedestrians were documented at the SR-91 Freeway ramp intersections during the AM and PM peak periods, while minimal pedestrian activity was observed at the I-605 freeway ramp intersections (LLG 2024b).

5.13.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

T-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

T-2 Conflict or be inconsistent with CEQA Guidelines Section 15064.3 (b).

T-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

T-4 Result in inadequate emergency access.

The Initial Study, included as Appendix A, indicated that impacts associated with all the thresholds have the potential to result in potentially significant impacts and would be addressed in the following analysis.

As detailed in the OPR Technical Advisory, a lead agency has the discretion to rely on thresholds recommended by other agencies. Per CEQA Guidelines Section 15064.3(b)(1), a lead agency has the discretion to choose the most appropriate method to evaluate a project's VMT, and the City, as the lead agency, has the discretion to select the appropriate thresholds of significance and methodologies for evaluating a project's VMT, including whether or not to express the change in absolute terms, per capita, per household, or in another measure. The City of Artesia has not adopted VMT thresholds, and instead utilizes the Los Angeles County's *Transportation Impact Analysis Guidelines* (Guidelines) to determine potential impacts related to VMT. The Guidelines provide the following criteria for when a land use plan would result in a significant impact: "The plan total VMT per service population[2] would not be 16.8 percent below the existing total VMT per service population for the Baseline Area in which the project is located". A threshold based on the existing Countywide total VMT per service population within the Los Angeles County is the most appropriate threshold for determining the significance of the proposed project's VMT impacts. The County Guidelines further state that the baseline VMT applied in the transpiration impact analysis should be consistent with the year the transportation study was conducted.

The applicable countywide total VMT per service population has been derived from the SCAG 2016-2045 Activity-Based Model (ABM) and interpolated to reflect year 2024 conditions. The baseline total VMT per service population and relevant thresholds for existing and cumulative impacts are provided in Table 5.13-2, *VMT Thresholds of Significance*.

Table 5.13-2 VMT Thresholds of Significance

Year	Baseline VMT/SP	Threshold[1]
2024 (Existing)	30.81	25.63
2045 (Cumulative)	28.47	23.69

Source: LLG 2024b, Table 3-3.
[1] Threshold represents 16.8% below the baseline VMT per Service Population (VMT/SP).

[2] Service population is the sum of the number of residents and the number of employees.

5.13.3 Environmental Impacts

5.13.3.1 METHODOLOGY

Non-CEQA Level of Service

Recent changes to the CEQA Guidelines eliminated the requirement for LOS analysis in CEQA documents in lieu of the VMT metric. However, a Local Transportation Assessment was prepared to satisfy the Los Angeles County's Guidelines, which are being utilized by the City (see Appendix G of this DEIR). The non-CEQA analysis criteria for the Local Transportation Assessment were identified in consultation with City of Artesia staff.

Vehicle Miles Traveled Screening

As previously noted, the City relies on the County's Guidelines to assess VMT impacts. The County Guidelines state that the baseline VMT applied in the transportation impact analysis should be consistent with the year the transportation study is conducted. The Guidelines identify four screening criteria that may be applied to screen a proposed project out of detailed VMT analysis. Project, or project components, that are screened out of detailed VMT assessment based on these criteria are presumed to have less-than-significant transportation impacts. Projects or project components that are not screened out would be required to conduct a formal Transportation Impact Analysis to determine the significance of project impacts.

The four screening criteria are described below.

- **Non-Retail Project Trip Generation Screening Criteria**

Does the development project generate a net increase of 110 or more daily vehicle trips?

The County Guidelines further indicate that a proposed project's daily vehicle trip generation should be estimated using the most recent edition of the Institute of Transportation Engineer's (ITE) *Trip Generation Manual* (Manual), or through use of empirical trip generation data if the project's land use is not listed in the Manual.

The proposed project is forecasted to generate a net increase of 5,421 daily vehicle trips. Therefore, the non-retail project trip generation screening criteria is not satisfied.

- **Retail Project Screening Criteria**

New local serving retail development typically redistributes shopping trips rather than creating new ones. By adding retail opportunities into the urban fabric and improving retail destination proximity, local-serving retail developments tend to shorten trips and reduce VMT, and may be presumed to cause less-than-significant impacts. Consistent with OPR's guidance, the County assumes that retail projects of any type which are less than 50,000 square feet may be considered local serving retail.

Does the project contain retail uses that exceed 50,000 square feet of gross floor area?

The proposed project allows for the potential future development of a total of 502,919 square feet (78,901 net new square feet) of commercial space within the Specific Plan area. While the redevelopment potential of commercial space on many parcels may fall below the 50,000-square-foot threshold, no specific development projects are proposed at this time. The answer to this screening question cannot be determined at the redevelopment parcel level during the preparation and adoption of the proposed Artesia Downtown Specific Plan. Because the screening criteria cannot be adequately assessed at this time, it is conservatively assumed that the criteria is not satisfied.

- **Proximity to Transit Screening Criteria**

Is the project located within one-half mile radius of a major transit stop or an existing stop along a high-quality transit corridor?

If the answer to this question is yes, then the following subsequent questions should be considered:

- *Does the project have a floor area ratio (FAR) less than 0.75?*
- *Does the project provide more parking than required by the County Code?*
- *Is the project inconsistent with the SCAG RTP/SCS?*
- *Does the project replace residential units set aside for lower income households with a smaller number of market-rate residential units?*

If the answer to all four subsequent questions is no, further analysis is not required, and a less-than-significant determination can be made.

The proposed project is within 0.5 miles of the future Metro Southeast Gateway Light-Rail Line Pioneer Station, and therefore would potentially qualify for the proximity to transit screening criteria. However, the answers to the subsequent questions require project-specific information such as the proposed FAR, parking, and residential affordability levels. No specific development projects are proposed at this time. The answer to these screening questions cannot be determined at the redevelopment parcel level during the preparation and adoption of the proposed Artesia Downtown Specific Plan. Because the screening criteria cannot be adequately addressed at this time, it is conservatively assumed that the criteria is not satisfied.

- **Residential Project Screening Criteria**

Are 100 percent of the units excluding manager's units, set aside for lower income households?

The proposed project includes the development of a total of 1,981 residential dwelling units. While a portion of the units may be set aside as affordable housing, no specific development projects are proposed at this time. The answer to this screening question cannot be determined at this redevelopment parcel level during the preparation and adoption of the proposed Artesia Downtown Specific Plan. Because the screening criteria cannot be adequately assessed at this time, it is conservatively assumed that the criteria is not satisfied.

- **Summary of Screening Conclusions**

The proposed project does not satisfy any of the four screening criteria stated in the County Guidelines. No specific development projects are proposed at this time, and the answers to the screening questions cannot be determined at the redevelopment parcel level during the preparation and adoption of the proposed Artesia Downtown Specific Plan. The proposed project is not screened out of further analysis. Therefore, a detailed VMT analysis is required to determine the significance of any transportation impacts.

- **Methodology**

As required by the Guidelines, land use plans are to be evaluated using the current (SCAG) RTP/SCS travel demand forecast model to determine if it will have a significant impact related to VMT. The level of project-generated daily VMT is determined by converting the proposed project's development totals into corresponding Socioeconomic Data (SED) and entering the SED into the Transportation Analysis Zone(s) (TAZ) in which the project is located. The model is then run in order to generate a "With Project" VMT forecast. The "Without Project" VMT forecast is obtained from the baseline model outputs and is subtracted from the "With Project" forecast in order to determine the VMT expected to be generated by the proposed project.

The Specific Plan area falls within four TAZs, as illustrated in Figure 5.13-4, *Transportation Analysis Zones*. The proposed development within each TAZ was determined based on the location of the parcels identified for full redevelopment and the redevelopment potential for each parcel. The proposed project's development totals within each TAZ are summarized in Table 5.13-3, *Summary of Specific Plan Development Potential Per TAZ*.

Table 5.13-3 Summary of Specific Plan Development Potential Per TAZ

TAZ	Residential Dwelling Units	Office Space (SF)	Commercial Space (SF)
21824300	203	14,867	44,602
21825300	431	31,620	94,861
21825400	1,322	57,592	252,775[1]
21825500	25	1,651	4,952

Source: LLG 2025b, Table 3-1.
[1] The commercial space in the TAZ includes an 80,000 square-foot, 150-room hotel.
SF = square feet; TAZ = Transportation Analysis Zone

The existing land uses on the parcels identified for redevelopment were subtracted from the totals summarized in Table 5.13-3 to calculate the net increases due to the proposed project. The corresponding net increases in the SED were then entered into the corresponding TAZs.

5.13.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

Goal 5 Enhance connectivity and streetscapes to increase multimodal accessibility and safety.

- A place where streets, paseos, and alleys offer safe and convenient ways to get around for people visiting, working, or living in the Downtown.

- Walkable urban settings that encourage safe biking and walking.

- New walking and biking paths to connect existing and new housing and retail to the future Metro station.
- Strategic lighting to increase safety and encourage use of the downtown in the evenings and at night.

Goal 6: Plan and build a transit ready Downtown Artesia.

- Incentivize and encourage transit oriented development in key areas in Downtown.
- Establish appropriate standards and requirements to ensure smooth and safe access to the new station.
- Create a sage and equitable transit experience through quality sidewalk, roadway and multi modal design.

5.13.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

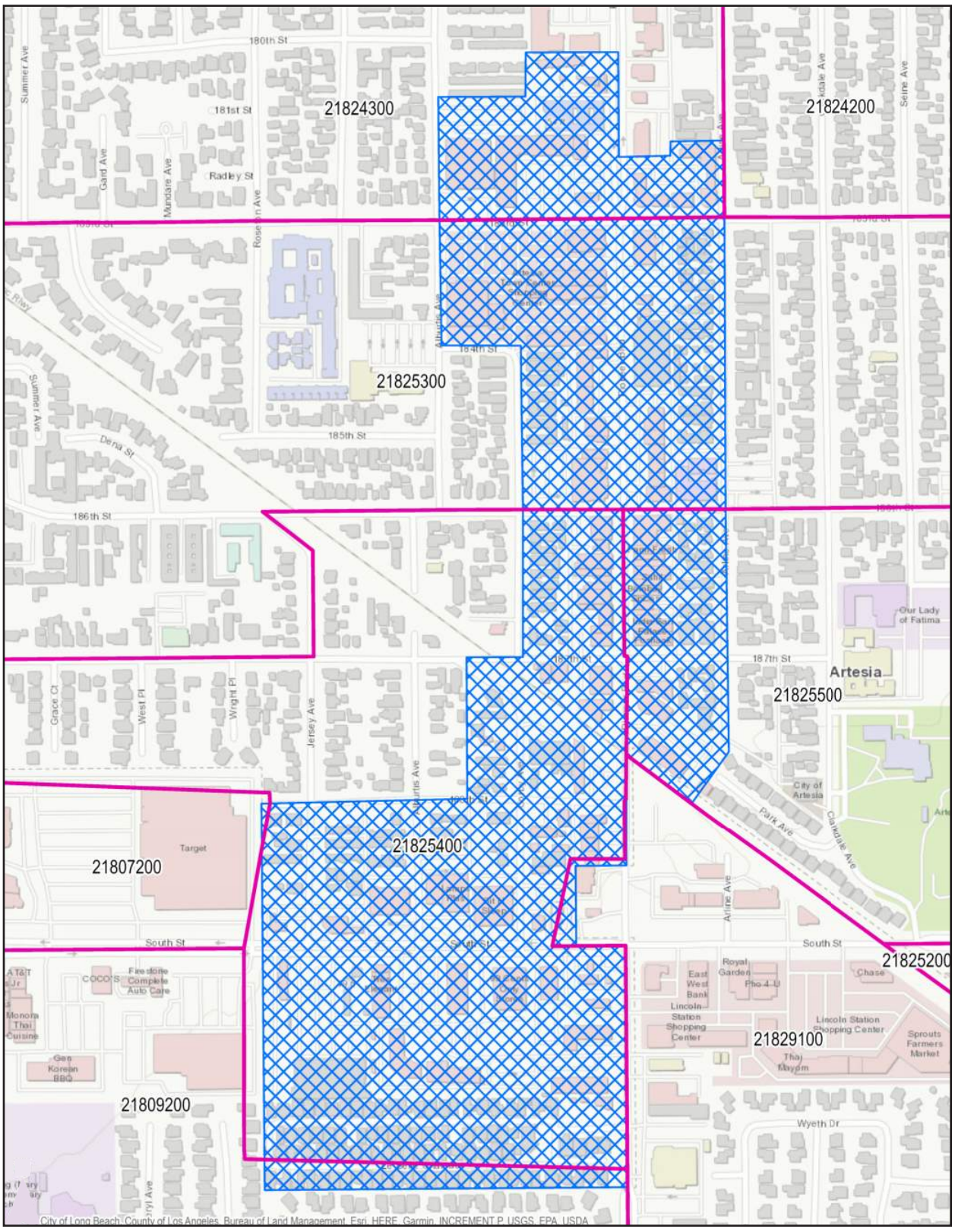
Impact 5.13-1: The project would not conflict with a program, plan, ordinance, of policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. [Threshold T-1]

The traffic volumes anticipated to be generated by the proposed project were forecast for the typical weekday AM and PM peak commute hours as well as over a 24-hour period. Trip generation average rates per dwelling unit and per 1,000 square feet of floor area were utilized to prepare the trip generation forecast. The trips generated by the existing land uses on the parcels identified for redevelopment area assumed to be removed to accommodate full build-out of the proposed project. The proposed project is calculated to generate 1,020 net new vehicle trips (393 net new inbound trips and 627 net new outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is calculated to generate 543 net new vehicle trips (476 net new inbound trips and 67 net new outbound trips). On a typical weekday, the proposed project is calculated to generate 1,941 net new trips ends (approximately 971 net new inbound trips and approximately 970 net new outbound trips) over a 24-hour period (LLG 2024b).

The proposed Artesia Downtown Specific Plan's Mobility chapter encourages policy action from the City's Circulation and Mobility Sub-Element, including the following:

- Continue to implement the provisions of the Transportation Demand Management Ordinance.
- Encourage alternative modes of transportation, including, but not limited to, light rail, vanpooling, carpooling, pedestrian walkways, and bicycling.
- Coordinate with neighboring jurisdictions to create an integrated system of bike routes through such improvements as signage, additional bicycle lanes and paths, and additional bicycle racks.
- Coordinate efforts to increase pedestrian activity through improvements that make walking more safe, convenient, and enjoyable, including sidewalks, accessibility ramps, benches, traffic-calming measures, landscaping, and convenient, and safe transit stops.

Figure 5.13-4 - Transportation Analysis Zones



Downtown Artesia Specific Plan Boundary

SCAG ABM Tier 2 TAZs

0 525

Scale (Feet)

Source: LLG 2024.

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- Promote a balance of residential, commercial, institutional, and recreational uses with adjacencies that reduce VMT.

- Prioritize transit-oriented development within the City in accordance with SB 375 and other planning initiatives from the State and federal governments.

The proposed project is evaluated below concerning goals and policies related to transit, roadway, bicycle, and pedestrian facilities. Additionally, Table 5.8-2, *Artesia General Plan Consistency*, in Section 5-8, *Land Use and Planning*, of the DEIR, evaluates the proposed project's consistency with the applicable General Plan policies that address the circulation system (e.g., transit, roadway, bicycle, and pedestrian facilities). The analysis found that the proposed project is consistent with the applicable General Plan policies addressing the circulation system.

Transit. As discussed previously, public transit service to the project area is provided by the City of Cerritos, OCTA, Metro, Norwalk Transit System, Long Beach Transit System, and City of Artesia. Nearby bus routes are identified in Table 5.13-1. In accordance with AMC Section 9-2.1153 requirements and the CEQA Guidelines, this DEIR was made available to each of these transit operators. This is in furtherance of City Policy CIR 5.1, which is to "promote the use of Public Transit." Further, the proposed project would implement Mitigation Measures T-1 and T-2, which would help to reduce vehicle ownership and incentivize other modes of transportation.

Therefore, the proposed project would not conflict with AMC Section 9-2.1153 or General Plan Policy CIR 5.1 concerning transit.

Roadway. The roadway network serving the Specific Plan area is situated in a regular grid system of roadways which provides access to the individual parcels within the Specific Plan area. Principal roadways providing access to and within the Specific Plan area include Pioneer Boulevard, which provides connection to SR-91 to the north and communities south of the Specific Plan area, as well as South Street which provides connection to I-605 to the west and communities located east of the Specific Plan area. Both Pioneer Boulevard and South Street are designated as Primary Arterial Highways and the City of Arteria's General Plan Circulation and Mobility Sub-Element. Additional vehicular access in the Specific Plan is accommodated by 183rd Street, which is designated as a Secondary Arterial Highway, and by roadways such as 186th Street and 187th Street which are designated as Collector roadways. These roadways, along with local streets, provide direct access to the parcels included in the Specific Plan area (LLG 2024b). All roadways and driveway improvements would be constructed pursuant to the City and Los Angeles County Fire Department requirements. Therefore, the proposed project would not conflict with a program, plan, ordinance, or policy concerning roadways.

Bicycle. Figure 5.13-2 identifies the Artesia Active Transportation Plan existing and proposed bicycle network. Bicycle access is accommodated by on-street bicycle lanes provided on both sides of South Street and on Pioneer Boulevard south of South Street. Implementation of the Artesia Active Transportation Plan will result in the construction of additional bicycle facilities along Pioneer Boulevard, 183rd Street, and 186th Street within the Specific Plan area. Where bicycle-specific facilities are not provided, bicycle access through the remainder of the Specific Plan area will continue to be accommodated by the existing roadway network. The Artesia Active Transportation Plan identifies additional planned facilities in the city, including a planned extension of

the Class I bicycle path to the eastern City limit, as well as Class IV separated bikeway along Pioneer Boulevard north of 184th Street. It should be noted that Class II bike lanes are proposed along 183rd Street, while a Class III Bike Route is proposed along 187th Street. As such, the proposed project would be in furtherance of City Policy CIR 5.2, which is to "encourage bicycling as an alternate mode of transportation in the City." Therefore, the proposed project would not conflict with the Artesia Active Transportation Plan, City policies, or existing facilities concerning bicycle facilities.

Pedestrian. As outlined in the proposed Specific Plan, pedestrian access within the Specific Plan Area would be accommodated by a complete network of public sidewalks and supporting pedestrian infrastructure, including pedestrian-scale lighting, public benches, and public trash receptables along Pioneer Boulevard between 183rd Street and 188th Street. The public sidewalks would provide pedestrian access to all parcels within the Specific Plan area in a manner that would provide walkability.[3] There are five basic components that are accepted as the key to achieving walkability, with the underlying principle being that pedestrians should not be delayed, diverted, or placed in danger. The five primary components of walkability include the following (LLG 2024):

- **Connectivity.** People can walk from one place to another without encountering major obstacles, obstructions, or loss of interconnections.
- **Convivial.** Pedestrian routes are friendly and attractive, and are perceived as such by pedestrians.
- **Conspicuous.** Suitable levels of lighting and visibility over its entire length, with high-quality delineation and signage.
- **Comfortable.** High-quality and well-maintained footpaths of suitable widths, attractive landscaping and architecture, shelter and rest spaces, and a suitable allocation of road space to pedestrians.
- **Convenient.** Walking is a realistic travel choice, partly because of the impact of the other criteria set forth above, but also because walking routes are of a suitable length as a result of land use planning with minimal delays.

These primary characteristics of walkability are currently provided within the Specific Plan area and are expected to be expanded as redevelopment within the Specific Plan area occurs. As such, the proposed project be in furtherance of Policy CIR 5.3, which aims to "provide for safe pedestrian access throughout the City." Therefore, the proposed project would not conflict with a program, plan, policy, or ordinance concerning pedestrian facilities.

Intersections. While LOS for roadway operations is no longer used as a CEQA transportation metric, the County's Transportation Impact Analysis Guidelines still include LOS and queuing methodologies for the evaluation of operation of project driveways and nearby intersections for projects to satisfy non-CEQA project requirements (DPW 2020). Because this is a program-level analysis, additional analysis and mitigation would

[3] Walkability is a term for the extent to which walking is readily available as a safe, connected, accessible, and pleasant mode of transport.

occur at the project-level to determine specific physical-, program-, and policy-level mitigation measures to reduce the level of impact to roadway operations as a result of specific development.

Connect SoCal 2024

Connect SoCal 2024 closely integrates land use and transportation strategies to increase mobility options and achieve a more sustainable growth pattern. Mobility is an important component of sustainability and integrated planning in Connect SoCal 2024. The proposed project would provide more opportunities for housing, encourage transit-oriented development, promote active transportation, improve access to transit, reduce VMT by cars. The proposed project's consistency with Connect SoCal 2024's goals is provided in Table 5.8-1, *SCAG Connect SoCal Consistency Analysis*, in Section 5-8, *Land Use and Planning*, of this DEIR, which concluded that the proposed project would not conflict with Connect SoCal's goals.

Conclusion

As evidenced by the analyses presented herein, as well as Table 5.8-1 and Table 5.8-2 in Section 5-8, *Land Use and Planning*, of the DEIR, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The proposed project would result in a less-than-significant impact.

Level of Significance Before Mitigation: *Less Than Significant*

Impact 5.13-2: The project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b). [Threshold T-2]

As identified in the County Guidelines, some project types and sizes have been identified as having the presumption of a less-than-significant VMT impact. The proposed project does not meet the any of the screening criteria. Thus, a detailed VMT analysis was prepared and the following model scenarios were utilized:

- Baseline Year 2016 Conditions
- Year 2016 With Project Conditions
- Baseline Cumulative Year 2045 Conditions
- Cumulative Year 2045 With Project Conditions

The project-generated VMT per service population was interpolated between years 2016 and 2045 to reflect year 2024 existing conditions. The proposed project is forecast to generate 26.33 VMT per service population in year 2024[4], which exceeds the threshold of 25.63 VMT per service population. The proposed project is therefore expected to result in a significant project-level VMT impact. Mitigation measures will be required to reduce the VMT impact to less-than-significant levels. The project-generated VMT per service population, impact threshold, and percentage reduction required (if any) under year 2024 conditions are summarized in Table 5.13-4, *Project VMT Impacts*.

[4] The project generated VMT per service population was interpolated between years 2016 and 2045 to reflect year 2024 existing conditions.

Table 5.13-4 Project VMT Impacts

TAZ	Project-Generated VMT/SP	Threshold	Required Reduction[1]
Year 2024	26.33	25.63	2.65%

Source: LLG 2025b, Table 3-3.
[1] (Project VMT/SP – Threshold VMT/SP)/Project VMT/SP
SP = Specific Plan; TAZ = Transportation Analysis Zone; VMT = vehicle miles traveled

The proposed project is assumed to be consistent with the SCAG RTP/SCS due to the Specific Plan area's proposed density and proximity to the future Metro Southeast Gateway Line Pioneer Station, which are expected to contribute towards achieving the State's VMT and GHG reduction goals. The proposed project is forecast to generate 23.54 VMT per service population in the year 2045, which is below the threshold of 23.69 VMT per service population. The proposed project is therefore expected to result in a less-than-significant cumulative VMT impact. The project-generated VMT per service population and VMT impact threshold under year 2045 conditions are shown in Table 5.13-5, *Cumulative Project VMT Impact*.

Table 5.13-5 Cumulative Project VMT Impacts

TAZ	Project-Generated VMT/SP	Threshold	Required Reduction
Year 2045	23.54	23.69	--

Source: LLG 2025b, Table 3-4.
SP = Specific Plan; TAZ = Transportation Analysis Zone; VMT = vehicle miles traveled

Level of Significance Before Mitigation: *Potentially Significant*

Impact 5.13-3: The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). [Threshold T-3]

The project does not propose any specific off-site roadway improvements that could substantially increase hazards due to a design feature. Any future on-site and site adjacent improvements and project driveways associated with future development would be constructed as approved by the City of Artesia Public Works Department. Sight distance at project access points would be subject to compliance with applicable AMC/Caltrans sight distance standards. Therefore, the proposed project would not increase transportation hazards due to a geometric design feature.

The proposed project does not propose land uses that are associated with incompatible vehicles or onsite equipment, such as farm equipment, that could create a transportation hazard. The project proposes land use and zoning changes that could result in mixed-use developments of 1,981 multifamily units (1,962 net units) and 502,919 square feet (78,901 net square feet) of commercial development. These land uses are typical of suburban areas, such as the City, and would not create a transportation hazard due to an incompatible use. Therefore, the project would not increase transportation hazards due to incompatible uses, and impacts would be less than significant.

Level of Significance Before Mitigation: *Less Than Significant*

Impact 5.13-4: The project would not result in inadequate emergency access. [Threshold T-4]

The proposed project is in an urbanized area where adequate circulation and access is provided to facilitate emergency access. The Artesia Emergency Operations Plan outlines emergency response actions in the event of a large-scale disaster, such as a hazardous materials emergency (Artesia 2020). Further, project construction would not require the complete closure of any public or private streets during construction. Temporary construction activities would not impede the use of the streets for emergencies or access for emergency response vehicles. The proposed project would be subject to compliance with General Plan Policy SAF 5.1, which requires that the City and associated public services departments (e.g., Police Department and Fire Department) review development proposals for potential impacts to the provision of emergency services. Therefore, the proposed project's potential impacts concerning inadequate emergency access would be less than significant.

Level of Significance Before Mitigation: *Less Than Significant*

5.13.4 Cumulative Impacts

For purposes of the transportation impact analysis, cumulative impacts are considered for cumulative development in the city, according to the related projects (see Table 4-1, *Cumulative Projects,* in Chapter 4, *Environmental Setting*, of this DEIR). The geographic contexts of the transportation cumulative analyses are the City, county, and SCAG planning region.

Consistency with Applicable Plans, Ordinances, and Policies

The proposed project would comply with applicable plans, ordinances, and policies that guide circulation. Similar to the proposed project, each cumulative project would be expected to show its consistency with existing programs, plans, ordinances, and policies that address the City's circulation system (such as the General Plan Circulation and Mobility Sub-Element). Additionally, each cumulative project would be expected to show consistency with SCAG's Connect SoCal. No significant cumulative impacts are anticipated with both the proposed project and the contribution of cumulative projects concerning City circulation policies or standards adopted to protect the environment and support multimodal transportation options. Consequently, the proposed project, combined with other cumulative development, would not result in significant cumulative environmental impacts concerning consistency with applicable plans, ordinances, and policies. Therefore, the proposed project would not cause a cumulative considerable impact concerning consistency with applicable plans, ordinances, and policies.

Vehicle Miles Traveled

While the County Guidelines indicate that the threshold may be determined on the project's location within the County, the California Governor's Office of Land Use and Climate Innovation (formerly Office of Planning and Research) indicates that VMT thresholds should be based on the full geography of a region rather than only a select portion of the city or county. Thus, VMT impacts of a project are considered on a cumulative basis. At buildout the proposed project is forecasted to generate 23.54 VMT per service population in the year 2045, which is below the threshold of 23.69 VMT per service population. The proposed project is therefore expected to result in a less-than-significant cumulative VMT impact.

Transportation Hazards

A potentially cumulative impact may occur if the proposed project would combine with a cumulative project to create or substantially increase hazards due to geometric design features or incompatible uses. Related projects would be required to provide their respective on-site and site-adjacent improvements and driveways, which would be subject to City of Artesia Public Works Department review/approval prior to construction, thereby reducing the potential for the improvements to create hazardous geometric features. Additionally, the proposed project's residential and commercial uses are typical of a suburban area and would not introduce incompatible uses. Consequently, the proposed project, combined with other cumulative development, would not result in significant cumulative environmental impacts concerning hazardous geometric design features. Therefore, the proposed project would not cause a cumulatively considerable impact concerning hazardous geometric design features.

Emergency Access

Future projects would be required to comply with the City's development review process on a case-by-case basis, including review for compliance with the Municipal Code pertaining to maintaining/providing emergency access. New developments would be required to comply with all applicable fire and building codes and ordinances for construction and access to the site during both construction and operational phases. Individual projects would be reviewed by the City departments to determine the specific fire requirements applicable to the specific development and to ensure compliance with these requirements. This would ensure that new developments would provide adequate emergency access to and from each site. Further, the City would review any modifications to existing roadways to ensure that adequate emergency access or emergency response would be maintained. Emergency response and evacuation procedures would be coordinated through the City.

Site plans for the proposed project would be subject to review by the City to ensure that adequate emergency access or emergency response would be provided. Additionally, the project site plans would be subject to review by the Artesia Fire Department for compliance with fire and emergency access standards and requirements. Therefore, with compliance with State, regional, and local standards and regulations, the project would not significantly contribute to a cumulatively considerable impact regarding emergency access.

5.13.5 Level of Significance Before Mitigation

After implementation of regulatory requirements and standard conditions of approval, Impacts 5.13-1, 5.13-3, and 5.13-4 would be less than significant.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.13-2** The proposed project has the potential to result in significant VMT per service population impacts at the project-level.

5.13.6 Mitigation Measures

Impact 5.13-2

T-1 At the time of project entitlement, the project developer shall ensure the implementation of California Air Pollution Control Officer's Association (CAPCOA) 2021 Handbook Transportation Demand Management (TDM) Program T-16.

- T-16. Unbundle Residential Parking Costs from Property Cost

According to the CAPCOA 2021 Handbook, "this measure will unbundle or separate a residential project's parking costs from property costs, requiring those who wish to purchase parking spaces do so at an additional cost. On the assumption that parking costs are passed to the vehicle owners/drivers utilizing the parking spaces, this measure results in decreased vehicle ownership and, therefore, a reduction in VMT and GHG emissions." It is assumed that qualifying residential projects within the Specific Plan area will comply with the provisions of California Civil Code Section 1947.1 resulting from Assembly Bill 1317 (2023, Carillo), which requires residential developments of 16 or more units located in Los Angeles County to unbundle parking from the cost of rent. A cost of $25.00 per month, or $300.00 per year, per leased parking space, is assumed for analysis purposes. No action is required by the City of Artesia to implement this measure, as project developers would be required to comply with all applicable State laws as the time of project entitlement.

T-2 At the time of project operation, the developer and City shall continue to enforce California Air Pollution Control Officer's Association (CAPCOA) 2021 Handbook Transportation Demand Management (TDM) Program T-24.

- T-24. Implement Market Price Public Parking (On-Street)

According to the CAPCOA 2021 Handbook, "this measure will price all on-street parking in a given community. Increasing the costs of parking increases the total coast of driving to a location, incentivizing shifts to other modes and thus decreasing total VMT to and from the priced areas." The City of Artesia currently provides priced on-street parking within the Specific Plan area, primarily along Pioneer Boulevard, 186th Street, and 187th Street. The City of Artesia should continue to implement the priced on-street parking that currently exists in the Specific Plan area.

5.13.7 Level of Significance After Mitigation

Impact 5.13-2

It is assumed that qualifying residential projects within the Specific Plan area will comply with the provisions of California Civil Code Section 1947.1 resulting from Assembly Bill 1317 (2023, Carillo), which requires residential development of 16 or more units located in Los Angeles County to unbundle parking from the cost of rent. Based on the redevelopment potential for each parcel identified for full redevelopment, it is assumed

that this requirement will apply to 1,668 of the total 1,981 units, or approximately 84.2 percent of the proposed residential units. The remaining residential development is expected to occur on small parcels which would not support the development of 16 or more units. A cost of $25.00 per month, or $300.00 per year, per parking space has been assumed for the purpose of calculating the potential VMT reductions resulting from implementation of Mitigation Measure T-1 (TDM T-16). Unbundling parking for qualifying residential developments is therefore expected to reduce VMT within the Specific Plan area by 0.84 percent. Greater monthly and annual parking costs would result in greater VMT reductions. No action is required by the City of Artesia to implement this measure, as project developers would be required to comply with all applicable State laws at the time of project entitlement.

The City of Artesia currently provides priced on-street parking within the Specific Plan area, primarily along Pioneer Boulevard, 186th Street, and 187th Street. Based on a review of aerial photography obtained by Google Earth, approximately 2,635 public parking spaces are provided within the Specific Plan area in support of the existing commercial and industrial land uses (via a mix of on-street spaces and off-street parking lots). It is conservatively estimated that approximately 175 on-street parking spaces are provided adjacent to nonresidential land uses (approximately 6.6 percent of the total supply), with approximately 140 spaces currently priced (approximately 5.3 percent of the total supply) (LLG 2024b).

The SCAG ABM does not account for the presence of existing priced on-street parking within the Specific Plan area, therefore, with the continued implementation of the City's existing priced on-street parking, Mitigation Measure T-2 (TDM T-24) is expected to reduce VMT in the Specific Plan area by 2.13 percent. Decreases in the supply of free off-street public parking resulting from redevelopment of the identified parcels would potentially increase the effectiveness of measure T-24 as the proportion of priced public parking in the area increase. Expansion of the priced on-street parking program to include all on-street parking spaces adjacent to nonresidential land uses would also increase the effectiveness of measure T-24 and lead to greater VMT reductions. The City of Artesia should continue to implement the priced on-street parking that currently existing in the Specific Plan area.

The TDM measures and associated VMT reductions described previously are expected to result in a total VMT reduction of 2.95 percent. Application of the 2.95 percent VMT reduction to the proposed project's VMT forecast would therefore result in a project VMT of 25.55 VMT per service population, which falls below the threshold of 25.63 VMT per service population (LLG 2024b). The mitigated VMT per service population, impact threshold, and percentage reduction (if any) under the year 2024 conditions are summarized in Table 5.13-6, *Mitigated Project VMT Impacts*.

Table 5.13-6 Mitigated Project VMT Impacts

TAZ	Project-Generated VMT/SP	Threshold	Required Reduction
Year 2024	25.55	25.63	--

Source: LLG 2025b, Table 3-5.

Implementation of the mitigation described is expected to reduce the proposed project's VMT impacts to less-than-significant levels.

5.13.8 References

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Los Angeles County Metropolitan Transportation Authority (Metro). 2018. *The Metro Vision 2028 Strategic Plan*. https://www.dropbox.com/sh/hfi5fn1ft9i3euo/AADW3A0CQXs7OvNxk3XstBela?e=1&dl=0

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Linscott, Law & Greenspan Engineers (LLG). 2024a. *Local Transportation Assessment Artesia Downtown Specific Plan.* (Appendix G)

———. 2024b. *Transportation Impact Study Artesia Downtown Specific Plan.* (Appendix H)

Southern California Association of Governments (SCAG). 2024, *Southern California Association of Governments 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal). https://scag.ca.gov/sites/main/files/file-attachments/23-2987-connect-socal-2024-final-complete-040424.pdf?1714175547.

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5.14 TRIBAL CULTURAL RESOURCES

This section of the Draft Program Environmental Impact Report (Draft PEIR) discusses the potential impacts to tribal cultural resources in the Downtown Artesia Specific Plan area from implementation of the proposed project and consistency with policies and programs related to tribal cultural resources.

The analysis in this section is based in part on the following information:

- *Records Search Results for the Artesia Downtown Specific Plan*, South Central Coastal Information Center at California State University, Fullerton, March 2024. (Appendix D)
- *Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Code § 65352.3 and § 5352.4, as well as Assembly Bill 52 (AB52), Public Resources Code § 21080.1, § 21080.3.1 and § 21080.3.2, Downtown Artesia Specific Plan Draft Environmental Impact Report Project, Los Angeles County,* Native American Heritage Commission, January 2024. (Appendix D)

Complete copies of these record searches are provided in the technical appendices of this Draft EIR.

5.14.1 Environmental Setting

5.14.1.1 REGULATORY BACKGROUND

Federal

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 regulates the protection of archaeological resources and sites that are on federal and Indian lands.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act is a federal law passed in 1990 that provides a process for museums and federal agencies to return certain Native American cultural items, such as human remains, funerary objects, sacred objects, or objects of cultural patrimony, to lineal descendants and culturally affiliated Indian tribes.

National Historic Preservation Act of 1966

Enacted in 1966 and amended most recently in 2014, the National Historic Preservation Act (NHPA) instituted a multifaceted program administered by the Secretary of the Interior to encourage sound preservation policies of the nation's cultural resources at the federal, state, and local levels (54 US Code Sections 300101 et seq.). The NHPA authorized the expansion and maintenance of the National Register of Historic Places, established the position of State Historic Preservation Officer, and provided for the designation of State Review Boards. The NHPA also set up a mechanism to certify local governments to carry out the goals of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation.

State

California Public Resources Code

Archaeological resources are protected pursuant to a wide variety of state policies and regulations enumerated under the California Public Resources Code (PRC). In addition, cultural resources are recognized as a nonrenewable resource and therefore receive protection under the PRC and CEQA.

- **PRC Sections 5097.9 to 5097.991** provide protection to Native American historical and cultural resources, and sacred sites and identifies the powers and duties of the Native American Heritage Commission (NAHC). It also requires notification of discoveries of Native American human remains to descendants and provides for treatment and disposition of human remains and associated grave goods.

California Health and Safety Code

The discovery of human remains is regulated by California Health and Safety Code Section 7050.5, which states that:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation…until the coroner…has determined…that the remains are not subject to…provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible…. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and…has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

California Senate Bill 18

Existing law provides limited protection for Native American prehistoric, archaeological, cultural, spiritual, and ceremonial places. These places may include sanctified cemeteries, religious, ceremonial sites, shrines, burial grounds, prehistoric ruins, archaeological or historic sites, Native American rock art inscriptions, or features of Native American historic, cultural, and sacred sites.

SB 18 was signed into law in September 2004 and went into effect on March 1, 2005. It placed new requirements on local governments for developments within or near "traditional tribal cultural places" (TTCP). Per SB 18, the law requires local jurisdictions to provide opportunities for involvement of California Native Americans tribes in the land planning process for the purpose of preserving traditional tribal cultural places. The Final Tribal Guidelines recommends that the NAHC provide written information as soon as possible but no later than 30 days to inform the lead agency if the proposed project is determined to be in proximity to a TTCP and another 90 days for tribes to respond to a local government if they want to consult to determine whether the project would have an adverse impact on the TTCP. There is no statutory limit on the consultation duration.

Forty-five days before the action is publicly considered by the local government council, the local government refers action to agencies, following the CEQA public review time frame. The CEQA public distribution list may include tribes listed by the NAHC who have requested consultation or it may not. If the NAHC, the tribe, and interested parties agree upon the mitigation measures necessary for the proposed project, they would be included in the project's EIR. If both the City of Artesia and the tribe agree that adequate mitigation or preservation measures cannot be taken, neither party is obligated to take action.

Per SB 18, a city or county is required to consult with the NAHC and any appropriate Native American tribe prior to the adoption, revision, amendment, or update of a city's or county's general plan. Although SB 18 does not specifically mention consultation or notice requirements for adoption or amendment of specific plans, the Final Tribal Guidelines advises that SB 18 requirements extend to specific plans as well, because state planning law requires local governments to use the same process for amendment or adoption of specific plans as general plans (defined in Government Code Section 65453). In addition, SB 18 provides a definition of TTCP that requires a traditional association of the site with Native American traditional beliefs, cultural practices, or ceremonies or the site must be shown to actually have been used for activities related to traditional beliefs, cultural practices, or ceremonies. (Previously, the site was defined to require only an association with traditional beliefs, practices, lifeways, and ceremonial activities.) In addition, SB 18 amended Civil Code Section 815.3 and added California Native American tribes to the list of entities that can acquire and hold conservation easements for the purpose of protecting their cultural places.

Assembly Bill 52

AB 52 took effect July 1, 2015, and required inclusion of a new section in CEQA documents titled Tribal Cultural Resources, which includes heritage sites. Under AB 52, a tribal cultural resource (TCR) is defined as a site, feature, place, cultural landscape, sacred place, and object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register of Historic Resources or included in a local register of historical resources. Or the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a tribal cultural resource.

Similar to SB 18, AB 52 requires consultation with tribes at an early stage to determine whether the project would have an adverse impact on the TCR and mitigation to protect them. Per AB 52, within 14 days of deciding to undertake a project or determining that a project application is complete, the lead agency must provide formal written notification to all tribes who have requested it. The tribe then has 30 days after receiving the notification to respond if it wishes to engage in consultation. The lead agency must initiate consultation within 30 days of receiving the tribe's request. Consultation concludes when both parties have agreed on measures to mitigate or avoid a significant effect to a tribal cultural resource, or a party, after a reasonable effort in good faith, decides that mutual agreement cannot be reached. Regardless of the outcome of consultation, the CEQA document must disclose significant impacts on tribal cultural resources and discuss feasible alternatives or mitigation that avoid or lessen the impact.

Regional

Southern California Association of Governments

The Southern California Association of Governments, Growth Management Chapter (SCAGGMC) has instituted policies regarding the protection of cultural resources. SCAGGMC Policy No. 3.21 "encourages the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites" (SCAG 2001).

Local

City of Artesia General Plan

The City of Artesia General Plan Cultural and Historic Sub-element contains the following policies for the treatment of historic and cultural resources.

Community Culture and Economy Element

- **Community Policy CHR 1.1.** Enhance and protect resources that have cultural and historic significance.
- **Community Policy CHR 1.2.** Strengthen cultural and historic preservation planning.
- **Community Policy CHR 2.1. Foster** public appreciation for Artesia's cultural and historic resources.

5.14.1.2 EXISTING CONDITIONS

The Los Angeles Basin has a rich cultural history that dates to the early settlement by American Indians. The Gabrielino Indians, also known as the Tong-va, occupied an extensive region stretching from the San Gabriel Mountains to the coast, including the area now occupied by the City of Artesia. The tribe had a large village known as Puvunga, near the present day site of California State University, Long Beach. Native American tribes that lived in the village often hunted in Artesia. Evidence of this tribe's presence in the area was substantiated when artifacts such as shells, stone utensils, and arrow points were discovered on Pioneer Boulevard during the construction of Bloomfield Park in Lakewood (Artesia 2010).

The village of Artesia became a formally recognized community when the Artesia School District was established on May 3, 1875. The first school was on 183rd Street and Alburtis Avenue. The City of Artesia was named from the many naturally flowing artesian wells in the area. The rural countryside was ideal for farming. In the 1920s and 1930s, Dutch and Portuguese farmers developed Artesia into one of the most important dairy districts in southern California. After World War II, as with many other cities in the region, Artesia was pressured by developers to build residential tracts. The City of Dairy Valley was incorporated in 1956 and later became the City of Cerritos. As the demand for housing continued, dairymen moved their operations further east into Chino and north into the Central Valley. Artesia was incorporated on May 29, 1959 (Artesia 2010). Maps from the 1940s indicate that the project site was mostly developed and the Pacific Electric Railroad (later the Southern Pacific Railroad) bisected the project site. As such, the project site contains buildings or structures that are 50 years of age or older. The San Gabriel River is near the western portion of the project site. Archaeological resources could be found buried or on the ground surface.

Native American Heritage Commission

The NAHC conducted a Sacred Lands File search for the project site and identified nine local representatives from Native American groups as potentially having local knowledge:

- Gabrieleno Band of Mission Indians–Kizh Nation
- Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Gabrielino /Tongva Nation
- Gabrielino Tongva Indians of California Tribal Council
- Gabrielino-Tongva Tribe
- Juaneño Band of Mission Indians Acjachemen Nation 84A
- Juaneño Band of Mission Indians Acjachemen Nation- Belardes
- Santa Rosa Band of Cahuilla Indians
- Soboba Band of Luiseno Indians

In compliance with AB 52 and SB 18, the City notified all the tribal representatives about the proposed project on February 27, 2024. No responses or requests for consultation were received from tribal representatives for the proposed project; however, the Gabrieleno Band of Mission Indians – Kizh Nation, requested notification for consultation on future project with the Plan Area.

5.14.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

TCR-1 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

5.14.3 Environmental Impacts

5.14.3.1 METHODOLOGY

As discussed further in Section 5.3, *Cultural Resources*, a records search was conducted on March 21, 2024, by the SCCIC at Cal State Fullerton. The search included a review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports on file. The records search included the project site and a 0.25-mile radius. Additionally, the California Points of Historical Interest, the California Historical Landmarks, the California Register of Historic Resources, the National Register of Historic Places (NRHP), and California State Built Environment Resources Directory listings were reviewed for the project site and 0.25-mile radius (See Appendix D). Additionally, a Sacred Lands File search was conducted by the NAHC, and the results were positive (See Appendix D).

In accordance with AB 52 and SB 18 requirements, the City sent invitation letters on February 27, 2024 to the Native American contacts provided by the NAHC and tribes who had previously requested consultation, formally inviting tribes to consult with the City on the proposed project. The intent of consultations is to provide an opportunity for interested Native American contacts to work with the City during the project planning process to identify and protect Tribal Cultural Resources. To date, no Tribes have requested consultation on the proposed project, however, the Gabrieleno Band of Mission Indians – Kizh Nation, requested notification for consultation on future project with the Plan Area.

5.14.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

Goal 3: Encourage a **vibrant and scenic downtown reflective of a diverse community.**

- The restoration and reuse of buildings and places of historical or cultural significance.

5.14.3.3 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.14-1:	The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. [Threshold TCR-1.i and TCR-1. ii]

There are no known listed or eligible tribal cultural resources within the project site, based on record search reviews. However, the Sacred Lands File search Conducted by the NAHC did indicate a positive result for the potential to encounter tribal cultural resources during ground disturbing activities. The proposed project is a regulatory document that sets forth the framework for future growth and development within the project site and does not directly result in development. The adoption of the proposed project would not lead to the demolition or material alteration of any tribal cultural resources. Nonetheless, there is potential for subsurface

tribal resources to be present within the project site. Although there is low potential for the project's ground-disturbing activities to encounter tribal cultural resources, due to the extent of on-site ground disturbances from previous development and the area's urbanized nature, ground-disturbing activities, such as grading or excavation, associated with buildout facilitated by the proposed project, could have the potential to unearth undocumented subsurface tribal cultural resources. Therefore, impacts would be potentially significant.

Level of Significance Before Mitigation: Potentially significant.

5.14.4 Cumulative Impacts

The context for the analysis of impacts to tribal cultural resources is generally site specific rather than cumulative in nature, because each project site has a different set of geologic and historic considerations that would be subject to further assessments depending on existing site conditions, location, and sensitivity to tribal cultural resources. Therefore, the potential for cumulative impacts is limited. Because the mitigation measures are able to bring the impacts to less than significant, cumulative effects of future development on tribal cultural resources are considered less than significant.

5.14.5 Level of Significance Before Mitigation

Without mitigation, the following impacts would be **potentially significant:**

- **Impact 5.14-1** Tribal cultural resources could be adversely impacted by grading activities associated with the proposed project.

5.14.6 Mitigation Measures

See Mitigation Measures CUL-3 and CUL-4 in Section 5.3, *Cultural Resources*.

5.14.7 Level of Significance After Mitigation

Implementation of regulatory requirements and Mitigation Measures CUL-3 and CUL-4 would reduce potential impacts associated with TCRs to a level that is less than significant. Therefore, no significant unavoidable adverse impacts relating to tribal cultural resources have been identified.

5.14.8 References

Artesia, City of. 2010. City of Artesia General Plan 2030 Environmental Impact Report. https://www.cityofartesia.us/DocumentCenter/View/107/Sec0510CulturalResources?bidId=.

Native American Heritage Commission. January 2024. Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Code § 65352.3 and § 65352.4, as well as Assembly Bill 52 (AB52), Public Resources Code § 21080.1, § 21080.3.1 and § 21080.3.2, Downtown Artesia Specific Plan Draft Environmental Impact Report Project, Los Angeles County (DEIR Appendix D).

South Central Coastal Information Center at California State University, Fullerton. March 2024. Records Search Results for the Artesia Downtown Specific Plan (DEIR Appendix D).

5.15 UTILITIES AND SERVICE SYSTEMS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Artesia Downtown Specific Plan project (proposed project) to impact utility and service systems that serve the City of Artesia (City). Hydrology and water quality impacts are discussed in Section 5.7, *Hydrology and Water Quality Impact*, of this DEIR. Energy consumption impacts are discussed in Section 5.4, *Energy*.

During the scoping period for the DEIR, written and oral comments were received from agencies, organizations, and the public (Appendix A). Table 2-1, *Notice of Preparation and Comment Letters Summary*, in Chapter 2, *Introduction*, includes a summary of all comments received during the scoping comment period.

5.15.1 Wastewater Treatment and Collection

5.15.1.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Clean Water Act and National Pollution Elimination Discharge System

The Clean Water Act establishes regulations to control the discharge of pollutants into the waters of the United States and regulates water quality standards for surface waters (US Code, Title 33, Sections 1251 et seq.). Under the act, the US Environmental Protection Agency (EPA) is authorized to set wastewater standards and runs the National Pollutant Discharge Elimination System (NPDES) permit program. Under the NPDES program, permits are required for all new developments that discharge directly into Waters of the United States. The federal Clean Water Act requires wastewater treatment of all effluent before it is discharged into surface waters. NPDES permits for such discharges in the project region are issued by the Los Angeles Regional Water Quality Control Board (LA RWQCB) (Region 4).

National Pollutant Discharge Elimination System

The NPDES permit program was established in the Clean Water Act to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; set prohibitions on discharges not specifically allowed under the permit; and establish provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities. Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant.

State

State Water Resources Control Board: Statewide General Waste Discharge Requirements

In order to provide a statewide regulatory approach to address sanitary sewer overflows, the State Water Resources Control Board (SWCRB) adopted Statewide General Waste Discharge Requirements for sanitary sewer systems (Order No. 2006-0003- DWQ) in 2006. The Statewide General Waste Discharge Requirements were readopted in December 2022 (Order No. 2022-0103-DWQ). The General Waste Discharge Requirements specify that all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length which collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California need to develop a sewer system management plan (SSMP). The SSMP evaluates existing sewer collection systems and provides a framework for undertaking the construction of new and replacement facilities to maintain proper levels of service. It includes inflow and infiltration studies to analyze flow monitoring and water use data, a capacity assurance plan to analyze the existing system with existing land use and unit flow factors, a condition assessment and sewer system rehabilitation plan, and a financial plan with recommended capital improvements and financial models. Provision 14 of Order 2006-003-DWQ requires the SSMP be updated every five years and shall include any significant program changes. Recertification by the City Council is required when significant updates to the SSMP are made.

General Pretreatment Regulations for Existing and New Sources of Pollution

The General Pretreatment Regulations establish the responsibilities of federal, state, and local governments; industry; and the public to implement National Pretreatment Standards to control pollutants that pass through or interfere with treatment processes in publicly owned treatment works or that may contaminate sewage sludge. Pretreatment standards are pollutant discharge limits that apply to industrial users.

Assembly Bill 885 (AB 885)

The SWRCB implements regulations to reduce the impact of wastewater sources on groundwater quality in accordance with Assembly Bill (AB) 885 through its water quality control policy for siting, design, operation, and maintenance of on-site wastewater treatment systems (OWTS) (septic systems) (Resolution No. 2012-0032). This policy establishes a statewide, risk-based, tiered approach for the regulation and management of OWTS installations and replacements that have affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking water or other uses or cause a health or public nuisance condition. RWQCBs incorporated the standards in the OWTS policy or standards that are more protective of the environment and public health into their water quality control plans. Implementation is overseen by the state and regional water quality boards and local agencies (e.g., county and city departments and independent districts).

Regional

Long Beach Water Reclamation Plant NPDES Permit

Wastewater discharge requirements for the Long Beach Water Reclamation Plant (LBWRP) are detailed in NPDES No. CA0054119, Order No. R4-2003-0123. The permit includes the conditions needed to meet minimum applicable technology-based requirements. The permit includes limitations more stringent than

applicable federal technology-based requirements where necessary to achieve the required water quality standards.

Los Angeles County Sanitation District Connection Fees

Capital improvements to the Los Angeles County Sanitation Districts' (LACSD) water reclamation plants are funded from connection fees charged to new developments, redevelopments, and expansions of existing land uses. The connection fee is a capital facilities fee used to provide additional conveyance, treatment, and disposal facilities (capital facilities) required by new users connecting to the LACSD's sewerage system or by existing users who significantly increase the quantity or strength of their wastewater discharge. The Connection Fee Program ensures that all users pay their fair share for any necessary expansion of the system. Estimated wastewater generation factors used in determining connection fees in LACSD's 22 member districts are in the Connection Fee Ordinance for each respective district, available on LACSD's website. The City of Artesia is in District 2 of the Sanitation Districts (LACSD 2022).

Los Angeles County Sanitation Districts Wastewater Ordinance

LACSD's Wastewater Ordinance was adopted on April 1, 1972, and amended on July 1, 1998. The Wastewater Ordinance was enacted to protect the environment and public health; to provide for the maximum possible beneficial public use of the LACSD's sewerage facilities through adequate regulation of sewer construction, sewer use, and industrial wastewater discharges; to provide for equitable distribution of the District's costs; and to provide procedures for complying with requirements placed upon the District by other regulatory agencies (LACSD 1998).

Local

City of Artesia General Plan

Community Facilities and Infrastructure Element

- **Policy CFI 1.1.** Maintain facilities and infrastructure to serve diverse community needs.
- **Policy CFI 1.2.** Promote equitable distribution of community facilities and infrastructure.
- **Policy CFI 1.3.** Require new development to provide proportionate facilities and infrastructure improvements as the new development occurs.
- **Policy CFI 2.1.** Employ ongoing maintenance and upgrades to protect the City's long-term investment in community facilities.
- **Policy 3.1.** Promote green and sustainable practices and approaches in planning, design, construction, renovation and maintenance of public facilities.

Sustainability Element

- **Policy SUS 8.4.** Reduce the volume of wastewater discharges city-wide.

City of Artesia Municipal Code

Title 6, Sanitation and Health, Chapter 7, Storm Water Management and Discharge Control, sets forth standards that intend to reduce pollutants in storm water discharges to the maximum extent possible, regulate illicit connections and illicit discharges, and regulate non-storm water discharges into the municipal water system. This chapter also implements the Standard Urban Storm Water Mitigation Plan (SUSMP) and Low Impact Development Requirements required under the Los Angeles County NPDES MS4 Permit.

Title 6, Sanitation and Health, Chapter 6, Article 1, Connections, requires all development to connect to the City's public sewer system wherever a line currently exists or is constructed in the future.

Title 6, Sanitation and Health, Chapter 6, Article 2, Sanitary Sewers and Industrial Waste Ordinance, adopts Title 20, Utilities, Division 2, Sanitary Sewers and Industrial Waste of the Los Angeles County Code, including the provisions for fee collection.

Title 6, Sanitation and Health, Chapter 6, Article 4, Reconstruction Program, provides standards for the City's existing sewer system in addition to future sewage development in the City in accordance with the City's sewer reconstruction program. Section 6-4.407 requires that the City engineer assess the capacity of the public sewer system before the issuance of building permits for new development or redevelopment. Permits may be denied if the capacity of the sewer system is not able to accommodate the development. Section 6-4.408, Capacity Determination, provides the City's standards for peak flow discharge rates by land use. The peak flows for the land uses relevant to the proposed project are listed in Table 5.15-1, *City of Artesia Sewer System Peak Flows*.

Table 5.15-1 City of Artesia Sewer System Peak Flows

Land Use	Peak Flow
Apartments	600 gallons per day per dwelling unit
Offices	600 gallons per day per 1,000 square feet of floor area
Restaurants	150 gallons per day per seat
Stores, commercial and display	300 gallons per day per 1,000 square feet of floor area
Motels	600 gallons per day per unit

Source: Artesia Municipal Code Section 6-4.408.

Title 9, Building Regulations, Section 9-1.716, Sanitary Sewers, requires all subdivision development to install sanitary sewers to serve each lot. The design must be in accordance with the requirements of the City engineer.

Existing Conditions

Wastewater Conveyance

The City of Artesia and LACSD provide wastewater services to the Specific Plan area. The City of Artesia owns and operates local wastewater transmission lines within City limits, as shown on Figure 8.1, *Existing Sewer*

Systems, in the proposed Specific Plan. The City's local gravity sewer lines discharge into LACSD's facilities for conveyance to the LBWRP in the City of Long Beach.

The City is responsible for ensuring that the public sewer infrastructure is correctly designed, adequately sized, and easily maintained. The City is part of the Los Angeles County Department of Public Works' (LACDPW) Consolidated Sewer Maintenance District (CSMD) and therefore relies on the staff and resources of the LACDPW for the maintenance of its collection sewer system. The CSMD is not a special district and does not own any infrastructure. LACDPW's Sewer Maintenance Division is responsible for operational maintenance services of the City's sewer collection system, including cleaning, closed-circuit television inspection, manhole inspection, and repairs of the system. The CSMD also provides a supporting role in reviewing all proposed sewer plans for new developments in the City to ensure that they conform to County design standards and to ensure that requirements for acceptability for maintenance are met.

The LACSD owns, operates, and maintains an interconnected network of trunk sewers that convey wastewater to joint outfall system treatment facilities. The City falls completely within the LACSD's District Number 2 service area. The LACSD's trunk system forms the backbone of the conveyance system. The joint outfall system includes the joint outfall trunk sewers, which are typically high-capacity sewers with diameters as large as 144 inches, and the LACSD trunk sewers, which generally feed the larger trunk sewers.

The capacity of the three main trunk sewer lines in the Specific Plan area are shown in Table 5.15-2, *LACSD Trunk Line Available Capacity* (also see Figure 8.1 in the Specific Plan for the location of these lines in the Specific Plan area). As shown in Table 5.15-2, these sewer lines each have residual capacity.

Table 5.15-2 LACSD Trunk Line Available Capacity

Sewer Line Name	Diameter (inches)	Available Capacity (mgd)	Net Sewer Capacity (mgd)
Joint Outfall "C" Trunk Sewer, Unit 6F & 6G	15	0.58	0.18
JOA-1A Gridley Rd Interceptor	20	1.94	1.54
Joint Outfall "C" Trunk Sewer, Unit 6F & 6G, Unit 8E	18	1.03	0.63
		Total	2.35

Notes: mgd = mega gallons per day.

Wastewater Treatment Capacity

The City's local sewers discharge into the LACSD facilities for treatment and disposal. This sewage is treated at LACSD's LBWRP. The LBWRP has a capacity of 25 million gallons per day (mgd) and currently processes an average recycled flow of 12.7 mgd (LACSD 2024a). The treated wastewater is disinfected with hypochlorite and discharged to the Pacific Ocean through a network of outfalls.

Existing Wastewater Flow

The Specific Plan area is currently fully built out, consisting primarily of one- and two-story commercial uses and multifamily residential properties. The wastewater generation of these existing uses are shown in Table 5.15-3, *Existing Sewer Generation*.

Table 5.15-3 Existing Sewer Generation

Land Use	Units	Wastewater Generation Rates (gpd per DU or 1,000 SF)[1]	Generated Wastewater (gpd)
Single-Family	4 DU	260	1,040
Apartment Low-Rise	15 DU	156	2,340
General Office Building	43,422 SF	200	8,684
Regional Shopping Center	309,506 SF	150	46,426
Strip Mall Retail	44,711 SF	325	14,531
General Light Industrial	26,379 SF	25	659
		Total	73,681

Source: LACSD 2024c.
DU= dwelling units; SF = square feet; gpd = gallons per day.
[1] Wastewater use factors are based on Los Angeles County Sanitation District flows for classes of land use in District No. 2. The project land use categories and corresponding LACSD factors were approximated as follows:
Single-Family = "Single Family Home"
Apartment Low-Rise = "Multi-Unit Residential"
General Office Building = "Office Building"
Regional Shopping Center = "Regional Mall"
Strip Mall Retail = "Shopping Center"
General Light Industrial = "Light Manufacturing"

5.15.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-1 Requires or results in the relocation or construction of new or expanded wastewater treatment, the construction or relocation of which could cause significant environmental effects.

U-3 Results in a determination by the waste water treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

5.15.1.3 ENVIRONMENTAL IMPACTS

Methodology

The following analysis is based on the research conducted by Fuscoe Engineering for Chapter 8, *Infrastructure*, of the proposed Specific Plan and demand calculations generated by PlaceWorks. Information regarding the City's existing sewer system capacity was derived from communication with LACSD. The calculations of the proposed project's sewer demand were generated using wastewater use factors from LACSD. To determine the proposed project's impact on sewer capacity, the net increase in sewer demand is compared to the existing available capacity of three of LACSD's trunk lines in the Specific Plan area. The proposed project's sewer demand is also compared to the residual capacity of the LBWRP to determine impacts to wastewater treatment.

Proposed Specific Plan Goals and Policies

The goals and objectives of the proposed Specific Plan do not specifically address utility infrastructure, however, Chapter 8, *Infrastructure*, of the proposed Specific Plan discusses the Specific Plan area's existing utilities, utilities providers, and utility capacity.

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.15-1: Existing and/or proposed facilities would be able to accommodate project-generated wastewater infrastructure demands. [Threshold U-1]

Wastewater Conveyance

Construction

The proposed project would require construction or reconstruction of new, on-site sewer lines. Construction impacts associated with the installation of the sewer lines would primarily involve trenching to place the lines below the surface and would be limited to the individual projects in the Specific Plan area. The construction-related environmental impacts associated with these improvements are analyzed throughout this Draft EIR since it is a component of the proposed project. This analysis focuses on whether the City of Artesia or LACSD would need to expand its wastewater facilities in order to handle the anticipated demand generated by the proposed project.

Operations

Buildout of the proposed project is projected to result in 1,981 new dwelling units and 502,919 nonresidential square feet in the Specific Plan area. As a result of land use and zoning changes, 19 existing dwelling units and 424,018 square feet of existing nonresidential space in the Specific Plan area could be redeveloped, resulting in a net increase of 1,962 dwelling units and 78,901 nonresidential square feet. As shown in Table 5.15-4, *Proposed Project Sewer Generation*, based on the type of use and generation factors, buildout of the proposed project would generate approximately 476,437 gallons per day (gpd) of wastewater. As shown in Table 5.15-4, the existing uses that would be redeveloped as part of the proposed project generate approximately 73,681 gpd. As such, the proposed project is anticipated to result in a net increase of 402,756 gpd. The wastewater flow originating from the proposed developments would discharge to an on-site sewer system to be appropriately sized and installed for conveyance to the City's sewer system and LACSD's trunk sewers.

Chapter 8 of the proposed Specific Plan analyzed the capacity of the three main trunk sewer lines in the Specific Plan area and determined the residual sewer of these lines is 2.35 mgd. The proposed project would generate 0.4 mgd of wastewater, which is within the residual capacity of these lines.

Table 5.15-4 Projected Project Sewer Generation

Land Use	Buildout	Wastewater Generation Rates (gpd per 1,000 SF or room)[2]	Generated Wastewater (gpd)
Multifamily Home	6,934 population	42 gpcd[1]	262,086[3]
Hotel	150 rooms	125	18,750
Office	105,730 SF	200	21,146
Retail	158,595 SF	100	15,860
Restaurant	158,595 SF	1,000	158,595
		Subtotal	*476,437*
		Reduction for Existing Uses[4]	*73,681*
		Total Net Increase	402,756

Source: LACSD 2024c.
DU= dwelling units; SF = square feet; gpd = gallons per day; gpcd = gallons per capita per day.
[1] Based on the standard for indoor residential water use SB 1157: 42 gpcd 2030 onwards
[2] Wastewater use factors for all uses except multifamily home are based on Los Angeles County Sanitation District (District No. 2) flows for classes of land use. The project land use categories and corresponding LACSD factors were approximated as Hotel = "Hotel/Motel/Rooming House", Office = "Office Building", Retail = "Store", Restaurant = "Restaurant"
[3] Wastewater generation is estimated to be 90 percent of total indoor water use (see Table 5.15-6 below).
[4] See Table 5.15-3 for calculation of existing demand.

All future new development would be required to undertake a site-specific sewer evaluation prior to issuance of grading permits or otherwise determined as necessary by the City. These future sewer evaluations would assess the adequacy of the City's local sewer system and may require sewer flow monitoring at the local sewer manholes requested by the City. LACSD would also review future development within the Specific Plan area to determine whether sufficient trunk sewer capacity exists to serve each development and if the LACSD's facilities would be impacted by the development. This review is accomplished through the LACSD's Will-Serve Program. Additionally, pursuant to Title 6, Article 4 of the Artesia Municipal Code, development that would exceed the capacity available in the public sewer would not receive a building permit until that capacity can be made available. LACSD also charges connection fees new users connecting to its sewerage system. These fees would help to ensure that new development in the Specific Plan area all users pays their fair share for any necessary expansion of the system. The proposed project would not require the relocation or construction of new or expanded wastewater conveyance infrastructure. Therefore, impacts would be less than significant.

Wastewater Treatment

As shown in Table 5.15-4, the proposed project would generate a net increase of 402,756 gpd of sewer that would be treated at the LBWRP. The LBWRP has a capacity of 25 mgd and an existing average daily flow for the system is approximately 13 mgd. The net wastewater generated by implementation of the proposed project would represent a 2.3 percent increase to the average treatment flow for the LBWRP. However, this increase would not exceed the treatment capacity of this wastewater treatment plant. Therefore, no new or expanded water reclamation plant facilities would be needed; impacts would be less than significant.

The LBWRP is required by federal and state law to meet applicable standards of treatment plant discharge requirements subject to NPDES No CA0054119. The permit includes the conditions needed to meet minimum applicable technology-based requirements. The NPDES permit regulates the amount and type of pollutants that the system can discharge into receiving waters. These treatment plants in compliance with and would

continue to operate subject to state waste discharge requirements and federal NPDES permit requirements, as set forth in the NPDES permit and order. Furthermore, the proposed project would comply with the LACSD's Wastewater Ordinance as amended by the Artesia Municipal Code, which includes the payment of a connection fee, the approval of plans for sewer construction by LACSD, and the prohibition of certain discharges to sewer lines. As described, the additional wastewater (quantity and type) that would be generated by the proposed project and treated by the LBWRP would not impede the treatment plant's ability to continue to meet its wastewater treatment requirements and no new or expanded treatment facilities would be required. Therefore, impacts on wastewater treatment would be less than significant.

Level of Significance Before Mitigation: Less than significant.

Impact 5.15-2: Project-generated wastewater could be adequately treated by the wastewater service provider for the project. [Threshold U-3]

Wastewater from the residential and commercial (restaurants, retail, hotel) uses proposed by the project would not contain substances of any types and amount prohibited by LACSD discharge limits. Discharging oil or petroleum products to the sewer would be prohibited. Thus, project-generated wastewater would not adversely affect LACSD's compliance with the Los Angeles RWQCB's Order No. R4-2015-0124. The proposed project would also be designed, constructed, and operated in accordance with the LACSDs Wastewater Ordinance. The LBWRP has a residual treatment capacity of 12.3 mgd, based on its average daily treatment flows, which can accommodate the additional 0.35 mgd of potential wastewater generated by the proposed project. Therefore, LACSD currently has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant.

5.15.1.4 CUMULATIVE IMPACTS

The area considered for cumulative impacts to wastewater treatment is the service area of the LBWRP. The area considered for cumulative impacts to wastewater conveyance systems is the LACSD service area and the Specific Plan's sewer system service area.

All future development in the Specific Plan Area and within larger LACSD's service area would be reviewed on a project-by-project basis to verify that existing capacity exists to convey the wastewater generated by the new development and whether construction of new sewer lines would result in significant environmental effects. Through the use of connection fees and agreements, LACSD is able to maintain and expand its wastewater collection system as necessary and is able to ensure that new developments pay their fair-share costs associated with increased demand, including development that may require General Plan amendments. Therefore, there would be no significant cumulative impacts on wastewater collection.

As discussed above, wastewater effluent is directed to the LBWRP, which is operated by LACSD. Future development in the Specific Plan area would comply with the LACSD's Wastewater Ordinance, as amended by the Artesia Municipal Code, to ensure that the LBWRP continues to operate in compliance with its NPDES permit. Furthermore, future development would also comply with the LACSD's connection fee requirements

to fund future capital improvement programs. Accordingly, cumulative impacts on wastewater infrastructure and treatment would be less than significant.

5.15.1.1 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.15.1.2 MITIGATION MEASURES

No mitigation measures are required.

5.15.1.3 LEVEL OF SIGNIFICANCE AFTER MITIGATION

All impacts would be less than significant.

5.15.2 Water Supply and Distribution

5.15.2.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Federal Safe Drinking Water Act

The Safe Drinking Water Act, the principal federal law intended to ensure safe drinking water for the public, was enacted in 1974 and has been amended several times since it came into law. The Act authorizes the EPA to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and man-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the SWRCB conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

State

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.), which was passed in California in 1969 and amended in 2013, the SWRCB has authority over State water rights and water quality policy. This Act divided the state into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB) to oversee water quality on a day-to-day basis at the local and regional level. RWQCBs engage in a number of water quality functions in their respective regions, including regulating all pollutant or nuisance discharges that may affect either surface water or groundwater.

Urban Water Management Planning Act

The Urban Water Management Planning Act of 1983 (Water Code Sections 10610 et seq.) requires water suppliers to:

- Plan for water supply and assess reliability of each source of water over a 20-year period in 5-year increments.
- Identify and quantify adequate water supplies, including recycled water, for existing and future demands in normal, single-dry, and multiple-dry years.
- Implement conservation and the efficient use of urban water supplies.

Significant new requirements for quantified demand reductions have been added by the Water Conservation Act of 2009 (SBX7-7), which amended the Urban Water Management Planning Act and adds new water conservation provisions to the Water Code.

Senate Bill 610

Senate Bill (SB) 610 amended State law to ensure better coordination between local water supply and land use decisions and confirm that there is an adequate water supply for new development. Specific projects are required to prepare a water supply assessment (WSA). The WSA consists of information regarding existing and forecast water demands as well as information pertaining to available water supplies for the new development. The following projects that are subject to the California Environmental Quality Act (CEQA) are required to prepare a WSA.

- Residential developments consisting of more than 500 dwelling units.
- Shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- Commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- Hotel or motel, or both, having more than 500 rooms.
- Industrial, manufacturing, or processing plant or industrial park planned to employ more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- Mixed-use project that includes one or more of the projects specified above.
- Project that would demand an amount of water equivalent to, or greater than, the amount of water required for 500 dwelling units.

The Water Conservation Act of 2009 (Senate Bill X7-7)

The Water Conservation Act of 2009, SB X7-7, requires all water suppliers to increase water use efficiency. The legislation set an overall goal of reducing per capita water use by 20 percent by 2020, with an interim goal of a 10 percent reduction in per capita water use by 2015. Effective in 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans. The SB X7-7 requires that urban water retail suppliers determine baseline water use and set reduction targets according to specified standards. It also requires that agricultural water suppliers prepare plans and implement efficient water management practices.

20x2020 Water Conservation Plan

The 20x2020 Water Conservation Plan of 2010 was a byproduct of the Water Conservation Act of 2009. The plan had a threefold effect, establishing: 1) a benchmark of current usage per capita of 2005 baseline data; 2) an intermediate goal for all water providers to meet by 2015; and 3) a 20 percent reduction by 2020 of water usage.

Mandatory Water Conservation

Following Governor Brown's declaration of a state of emergency on July 15, 2014, the SWRCB adopted Resolution No. 2014-0038. The emergency regulation was partially repealed by Resolution No. 2017-0024. The remaining regulation prohibits several activities, including (1) the application of potable water to outdoor landscapes in a manner that causes excess runoff; (2) the use of a hose to wash a motor vehicle except where the hose is equipped with a shut-off nozzle; (3) the application of potable water to driveways and sidewalks; (4) the use of potable water in nonrecirculating ornamental fountains; and (5) the application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall. The SWRCB resolution also directed urban water suppliers to submit monthly water monitoring reports to the SWRCB.

Assembly Bill 1668 and Senate Bill 606

In 2018, the California Legislature enacted two policy bills to establish long-term improvements in water conservation and drought planning to adapt to climate change and longer and more intense droughts in California. The Department of Water Resources (DWR) and the SWRCB adopted new standards for the following in 2020:

- Indoor residential water use
- Outdoor residential water use
- Commercial, industrial, and institutional (CII) water use for landscape irrigation with dedicated meters
- Water loss

Urban water suppliers will be required to stay within annual water budgets, based on their standards for their service areas, and to calculate and report their urban water use objectives in an annual water use report. For example, the bills define a daily standard for indoor residential use of 55 gallons per person until 2025, when it decreases to 52.5 gallons and further decreases to 50 gallons by 2030. The legislation also includes changes to Urban Water Management Plan preparation requirements.

Governor's 2021 Drought Declaration

Governor Gavin Newsom declared a drought state of emergency on April 21, 2021, and asked state agencies to partner with local water districts and utilities to make Californians aware of drought and encourage actions to reduce water usage by promoting DWR's Save Our Water Campaign and other water conservation programs. The proclamation also included measures to be implemented by the DWR, SWRCB, the Department of Fish and Wildlife, and the Department of Food and Agriculture that included coordinated state and local actions to address issues stemming from continued dry conditions.

The governor issued subsequent drought emergency proclamations on May 10, June 8, and October 19 of 2021, and March 28 of 2022. The May 10 proclamation included further measures to be implemented by DWR, SWRCB, the Department of Fish and Wildlife, and the Department of Food and Agriculture. The July 8 proclamation called on Californians to voluntarily reduce water use by 15 percent from their 2020 levels. The October 19 proclamation required local water suppliers to implement water shortage contingency plans that are responsive to local conditions and prepare for the possibility of a third dry year. The March 28 proclamation required that by May 25, 2022, the SWRCB must consider adopting emergency regulations defining nonfunctional turf[1] and banning irrigation of nonfunctional turf in the commercial, industrial, and institutional sectors. The proclamation also required that by May 25, 2022, SWRCB must consider adopting emergency regulations to implement the shortage response actions specified in Urban Water Management Plans for a water shortage level of up to 20 percent.

The SWRCB tracks and reports monthly on the state's progress toward achieving a 15 percent reduction in statewide urban water use compared to 2020 use.

Water Conservation in Landscaping Act of 2006 (AB 1881)

The Water Conservation in Landscaping Act of 2006 (AB 1881) required DWR to update the State Model Water Efficient Landscape Ordinance (MWELO) by 2009. The State's model ordinance was issued on October 8, 2009. Under AB 1881, cities and counties were required to adopt a State updated model landscape water conservation ordinance by January 31, 2010, or to adopt a different ordinance that is at least as effective in conserving water as the updated Model Ordinance. It also required reporting on the implementation and enforcement of local ordinances, with required reports due by December 31, 2015 (DWR 2019).

2015 Update of the State Model Water Efficient Landscape Ordinance (per Governor's Executive Order B-29-15)

To improve water savings in the landscaping sector, the DWR updated the Model Ordinance in accordance with Executive Order B-29-15. The Model Ordinance promotes efficient landscapes in new developments and retrofitted landscapes. The Executive Order calls for revising the Model Ordinance to increase water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, and on-site stormwater capture, and by limiting the portion of landscapes that can be covered in turf.

[1] Nonfunctional turf is turf that is ornamental and not otherwise used for human recreation purposes such as school fields, sports fields, and parks.

New development projects that include landscaped areas of 500 square feet or more, including residential, commercial, industrial, and institutional projects that require a permit, plan check, or design review, are subject to the Model Ordinance. The previous landscape size threshold for new development projects ranged from 2,500 square feet to 5,000 square feet.

Title 5, Chapter 2, of the municipal code adopts an ordinance that incorporates updates consistent with the State MWELO update.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act addresses the sustainable management of groundwater in California. This legislation results from water shortages in California, long-term issues with land subsidence, and over-drafting of groundwater aquifers. The DWR identified the status of water basins by overdraft and priority levels (e.g., very low, low, medium, or high). The consistency requirement between the Cal Water–Hermosa-Redondo District's Urban Water Management Plan and this act is not applicable because the West Coast Subbasin is categorized as very low priority. Thus, the implementation of a Groundwater Sustainability Plan is not required because groundwater storage and extraction in the West Coast Basin are governed by basin adjudication, with excess production restricted to emergencies.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen) (Title 24, California Code of Regulations, Part 11) establishes mandatory residential and nonresidential measures for water efficiency and conservation under Sections 4.3 and 5.3. The provisions establish the means of conserving water used indoors, outdoors, and in wastewater conveyance. The code includes standards for water-conserving plumbing fixtures and fittings and the use of potable water in landscaped areas.

California Plumbing Code

The California Plumbing Code was adopted as part of the California Building Code (CBC) and specifies technical standards of design, materials, workmanship, and maintenance for plumbing systems. The CBC code is updated on a three-year cycle; the latest edition is dated 2022 and is effective as of January 1, 2023. One of the purposes of the plumbing code is to prevent conflicting plumbing codes within local jurisdictions. Among many topics covered in the code are water fixtures, potable and non-potable water systems, and recycled water systems.

Local

Artesia Service Area Urban Water Management Plan

Golden State Water Company (GSWC) is the water provider for the City of Artesia. GSWC's 2020 Urban Water Management Plan (UWMP) for the Artesia Service Area is a water resource planning tool to effectively manage water supply, reliability, and demand. The GSWC Artesia service area's water assets consist of adjudicated groundwater supplies, leased or purchased groundwater supply, water contracts with neighboring local agencies, and arrangements with the Central Basin Municipal Water District (CBMWD) for additional treated and recycled water supplies. GSWC Artesia also maintains six emergency connections with neighboring agencies

(e.g., City of Cerritos, City of Long Beach, City of Lakewood, GSWC West Orange County System, and the Norwalk Municipal Water System) that allow access to additional water sources in emergency conditions.

Golden State Water Company New Business Narrative/Water Service Application

GSWC facilitates an application for new water service connections in its service area and outlines the requirements for project design and the application process in its New Business Narrative documentation. GSWC considers "new business projects" to be residential, commercial, or industrial projects that require construction or modification of water facilities including public fire hydrants, domestic services larger than two inches on existing water mains and main extensions to serve a subdivision, tract, housing project, individual development, commercial building, or shopping center and are within GSWC's service area (GSWC 2024).

City of Artesia General Plan

Community Facilities and Infrastructure Element

- **Policy CFI 1.1.** Maintain facilities and infrastructure to serve diverse community needs.
- **Policy CFI 1.2.** Promote equitable distribution of community facilities and infrastructure.
- **Policy CFI 1.3.** Require new development to provide proportionate facilities and infrastructure improvements as the new development occurs.
- **Policy CFI 2.1.** Employ ongoing maintenance and upgrades to protect the City's long-term investment in community facilities.
- **Policy 3.1.** Promote green and sustainable practices and approaches in planning, design, construction, renovation and maintenance of public facilities.

Sustainability Element

- **Policy SUS 8.1.** Maximize water efficiency and the use of alternative sources of water in City operations.
- **Policy SUS 8.2.** Implement outreach and education programs that promote best practices in water conservation.

Artesia Municipal Code

Title 5, Chapter 18, Water Conservation Measures, outlines the water conservation requirements for use of water in the City including water use frequency, watering hours, watering duration, and water flow and runoff. This section also outlines the penalties for violation of these watering rules.

Title 6, Chapter 5, Water Service, of the Artesia Municipal Code outlines the Water Service requirements for the City: Section 6-5.01, Permits Required, states that new pipelines or any replacement, repair, or extension thereof, for water service or for the installation of a water system requires a permit from the City Manager. Section 6-5.02, Permits Plans and Fees, requires new connections to the City water system to be approved by

the County Fire Department and by the City Engineer or such other registered civil engineer as may be designated by the City Manager.

Title 8, Chapter 10, Green Building Standards Code, adopts by reference the most current (2022) CALGreen. CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure in California, unless otherwise indicated in the code. CALGreen establishes planning and design standards for water conservation measures and requirements that new buildings reduce water consumption by 20 percent below a specified baseline Standards also include low-flow fixtures (not to exceed 1.5 gallons per minute), native landscaping, and dedicated separate landscaping water meters. The building efficiency standards are enforced through the local building permit process.

Title 9, Article 15.5, Water Efficient Landscaping, adopts the California State MWELO.

Existing Conditions

Water Supply

GSWC Artesia currently manages and maintains the water system within the Specific Plan area. GSWC Artesia serves approximately 87 percent of the City of Artesia. GSWC Artesia is a wholly owned subsidiary of the American States Water Company and regulated by the California Public Utilities Commission. GSWC Artesia's Potable System is comprised of two main water sources: groundwater extraction tied to the Central Basin Adjudication, including extractions derived from leased and stored water asset, and contract supplies with City of Cerritos that provides both Central Basin Adjudicated supplies and CBMWD supplies derived from water supplies developed by Metropolitan Water District. GSWC Artesia's non-potable system consists of approximately 90 acre-feet per year (AFY) of recycled water from CBMWD's Central Basin Recycled Water Project.

GSWC Artesia owns and operates six active wells, two of which are located in Artesia, with a combined capacity of 7,340 gpm that pump from the Central Subbasin of the Central Coast Plain of the Los Angeles Groundwater Basin. The groundwater is blended with water purchased from the City of Cerritos via two interconnections, each with a capacity of 1,500 gpm. GSWC Artesia also has six emergency interconnections to allow sharing of supplies during short term emergencies or during planned shutdowns of primary supply sources. These interconnections are with the City of Long Beach, the City of Lakewood, GSWC West Orange County System, Norwalk Municipal Water System, and two with the City of Cerritos.

Every urban water supplier is required to assess its reliability to provide water service to its customers under normal, dry, and multiple dry water years. The 2020 UWMP states that GSWC Artesia will be able to meet projected demands between 2025 and 2045 during normal years, single dry years, and multiple dry years (see Table 5.15-5, *Normal, Single Dry, and Multiple Dry Year Supply and Demand*).

Table 5.15-5 Normal, Single Dry, and Multiple Dry Year Supply and Demand (AFY)

	2025	2030	2035	2040	2045
Normal Year					
Supply Totals	5,109	5,152	5,196	5,240	5,284
Demand Totals	5,109	5,152	5,196	5,240	5,284
Surplus	0	0	0	0	0
Single Dry Year					
Supply Totals	5,620	5,668	5,716	5,764	5,813
Demand Totals	5,620	5,668	5,716	5,764	5,813
Surplus	0	0	0	0	0
Multiple Dry Year					
Year 1					
Supply Totals	5,620	5,668	5,716	5,764	5,813
Demand Totals	5,620	5,668	5,716	5,764	5,813
Surplus	0	0	0	0	0
Year 2					
Supply Totals	5,630	5,677	5,725	5,774	5,813
Demand Totals	5,630	5,677	5,725	5,774	5,813
Surplus	0	0	0	0	0
Year 3					
Supply Totals	5,639	5,687	5,735	5,784	5,813
Demand Totals	5,639	5,687	5,735	5,784	5,813
Surplus	0	0	0	0	0
Year 4					
Supply Totals	5,649	5,696	5,745	5,793	5,813
Demand Totals	5,649	5,696	5,745	5,793	5,813
Surplus	0	0	0	0	0
Year 4					
Supply Totals	5,658	5,706	5,754	5,803	5,813
Demand Totals	5,658	5,706	5,754	5,803	5,813
Surplus	0	0	0	0	0

Source: GSWC 2021.

5.15.2.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-1 Requires or results in the relocation or construction of new or expanded water, the construction or relocation of which could cause significant environmental effects.

U-2 Has insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry ye

5.15.2.3 ENVIRONMENTAL IMPACTS

Methodology

The following analysis is based on the research conducted by Fuscoe Engineering for Chapter 8, *Infrastructure*, of the proposed Specific Plan and demand calculations generated by PlaceWorks. The calculations of the proposed project's indoor water demand were generated using wastewater use factors from LACSD with the total indoor water use assumed to represent 110 percent of wastewater use. To determine impacts on water supply, the proposed project's total water demand is compared to the water supply projections within GSWC's 2020 UWMP. A discussion of GSWC's procedures for approving new additions to its water system is also included.

Proposed Specific Plan Goals and Policies

The goals and objectives of the proposed Specific Plan do not specifically address utility infrastructure, but Chapter 8, *Infrastructure*, of the proposed Specific Plan discusses the Specific Plan area's existing utilities, utilities providers, and utility capacity.

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.15-3: The proposed project would not require the relocation or construction of new or expanded water facilities. [Threshold U-1]

Construction

Future development resulting from the proposed project may require construction of new, on-site water distribution lines to serve new development. Construction impacts associated with the installation of water distribution lines would primarily involve trenching in order to place the water distribution lines below the surface and would be limited to on-site water distribution, with minor off-site work associated with connections to the public main. The construction-related environmental impacts associated with these improvements are analyzed throughout this DEIR since it is a component of the proposed project (see for example Section 5.3, *Cultural Resources*). This analysis focuses on whether GSWC would need to expand its water facilities in order to handle the demand generated by the project.

Prior to ground disturbance under future projects, project contractors would coordinate with GSWC to identify the locations and depth of all lines. The project contractor would notify GSWC in advance of proposed ground disturbance activities to avoid water lines and disruption of water service. Additionally, water needed for construction activities would occur intermittently throughout the construction period, would be temporary in nature, and water required for construction is generally trucked in. Therefore, construction of the proposed project would not require or result in the relocation or construction of new or expanded water infrastructure the construction or relocation of which could cause significant environmental effects. Therefore, impacts would be less than significant.

Operation

No physical development is proposed as part of the project. All new development projects would be required to apply for service from GSWC. Projects that meet the SB 610 criteria, such as residential projects with more than 500 dwelling units, would be required to prepare WSAs. The proposed project would facilitate redevelopment of some existing uses in the Specific Plan area that are projected to be replaced by new development pursuant to the Specific Plan. This new development results in a net increase of residential and nonresidential space that would generate additional demand for water supplies and infrastructure. Table 5.15-6, *Water Demand Under the Proposed Project*, compares the water use of the existing uses that would be redeveloped under the proposed project and the water use of the new development under the proposed project to show the net increase in water demand as a result of the buildout of the proposed project. As shown in the table, water demand would increase by 474.8 afy or 0.4 mgd under proposed conditions.

Table 5.15-6 Net Increase in Water Demand Under the Proposed Project

Land Use	Land Use Factor	Wastewater/Water Use Factor[2]	Water Demand (gpd)[3]	Water Demand (afy)
Existing to be Redeveloped[1]				
Single-Family	4 DU	260 gpd/DU	1,216	1.4
Apartment Low-Rise	15 DU	156 gpd/DU	2,736	3.1
General Office Building	43,422 SF	260 gpd/1,000 SF	10,155	11.4
Regional Shopping Center	309,506 SF	156 gpd/1,000 SF	54,286	60.8
Strip Mall Retail	44,711 SF	260 gpd/1,000 SF	16,991	19.0
General Light Industrial	26,379 SF	156 gpd/1,000 SF	771	0.9
Total	19 DU 424,018 SF		86,155	96.5
Proposed Project Conditions (2045)				
New Multiple-Family	91,098 DU	42 gallons/capita/day[5]	309,553	346.7
Hotel	150 Rooms[4]	125 gpd/room	17,540	19.6
Office	105,730 SF	200 gpd/1,000 SF	19,781	22.2
Retail	158,595 SF	100 gpd/1,000 SF	14,836	16.6
Restaurant	158,595 SF	1,000 gpd/1,000 SF	148,356	166.2
Total	91,098 DU 422,920 SF 150 Rooms		510,065	571.3
Net Increase				
Total	1,962 DU 78,901 SF[6]		423,910	474.8

Source: LACSD 2024c; GSWC 2021; Kings County 2014.
Notes: DU = dwelling units, SF = square feet, gpd = gallons per day, afy = acre-feet year
[1] This is existing development that, for purposes of this analysis is assumed to be demolished and would be redeveloped with the uses under proposed project conditions (see Table 3-4).
[2] Wastewater use factors are based on LACSD flows for classes of land use in District No. 2. The existing and project land use categories were matched with a corresponding LACSD wastewater use factor for all land uses with the exception of the new multiple family uses under the proposed project (see note #5 below).
[3] Total water demand was assumed to represent 110 percent of the wastewater demand of each land use. The total water demand accounts for a water loss rate of 6.3 percent of total indoor water use consistent with GSWC Artesia's 2020 UWMP's water loss rate for planning projection purposes. The water use under the proposed conditions accounts for a 20 percent reduction of water use consistent with the 2022 California Green Building Standards Code, Title 24, Part 11, Section A5.303.2.3.2 which requires a 20 percent reduction in water use from the water use baseline.
[4] Water use for the proposed hotel use was calculated in terms of rooms, consistent with the LLG Specific Plan Trip Generation Forecast Model. The square footage of hotel uses under the proposed project, as documented in Table 3-4 is 80,000 square feet.

Table 5.15-6 Net Increase in Water Demand Under the Proposed Project

Land Use	Land Use Factor	Wastewater/Water Use Factor[2]	Water Demand (gpd)[3]	Water Demand (afy)

[5] Water use for the new multi-family residential uses under the proposed project was calculated using the standard for indoor residential water use under SB 1157, which is 42 gallons per capita per day after 2030 and the buildout population from new development under the proposed project (6,934 residents).
[6] 78,901 square feet accounts for the square footage of hotel uses in the proposed project square footage (424,018 SF to be demolished, subtracted from 502,919 SF under proposed project).

Water service to the Specific Plan Area would continue to be provided by GSWC Artesia for domestic and fire protection uses. GSWC Artesia outlines its procedures for the management, design, and construction of water source, storage, and distribution facilities for applicant-funded water system improvements within its New Business Narrative documentation. This document is intended to guide applicants of new residential, commercial, or industrial projects that require construction or modification of water facilities larger than two inches on existing water mains through GSCW's application process for water service (GSWC 2024). As development is proposed in the Specific Plan area, it would be subject to GSWC's new business application process and the requirements for its project design including fire flow. GSWC's application and approval process shall determine the on-site and off-site improvements required for individual projects to ensure proper water delivery and fire flow to the project site while maintaining services to existing clients.

Additionally, prior to the issuance of building permits for future development, the Los Angeles County Fire Department (LACFD) would be required to grant approval of the final building design, including all fire prevention and suppression systems, which would ensure the proposed project is developed pursuant to Fire Code requirements. On-site water connections would be constructed, as necessary, to comply with the fire flow set for the proposed project by the LACFD during the plan check process. All water connections would also meet the requirements of Title 6, Chapter 5, Water Service Requirements, of the Artesia Municipal Code.

Furthermore, design of the proposed project would meet requirements set forth in CALGreen regarding water efficiency and conservation. CALGreen, also known as Part 11, Title 24 of the California Code of Regulations, established green building standards for nonresidential structures that include new buildings, additions, or alterations. Project design would include low-flow fixtures (not to exceed 1.5 gallons per minute), native landscaping, rainwater catchment system, and dedicated separate landscaping water meters. New construction for both residential and commercial land uses typically achieves a reduction in water usage rates of 20 percent through compliance with these regulations. Residential and commercial water usage can be expected to decrease in the future as a result of the implementation of AB 1668 and SB 606, which set new standards for indoor and outdoor residential water use, commercial water use for landscape irrigation with dedicated meters, and water loss standards. Therefore, impacts with the expansion of water infrastructure to serve the proposed project would be less than significant.

Level of Significance Before Mitigation: Less than significant.

Impact 5.15-4: Available water supplies are sufficient to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. [Threshold U-2]

As shown in Table 5.15-5, GSWC Artesia estimates that from 2020 to 2045 water supply increase from 5,109 afy to 5,284 afy during a normal year. GSWC Artesia also anticipates that it would be able to meet project water demands, in addition to its current and projected demands for the service area, with projected supplies from 2020 to 2045 during normal years, single dry years, and multiple dry years (GSWC 2021). Projected population in the UWMP is based on the current estimated population in the Artesia service area and the projected growth from the Southern California Association of Governments (SCAG).

As discussed in the 2020 UWMP, GSWC supplies are available to serve several neighboring GSWC service areas, including the Artesia service area, and GSWC manages and moves its water supplies depending upon the needs in a particular GSWC service area. GSWC has a total supply pool of 23,639 AFY available for use by GSWC Artesia and the neighboring GSWC service areas, and GSWC Artesia has the capability of obtaining additional water supplies from GSWC's pool if the need arises (Norwalk 2022). While the proposed project would exceed SCAG's current population projections for the City, the GSWC Artesia's 2025 UWMP would be required to incorporate the proposed land use changes under the Specific Plan into its water demand and supply projections out to 2050.

New construction is also subject to a number of regulations and policies that would further reduce water use. For example, development comply with the water efficient requirements of CALGreen, California Plumbing Code, and the City's MWELO. Future projects within the Specific Plan area that meet the criteria under California Water Code Section 10912 would be required to prepare a WSA that demonstrates that project water demands would not exceed water supplies. As documented in Tables 5.15-5, GSWC Artesia can meet all customers' demands during normal year, single dry year, and multiple dry year conditions with excess water available. In addition, GSWC will continue to implement and expand its water conservation program, which includes water efficiency rebates to residential and commercial customers, water waste prevention ordinances, conservation pricing, and public education and outreach. Water supplies would be available to meet the demand of the proposed project and therefore impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant.

5.15.2.4 CUMULATIVE IMPACTS

The area considered for cumulative impacts to water supply services is the GSWC Artesia service area. Existing and future development within the service area would require additional quantities of water. GSWC Artesia's 2020 UWMP projects population within the service area will increase to 54,263 persons by the year 2045, and the total water demand is expected to increase from 5,109 afy in the year 2020 to 5,284 afy in the year 2045. GSWC Artesia states that it will have water supplies available for all years up to 2045 during normal years, single-dry years, and multiple-dry years, as shown in Table 5.15-5.

Other future projects within these service areas would result in increases in water demand. However, cumulative water demands are addressed through the GSWC Artesia's UWMP, and expansion and upgrades to water infrastructure are addressed through the Cities and GSWC capital improvement projects. All new development

projects would be required to apply for service from GSWC. Projects that meet the SB 610 criteria, such as residential projects with more than 500 dwelling units, would be required to prepare WSAs. The City and GSWC would review such projects for adequacy of water supply, and the GSWC Artesia is required to update the UWMP every five years to ensure that there are adequate water supplies and contingency plans for future residents and customers. All future development under the proposed project would require the implementation of water efficiency and water conservation measures, as per the CALGreen Code and the MWELO irrigation requirements.

All cumulative projects would require compliance with City or County ordinances, as well as local, State, and federal regulatory requirements. New construction projects and continuing conservation efforts would result in a reduction in per capita water use over time, which would ensure that cumulative impacts with respect to water supply would be less than significant.

5.15.2.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impacts 5.17-3 and 5.17-4 would be less than significant.

5.15.2.6 MITIGATION MEASURES

No mitigation measures are required.

5.15.2.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

All impacts would be less than significant.

5.15.3 Storm Drainage

5.15.3.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

National Pollutant Discharge Elimination System Program

Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. Requirements for stormwater discharges are also regulated under this program.

State

State Water Resources Control Board General Construction Permit

The SWRCB has adopted a statewide Construction General Permit (Order No. 2022-0057-DWQ) for stormwater discharges associated with construction activity. These regulations prohibit the discharge of stormwater from construction projects that include one acre or more of soil disturbance. Construction activities subject to this permit include clearing, grading, and other disturbance to the ground, such as

stockpiling or excavation, that results in soil disturbance of at least one acre of total land area. Individual developers are required to submit a Notice of Intent to the SWRCB for coverage under the NPDES permit and would be obligated to comply with its requirements.

The NPDES Construction General Permit requires all dischargers to (1) develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies best management practices (BMP) to be used during construction of the project, (2) eliminate or reduce non-storm water discharge to stormwater conveyance systems, and (3) develop and implement a monitoring program of all BMPs specified. The two major objectives of the SWPPP are to (1) help identify the sources of sediment and other pollutants that affect the water quality of stormwater discharges and (2) describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-storm water discharges.

Regional

Los Angeles RWQCB (MS4) Permit for the Coastal Watershed of Los Angeles and Ventura Counties

On July 23, 2021, the Los Angeles RWQCB adopted a Regional Phase I Municipal Separate Stormwater Sewer System (MS4) Permit for discharges within the coastal watersheds of Los Angeles and Ventura counties (Order No. R4-2021-0105, NPDES No. CAS004004). The municipal discharges of stormwater and non-storm water by the City are subject to waste discharge requirements as set forth by this MS4 permit.

Los Angeles County Department of Public Works Hydrology Manual

The LACDPW hydrology manual establishes hydrologic design procedures and contains charts, graphs, and tables necessary to conduct a hydrologic study within the County of Los Angeles. The manual contains procedures and standards developed and revised by the Water Resources Division based on historic rainfall and runoff data collected within the county. The hydrologic techniques in the manual apply to the design of local storm drains, retention and detention basins, pump stations, and major channel projects. Standards set in the manual govern all hydrology calculations under LACDPW's jurisdiction.

Los Angeles County Department of Public Works Low Impact Development Standards Manual

LACDPW prepared the 2013 Low Impact Development (LID) Standards Manual to comply with the requirements of the NPDES MS4 Permit. The LID Standards Manual provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-storm water discharges (LACDPW 2006).

Standard Urban Stormwater Mitigation Plan

The NPDES MS4 Permit defines the minimum required BMPs that must be adopted by the permittee municipalities and included by developers within plans for facility operations. To obtain coverage under this permit, a developer must obtain approval of a project-specific standard urban stormwater mitigation plan (SUSMP) from the appropriate permittee municipality. Projects defined as "priority development projects" are required to prepare and submit a SUSMP. The following categories of projects are defined as priority development projects:

- New development projects that are:
  - Equal to 1 acre or greater of disturbed area and adding more than 10,000 square feet or more of impervious surface area (collectively over the entire project site).
  - Industrial parks of 10,000 square feet or more of surface area.
  - Commercial malls of 10,000 square feet or more of surface area.

- Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site) on any of the following:
  - Existing sites of 10,000 square feet or more of impervious surface area.
  - Industrial parks 10,000 square feet or more of surface area.
  - Commercial malls 10,000 square feet or more of surface area.

- New development and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site) and support one or more of the following uses:
  - Restaurants
  - Parking lots
  - Automotive service facilities

- New development and redevelopment projects that create and/or replace 2,500 square feet or more of impervious area; discharge stormwater that is likely to impact a sensitive biological species or habitat; and are located in or directly adjacent to or are discharging directly to an ASBS, "Sensitive Ecological Area" in Los Angeles County, or "Environmentally Sensitive Area" in Ventura County.

- Street and road construction of 10,000 square feet or more of impervious surface area shall follow EPA guidance regarding Managing Wet Weather with Green Infrastructure: Green Streets to the maximum extent practicable. Street and road construction applies to standalone streets, roads, highways, and freeway projects. Projects under this category are exempt from the Priority Development Structural BMP Performance Requirements (RWQCB 2021).

A SUSMP addresses the discharge of pollutants in stormwater generated by new construction or redevelopment. Under recent regulations adopted by the LA RWQCB, projects are required to implement a SUSMP during the operational life of a project to ensure that stormwater quantity and quality is addressed by incorporating BMPs into project design. This plan defines water quality design standards to ensure that stormwater runoff is managed for water quality concerns and to ensure that pollutants carried by stormwater are confined and not delivered to receiving waters. Applicants are required to abide by source control and treatment control BMPs from the list approved by the LA RWQCB and included in the SUSMP. These measures include infiltration of stormwater as well as filtering runoff before it leaves a site. This can be accomplished through various means, including the use of infiltration pits, flow-through planter boxes, hydrodynamic separators, and catch basin filters.

Los Angeles County Flood Control District Permits

Los Angeles County Flood Control District (LACFCD) administers permits for any work, encroachment, or activity within or affecting the LACFCD right-of-way, facilities, interests, or jurisdiction. These include access permits for temporary uses of the LACFCD rights-of-way, construction permits for encroachment onto/or alteration of LACFCD right-of-way for new construction, connection permits for proposed connections to an existing LACFCD facility, and temporary discharge permits for the discharge of non-storm water into LACFCD facilities (LACFCD 2024).

Local

City of Artesia General Plan

Community Facilities and Infrastructure Element

- **Policy CFI 1.1.** Maintain facilities and infrastructure to serve diverse community needs.
- **Policy CFI 1.2.** Promote equitable distribution of community facilities and infrastructure.
- **Policy CFI 1.3.** Require new development to provide proportionate facilities and infrastructure improvements as the new development occurs.
- **Policy CFI 2.1.** Employ ongoing maintenance and upgrades to protect the City's long-term investment in community facilities.
- **Policy 3.1.** Promote green and sustainable practices and approaches in planning, design, construction, renovation and maintenance of public facilities.

Sustainability Element

- **Policy SUS 4.1.** Increase tree canopy and provide natural landscape elements throughout the City.
- **Policy SUS 8.3.** Protect the watershed by achieving mandates imposed by regulations.

Artesia Municipal Code

Title 6, Sanitation and Health, Chapter 7, Storm Water Management and Discharge Control, sets forth standards that intend to reduce pollutants in storm water discharges to the maximum extent possible, regulate illicit connections and illicit discharges, and regulate non-storm water discharges into the municipal water system. This chapter also implements the SUSMP and Low Impact Development Requirements required under the Los Angeles County NPDES MS4 Permit.

Existing Conditions

The project site is in the Lower San Gabriel River watershed. The watershed encompasses approximately 78.5 square miles (50,240 acres) in Los Angeles County and has approximately 150 stream miles. The main reach through the watershed is the San Gabriel River, with Coyote Creek and San Jose Creek as major tributaries. The San Gabriel River in the watershed consists of a concrete-lined channel 140 to 200 feet in width. Coyote Creek

and San Jose Creek also have concrete channels at their confluence with the San Gabriel River. The Coyote Creek subwatershed drains approximately 185 square miles to its confluence with the San Gabriel River. The subwatershed is almost entirely developed. The San Jose Creek subwatershed drains approximately 7.29 square miles to its confluence with the San Gabriel River.

Storm drains within the City are owned and maintained by LACFCD. The system is designed to control the movement of rainwater to a safe location where it can recharge the natural and man-made water supplies. The Specific Plan area in an urbanized area with an existing storm drainage system in place, as shown in Figure 8.2, *Existing Storm Drainage Systems,* in the proposed Specific Plan.

5.15.3.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-1 Require or result in the relocation or construction of new or expanded storm water drainage, the construction or relocation of which could cause significant environmental effects.

5.15.3.1 ENVIRONMENTAL IMPACTS

Methodology

The following analysis considers the impacts of the proposed project on the City's existing storm drainage system by discussing applicable regulatory requirements for new development that could occur in the Specific Plan area.

5.15.3.2 PROPOSED SPECIFIC PLAN GOALS AND POLICIES

The goals and objectives of the proposed Specific Plan do not specifically address utility infrastructure, however, Chapter 8, *Infrastructure*, of the proposed Specific Plan discusses the Specific Plan Area's existing utilities, utilities providers, and utility capacity.

Impact Analysis

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.15-5: Existing and/or proposed facilities would be able to accommodate development pursuant to the proposed project. [Threshold U-1]

The Specific Plan area is currently built out with buildings, roadways, pavement, and other impervious surfaces; therefore, no new sources of stormwater or flood flows are anticipated. Current runoff is captured and conveyed by existing storm drain infrastructure owned by the City and maintained by LACFCD. New land development consistent with the proposed project would connect to the existing drainage facilities within the public right-of-way. New developments are required to coordinate with LACFCD to ensure development-specific and citywide drainage systems have adequate capacity to accommodate new development.

Future development projects facilitated by the proposed project could require the construction or reconstruction of storm drainage systems to accommodate increased demand associated with the proposed project. At most, construction impacts associated with the installation or reconstruction of the storm drainage facilities would primarily involve trenching to place new or expanded storm mains, inlets, and/or laterals within the Specific Plan area. The construction-related environmental impacts associated with these improvements are analyzed throughout this DEIR since it is a component of the proposed project. These improvements would also be subject to federal, state, and local regulations and applicable mitigation measures as detailed in each topical section of this DEIR. This analysis primarily focuses on whether the City of Artesia or LACSD would need to expand its storm drainage system in order to handle the anticipated demand generated by the proposed project.

Projects under the Specific Plan would be subject to county and city regulatory requirements to ensure that new development would not exceed the capacity of existing or planned stormwater drainage systems. For example, per the requirements of the LACDPW, as detailed in the Los Angeles County Hydrology Manual and the Los Angeles County Hydraulic Design Manual, development under the proposed project would be required to have site-specific hydrology and hydraulic studies to determine the capacity of the existing storm drain systems and project impacts on such systems prior to approval by the LACDPW. All future development under the proposed project would be required to comply with site-specific "allowable discharge rates" that limit post-project peak-flow discharges compared to existing conditions, thus minimizing the potential for flooding on- or off-site and exceedance of the capacity of existing or planned stormwater drainage systems. The hydrology and hydraulic studies must be submitted to the County for review and approval prior to the issuance of grading permits.

Priority development projects[2] would also be required to prepare and submit a SUSMP per the Los Angeles County NPDES MS4 permit and Title 6, Chapter 7 of the Artesia Municipal Code, which would include applicable low impact development requirements in the MS4 permit and Low Impact Development Standards Manual. Projects would be designed to control pollutants, pollutant loads, and runoff volume to as reasonably feasible by controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention, and/or rainfall harvest and use. The final BMPs to be implemented for the proposed project would be determined through the City's review of the SUSMP, which would occur during the City's building plan check process. Additionally, the proposed project would incorporate into the project plans a stormwater mitigation plan, including the BMPs necessary to control stormwater pollution from project operations as set forth in the SUSMP. Structural or treatment control BMPs in project plans would meet the design standards in the SUSMP and MS4 permit. The project developers would also provide verification of maintenance provisions for treatment and structural control BMPs. Compliance with these provisions and regulations would ensure that impacts to storm drainage systems are less than significant.

Level of Significance Before Mitigation: Less than significant.

[2] Priority development projects are generally defined as projects that involve the addition of 10,000 square feet or more of impervious surface area. See the full list of projects that are defined as priority development projects in Section 5.15.3.1. above.

5.15.3.3 CUMULATIVE IMPACTS

Cumulative impacts are considered for the watersheds of the Lower San Gabriel River watershed. Cumulative projects could result in an incremental increase in impervious surfaces that could increase stormwater runoff and impact existing storm drain facilities. However, cumulative projects would be required to comply with the applicable city or county ordinances that designate requirements for connection to the storm drainage systems. Priority development projects subject to the countywide MS4 permit, would also be required to prepare a SUSMP, which would further minimize stormwater runoff.

Development within the watershed areas would require conformance with State and City regulations that would reduce hydrology and infrastructure construction impacts to less than significant levels. Any new development in the City would be subject to the provisions in the municipal code, and other applicable City requirements that reduce impacts related to hydrology and stormwater drainage facilities. More specifically, potential changes related to stormwater flows, drainage, impervious surfaces, and flooding would be minimized by the implementation of stormwater control measures, retention, infiltration, and low-impact-development measures and review by the City's Public Works Department to integrate measures to reduce potential stormwater drainage and flooding impacts.

All cumulative projects in Los Angeles County would be subject to the same requirements of the MS4 permit and would be required to comply with various municipal codes and policies and County ordinances, as well as numerous water quality regulations that control construction-related and operational discharge of pollutants in stormwater. Any activity affecting LACFCD's right-of-way, facilities, interests, or within its jurisdiction would be required to seek a permit from LACFCD. This includes connection permits for proposed connections to an existing LACFCD facility. For these reasons, impacts from future development within the watershed areas related to stormwater infrastructure construction are not cumulatively considerable.

In combination with past, present, and reasonably foreseeable projects, proposed implementation of the proposed Specific Plan would not result in a cumulatively considerable impact to stormwater infrastructure, and cumulative impacts would be less than significant.

5.15.3.4 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, this impact would be less than significant.

5.15.3.5 MITIGATION MEASURES

No mitigation measures are required.

5.15.3.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.15.4 Solid Waste

5.15.4.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act of 1976 (Title 40 of the Code of Federal Regulations), Part 258, contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design (liners, leachate collection, run-off control, etc.), groundwater monitoring, and closure of landfills.

State

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act (Public Resources Code (PRC) Division 30, Part 3, Chapter 18) requires development projects to set aside areas for collecting and loading recyclable materials. The Act required CalRecycle to develop a model ordinance for adoption by any local agency relating to adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model, or an ordinance of their own, governing adequate areas in development projects for collection and loading of recyclable materials.

AB 1327, Model Ordinance for Recycling in Development Projects

AB 1327 (PRC Sections 42900–42911) required all local agencies to adopt an ordinance relating to adequate areas for collecting and loading recyclable materials in development projects. This bill required local agencies to adopt a local ordinance by 9/1/93 or allow the model ordinance to take effect.

Assembly Bills 939, 341, and 1826

Assembly Bill 939 (Integrated Solid Waste Management Act of 1989; PRC 40050 et seq.) established an integrated waste-management system that focused on source reduction, recycling, composting, and land disposal of waste. AB 939 required every California city and county to divert 50 percent of its waste from landfills by the year 2000. Compliance with AB 939 is measured in part by comparing solid waste disposal rates for a jurisdiction with target disposal rates. Actual rates at or below target rates are consistent with AB 939. AB 939 also requires California counties to show 15 years of disposal capacity for all jurisdictions in the county or show a plan to transform or divert its waste.

Assembly Bill 341 (Chapter 476, Statutes of 2011) increased the statewide solid waste diversion goal to 75 percent by 2020. The law also mandates recycling for commercial and multifamily residential land uses as well as schools and school districts.

AB 1826, which was enacted in 2014, mandated organic waste recycling for businesses and multifamily dwellings with five or more units. The commercial organics recycling law took effect on April 1, 2016. As of September 2020, businesses and multifamily residences with five or more units that generate two or more cubic yards per week of solid waste (including recycling and organic waste) must arrange for organic waste recycling services. The bill requires each jurisdiction to report to CalRecycle on its progress implementing the organic waste recycling program, and CalRecycle reviews whether a jurisdiction is in compliance with the act.

California Short-Lived Climate Pollutants Act (Senate Bill 1383)

SB 1383 (California Code of Regulations Title 14, Section 18993.1) focused on the elimination of methane gas created by organic materials in landfills and set targets to achieve a 50 percent reduction in the statewide disposal of organic waste by 2020 and a 75 percent reduction by 2025. Organic waste makes up half of what Californians send to landfills. SB 1383 requires all businesses and residents to divert organic materials (including food waste, yard waste, and soiled paper products) from the landfill. The regulation took effect on January 1, 2022, and will require that organics collection service be provided to all residents and businesses. Also, an edible food recovery program must be established by 2025 with the goal of recovering edible food for human consumption (CalRecycle 2024a).

California Single Use Foodware Act (AB 1276)

AB 1276 (PRC Sections 42270 through 42273) was enacted in 2021 and requires all retail food facilities and food delivery services to provide single-use foodware items on request only. This law was established to reduce the amount of waste generated by single-use items and to encourage consumers to choose reusables. Single-use items include utensils, condiment cups and packages, straws, and stirrers, including those made from bioplastics, compostable plastic, bamboo, and paper. As of June 1, 2022, all cities and counties must authorize an enforcement agency to issue violations for infractions.

CALGreen Building Code

Section 5.408 (Construction Waste Reduction, Disposal, and Recycling) of CALGreen requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. CALGreen is updated on a three-year cycle; the 2022 CALGreen took effect on January 1, 2023.

Regional

Los Angeles Regional Agency

The Los Angeles Area Integrated Waste Management Authority is referred to as the Los Angeles Regional Agency (LARA). It was approved by the California Integrated Waste Management Board in 2004 to assist its 18 member cities to achieve AB 939 recycling goals through a Joint Powers Agreement on a regional basis. The City of Artesia is a member of LARA, which assists member cities in complying with recycling requirements.

County of Los Angeles Countywide Integrated Waste Management Plan

The County Integrated Waste Management Plan comprises the solid waste reduction planning documents produced by the County and its cities. To assess compliance with AB 939, a Disposal Reporting System was

established to measure the amount of disposal from each jurisdiction. Comparing current disposal rates to base year solid waste generation determines whether each jurisdiction complies with the diversion mandate. Additionally, the Siting Element is a long-term planning document that describes how the County and the cities in the county plan to manage the disposal of their solid waste for a 15-year planning period. The Siting Element contains goals and policies on a variety of solid waste management issues.

Local

City of Artesia General Plan

Community Facilities and Infrastructure Element

- **Policy CFI 1.1.** Maintain facilities and infrastructure to serve diverse community needs.
- **Policy CFI 1.2.** Promote equitable distribution of community facilities and infrastructure.
- **Policy CFI 1.3.** Require new development to provide proportionate facilities and infrastructure improvements as the new development occurs.
- **Policy CFI 2.1.** Employ ongoing maintenance and upgrades to protect the City's long-term investment in community facilities.
- **Policy 3.1.** Promote green and sustainable practices and approaches in planning, design, construction, renovation and maintenance of public facilities.

Sustainability Element

- **Policy SUS 2.1.** Reduce municipal waste output.
- **Policy SUS 2.2.** Strive toward an efficient, integrated waste management system that protects the community's health, ensures that the City is aesthetically pleasing, and reduces the City's waste stream.
- **Policy SUS 2.3.** Achieve and exceed diversion requirement per State regulations (AB 939).
- **Policy SUS 2.4.** Promote and advocate ideas and practices that support a resource-efficient and sustainable society.

Artesia Municipal Code

Title 6, Chapter 2, Solid Waste and Recycling, provides an overview of the City's solid waste and recyclable collection and disposal requirements. Article 1, Garbage, Rubbish, and Waste Materials, outlines the requirements for waste disposal and diversion for single-family, multi-family, and commercial uses. Article 2, Recycling Requirements for Construction and Demolition Sites, outlines the Construction and Demolition Waste Recycling Program to meet diversion rates required under the California Integrated Waste Management Act and the Green Building Standards Code of the City of Artesia.

Existing Conditions

Solid Waste Collection

The City has a franchise agreement with CR&R Environmental Services for collection and disposal of the City's solid waste. Waste that is collected within the City is first brought to CR&R Intermediate Processing Center for source separated recyclables and Stanton Material Recovery Facility for mixed solid waste processing, food waste transfer, and green waste processing (Artesia 2015). The remaining waste is disposed of at Frank R. Bowerman Sanitary Landfill, Olinda Alpha Landfill, and/or Prima Deshecha Landfill, which are operated by County of Orange Waste and Recycling, or at Savage Canyon Landfill, which is operated by the City of Whittier. Table 5.15-7, *Landfill Summary,* provides additional data for each landfill.

Table 5.15-7 Landfill Summary

Landfill Name	Remaining Capacity (million tons)[1]	Maximum Permitted Capacity (million tons)[1]	Maximum Permitted Throughput (tons per day)	Average Daily Disposal (2020)[2] (tons)	Estimated Closing Date
Frank R. Bowerman Landfill	205.0	266.0	11,500	7,344	12/31/2053
Olinda Alpha Landfill	34.2	148.8	8,000	7,133	12/31/2036
Prima Deshecha Landfill	134.3	172.1	4,000	1,817	12/31/2102
Savage Canyon Landfill	9.5	19.3	3,350	291	12/31/2055
Total	383	606	26,850	16,585	

Sources: CalRecycle 2019a, 2019b, 2019c, 2019d.
[1] A Volume-to-Weight conversion rate of 2,000 lbs/cubic yard (1 ton/cubic yard) for "Compacted - MSW Large Landfill with Best Management Practices" is used as per CalRecyle's 2016 Volume-to-Weight Conversion Factors.
[2] Average daily disposal is estimated based on 300 operating days per year. Each facility is open six days per week, Monday through Saturday, except certain holidays.

According to CalRecycle's report for Overall Jurisdiction Tons for Disposal and Disposal Related Uses, the total waste generated for the jurisdictions in the LARA was 5,374,645 tons across quarters 1 and 2 of 2023 and quarters 3 and 4 of 2022 (CalRecycle 2024a). The City of Artesia represents 0.34 percent of the total population of all jurisdictions in the LARA and is therefore assumed to have an equivalent proportion of the total waste disposal from the LARA jurisdictions. The total disposal for the City is assumed to be 18,014 tons in 2022-2023.

Solid Waste Diversion

As discussed previously, the Integrated Waste Management Act (2000) requires all local jurisdictions to divert 50 percent of total annual solid waste tonnage to be recycled. Additionally, as discussed above, in 2008, the requirements were modified to reflect a per capita requirement, rather than tonnage. Each jurisdiction has both a per capita and per employee target diversion rate, which are calculated from the average of 50 percent of generation between base years 2003 through 2006, expressed in terms of per capita disposal. Disposal rates compared to disposal targets are one of several factors in determining a jurisdiction's compliance with AB 939; therefore, actual disposal rates at or below target disposal rates do not necessarily indicate compliance with AB 939.

Artesia's disposals are aggregated with the 18 other jurisdictions under LARA. For the aggregated jurisdictions, the per capita residential target is 7.1 pounds per person per day of landfilled solid waste. In 2022, the aggregated jurisdictions achieved an actual disposal rate of 6.1 pounds per person per day and 13.2 pounds per employee per day (CalRecycle 2024b).

The City's annual recovered organic waste product procurement target is 1,319 tons per year, as designated by CalRecycle under SB 1383 (CalRecycle 2024c). Beginning January 1, 2022, each jurisdiction is required to procure a specific tonnage of recovered organic waste products to meet its designated annual procurement target which is based on its population. However, SB 1383 also stipulates that jurisdictions whose procurement targets exceed their procurement of transportation fuel, electricity, and gas derived from organic waste products used for heating applications in the previous year, are able to adjust their target to an amount equal to their total procurement of those products as converted to their recovered organic waste product equivalent from the previous year. The City's adjusted procurement target is 0 tons (CalRecycle 2024d; LARA 2022). According to the Los Angeles Area Integrated Waste Management Authority Electronic Annual Report for 2022, the most recent year for which data are available, the City procured 8,935.49 tons of organic waste product, which far exceeded its designated annual procurement target (LARA 2022).

5.15.4.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-4 Generates solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

U-5 Does not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

5.15.4.3 ENVIRONMENTAL IMPACTS

Methodology

The waste generation for the proposed project and the existing development that would be redeveloped under the proposed project was estimated using CalRecycle's waste disposal rate of 6.1 pounds per person per day and 13.2 pounds per employee per day for the aggregated LARA jurisdictions. The net increase in annual waste generation between the existing uses that could be redeveloped under the proposed project are compared to the residual waste capacity of the landfills that serve the City. In determining the level of significance, the analysis assumes that future projects facilitated by the proposed project would comply with federal, state, and local laws, ordinances, and regulations.

Proposed Specific Plan Goals and Policies

The goals and objectives of the proposed Specific Plan do not address solid waste utilities.

Impact Analysis

The following impact analysis addresses thresholds of significance. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.15-6: Existing and/or proposed facilities would be able to accommodate project-generated solid waste and the proposed project would comply with related solid waste regulations. [Thresholds U-4 and U-5]

Operational

Operation of the proposed project at buildout is estimated to generate 46,997 pounds per day (ppd) of solid waste, as shown in Table 5.15-8, *Estimated Solid Waste Generation*. This represents a net increase of 42,628 ppd of solid waste when compared to the existing development that could be replaced by new development under the proposed project.

Table 5.15-8 Estimated Solid Waste Generation

Land Use	Residents/Employees[2]	Waste Generation Rate (pounds/person/day)	Solid Waste Generation (ppd)
Existing to be Redeveloped[1]			
Residents	67	6.1	409
Employees	300	13.2	3,960
		Total	4,369
Proposed Project Conditions (2045)			
Residents	6,934	6.1	42,297
Employees	356	13.2	4,699
		Subtotal	*46,997*
		Existing	*4,369*
		Net Increase	42,628

Source: CalRecycle 2024b.
[1] This is existing development that would be demolished and redeveloped with the proposed project's uses under proposed project conditions (see Table 3-4).
[2] See Table 3-4 for a description of the resident and employee estimates.

As detailed in Table 5.15-7, the four landfills serving the City have a residual daily capacity of 16,585 tons per day (or 33.2 million ppd). The proposed project's estimated net increase of 42,628 ppd (or 21.3 tons per day) equates to a fraction of one percent of available capacity of the four landfills serving the project site; therefore, the proposed project would be adequately served by these landfills.

Furthermore, all development pursuant to the Specific Plan area would comply with Section 4.408 of the 2022 California Green Building Code Standards, which requires that at least 65 percent of nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. The California Building Code and Artesia Municipal Code also require a construction and demolition materials management plan prior to issuance of building permits for large projects. Furthermore, project-

related construction and operation phases would comply with the following federal, state, and local laws and regulations that govern solid waste disposal:

- The Resource Conservation and Recovery Act of 1976 and the Solid Waste Disposal Act of 1965, which govern solid waste disposal.
- AB 939 (Integrated Solid Waste Management Act of 1989; Public Resources Code 40050 et seq.), which required diversion of 50 percent of waste from landfills and required each county to provide landfill capacity for a 15-year period.
- AB 1327 (California Solid Waste Reuse and Recycling Access Act of 1991) which requires local agencies to adopt ordinances mandating the use of recyclable materials in development projects.
- AB 1826, which mandates that businesses that generate two or more cubic yards of solid waste, recycling, and organic waste combined per week to start recycling organic waste.
- AB 341, which mandates recycling for commercial and multifamily residential land uses as well as schools and school districts. Businesses and housing that include five or more units must also arrange for organic waste recycling services if they generate two or more cubic yards per week of solid waste (including recycling and organic waste), in accordance with AB 1826. Organic waste generation would be reduced in line with the targets set by SB 1383.

The proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. As such, proposed project impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant.

5.15.4.4 CUMULATIVE IMPACTS

Cumulative impacts are considered for the service areas of the four landfills that serve the City, shown in Table 5.15-7. Cumulative projects would result in increased generation of solid waste that would need to be processed at these landfills. These landfills have a daily maximum throughput of 26,850 tons per day, a remaining capacity of approximately 383 million tons, and estimated closure dates ranging from 2036 to 2102. Other projects would recycle and compost parts of their solid waste in accordance with the California Integrated Waste Management Act (AB 939), AB 341, AB 1826, and CALGreen Section 5.408. AB 939 requires Los Angeles County to maintain 15 years of available countywide solid waste disposal capacity. As detailed in the 2023 Countywide Integrated Waste Management Plan, the County's landfill system has sufficient capacity to accommodate the project and future development within the County. Cumulative impacts would be less than significant after compliance with existing regulations, and project impacts would not be cumulatively considerable.

5.15.4.5 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, all impacts would be less than significant.

5.15.4.6 MITIGATION MEASURES

No mitigation measures are required.

5.15.4.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.15.5 Other Utilities

5.15.5.1 ENVIRONMENTAL SETTING

Regulatory Background

Federal

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the US Department of Transportation (USDOT) to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. USDOT's Pipeline and Hazardous Materials Safety Administration (PHMSA) develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6 million miles of pipelines. USDOT and PHMSA regulations governing natural gas transmission pipelines, facility operations, employee activities, and safety are in the Code of Federal Regulations (CFR)—49 CFR Parts 190 through 192, 49 CFR Part 195, and 49 CFR Part 199.

Pipeline Safety Improvement Act of 2002

The Pipeline Safety Improvement Act mandates that the USDOT, the Department of Energy, and the National Institute of Standards and Technology in the Department of Commerce carry out a program of research, development, demonstration, and standardization to ensure the integrity of pipeline facilities. The purpose of the program is to identify safety and integrity issues and develop methodologies and technologies to characterize, detect, and manage risks associated with natural gas and hazardous liquid pipelines (PHMSA 2017).

Pipeline Inspection, Enforcement, and Protection Act of 2006

The Pipeline Inspection, Enforcement, and Protection Act confirms the commitment to the Integrity Management Program and other programs enacted in the Pipeline Safety Improvement Act of 2002. The 2006 legislation includes provisions on:

- Preventing excavation damage to pipelines through the enhanced use and improved enforcement of state "One-Call" laws that preclude excavators from digging until they contact the state One-Call system to locate the underground pipelines.
- Minimum standards for integrity management programs for distribution pipelines (including installation of excess flow valves on single-family residential service lines based on feasibility and risk).
- Standards for managing gas and hazardous liquid pipelines to reduce risks associated with human factors (e.g., fatigue).
- Authority to waive safety standards in emergencies.
- Authority to assist in restoration of disrupted pipeline operations.
- Review and update incident reporting requirements.
- Requirements for senior executive officers to certify operator integrity management performance reports.
- Clarification of jurisdiction between states and PHMSA for short laterals that feed industrial and electric generator consumers from interstate natural gas pipelines. (INGAA 2019)

Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011

The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 was designed to examine and improve the state of pipeline safety regulation. The act:

- Reauthorizes PHMSA's federal pipeline safety programs through fiscal year 2015.
- Provides the regulatory certainty necessary for pipeline owners and operators to plan infrastructure investments and create jobs.
- Improves pipeline transportation by strengthening enforcement of current laws and improving existing laws where necessary.
- Ensures a balanced regulatory approach to improving safety that applies cost-benefit principles.
- Protects and preserves Congressional authority by ensuring certain key rulemakings are not finalized until Congress has an opportunity to act.

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, this policy is designed to help the private sector and state and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair, and expansion of energy infrastructure and ways of increasing energy supplies while protecting the environment.

Federal Communication Commission Regulations

The Federal Communications Commission regulates interstate and international communications by radio, television, wire, satellite and cable in all 50 states, the District of Columbia and US territories. The commission's regulatory powers include setting manufacturing standards for communications equipment, decency standards in radio and television broadcasts, and ensuring competition.

State

California Public Utility Commission

The California Public Utilities Commission regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies in addition to authorizing video franchises. Among the commission's goals for energy regulation are: establish service standards and safety rules, authorize utility rate changes, oversee markets to inhibit anti-competitive activity, prosecute unlawful utility marketing and billing activities, govern business relationships between utilities and their affiliates, resolve complaints by customers against utilities, implement energy efficiency and conservation programs and programs for low-income and disabled people, oversee the merger and restructure of utility corporations, and enforce the California Environmental Quality Act (CEQA) for utility construction.

California Energy Commission

The California Energy Commission (CEC) was created in 1974 as the state's principal energy planning organization in order to meet the energy challenges facing the state in response to the 1973 oil embargo. The CEC is charged with six basic responsibilities when designing state energy policy:

- Forecast statewide electricity needs.
- License power plants to meet those needs.
- Promote energy conservation and efficiency measures.
- Develop renewable energy resources and alternative energy technologies.
- Promote research, development and demonstration.
- Plan for and direct the state's response to energy emergencies.

AB 802: California Energy Benchmarking and Disclosure

On October 8, 2015, AB 802 directed the CEC to establish a statewide energy benchmarking and disclosure program and enhanced the CEC's existing authority to collect data from utilities and other entities for the purposes of energy forecasting, planning, and program design. Among its specific provisions, AB 802 requires utilities to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. AB 802 requires each utility, upon the request and authorization of the owner, owner's agent, or operator of a covered building, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator, or to the owner's account in the Energy Star Portfolio Manager, subject to specified requirements. AB 802 also authorized the CEC to specify additional information to be delivered by utilities for certain purposes.

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations). Title 24 Part 6 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

The CEC adopted the 2022 Building Energy Efficiency Standards on August 11, 2021, and they went into effect on January 1, 2023. The 2022 standards encourage efficient electric heat pumps, establish electric-ready requirements for new homes, expand solar photovoltaic and battery storage standards, strengthen ventilation standards, among other approaches. The 2022 standards require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards include prescriptive photovoltaic system and battery requirements for high-rise, multi-family buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers.

California Green Building Code: CALGreen

CALGreen was adopted as part of the California Building Standards Code and established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), as well as water conservation and material conservation, both of which contribute to energy conservation. The 2022 CALGreen standards became effective January 1, 2023.

2016 Appliance Efficiency Regulations

The 2016 Appliance Efficiency Regulations (Title 20, California Code of Regulations, Sections 1601 through 1608), combined with federal standards, set minimum efficiency levels for energy and water consumption in products, such as consumer electronics, household appliances, and plumbing equipment. Twenty-three categories of appliances are included in the scope of these regulations. The standards apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state, and those designed and sold exclusively for use in recreational vehicles or other mobile equipment. These regulations exceed the standards imposed by all other states and they reduce GHG emissions and energy demand.

State Greenhouse Gas Regulations

Current State of California guidance and goals for reductions in GHG emissions from stationary sources are generally embodied in Executive Orders S-03-05 and B-30-15, AB 32 and AB 197, and SB 32. While these regulations are aimed at reducing GHG emissions, they have a direct relationship to energy conservation. A detailed discussion of these regulations is provided in Section 5.6, *Greenhouse Gas Emission,* of the EIR.

Local

City of Artesia General Plan

Community Facilities and Infrastructure Element

- **Policy CFI 1.1.** Maintain facilities and infrastructure to serve diverse community needs.
- **Policy CFI 1.2.** Promote equitable distribution of community facilities and infrastructure.
- **Policy CFI 1.3.** Require new development to provide proportionate facilities and infrastructure improvements as the new development occurs.
- **Policy CFI 2.1.** Employ ongoing maintenance and upgrades to protect the City's long-term investment in community facilities.
- **Policy 3.1.** Promote green and sustainable practices and approaches in planning, design, construction, renovation and maintenance of public facilities.

Existing Conditions

The Specific Plan area is within the service area of Southern California Edison (SCE) and would be served by the existing electrical transmission lines. Gas would be provided by Southern California Gas Company (SoCalGas).

Electricity

The Specific Plan area is within the service area of SCE, which provides electrical services to much of southern California—from Orange and Riverside counties in the south to Santa Barbara County in the west to Mono County in the north (SCE 2024a). Sources of electricity sold by SCE in 2022, the latest year for which data are available, were:

- 33.2 percent renewable, consisting mostly of solar and wind
- 3.4 percent large hydroelectric
- 24.7 percent natural gas
- 8.3 percent nuclear
- 0.1 percent other
- 30.3 percent unspecified sources—that is, not traceable to specific sources (SCE 2024b)[3]

Natural Gas

SoCalGas provides gas service to the City. The service area of SoCalGas spans much of the southern half of California, from Imperial County in the southeast to San Luis Obispo County in the northwest to part of Fresno County in the north to Riverside County and most of San Bernardino County in the east (CEC 2024a). Total natural gas consumption in SoCalGas's service area was 6,566 million therms for 2022 (CEC 2024b). As stated, the existing land uses within the proposed project consist primarily of residential uses and involve a mix

[3] The electricity sources listed reflect changes after the 2013 closure of the San Onofre Nuclear Generating Station, which is owned by SCE. Numbers are rounded up and may cause the total to not add up to exactly 100 percent.

of commercial uses, educational uses, office and industrial spaces, and open space, which currently generate natural gas demand.

Telecommunications

Communication services are offered regionally by various franchised telecommunications providers, including Frontier, Spectrum, Verizon, AT&T, and Comcast.

5.15.5.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

5.15.5.1 ENVIRONMENTAL IMPACTS

Methodology

The following analysis is based on the calculations of electricity and natural gas use under the proposed project presented in Section 5.4, *Energy*. Section 5.4 analyzes impacts with respect to wasteful consumption of energy resources while the following analysis analyzes potential impacts related to the supply of electricity and natural gas from the City's energy providers in addition to the ability of the City's energy and telecommunications infrastructure to meet the needs of the proposed project. The projected energy use under the proposed project is compared to the forecast energy use in the SCE and SoCalGas service areas presented in the California Energy Commission's 2023 Integrated Energy Policy Report and California Gas and Electric Utilities 2018 California Gas Report, respectively.

Proposed Specific Plan Goals and Policies

The goals and objectives of the proposed Specific Plan do not address electric, natural gas, or telecommunications utilities.

Impact Analysis

The following impact analysis addresses thresholds of significance. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.15-7: Development pursuant to the proposed project would not require or result in the relocation or construction of new or expanded electric power and natural gas. [Threshold U-1]

Electricity

Electrical service to the City is provided by SCE through connections to existing off-site electrical lines and new on-site infrastructure. As shown in Section 5.4, Table 5.4-4, *Operation-Related Electricity and Natural Gas Consumption*, by horizon year 2045, electricity use in the Specific Plan area would increase by 13,059,835 kilowatt-hours/year (13.06 gigawatt-hours/year). The total electricity consumption in SCE's service area is forecast to increase to 136,658 gigawatt-hours by 2040 (CEC 2023). The proposed project's increase would represent 0.0096 percent of this demand. Therefore, the forecast increase in electricity demand for the Specific Plan area is well within the forecast demand in SCE's service area. Buildout of the Specific Plan would not require SCE to obtain additional electricity supplies, and impacts would be less than significant.

In addition, any development pursuant to the proposed project would be required to comply with energy efficiency standards set forth by Title 24 of the California Administrative Code, appliance efficiency regulations set forth by Title 20 of the California Administrative Code, and CALGreen. Therefore, project development would not require SCE to obtain new or expanded electricity supplies, and impacts would be less than significant.

Natural Gas

As shown in Table 5.4-4, natural gas use in the Specific Plan area would increase by 51,751,687 therms annually. This increase is less than 0.8 percent of the total natural gas consumed in the SoCalGas service area in 2022 of 6,565 million therms. SoCalGas forecasts that it will have sufficient supplies to meet demands in its service area (CGEU 2024). Therefore, the net increase in natural gas demand due to the buildout of the proposed project is within the amount that SoCalGas forecasts that it will supply to its customers, and buildout would not require SoCalGas to obtain increased natural gas supplies over its currently forecast supplies. Therefore, development pursuant to the proposed project would not require SoCalGas to obtain new or expanded natural gas supplies, and impacts would be less than significant.

Telecommunications

Infrastructure supporting telecommunications services associated with the proposed project would be provided and installed in compliance with all State and local regulations. Furthermore, a number of franchised telecommunications providers are available in the region, and no significant expansion or construction of the telecommunications network is anticipated as a result of implementation of the proposed project. Development under the proposed Specific Plan would not require new or expanded telecommunication facilities, the construction or relocation of which could cause significant environmental effects, and impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant.

5.15.5.2 CUMULATIVE IMPACTS

The area considered for cumulative impacts are the service areas of SCE for electricity, SoCalGas for natural gas, and the service boundaries of the various telecommunications providers. Other projects within these service areas would increase electricity, natural gas, and telecommunications demands.

The Public Utilities Commission has identified the Integrated Energy Policy Report as "the appropriate venue for considering issues of load forecasting, resource assessment, and scenario analyses, to determine the appropriate level and ranges of resource needs for load serving entities in California" (CEC 2020). The report shows that California's electricity sector is leading efforts to reduce GHG emissions, and was an increase in electricity consumption of only 10 percent while California's economy grew by 54 percent between 2000 and 2018 (CEC 2020). Natural gas consumption is expected to level out between 2020 and 2030 with no significant increase due to energy savings from new building standards and the implementation of city and county ordinances that require new construction to have all-electric appliances and heating (CEC 2020).

In addition, all future projects developed within the SCE service areas would implement the requirements of the California Energy Code and CALGreen Code. New buildings would also use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations. Counties and cities review project design plans against these codes and ensure compliance before issuing construction permits. These measures would reduce the overall consumption of electricity and natural gas.

The energy providers and telecommunications providers that serve the City indicate that they have the capability to serve future increases in population within their service areas without significant changes to the existing infrastructure. Therefore, the proposed project would not result in a cumulatively considerable impact to electric power, natural gas, or telecommunication facilities, and cumulative impacts would be less than significant.

5.15.5.3 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, this impact would be less than significant.

5.15.5.4 MITIGATION MEASURES

No mitigation measures are required.

5.15.5.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

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6. Significant Unavoidable Adverse Impacts

At the end of Chapter 1, *Executive Summary*, is Table 1-1 that summarizes the impacts, mitigation measures, and levels of significance before and after mitigation. Unavoidable adverse impacts may be considered significant on a project-specific basis, cumulatively significant, and/or potentially significant. If the City, as the lead agency, determines that unavoidable significant adverse impacts will result from the proposed project, the City must prepare a "Statement of Overriding Considerations" before it can approve the proposed project. A Statement of Overriding Considerations states that the decision-making body has balanced the benefits of the proposed project against its unavoidable significant environmental impacts and has determined that the benefits of the proposed project outweigh the adverse effects. Therefore, the adverse effects are considered to be acceptable. Mitigation measures would reduce the level of impact, but the following impacts would remain significant, unavoidable, and adverse after mitigation measures are applied:

Air Quality

- **Impact 5.2-1:** Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?

- **Impact 5.2-2:** Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

- **Impact 5.2-3:** Would the proposed project expose sensitive receptors to substantial pollutant concentrations?

- **Impact 5.2-4:** Would the proposed project result in emissions (such as those leading to odors) adversely affecting a substantial number of people?

Greenhouse Gas Emissions

- **Impact 5.6-1:** Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Noise

- **Impact 5.9-1:** Would the proposed project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies during construction?

6. Significant Unavoidable Adverse Impacts

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7. Alternatives to the Proposed Project

7.1 INTRODUCTION

7.1.1 Purpose and Scope

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines § 15126.6[a]). As required by CEQA, this chapter identifies and evaluates potential alternatives to the proposed project.

Section 15126.6 of the CEQA Guidelines explains the foundation and legal requirements for the alternatives analysis in an EIR. Key provisions are:

- "[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." (15126.6[b])

- "The specific alternative of 'no project' shall also be evaluated along with its impact." (15126.6[e][1])

- "The no project analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." (15126.6[e][2])

- "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project." (15126.6[f])

- "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries…, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)" (15126.6[f][1]).

- "Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." (15126.6[f][2][A])
- "An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative." (15126.6[f][3])

For each development alternative, this analysis:

- Describes the alternative.
- Analyzes the impact of the alternative as compared to the proposed project.
- Identifies the impacts of the project that would be avoided or lessened by the alternative.
- Assesses whether the alternative would meet most of the basic project objectives.
- Evaluates the comparative merits of the alternative and the project.

According to Section 15126.6(d) of the CEQA Guidelines, "[i]f an alternative would cause…significant effects in addition those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed."

7.1.2 Project Objectives

As described in Section 3.2, *Project Description*, the following objectives have been established for the proposed project and will aid decision makers in their review of the project, the project alternatives, and associated environmental impacts.

1. Provide strategic land use designations to connect the community to housing, jobs, and recreation.
2. Provide a connected business district to facilitate new economic opportunities.
3. Create a vibrant and scenic downtown reflective of a diverse community.
4. Beautification through building design, landscape, and art.
5. Enhance connectivity and streetscapes to increase multimodal accessibility and safety.
6. Plan for and build a transit ready Downtown Artesia.
7. Facilitate the City in reaching its Regional Housing Needs Assessment Allocation of 1,069 units.
8. Promote higher-density, mixed use development in proximity to the Southeast Gateway Line station to encourage transit ridership.
9. Balance increased density and commercial activity with design standards that respect and enhance the character of existing neighborhoods, ensuring compatibility with the surrounding community.

7.2 ALTERNATIVES CONSIDERED AND REJECTED DURING THE SCOPING/PROJECT PLANNING PROCESS

The following is a discussion of the land use alternatives considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in this EIR.

7.2.1 Alternative Development Areas

CEQA requires that the discussion of alternatives focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project. The key question and first step in the analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR (CEQA Guidelines § 15126[5][B][1]). In general, any development of the size and type proposed by the project would have substantially the same impacts on air quality, land use/planning, noise, population/ housing, public services, recreation, transportation/traffic and utilities/service systems. Without a site-specific analysis, impacts on aesthetics, biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology/water quality and mineral resources cannot be evaluated.

The project site is the only site within the City of this size in proximity to the future train station to allow for a transit-oriented development. Further, the proposed project's significant and unavoidable air quality, greenhouse gas, and noise impacts would not be reduced or eliminated by moving the proposed project to an alternative site. Overall, due to the lack of a viable and comparable site in the City that would allow for development of the proposed project in a manner that would avoid or substantially lessen the proposed project's potentially significant impacts while achieving the majority of the proposed project's objectives, development of the proposed project on an alternative site has been eliminated from consideration.

7.2.2 No Development Alternative

The No Development Alternative assumes the Artesia Downtown Specific Plan, which would facilitate mixed-use transit-oriented development, is not adopted. Instead, this alternative assumes the project site remains as is (commercial, residential apartment properties, light industrial, and single-family uses) under existing conditions. Based on the General Plan Land Use Map and Zoning Map, the project site is designated City Center Mixed-Use between the future Pioneer Boulevard Light Rail Station and 180th Street and is designated South Street Gateway Commercial between the future Pioneer Boulevard Light Rail Station and La Belle Chateau Estates Mobile Home Park. The primary zoning designation in the project site is Commercial General in the northern area along Pioneer Boulevard and on the south part of the project site. Multi-Family Residential zoning is designated along the east side of the project site, fronting Arline Avenue, and on the west side of the project site, fronting Corby Avenue. Multi-Family Residential zoning is also designated between 188th Street to the north and to the Commercial General zoning designation to south. Light Manufacturing/Industrial zoning is designated along Corby Avenue to the east and west, between 187th Street to the north, and South Street to the South. Zoning designations in the southern portion of the project site, south of South Street, includes Commercial Planned Development and the South Street Specific Plan.

7. Alternatives to the Proposed Project

The project site is fully developed and consist primarily of one- and two-story commercial uses and multifamily residential properties. The southern portion of the project site is anchored by a shopping center and mobile home park and the northern portion is anchored by a shopping center. Multi-family residential, mixed-use residential, commercial, general office and industrial uses are located on various parcels throughout the entire project site to the east and west of Pioneer Boulevard. Limited vacant parcels exist within the project area south of 188th Street. This alternative would not achieve any of the project objectives identified in Section 7.1, *Project Objectives* nor would this alternative provide any housing opportunities that would assist the City of Artesia in meeting its Regional Housing Needs Assessment (RHNA) obligation. This alternative would not result in the creation of a Transit-Oriented community with pedestrian and bicycle connections to the future Southeast Gateway Line. Moreover, this alternative is not feasible because maintaining the project site in its current condition could result in the continued underutilization of parcels and would fail to comply with regional or state planning goals such as housing requirements under the Regional Housing Needs Assessment (RHNA). Thus, the No Development Alternative was considered but rejected from further analysis.

7.2.3 Redevelopment at Lowest Density with No Commercial Incentives

Redevelopment at Lowest Density with No Commercial Incentive assumes the proposed Artesia Downtown Specific Plan is adopted and includes full redevelopment of the 53 selected sites identified by the proposed project at the lowest possible densities permitted within the proposed zone with no commercial incentives. As identified in Table 3-2, *District Development Standards*, in Chapter 3.0, *Project Description*, of this DEIR, the commercial incentives would allow increases in maximum building height, residential density, and intensity in the Pioneer Boulevard, Downtown South, and Downtown North Districts. The proposed densities under this alternative for each proposed zoning district are:

- 188th/Corby Avenue: 40 dwelling units per acre (du/ac)
- Downtown South: 40 du/ac
- Pioneer Boulevard: 40 du/ac
- Downtown North: 40 du/ac
- Downtown Neighborhood (housing only): 40 du/ac
- Chateau Estates: Not included

This scenario assumes that in the proposed Downtown South, Pioneer Boulevard, and Downtown North Mixed Use Districts, the development of commercial uses (at 20 percent of the land maximum) would not utilize the Downtown Density Bonus Program and therefore would not receive a density bonus to increase residential density. Table 7-1, *Redevelopment at Lowest Density with No Commercial Incentives Alternative Buildout Conditions*, provides a breakdown of the development proposed under this scenario.

Table 7-1 Redevelopment at Lowest Density with No Commercial Incentives Scenario Buildout Conditions (2045)

Proposed Zone	Buildout of Units[1]
188th Street/Corby Avenue	92 du
Downtown South	510 du
Pioneer Boulevard	58 du
Downtown North	337 du
Downtown Neighborhood (housing only)	13 du
Chateau Estates	0
Commercial as Mixed Use[2]	251,468 sf
Total Residential	1,010
Total Commercial	251,468

1. On sites where commercial uses are identified for 20% of the site, the residential units total the density x remaining acreage at 80%.
2. Commercial buildout assumes as maximum of 20% of land on selected sites in the Downtown South, Downtown North, and Pioneer Boulevard Mixed Use zones.

As shown in Table 7-2, *Existing Project Site Conditions (2024) and Redevelopment at Lowest Density with No Commercial Incentives Scenario Buildout Projections (2045)*, buildout would result in a net increase in housing units by 991 units, a net increase in population by 3,469 residents, and a decrease in employees by 122 employees as compared to existing conditions.

Table 7-2 Existing Project Site Conditions (2024) and Redevelopment at Lowest Density with No Commercial Buildout Projections (2045)

	Existing Project Site Conditions	Existing Project Site Development to Remain (2045)	Redevelopment at Lowest Density with No Commercial Buildout Conditions (2045)[1]	Total (Existing Development to Remain + Alternative)	Change (Less Existing Conditions)
Housing Units	314	295	1,010	1,305	991
Population	1,099	1,033	3,535	4,568	3,469
Jobs	689	389	178	567	(122)

1 (PlaceWorks 2025)

As shown in Table 7-3, development under this scenario would result in 3,535 residents and 178 employees. This alternative would result in a 49 percent reduction (971 units) in housing units, a 49 percent reduction (3,399 residents) in population, and a 50 percent reduction (178 employees) in jobs when compared to the proposed project.

Table 7-3 Redevelopment at Lowest Density with No Commercial Buildout and Proposed Project Buildout Conditions Comparison (2045)

	Redevelopment at Lowest Density with No Commercial Buildout Conditions	Proposed Project Conditions	Change (Less Proposed Project Conditions)
Housing Units	1,010	1,981	971
Population	3,535	6,934	3,399
Jobs	178	356	(178)

It should be noted that local governments do not have the authority to alter or limit the provisions of State density bonus laws; these laws are governed at the State level to promote housing development and are intended to supersede conflicting local zoning regulations. Therefore, the City would not govern the applicability of density bonuses. Additionally, because this alternative would provide 49 percent less housing units and 49 percent less residents and 50 percent less employment opportunities, as compared to the proposed project, this scenario would not fully achieve several of the project objectives identified in Section 7.1, *Project Objectives*, and would not implement strategic land uses to support the Southeast Gateway Line. Specifically, this alternative would not meet the proposed project's objectives of implementing strategic land use designations to connect the community to housing, jobs, and recreation or a vibrant downtown reflective of a diverse community. Additionally, because of the reduced commercial component, this alternative would not create a connected business district to facilitate new economic opportunities. This alternative would not provide the housing opportunities necessary to assist the City of Artesia in meeting its RHNA obligation. Thus, Redevelopment at Lowest Density with No Commercial Incentive was considered but rejected from further analysis.

7.3 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

Based on the criteria listed above, the following three alternatives have been determined to represent a reasonable range of alternatives which have the potential to feasibly attain most of the basic objectives of the project but which may avoid or substantially lessen any of the significant effects of the project. These alternatives are analyzed in detail in the following sections.

- No Project/Existing General Plan Alternative (Alternative 1)
- Redevelopment at Reduced Commercial Incentive Alternative (Alternative 2)
- Redevelopment with No Commercial Incentive Alternative (Alternative 3)

An EIR must identify an "environmentally superior" alternative, and where the No Project Alternative is identified as environmentally superior, the EIR is required to identify as environmentally superior an alternative from among the others evaluated. Each alternative's environmental impacts are compared to the proposed project and determined to be environmentally superior, neutral, or inferior. Section 7.7 identifies the environmentally superior alternative. The preferred land use alternative (proposed project) is analyzed in detail in Chapter 5 of this DEIR.

7.3.1 Alternatives Comparison

The following statistical analysis provides a summary of general socioeconomic buildout projections determined by the four land use alternatives, including the proposed project. It is important to note that these are not growth projections. That is, they do not anticipate what is likely to occur by a certain time horizon, but provide a buildout scenario that would only occur if all the areas of the City were to develop to the probable capacities yielded by the land use alternatives. The following statistics were developed as a tool to understand better the difference between the alternatives analyzed in the DEIR. Table 7-4, *Buildout Statistical Summary (2045)*, identifies City-wide information regarding dwelling unit, population, and employment projections.

Table 7-4 Buildout Statistical Summary (2045)

	Existing Conditions	Proposed Project	Alternative 1	Alternative 2	Alternative 3
Dwelling Units	314	1,981	1,783	1,754	1,498
Population	1,099	6,934	6,241	6,139	5,243
Employment	689	356	326	178	178

7.4 NO PROJECT/EXISTING GENERAL PLAN ALTERNATIVE

Section 15126.6(e) of the State CEQA Guidelines requires that an EIR evaluate the specific alternative of "no project" along with its impact. As stated in this section of the State CEQA Guidelines, the purpose of describing and analyzing a No Project/Existing General Plan Alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving a proposed project. As specified in Section 15126.6(e)(3)(A), when a project is the revision of an existing land use or regulatory plan or policy or an ongoing operation, the No Project/Existing General Plan Alternative (Alternative 1) will be the continuation of the plan, policy, or operation into the future. Therefore, Alternative 1, as required by the State CEQA Guidelines, would analyze the effects of not adopting and implementing the Artesia Downtown Specific Plan.

Under Alternative 1, the proposed Artesia Downtown Specific Plan would not be adopted, and the transit-oriented development would not occur around the future approved Southeast Gateway Line. Instead, this alternative assumes the project site is redeveloped in accordance with the site's existing land use designations and zoning. As shown in Table 7-2, *Existing Project Site Conditions (2024) and Alternative 1 Buildout Projections (2045)*, the project site is currently developed with 314 residential units, 1,099 residents, and 689 jobs. No land use or zoning amendments would be processed under this alternative. As shown in Table 7-5, *Existing Project Site Conditions (2024) and Alternative 1 Buildout Projections (2045)*, buildout under Alternative 1 to achieve the maximum allowable density under existing designations would result in a net increase of 1,764 housing units, 6,175 residents, and 26 employees.

7. Alternatives to the Proposed Project

Table 7-5 Existing Project Site Conditions (2024) and Alternative 1 Buildout Projections (2045)

	Existing Project Site Conditions	Existing Project Site Development to Remain (2045)	Alternative 1 Buildout Conditions (2045)	Total (Existing Development to Remain + Alternative 1)	Change (Less Existing Conditions)
Housing Units	314	295	1,783	2,078	1,764
Population	1,099	1,033	6,241	7,274	6,175
Jobs	689	389	326	715	26

PlaceWorks 2025.

As shown in Table 7-6, *Alternative 1 Buildout and Proposed Project Buildout Conditions Comparison (2045)*, Alternative 1 would result in 198 fewer housing units (10 percent[1]), 693 fewer residents(10 percent[2]), and 30 fewer jobs (54 percent[3]) when compared to the proposed project's net increases.

Table 7-6 Alternative 1 Buildout and Proposed Project Buildout Conditions Comparison (2045)

	Proposed Project Conditions	Alternative 1 Buildout Conditions	Change (Less Proposed Project Conditions)
Housing Units	1,962	1,764	198
Population	6,868	6,175	693
Jobs	56	26	30

7.4.1 Aesthetics

As discussed in Section 5.1, *Aesthetics*, implementation of the proposed project would result in less than significant impacts related to aesthetics.

Future development under Alternative 1 would continue to be guided by the General Plan land use plan and zoning designations, where any future development would be consistent with current City plans, policies, and regulations regarding aesthetics. If future development under this alternative proposes increased building heights or a variance in building form or visual character, the City would require such projects to demonstrate their consistency with existing plans, policies, and regulations related to aesthetics on a project-by-project basis and would require each project to obtain all applicable permits to ensure visual and aesthetic impacts are reduced to a less than significant level during the project entitlement process. However, it should be noted that density bonus residential development project would not be required to comply with the City's development standards. Therefore, Alternative 1 would not result in significant impacts related to aesthetics as there would be no change to scenic resources or the visual landscape in the project site other than what is currently allowed under existing land use and zoning designations. For these reasons, Alternative 1 would result in less than significant impacts related to aesthetics, similar to the proposed project.

1 (198 units/1,962 units) x 100 = 10%
2 (693 residents/6,868 residents) x 100 = 10%
3 (30 employees/56 employees) x 100 = 54%

While Alternative 1 would reduce proposed project impacts to aesthetics due to a reduction in housing units, this alternative would not implement the goals and policies relevant to aesthetics and visual quality, which would guide the scale of future development in the project area. Since development under Alternative 1 would not be subject to these goals and policies of the Artesia Downtown Specific Plan, this alternative would not provide the same benefits as the proposed project nor achieve the project objectives.

7.4.2 Air Quality

As discussed in Section 5.2, *Air Quality*, the proposed project would result in significant and unavoidable impacts.

Under Alternative 1, development and growth would continue to occur in accordance with existing land use designations and zoning. Since the proposed Artesia Downtown Specific Plan would not be adopted as the guiding land use and zoning document for the project site, future development would be proposed and evaluated for environmental impacts on a project-by-project basis during the project entitlement process. During this individual approval/environmental review process, potential air quality impacts would be identified and compared against relevant thresholds to determine significance. It is reasonable to assume that since future development under Alternative 1 would be consistent with the City's General Plan land use designations and zoning, future projects would also be required to demonstrate consistency with applicable air quality plans, policies, and regulations because those projects would result in growth already counted in SCAG's regional growth projections for the City. However, like the proposed project, operational emissions under Alternative 1 would result in emissions in the City that have the potential to exceed the South Coast AQMD's significance thresholds. Therefore, it is reasonable to assume that impacts would be significant and unavoidable, similar to the proposed project.

With regard to the proposed project's other significant and unavoidable impacts, development facilitated under Alternative 1 would also have the potential to result in similar impacts. Under Alternative 1, development would occur in accordance with existing zoning and land use designations as the Artesia Downtown Specific Plan would not be adopted. Even though future development would be consistent with the existing land use and zoning designations, future projects' potential impacts to air quality would be determined on a site-by-site basis and would be evaluated during their individual approval and/or environmental review process in accordance with CEQA, as appropriate. Future development would be subject to any applicable discretionary permits made on a case-by-case basis, and all would be required to comply with all applicable federal, State, and local requirements relevant to air quality. Since development under Alternative 1 would be governed by the General Plan, future projects would be subject to all applicable General Plan mitigation measures identified for air quality as well as project-specific mitigation measures to reduce potential impacts. Even with incorporation of all applicable mitigation measures, obtaining all discretionary permits, and compliance with federal, State, and local requirements, it is speculative at this time to assume that all future projects would be able to reduce their impacts to air quality to a less than significant level under Alternative1. Therefore, impacts to air quality under Alternative1 would remain significant and unavoidable, similar to those identified for the proposed project.

7.4.3 Cultural Resources

As discussed in Section 5.3, *Cultural Resources*, the proposed project, as a result of development facilitated by the Artesia Downtown Specific Plan, would result in less than significant impacts to cultural resources, including historical and archaeological resources and human remains after incorporation and implementation of mitigation measures CUL-1 through CUL-4.

Under Alternative 1, development would occur in the same areas as the proposed project but would be in accordance with existing zoning and land use designations as the Artesia Downtown Specific Plan would not be adopted. Although future development would be consistent with the existing land use and zoning designations, future projects' potential to impact cultural resources would be determined on a site-by-site basis and would be evaluated during their individual approval and environmental review processes in accordance with CEQA, as appropriate. Since a project's potential to impact cultural resources is site dependent, future development under this alternative would have the same potential to impact cultural resources as the proposed project. Future development under this alternative would also be required to comply with all federal, State, and local requirements for protecting cultural resources. Similar to the proposed project, individual projects under Alternative 1 would also be required to incorporate and implement all feasible mitigation measures to reduce impacts to cultural resources, which could include but would not be limited to the same mitigation measures identified for the proposed project. Therefore, with mitigation measures incorporated, Alternative 1 would result in less than significant impacts to cultural resources. Impacts under this alternative would be similar to those identified for the proposed project.

7.4.4 Energy

As discussed in Section 5.4, *Energy*, future development under the proposed project would result in less than significant impacts with respect to energy. Under Alternative 1, future development would be in accordance with existing zoning and land use designations as the Artesia Downtown Specific Plan would not be adopted. While future development projects would be constructed and operated in accordance with existing land use and zoning designations, these activities would still be regulated by the same laws, regulations, plans, and policies related to energy use and savings as the proposed project. Compliance with the existing energy laws, regulations, plans, and policies would mandate that future projects incorporate similar energy efficiency and saving designs and strategies for both the construction and operation phases. Therefore, future projects developed under Alternative 1 would result in less than significant impacts related to energy. Impacts under this alternative would be similar to those identified for the proposed project.

7.4.5 Geology and Soils

As discussed in Section 5.5, *Geology and Soils*, impacts related to paleontological resources would be reduced to a less than significant level with the implementation of mitigation measures GEO-1 and GEO-2.

Under Alternative 1, development would occur in the same areas as the proposed project but would be in accordance with existing land use designations and zoning as the proposed Artesia Downtown Specific Plan would not be adopted. Although future development would be consistent with the exiting land use designation

and zoning, future projects' potential to impact paleontological resources would be determined on a site-by-site basis and would be evaluated during their individual approval and/or environmental review process in accordance with CEQA, as applicable. Similar to the proposed project, individual projects under Alternative 1 would be required to incorporate and implement all feasible mitigation measure to reduce impacts to paleontological resources, which could but not be limited to the same mitigation measures identified for the proposed project. Therefore, with compliance with existing regulatory requirements and implementation of mitigation measures, Alternative 1 would result in less than significant impacts related to geology and soils. Impacts under Alternative 1 would be similar to those identified for the proposed project.

7.4.6 Greenhouse Gas Emissions

As discussed in Section 5.6, *Greenhouse Gas Emissions*, the proposed project would result in significant and unavoidable impacts related to greenhouse gas (GHG) emissions.

Under Alternative 1, development would occur in the same areas as the proposed project but would be in accordance with existing land use designations and zoning as the proposed Artesia Downtown Specific Plan would not be adopted. Even though future development would be consistent with the existing land use and zoning designations, future projects' potential to generate GHG emissions would be dependent on the construction and operation characteristics of individual projects, where impacts would be determined on a project-by-project basis and would be evaluated during their individual approval and/or environmental review process in accordance with CEQA, as applicable. Alternative 1 would result in less development in the Specific Plan area but would not include the framework for development defined in the Artesia Downtown Specific Plan that would facilitate mixed-use development in proximity to the planned Southeast Gateway Line station. Implementation of projects under Alternative 1 would contribute to global climate change through direct emissions of GHG from on-site area sources and vehicle trips. This would result in the potential for higher GHG emissions. Impacts under this Alternative would be significant and unavoidable, similar to those identified for the proposed project.

7.4.7 Hydrology and Water Quality

As discussed in Section 5.7, *Hydrology and Water Quality*, the proposed project would result in less than significant impacts related to hydrology and water quality.

Under Alternative 1, development would be in accordance with existing land use designations and zoning as the proposed Artesia Downtown Specific Plan would not be adopted. Even though future development would be consistent with the existing land use and zoning designations, future projects' potential to impact water quality, groundwater supplies or recharge, and conflict with applicable surface- and groundwater plans would be dependent on the construction and operation characteristics of individual projects and individual project sites. Future projects' impacts would be determined on a project-by-project basis and would be evaluated during their individual approval and/or environmental review process in accordance with CEQA, as applicable.

While future development under Alternative 1 could occur anywhere within the General Plan jurisdiction, including undeveloped or nonurban areas, compliance with all applicable regulations, plans, and policies, including the California Building Code (CBC) and City Municipal Code, would reduce impacts to hydrology

and water quality to the greatest extent feasible. In addition to regulatory compliance, standard mitigation measures in combination with best management practices (BMPs) would be adequate to further reduce future projects' impacts to a less than significant level, similar to the proposed project. As with the proposed project, future projects facilitated under Alternative 1 would be required to comply with applicable CBC requirements to account for potential groundwater use and implement appropriate water conservation measures. Therefore, impacts to water quality, groundwater supplies or recharge, and conflict with applicable surface- and groundwater plans would be less than significant, similar to the proposed project.

7.4.8 Land Use and Planning

As discussed in Section 5.8, *Land Use and Planning*, adoption of the proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation as the Artesia Downtown Specific Plan land use goals and policies are consistent with the General Plan and other regional land use plans adopted to avoid or mitigate impacts on the natural or built environment. No inconsistent policies were identified, nor were any proposed Artesia Downtown Specific Plan policies found to potentially conflict with the intent of regional plans or preclude the attainment of regional plans' primary goals. Therefore, implementation of the Artesia Downtown Specific Plan would result in a less than significant impact.

Under Alternative 1, development would be in accordance with existing land use designations and zoning as the Artesia Downtown Specific Plan would not be adopted. Since development would occur in accordance to the current land use and zoning designation, future development projects under Alternative 1 would not conflict with the General Plan or other regional land use plans adopted to avoid or mitigate impacts on the natural or built environment. All future development under this alternative would occur with existing land use and zoning designations and would be developed as currently planned in the General Plan. Therefore, impacts related to conflicts with the intent of regional plans or preclude the attainment of regional plans' primary goals would be less than significant under Alternative 1, similar to the proposed project.

However, while Alternative 1 would result in similar impacts as the proposed project, development under Alternative 1 would not meet any of the Artesia Downtown Specific Plan objectives. The project site is fully built, and redevelopment of the project site would not result in strategic placement of high density housing in proximity to jobs or planned transit facilities (Objective 1). While Alternative 1 would create economic opportunities, Alternative 1 would result in a disjointed business district (Objective 2). Because Alternative 1 would not be guided by the proposed Artesia Downtown Specific Plan, development and/or redevelopment of the project site would not feature a cohesive theme or design that would reflect a scenic downtown or enhance safe connectivity within the area (Objective 3, 4, and 5). Additionally, because Alternative 1 would not be guided by the Artesia Downtown Specific Plan, Alternative 1 would result in the development and/or redevelopment in accordance with the existing General Plan and would not result in the strategic development and/or redevelopment of the project site to support a transit ready Downtown Artesia (Objective 6). Moreover, while Alternative 1 would be consistent with SCAG's RTP/SCS, this alternative would meet the policies at a lesser extent as compared to the proposed project because Alternative 1 would result in a less dense and intense development. Thus, while the severity of impacts would be similar between Alternative 1 and the proposed project, Alternative 1 would not create any of the benefits of the proposed project.

7.4.9 Noise

As discussed in Section 5.9, *Noise*, development facilitated by the Artesia Downtown Specific Plan would have the potential to result in significant noise and vibration levels during construction and operation. Mitigation measures N-1 and N-2 would be incorporated to reduce impacts; however, impacts would remain significant and unavoidable.

Under Alternative 1, development would occur in the same areas as the proposed project but would be in accordance with existing land use designations and zoning as the proposed Artesia Downtown Specific Plan would not be adopted. Even though future development would be consistent with the existing land use and zoning designations, future projects' potential to generate excessive noise and vibration levels during construction and operation would be dependent on the construction and operation characteristics of individual projects and individual project sites. Noise and vibration impacts would be determined on a project-by-project basis and would be evaluated during their individual approval and/or environmental review process in accordance with CEQA, as applicable. If development projects can demonstrate compliance with the City's established noise and vibration thresholds, with or without mitigation measures incorporated, then impacts related to noise and vibration would be considered less than significant. However, since the timing, intensity, surrounding uses, and design of future development permitted under Alternative 1 is unknown at this time, it would be speculative at this time to assume that all future projects under Alternative 1 would be able to reduce their noise and vibration levels below established thresholds during construction and operation, even with mitigation measures incorporated. Therefore, noise and vibration impacts would be significant and unavoidable under Alternative 1, similar to the proposed project.

7.4.10 Population and Housing

As discussed in Section 5.10, *Population and Housing*, while implementation of the Artesia Downtown Specific Plan would result in an increase in the City's housing stock, population, and jobs (net increase of 1,962 units, 6,868 people, and 56 jobs) as compared to existing conditions, the population growth would not be substantial or unplanned and impacts would be less than significant.

Under Alternative 1, the project site would be developed in accordance with the existing General Plan land use designations and zoning. Alternative 1 would result in a net increase of 1,764 housing units, a net increase of 6,175 residents, and a net increase of 26 jobs when compared to existing conditions. As compared to the proposed project, Alternative 1 would result in 10 percent decrease in housing units and population and a 54 percent decrease in jobs. The growth associated with Alternative 1 would not be unplanned and would be less as compared to the proposed project.

While growth would occur slower under Alternative 1, this alternative would not foster smart-transit oriented growth within the project site and would not provide the benefits of the proposed project. Because Alternative 1 would not include implementation of the policies and goals of the proposed Artesia Downtown Specific Plan, it is uncertain at this time if residential development would be provided in pace with the growing population under Alternative 1. If residential development is not provided in pace with population growth under Alternative 1, housing shortages would occur, which intern could dissuade new residents from moving

to the City or could cause some existing residentials to move away. Therefore, while this alternative would not result in the same rate of growth as the proposed project, it would also not develop new residential units at the same rate as the proposed project. Thus, the proposed project's benefits to the housing market would not be achieved under Alternative 1. However, overall impacts related to population and housing would be reduced under this alternative due to the reduction in housing units.

7.4.11 Public Services

As discussed in Section 5.11, *Public Services*, adoption of the proposed Artesia Downtown Specific Plan would not result in significant impacts related to an increase demand on the existing police and fire protection services, schools, or libraries because the Artesia Downtown Specific Plan is a policy document and would not build new housing that results in direct population increases. However, the proposed project would indirectly increase demand on these public services as the project proposes changes to land use and zoning designation that would create higher density residential areas, which would allow for construction of additional units and therefore result in indirect population growth. Construction-related activities associated with the proposed project could temporarily increase the demand for fire and police protection services at and near the project site due to the potential increased hazards associated with construction and demolition activities and use of materials. The proposed project would result in a net increase in housing units by 1,962 units (1,981 units), a net increase in population by 6,686 people (6,934 people) and a net increase in jobs by 56 jobs (356 jobs), with a proportionate increase in population and demand for fire protection, police protection, schools, and libraries as compared to existing conditions. Payment of development fees would provide funds to these public services to provide additional personnel and/or equipment. Therefore, impacts associated with public services would be less than significant.

Under Alternative 1, development would occur in the same areas as the proposed project but would be in accordance with existing land use designations and zoning as the proposed Arteria Downtown Specific Plan would not be adopted. Higher density residential densities would not occur under Alternative 1 and all residential and commercial development would continue to occur as currently planned where population growth in the City would continue as projected by the General Plan, which would occur at a slower rate than under the proposed project. Alternative 1 would result in a 10 percent reduction in population and 54 percent reduction in jobs as compared to the proposed project; thus, Alternative 1 would result in a proportionate decrease in population and demand for public services as compared to the proposed project. As with the proposed project, Alternative 1 would result in less than significant impacts related to public services. However, overall impacts related to public services would be reduced under this alternative.

7.4.12 Recreation

As discussed in Section 5.12, *Recreation*, implementation of the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; result in the construction or expansion of recreational facilities which might have an adverse effect on the environment; or interfere with regional trail connectivity. Development facilitated by the proposed project would be required to adhere to all applicable regulations, including the Quimby Act, and Artesia Downtown Specific Plan policies to ensure local parkland

would be provided through funding or dedication proportional to future growth and development associated with the proposed land uses and zoning changes of the proposed project. For these reasons, impacts related to recreation would be less than significant.

Under Alternative 1, development would occur in the same area as the proposed project but would be in accordance with existing zoning and land use designations as the Artesia Downtown Specific Plan would not be adopted. Higher residential densities would not occur under Alternative 1, and development would continue as currently planned, and population growth within the project site would continue as projected by the City's General Plan. Under this alternative, future development projects would be required to undergo project-specific analysis under CEQA, as applicable, and would be required to either provide a dedication of adequate parkland or pay an in-lieu park and recreation facilities impact fee as a condition of approval for compliance with the Quimby Act. At the project-level, dedication of adequate parkland or paying an in-lieu park and recreation facilities impact fee would be sufficient to reduce project impacts to recreation to a less than significant level. Impacts under this alternative would be similar to the proposed project; however, overall impacts would be reduced due to the reduction in housing and population.

7.4.13 Transportation

As discussed in Section 5.13, *Transportation*, of the DEIR, the proposed project would generate 1,941 net new trips. The proposed project did not meet any of the four screening criteria for VMT under the County's Guidelines. However, with the implementation of mitigation measures (MM T-1 and T-2), the proposed project would result in less than significant impacts related to VMT. The proposed project would result in less than significant cumulative VMT impacts with the implementation of mitigation.

Under Alternative 1, development would be in accordance with existing zoning and land use designations as the proposed Artesia Downtown Specific Plan would not be adopted. Higher residential densities would not occur under Alternative 1 and all the residential and commercial development would continue to occur as currently planned where population growth within the project site would continue as projected by the General Plan. Although future development facilitated under this alternative would be consistent with the existing land use designations and zoning, future project's potential to impact transportation would be dependent on the construction and operation characteristics of individual project. Transportation impacts, specifically VMT, would be determined on a project-by-project basis and would be evaluated during their individual approval and/or environmental review process in accordance with CEQA, as applicable. Future development would be required to comply with all federal, State, and local requirements related to transportation.

Since development under Alternative 1 would be governed by the General Plan, future project would be subject to all applicable City requirements and General Plan mitigation measures identified for transportation, as well as project-specific mitigation measures to reduce potential impacts, as appropriate. Even with incorporation of all applicable mitigation measures and compliance with federal, State, and local requirements, it is speculative at this time to assume that all future projects would be able to reduce their impacts to transportation to a less than significant level under Alternative 1. Therefore, it is reasonable to assume that impacts related to transportation under Alternative 1 would be greater than the proposed project. Furthermore, Alternative 1 would not provide additional policies and standards to help develop the project site as a whole as a way to

reduce conflicting transportation decisions and VMT while also increasing walkability and usage of alternative transportation.

Project construction would result in less than significant impacts concerning emergency access. Alternative 1 would result in similar impacts construction activities; thus, it would also result in less than significant impacts concerning emergency access.

While this alternative would not change land use designation and zoning to accommodate higher residential densities, the difference in population growth between Alternative 1 and the proposed project does not directly outweigh the benefits of the proposed project under Alternative 1. Therefore, without the policies and standards of the proposed Artesia Downtown Specific Plan guiding transportation decisions across the project site, it is reasonable to assume that impacts related to transportation would be more severe under Alternative 1 than those identified for the proposed project.

7.4.14 Tribal Cultural Resources

As discussed in Section 5.14, *Tribal Cultural Resources*, implementation of the proposed project would result in less than significant impacts to tribal cultural resources, given compliance with Assembly Bill 52 (AB 52), which requires lead agencies to consult with California Native American tribes to identify tribal cultural resources that could be impacted by a project facilitated by the proposed project for those projects requiring discretionary review under CEQA, where applicable. If a tribal cultural resource is identified as a result of consultation, the measure requires that the County implement project-specific mitigation measures or consider alternatives capable of avoiding or minimizing significant impacts to the tribal cultural resource. Additionally, mitigation measures CUL-1 through CUL-4 require, among other things, archaeological monitoring and preparation of a plan for the treatment of archaeological resources, including those that may also qualify as tribal cultural resources, which would further reduce the impact (see Section 5.3, *Cultural Resources*). The proposed project would result in less than significant impacts to undiscovered tribal cultural resources, with mitigation incorporated.

Under Alternative 1, development would be in accordance with existing land use designations and zoning because the proposed Artesia Downtown Specific Plan would not be adopted. Although future development would be consistent with the existing land use designations and zoning, future projects' potential to impact tribal cultural resources would be determined on a site-by-site basis and would be evaluated during the individual approval and/or environmental review process in accordance with CEQA, as applicable. Since a project's potential to impact tribal cultural resources is site dependent, future development under Alternative 1 would have the same potential to impact tribal cultural resources as the proposed project. Future development under Alternative 1 would be required to comply with all federal, State, and local requirements for protecting cultural resources, including conducting tribal consultation in accordance with AB 52, as necessary, prior to approving a project. Similar to the proposed project, individual project under Alternative 1 would be required to incorporate and implement all feasible mitigation measures to reduce impacts to tribal cultural resources, which could include but would not be limited to the same mitigation measures identified for the proposed project. Therefore, with mitigation measures incorporated, Alternative 1 would result in less than significant impacts to

tribal cultural resources. Impacts under Alternative 1 would be similar to those identified for the proposed project.

7.4.15 Utilities and Service Systems

As discussed in Section 5.15, *Utilities and Service Systems*, the proposed project would require relocation/construction of new water, wastewater, stormwater, electricity, natural gas, and telecommunication facilities but these improvements would be limited to connections to existing facilities near the project site, resulting in less than significant impacts.

Under Alternative 1, development would be in accordance with existing land use designations and zoning as the proposed Artesia Downtown Specific Plan would not be adopted. Similar to the proposed project, development under Alternative 1 would not induce population growth beyond SCAG's projection of 17,800 by 2050 because development would be guided by the existing City General Plan. Alternative 1 would result in a net population increase of 6,175 compared to existing conditions, and demand on utilities would increase in proportion to the population increase. Because the population increase would be within the scope projected for the City by SCAG, it is reasonable to assume that utility providers would be able to continue to serve the project site. Additionally, compared to the proposed project, Alternative 1 would develop the project site with 10 percent less housing units, which would result in a 10 percent reduction in population, and would also result in a 54 percent reduction in jobs. Therefore, Alternative 1 would result in a proportionate reduction in demand for water and wastewater services and solid waste generation. Additionally, similar to the proposed project, utility improvements required under this alternative are anticipated to be limited to connections to existing nearby facilities. Therefore, as with the proposed project, utility relocation/construction under this alternative is not anticipated to result in significant environmental effects.

While growth under Alternative 1 would occur at a lower rate than projected for the proposed project, which would in turn reduce future demands on existing utility and service systems, the reduction in development would also reduce the amount of development fees the utility providers could use to provide additional services. For this reason, the severity of impacts associated with Alternative 1 would be similar to the proposed project because the slower growth balances out the reduction in available development fees for additional services.

7.4.16 Conclusion

Implementation of Alternative 1 would result in similar impacts for the majority of the issue areas as identified for the proposed project, with the exception of transportation. Transportation impacts, specifically VMT, would be determined on a project-by-project basis and would be evaluated during their individual approval and/or environmental review process in accordance with CEQA, as applicable. Even with incorporation of all applicable mitigation measures and compliance with federal, State, and local requirements, it is speculative at this time to assume that all future projects would be able to reduce their impacts to transportation to a less than significant level under Alternative 1. Moreover, VMT reduction strategies would not be provided to the same extent as the proposed project. Alternative 1 would not reduce any of the proposed project's significant and unavoidable impacts associated with air quality, GHG, and noise, but would reduce the severity of these impacts due to the reduction in residential and commercial development. Finally, while the significance conclusion for

population and housing would be similar to the proposed project, Alternative 1 would result in less severe impacts, as growth would occur at a slower rate as projected in the General Plan.

7.5 REDEVELOPMENT AT REDUCED COMMERCIAL INCENTIVES ALTERNATIVE

The Redevelopment at Reduced Commercial Incentives Alternative (Alternative 2) assumes the adoption of the proposed Artesia Downtown Specific Plan and includes estimates for full redevelopment of the 53 selected sites identified by the proposed project. As identified in Table 3-2, *District Development Standards*, in Chapter 3.0, *Project Description*, of this DEIR, the commercial incentives would allow increases in maximum building height, residential density, and intensity in the Pioneer Boulevard, Downtown South, and Downtown North Districts. The proposed densities under this alternative for each proposed zoning district are:

- 188th/Corby Avenue: 65 du/ac
- Downtown South: 75 du/ac
- Pioneer Boulevard: 50 du/ac
- Downtown North: 65 du/ac
- Downtown Neighborhood (housing only): 40 du/ac
- Chateau Estates: Not included

This alternative assumes that in the proposed Downtown South, Pioneer Boulevard, and Downtown North Mixed Use Districts, the development of commercial uses (at 20 percent of the land maximum) would not utilize the Downtown Density Bonus Program and therefore would not receive a density bonus to increase residential density. Table 7-7, *Alternative 2 Buildout Conditions*, provides a breakdown of the development proposed under this alternative.

Table 7-7 Alternative 2 Buildout Conditions (2045)

Proposed Zone	Buildout of Units[1]
188th Street/Corby Avenue	150 du
Downtown South	967 du
Pioneer Boulevard	74 du
Downtown North	550 du
Downtown Neighborhood (housing only)	13 du
Chateau Estates	0
Commercial as Mixed Use[2]	251,468 sf
Total Residential	1,754
Total Commercial	251,468

[1] On sites where commercial uses are identified for 20% of the site, the residential units total the density x remaining acreage at 80%.
[2] Commercial buildout assumes as maximum of 20% of land on selected sites in the Downtown South, Downtown North, and Pioneer Boulevard Mixed Use zones.

As shown in Table 7-8, *Existing Project Site Conditions (2024) and Alternative 2 Buildout Projections (2045)*, buildout of this alternative would result in a net increase in housing units by 1,735 units, a net increase in population by 6,073 residents, and a decrease in employees by 122 employees as compared to existing conditions.

Table 7-8 Existing Project Site Conditions (2024) and Alternative 2 Buildout Projections (2045)

	Existing Project Site Conditions	Existing Project Site Development to Remain (2045)	Alternative 2 Buildout Conditions (2045)[1]	Total (Existing Development to Remain + Alternative 2)	Change (Less Existing Conditions)
Housing Units	314	295	1,754	2,049	1,735
Population	1,099	1,033	6,139	7,172	6,073
Jobs	689	389	178	567	(122)

[1] Source: PlaceWorks 2025.

As shown in Table 7-9, *Alternative 2 Buildout and Proposed Project Buildout Conditions Comparison (2045)*, development under this alternative would result in 1,754 housing units, 6,139 residents, and 178 employees. Alternative 2 would result in an 11.5 percent reduction in housing units (227 units), an 11.5 percent reduction in population (795 residents), a 50 percent reduction in commercial square footage (251,451 sf), and a 50 percent reduction in jobs (178 employees) when compared to the proposed project.

Table 7-9 Alternative 2 Buildout and Proposed Project Buildout Conditions Comparison (2045)

	Alternative 2 Buildout Conditions	Proposed Project Conditions	Change (Less Proposed Project Conditions)
Housing Units	1,754	1,981	227
Population	6,139	6,934	795
Jobs	178	356	(178)

7.5.1 Aesthetics

As discussed in Section 5.1, *Aesthetics*, of this DEIR, implementation of the proposed project would result in less than significant impacts related to aesthetics.

Alternative 2 would develop a transit-oriented community in accordance with the Artesia Downtown Specific Plan, similar to the proposed project, with multi-modal transportation, community connectivity, and sustainable landscaping. However, the residential component of the proposed project would be reduced by 11.5 percent and the commercial component of the proposed project would be reduced by 50 percent. Similar to the proposed project, this alternative would not conflict with applicable zoning or other regulations governing scenic quality. This alternative would implement the development standards set forth in Chapter 6.0, *Development Standards*, of the proposed Artesia Downtown Specific Plan. As with the proposed project, this alternative would change the existing visual elements of the project site; it would create an attractive, well-designed, mixed-use community with a high-quality pedestrian environment and high-quality architectural design. Alternative 2 would have a reduced potential for future development compared to the proposed project. Therefore, impacts related aesthetics under Alternative 2 would be less than significant like the proposed project.

While Alternative 2 would reduce proposed project impacts to aesthetics due to a reduction in housing units and commercial square footage, this alternative would not fully implement the goals and policies relevant to

aesthetics and visual quality due to the reduced scale of the alternative. This alternative would not provide the same benefits as the proposed project nor fully achieve the project objectives.

7.5.2 Air Quality

Under Alternative 2, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Future development would be proposed and evaluated for environmental impacts on a project-by-project basis during the project entitlement process. During its individual environmental review process in accordance with CEQA, as appropriate, potential air quality impacts would be identified and compared against relevant thresholds to determine significance. As with the proposed project, future projects would also demonstrate consistency with the applicable air quality plans, policies, and regulations as those projects would result in growth already accounted in SCAG's regional growth projections for within the City. Therefore, impacts related to conflicts with applicable air quality plans, policies, and regulations would be similar to the proposed project.

Regarding the proposed project's significant and unavoidable impacts, even with the implementation of applicable DEIR mitigation measures (MM AQ-1, GHG-1 through GHG-3, T-1 and T-2), development facilitated under Alternative 2 would also have the potential to result in similar impacts. Under Alternative 2, development would occur in the same areas as the proposed project but at a reduced residential and commercial development component. Alternative 2 would result in an 11.5 percent reduction in residential units and a 50 percent reduction in commercial development. As with the proposed project, future development would be subject to any applicable discretionary permits made on a case-by-case basis and all would be required to comply with all federal, State and local requirements relevant to air quality. Because Alternative 2 would result in a 11.5 percent reduction in residential units and a 50 percent reduction in commercial development, it is anticipated that a result in a proportionate reduction in emissions would occur. Therefore, impacts to air quality would be less than the proposed project; however, impacts would remain significant and unavoidable.

7.5.3 Cultural Resources

As discussed in Section 5.3, *Cultural Resources*, of this DEIR, the proposed project would have less than significant impacts related to cultural resources with mitigation incorporated.

Under Alternative 2, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Because development would occur in areas associated with commercial and/or residential development (or redevelopment), the reduction of residential units and commercial square footage would not substantially change the impact determinations related to cultural resources. The reduction in development would slightly reduce earth-disturbing activities related to construction. Future projects' potential to impact cultural resources would be determined on a site-by-site basis and would be evaluated during their individual environmental review process in accordance with CEQA, as applicable. As with the proposed project, Alternative 2 would implement applicable DEIR mitigation measures (MM CUL-1 through CUL-4) that would reduce impacts on cultural resources. Therefore, impacts related to cultural resources would be less than the proposed project.

7.5.4 Energy

Similar to the proposed project, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Additionally, similar to the proposed project, implementation of Alternative 2 would increase the demand for electricity, natural gas, gasoline, and diesel consumption in the City during construction and operation of future development. However, similar to the proposed project, Alternative 2 would not result in wasteful, inefficient, or unnecessary consumption of energy resources, including electricity, natural gas, or petroleum during project implementation. Neither the proposed project nor Alternative 2 would conflict or obstruct a State or local plan for renewable energy or energy efficiency. Additionally, all the rules and regulations presented in Section 5.4, *Energy*, of this DEIR would continue to be applicable to future residential development under both proposed project and Alternative 2 conditions, which would help reduce energy demand and increase energy efficiency under both scenarios. The scope of the residential component of Alternative 2 would be 11.5 percent less than the proposed project, and the commercial development would be reduced by 50 percent. Thus, it is reasonable to assume that impacts related to energy consumption generated by the reduced residential and commercial component would be proportionate under Alternative 2. Therefore, impacts related to energy consumption would be less than significant and less than the proposed project.

7.5.5 Geology and Soils

As discussed in Section 5.5, *Geology and Soils*, the proposed project would result in less than significant impacts related to geology and soils after implementation of mitigation measures GEO-1 and GEO-2 (paleontological resources).

This alternative would result in similar future development/redevelopment activity related to housing and commercial uses, just at reduced densities (residential units reduced by 11.5 percent and commercial uses reduced by 50 percent). Additionally, development would occur in the same area as the proposed project and in accordance with the Artesia Downtown Specific Plan. Development under this alternative would result in similar less than significant geology and soil impacts regardless of overall proposed density. There is a similar potential for unknown paleontological resources to be located within the project site. Implementation of applicable DEIR mitigation measures (MM GEO-1 and GEO-2) would ensure that impacts related to paleontological resources would be reduced to less than significant levels, similar to the proposed project. Therefore, impacts would be less than significant.

7.5.6 Greenhouse Gas Emissions

As discussed in Section 5.6, *Greenhouse Gas Emissions*, the proposed project would have the potential to result in significant GHG emissions. Mitigation measures GHG-1 and GHG-2 would be incorporated to reduce impacts; however, impacts would remain significant and unavoidable.

Under Alternative 2, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Alternative 2 would generate GHG emissions similar to the proposed project, but the reduction in residential

units and commercial development would result in a reduction of emission under this alternative due to a reduction in activities related to construction and operation. Under both the proposed project and Alternative 2, significant and unavoidable impacts would occur related to the generation of GHG emissions. As with the proposed project, Alternative 2 would implement applicable DEIR mitigation measures (MMs GHG-1 through GHG-3) to reduce impacts; however, impacts would not be reduced to less than significant levels. The proposed project and Alternative 2 would be consistent with all applicable plans, policies, or regulations adopted for the purposes of reducing GHG emissions, and impacts would be less than significant, similar to the proposed project. Future projects' potential impacts related to GHG emissions would be determined on a site-by-site basis and would be evaluated during their individual environmental review process in accordance with CEQA. Under Alternative 2 and the proposed project, no change to existing regulations would occur and that would result in a conflict with existing regulations. The scope of the residential component of Alternative 2 would be reduced by 11.5 percent as compared to the proposed project and commercial development would be reduced by 50 percent. Thus, it is reasonable to assume that impacts related to GHG emissions generated by the residential and commercial components would result in a proportionate reduction in GHG emissions. Therefore, impacts related to GHG emission would be less than the proposed project; however, impacts would remain significant and unavoidable.

7.5.7 Hydrology and Water Quality

As discussed in Section 5.7, *Hydrology and Water Quality*, impacts related to hydrology and water quality would be less than significant.

Alternative 2 would be guided by the proposed Artesia Downtown Specific Plan and would result in less development potential than what is proposed under the proposed project due to the reduction in residential units and commercial development. As with the proposed project, compliance with existing regulatory requirements and policies would reduce impacts from adverse effects related to hydrology and water quality. However, the scope of development/redevelopment activity anticipated to occur would be reduced due to the reduction in residential units and commercial development as compared to the proposed project. Therefore, impacts related to hydrology and water quality would be less than the proposed project.

7.5.8 Land Use and Planning

As discussed in Section 5.8, *Land Use and Planning*, of the DEIR, impacts related land use and planning would be less than significant.

Alternative 2 would occur in the same areas as the proposed project and would require the same discretionary approvals, including a General Plan Amendment, Zone Change, and Specific Plan. This alternative would achieve similar General Plan policies compared to the proposed project. Impacts related to consistency with applicable land use plans, policies, and regulations would be similar to the proposed project. Therefore, this alternative would result in similar impacts related to land use and planning compared to the proposed project.

7.5.9 Noise

As discussed in Section 5.9, *Noise*, development facilitated by the Artesia Downtown Specific Plan would have the potential to result in significant noise and vibration levels during construction and operation. Mitigation measures N-1 and N-2 would be incorporated to reduce impacts; however, impacts would remain significant and unavoidable.

Under Alternative 2, development would occur within the same areas as the proposed project and would be in accordance with the Artesia Downtown Specific Plan. Due to the reduced development intensity and density of Alternative 2, construction-related noise impacts would proportionally decrease as compared to the proposed project. Additionally, operational noise impacts from fewer stationary and mobile noise sources under this alternative would be reduced compared to the proposed project. However, future projects' potential impacts related to noise would be determined on a site-by-site basis and would be evaluated during their individual environmental review process in accordance with CEQA. Alternative 2 would require the same compliance requirements and mitigation measures (MM N-1 and N-2) as the proposed project. Therefore, noise impacts under Alternative 2 would be less than the proposed project but would remain significant and unavoidable.

7.5.10 Population and Housing

As discussed in Section 5.10, *Population and Housing*, the proposed project would result in less than significant impacts.

Alternative 2 would result in 1,754 units and could introduce up to 6,139 residents in the same area of the proposed project. Therefore, this alternative would result in an 11.5 percent reduction in housing and population compared to the proposed project. Additionally, this alternative would result in a 50 percent reduction in commercial square footage and employment. Alternative 2 would result in reduced impacts related to population growth. Thus, similar to the proposed project, this alternative would result in less than significant impacts related to population and housing.

However, it is acknowledged that this alternative would provide proportionately fewer housing units and thus, contribute less towards meeting the Statewide housing demand and City's RHNA allocation compared to the proposed project.

7.5.11 Public Services

As discussed in Section 5.11, *Public Services*, the proposed project would result in less than significant impacts.

Under Alternative 2, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Alternative 2 would result in an 11.5 percent reduction in housing and population and an approximately 50 percent reduction in commercial development. As with the proposed project, future development under Alternative 2 would be required to pay development impact fees and taxes, which would fund public services to provide additional personnel and/or equipment and/or expand existing facilities to support population

growth indirectly caused by the proposed project. Therefore, this alternative would result in a proportional reduction in demand for fire, police, school, and library services. Thus, similar to the proposed project, this alternative would result in less than significant impacts.

7.5.12 Recreation

As discussed in Section 5.15, *Recreation*, the proposed project would result in less than significant impacts.

Under Alternative 2, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Alternative 2 would result in a 11.5 percent reduction in housing and population. Alternative 2 would not exceed the planned buildout projections in the City. Therefore, this alternative would result in a proportional reduction in recreational facility use and demand. Thus, similar to the proposed project, this alternative would result in less than significant impacts.

7.5.13 Transportation

As discussed in Section 5.13, *Transportation*, the proposed project would not result in inconsistencies with applicable plans addressing the circulation system, increase in hazards, or result in inadequate emergency. The proposed project would result in less than significant impacts with mitigation incorporated with respect to VMT impacts.

Under Alternative 2, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity compared to the proposed project. Alternative 2 would not result in conflicts with an applicable plan, ordinance, or policy addressing the circulation system, similar to the proposed project. Similar to the proposed project, the proposed increase in transit-oriented residential and commercial development in the downtown area under Alternative 2 would reduce automobile-based transportation, thereby reducing VMT with alternative modes. However, because Alternative 2 would result in less density and intensity of transit-oriented development compared to the proposed project, Alternative 2 may unintentionally result in development elsewhere in the City or County, thereby potentially increasing regional VMT. Given the speculative nature of addressing VMT without specific project level information, it is reasonable to assume that daily VMT per service population would decrease under Alternative 2 compared to existing conditions by providing more transit-oriented development in the downtown area. Overall, impacts related to consistency with CEQA Guidelines Section 15064.3 subdivision (b) would be less than the proposed project. As with the proposed project, Alternative 2 would incorporate applicable DEIR mitigation measures to reduce impacts related to VMT impacts (MM T-1 and T-2). Furthermore, this alternative would not result in significant impacts related to the increase of transportation hazards due to a design feature or incompatible use, nor would a significant impact occur because of inadequate emergency access, similar to the proposed project. Therefore, impacts related to transportation would be similar to the proposed project.

7.5.14 Tribal Cultural Resources

As discussed in Section 5.14, *Tribal Cultural Resources*, the proposed project would result in less than significant impacts with the implementation of mitigation measures (MM CUL-1 through CUL-3).

Under Alternative 2, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Ground-disturbing activities associated with the construction on non-residential development would be reduced under Alternative 2. As with the proposed project, future projects' potential to impact tribal cultural resources would be determined on a site-by-site basis and would be evaluated during their environmental review process in accordance with CEQA, as applicable. Since a project's potential impact to tribal cultural resources is site-dependent, future development under this alternative would have a similar potential to impact tribal cultural resources as the proposed project with the implementation of applicable DEIR mitigation measures (MM CUL-1 through CUL-3). Therefore, impacts related to tribal cultural resources would be similar to the proposed project.

7.5.15 Utilities and Service Systems

As discussed in Section 5.15, *Utilities and Service Systems*, the proposed project would result in less than significant impacts.

Under Alternative 2, development would occur in the same areas as the proposed project and would be guided by the Artesia Downtown Specific Plan but at a reduced intensity and density. Alternative 2 would result in a reduction in housing and population by 11.5 percent and 50 percent reduction in commercial square footage. Similar to the proposed project, development under Alternative 2 would not induce population growth beyond SCAG's projection of 17,800 because development would result in a net increase in population of 6,073. The net increase in population would result in a proportionate demand for utilities. Because the net increase in population is within the scope projected by SCAG, it is reasonable to assume that utility providers would be able to continue to serve the area. All other impacts related to utilities and service systems, including the availability of sufficient water supplies at the project-level, the adequate capacity of wastewater treatment services, the generation of solid waste, and the compliance with management and reduction regulations of solid waste would be less than significant under the proposed project; therefore, impacts would be less than the proposed project.

7.5.16 Conclusion

Implementation of Alternative 2 would result in similar impacts for all the issues as identified for the proposed project. Alternative 2 would not reduce any of the proposed project's significant and unavoidable impacts associated with air quality, GHG, and noise, but would reduce the severity of these impacts due to the reduction in residential and commercial development. Additionally, while the significance conclusions would be the same as the proposed project, Alternative 2 would reduce the impacts associated with aesthetics, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, population and housing, public services, recreation, transportation, tribal cultural resources, and utilities and service systems. The proposed

Artesia Downtown Specific Plan would be adopted under Alternative 2; the goals, policies, and development features of the Artesia Downtown Specific Plan would be widely applied throughout the project site. However, this alternative would not fully meet the proposed project's objectives related to housing and jobs and new economic opportunities.

7.6 REDEVELOPMENT WITH NO COMMERCIAL INCENTIVES ALTERNATIVE

The Redevelopment with No Commercial Incentives Alternative (Alternative 3) assumes the adoption of the proposed Artesia Downtown Specific Plan and includes estimates for full redevelopment of the 53 selected sites identified by the proposed project at a reduced intensity and density as compared to the proposed project. As identified Table 3-2, *District Development Standards*, in Chapter 3.0, *Project Description*, of this DEIR, the commercial incentives would allow increases in maximum building height, residential density, and intensity in the Pioneer Boulevard, Downtown South, and Downtown North Districts. The proposed densities under this alternative for each proposed zoning district are listed below.

- 188th/Corby Avenue: 55 du/ac
- Downtown South: 65 du/ac
- Pioneer Boulevard: 40 du/ac
- Downtown North: 55 du/ac
- Downtown Neighborhood (housing only): 40 du/ac
- Chateau Estates: Not included

This alternative assumes that in the proposed Downtown South, Pioneer Boulevard, and Downtown North Mixed Use Districts, the development of commercial uses (at 20 percent of the land maximum) would not utilize the Downtown Density Bonus Program and therefore would not receive a density bonus to increase residential density. . Table 7-10, *Alternative 3 Buildout Conditions*, provides a breakdown of the development proposed under this alternative.

Table 7-10 Alternative 3 Buildout Conditions (2045)

Proposed Zone	Buildout of Units[1]
188th Street/Corby Avenue	125 du
Downtown South	837 du
Pioneer Boulevard	58 du
Downtown North	465 du
Downtown Neighborhood (housing only)	13 du
Chateau Estates	0
Commercial as Mixed Use[2]	251,468 sf
Total Residential	1,498
Total Commercial	251,468

1. On sites where commercial uses are identified for 20% of the site, the residential units total the density x remaining acreage at 80%.
2. Commercial buildout assumes as maximum of 20% of land on selected sites in the Downtown South, Downtown North, and Pioneer Boulevard Mixed Use zones.

As shown in Table 7-11, *Existing Project Site Conditions (2024) and Alternative 3 Buildout Projections (2045)*, buildout of this alternative would result in a net increase in housing units by 1,479 units, a net increase in population by 5,177 residents, and a decrease in employees by 122 employees.

Table 7-11 Existing Project Site Conditions (2024) and Alternative 3 Buildout Projections (2045)

	Existing Project Site Conditions	Existing Project Site Development to Remain (2045)	Alternative 3 Buildout Conditions (2045)[1]	Total (Existing Development to Remain + Alternative 3)	Change (Less Existing Conditions)
Housing Units	314	295	1,498	1,793	1,479
Population	1,099	1,033	5,243	6,276	5,177
Jobs	689	389	178	567	(122)

[1] PlaceWorks 2023.

As shown in Table 7-12, development under this alternative would result in 1,498 housing units, 5,243 residents, and 178 employees. Alternative 3 would result in a 24.4 percent reduction (483 units) in housing units, a 24.4 percent reduction (1,691 residents) in population, a 50 percent reduction (251,451 sf) in commercial square footage, and a 50 percent reduction (178 employees) in jobs when compared to the proposed project.

Table 7-12 Alternative 3 Buildout and Proposed Project Buildout Conditions Comparison (2045)

	Alternative 3 Buildout Conditions	Proposed Project Conditions	Change
Housing Units	1,498	1,981	483
Population	5,243	6,934	1,691
Jobs	178	356	178

7.6.1 Aesthetics

As discussed in Section 5.1, *Aesthetics*, implementation of the proposed project would result in less than significant impacts related to aesthetics.

Development under Alternative 3 would be guided by the proposed Artesia Downtown Specific Plan, which would feature a reduced residential density and commercial intensity. Alternative 3 would develop a transit-oriented community in accordance with the Artesia Downtown Specific Plan, similar to the proposed project, with multi-modal transportation, community connectivity, and sustainable landscaping. However, the residential component of the proposed project would be reduced by 24.4 percent and the commercial component of the proposed project would be reduced by 50 percent. Similar to the proposed project, this alternative would not conflict with applicable zoning or other regulations governing scenic quality. This alternative would implement the development standards set forth in Chapter 6.0, *Development Standards*, of the proposed Artesia Downtown Specific Plan. As with the proposed project, this alternative would change the existing visual elements of the project site, it would create an attractive, well-designed, mixed-use community with a high-quality pedestrian environment and high-quality architectural design. Alternative 3 would have a reduced potential for future

development as compared to the proposed project. Therefore, impacts related aesthetics under Alternative 3 would be less than significant like the proposed project.

While Alternative 3 would reduce proposed project impacts to aesthetics due to a reduction in housing units and commercial square footage, this alternative would not fully implement the goals and policies relevant to aesthetics and visual quality due to the reduced scale of the alternative. This alternative would not provide the same benefits as the proposed project nor fully achieve the project objectives.

7.6.2 Air Quality

As discussed in Section 5.2, *Air Quality*, the proposed project would result in significant and unavoidable impacts.

Under Alternative 3, development would occur in the same areas as the proposed project but would be in accordance with the proposed Artesia Downtown Specific Plan. Future development would be proposed and evaluated for environmental impacts on a project-by-project basis during the project entitlement process. During its individual environmental review process, potential air quality impacts would be identified and compared against relevant thresholds to determine significance. It is reasonable to assume that since future development under this alternative would be required to demonstrate consistency with the applicable air quality plans, policies and regulations as those project would result in growth already accounted in SCAG's regional growth projections in the City. Therefore, impacts related to conflicts with applicable air quality plans, policies, and regulations would be similar to the proposed project.

Regarding the proposed project's significant and unavoidable impacts, even with the implementation of applicable DEIR mitigation measures (MM AQ-1, GHG-1 through GHG-3, T-1, and T-2) development facilitated under Alternative 3 would also have the potential to result in similar impacts. Under Alternative 3, development would occur in the same areas as the proposed project but would be in accordance with the proposed Artesia Downtown Specific Plan. Although future development would be consistent with the proposed Artesia Downtown Specific Plan, future projects' potential to impact air quality would be determined on a site-by-site basis and would be evaluated during their individual environmental review process in accordance with CEQA, as applicable. Future development would be subject to all applicable discretionary permits and would be subject to applicable DEIR mitigation measures identified for air quality as well as project-specific mitigation measures to reduce potential impacts. Therefore, impacts to air quality would be less than the proposed project due to the reduction in residential units and commercial development.

7.6.3 Cultural Resources

As discussed in Section 5.3, *Cultural Resources*, the proposed project would have less than significant impacts related to cultural resources with mitigation incorporated.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Development under Alternative 3 would occur in the same areas as the proposed project and would be guided by the Artesia Downtown Specific Plan. Because the development/redevelopment would occur in areas

associated with existing development, this alternative would not substantially change the impact determinations related to cultural resources. The reduction of residential and commercial uses would slightly reduce earth-disturbing activities related to construction. Future projects' potential to impact cultural resources would be determined on a site-by-site basis and would be evaluated during their individual environmental review process in accordance with CEQA. As with the proposed project, this alternative would implement applicable mitigation measures (MM CUL-1 through CUL-4) that would reduce impacts on cultural resources. Therefore, impacts related to cultural resources would be less than the proposed project.

7.6.4 Energy

As discussed in Section 5.4, *Energy*, the proposed project would have less than significant impacts related to energy.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but a reduced residential density and commercial intensity. Additionally, similar to the proposed project, implementation of Alternative 3 would increase the demand for electricity, natural gas, gasoline, and diesel consumption in the project site during construction and operation of future development. However, similar to the proposed project, Alternative 3 would not result in wasteful, inefficient, or unnecessary consumption of energy resources, including electricity, natural gas, or petroleum during project implementation. Neither the proposed project nor Alterative 3 would conflict or obstruct a State or local plan for renewable energy or energy efficiency. Additionally, all the rules and regulations presented in Section 5.4 of this DEIR would continue to be applicable to future residential and commercial development under both the proposed project and Alternative 3 conditions, which would help reduce energy demand and increase energy efficiency under both conditions. The scope of the residential and commercial development would be reduced by 24.4 percent and 50 percent, respectively. It is reasonable to assume that impacts related to energy consumption generated by the residential and commercial development would be reduced proportionally. Therefore, impacts related to energy consumption would be less than the proposed project.

7.6.5 Geology and Soils

As discussed in Section 5.5, *Geology and Soils*, the proposed project would result in less than significant impacts related to geology and soils after implementation of mitigation.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but a reduced residential density and commercial intensity. Development under this alternative would result in similar less than significant geology and soil impacts regardless of overall proposed density. Any new development would be site-specific and would be exposed to existing geologic and soil conditions and hazards that would be unique to that property. There is a similar potential for unknown paleontological resources to be located within the project site. Implementation of mitigation measures (MM GEO-1 and GEO-2) would ensure that impacts related to paleontological resources would be reduced to less than significant levels, similar to the proposed project.

7.6.6 Greenhouse Gas Emissions

As discussed in Section 5.6, *Greenhouse Gas Emissions*, the proposed project would have the potential to result in significant GHG emissions. Mitigation measures GHG-1 and GHG-2 would be incorporated to reduce impacts; however, impacts would remain significant and unavoidable.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Alternative 3 would generate GHG emissions similar to the proposed project, but the reduction in residential density and commercial intensity would result in reduction of emission under this alternative due to a reduction in activities related to construction and operation. Under both the proposed project and Alternative 3, significant and unavoidable impacts would occur related to the generation of GHG emissions. Mitigation measures GHG-1 and GHG-2 would be incorporated to reduce impacts; however, impacts would remain significant and unavoidable. Additionally, the proposed project and Alternative 3 would be consistent with all applicable plans, policies, or regulations adopted for the purposes of reducing GHG emissions, and impacts would be less than significant. Future projects' potential impacts related to GHG emissions would be determined on a site-by-site basis and would be evaluated during their individual environmental review process in accordance with CEQA, as applicable. Under Alternative 3 and the proposed project, no change to existing regulations would occur and that would result in a conflict with existing regulations. The scope of the residential component and commercial component would be reduced by 24.4 percent and 50 percent, respectively. Thus, it is reasonable to assume that impacts related to GHG emissions by the residential and commercial component would be reduced proportionally. Therefore, impacts related to GHG emissions would be less than the proposed project; however, impacts would remain significant and unavoidable.

7.6.7 Hydrology and Water Quality

As discussed in Section 5.7, *Hydrology and Water Quality*, impacts related to hydrology and water quality would be less than significant.

Alternative 3 would be guided by the proposed Artesia Downtown Specific Plan and would result in less development potential than what is proposed under the proposed project due to the reduction in residential units and commercial development. As with the proposed project, compliance with existing regulatory requirements and policies would reduce impacts from adverse effects related to hydrology and water quality. However, the scope of development/redevelopment activity anticipated to occur would be reduced due to the reduction in residential units and commercial development as compared to the proposed project. Therefore, impacts related to hydrology and water quality would be less than the proposed project.

7.6.8 Land Use and Planning

As discussed in Section 5.8, *Land Use and Planning*, impacts related to land use and planning would be less than significant.

Under Alternative 3, development would occur in the same area as the proposed project and would be guided by the Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Impacts

related to consistency with applicable land use plans, policies, and regulations would be similar to the proposed project. Therefore, this alternative would result in similar impacts related to land use and planning compared to the proposed project.

7.6.9 Noise

As discussed in Section 5.9, *Noise*, development facilitated by the Artesia Downtown Specific Plan would have the potential to result in significant noise and vibration levels during construction and operation. Mitigation measures N-1 and N-2 would be incorporated to reduce impacts; however, impacts would remain significant and unavoidable.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Alternative 3 would result in reduced impacts related to the construction and operation of the residential and commercial development. Moreover, Alternative 3 would require the same compliance requirement and mitigation measures (MM N-1 and N-2) as the proposed project. Noise and vibration impacts would be determined on a project-by-project basis and would be evaluated during their individual approval and/or environmental review process in accordance with CEQA, as applicable. Therefore, noise impacts under Alternative 3 would be less than the proposed project; however, impacts would remain significant and unavoidable.

7.6.10 Population and Housing

As discussed in Section 5.10, *Population and Housing*, of this DEIR, the proposed project would result in less than significant impacts.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Alternative 3 would result in 1,498 units and could introduce up to 5,243 residents in the same area of the proposed project. Therefore, this alternative would result in a 24.4 percent reduction in housing and population as compared to the proposed project. Additionally, this alternative would result in a 50 percent reduction in commercial square footage and employment. Alternative 3 would result in reduced impacts related to population growth. Thus, similar to the proposed project, this alternative would result in less than significant impacts related to population and housing.

However, it is acknowledged that this alternative would provide proportionately fewer housing units and thus, contribute less toward meeting the Statewide housing demand and City's RHNA allocation compared to the proposed project.

7.6.11 Public Services

As discussed in Section 5.11, *Public Services*, of this DEIR, the proposed project would result in less than significant impacts.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the Artesia Downtown Specific Plan but at a reduced intensity and density. As with the proposed project, future development under Alternative would be required to pay development fees and taxes, which would fund public services to provide additional personnel and/or equipment and/or expand existing facilities to support population growth indirectly caused. Therefore, public services impacts under Alternative 3 would be similar to the proposed project.

7.6.12 Recreation

As discussed in Section 5.12, *Recreation*, of this DEIR, the proposed project would result in less than significant impacts.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the Arteria Downtown Specific Plan but at a reduced intensity and density. Alternative 3 would include 1,498 units and could introduce up to 5,243 residents, which represents a 24.4 percent reduction in units and residents compared to the proposed project. Thus, impacts under this alternative would be reduced compared to the proposed project.

7.6.13 Transportation

As discussed in Section 5.13, *Transportation*, of this DEIR, the proposed project would result in less than significant impacts with mitigation incorporated.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the proposed Artesia Downtown Specific Plan but at a reduced residential density and commercial intensity. Alternative 3 would not conflict with an applicable plan, ordinance, or policy addressing the circulation system, similar to the proposed project. Similar to the proposed project, the proposed increase in transit oriented residential and commercial development in the downtown area under Alternative 3 would reduce automobile based transportation, thereby reducing VMT with alternative modes. However, because Alternative 3 would result in less density and intensity of transit-oriented development compared to the proposed project, Alternative 3 may unintentionally result in development elsewhere in the City or County, thereby potentially increasing regional VMT. Given the speculative nature of addressing VMT without specific project level information, it is reasonable to assume that daily VMT per service population would decrease under Alternative 3 compared to existing conditions by providing more transit-oriented development in the downtown area. Overall, impacts related to the consistency with CEQA Guidelines Section 15064.3 subdivision (b) would be less than the proposed project. As with the proposed project, Alternative 3 would incorporate applicable DEIR mitigation measures to reduce impacts related to VMT impacts (MM T-1 and T-2). Furthermore, this alternative would not result in significant impacts related to the increase in transportation hazards due to a design feature or incompatible use nor would a significant impact occur relative to inadequate emergency access, similar to the proposed project. Therefore, impacts related to transportation would be similar to the proposed project.

7.6.14 Tribal Cultural Resources

As discussed in Section 5.14, *Tribal Cultural Resources*, of this DEIR, the proposed project would result in less than significant impacts with the implementation of mitigation.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the Arteria Downtown Specific Plan but at a reduced intensity and density. Ground-disturbing activities associated with the construction of the proposed development under Alternative 3 would be reduced due to the reduction in residential units and commercial square footage. As with the proposed Project, future projects' potential to impact tribal cultural resources would be determined on a site-by-site basis and would be evaluated during their environmental review process in accordance with CEQA, as applicable. Since a project's potential impact to tribal cultural resources is site-dependent, future development under this alternative would have a similar potential to impact tribal cultural resources as the proposed Project with the implementation of applicable mitigation measures (MM CUL-1 through CUL-3). Therefore, impacts related to tribal cultural resources would be similar to the proposed Project.

7.6.15 Utilities and Service Systems

As discussed in Section 5.15, *Utilities and Service Systems*, of this DEIR, the proposed project would result in less than significant impacts.

Under Alternative 3, development would occur in the same areas as the proposed project and would be guided by the Artesia Downtown Specific Plan but at a reduced intensity and density. Alternative 3 would result in a reduction in housing and population by 24.4 percent and 50 percent reduction in commercial square footage. Similar to the proposed project, development under Alternative 3 would not induce population growth beyond SCAG's projection of 17,800 because development would result in a net increase in population of 5,177. The net increase in population would result in a proportionate demand for utilities. Because the net increase in population is within the scope projected by SCAG, it is reasonable to assume that utility providers would be able to continue to serve the area. All other impacts related to utilities and service systems, including the availability of sufficient water supplies at the project-level, the adequate capacity of wastewater treatment services, the generation of solid waste, and the compliance with management and reduction regulations of solid waste would be less than significant under the proposed project; therefore, impacts would be less than the proposed project.

7.6.16 Conclusion

Implementation of Alternative 3 would result in similar impacts for all issues identified for the proposed project. Alternative 3 would not reduce any of the proposed project's significant and unavoidable impacts associated with air quality, GHG, and noise to a less than significant level, but would reduce the severity of these impacts due to the reduction in residential units and commercial development. Additionally, while the significance conclusions would be the same as the proposed project, Alternative 3 would reduce impacts associated with aesthetics, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, population and housing, public services, recreation, transportation, tribal cultural resources, and

utilities and service systems. The proposed Artesia Downtown Specific Plan would be adopted under Alternative 3; the goals, policies, and development features of the proposed Artesia Downtown Specific Plan would be widely applied throughout the project site. However, this alternative would not meet the proposed project's objectives related to housing and jobs and new economic development.

7.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The proposed project and Project Alternatives are considered and evaluated within this DEIR. As suggested in the State CEQA Guidelines Section 25126.6(d), a matrix summarizing and comparing the impacts of the Project Alternatives with those of the proposed project is included in Table 7-13, *Summary of Alternative Impact Compared to the Proposed Project*. As illustrated in the table below, Alternative 2 and 3 would reduce the proposed project's significant and unavoidable impacts, and Alternative 3 would result in the largest reduction from the proposed project's significant and unavoidable impacts; however, impacts would remain significant and unavoidable.

Table 7-13 Summary of Alternatives Impacts Compared to the Proposed Project

Issue Areas	Proposed Project	Alternatives to the Proposed Project		
		Alternative 1	Alternative 2	Alternative 3
5.1 Aesthetics	LTS	=	▼	▼
5.2 Air Quality	SU	=	▼	▼
5.3 Cultural Resources	LTSM	=	▼	▼
5.4 Energy	LTS	=	▼	▼
5.5 Geology and Soils	LTSM	=	=	=
5.6 Greenhouse Gas Emissions	SU	=	▼	▼
5.7 Hydrology and Water Quality	LTS	=	▼	▼
5.8 Land Use and Planning	LTS	=	=	=
5.9 Noise	SU	=	▼	▼
5.10 Population and Housing	LTS	=	▼	▼
5.11 Public Services	LTS	=	▼	▼
5.12 Recreation	LTS	=	▼	▼
5.13 Transportation	LTSM	▲	▼	▼
5.14 Tribal Cultural Resources	LTSM	=	=	=
5.15 Utilities and Service Systems	LTS	=	▼	▼

Notes:
▲▲ Alternative would result in greater issue area impacts when compared to the proposed Project and the difference would be significant.
▲ Alternative would result in greater issue area impacts when compared to the proposed Project; however, this difference would be negligible and would not change the significance conclusion.
= Alternative would result in similar issue area impacts when compared to the proposed Project.
▼ Alternative would result in reduced issue area impacts when compared to the proposed Project; however, this difference would be negligible and would not change the significance conclusion.
▼▼ Alternative would result in reduced issue area impacts when compared to the Project and the difference would be significant.
NI = No Impact
LTS = Less than Significant Impact
LSTM = Less than Significant Impact with Mitigation
SU = Significant and Unavoidable Impact

Additionally, Table 7-14, *Ability of Alternatives to Meeting Project Objectives*, compares the project alternatives in terms of whether they meet the project's objectives. As shown in Table 7-10, none of the project alternatives

would be able to fully achieve the proposed project's objectives. Alternatives 2 and 3 would provide most the proposed project's benefits but would limit the benefits due to a reduced scope of development.

Table 7-14 Ability of Alternatives to Meet Project Objectives

Project Objectives	Alternative 1	Alternative 2	Alternative 3
Objective 1: Provide strategic land use designations to connect to the community to housing, jobs, and recreation	No	Partially	Partially
Objective 2: Provide a connected business district to facilitate new economic opportunities.	No	Partially	Partially
Objective 3: Create a vibrant and scenic downtown reflective of a diverse community	No	Yes	Yes
Objective 4: Beautification through building design, landscape, and art.	No	Yes	Yes
Objective 5: Enhance connectivity and streetscapes to increase multimodal accessibility and safety.	No	Partially	Partially
Objective 6: Plan for and build a transit ready Downtown Artesia.	No	Partially	Partially
Objective 7: Facilitate the City in reaching its Regional Housing Needs Assessment Allocation of 1,069 units.	No	No	No
Objective 8: Promote higher-density, mixed use development in proximity to the Southeast Gateway Line station to encourage transit ridership.	No	Partially	Partially
Objective 9: Balance increased density and commercial activity with design standards that respect and enhance the character of existing neighborhoods, ensuring compatibility with the surrounding community.	No	Yes	Yes

CEQA requires a lead agency to identify the "environmentally superior alternative" and, in cases where the "No Project" Alternative is environmentally superior to the proposed project, the environmentally superior development alternative must be identified. One alternative has been identified as "environmentally superior" to the proposed project:

- Redevelopment with No Commercial Incentives Alternative (Alternative 3)

"Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts" (CEQA Guidelines Section 15126.6[c]).

As shown in the tables above, Alternative 1 would result in similar impacts to the proposed project but result in greater impacts related to transportation. Therefore, this alternative is not the Environmentally Superior Alternative.

Alternative 2 and 3 would result in similar impacts and would partially achieve the proposed project's objectives. However, Alternative 3 would lessen the proposed project's impacts the most due to the 24.4 percent reduction in residential development and 50 percent reduction in commercial development compared to the proposed project.

7. Alternatives to the Proposed Project

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8. Impacts Found Not to Be Significant

California Public Resources Code Section 21003 (f) states: "…it is the policy of the state that…[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." This policy is reflected in the State California Environmental Quality Act (CEQA) Guidelines (Guidelines) Section 15126.2(a), which states that "[a]n EIR [Environmental Impact Report] shall identify and focus on the significant environmental impacts of the proposed project" and Section 15143, which states that "[t]he EIR shall focus on the significant effects on the environment." The Guidelines allow use of an Initial Study to document project effects that are less than significant (Guidelines Section 15063[a]). Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant, and were therefore not discussed in detail in the Draft EIR.

8.1 ASSESSMENT IN THE INITIAL STUDY

The Initial Study prepared for the proposed project in February 2024 determined that impacts listed below would be less than significant. Consequently, they have not been further analyzed in this Draft EIR (DEIR). Please refer to Appendix A for explanation of the basis of these conclusions. Impact categories and questions below are summarized directly from the CEQA Environmental Checklist, as contained in the Initial Study.

Table 8-1 Impacts Found Not to Be Significant

Environmental Issues	Initial Study Determination
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:	
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact

8. Impacts Found Not to Be Significant

Table 8-1 Impacts Found Not to Be Significant

Environmental Issues	Initial Study Determination
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:	
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less Than Significant Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact
VII. GEOLOGY AND SOILS. Would the project:	
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	Less Than Significant Impact
ii) Strong seismic ground shaking?	Less Than Significant Impact
iii) Seismic-related ground failure, including liquefaction?	Less Than Significant Impact
iv) Landslides?	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	Less Than Significant Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Less Than Significant Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Less Than Significant Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact

8. Impacts Found Not to Be Significant

Table 8-1 Impacts Found Not to Be Significant

Environmental Issues	Initial Study Determination
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less Than Significant Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less Than Significant Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Less Than Significant Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No Impact
X. HYDROLOGY AND WATER QUALITY. Would the project:	
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less Than Significant Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	
i) result in a substantial erosion or siltation on- or off-site;	Less Than Significant Impact
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	Less Than Significant Impact
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Less Than Significant Impact
iv) impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
XI. LAND USE AND PLANNING. Would the project:	
a) Physically divide an established community?	No Impact
XII. MINERAL RESOURCES. Would the project:	
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	No Impact
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact
XIII. NOISE. Would the project result in:	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact
XIV. POPULATION AND HOUSING. Would the project:	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

8. Impacts Found Not to Be Significant

Table 8-1 Impacts Found Not to Be Significant

Environmental Issues	Initial Study Determination
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No Impact

9. Significant Irreversible Changes Due to the Proposed Project

Section 15126.2(c) of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) describe any significant irreversible environmental changes that would be caused by the proposed project should it be implemented. Specifically, the CEQA Guidelines state:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvements which provides access to previously inaccessible area(s)) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The following are the significant irreversible changes that would be caused by the proposed project, should it be implemented:

- Future development facilitated by the proposed project would include construction that would entail the commitment of nonrenewable and/or slowly renewable energy resources; human resources; and natural resources such as sand and gravel, asphalt, steel, copper, lead, other metals, water, and fossil fuels. Operation of development facilitated by the proposed project would require the use of natural gas and electricity, petroleum-based fuels, fossil fuels, and water. The commitment of resources required for the construction and operation of growth and development facilitated by the proposed project would limit the availability of such resources for future generations or for other uses during the life of the proposed project.

- An increase in vehicle trips would accompany project-related population growth. Over the long-term, emissions associated with such vehicle trips would continue to contribute to the South Coast Air Basin's nonattainment designation for ozone (O_3) and particulate matter ($PM_{2.5}$ and PM_{10}) under the California and National Ambient Air Quality Standards (AAQS), and nonattainment for nitrogen dioxide (NO_2) under the California AAQS.

Given the low likelihood that the land in the city would revert to its original form, the proposed project would generally commit future generations to these environmental changes.

9. Significant Irreversible Changes Due to the Proposed Project

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10. Growth-Inducing Impacts of the Proposed Project

Pursuant to Sections 15126(d) and 15126.2(d) of the California Environment Quality Act (CEQA) Guidelines, this section is provided to examine ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also required is an assessment of other projects that would foster other activities that could affect the environment, individually or cumulatively. To address this issue, potential growth-inducing effects will be examined through analysis of the following questions:

- Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?

- Would this project result in the need to expand one or more public services to maintain desired levels of service?

- Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?

- Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

Please note that growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment. This issue is presented to provide additional information on ways in which this project could contribute to significant changes in the environment, beyond the direct consequences of developing the land use concept examined in the preceding sections of this Draft Environmental Impact Report (DEIR).

Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?

Future growth facilitated by the proposed project would allow for infill development and intensification in Downtown Artesia. This would indirectly induce construction of site-specific infrastructure upgrades, extensions and improvements, such as roadways, storm drains, sewer lines, water pipes, solid waste collection systems, and energy/communications extensions. Additionally, the proposed project would induce growth through the removal of obstacles to development by simplifying and streamlining land use and zoning

regulations for the project area. Therefore, the proposed project removes regulatory obstacles to growth and is considered growth inducing.

Would this project result in the need to expand one or more public services to maintain desired levels of service?

The proposed project is a regulatory document that sets the framework for future growth and development in Downtown Artesia and does not directly result in development. Direct growth-inducing impacts are commonly associated with the extension of new public services, utilities, and roads into areas that have previously been undeveloped. Growth facilitated by the proposed project would allow for infill development and intensification in the city, which is already served by public services. As discussed in Section 5.11, *Public Services*, there are several mechanisms in place to ensure there is adequate funding for expansion of services as buildout facilitated by the proposed project continues, such as budgets, development impact fees, and coordination with local and regional agencies. Future projects facilitated by the proposed project would be evaluated on an individual basis for conformance with funding mechanisms as applicable.

Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?

Implementation of the proposed project would encourage or facilitate economic effects. Temporary jobs would be created during development of future projects (e.g., design, planning, engineering, construction, etc.), facilitated by the proposed project, which would result in direct economic effects. As the population grows and occupies new dwellings units in accordance with the proposed project, new residents would seek shopping, entertainment, employment, home improvement, and other economic opportunities in the surrounding area. This would facilitate economic transactions of goods and services and could, therefore, encourage the creation of new businesses and/or the expansion of existing businesses to address these economic needs. Furthermore, the proposed increases in development capacity for office, commercial, and retail uses would serve the shopping and services needs of the future residents and would generate additional employment opportunities. The physical impacts of job growth are reflected in the analysis in this DEIR and are expected to be localized in the city. As the proposed project is a regulatory document and does not directly result in development, before any development or redevelopment activities would occur in the city, such activities would be analyzed for conformance with applicable local, State, and federal requirements to ensure that future projects would not adversely affect the environment. There is nothing unusual about the anticipated growth facilitated by the proposed project that would significantly affect the environment.

Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

As the proposed project is a regulatory document and does not directly result in development, future development, facilitated by the proposed project, would be reviewed on a project-by-project basis for conformance with the General Plan, zoning requirements, and other applicable local, State, and federal requirements to ensure that future projects would not adversely affect the environment. Although the proposed project would include actions that facilitate future growth, these precedents are not anticipated to encourage and/or facilitate other activities that could significantly affect the environment.

11. Organizations and Persons Consulted

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11. Organizations and Persons Consulted

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PLACEWORKS

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Appendix A Initial Study, Notice of Preparation, and Public Comment Letters

Appendices

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February 2024 | Initial Study

ARTESIA DOWNTOWN SPECIFIC PLAN

City of Artesia

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PLACEWORKS

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Abbreviations and Acronyms

AAQS	ambient air quality standards
AB	Assembly Bill
ACM	asbestos-containing materials
ADT	average daily traffic
amsl	above mean sea level
AQMP	air quality management plan
AST	aboveground storage tank
BAU	business as usual
bgs	below ground surface
BMP	best management practices
CAA	Clean Air Act
CAFE	corporate average fuel economy
CalARP	California Accidental Release Prevention Program
CalEMA	California Emergency Management Agency
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cfs	cubic feet per second
CGS	California Geologic Survey
CMP	congestion management program
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level

Abbreviations and Acronyms

CO	carbon monoxide
CO_2e	carbon dioxide equivalent
Corps	US Army Corps of Engineers
CSO	combined sewer overflows
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
GWP	global warming potential
HCM	Highway Capacity Manual
HQTA	high quality transit area
HVAC	heating, ventilating, and air conditioning system
IPCC	Intergovernmental Panel on Climate Change
L_{dn}	day-night noise level
L_{eq}	equivalent continuous noise level
LBP	lead-based paint
LCFS	low-carbon fuel standard
LOS	level of service
LST	localized significance thresholds
M_W	moment magnitude
MCL	maximum contaminant level
MEP	maximum extent practicable
mgd	million gallons per day
MMT	million metric tons

Abbreviations and Acronyms

MPO	metropolitan planning organization
MT	metric ton
MWD	Metropolitan Water District of Southern California
NAHC	Native American Heritage Commission
NO_X	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
O_3	ozone
OES	California Office of Emergency Services
PM	particulate matter
POTW	publicly owned treatment works
ppm	parts per million
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RMP	risk management plan
RMS	root mean square
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	state implementation plan
SLM	sound level meter
SoCAB	South Coast Air Basin
SO_X	sulfur oxides
SQMP	stormwater quality management plan
SRA	source receptor area [or state responsibility area]
SUSMP	standard urban stormwater mitigation plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TNM	transportation noise model

Abbreviations and Acronyms

tpd	tons per day
TRI	toxic release inventory
TTCP	traditional tribal cultural places
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	urban water management plan
V/C	volume-to-capacity ratio
VdB	velocity decibels
VHFHSZ	very high fire hazard severity zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	water quality management plan
WSA	water supply assessment

1. Introduction

In compliance with the California Environmental Quality Act (CEQA), the City of Artesia, as lead agency, is preparing the environmental documentation for the Artesia Downtown Specific Plan (Specific Plan or proposed project) to determine whether approval of the requested discretionary actions and subsequent development would have a significant impact on the environment. As defined by Section 15063 of the CEQA Guidelines, an Initial Study is prepared primarily to provide the lead agency with the information to use as the basis for determining whether an environmental impact report (EIR), negative declaration, or mitigated negative declaration (MND) would provide the necessary environmental documentation and clearance for the proposed project.

1.1 PROJECT LOCATION

The Downtown Artesia Specific Plan area (Specific Plan area or project site) is in an urbanized area in the City of Artesia, Los Angeles County. The City is 19 miles southeast of Downtown Los Angeles; it shares its eastern, southern, and western boundaries with the City of Cerritos and its northern boundary with the City of Norwalk. See Figure 1, *Regional Location*.

The project site encompasses the blocks adjoining Pioneer Boulevard to the southeast and ending at 180th Street to the north. The northern portion of the project site (north of the Southeast Gateway Line) is bounded by Alburtis Avenue and Corby Avenues to the west, 180th Street to the north, Arline Avenue to the east, and 188th Street to the south. The project site extends south of the Southeast Gateway Line to the future Pioneer Boulevard Light Rail Station[1] and includes the area between 188th Street and the La Belle Chateau Mobile Home Park, and Pioneer Boulevard on the east and Jersey Avenue on the west. The nearest freeway providing regional access to the project area is State Route (SR-) 91, a multilane freeway that divides the northern end of the city. See Figure 2, *Local Vicinity* and Figure 3, *Aerial Photograph*.

1.2 ENVIRONMENTAL SETTING

1.2.1 Existing Land Use

As shown in Figure 3, *Aerial Photograph*, the project site is fully built up and consists primarily of one- and two-story commercial uses and multifamily residential properties. The southern portion of the project site is anchored by a shopping center and La Belle Chateau Estates Mobile Home Park, which is bordered by South Street to the north, the City of Cerritos to the west and south, and Pioneer Boulevard to the east. The northern portion of the project site is anchored by a shopping center to the north and south of 183rd Street and to the east and west of Arline Avenue and Alburtis Avenue, respectively. The north and south ends of the project site

[1] The Pioneer Boulevard Light Rail Station would be developed as the southern terminus of a 14.5-mile segment that connects southeast Los Angeles to downtown Los Angeles. The forecast completion date is 2035 (Metro 2021).

are connected by the Pioneer Boulevard corridor which includes one- and two-story retail, restaurant and office uses. Multi-family residential, mixed-use residential, commercial, general office and industrial uses are located on various parcels throughout the entire project site to the east and west of Pioneer Boulevard. Limited vacant parcels exist within the project area south of 188th Street. The Southeast Gateway Line bisects the project site.

Zoning Designations

As shown in Figure 4, *Existing Zoning Map*, the primary zoning designation in the project site is Commercial General, located in the northern area, along Pioneer Boulevard, and on the south part of the project site. Multi-Family Residential zoning is designated along the east side of the project site, fronting Arline Avenue, and on the west side of the project site, fronting Corby Avenue. Multi-Family Residential zoning is also designated between 188th Street to the north and to the Commercial General zoning designation to south. Light Manufacturing/Industrial zoning is designated along Corby Avenue to the east and west, between 187th Street to the north, and South Street to the South. Zoning designations in the southern portion of the project site, located south of South Street, includes Commercial Planned Development and the South Street Specific Plan.

General Plan Land Use Designations

As shown in Figure 5, *General Plan Land Use Map*, the project site includes two General Plan land use designations. Between the future Pioneer Boulevard Light Rail Station in the south to the 180th in the north the project site has a General Plan land use designation of City Center Mixed-Use. Between the future Pioneer Boulevard Light Rail Station to the north and the La Belle Chateau Estates Mobile Home Park to the south, the project site has a General Plan land use designation of South Street Gateway Commercial.

1.2.2 Surrounding Land Uses

As shown in Figure 3, *Aerial Photograph*, and similar to the project site, existing land uses surrounding the project site primarily include one-to two-story multi-family and single-family residences. The multi-family residential buildings within the east and west area of the project site create a transition to the single-family homes found just outside the project site, which are located beyond Alburtis Street to the west and Arline Avenue to the east.

As shown in Figure 4, *Existing Zoning Map*, parcels to the east and west of the project site are zoned Multi-Family Residential and Single Family Residential. As shown in Figure 5, *General Plan Land Use Map*, parcels directly to the west of the project site include a General Plan land use designation of High Density Residential to the north of 185th Street and a Low Density Residential land use designation to the south of 185th Street. Parcels directly to the east of the project site have a General Plan land use designation of High Density Residential between Ashworth Street in the north to 187th Street to the south, followed by Low Density Residential east of Clarkdale Street.

Parcels north of the project site include a zoning designation of Pioneer Specific Plan, Mulit-Family Residential, and Service and Professional and Commercial General. Parcels to the south of the project site are located within the City of Cerritos and include RS-5000 (Single Family Residential - min lot size 5,000 square feet) and RS-6500 (Single Family Residential - min lot size 6,500 square feet) to the east and west of Pioneer Boulevard, as well as CC (Community Commercial), MC (Industrial Commercial) and OS (Open Space) as designated by

the City Cerritos Zoning Map (Cerritos 2020). Properties south of the project include General Plan land use designations of Low Density - 2 to 5.5 Units / Acre, as well as Community Commercial, Industrial/Commercial, and Public and Quasi Public (Cerritos 2020b).

1. Introduction

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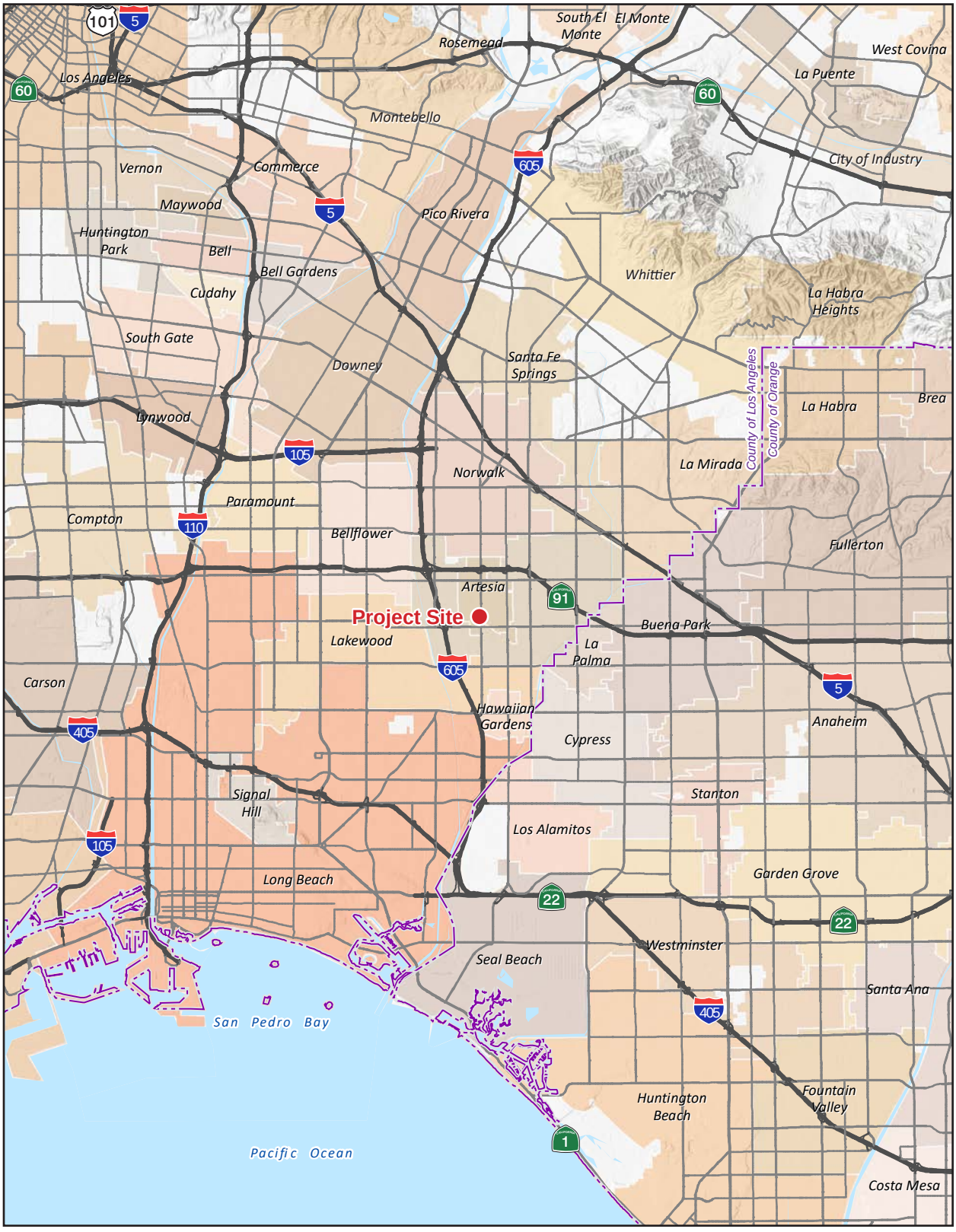
Figure 1 - Regional Location



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1. Introduction

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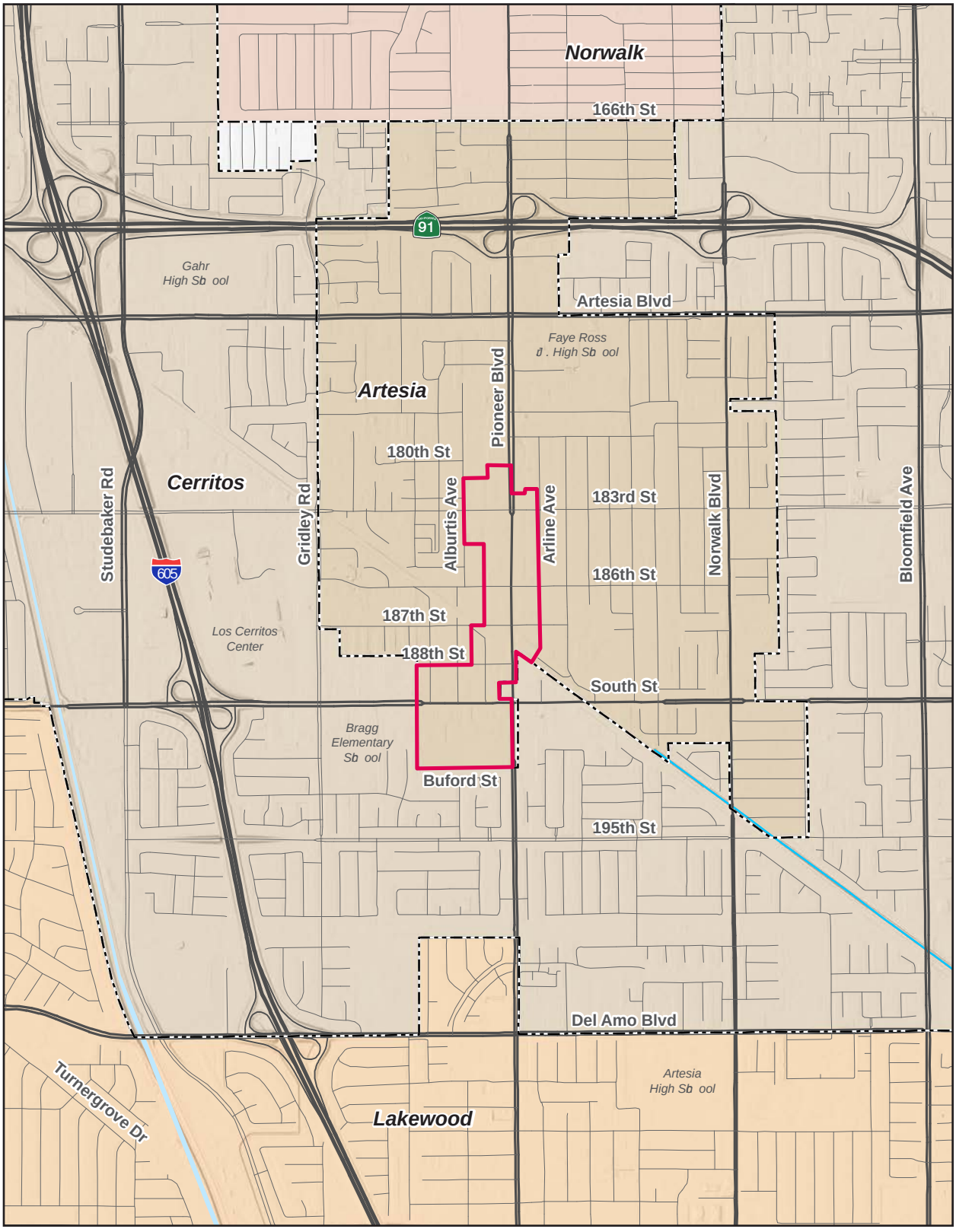
Figure 2 - Local Vicinity



Downtown Artesia Specific Plan Boundary

City Boundary

0 2,000

Scale (Feet)

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1. Introduction

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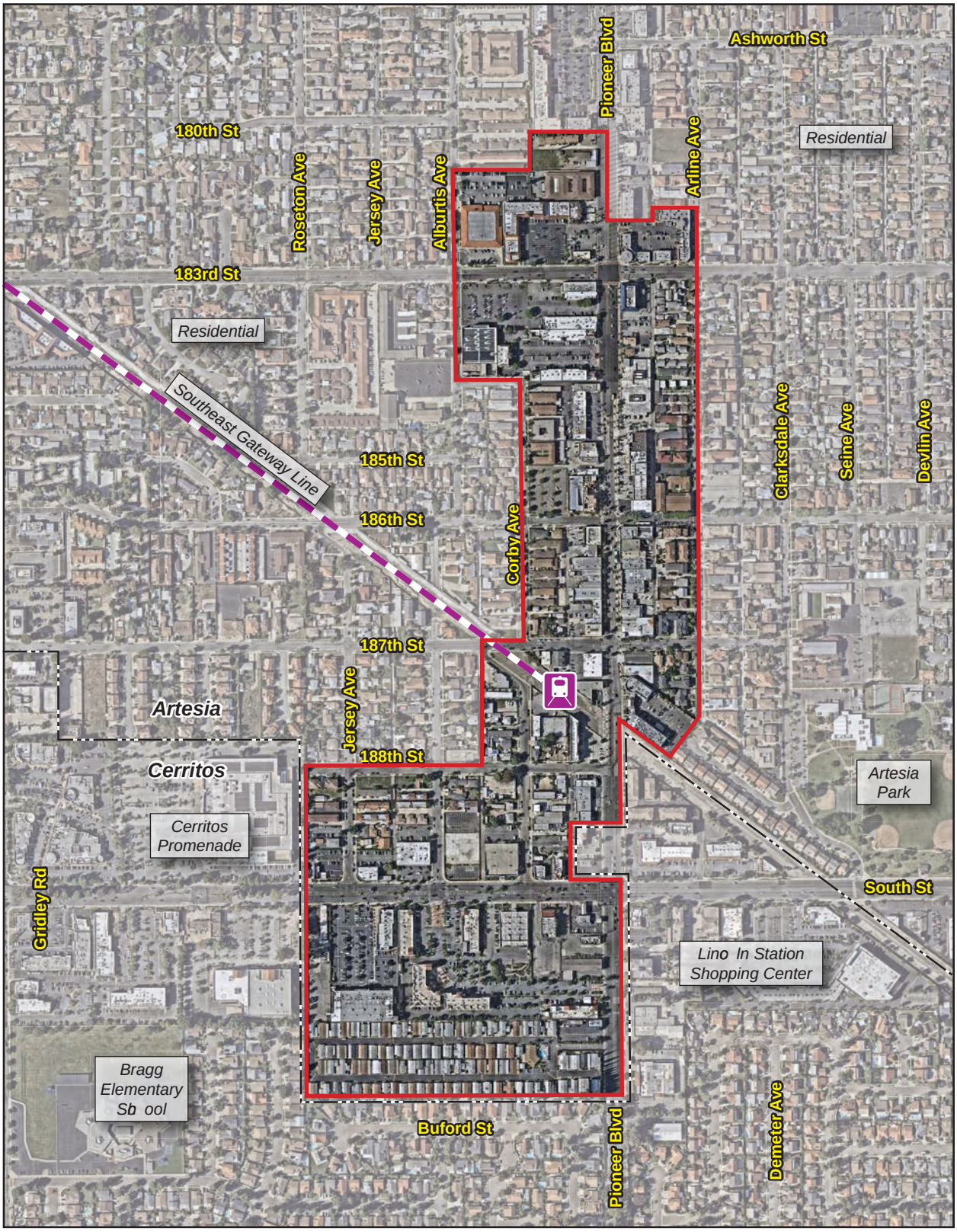
Figure 3 - Aerial Photograph



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1. Introduction

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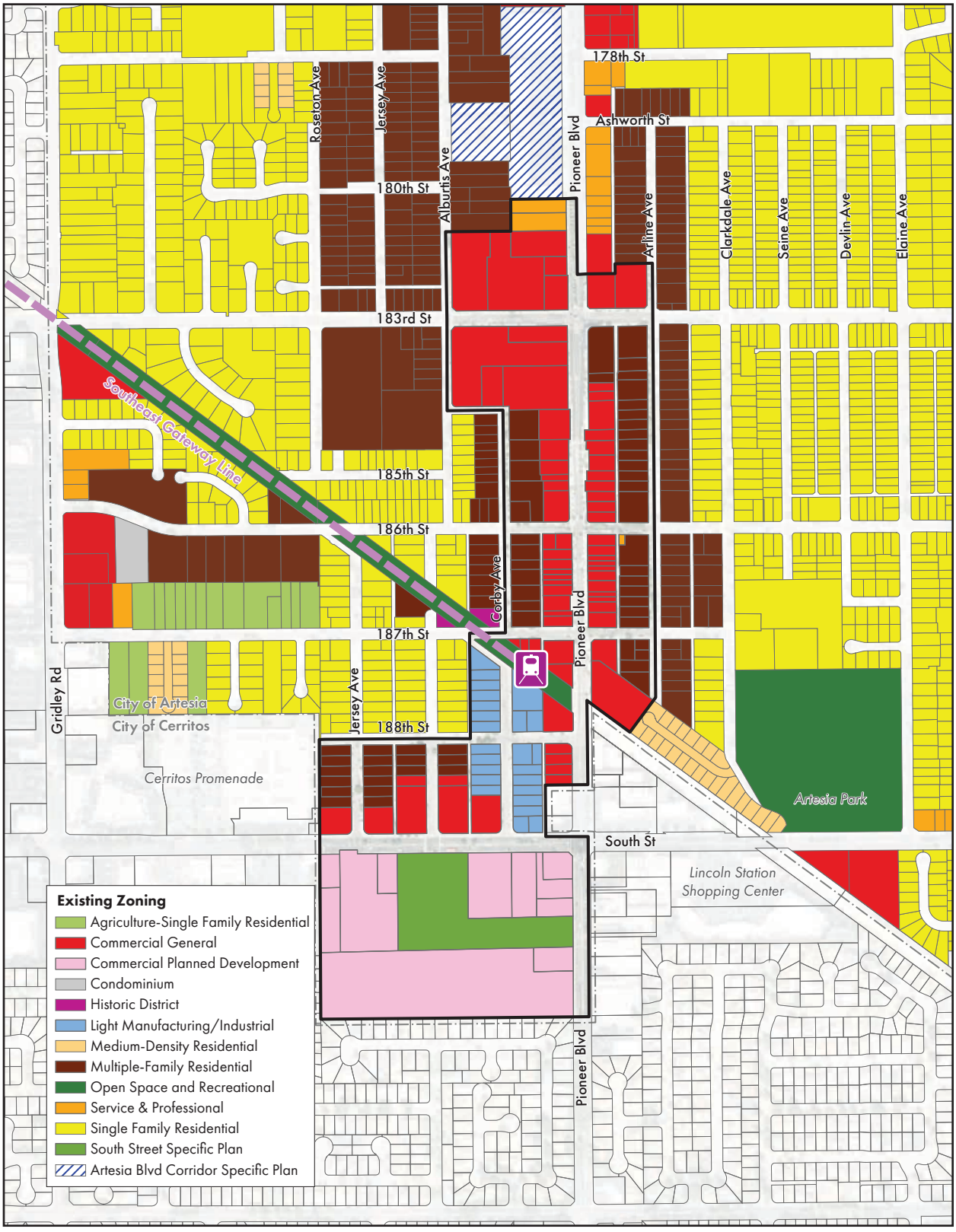
Figure 4 - Existing Zoning Map



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1. Introduction

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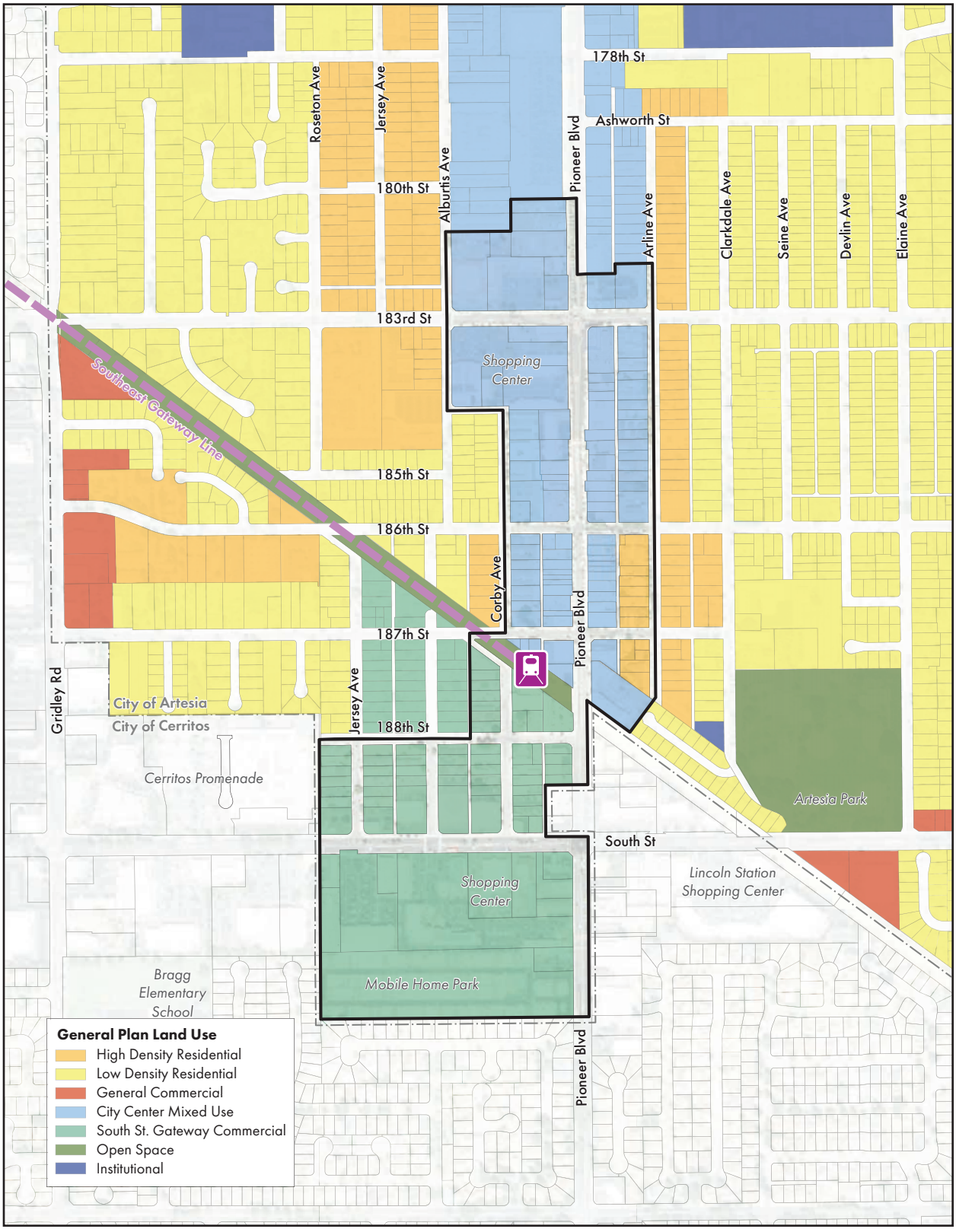
Figure 5 - General Plan Land Use Map



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1. Introduction

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1.3 PROJECT DESCRIPTION

The Artesia Downtown Specific Plan (proposed project) would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district as the city prepares for the planned expansion of a new Metro light rail line (referred to as the Southeast Gateway Line Branch) that would connect southeastern Los Angeles County communities, including Artesia, to Downtown Los Angeles. The new Metro light rail line extension is anticipated to connect to Pioneer Boulevard in 2035[2].

While there are no specific development projects proposed at this time, the Artesia Downtown Plan will establish goals and objectives, development standards, and implementation actions associated with land use, mobility, and infrastructure, and establishes a transit-oriented plan that would provide new opportunities for housing, retail/commercial, and entertainment uses. The proposed project would establish the necessary plans, development standards, regulations, infrastructure requirements, and implementation programs on which subsequent project-related development activities in the Specific Plan area would be based. Below is a discussion of each component of the proposed project.

Land Use Plan

As shown in Figure 6, *Proposed Zoning Districts*, the land use plan divides the project site into six zoning districts. These distinct zoning districts would allow for a range of land uses and density within a defined building envelope. The zones would also implement the City's urban design objectives for each part of the project site to establish and maintain attractive distinctions between each zone. The six zoning districts include:

- **Downtown North.** The Downtown North District would become the northern gateway and anchor to downtown Artesia. This district would allow for higher density mixed-use development at 65 dwelling units per acre (du/ac) or 75 du/ac with a density bonus. The southwest corner of this district would encompass approximately 5.5 acres and would allow 4- to 5-story mixed-use development and 2- and 3-story townhomes. Where the City owns property at the northwest corner of 183rd Street and Pioneer Boulevard, a public private partnership is encouraged to develop a parking structure with ground-floor retail uses as well as potentially civic and/or community uses. The parking structure would serve visitors, residents, and employees as they travel to and from downtown Artesia and SR-91 to the north.

- **Pioneer Boulevard.** The Pioneer Boulevard District would front Pioneer Boulevard north of the future Metro transit station and is in the center of downtown Artesia. This area is currently known as "Little India" and is composed of narrow parcels with a continuous street frontage of 1-story commercial establishments such as restaurants, markets, and jewelry shops. Although significant new development is not expected in this district, the district would allow for 3-story buildings at 50 du/ac or 60 du/ac with a density bonus.

[2] The Pioneer Boulevard Light Rail Station would be developed as the southern terminus of a 14.5-mile segment that connects southeast Los Angeles to downtown Los Angeles. The forecast completion date is 2035 (Metro 2021).

- **Downtown Neighborhood.** The Downtown Neighborhood District would be in the residential west and east edges of the Downtown area along Corby Avenue and Arline Avenue. The downtown neighborhood would retain its residential character at 40 du/ac.

- **188th Street / Corby Avenue.** The 188th/Corby District would be south of the future Metro station and presently includes residential and light industrial uses. This district would allow for residential uses such as duplex, triplex, and townhomes at 65 du/ac as well as limited commercial office and retail uses.

- **Downtown South.** The Downtown South District would become the southern gateway to downtown Artesia and the city. The district would allow 4- to 6-story mixed-use development at 75 du/ac or 85 du/ac with a density bonus and incorporate land uses such as ground-floor retail, a hotel, townhomes, and neighborhood parks for residents and visitors. A Metro parking structure is planned in the South Street Mixed District just south of the transit station.[3]

- **Chateau Estates.** The Le Belle Chateau Estates Mobile Home Park District sits at the southern edge of the project site. The mobile home park use would be maintained.

Development Standards

The proposed project would establish development standards related to the physical form and design of both new and renovated buildings and properties in the project site. Development standards would include requirements for site planning (i.e., setbacks from public rights-of-way and other structures), open space and landscaping standard, building mass, scale, and maximum heights, materials and finishes, parking and loading, and frontage design standards.

Mobility and Infrastructure

The proposed project would provide information related to existing mobility and public infrastructure systems in the Downtown Specific Plan area. The mobility chapter would provide a discussion on existing conditions and connections for transit, automobiles, pedestrians, and cyclists, and provide a summary of the mobility network including road classification and improvements. The infrastructure chapter would discuss existing hydrology and water quality, water providers and distribution, sewer, and wastewater. The proposed project would provide a summary of the necessary or required improvements associated with future development.

Implementation Actions

The goals and objectives of the proposed project would be implemented through a number of documents, policies, and programs. The proposed project would establish the implementation process associated with the Specific Plan.

[3] A 3.3-acre, 4-story parking structure with up to 1,100 parking spaces would be located south of the Pioneer Station. Access to the parking facility and station platform would be via Pioneer Boulevard and Corby Avenue. Pedestrian access from Pioneer Boulevard to the parking facility would be via Pioneer Boulevard from the southeast end of the station platform (Metro 2021).

Incentives and Bonuses

A bonus system would be implemented as part of the proposed project to allow for additional height or floor area for qualified projects. Bonuses would be granted to projects that provide additional public benefits, such as open space, reuse of existing buildings, affordable housing, or supportive commercial or retail space.

1.4 CITY ACTION REQUESTED

The following discretionary approvals by the City of Artesia are required to implement the proposed project:

- Adoption of the Artesia Downtown Specific Plan
- Amendment to the City of Artesia Zoning Ordinance and Zoning Map
- Amendment to the City of Artesia General Plan

1. Introduction

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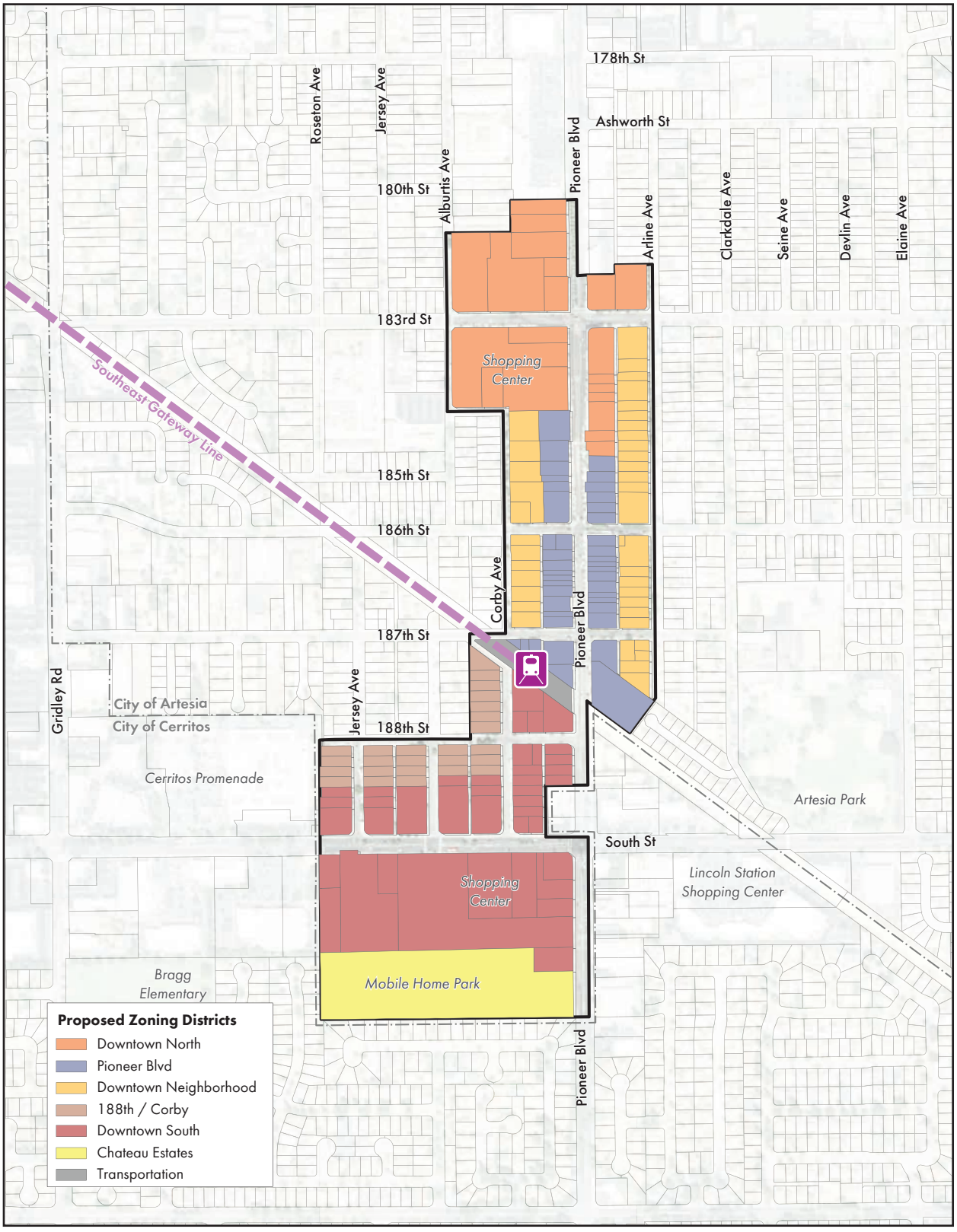
Figure 6 - Proposed Zoning Districts



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1. Introduction

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2. Environmental Checklist

2.1 PROJECT INFORMATION

1. **Project Title:** Artesia Downtown Specific Plan

2. **Lead Agency** Name and Address:
   City of Artesia
   18747 Clarkdale Ave
   Artesia, California 90701

3. **Contact Person and Phone Number:**
   Peter Kann, Planning Manager
   562.865.6262

4. **Project Location:** The Downtown Artesia Specific Plan area (Specific Plan area or project site) is in an urbanized area in the City of Artesia, Los Angeles County. The City is 19 miles southeast of Downtown Los Angeles; it shares its eastern, southern, and western boundaries with the City of Cerritos and its northern boundary with the City of Norwalk. The project site encompasses the blocks adjoining Pioneer Boulevard to the southeast and ending at 180th Street to the north. The northern portion of the project site (north of the Southeast Gateway Line) is bounded by Alburtis Avenue and Corby Avenues to the west, 180th Street to the north, Arline Avenue to the east, and 188th Street to the south. The project site extends south of the Southeast Gateway Line to the future Pioneer Boulevard Light Rail Station and includes the area between 188th Street and the La Belle Chateau Mobile Home Park, and Pioneer Boulevard on the east and Jersey Avenue on the west.

5. **Project Sponsor's Name and Address:**
   City of Artesia
   Peter Kann, Planning Manager
   18747 Clarkdale Avenue
   Artesia, California 90701
   562.865.6262

6. **General Plan Designation:** The project site includes two General Plan land use designations. Between the future Pioneer Boulevard Light Rail Station in the south to the 180th in the north the project site has a General Plan land use designation of City Center Mixed-Use. Between the future Pioneer Boulevard Light Rail Station to the north and the La Belle Chateau Estates Mobile Home Park to the south, the project site has a General Plan land use designation of South Street Gateway Commercial.

7. **Zoning:** The primary zoning designation in the project site is Commercial General, located in the northern area, along Pioneer Boulevard, and on the south part of the project site. Multi-Family Residential zoning is designated along the east side of the project site, fronting Arline Avenue, and on the west side of the project

site, fronting Corby Avenue. Multi-Family Residential zoning is also designated between 188th Street to the north and to the Commercial General zoning designation to south. Light Manufacturing/Industrial zoning is designated along Corby Avenue to the east and west, between 187th Street to the north, and South Street to the South. Zoning designations in the southern portion of the project site, located south of South Street, includes Commercial Planned Development and the South Street Specific Plan.

8. **Description of Project:** The Artesia Downtown Specific Plan (proposed project) would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district as the city prepares for the planned expansion of a new Metro light rail line (referred to as the Southeast Gateway Line Branch) that would connect southeastern Los Angeles County communities, including Artesia, to Downtown Los Angeles. The new Metro light rail line extension is anticipated to connect to Pioneer Boulevard in 2035. While there are no specific development projects proposed at this time, the Artesia Downtown Plan will establish goals and objectives, development standards, and implementation actions associated with land use, mobility, and infrastructure, and establishes a transit-oriented plan that would provide new opportunities for housing, retail/commercial, and entertainment uses. The proposed project would establish the necessary plans, development standards, regulations, infrastructure requirements, and implementation programs on which subsequent project-related development activities in the Specific Plan area would be based.

9. **Surrounding Land Uses and Setting:** Land uses surrounding the project site primarily include one-to two-story multi-family and single-family residences. The multi-family residential buildings within the east and west area of the project site create a transition to the single-family homes found just outside the project site, which are generally located beyond Alburtis Street to the west and Arline Avenue to the east.

10. **Other Public Agencies Whose Approval Is Required (e.g., permits, financing approval, or participating agreement):** Los Angeles County Metropolitan Transportation Authority (Metro)

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

    Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.94 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3I contains provisions specific to confidentiality.

    The City prepared letters addressed to each Native American Tribe from the Native American Heritage Commission Tribal Consultation List. Outreach letters were sent to tribal representatives initiating consultation with tribes pursuant to Assembly Bill (AB) 52 and Senate Bill (SB) 18.

2.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agriculture / Forestry Resources	☒ Air Quality
☐ Biological Resources	☒ Cultural Resources	☒ Energy
☒ Geology/Soils	☒ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☒ Hydrology/Water Quality	☒ Land Use / Planning	☐ Mineral Resources
☒ Noise	☒ Population / Housing	☒ Public Services
☒ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☒ Utilities / Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

2.3 DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature — *Date* 2/21/2024

2.4 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) **Earlier Analyses Used.** Identify and state where they are available for review.

   b) I**mpacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) **Mitigation Measures.** For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	X			
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	X			
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the **state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment** project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	X			
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	X			
c) Expose sensitive receptors to substantial pollutant concentrations?	X			
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	X			
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	X			
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	X			
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	X			

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	X			
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	X			
VII. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	X			
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	X			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	X			
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	X			
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in a substantial erosion or siltation on- or off-site;			X	
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	X			
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	X			
iv) impede or redirect flood flows?				X
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	X			
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	X			

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
XIII. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	X			
b) Generation of excessive groundborne vibration or groundborne noise levels?	X			
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
XIV. POPULATION AND HOUSING. Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	X			
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X
XV. PUBLIC SERVICES. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	X			
Police protection?	X			
Schools?	X			
Parks?	X			
Other public facilities?	X			
XVI. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	X			

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	X			
XVII. TRANSPORTATION. Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	X			
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	X			
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	X			
d) Result in inadequate emergency access?	X			
XVIII. TRIBAL CULTURAL RESOURCES.				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	X			
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivisil(c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivIon (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	X			
XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	X			
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	X			
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	X			

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	X			
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	X			
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X
XXI. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X			
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	X			
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

2. Environmental Checklist

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3. Environmental Analysis

Section 2.4 provided a checklist of environmental impacts. This section provides an evaluation of the impact categories and questions contained in the checklist and identifies mitigation measures, if applicable.

3.1 AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:

a) Have a substantial adverse effect on a scenic vista?

No Impact. The project site is in a highly urbanized and developed area of the city and surrounded by commercial and residential uses. There are no designated scenic vistas or other scenic resources within Artesia (Artesia 2010). Views in the project area include commercial uses and multifamily and single-family residences. Furthermore, the proposed land use changes are limited to the urbanized downtown area of the city; therefore, future infill and redevelopment pursuant to the proposed project would not impact any scenic vistas in the project area or the region. No impact would occur, and no further analysis is required in the EIR.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The State Scenic Highway System involves highways, mainly state highways, which have been designated by the California Department of Transportation (Caltrans) as scenic highways. There are no officially designated state scenic highways or eligible state scenic highways that traverse Artesia (Caltrans 2023). Therefore, no impact would occur within a state scenic highway with buildout pursuant to the proposed project, and no further analysis is required in the EIR.

c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Potentially Significant Impact. The proposed project would establish zoning districts, development standards, and implementation actions associated with land use, mobility, and infrastructure to facilitate new development and growth in the city's downtown area. Impacts may occur if the proposed project is inconsistent with regulations pertaining to scenic quality. This issue will be further discussed in the EIR.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Potentially Significant Impact. Future buildout facilitated by the proposed project has the potential to increase density and development and thereby result in an increase in lighting and glare in the project area. Lighting and glare impacts resulting from the proposed project will be further discussed in the EIR.

3.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The project site is in a highly urbanized and developed area of the city. Land uses within the downtown area consist of single- and multifamily residential neighborhoods and commercial uses. Based on the maps from the Department of Conservation Farmland Mapping and Monitoring Program, the project site is identified as urban and built-up land (DOC 2022). No parcels in the project site are zoned or used for agriculture. Therefore, development in the project site would not convert prime farmland, unique farmland, or farmland of statewide importance to a nonagricultural use. No impact would occur, and no further analysis is required in the EIR.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project site is in a highly urbanized and developed area of the city. Land uses in the downtown area consist of single- and multifamily residential neighborhoods and commercial uses. No parcels in the project site are zoned or used for agriculture. Therefore, the proposed project would not conflict with an existing zone for agricultural use or conflict with a Williamson Act contract. Thus, no impact would occur, and no further analysis is required in the EIR.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. The project site is in a highly urbanized and developed area of the city. Land uses in the project area consist of single- and multifamily residential neighborhoods and commercial uses. No forest lands or

timberland are in the city limits, or in proximity. The project site is zoned mainly with commercial and residential uses and is not zoned for nor used as forest land or timberland. The proposed project would not result in the loss of forest land or the conversion of forest land to nonforest use. Thus, no impact would occur, and no further analysis is required in the EIR.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The project site mainly consists of commercial and residential uses. The project site and surrounding area do not contain forest land, and development of the proposed project would not result in the loss of forest land or conversion of forest land to nonforest use. Thus, no impact would occur, and no further analysis is required in the EIR.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The project site and surrounding area are currently developed with existing residential and commercial uses, and there is no farmland and forest land in or around the area. The project site is characterized as urban and built-up land. Development facilitated by the proposed project would not result in the conversion of farmland to nonagricultural uses nor the conversion of forest land to nonforest uses. No impact would occur, and no further evaluation of this issue in the EIR is required.

3.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact. The City of Artesia is in the South Coast Air Basin (SoCAB) and is subject to the air quality management plan (AQMP) prepared by the South Coast Air Quality Management District (AQMD). Implementation of the proposed project would potentially generate criteria air pollutants that have the potential to increase the severity of the nonattainment designation of the SoCAB or exceed the assumptions of the South Coast AQMD's AQMP. Potential impacts associated with consistency with the AQMP will be further analyzed in the EIR.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Potentially Significant Impact. The SoCAB is designated nonattainment for ozone (O_3) and fine particulate matter ($PM_{2.5}$) under the California and National Ambient Air Quality Standards (AAQS), nonattainment for particulate matter (PM_{10}) under the California AAQS, and nonattainment for lead (Pb) under the National AAQS (CARB 2018). Construction or operational phases of future infill and redevelopment that occur pursuant to the proposed project may have the potential to exceed the South Coast AQMD's regional significance thresholds and cumulatively contribute to the nonattainment designations of the SoCAB. Any

project that produces a significant project-level regional air quality impact in a nonattainment area adds to the cumulative impact. Due to the extent of the SoCAB area and the number of cumulative project emissions, a project would be cumulatively significant when project-related emissions exceed the South Coast AQMD regional significance emissions thresholds (SCAQMD 1993). Therefore, air quality impacts of the proposed project will be further discussed in the EIR.

c) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact. Air pollutant emissions associated with future development pursuant to the proposed project would occur over the short term from construction activities, and over the long term from project-generated vehicle trips and stationary sources. During construction activities, off-road equipment exhaust and fugitive dust have the potential to elevate concentrations of air pollutants at onsite and offsite sensitive receptors. Air pollutant emissions generated by the proposed project will be evaluated against South Coast AQMD's localized significance thresholds (LST). During operation, on-road emissions from vehicles traveling to and from the project site have the potential to generate elevated concentrations of carbon monoxide (CO) at congested intersections. Localized impacts from project-related construction and operational activities will be examined further in the EIR.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Potentially Significant Impact. Air pollutant emissions would occur over the short term for site preparation and construction activities of future development, and over the long term associated with project-related vehicle trips generated during operation. The EIR will evaluate the increase in air pollutant emissions generated by construction and operation of the proposed project against South Coast AQMD's regional significance thresholds. Mitigation measures will be recommended, if applicable, to minimize the proposed project's contribution to air pollutant emissions in the SoCAB. This issue will be further discussed in the EIR.

3.4 BIOLOGICAL RESOURCES

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. Special-status species include those listed as endangered threatened under the federal Endangered Species Act or California Endangered Species Act, species otherwise given certain designations by the California Department of Fish and Wildlife, and plant species listed as rare by the California Native Plant Society. The project site is in a highly urbanized and developed area of the city and surrounded by urban uses, including various commercial and residential uses. The project site does not contain any natural habitat that could contain any sensitive species or other sensitive natural communities (CNDDB 2024). Considering the surrounding urbanized context and lack of habitat, the project site does not have the capacity to support candidate, sensitive,

or special-status species. Therefore, no impacts related to special-status species would occur, and no further evaluation of this issue in the EIR is required.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. The project site is in a highly urbanized area of Artesia. The project site does not contain any riparian habitat or other sensitive natural community, and no watercourse runs through or adjacent to the project site. The surrounding areas are fully developed with commercial and residential uses. No riparian habitat exists on-site (USFWS 2023). Therefore, no impact to riparian or other sensitive natural communities would occur. No further evaluation of this issue in the EIR is required.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. As discussed previously, the project site is located in a highly developed area. No watercourse runs through or adjacent to the project site. According to the National Wetland Inventory, there are no state or federally protected wetlands near or within the project site (USFWS 2023). Thus, the proposed project would not have a substantial adverse effect on states or federally protected wetlands. Therefore, no impact would occur, and no further evaluation of this issue in the EIR is required.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact. The project site is substantially disturbed by past and existing developments. No migratory wildlife corridors or native wildlife nurseries exist near or within the project site, and the proposed project would not interfere with the movement of native resident or migratory fish or wildlife species or wildlife corridors or nursery sites (CDFW 2024). Street trees and landscaped areas within the project site may provide nesting sites for resident or migratory birds. The Migratory Bird Treaty Act prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service. Compliance with the existing California Department of Fish and Wildlife regulations would ensure that impacts remain less than significant to nesting and migratory birds. No further evaluation of this issue in the EIR is required.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. Chapter 4, Tree Protection, in Title 7 of the Artesia Municipal Code (AMC) outlines the tree protection ordinance and preservation regulations for all trees within the public rights-of-way in parks and at City facilities. Future development projects pursuant to the proposed project would be reviewed to ensure compliance with the City's tree protection ordinance and preservation regulations. The land use changes

proposed by the project would not interfere with any local policies or ordinances protecting biological resources, and no impact will occur. No further analysis is required in the EIR.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The project site is within an urban and highly developed area. The project site is not within the area of an adopted habitat conservation plan; natural community conservation plan; or other approved local, regional, or state habitat conservation plan (CDFW 2023). Therefore, the proposed project would not affect any such plan and no impact would occur. No further analysis is required in the EIR.

3.5 CULTURAL RESOURCES

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

Potentially Significant Impact. Section 15064.5 defines historic resources as resources listed or determined to be eligible for listing by the State Historical Resources Commission, a local register of historical resources, or the lead agency. Generally a resource is considered "historically significant" if it meets one of the following ceria:

i) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

ii) Is associated with the lives of persons important in our past;

iii) Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values;

iv) Has yielded, or may be likely to yield, information important in prehistory or history.

The project site, which contains the city's downtown area, developed over the last century as a center for commercial uses around what was the original city commercial core on Pioneer Boulevard between 186th and 187th Streets. Although the original core has transformed over decades and no historic resources have been identified in the city (Artesia 2010), future development pursuant to the proposed project could adversely impact potentially eligible historical resources. As part of the EIR, a cultural resources records search will be conducted to assess potential impacts to historic resources. This issue will be further discussed in the EIR.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Potentially Significant Impact. No known significant archaeological sites or resources exist in the city (Artesia 2010), which is highly developed and has been subject to extensive subsurface disruption. Nonetheless,

future development pursuant to the proposed project could have ground-disturbing activities, such as grading or excavation, with the potential to unearth undocumented subsurface archaeological resources. As part of the EIR, a cultural resources records search will be conducted to assess potential impacts to archaeological resources. This issue will be further discussed in the EIR.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Potentially Significant Impact. The project site is in a highly urbanized area with past ground-disturbance activity. While discovery of human remains is unlikely given this disturbance, future development pursuant to the proposed project has the potential to disturb human remains during ground-disturbing activities such as grading or excavation. This issue will be further discussed in the EIR.

3.6 ENERGY

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Potentially Significant Impact. Construction of any future development facilitated by the proposed project would require energy use and would vary depending on construction phases. During the operation of any future development, compliance with existing energy standards would likely minimize environmental impacts. However, changes to policies and land use designations pursuant to the proposed project may increase energy uses in the future. The EIR will evaluate the potential for the proposed project to generate a substantial increase in energy use.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Potentially Significant Impact. The state's electricity grid is transitioning to renewable energy under California's Renewable Energy Program. Renewable sources of energy include wind, small hydropower, solar, geothermal, biomass, and biogas. Electricity production from renewable sources is generally considered carbon neutral. A project found to be consistent with the adopted implementation of state and local plans is presumed to have less than significant energy consumption impacts. Energy consumption will be addressed and reviewed in the EIR to determine the significance of potential impacts.

3.7 GEOLOGY AND SOILS

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other

substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less Than Significant Impact. There are no mapped surface or subsurface faults that traverse Artesia, and the city is not listed in a State-designated Alquist-Priolo Earthquake Fault Zone (DOC 2023). The faults nearest to Artesia are the Norwalk Fault, approximately 2.5 miles northeast of the project site, and Newport-Inglewood Fault, approximately 5.0 miles southwest of the project site (DOC 2023). Nonetheless, the proposed project would facilitate growth and development in a seismically active region. All future development facilitated by the proposed project would need to comply with applicable California Building Codes and City requirements with respect to seismic activity and building safety. Compliance with the City's building code and project-level review and approval by the City's Department of Building and Safety, would lessen potential impacts associated seismic activity. Therefore, impacts would be less than significant, and no further analysis is required in the EIR.

ii) Strong seismic ground shaking?

Less Than Significant Impact. Southern California is a seismically active region. Impacts from ground shaking could occur many miles from an earthquake epicenter. The degree of ground shaking in the city is dependent on the particular fault, fault location, distance from the city, and magnitude of the earthquake. Additionally, the soil and geologic structure underlying the city influences the amount of damage that the city may experience. The city consists of alluvium deposits that may become unstable during intense ground shaking (Artesia 2010). However, compliance with the City's building code and project-level review and approval by the City's Department of Building and Safety, would lessen potential impacts associated with strong seismic ground shaking. Therefore, impacts would be less than significant, and no further analysis is required in the EIR.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefication normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. Primary factors that trigger liquefication are moderate to strong ground shaking (seismic source); relatively clean, loose granular soils (primarily poorly graded sands and silty sands); and saturated soil conditions (shallow groundwater). Soils in the project site consists of younger alluvium, predominantly marine and nonmarine sand and silt (Artesia 2010). According to the Seismic Hazard Zones Map of the Los Alamitos and Whittier Quadrangles (DOC, 1999), the city of Artesia is in a mapped liquefication zone of required investigation. All future development facilitated by the proposed project would be required to comply with the City's building code and project-level review and approval by the City's Department of Building and Safety. Therefore, impacts would be less than significant, and no further analysis is required in the EIR.

iv) Landslides?

No Impact. According to the United States Geological Survey (USGS), a landslide is the movement of a mass of rock, debris, or earth down a slope. Slope movement occurs when forces acting down-slope (mainly due to gravity) exceed the strength of the earth materials that compose the slope. Causes include

factors that increase the effects of down-slope forces and factors that contribute to low or reduced strength. Landslides can be initiated in slopes already on the verge of movement by rainfall, snowmelt, changes in water level, stream erosion, changes in ground water, earthquakes, volcanic activity, disturbance by human activities, or any combinations of these factors (USGS 2023). According to the Seismic Hazard Zones Map Los Alamitos and Whittier Quadrangles, Artesia is not in a mapped earthquake-induced landslide zone of required investigation. The project site has a relatively flat topography and is not adjacent to steep slopes or areas that would otherwise be subject to landslides, debris flow, and/or rockfall. Earthquake-induced land sliding is not anticipated in the area. Thus, the proposed project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death related to landslides. Therefore, no impact would occur, and no further analysis is required in the EIR.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The soils in the project site consist of sand, silt, and clay silt soils, which have a high erodibility potential. However, Artesia is approximately 99 percent built out and has a relatively flat topography (Artesia 2010). Therefore, conditions that contribute to substantial soil erosion or loss of topsoil are not present in the city. All future development projects would be subject to compliance with AMC Title 6, Chapter 7, Storm Water Management and Discharge Control, which requires compliance with the National Pollutant Discharge Elimination System (NPDES) standards and implementation of best management practices (BMP) to minimize short- and long-term erosion. Therefore, impacts would be less than significant, and no further analysis is required in the EIR.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant Impact. Lateral spreading is a phenomenon in which soils move sideways during seismic shaking, and it is often associated with liquefication. The amount of movement depends on the soil strength, duration and intensity of seismic shaking, topography, and free-face geometry. According to the Seismic Hazard Zones Map Los Alamitos and Whittier Quadrangles (DOC,1999), the city of Artesia is in a mapped liquefication zone of required investigation. All future development would need to comply with regulatory building codes and local requirements and future project specific geotechnical investigations if required. Therefore, impacts would be less than significant, and no further analysis is required in the EIR.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact. Expansive soils are fine-grained soils with variable amounts of clay minerals that can undergo significant volumetric changes as a result of changes in moisture content. The soils in the project site consist of sand, silt, and clay silt soils, which have a high expansion potential (Artesia 2010). All future development would need to comply with applicable California Building Codes and City requirements as well as adhere to any recommendations made from registered geotechnical engineers. Therefore, impacts would be less than significant, and no further analysis is required in the EIR.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The Sanitation Districts of Los Angeles County own, operate, and maintain trunk sewer lines for the regional conveyance of wastewater, and the City is responsible for the operation and maintenance of the local sewer lines. Future development in the city would connect to the existing wastewater infrastructure. Because Artesia is a fully urbanized city and sewers are available for the disposal of wastewater, the use of septic tanks or alternative wastewater disposal systems would not be required. Therefore, no impact would occur, and no further analysis is required in the EIR.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Potentially Significant Impact. The project site is in a highly urbanized area of Artesia. The city does not contain unique geologic features and is not known to contain documented paleontological resources (Artesia 2010). Given the geology of the city, it is unlikely that the proposed project would encounter unique paleontological resources. Nonetheless, future development pursuant to the proposed project could have the potential to unearth undocumented subsurface paleontological resources. As such, this issue will be further discussed in the EIR.

3.8 GREENHOUSE GAS EMISSIONS

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Potentially Significant Impact. Development under the proposed project would generate greenhouse gas (GHG) emissions. The EIR will discuss potential climate change impacts from GHG emissions generated by construction and operation of future development and land use changes facilitated by the proposed project. This issue will be further discussed in the EIR.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact. The California Air Resources Board (CARB) adopted the Scoping Plan in conformance with AB 32. In addition, SB 375, the Sustainable Communities and Climate Protection Act of 2008, was adopted by the legislature to reduce per capita vehicle miles traveled and associated GHG emissions from passenger vehicles. Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan and SCAG's 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Construction of the proposed project could conflict with GHG reduction strategies and goals of CARB's Scoping Plan and SCAG's 2020 RTP/SCS. The EIR will discuss consistency of the proposed project with the GHG reduction strategies of the Scoping Plan. Mitigation measures will be recommended, as applicable, to minimize the proposed project's contribution to GHG emissions.

3.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

Less Than Significant Impact. Land use changes associated with the proposed project are not anticipated to result in significant amounts of hazardous materials being transported, used, or disposed of in conjunction with future development. Any potential materials associated with future uses would be utilized and stored in compliance with established State and federal requirements. All future development in the project site would be subject to compliance with existing regulations, standards, and guidelines established by federal, State, and local agencies related to storage, use, and disposal of hazardous materials. Therefore, no significant impacts would occur, and no further analysis is warranted in the EIR.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. Land use changes associated with the proposed project are not anticipated to create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment. Future developments would be subject to compliance with all applicable federal, State, and local laws and regulations pertaining to the transport, use, disposal, handling, and storage of hazardous waste, reducing the likelihood and severity of accidents during transit. There are no hazardous sites currently within the project site (DTSC 2024). Furthermore, future development projects would be evaluated on a project-by-project basis to ensure consistency with all applicable federal, State, and local laws and regulations pertaining to the transport, use, disposal, handling, and storage of hazardous waste. Therefore, impacts would be less than significant, and no further analysis would be required in the EIR.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. Implementation of the proposed project's land use changes would facilitate growth and development in the project site, and there are several schools within one-quarter mile of the project site. As discussed above, land use changes associated with the proposed project are not anticipated to create a significant hazard to the public or the environment. Future developments would be subject to compliance with all applicable federal, State, and local laws and regulations pertaining to the transport, use, disposal, handling, and storage of hazardous waste, reducing the likelihood and severity of accidents during transit. There are no hazardous sites currently within the project site (DTSC 2024). Furthermore, future development projects would be evaluated on a project-by-project basis to ensure consistency with all applicable federal, State, and local laws

and regulations pertaining to the transport, use, disposal, handling, and storage of hazardous waste. Therefore, impacts would be less than significant and no further analysis would be required in the EIR.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact. Government Code Section 65962.5 requires lists of the following types of hazardous materials sites: hazardous waste facilities; hazardous waste discharges for which the State Water Quality Control Board has issued certain types of orders; public drinking water wells containing detectable levels of organic contaminants; underground storage tanks with reported unauthorized releases; and solid waste disposal facilities from which hazardous waste has migrated. There are no hazardous sites currently within the project site (DTSC 2024). Future development would be evaluated on a project-by-project basis to determine if such sites are listed on a current regulatory hazardous materials site list and would be required to follow all state and federal regulations, which would ensure any future development related impacts would be less than significant. Therefore, no further analysis would be required in the EIR.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles or a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. There are no public airports or public use airports within two miles of the city of Artesia. The nearest public airport to the project area is Long Beach Airport, approximately 6 miles southwest of the City. The nearest airfield, the Los Alamitos Army Airfield, is located approximately 9 miles south of the city. Therefore, the proposed project would not result in a safety hazard for people residing or working on the project site. No impact would occur. This issue will not be further discussed in the EIR.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The City's Emergency Operations Plan anticipates that all major streets in the city would serve as evacuation routes (Artesia 2020). Construction activities associated with future development in the city could temporarily impact street traffic adjacent to the proposed development sites during the construction phase due to roadway improvements and potential extension of construction activities into the right-of-way. This could reduce the number of lanes or temporarily close certain street segments. All future development would be evaluated on a project-by-project basis and would be required to follow all state, local and federal regulations to ensure impacts would be less than significant. As noted in Section 3.17 Transportation (d), of this Initial Study, emergency access will be further discussed in the EIR.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. The City of Artesia and the surrounding cities, Cerritos, and Norwalk, are entirely urbanized. There are no wildlands adjacent to urbanized areas or residencies intermixed with wildlands in the city. The

project site is not in or adjacent to lands classified as high fire hazard severity zones (FHSZ). The nearest State responsibility area in a very high FHSZ is approximately 15 miles east of the project site (CALFIRE 2023). Therefore, the proposed project would not expose people or structures to a significant risk involving wildland fires. No impact would occur, and no further analysis of this issue is warranted in the EIR.

3.10 HYDROLOGY AND WATER QUALITY

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. The proposed project would be required to comply with all applicable federal, State, and local regulations for water quality during construction. Specifically, the proposed project would be required to comply with the NDPES Construction General Permit and with AMC Title 6 Chapter 7, Storm Water Management and Discharge Control. A Storm Water Pollution Prevention Plan (SWPPP) would be prepared to specify Best Management Practices (BMPs) to prevent construction pollutants. The proposed project would not otherwise substantially degrade water quality. Therefore, with adherence to regulatory code, impacts would be less than significant, and no further analysis is required in the EIR.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Potentially Significant Impact. Artesia receives its potable water service from the Golden State Water Company (GSC), which owns and operates the Artesia System. According to the 2020 Urban Water Management Plan, water supply for the Artesia System is obtained from local groundwater, recycled water, and imported water and expected to supply water through 2045 (GSC 2021) . Groundwater within the Artesia System is supplied by six active wells in the Central Basin of the Coastal Plain of Los Angeles. Development in accordance to the proposed project would increase demand for water. Therefore, this issue will be further discussed in the EIR.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in a substantial erosion or siltation on- or off-site?

Less Than Significant Impact. The potential for soil erosion may increase with development, which may result in an increase in runoff which may accelerate the rates of erosion. The proposed project would be required to prepare a SWPPP, which would be prepared with BMPs to control potential erosion and be complaint with NPDES requirements and AMC Title 6, Chapter 7, Storm Water Management and Discharge Control. The proposed project would adhere to policies and regulatory codes that regulate water quality during construction and stormwater during operation. Therefore, with adherence to regulatory code, impacts would be less than significant, and no further analysis is required in the EIR.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less Than Significant Impact. The addition of new impervious surfaces (i.e., roads, parking lots, buildings) associated with development pursuant to the proposed project could potentially reduce the amount of rainfall that can infiltrate into the subsurface. Increase in runoff could amplify drainage volumes and velocities, causing storm drainage facilities that are at or near capacity to fail during peak events. Excess runoff could potentially result in localized ponding and/or flooding. Therefore, no impact would occur, and no further analysis is required for the EIR.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. The City of Artesia is highly developed and has an existing stormwater infrastructure. Stormwater drainage in the city is provided by a network of regional drainage channels and local drainage facilities. Surface water is deposited into regional channels, which are owned and maintained by Los Angeles County. Drainage patterns could change slightly due to project-related grading, thereby increasing the amount of impermeable surfaces. However, all future development would be required to incorporate adequate drainage that would transport runoff to local catch basins and nearby storm channels and comply with the policies and policy actions of the updated 2010 General Plan Community Facilities and Infrastructure Element (and Community Safety Element which would protect community members from potential harm cause by drainage and flooding. This issue will not be further discussed in the EIR.

iv) Impede or redirect flood flows?

No Impact. The proposed project is located within Flood Zone X, which is an area with reduced flood risk due to levee (FEMA 2023). There are no courses of a stream or river that run through the city. Thus, construction and operation of the proposed project would not impede or redirect flood flow. Therefore, no impact would occur, and no further analysis is required in the EIR.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to water storage facilities because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. The closest dam in the region is the Whittier Narrows Dam approximately 16 miles north of Artesia. According to the General Plan, the City is located within an inundation zone associated with the Whittier Narrows Dam. However, the City is already buildout and proposed land uses, and development would be largely similar to existing uses. Therefore, the land uses associated with the proposed project would not increase the potential for release of pollutants in the unlikely event of inundation associated with failure of the Dam. Additionally, the city is in Zone X, which is an area with reduced flood risk due to levees (FEMA 2023).

There are no significant bodies of water in the city limits; therefore, Artesia is not subject to seiche. It is not subject to tsunamis because it is not in a coastal area, and the Department of Conservation's Tsunami Hazard

Area Map indicates that Artesia is outside the tsunami hazard area (DOC 2023). Therefore, no impact would occur, and no further analysis is required in the EIR.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Potentially Significant Impact. The proposed project would comply with all federal, State, and local regulations. The proposed project would be subject to AMC Title 6, Chapter 7, Storm Water Management and Discharge Control, and NPDES requirements. Prior to issuance of any grading permit, all future developments are required to prepare a water quality management plan (WQMP) and a SWPPP that includes BMPs. However, development in accordance to the proposed project would increase demand for water. Compliance with all federal, State, and local regulations would reduce the impacts to less than significant. Therefore, this issue will not be further discussed in the EIR.

3.11 LAND USE AND PLANNING

Would the project:

a) Physically divide an established community?

No Impact. The proposed project would establish zoning districts, development standards, and implementation actions associated with land use, mobility, and infrastructure to facilitate new development and growth within the city's downtown area. The proposed project would encourage uses that are compatible with existing uses and would not divide an established community. The project area has a mix of primarily residential and commercial uses with a small portion of the project area being used for industrial or other facilities. Proposed land use changes would not physically divide existing communities. Therefore, no impact would occur, and no further analysis is required in the EIR.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact. The proposed project would establish zoning districts, development standards, and implementation actions associated with land use, mobility, and infrastructure to facilitate new development and growth in the city's downtown area. The proposed project would be required to remain consistent with the City's general plan and implement relevant goals and policies of applicable plans and regulations. This issue will be further discussed in the EIR.

3.12 MINERAL RESOURCES

Would the project:

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No Impact. According to the Department of Conservation Mineral Land Classification maps, the project site is within a Mineral Resource Zone classified MRZ-1, which is an area where adequate information indicates that no significant mineral deposits are present (DOC 2023). The project site is in a highly urbanized area and there are no active, dry, or plugged wells in the project site or immediate vicinity, nor are there any planned oil extraction activities within the project site. No oil fields or other mineral resources exist on the project site. Therefore, no impact would occur, and no further analysis is required in the EIR.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. As discussed above, the project site is classified MRZ-1, which indicates that there are no significant mineral deposits present (DOC 2023). The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general land, specific plan, or other land use plan. Therefore, no impact would occur, and no further analysis is required in the EIR.

3.13 NOISE

Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Impact. Noise that exceeds adopted thresholds may be generated during construction and operation of future development facilitated by the proposed project. The EIR will address potential noise impacts associated with the proposed project.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Potentially Significant Impact. Noise that exceeds adopted thresholds may be generated during construction of future development facilitated by the proposed project. Thus, the proposed project has the potential to result in adverse impacts associated with groundborne noise or vibration. This issue will be further discussed in the EIR.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. Artesia is not in an airport land use plan, and no public airports are within two miles of the city. The nearest public airport to the project area is the Long Beach Airport, approximately 6 miles southwest of the city. The nearest airfield, the Los Alamitos Army Airfield, is approximately 9 miles south of the city. The project limits are not within the 65 dBA CNEL noise contour of either the Long Beach Airport or the Los Alamitos Army Airfield. The proposed project would not introduce new public airports or private airstrips in the City; no impact would occur. No further analysis would be required in the EIR.

3.14 POPULATION AND HOUSING

Would the project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Potentially Significant Impact. The proposed project is the adoption and implementation of a new Specific Plan and associated zoning map and general plan amendments. The project area has a mix of primarily residential and commercial uses. Associated zoning updates may result in more housing opportunities, which may lead to a growth in population. This issue will be further discussed in the EIR.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Specific Plan does not propose any policies that are intended to or that would indirectly result in displacement or demolition of any permanent or temporary residential structures. Associated zoning and general plan updates would result in more housing opportunities in the planning area. Therefore, no impact would occur, and this issue will not be further discussed in the EIR.

3.15 PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection?

Potentially Significant Impact. Fire protection services in Artesia are provided through the Los Angeles County Fire Department (LACFD). Two fire stations provide services to the city; Fire Station #30 is at 19030 Pioneer Boulevard in Cerritos to the south, and Fire Station #115 is at 11317 Alondra Boulevard in Norwalk to the north. The land use changes associated with the proposed project would result in an increase in residential

and commercial uses in the project area, which would increase demand for fire protection services. This issue will be further discussed in the EIR.

b) Police protection?

Potentially Significant Impact. Police protection services to Artesia are provided under contract with the County of Los Angeles Sheriff's Department. The city is served by the Lakewood Sheriff's Station at 5130 Clark Avenue in the city of Lakewood. The Lakewood Station provides general and specialized community-oriented law enforcement services in contract with the cities of Artesia, Bellflower, Hawaiian Gardens, Lakewood, and Paramount. The land use changes associated with the proposed project would result in an increase in residential and commercial uses in the project area, which would increase demand for police services. This issue will be further discussed in the EIR.

c) Schools?

Potentially Significant Impact. Artesia is served by the ABC Unified School District (ABCUSD). The proposed project would increase residential and commercial uses as buildout of the proposed project occurs, and thus would potentially increase students in the ABCUSD. Typically, the demand for schools is created by new housing development or activities that generate additional population. Therefore, the increase in students and impacts to school facilities will be further discussed in the EIR.

d) Parks?

Potentially Significant Impact. The potential for population growth associated with zoning updates could incrementally increase the use of existing parks and/or recreational facilities. Artesia is largely built out, with little available vacant land for parkland dedication and conversion. The EIR will further evaluate the potential significant impact associated with parks and recreational facilities.

e) Other public facilities?

Potentially Significant Impact. Los Angeles County Library is responsible for maintenance and library improvements to meet future library service demands. The Artesia Library is the main library that serves the city at 18801 Elaine Avenue. The EIR will further evaluate the proposed project's potential to result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities.

3.16 RECREATION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?

Potentially Significant Impact. The potential for population growth associated with zoning updates could incrementally increase the use of existing parks and/or recreational facilities. Artesia is largely built out, with little available vacant land for parkland dedication and conversion. The EIR will further evaluate the potential significant impact associated with parks and the potential need for the expansion of recreational facilities.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Potentially Significant Impact. The potential for population growth associated with land use and zoning updates could incrementally increase the use of existing parks and /or recreational facilities. Artesia is largely built out with little available vacant land for parkland dedication and conversion. The EIR will further evaluate the potential significant impact associated with parks and the potential need for the expansion of recreational facilities, which might have an adverse physical impact on the environment.

3.17 TRANSPORTATION

Would the project:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Potentially Significant Impact. The proposed land use changes associated with the project would increase pedestrian, bicyclist, and vehicle traffic in the project area. The EIR will further evaluate whether this increase would conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

Potentially Significant Impact. The proposed land use changes, and thus future growth and development, associated with the proposed project may increase the vehicle miles traveled (VMT) over existing conditions. Therefore, the EIR will further evaluate the project's VMT for consistency with State CEQA Guidelines Section 5064.3(b).

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Potentially Significant Impact. The proposed project is the adoption and implementation of a new Specific Plan and associated zoning map and general plan amendments that would work to achieve safe pedestrian and vehicular access. The EIR will further evaluate the project's design features for hazards and evaluate the project's use for incompatibility.

d) Result in inadequate emergency access?

Potentially Significant Impact. The project site is in an urbanized downtown area where adequate circulation and access is provided to facilitate emergency response. The Artesia Emergency Operations Plan outlines emergency response actions in the event of a large-scale disaster, such as a hazardous materials emergency. Access and circulation features for future development would need to accommodate emergency ingress and egress by fire trucks, police units, and ambulance vehicles. Emergency site access will be reviewed in the EIR.

3.18 TRIBAL CULTURAL RESOURCES

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Potentially Significant Impact. The potential for tribal cultural resources to be unearthed during ground-distributing activities associated with future development pursuant to the proposed project will be addressed. The City will initiate consultation with California Native American Tribes pursuant to SB 18 and AB 52, and the results of tribal consultation will be further discussed in the EIR.

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Potentially Significant Impact. The potential for tribal cultural resources to be unearthed during ground-distributing activities associated with future development pursuant to the proposed project will be analyzed. The City will initiate consultation with California Native American Tribes pursuant to AB 52 and SB 18, and the results of tribal consultation will be further discussed in the EIR.

3.19 UTILITIES AND SERVICE SYSTEMS

Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Potentially Significant Impact. Future buildout and population growth in the project site pursuant to the proposed project would increase demand for utilities, potentially resulting in adverse impacts to utilities and service systems. Wastewater treatment and storm drainage are provided and under the management of the Golden State Water Company. Natural Gas is provided by SoCalGas, and electricity service is provided by Southern California Edison. The land use changes associated with the proposed project would result in an increase in residential and commercial uses in the project area, which would increase demand for utility services. The EIR will further evaluate these potential impacts.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Potentially Significant Impact. The City's potable water needs are served by the Golden State Water Company. The 2020 Urban Water Management Plan discussed the reliability of supply for the Artesia System and estimated that water supply projects will meet demand through 2045. The project would increase water demands in the project site. The EIR will further evaluate these potential impacts.

c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Potentially Significant Impact. Future development facilitated by the proposed project would increase utility usage and wastewater generation within the downtown area, potentially resulting in the need to relocate or construct new utility facilities. The EIR will further evaluate these potential impacts.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Potentially Significant Impact. CR&R Incorporated provides solid waste and recycling services for the city. Future development facilitated by the proposed project must comply with the City's Source Reduction and Recycling Element (SRRE) program and divert solid waste to meet the State diversion goals of AB 939 as well as State and county waste reduction programs and policies to reduce the volume of solid waste entering landfills (Artesia 2010). The City of Artesia also implemented source-separated collection in order to comply with the Senate Bill (SB) 1383, which requires all cities to implement an Organic Waste Recycling Program for its residents in order to divert food waste from being sent to landfills. Review of future projects will continue to be carried out to ensure that the projects are consistent with all general plan policies and policy actions and the SRRE program. The project would increase utility usage and demands in the project site, potentially resulting in the need to relocate or construct new utility facilities, insufficient water supplies, a determination by the wastewater provider of insufficient capacity, or excessive waste. The EIR will further evaluate these potential impacts.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Potentially Significant Impact. Future development pursuant to the proposed project would increase utility usage and demands within the project site, potentially resulting in the need to relocate or construct new utility facilities, insufficient water supplies, a determination by the wastewater provider of insufficient capacity, or excessive waste. All future development must be compliant with federal, state, and local management regulations. The EIR will further evaluate these potential impacts.

3.20 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. Wildland fire protection in California is the responsibility of either the local government, state, or the federal government. State responsibility areas (SRA) are areas where the State of California has the primary fiscal responsibility for the prevention and suppression of wildland fires. The city of Artesia does not contain moderate, high, or very high fire hazard severity zones. The project site is not in or adjacent to lands classified as high FHSZ. The nearest SRA is a very high FHSZ approximately 15 miles east of the project site (CALFIRE 2023). Therefore, no impact would occur. No further analysis is required in the EIR.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. The project site is highly developed in an urbanized area and not in or adjacent to a high FHSZ or an SRA. The project site and surrounding area are generally flat. There is no wildland susceptible to wildfire on or near the site. Therefore, no impact would occur, and no further analysis is required in the EIR.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. The project site is not in or near an SRA or lands classified as high FHSZ. The proposed project is in an urbanized area and would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk. Therefore, no impact would occur, and no further analysis is required in the EIR.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The project site is not in or near a high FHSZ or an SRA. The proposed project would not expose people or structures to significant risk due to post-wildfire slope or drainage changes, and no impact would occur. No further analysis is required in the EIR.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially

reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Potentially Significant Impact. As discussed in Section 3.4, *Biological Resources*, the proposed project would not have the potential to substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. Impacts to cultural resource impacts will be further analyzed in the EIR.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Potentially Significant Impact. Implementation of the proposed project could result in cumulative impacts to aesthetics, air quality, cultural resources, energy, geology and soils, GHG emissions, hazards and hazardous materials, land use and planning, noise, population and housing, public services, recreation, transportation, tribal cultural resources, and utilities and service systems. Cumulative impacts of these resources will be further analyzed in the EIR.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact. As discussed in this Initial Study, the proposed project could potentially have harmful effects on the environment, which could affect humans directly or indirectly. Impacts would be potentially significant, and these issues will be discussed in the EIR.

3. Environmental Analysis

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4. References

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United States Fish and Wildlife Service (USFWS). 2023. National Wetland Inventory. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.

5. List of Preparers

LEAD AGENCY: CITY OF ARTESIA

Peter Kann, Planning Manager

Karen Lee, Special Projects Manager

PLACEWORKS

Addie Farrell, Principal

Jennifer Kelley, Senior Associate

Itzeel Padilla, Planner

Cary Nakama, Graphics Specialist

5. List of Preparers

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"Service Builds Tomorrow's Progress"

THE CITY OF ARTESIA, CALIFORNIA

18747 CLARKDALE AVENUE, ARTESIA, CALIFORNIA 90701
Telephone 562 / 865-6262
FAX 562 / 865-6240

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT AND NOTICE OF PUBLIC SCOPING MEETING FOR THE ARTESIA DOWNTOWN SPECIFIC PLAN

ATTENTION:	Agencies, Organizations, and Interested Parties
DATE:	February 27, 2024
SUBJECT:	Notice of Preparation of a Draft Environmental Impact Report, and Notice of Public Scoping Meeting
PROJECT NAME:	Artesia Downtown Specific Plan
PROJECT No:	Project No. 2024-06
CEQA LEAD AGENCY:	City of Artesia
MEETING LOCATION:	March 4, 2024 at 6:00 P.M. to 7:00 P.M. Albert O. Little Community Center 18750 Clarkdale Avenue Artesia, CA 90701

The City of Artesia (City) intends to prepare a Draft Environmental Impact Report (EIR) for the proposed Artesia Downtown Specific Plan (Specific Plan area or project site). In accordance with State California Environmental Quality Act (CEQA) Guidelines Section 15082, the City has prepared this Notice of Preparation to provide the public, nearby residents and property owners, responsible and trustee agencies, and other interested parties with information describing the proposed project and its potential environmental effects.

The Draft EIR will be prepared by outside consultants under the supervision of the City of Artesia Planning Department. The City requests your written comments as to the Draft EIR's scope and content, including mitigation measures to avoid/reduce the proposed project's potential environmental impacts. Comments must be submitted in writing according to directions below. If you represent a public agency, the City seeks written comments as to the scope and content of the environmental information in the Draft EIR.

A Public Scoping Meeting will be held to receive input as to what environmental topics the Draft EIR should study. No decisions about the proposed project are made at the Public Scoping Meeting. Additional proposed project details, meeting information, and instructions for public comment submittal are provided below.

PROJECT LOCATION: The Downtown Artesia Specific Plan area (Specific Plan area or project site) is in an urbanized area in the City of Artesia, Los Angeles County. The City is 19 miles southeast of Downtown Los Angeles; it shares its eastern, southern, and western boundaries with the City of Cerritos and its northern boundary with the City of Norwalk. The project site encompasses the blocks adjoining Pioneer Boulevard to the southeast and ending at 180th Street to the north. The northern portion of the project site

(north of the Southeast Gateway Line) is bounded by Alburtis Avenue and Corby Avenues to the west, 180th Street to the north, Arline Avenue to the east, and 188th Street to the south. The project site extends south of the Southeast Gateway Line to the future Pioneer Boulevard Light Rail Station and includes the area between 188th Street and the La Belle Chateau Mobile Home Park, and Pioneer Boulevard on the east and Jersey Avenue on the west. The nearest freeway providing regional access to the project area is State Route (SR-) 91, a multilane freeway that divides the northern end of the city. See Figure 1, *Location Map*.

PROJECT DESCRIPTION: The Artesia Downtown Specific Plan (proposed project) would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district as the city prepares for the planned expansion of a new Metro light rail line (referred to as the Southeast Gateway Line Branch) that would connect southeastern Los Angeles County communities, including Artesia, to Downtown Los Angeles. The new Metro light rail line extension is anticipated to connect to Pioneer Boulevard in 2035.

While there are no specific development projects proposed at this time, the Artesia Downtown Plan will establish goals and objectives, development standards, and implementation actions associated with land use, mobility, and infrastructure, and establishes a transit-oriented plan that would provide new opportunities for housing, retail/commercial, and entertainment uses. The proposed project would establish the necessary plans, development standards, regulations, infrastructure requirements, and implementation programs on which subsequent project-related development activities in the Specific Plan area would be based. Below is a discussion of each component of the proposed project.

Land Use Plan

As shown in Figure 2, *Proposed Zoning Districts*, the land use plan divides the project site into six zoning districts. These distinct zoning districts would allow for a range of land uses and density within a defined building envelope. The zones would also implement the City's urban design objectives for each part of the project site to establish and maintain attractive distinctions between each zone. The six zoning districts include:

- **Downtown North.** The Downtown North District would become the northern gateway and anchor to downtown Artesia. This district would allow for higher density mixed-use development at 65 dwelling units per acre (du/ac) or 75 du/ac with a density bonus. The southwest corner of this district would encompass approximately 5.5 acres and would allow 4- to 5-story mixed-use development and 2- and 3-story townhomes. Where the City owns property at the northwest corner of 183rd Street and Pioneer Boulevard, a public private partnership is encouraged to develop a parking structure with ground-floor retail uses as well as potentially civic and/or community uses. The parking structure would serve visitors, residents, and employees as they travel to and from downtown Artesia and SR-91 to the north.

- **Pioneer Boulevard.** The Pioneer Boulevard District would front Pioneer Boulevard north of the future Metro transit station and is in the center of downtown Artesia. This area is currently known as "Little India" and is composed of narrow parcels with a continuous street frontage of 1-story commercial establishments such as restaurants, markets, and jewelry shops. Although significant new development is not expected in this district, the district would allow for 3-story buildings at 50 du/ac or 60 du/ac with a density bonus.

- **Downtown Neighborhood**. The Downtown Neighborhood District would be in the residential west and east edges of the Downtown area along Corby Avenue and Arline Avenue. The downtown neighborhood would retain its residential character at 40 du/ac.

- **188th Street / Corby Avenue.** The 188th/Corby District would be south of the future Metro station and presently includes residential and light industrial uses. This district would allow for residential uses such as duplex, triplex, and townhomes at 65 du/ac as well as limited commercial office and retail uses.

- **Downtown South.** The Downtown South District would become the southern gateway to downtown Artesia and the city. The district would allow 4- to 6-story mixed-use development at 75 du/ac or 85 du/ac with a density bonus and incorporate land uses such as ground-floor retail, a hotel, townhomes, and neighborhood parks for residents and visitors. A Metro parking structure is planned in the South Street Mixed District just south of the transit station.

- **Chateau Estates.** The Le Belle Chateau Estates Mobile Home Park District sits at the southern edge of the project site. The mobile home park use would be maintained.

Development Standards

The proposed project would establish development standards related to the physical form and design of both new and renovated buildings and properties in the project site. Development standards would include requirements for site planning (i.e., setbacks from public rights-of-way and other structures), open space and landscaping standard, building mass, scale, and maximum heights, materials and finishes, parking and loading, and frontage design standards.

Mobility and Infrastructure

The proposed project would provide information related to existing mobility and public infrastructure systems in the Downtown Specific Plan area. The mobility chapter would provide a discussion on existing conditions and connections for transit, automobiles, pedestrians, and cyclists, and provide a summary of the mobility network including road classification and improvements. The infrastructure chapter would discuss existing hydrology and water quality, water providers and distribution, sewer, and wastewater. The proposed project would provide a summary of the necessary or required improvements associated with future development.

Implementation Actions

The goals and objectives of the proposed project would be implemented through a number of documents, policies, and programs. The proposed project would establish the implementation process associated with the Specific Plan.

Incentives and Bonuses

A bonus system would be implemented as part of the proposed project to allow for additional height or floor area for qualified projects. Bonuses would be granted to projects that provide additional public benefits, such as open space, reuse of existing buildings, affordable housing, or supportive commercial or retail space.

POTENTIAL ENVIRONMENTAL EFFECTS:

The EIR will analyze the following environmental topics in comprehensive detail:

- ✓ Aesthetics
- ✓ Air Quality
- ✓ Cultural Resources
- ✓ Energy
- ✓ Geology and Soils
- ✓ Greenhouse Gas Emissions
- ✓ Hydrology/Water Quality
- ✓ Land Use and Planning
- ✓ Noise
- ✓ Population and Housing
- ✓ Public Services
- ✓ Recreation
- ✓ Transportation
- ✓ Utilities and Service Systems
- ✓ Tribal Cultural Resources

PUBLIC SCOPING MEETING

As a part of the NOP process, the City will conduct a public Scoping Meeting to present the proposed project and environmental process and to receive public comments and suggestions regarding the proposed project. All interested parties are invited to attend the scoping meeting to assist in identifying issues to be addressed in the Draft EIR. The Scoping Meeting will involve a presentation about the proposed project, the environmental review process, and schedule.

Written comments may be submitted, but there will be no verbal comments or public testimony taken at the Public Scoping Meeting. Furthermore, no decisions about the Project will be made at the Public Scoping Meeting. The date, time, and location of the Public Scoping Meeting are as follows:

Date: March 4, 2024
Time: 6:00 P.M. to 7:00 P.M
Location: Albert O. Little Community Center
18750 Clarkdale Avenue
Artesia, CA 90701

FILE REVIEW AND COMMENTS

The Initial Study is available for public review and download at: https://cityofartesia.us/522/Artesia-Downtown-Specific-Plan

Copies of the Initial Study are also available for public review at the following locations:

- Artesia City Hall, Planning Department, 18747 Clarkdale Avenue, Artesia, CA 90701
- Artesia Public Library, 18801 Elaine Avenue, CA 90701

Please contact the City of Artesia Staff Planner, listed below, if you are having issues accessing the Initial Study document.

SUBMITTAL OF WRITTEN COMMENTS

The City solicits comments regarding the scope, content and specificity of the Draft EIR from all interested parties, responsible agencies, agencies with jurisdiction by law, trustee agencies, and involved agencies. The City will consider all written comments regarding the Project's potential environmental impacts and issues to be addressed in the Draft EIR.

Please submit all comments in writing so they are received no later than March 27, 2024, 5:00 P.M.

Please direct your comments to:

E-mail: planning@cityofartesia.us

THE CITY OF ARTESIA, CALIFORNIA

18747 CLARKDALE AVENUE, ARTESIA, CALIFORNIA 90701
Telephone 562 / 865-6262
FAX 562 / 865-6240

"Service Builds Tomorrow's Progress"

Mail: City of Artesia
Planning Department
ATTN: Peter Kann, Planning Manager
Community Development
18747 Clarkdale Avenue
Artesia, California 90701

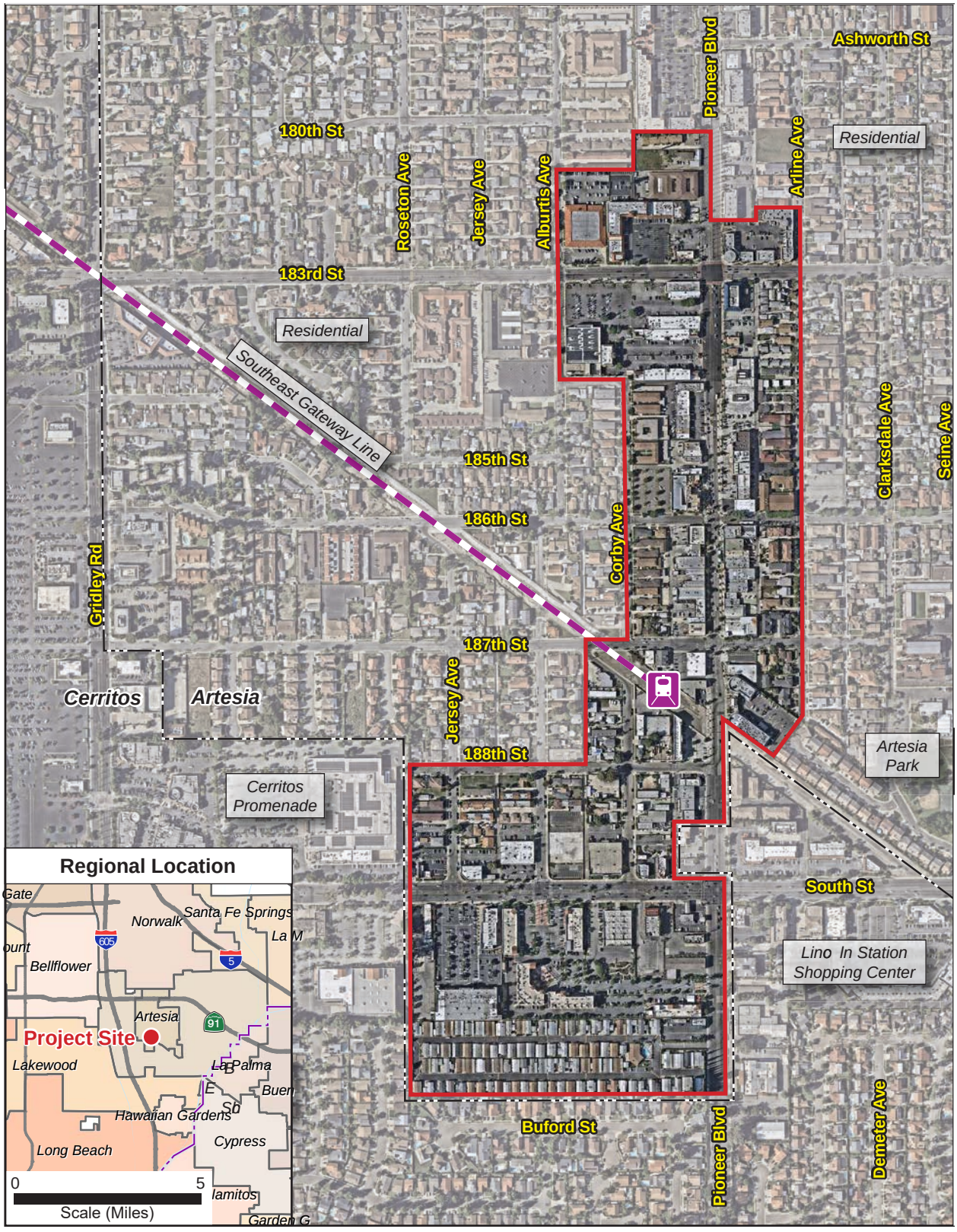
THE CITY REQUESTS THAT ALL WRITTEN COMMENTS BE SUBMITTED ELECTRONICLLY VIA EMAIL. WRITTEN COMMENTS WILL ALSO BE ACCEPTED VIA MAIL, AND AT THE PUBLIC SCOPING MEETING.

In accordance with State CEQA Guidelines Section 15082, this Notice of Preparation is being circulated for a 30-day comment period. The City of Artesia requests that written comments be provided at the earliest possible date, but no later than 5:00 P.M. on March 27, 2024.

Peter Kann, Planning Manager
Community Development
18747 Clarkdale Avenue
Artesia, California 90701
Tel: (562) 865-6262
Email: PKann@cityofartesia.us

Attachments:
Figure 1, *Location Map*
Figure 2, *Proposed Zoning Districts.*

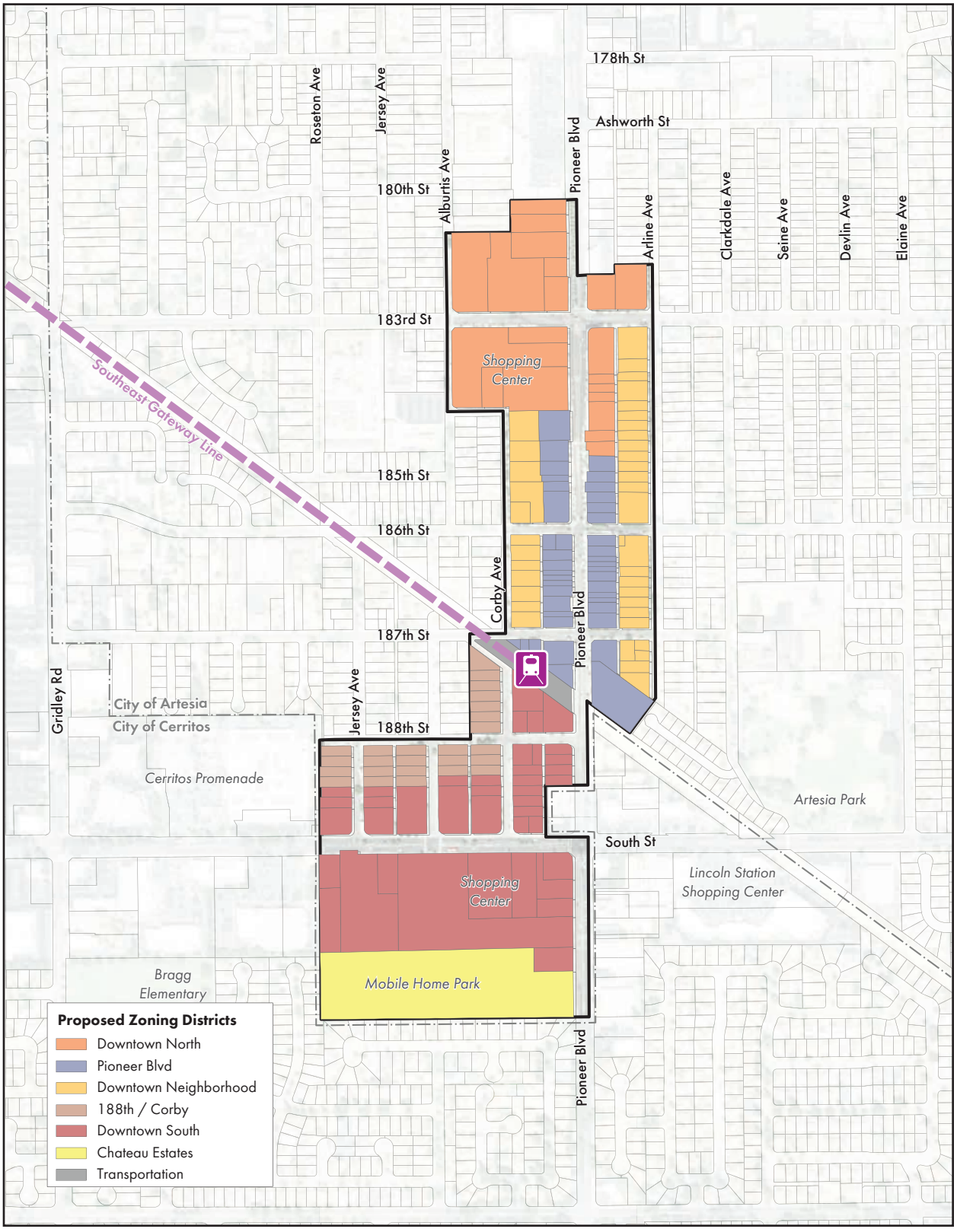
Figure 1 - Project Location Map



Source: Generated using ArcMap 2023.

PlaceWorks

Figure 2 - Proposed Zoning Districts



Source: Generated using ArcMap 2023.

PlaceWorks

CITY OF CERRITOS℠
CIVIC CENTER · 18125 BLOOMFIELD AVENUE
P.O. BOX 3130 · CERRITOS, CALIFORNIA 90703-3130
PHONE: (562) 860-0311 · CERRITOS.US

March 12, 2024

City of Artesia
Planning Department
18747 Clarkdale Avenue
Artesia, CA 90701
Via email: planning@cityofartesia.us

Subject: **CITY OF CERRITOS COMMENT LETTER – NOTICE OF PREPARATION (NOP) OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR A PROPOSED ARTESIA DOWNTOWN SPECIFIC PLAN**

Dear Mr. Kann:

Thank you for informing the City of Cerritos about the City of Artesia's preparation of a Draft Environmental Impact Report (EIR) for a proposed Artesia Downtown Specific Plan ("Project"), and the opportunity to review preliminary project information. The City of Cerritos hereby submits this letter in response to the City of Artesia's Notice of Preparation (NOP) of a Draft EIR for the Project, which proposes to establish new land use, zoning, and development standards in the City of Artesia's Downtown district, in advance Metro's development of the new Southeast Gateway Line, with terminus station in the City of Artesia. As described in the NOP, the proposed Project would establish a transit-oriented development plan, providing new opportunities for housing, retail/commercial, and entertainment uses. The proposed Project would establish a specific plan, development standards, regulations, infrastructure requirements, and implementation programs for future development activities within the Project area.

Due to the Project's proximity to the City of Cerritos, the City of Cerritos hereby requests that, in preparing the draft EIR and new development standards applicable to the Project area, that the City of Artesia specifically ensure that any potential impacts to City of Cerritos properties as a result of any established development standards be appropriately addressed and/or mitigated, including potential impacts to privacy, aesthetics, vehicular circulation, noise, design/building intensity, and parking. In addition, the City of Cerritos requests a copy of any future notices related to the Project, including future entitlement review projects for physical development within the Project area, in conformance with any newly established development standards. Should you wish to meet with City of Cerritos representatives to discuss potential impacts, the City welcomes the opportunity to work closely to ensure that appropriate mitigation measures are implemented.

The City of Cerritos looks forward to the future development of properties within the City of Artesia, in a manner which complements and supports the existing and surrounding communities and land uses, and looks forward to reviewing the draft EIR for the Project in the near future. Your thoughtful consideration of the matters contained herein is greatly appreciated.

Sincerely,

Kristin Aguila
Director of Community Development

cc Robert A. Lopez, City Manager
Sandy Cisneros, Current Planning Manager
Sabrina Chan, Advance Planning Manager
Peter Kann, Planning Manager, City of Artesia *(via email pkann@cityofartesia.us)*

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Making Conservation a California Way of Life

March 18, 2024

Governor's Office of Planning & Research

March 18 2024

STATE CLEARINGHOUSE

Peter Kann, Planning Manager
City of Artesia, Planning Department
18747 Clarkdale Avenue
Artesia, California 90701

RE: Artesia Downtown Specific Plan – Notice of Preparation (NOP)
SCH #2024020999
GTS #07-LA-2024-04467
Vic. LA 91 PM 18.09
LA 605 PM 03.76

Dear Peter Kann,

Thank you for including the California Department of Transportation (Caltrans) in the review process for the above referenced project. The Artesia Downtown Specific Plan (proposed project) would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district as the city prepares for the planned expansion of a new Metro light rail line (referred to as the Southeast Gateway Line Branch) that would connect southeastern Los Angeles County communities, including Artesia, to Downtown Los Angeles. The new Metro light rail line extension is anticipated to connect to Pioneer Boulevard in 2035. While there are no specific development projects proposed at this time, the Artesia Downtown Plan will establish goals and objectives, development standards, and implementation actions associated with land use, mobility, and infrastructure, and establishes a transit-oriented plan that would provide new opportunities for housing, retail/commercial, and entertainment uses. The proposed project would establish the necessary plans, development standards, regulations, infrastructure requirements, and implementation programs on which subsequent project-related development activities in the Specific Plan area would be based.

After reviewing the NOP, Caltrans has the following comments:

The scope and nature of the Artesia Downtown Specific Plan provides a valuable opportunity to apply proven policies that improve walkability, reduce automobile

dependance, and provide a path to housing affordability. Caltrans recommends the following:

- Eliminate car parking requirements. Research looking at the relationship between land-use, parking, and transportation indicates that the amount of car parking supplied can undermine a city's ability to encourage public transit and active modes of transportation. The city should instead use this valuable space as an opportunity to build residential, commercial, and office uses in close proximity, thus increasing accessibility and allowing residents to utilize both transit and active modes to meet their everyday transportation needs. To reduce vehicle miles traveled, we recommend eliminating car parking requirements, or even implementing parking maximums, as alternatives to building an unnecessary amount of parking.

- Prepare for adaptive reuse. Consider adopting Form-Based Codes (FBC) as an alternative to separating uses. FBCs allow for a community's vision to be created and maintained through form, mass, and streetscape requirements, while allowing tremendous flexibility for adaptive reuse into the future. This reduces wasteful demolition of single-use developments and improves the public realm for residents and visitors alike.

- Connect to transit infrastructure. As mentioned in the NOP, Artesia's Downtown Plan area will have a forthcoming Metro Southeast Gateway Line station as a high-quality connection to local and regional transit. Investments should be made to connect all areas of the Plan area to this robust existing network of transit stops and stations. Streetscape and transit stop investments can dramatically improve walkability and encourage transit use.

- Protect vulnerable road users. The most effective methods to reduce pedestrian and bicyclist exposure to vehicles is through physical design and geometrics. These methods include the construction of physically separated facilities such as Class IV bike lanes, wide sidewalks, pedestrian refuge islands, landscaping, street furniture, and reductions in crossing distances through roadway narrowing.

In addition to the above recommendations, Caltrans looks forward to reviewing the DEIR's Transportation Impact Analysis including, but not limited to, the following:

1. A robust VMT Analysis.

2. Multi-Modal (Pedestrians, Bicyclists, Transit, Trucks, Cars etc) Conflict Analysis at all locations within the general plan that interact with Caltrans ROW, and specifically identify the physically protective infrastructure needed for people walking, riding bikes, and using transit.

3. Mitigation measures that include:
    a) Reducing car infrastructure and parking.
    b) Enhancing bicycle and pedestrian infrastructure.
    c) Enhancing transit infrastructure.
    d) Transportation Demand Management (TDM) measures.
    e) Transportation System Management (TSM) investments.

Caltrans looks forward to reviewing the DEIR that should demonstrate how planned development patterns align with adopted VMT policies. Caltrans supports collaboration with local agencies to work towards a safe, functional, interconnected, multi-modal transportation network integrated through efficient and equitable land use planning and policies. If you have any questions, please contact project coordinator Anthony Higgins, at anthony.higgins@dot.ca.gov and refer to GTS #07-LA-2024-04467.

Sincerely,

Miya Edmonson

Miya Edmonson
LDR/CEQA Branch Chief

Cc: State Clearinghouse

NATIVE AMERICAN HERITAGE COMMISSION

February 27, 2024

Peter Kann
City of Artesia
18747 Clarkdale Ave
Artesia CA 90701

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Re: 2024020999, Artesia Downtown Specific Plan Project, Los Angeles County

Dear Mr. Kann:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

a. A brief description of the project.

b. The lead agency contact information.

c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).

d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

a. Alternatives to the project.

b. Recommended mitigation measures.

c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

a. Type of environmental review necessary.

b. Significance of the tribal cultural resources.

c. Significance of the project's impacts on tribal cultural resources.

d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

a. Whether the proposed project has a significant impact on an identified tribal cultural resource.

b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe. (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@NAHC.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

COMMENT CARD Artesia Downtown Specific Plan Scoping Meeting
March 4, 2024 at 6:00 PM

Consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the following 20 environmental topics would be analyzed further in the Draft EIR:

- Aesthetics
- Agriculture/Forestry Resources*
- Air Quality
- Biological Resources*
- Cultural Resources
- Energy
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards/Hazardous Materials*
- Hydrology and Water Quality
- Land Use/Planning
- Mineral Resources*
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems
- Wildfire*

* *Topics to be addressed in Impacts Found not to be Significant section of EIR*

Please identify any comments or concerns you may have regarding the Artesia Downtown Specific Plan, including any additional environmental topic areas, potential mitigation measures, or project alternatives (please print):

Health, fiscal, and ecological impacts of various levels of multi-modal transit infrastructure options.

Health, fiscal, and developmental impacts of various levels of sound dampening building materials.

Health, heat island, water management, and air quality effects of (not) incorporating various street trees.

Health, fiscal, heat island, water management, and air quality effects resulting from (not) building parklets.

Health, tax base, and safety improvements of different levels of housing density.

Benefits of incorporating bioretention cells into the design of streetscaping to promote traffic calming.

Health, fiscal, transportation, air quality, aesthetics impacts of full pedestrianization of Pioneer Blvd.

Health, noise, fiscal, and emergency services impact of modal filters for low traffic neighbourhoods.

Aesthetics, air quality, population and housing, and fiscal impact of road diets.

Name: Lorelei Hellena Bailey

Address: 17716 Roseton Avenue Artesia, California 90701

Please return this comment card to Planning Manager Peter Kann at the end of the Scoping Meeting or fold in half, tape, and mail to the City of Artesia using the address provided (see reverse). Comments may also be submitted via email to planning@cityofartesia.us. **Comments must be submitted by March 27, 2024, at 5:00 p.m.**

Appendix B Buildout Scenarios Memo

Appendices

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Artesia Downtown Specific Plan
Buildout Scenarios Memo

The scenarios below identify a proposed project and three buildout strategies for the Artesia DTSP area. All scenarios include buildout calculations for the 53 parcels selected by the Redevelopment Opportunity Analysis.

Notes

- Total Units Proposed by Housing Element in the SP boundary: 1,783
    - Minimum density proposed by Housing Element: 40 du /acre
- Total Existing housing units: 314

Redevelopment Opportunity Analysis

The Artesia Downtown Specific Plan proposes six (6) new zones in the plan area:

- 188th/Corby
- Downtown South
- Pioneer Blvd
- Downtown North
- Downtown Neighborhood (housing only)
- Chateau Estates

These zones may allow for a range of residential density and FAR intensity. The total buildout for the Specific Plan area will depend on the maximum density and FAR permitted in each zone, as shown below, but is based on a selection of parcels considered to have the highest likelihood of redevelopment.

The process for identifying the selected parcels is as follows:

- A point-based opportunity score was given to all parcels in the Downtown Specific Plan boundary. The score ranged from 0, least probability for redevelopment, to 6, highest likelihood of redevelopment. Where 4-6 were considered the most likely to redevelop.
- The criteria for the opportunity score included the following indicators:

Development Opportunity Criteria	Points
Includes existing office, commercial, or vacant uses	1 point
Is a contiguous parcel with the same owner – *where parcels with the same owner received different scores, the higher score was given to all.*	1 point
Has a lot width greater than 200 ft	1 point
Ratio of assessed value of improvements to assessed value of the land is less than 1	1 point
Has a lot size greater than 20,000 sf and lot coverage below 40%	2 points
Max Development Opportunity Score – *Sum of Development Opportunity Criteria Points*	6 points

- Next, the parcels were grouped by Development Opportunity Score and assessed a second time based on location such as proximity to the rail station, or adjacent to housing, as well as consistency with surrounding uses and existing residential uses.
- Based on the second review, a percentage of parcels in each Development Opportunity Score group (0-6) were identified as those for redevelopment for the buildout assumptions.
- The percentage of parcels selected directly relates to the Development Opportunity Score and the second review, for example of all parcels which scored 0 on the Development Opportunity Score only 16% are considered to redevelop in the buildout assumptions below. Using Score 0 as a base, the percentage of parcels was approximately doubled for Score Groups 1-3 and then approximately Doubled again for Score Groups 4-6.
- The final percentage of parcels select, by Development Opportunity Score is:
    - Development Opportunity Score 0: 16%
    - Development Opportunity Score 1-3: 34%
    - Development Opportunity Score 4-5: 78%
- Therefore, the buildout scenarios below reflect redevelopment potential on the selected parcels as described above and shown in the maps below.

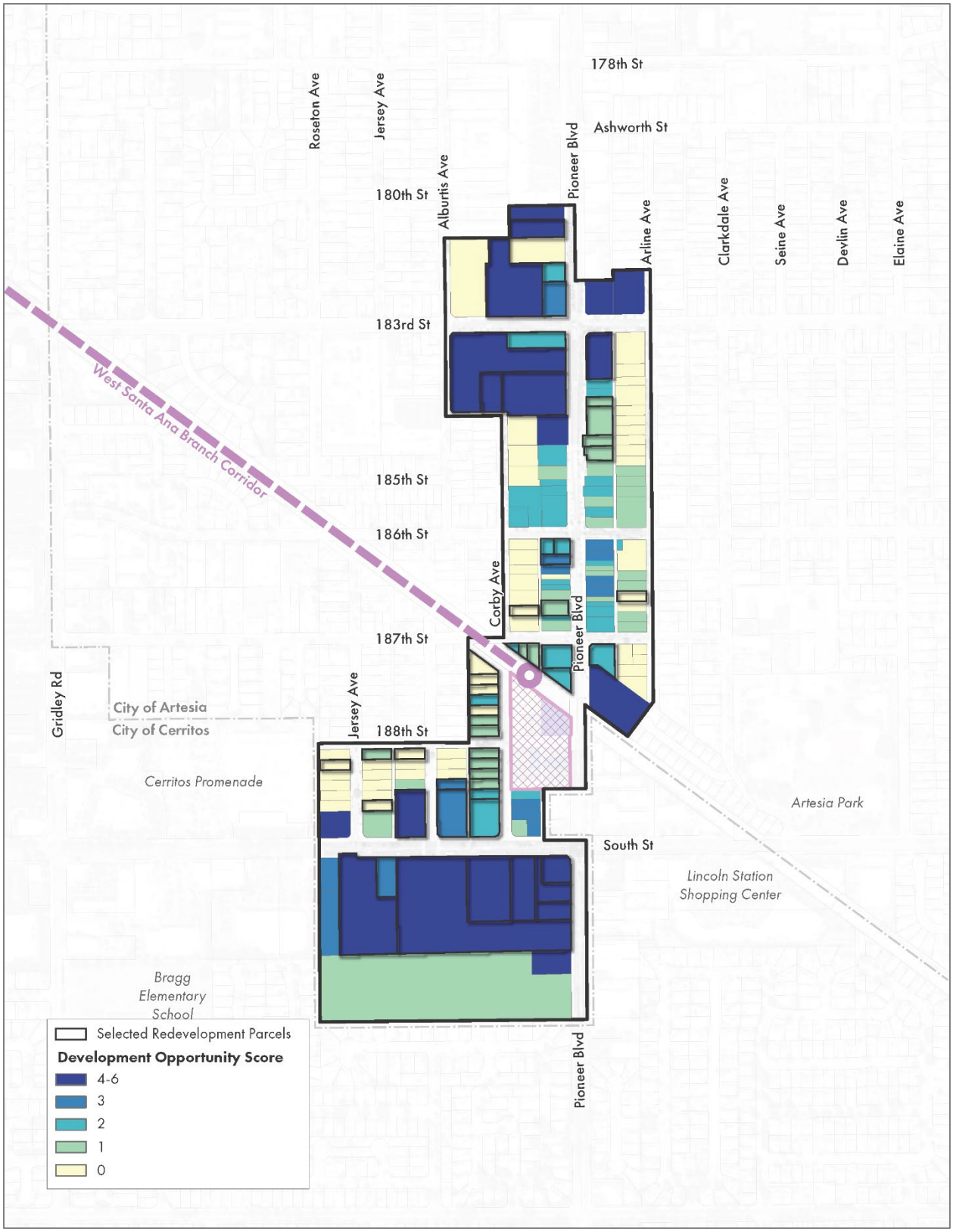

Figure 1: Opportunity Score on Parcels in the Artesia Downtown Specific Plan

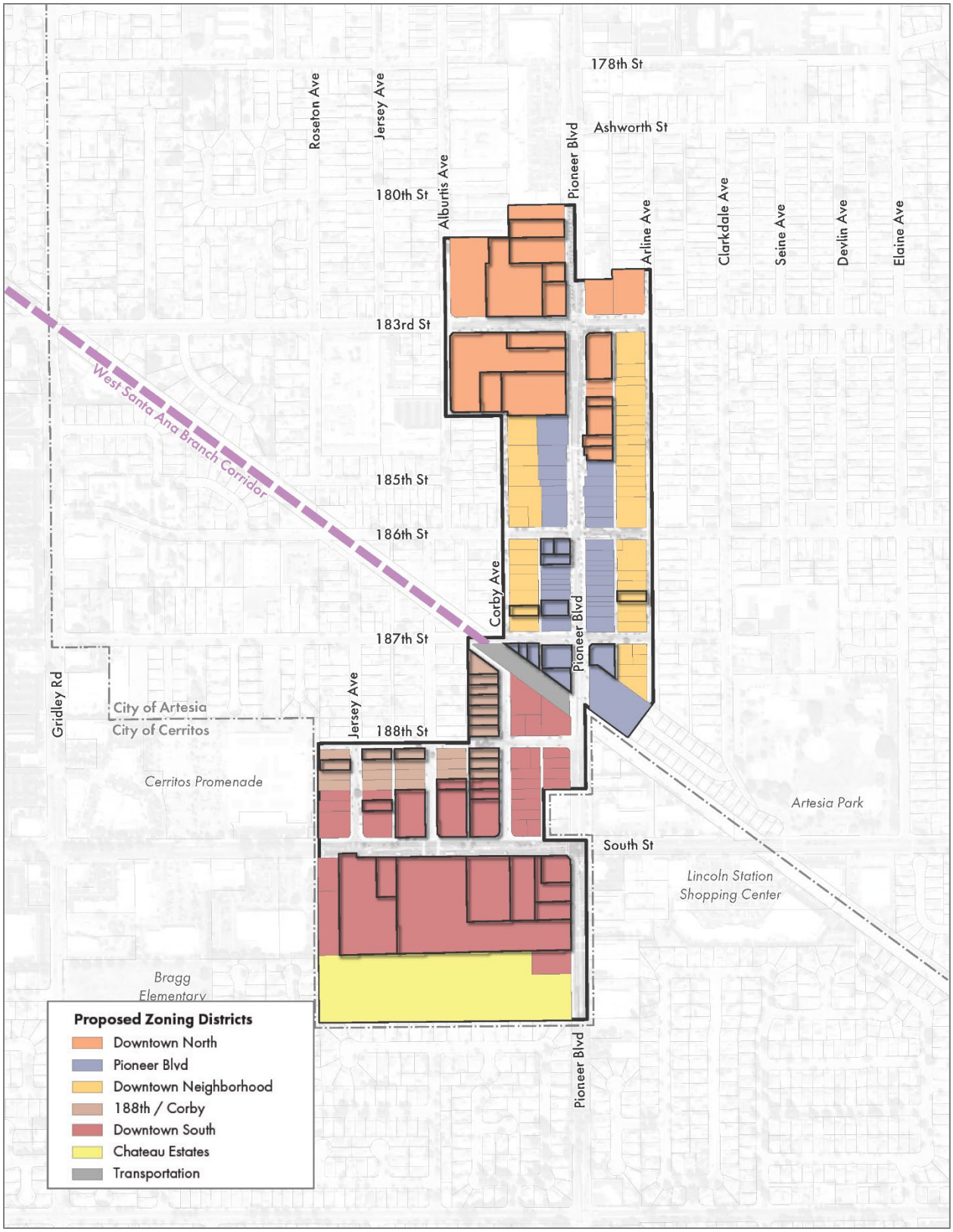

Figure 2: Proposed Zoning and Selected Redevelopment Parcels in the Artesia Downtown Specific Plan

Proposed CEQA Project: Redevelopment with Commercial Incentives Utilized (Density Bonus)

The proposed CEQA project includes estimates for full redevelopment of selected opportunity sites. In the Downtown South, Pioneer Boulevard and Downtown North Use zones, the buildout assumes that all new development on opportunity sites takes advantage of the **Downtown Density Bonus Program**, meaning all new development provides the necessary commercial uses (assumed at 20 percent of the land, assuming at least 2 stories) and therefore receives a density bonus to increase residential density.

- 188th/Corby: 65 du/acre
- Downtown South: 75 du/acre
  - *Density Bonus: 85 du/acre*
- Pioneer Blvd: 50 du/acre
  - *Density Bonus: 60 du/acre*
- Downtown North: 65 du/acre
  - *Density Bonus: 75 du/acre*
- Downtown Neighborhood (housing only): 40 du/acre
- Chateau Estates: Not included

Proposed Zone	Buildout of Units on Selected Sites[1]
188th/Corby	150
Downtown South	1,094
Pioneer Blvd	90
Downtown North	634
Downtown Neighborhood (housing only)	13
Chateau Estates	0
Commercial as Mixed Use[2]	502,936
Total Residential	**1,981**
Total Commercial	**502,919**

1. On sites where commercial uses are identified for 20% of the site, the residential units total the density x remaining acreage at 80%.
2. Commercial buildout assumes 20% of land at a minimum of 2 stories on selected sites in the South St. Mixed Use, Downtown North, and the Pioneer Blvd. Mixed Use zones.

Alternative A: Redevelopment at Reduced Commercial Incentives

Alternative A includes estimates for full redevelopment of selected sites. However, Alternative A assumes that in the proposed Downtown South, Pioneer Boulevard, and Downtown North Mixed-Use Districts, the development of commercial uses (at 20 percent of the land maximum) **would not utilize the Downtown Density Bonus Program** and therefore **would not receive a density bonus** to increase residential density.

- 188th/Corby: 65 du/acre
- Downtown South: 75 du/acre
- Pioneer Blvd: 50 du/acre
- Downtown North: 65 du/acre
- Downtown Neighborhood (housing only): 40 du/acre
- Chateau Estates: Not included

Proposed Zone	Buildout of Units on Selected Sites[1]
188th/Corby	150
Downtown South	967
Pioneer Blvd	74
Downtown North	550
Downtown Neighborhood (housing only)	13
Chateau Estates	0
Commercial as Mixed Use[2]	251,459
Total Residential	**1,754**
Total Commercial	**251,459**

1. On sites where commercial uses are identified for 20% of the site, the residential units total the density x remaining acreage at 80%.
2. Commercial buildout assumes a maximum of 20% of land on selected sites in the South St. Mixed Use, Downtown North, and the Pioneer Blvd. Mixed Use zones.

Alternative B: Redevelopment with No Commercial Incentives Utilized

Alternative B includes estimates for full redevelopment of selected sites at reduced densities from the proposed CEQA project. Alternative B also assumes that in the proposed Downtown South, Pioneer Boulevard, and Downtown North Mixed-Use Districts, the development of commercial uses (at 20 percent of the land maximum) **would not utilize the Downtown Density Bonus Program** and therefore **would not receive a density bonus** to increase residential density.

- 188th/Corby: 55 du/acre
- Downtown South: 65 du/acre
- Pioneer Blvd: 40 du/acre
- Downtown North: 55 du/acre
- Downtown Neighborhood (housing only): 40 du/acre
- Chateau Estates: Not included

Proposed Zone	Buildout of Units on Selected Sites[1]
188th/Corby	125
Downtown South	837
Pioneer Blvd	58
Downtown North	465
Downtown Neighborhood (housing only)	13
Chateau Estates	0
Commercial as Mixed Use[2]	251,459
Total Residential	**1,498**
Total Commercial	**251,459**

1. On sites where commercial uses are identified for 20% of the site, the residential units total the density x remaining acreage at 80%.
2. Commercial buildout assumes a maximum of 20% of land on selected sites in the South St. Mixed Use, Downtown North, and the Pioneer Blvd. Mixed Use zones.

Alternative C: Redevelopment at Lowest Density with No Commercial Incentives Utilized

Alternative C includes estimates for full redevelopment of selected sites at the lowest possible densities. Alternative C also assumes that in the proposed Downtown South, Pioneer Boulevard, and Downtown North Mixed-Use Districts, the development of commercial uses (at 20 percent of the land maximum) **would not utilize the Downtown Density Bonus Program** and therefore **would not receive a density bonus** to increase residential density.

- 188th/Corby: 40 du/acre
- Downtown South: 40 du/acre
- Pioneer Blvd: 40 du/acre
- Downtown North: 40 du/acre
- Downtown Neighborhood (housing only): 40 du/acre
- Chateau Estates: Not included

Proposed Zone	Buildout of Units on Selected Sites[1]
188th/Corby	92
Downtown South	510
Pioneer Blvd	58
Downtown North	337
Downtown Neighborhood (housing only)	13
Chateau Estates	0
Commercial as Mixed Use[2]	251,459
Total Residential	**1,010**
Total Commercial	**251,459**

1. On sites where commercial uses are identified for 20% of the site, the residential units total the density x remaining acreage at 80%.
2. Commercial buildout assumes a maximum of 20% of land on selected sites in the South St. Mixed Use, Downtown North, and the Pioneer Blvd. Mixed Use zones.

Appendix C Air Quality and Greenhouse Gas Emissions Modeling Data

Appendices

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1. Criteria Air Pollutant and GHG Emissions Worksheets

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Regional Construction Emissions Worksheet: Artesia Downtown Specific Plan

Maximum Emissions per phase (tons/year)

Demolition

		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Summer											
Onsite	**2025**										
Off-Road Equipment											
Demolition											
Onsite Truck											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite											
Worker											
Vendor											
Hauling											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL		***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***
Winter		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		2.397956721	22.1951974	19.9231137	0.03251	0.917481722		0.9174817	0.844083181		0.844083181
Demolition							14.7339544	14.733954		2.231141666	2.231141666
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**2.397956721**	**22.1951974**	**19.9231137**	**0.03251**	**0.917481722**	**14.7339544**	**15.651436**	**0.844083181**	**2.231141666**	**3.075224847**
Offsite											
Worker		0.063658478	0.07209116	0.88493552	0	0	0.1960641	0.1960641	0	0.045957111	0.045957111
Vendor		0	0	0	0	0	0	0	0	0	0
Hauling		0.174057895	15.1619562	5.73634281	0.079461	0.151354692	3.182080492	3.3334352	0.151354692	0.871197469	1.02255216
Total		**0.237716373**	**15.2340474**	**6.62127833**	**0.079461**	**0.151354692**	**3.378144592**	**3.5294993**	**0.151354692**	**0.91715458**	**1.068509271**
TOTAL		***2.6357***	***37.4292***	***26.5444***	***0.1120***	***1.0688***	***18.1121***	***19.1809***	***0.9954***	***3.1483***	***4.1437***
Max		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		2.397956721	22.1951974	19.9231137	0.03251	0.917481722	0	0.9174817	0.844083181	0	0.844083181
Demolition		0	0	0	0	0	14.7339544	14.733954	0	2.231141666	2.231141666
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**2.397956721**	**22.1951974**	**19.9231137**	**0.03251**	**0.917481722**	**14.7339544**	**15.651436**	**0.844083181**	**2.231141666**	**3.075224847**
Offsite											
Worker		0.063658478	0.07209116	0.88493552	0	0	0.1960641	0.1960641	0	0.045957111	0.045957111
Vendor		0	0	0	0	0	0	0	0	0	0
Hauling		0.174057895	15.1619562	5.73634281	0.079461	0.151354692	3.182080492	3.3334352	0.151354692	0.871197469	1.02255216
Total		**0.237716373**	**15.2340474**	**6.62127833**	**0.079461**	**0.151354692**	**3.378144592**	**3.5294993**	**0.151354692**	**0.91715458**	**1.068509271**
TOTAL		***2.6357***	***37.4292***	***26.5444***	***0.1120***	***1.0688***	***18.1121***	***19.1809***	***0.9954***	***3.1483***	***4.1437***

Site Preparation

		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Summer											
Onsite	**2025**										
Off-Road Equipment											
Dust From Material Movement											
Onsite Truck											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite											
Worker											
Vendor											
Hauling											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL		***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***
Winter		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		3.310349421	31.6407783	30.1754694	0.048876	1.365552588		1.3655526	1.256308376		1.256308376
Dust From Material Movement							7.666233427	7.6662334		3.939953946	3.939953946
Onsite Truck		0.000600484	0.01926096	0.01232632	4.93E-05	5.45644E-05	1.020266205	1.0203208	5.45644E-05	0.101886102	0.101940666
Total		**3.310949905**	**31.6600393**	**30.1877957**	**0.048925**	**1.365607153**	**8.686499632**	**10.052107**	**1.256362941**	**4.041840048**	**5.298202988**
Offsite											
Worker		0.074268225	0.08410635	1.03242477	0	0	0.22874145	0.2287415	0	0.05361663	0.05361663
Vendor		0.003650855	0.15040817	0.07132395	0.000899	0.001798972	0.034223638	0.0360226	0.000899486	0.009455396	0.010354882
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.07791908**	**0.23451453**	**1.10374872**	**0.000899**	**0.001798972**	**0.262965088**	**0.2647641**	**0.000899486**	**0.063072025**	**0.063971511**
TOTAL		***3.3889***	***31.8946***	***31.2915***	***0.0498***	***1.3674***	***8.9495***	***10.3169***	***1.2573***	***4.1049***	***5.3622***
Max		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		3.310349421	31.6407783	30.1754694	0.048876	1.365552588	0	1.3655526	1.256308376	0	1.256308376
Dust From Material Movement		0	0	0	0	0	7.666233427	7.6662334	0	3.939953946	3.939953946
Onsite Truck		0.000600484	0.01926096	0.01232632	4.93E-05	5.45644E-05	1.020266205	1.0203208	5.45644E-05	0.101886102	0.101940666
Total		**3.310949905**	**31.6600393**	**30.1877957**	**0.048925**	**1.365607153**	**8.686499632**	**10.052107**	**1.256362941**	**4.041840048**	**5.298202988**
Offsite											
Worker		0.074268225	0.08410635	1.03242477	0	0	0.22874145	0.2287415	0	0.05361663	0.05361663
Vendor		0.003650855	0.15040817	0.07132395	0.000899	0.001798972	0.034223638	0.0360226	0.000899486	0.009455396	0.010354882
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.07791908**	**0.23451453**	**1.10374872**	**0.000899**	**0.001798972**	**0.262965088**	**0.2647641**	**0.000899486**	**0.063072025**	**0.063971511**
TOTAL		***3.3889***	***31.8946***	***31.2915***	***0.0498***	***1.3674***	***8.9495***	***10.3169***	***1.2573***	***4.1049***	***5.3622***

Grading

		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Summer											
Onsite	**2025**										
Off-Road Equipment											
Dust From Material Movement											
Onsite Truck											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite											
Worker											
Vendor											
Hauling											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL		***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***
Winter		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		3.196768393	29.6782439	28.3100263	0.06093	1.23497486		1.2349749	1.136176866		1.136176866
Dust From Material Movement							3.589399008	3.589399		1.424964421	1.424964421
Onsite Truck		0.000627766	0.02381709	0.01371771	7.66E-05	0.000109129	2.040532409	2.0406415	0.000109129	0.203772203	0.203881332
Total		**3.197396159**	**29.702061**	**28.323744**	**0.061007**	**1.235083989**	**5.629931417**	**6.8650154**	**1.136285995**	**1.628736624**	**2.765022619**
Offsite											
Worker		0.084877971	0.09612155	1.17991403	0	0	0.2614188	0.2614188	0	0.061276148	0.061276148
Vendor		0.00730171	0.30081635	0.1426479	0.001799	0.003597944	0.068447276	0.0720452	0.001798972	0.018910791	0.020709763
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.092179681**	**0.39693789**	**1.32256193**	**0.001799**	**0.003597944**	**0.329866076**	**0.333464**	**0.001798972**	**0.080186939**	**0.081985911**
TOTAL		***3.2896***	***30.0990***	***29.6463***	***0.0628***	***1.2387***	***5.9598***	***7.1985***	***1.1381***	***1.7089***	***2.8470***
Max		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		3.196768393	29.6782439	28.3100263	0.06093	1.23497486	0	1.2349749	1.136176866	0	1.136176866
Dust From Material Movement		0	0	0	0	0	3.589399008	3.589399	0	1.424964421	1.424964421
Onsite Truck		0.000627766	0.02381709	0.01371771	7.66E-05	0.000109129	2.040532409	2.0406415	0.000109129	0.203772203	0.203881332

	Total	**3.197396159**	**29.702061**	**28.323744**	**0.061007**	**1.235083989**	**5.629931417**	**6.8650154**	**1.136285995**	**1.628736624**	**2.765022619**
Offsite											
	Worker	0.084877971	0.09612155	1.17991403	0	0	0.2614188	0.2614188	0	0.061276148	0.061276148
	Vendor	0.00730171	0.30081635	0.1426479	0.001799	0.003597944	0.068447276	0.0720452	0.001798972	0.018910791	0.020709763
	Hauling	0	0	0	0	0	0	0	0	0	0
	Total	**0.092179681**	**0.39693789**	**1.32256193**	**0.001799**	**0.003597944**	**0.329866076**	**0.333464**	**0.001798972**	**0.080186939**	**0.081985911**
TOTAL		***3.2896***	***30.0990***	***29.6463***	***0.0628***	***1.2387***	***5.9598***	***7.1985***	***1.1381***	***1.7089***	***2.8470***

Building Construction

Summer		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		1.126902364	10.4442181	13.0400815	0.0234	0.431840681		0.4318407	0.397293427		0.397293427
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**1.126902364**	**10.4442181**	**13.0400815**	**0.0234**	**0.431840681**	**0**	**0.4318407**	**0.397293427**	**0**	**0.397293427**
Offsite											
Worker		6.908441897	6.97947986	112.097906	0	0	21.05877316	21.058773	0	4.936142711	4.936142711
Vendor		0.275004041	10.6084106	5.18875549	0.066157	0.132313265	2.517127079	2.6494403	0.066156633	0.695438402	0.761595035
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**7.183445938**	**17.5878905**	**117.286661**	**0.066157**	**0.132313265**	**23.57590024**	**23.708214**	**0.066156633**	**5.631581113**	**5.697737746**
TOTAL		***8.3103***	***28.0321***	***130.3267***	***0.0896***	***0.5642***	***23.5759***	***24.1401***	***0.4635***	***5.6316***	***6.0950***

Winter		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		1.126902364	10.4442181	13.0400815	0.0234	0.431840681		0.4318407	0.397293427		0.397293427
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**1.126902364**	**10.4442181**	**13.0400815**	**0.0234**	**0.431840681**	**0**	**0.4318407**	**0.397293427**	**0**	**0.397293427**
Offsite											
Worker		6.837403934	7.74313796	95.0487944	0	0	21.05877316	21.058773	0	4.936142711	4.936142711
Vendor		0.268518097	11.0624267	5.24583188	0.066157	0.132313265	2.517127079	2.6494403	0.066156633	0.695438402	0.761595035
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**7.10592203**	**18.8055647**	**100.294626**	**0.066157**	**0.132313265**	**23.57590024**	**23.708214**	**0.066156633**	**5.631581113**	**5.697737746**
TOTAL		***8.2328***	***29.2498***	***113.3347***	***0.0896***	***0.5642***	***23.5759***	***24.1401***	***0.4635***	***5.6316***	***6.0950***

Max		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		1.126902364	10.4442181	13.0400815	0.0234	0.431840681	0	0.4318407	0.397293427	0	0.397293427
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**1.126902364**	**10.4442181**	**13.0400815**	**0.0234**	**0.431840681**	**0**	**0.4318407**	**0.397293427**	**0**	**0.397293427**
Offsite											
Worker		6.908441897	7.74313796	112.097906	0	0	21.05877316	21.058773	0	4.936142711	4.936142711
Vendor		0.275004041	11.0624267	5.24583188	0.066157	0.132313265	2.517127079	2.6494403	0.066156633	0.695438402	0.761595035
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**7.183445938**	**18.8055647**	**117.343737**	**0.066157**	**0.132313265**	**23.57590024**	**23.708214**	**0.066156633**	**5.631581113**	**5.697737746**
TOTAL		***8.3103***	***29.2498***	***130.3838***	***0.0896***	***0.5642***	***23.5759***	***24.1401***	***0.4635***	***5.6316***	***6.0950***

Summer		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2026**										
Off-Road Equipment		1.07100914	9.85400878	12.9663789	0.023397	0.378654016		0.378654	0.348361696		0.348361696
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**1.07100914**	**9.85400878**	**12.9663789**	**0.023397**	**0.378654016**	**0**	**0.378654**	**0.348361696**	**0**	**0.348361696**
Offsite											
Worker		5.931669906	6.25134074	104.052856	0	0	21.05877316	21.058773	0	4.936142711	4.936142711
Vendor		0.275004041	10.1128845	4.89169924	0.066157	0.132313265	2.517127079	2.6494403	0.066156633	0.695438402	0.761595035
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**6.206673947**	**16.3642252**	**108.944555**	**0.066157**	**0.132313265**	**23.57590024**	**23.708214**	**0.066156633**	**5.631581113**	**5.697737746**
TOTAL		***7.2777***	***26.2182***	***121.9109***	***0.0896***	***0.5110***	***23.5759***	***24.0869***	***0.4145***	***5.6316***	***6.0461***

Winter		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2026**										
Off-Road Equipment		1.07100914	9.85400878	12.9663789	0.023397	0.378654016		0.378654	0.348361696		0.348361696
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**1.07100914**	**9.85400878**	**12.9663789**	**0.023397**	**0.378654016**	**0**	**0.378654**	**0.348361696**	**0**	**0.348361696**
Offsite											
Worker		5.896150925	7.01499884	88.7974537	0	0	21.05877316	21.058773	0	4.936142711	4.936142711
Vendor		0.262032152	10.5733865	5.00844632	0.066157	0.132313265	2.517127079	2.6494403	0.066156633	0.695438402	0.761595035
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**6.158183077**	**17.5883853**	**93.8059**	**0.066157**	**0.132313265**	**23.57590024**	**23.708214**	**0.066156633**	**5.631581113**	**5.697737746**
TOTAL		***7.2292***	***27.4424***	***106.7723***	***0.0896***	***0.5110***	***23.5759***	***24.0869***	***0.4145***	***5.6316***	***6.0461***

Max		ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2026**										
Off-Road Equipment		1.07100914	9.85400878	12.9663789	0.023397	0.378654016	0	0.378654	0.348361696	0	0.348361696
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**1.07100914**	**9.85400878**	**12.9663789**	**0.023397**	**0.378654016**	**0**	**0.378654**	**0.348361696**	**0**	**0.348361696**
Offsite											
Worker		5.931669906	7.01499884	104.052856	0	0	21.05877316	21.058773	0	4.936142711	4.936142711
Vendor		0.275004041	10.5733865	5.00844632	0.066157	0.132313265	2.517127079	2.6494403	0.066156633	0.695438402	0.761595035
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**6.206673947**	**17.5883853**	**109.061303**	**0.066157**	**0.132313265**	**23.57590024**	**23.708214**	**0.066156633**	**5.631581113**	**5.697737746**
TOTAL		***7.2777***	***27.4424***	***122.0277***	***0.0896***	***0.5110***	***23.5759***	***24.0869***	***0.4145***	***5.6316***	***6.0461***

Asphalt Paving

	Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment											
Paving											
Onsite Truck											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite											
Worker											
Vendor											
Hauling											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL		***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***

	Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		0.799681451	7.45410096	9.98167862	0.013954	0.348588244		0.3485882	0.320701184		0.320701184
Paving		0									
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**0.799681451**	**7.45410096**	**9.98167862**	**0.013954**	**0.348588244**	**0**	**0.3485882**	**0.320701184**	**0**	**0.320701184**
Offsite											
Worker		0.063658478	0.07209116	0.88493552	0	0	0.1960641	0.1960641	0	0.045957111	0.045957111
Vendor		0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.063658478**	**0.07209116**	**0.88493552**	**0**	**0**	**0.1960641**	**0.1960641**	**0**	**0.045957111**	**0.045957111**
TOTAL		***0.8633***	***7.5262***	***10.8666***	***0.0140***	***0.3486***	***0.1961***	***0.5447***	***0.3207***	***0.0460***	***0.3667***

	Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		0.799681451	7.45410096	9.98167862	0.013954	0.348588244	0	0.3485882	0.320701184	0	0.320701184
Paving		0	0	0	0	0	0	0	0	0	0
Onsite Truck		0	0	0	0	0	0	0	0	0	0
Total		**0.799681451**	**7.45410096**	**9.98167862**	**0.013954**	**0.348588244**	**0**	**0.3485882**	**0.320701184**	**0**	**0.320701184**
Offsite											
Worker		0.063658478	0.07209116	0.88493552	0	0	0.1960641	0.1960641	0	0.045957111	0.045957111
Vendor		0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**0.063658478**	**0.07209116**	**0.88493552**	**0**	**0**	**0.1960641**	**0.1960641**	**0**	**0.045957111**	**0.045957111**
TOTAL		***0.8633***	***7.5262***	***10.8666***	***0.0140***	***0.3486***	***0.1961***	***0.5447***	***0.3207***	***0.0460***	***0.3667***

Architectural Coating

	Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment											
Architectural Coatings											
Onsite truck											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offsite											
Worker											
Vendor											
Hauling											
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL		***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***	***0.0000***

	Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		0.127960056	0.8822797	1.13984314	0.001726	0.027426557		0.0274266	0.025232433		0.025232433
Architectural Coatings		508.758267									
Onsite truck		0	0	0	0	0	0	0	0	0	0
Total		**508.8862271**	**0.8822797**	**1.13984314**	**0.001726**	**0.027426557**	**0**	**0.0274266**	**0.025232433**	**0**	**0.025232433**
Offsite											
Worker		1.367480787	1.54862759	19.0097589	0	0	4.211754632	4.2117546	0	0.987228542	0.987228542
Vendor		0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**1.367480787**	**1.54862759**	**19.0097589**	**0**	**0**	**4.211754632**	**4.2117546**	**0**	**0.987228542**	**0.987228542**
TOTAL		***510.2537***	***2.4309***	***20.1496***	***0.0017***	***0.0274***	***4.2118***	***4.2392***	***0.0252***	***0.9872***	***1.0125***

	Max	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Onsite	**2025**										
Off-Road Equipment		0.127960056	0.8822797	1.13984314	0.001726	0.027426557	0	0.0274266	0.025232433	0	0.025232433
Architectural Coatings		508.758267	0	0	0	0	0	0	0	0	0
Onsite truck		0	0	0	0	0	0	0	0	0	0
Total		**508.8862271**	**0.8822797**	**1.13984314**	**0.001726**	**0.027426557**	**0**	**0.0274266**	**0.025232433**	**0**	**0.025232433**
Offsite											
Worker		1.367480787	1.54862759	19.0097589	0	0	4.211754632	4.2117546	0	0.987228542	0.987228542
Vendor		0	0	0	0	0	0	0	0	0	0
Hauling		0	0	0	0	0	0	0	0	0	0
Total		**1.367480787**	**1.54862759**	**19.0097589**	**0**	**0**	**4.211754632**	**4.2117546**	**0**	**0.987228542**	**0.987228542**
TOTAL		***510.2537***	***2.4309***	***20.1496***	***0.0017***	***0.0274***	***4.2118***	***4.2392***	***0.0252***	***0.9872***	***1.0125***

	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Maximum Daily Emissions	510	37	130	0	1	24	24	1	6	6
South Coast Regional Significance Thresholds	**75**	**100**	**550**	**150**			**150**			**55**
Exceeds Threshold?	Yes	No	No	No			No			No

	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
2025 Demolition	2.6357	37.4292	26.5444	0.1120	1.0688	18.1121	19.1809	0.9954	3.1483	4.1437
2025 Site Preparation	3.3889	31.8946	31.2915	0.0498	1.3674	8.9495	10.3169	1.2573	4.1049	5.3622
2025 Grading	3.2896	30.0990	29.6463	0.0628	1.2387	5.9598	7.1985	1.1381	1.7089	2.8470
2025 Building Construction	8.3103	29.2498	130.3838	0.0896	0.5642	23.5759	24.1401	0.4635	5.6316	6.0950
2025 Asphalt Paving	0.8633	7.5262	10.8666	0.0140	0.3486	0.1961	0.5447	0.3207	0.0460	0.3667
2025 Architectural Coating	510.2537	2.4309	20.1496	0.0017	0.0274	4.2118	4.2392	0.0252	0.9872	1.0125
Maximum Daily Emissions	528.7415	138.6297	248.8823	0.3298	4.6151	61.0051	65.6202	4.2002	15.6269	19.8271
South Coast Regional Significance Thresholds	**75**	**100**	**550**	**150**			**150**			**55**
Exceeds Threshold?	Yes	Yes	No	No			No			No

Regional Operational Emissions Worksheet: Artesia Downtown Specific Plan

Regional Emission (Pounds Per Day)

Existing Land Uses Designated for Redevelopment - Baseline Year

Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	98.6949307	71.24426258	786.4111161	1.6852378	1.138192336	148.2996584	149.4378507	1.058926445	37.66647679	38.7254032
Area	13.82538323	0.232521314	19.5375508	0.0015703	0.038729275		0.038729275	0.030579437		0.03057944
Energy	0.070146358	1.268975324	1.024297553	0.0076523	0.096929507		0.096929507	0.096929507		0.09692951
Total	112.590	72.746	806.973	1.694	1.274	148.300	149.574	1.186	37.666	38.853

Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	97.14846414	78.08980834	730.6773969	1.6135074	1.13936708	148.2996584	149.4390255	1.060050369	37.66647679	38.7265272
Area	10.70288791	0.066352941	0.028235294	0.0004235	0.005364706		0.005364706	0.005364706		0.00536471
Energy	0.070146358	1.268975324	1.024297553	0.0076523	0.096929507		0.096929507	0.096929507		0.09692951
Total	107.921	79.425	731.730	1.622	1.242	148.300	149.541	1.162	37.666	38.829

Max Daily	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	98.695	78.090	786.411	1.685	1.139	148.300	149.439	1.060	37.666	38.727
Area	13.825	0.233	19.538	0.002	0.039	0.000	0.039	0.031	0.000	0.031
Energy	0.070	1.269	1.024	0.008	0.097	0.000	0.097	0.097	0.000	0.097
Total	112.590	79.425	806.973	1.694	1.274	148.300	149.574	1.186	37.666	38.853
Regional Thresholds	**55**	**55**	**550**	**150**			**150**			**55**
Exceeds Thresholds?	Yes	Yes	Yes	No			No			No

[1] *Based on calendar year 2045 emissions.*

Existing Land Uses Designated for Redevelopment - Year 2045

Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	54.09863607	29.84486536	449.6414951	1.2794755	0.457305419	147.0383166	147.495622	0.426353277	37.30258186	37.7289351
Area	13.82780266	0.231484151	19.55331089	0.0015703	0.038602501		0.038602501	0.030491541		0.03049154
Energy	0.070146358	1.268975324	1.024297553	0.0076523	0.096929507		0.096929507	0.096929507		0.09692951
Total	67.997	31.345	470.219	1.289	0.593	147.038	147.631	0.554	37.303	37.856

Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	54.0660392	32.69987618	414.0755437	1.2235037	0.457532278	147.0383166	147.4958489	0.426570323	37.30258186	37.7291522
Area	10.70288791	0.066352941	0.028235294	0.0004235	0.005364706		0.005364706	0.005364706		0.00536471
Energy	0.070146358	1.268975324	1.024297553	0.0076523	0.096929507		0.096929507	0.096929507		0.09692951
Total	64.839	34.035	415.128	1.232	0.560	147.038	147.598	0.529	37.303	37.831

Max Daily	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	54.099	32.700	449.641	1.279	0.458	147.038	147.496	0.427	37.303	37.729
Area	13.828	0.231	19.553	0.002	0.039	0.000	0.039	0.030	0.000	0.030
Energy	0.070	1.269	1.024	0.008	0.097	0.000	0.097	0.097	0.000	0.097
Total	67.997	34.035	470.219	1.289	0.593	147.038	147.631	0.554	37.303	37.856
Regional Thresholds	**55**	**55**	**550**	**150**			**150**			**55**
Exceeds Thresholds?	Yes	No	No	No			No			No

[1] *Based on calendar year 2045 emissions.*

Proposed Project Buildout Year

Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	63.52489881	37.34868353	514.2520309	1.4241197	0.55649888	158.6132155	159.1697144	0.520357215	40.29123692	40.8115941
Area	75.85758194	34.08287606	148.8134067	0.2159326	2.745957243		2.745957243	2.724281963		2.72428196
Energy	0.834675734	14.6553495	8.930240829	0.0910555	1.153370035		1.153370035	1.153370035		1.15337003
Total	140.217	86.087	671.996	1.731	4.456	158.613	163.069	4.398	40.291	44.689

Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	63.49432566	40.75511599	476.108614	1.3652401	0.556854714	158.6132155	159.1700702	0.520697656	40.29123692	40.8119346
Area	62.50073127	32.86129421	13.98352931	0.2097528	2.656870448		2.656870448	2.656870448		2.65687045
Energy	0.834675734	14.6553495	8.930240829	0.0910555	1.153370035		1.153370035	1.153370035		1.15337003
Total	126.830	88.272	499.022	1.666	4.367	158.613	162.980	4.331	40.291	44.622

Max Daily	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	63.525	40.755	514.252	1.424	0.557	158.613	159.170	0.521	40.291	40.812
Area	75.858	34.083	148.813	0.216	2.746	0.000	2.746	2.724	0.000	2.724
Energy	0.835	14.655	8.930	0.091	1.153	0.000	1.153	1.153	0.000	1.153
Total	140.217	88.272	671.996	1.731	4.456	158.613	163.069	4.398	40.291	44.689
Regional Thresholds	**55**	**55**	**550**	**150**			**150**			**55**
Exceeds Thresholds?	Yes	Yes	Yes	No			Yes			No

[1] *Based on calendar year 2045 emissions.*

Net Change

Summer	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	9.426262733	7.503818175	64.61053577	0.1446442	0.099193461	11.57489889	11.67409235	0.094003938	2.988655061	3.082659
Area	62.02977928	33.85139191	129.2600958	0.2143623	2.707354742		2.707354742	2.693790421		2.69379042
Energy	0.764529376	13.38637418	7.905943276	0.0834032	1.056440527		1.056440527	1.056440527		1.05644053
Total	72.221	54.742	201.777	0.442	3.863	11.575	15.438	3.844	2.989	6.833

Winter	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	9.428286468	8.055239813	62.03307033	0.1417364	0.099322436	11.57489889	11.67422133	0.094127333	2.988655061	3.08278239
Area	51.79784336	32.79494127	13.95529402	0.2093293	2.651505743		2.651505743	2.651505743		2.65150574
Energy	0.764529376	13.38637418	7.905943276	0.0834032	1.056440527		1.056440527	1.056440527		1.05644053
Total	61.991	54.237	83.894	0.434	3.807	11.575	15.382	3.802	2.989	6.791

Max Daily	ROG	NOx	CO	SO2	Exhaust PM10	Fugitive PM10	PM10 Total	Exhaust PM2.5	Fugitive PM2.5	PM2.5 Total
Mobile[1]	9.426	8.055	64.611	0.145	0.099	11.575	11.674	0.094	2.989	3.083
Area	62.030	33.851	129.260	0.214	2.707	0.000	2.707	2.694	0.000	2.694
Energy	0.765	13.386	7.906	0.083	1.056	0.000	1.056	1.056	0.000	1.056
Total	***72.221***	***55.293***	***201.777***	***0.442***	***3.863***	***11.575***	***15.438***	***3.844***	***2.989***	***6.833***
Regional Thresholds	**55**	**55**	**550**	**150**			**150**			**55**
Exceeds Thresholds?	Yes	Yes	No	No			No			No

[1] *Based on calendar year 2045 emissions.*

GHG Emissions Worksheet: Artesia Downtown Specific Plan

Construction Emissions

Year	Annual Emissions (MTCO2e)
2025	4521
2026	3611
Total	**8,132**

Operation Emissions

Proposed Project

Source	Buildout $MTCO_2e$/Year	Percent of Project Total
Mobile[1]	20235.75846	66%
Area	517.9230677	2%
Energy	6248.722275	20%
Water	604.6585957	2%
Waste	2684.094806	9%
Refrig.	64.41625653	0%
Amortized Construction	271	1%
Total All Sectors	***30,627***	***100%***
No Net Increase GHG Thresnod	0	
Exceed Threshold?	**Yes**	

[1] *Based on calendar year 2045 emission rates.*

Existing Land Uses Designated for Redevelopment - Baseline Year

Source	Buildout $MTCO_2e$/Year	Percent of Project Total
Mobile[1]	23,294	94.65%
Area	10	0.04%
Energy	1,096	4.45%
Water	65	0.26%
Waste	143	0.58%
Refrig.	1	0.01%
Total All Sectors	***24,610***	***100%***
No Net Increase GHG Thresnod	3,000	
Exceed Threshold?	**Yes**	

[1] *Based on calendar year 2045 emission rates.*

Net Change

Source	Existing (MTCO2e/Yr)	Proposed Project (MTCO2e/Yr)	Net Change ($MTCO_2e$/Yr)	Percent Change
Mobile[1]	23,294	20,236	(3,059)	-13%
Area	10	518	508	5124%
Energy	1,096	6,249	5,153	470%
Water	65	605	540	831%
Waste	143	2,684	2,541	1772%
Refrig.	1	64	63	4269%
Amortized Construction	0	271	271	
Total All Sectors	***24,610***	***30,627***	***6,017***	

[1] *Based on calendar year 2045 emission rates.*

2. Criteria Air Pollutant and GHG Modeling Inputs and Assumptions

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CalEEMod Project Characteristics Inputs (Construction): Proposed Land Uses

Name: Proposed Construction
Project Location: City of Artesia
County/Air Basin: Los Angeles County
Land Use Setting: Suburban
Operational Year: 2045
Utility Company: Southern California Edison; Southern California Gas
Air Basin: SoCAB
Air District: South Coast AQMD

Total Project Site Acreage Disturbed: 31.64 acres

ITE Land Use	CalEEMod Land Use	Dwelling Units	Rooms	Building Square Feet
Multi-Family Residential[1]	Apartment Low-Rise	1,981	0	2,099,860
General Office	General Office	0	0	105,730
Fine Dining Restaurant [4]	Quality Restaurant	0	0	23,418
High-Turnover (Sit-Down) Restaurant [4]	High Turnover Sit Down Restaurant	0	0	135,177
Retail	Regional Shopping Center	0	0	133,818
Retail	Strip Mall Retail	0	0	24,777
Hotel [7]	Hotel	0	150	80,000
	Total	**1,981**	**150**	**2,602,780**

[1] *Building square footage based on CalEEMod default of 1,060 BSF per apartment low-rise dwelling unit.*

CalEEMod Land Use Inputs (Passenger Vehicles and Truck Only Model Runs)

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet	Landscaping Square Feet
Apartment Low-Rise	Residential	Apartment Low-Rise	1,981	DU	4.52	2,099,860	0
General Office	Commercial	General Office	105.730	1000 sqft	4.52	105,730	
Quality Restaurant	Recreation	Quality Restaurant	23.418	1000 sqft	4.52	23,418	
High Turnover Sit Down Restaurant	Recreation	High Turnover Sit Down Restaurant	135.177	1000 sqft	4.52	135,177	
Regional Shopping Center	Retail	Regional Shopping Center	133.818	1000 sqft	4.52	133,818	
Strip Mall Retail	Retail	Strip Mall Retail	24.777	1000 sqft	4.52	24,777	
Hotel	Recreation	Hotel	150	Room	4.52	80,000	
					31.64		

Demoliion

Exising Uses Designated for Redelopment

CalEEMod Land Use	Dwelling Units	Building Square Feet	Acres
Single-Family[1]	4	7,800	0.375
Apartment Low-Rise[1]	15	15,900	1.406
General Office Building	0	43,422	3.525
Regional Shopping Center	0	309,506	21.197
Strip Mall Retail	0	44,711	2.899
General Light Industrial	0	26,379	2.236
Total	**19**	**447,718**	**31.639**

Total Building Square Footage Demolition:	447,718	building square feet
Daily Haul Trips:[2]	172	trips per day
Total Haul Trips:	5,160	trips

[1] *Building square footage based on CalEEMod defaults of 1,950 building square feet (BSF) per single-family residential unit and 1,060 BSF per apartment low-rise dwelling unit.*

[2] *CalEEMod default.*

Architectural Coating

Land Use	Land Use Amount	Paintable Surface Area Factor	Total Paintable Surface Area	Interior Area	Exterior Area
Multi-Family	2,099,860	2.70	5,669,622	4,252,217	1,417,406
			Total Residential Building	**4,252,217**	**1,417,406**
General Office	105,730	2.0	211,460	158,595	52,865
Quality Restaurant	23,418	2.0	46,836	35,127	11,709
High Turnover Sit Down Restaurant	135,177	2.0	270,354	202,766	67,589
Regional Shopping Center	133,818	2.0	267,636	200,727	66,909
Strip Mall Retail	24,777	2.0	49,554	37,166	12,389
Hotel	80,000	2.0	160,000	120,000	40,000

Reduction Measures

Dust From Material Movement

	Frequency[1]	PM10 % Reduction[2]	PM2.5 % Reduction[2]
Water Exposed Area[1]	2x daily	61.00%	61%

Onroad Fugitive Dust

	PM10 % Reduction[2]	PM2.5 % Reduction[2]
Limit Vehicle Speeds on Unpaved Roads to 25 MPH[1]	44%	44%
Sweep Paved Roads Once Per Month[1]	9%	9%

[1] *Based on South Coast AQMD Rule 403*

[2] *CalEEmod default values.*

CalEEMod Project Characteristics Inputs (Operation): Existing Uses to be Redeveloped

Name:	Existing
Project Location:	City of Artesia
County/Air Basin:	Los Angeles County
Land Use Setting:	Suburban
Operational Year:	2024; 2045
Utility Company:	Southern California Edison; Southern California Gas
Air Basin:	SoCAB
Air District:	South Coast AQMD

Total Project Site Acreage Disturbed: 31.64 acres

CalEEMod Land Use	Dwelling Units	Building Square Feet	Acres
Single-Family[1]	4	7,800	0.375
Apartment Low-Rise[1]	15	15,900	1.406
General Office Building	0	43,422	3.525
Regional Shopping Center	0	309,506	21.197
Strip Mall Retail	0	44,711	2.899
General Light Industrial	0	26,379	2.236
Total	**19**	**447,718**	**31.639**

[1] *Building square footage based on CalEEMod defaults of 1,950 building square feet (BSF) per single-family residential unit and 1,060 BSF per apartment low-rise dwelling unit.*

CalEEMod Land Use Inputs (Passenger Vehicles and Truck Only Model Runs)

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet	Landscaping Square Feet
Single-Family	Residential	Single-Family	4	DU	0.375	7,800	0
Apartment Low-Rise	Residential	Apartment Low-Rise	15	DU	1.406	15,900	
General Office Building	Commercial	General Office Building	43.422	1000 sqft	3.525	43,422	
Regional Shopping Center	Retail	Regional Shopping Center	309.506	1000 sqft	21.197	309,506	
Strip Mall Retail	Retail	Strip Mall Retail	44.711	1000 sqft	2.899	44,711	
General Light Industrial	Industrial	General Light Industrial	26.379	1000 sqft	2.236	26,379	
					31.639		

Trip Generation

Single Family

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	37	38	34
Daily Trip Generation Rate	9.2500000000	9.4800000000	8.4800000000

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 210 - Single Family Detached based on land use utilized by Linscott, Law, & Greenspan Engineers.*

Multi-Family

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	101	68	58
Daily Trip Generation Rate	6.7333333333	4.5500000000	3.8600000000

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 220 - Multi-Family Housing (Low Rise) based on land use utilized by Linscott, Law, & Greenspan Engineers.*

General Office Building

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	470	96	30
Daily Trip Generation Rate	10.8240062641	2.21	0.70

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 710 - General Office Building based on land use utilized by Linscott, Law, & Greenspan Engineers.*

Regional Shopping Center

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	20,897	25,092	13,210
Daily Trip Generation Rate	67.5172694552	81.07	42.68

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 821 - Shopping Plaza (40-150k) based on land use utilized by Linscott, Law, & Greenspan Engineers.*

Strip Mall Retail

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	2,435	2,435	2,435
Daily Trip Generation Rate	54.4608709266	54.4608709266	54.4608709266

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *Assumes same as weekeday. No Saturday or Sunday trip generation rates provided in the 11th Edition ITE Trip Generation handbook.*

General Light Industrial

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	128	18	132
Daily Trip Generation Rate	4.8523446681	0.69	5.00

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 110 - General Light Industrial based on land use utilized by Linscott, Law, & Greenspan Engineers.*

Vehicle Miles Traveled

Baseline Year Average Trip Length:[1] 7.40 miles per trip

Buildout Year 2045 Average Trip Length:[1] 7.43 miles per trip

Land Use	Average Daily Trips			Total Annual Trips	Total Annual VMT Baseline Year	Total Annual VMT Building Year
	Weekday	Saturday	Sunday			
Single-Family	37	38	34	13,356	98,832	99,233
Apartment Low-Rise	101	68	58	32,820	242,867	243,851
General Office Building	470	96	30	128,771	952,903	956,766
Regional Shopping Center	20,897	25,092	13,210	7,424,891	54,944,194	55,166,941
Strip Mall Retail	2,435	2,435	2,435	886,340	6,558,916	6,585,506
General Light Industrial	128	18	132	41,085	304,029	305,262
Total	**24,068**	**27,747**	**15,899**	**8,527,262**	**63,101,740**	**63,357,558**

[1] *Provided by Linscott, Law, & Greenspan Engineers*

Hearths

	Dwelling Units with Gas Fireplace	Dwelling Units W/O Fireplace
Single Family	4	0
Multi-Family Low Rise	0	15

** Assumed natural gas fireplaces for single-family units and no fireplaces for multi-family units.*

Architectural Coating[1]

Land Use	Land Use Amount	Paintable Surface Area Factor	Total Paintable Surface Area	Interior Area	Exterior Area
Single-Family	7,800	2.70	21,060	15,795	5,265
Multi-Family	15,900	2.70	42,930	32,198	10,733
			Total Residential Building	**47,993**	**15,998**
General Office Building	43,422	2.0	86,844	65,133	21,711
Regional Shopping Center	309,506	2.0	619,012	464,259	154,753
Strip Mall Retail	44,711	2.0	89,422	67,067	22,356
General Light Industrial	26,379	2.0	52,758	39,569	13,190
			Total Non-Residential Building	**636,027**	**212,009**

[1] *Based on CalEEMod default methodology.*

Energy

Default CalEEMod Energy Usage

Land Use	Title 24 Electricity	Non-Title 24 Electricity	Total Electricity Demand	Title 24 Natural Gas	Non-Title 24 Natural Gas	Total Natural Gas Demand
	killwatt hours per year			kilo-British Thermal Units per year		
Single-Family	6,130.46	21,450.12	27,581	134,989.55	18,351.84	153,341
Apartment Low-Rise	14,863.82	42,661.86	57,526	213,146.54	31,438.59	244,585
General Office Building	626,140.47	147,652.00	773,792	871,763.16	228,831.15	1,100,594
Regional Shopping Center	2,408,131.51	631,640.31	3,039,772	441,359.53	1,411,635.61	1,852,995
Strip Mall Retail	347,876.84	91,246	439,123	63,758	203,924	267,682
General Light Industrial	215,857.12	37,190	253,047	425,060	704,013	1,129,072
Total	**3,619,000.22**	**971,840.24**	**4,590,840.46**	**2,150,076.79**	**2,598,193.86**	**4,748,270.65**

Water Use

Indoor Water Demand

	Potable Water Demand (gal/day)	Total Annual Water Demand (gpy)[2]
Single-Family	1,216	443,866
Apartment Low-Rise	2,736	998,699
General Office Building	10,155	3,706,454
Regional Shopping Center	54,286	19,814,319
Strip Mall Retail	16,991	6,201,783
General Light Industrial	771	281,460
Total	86,155	31,446,582

Land Use	Annual Electricity (kWh/yr)	Annual Natural Gas (KBTU/yr)
Single-Family	27,581	153,341
Apartment Low-Rise	57,526	244,585
General Office Building	773,792	1,100,594
Regional Shopping Center	3,039,772	1,852,995
Strip Mall Retail	439,123	267,682
General Light Industrial	253,047	1,129,072
Total	**4,590,840**	**4,748,271**

[1] *Table 5.15-6, Net Increase in Water Demand Under the Proposed Project, Chapter 5.15, Utilities and Service Systems, of this Draft EIR.*

[2] *Assumes 365 days per year.*

	CalEEMod Default	Adjusted	
Septic Tank	10.33%	0%	10.33%
Aerobic	87.46%	97.7899990081786000%	
Facultative Lagoons	2.21%	2.2100000381469700%	
Total	100.00%	100.00%	

Summary

Land Use	Total Annual Indoor Water Demand (gpy)[1]	Total Outdoor Water (gpy)[1]
Single-Family	443,866	0
Apartment Low-Rise	998,699	0
General Office Building	3,706,454	0
Regional Shopping Center	19,814,319	0
Strip Mall Retail	6,201,783	0
General Light Industrial	281,460	0
	31,446,582	0

[1] *Evenly distributed among the land uses for purposes of modeling.*

Solid Waste

	Factor (residents or employees)	Waste Generation Rate (pounds/person/day)[1]	Waste Generation (pounds/day)	Waste Generation (pounds/year)[2]	Waste Generation (tons/year)
Residential	67	6.1	408.7	149175.5	74.58775
Employees	300	13.2	3960	1445400	722.7
TOTAL			**4,369**	**1,594,576**	**797**

[1] *Table 5.15-8, Estimated Solid Waste Generation, Chapter 5.15, Utilities and Service Systems, of this Draft EIR.*

[2] *Assumes 365 days per year for modeling purposes.*

Land Use	Total Annual Solid Waste (tpy)[1]	Amount[2]	unit	Solid Waste Generation Rate
Single-Family	37	12	resident	3.108
Apartment Low-Rise	37	44	resident	0.848
Total	**75**			

Land Use	Total Annual Solid Waste (gpy)[1]	Solid Waste Generation Rate
General Office Building	181	4.16
Regional Shopping Center	181	0.58
Strip Mall Retail	181	4.04
General Light Industrial	181	6.85
	723	

[1] *Evenly distributed among the land uses for purposes of modeling.*

[2] *CalEEMod default.*

Carbon Intensity Factors

Southern California Edison Carbon Intensity Factors

SCE CO_2e Intensity Factor[1]	405	pounds per megawatt hour
CO2:[1,2]	402.9829999	pounds per megawatt hour
CH4:[3]	0.033	pound per megawatt hour
N2O:[3]	0.004	pound per megawatt hour

[1] *Based on CO_2e intensity factor of 405 pounds per megawatt hour for year 2022; Southern California Edison. 2024. 2023 Sustainability Report. https://download.edison.com/406/files/20245/eix-2023-sustainability-report.pdf?Signature=f5MEnkVHx0Bs72YlK4GYg%2F2v2uc%3D&Expires=1726864139&AWSAccessKeyId=AKIAJX7XEOOELCYGIVDQ&versionId=xtFaY0bJYnXT90468zJhc4oar_ZyN5Wo&response-content-disposition=attachment*

[2] *Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.*

[3] *CalEEMod default values.*

General Conversion Factors	
lbs to kg	0.4536
kg to MTons	0.001
Mmbtu to Therm	0.1
Therms to kwh	29.30711111
kilowatt hrs to megawatt hrs	0.001
lbs to Tons	2000
Tons to MTon	0.9071847

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

	Global Warming Potentials (GWP)
CO_2	1
CH_4	25
N_2O	298

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

CalEEMod Project Characteristics Inputs (Operation): Proposed Land Uses

Name: Proposed
Project Location: City of Artesia
County/Air Basin: Los Angeles County
Land Use Setting: Suburban
Operational Year: 2045
Utility Company: Southern California Edison; Southern California Gas
Air Basin: SoCAB
Air District: South Coast AQMD

Total Project Site Acreage Disturbed: 31.64 acres

ITE Land Use	CalEEMod Land Use	Dwelling Units	Rooms	Building Square Feet
Multi-Family Residential[1]	Apartment Low-Rise	1,981	0	0
General Office	General Office	0	0	105,730
Fine Dining Restaurant [4]	Quality Restaurant	0	0	23,418
High-Turnover (Sit-Down) Restaurant [4]	High Turnover Sit Down Restaurant	0	0	135,177
Retail	Regional Shopping Center	0	0	133,818
Retail	Strip Mall Retail	0	0	24,777
Hotel [7]	Hotel	0	150	80,000
	Total	**1,981**	**150**	**502,920**

[1] *Building square footage based on CalEEMod default of 1,060 BSF per apartment low-rise dwelling unit.*

CalEEMod Land Use Inputs (Passenger Vehicles and Truck Only Model Runs)

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet	Landscaping Square Feet
Apartment Low-Rise	Residential	Apartment Low-Rise	1,981	DU	4.52	2,099,860	0
General Office	Commercial	General Office	105.730	1000 sqft	4.52	105,730	
Quality Restaurant	Recreation	Quality Restaurant	23.418	1000 sqft	4.52	23,418	
High Turnover Sit Down Restaurant	Recreation	High Turnover Sit Down	135.177	1000 sqft	4.52	135,177	
Regional Shopping Center	Retail	Regional Shopping Center	133.818	1000 sqft	4.52	133,818	
Strip Mall Retail	Retail	Strip Mall Retail	24.777	1000 sqft	4.52	24,777	
Hotel	Recreation	Hotel	150	Room	4.52	80,000	
					31.64		

Trip Generation

Multi-Family

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	9,350	9,014	7,647
Daily Trip Generation Rate	4.72	4.55	3.86
Mixed-TOD Trip Reduction (25%)	*2,338*	*2,253*	*1,912*
Adjusted Daily Trips	7,013	6,760	5,735
Adjusted Daily Trip Generation Rate	3.5398788491	3.4125000000	2.8950000000

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 220 - Multi-Family Housing (Low Rise) based on land use utilized by Linscott, Law, & Greenspan Engineers.*

General Office

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	1,146	234	74
Daily Trip Generation Rate	10.84	2.21	0.70
Mixed-TOD Trip (25%) Plus Transit Adjustment (10%) Reductions	*401*	*82*	*26*
Adjusted Daily Trips	745	152	48
Adjusted Daily Trip Generation Rate	7.0453040764	1.4365000000	0.4550000000

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 710 - General Office Building based on land use utilized by Linscott, Law, & Greenspan Engineers.*

Quality Restaurant

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	1,963	2,109	1,685
Daily Trip Generation Rate	83.82	90.04	71.97
Mixed-TOD Trip (25%) Plus Transit Adjustment (10%) Reductions	*687*	*738*	*590*
Adjusted Daily Trips	1,276	1,371	1,096
Adjusted Daily Trip Generation Rate	54.4858655735	58.5260000000	46.7805000000

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 931 - Fine Dining Restaurant based on land use utilized by the Linscott, Law, & Greenspan Engineers.*

High Turnover Sit Down Restaurant

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	14,491	16,546	19,282
Daily Trip Generation Rate	107.20	122.40	142.64
Mixed-TOD Trip (25%) Plus Transit Adjustment (10%) Reductions	*5,072*	*5,791*	*6,749*
Adjusted Daily Trips	9,419	10,755	12,533
Adjusted Daily Trip Generation Rate	69.6801230979	79.5600000000	92.7160000000

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 932 - High Turnover (Sit Dow) Restaurant based on land use utilized by the Linscott, Law, & Greenspan Engineers.*

Regional Shopping Center

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	9,035	10,849	5,711
Daily Trip Generation Rate	67.52	81.07	42.68
Mixed-TOD Trip (25%) Plus Transit Adjustment (10%) Reductions	*3,162*	*3,797*	*1,999*
Adjusted Daily Trips	5,873	7,052	3,712
Adjusted Daily Trip Generation Rate	43.8860990300	52.6955000000	27.7420000000

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 821 - Shopping Plaza (40-150k) based on land use utilized by Linscott, Law, & Greenspan Engineers.*

Strip Mall Retail

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	1,349	1,349	1,349
Mixed-TOD Trip (25%) Plus Transit Adjustment (10%) Reductions	*472*	*472*	*472*
Adjusted Daily Trips	877	877	877
Daily Trip Generation Rate	35.3896759091	35.3896759091	35.3896759091

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *Assumes same as weekeday. No Saturday or Sunday trip generation rates provided in the 11th Edition ITE Trip Generation handbook.*

Hotel

	Weekday[1]	Saturday[2]	Sunday[2]
Daily Trips	1,199	1,211	891
Daily Trip Generation Rate	7.993333333	8.07	5.94
Mixed-TOD Trip (25%) Plus Transit Adjustment (10%) Reductions	*420*	*424*	*312*
Adjusted Daily Trips	779	787	579
Adjusted Daily Trip Generation Rate	5.1956666667	5.2455000000	3.8610000000
	25,981	27,753	24,580

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

[2] *11th Edition ITE Trip Generation handbook for Land Use 310 - Lodging based on land use utilized by the Linscott, Law, and Greenspan Engineers.*

Vehicle Miles Traveled

Project Opening Year Average Trip Length:[1] 7.36 miles per trip

Land Use	Average Daily Trips			Total Annual Trips	Total Annual VMT Buildout Year
	Weekday	Saturday	Sunday		
Apartment Low-Rise	7,013	6,760	5,735	2,472,998	18,201,267
General Office	745	152	48	204,073	1,501,980
Quality Restaurant	1,276	1,371	1,096	459,983	3,385,471
High Turnover Sit Down Restaurant	9,419	10,755	12,533	3,659,942	26,937,174
Regional Shopping Center	5,873	7,052	3,712	2,086,642	15,357,687
Strip Mall Retail	877	877	877	319,173	2,349,116
Hotel	779	787	579	273,662	2,014,150
Total	**25,981**	**27,753**	**24,580**	**9,476,474**	**69,746,846**

[1] *Provided by Linscott, Law, & Greenspan Engineers.*

Hearths

Land Use	Dwelling Units with Gas Fireplace	Dwelling Units W/O Fireplace
Multi-Family Low Rise	1,981	0

** Assumed natural gas fireplaces for multi-family units. No wood burning fireplaces per South Coast AQMD Rule 445.*

Energy

Default CalEEMod Energy Usage

Land Use	Title 24 Electricity	Non-Title 24 Electricity	Total Electricity Demand	Title 24 Natural Gas	Non-Title 24 Natural Gas	Total Natural Gas Demand
	killwatt hours per year			kilo-British Thermal Units per year		
Apartment Low-Rise	1,963,015.20	5,634,209.75	7,597,225	28,149,553.14	4,151,989.99	32,301,543
General Office	1,524,614.99	359,523.88	1,884,139	2,122,691.71	557,190.30	2,679,882
Quality Restaurant	433,718.04	377,254.82	810,973	491,660.82	2,204,491.14	2,696,152
High Turnover Sit Down Restaurant	2,503,574.34	2,177,648.60	4,681,223	2,838,040.58	12,725,104.59	15,563,145
Regional Shopping Center	1,041,179.63	273,096	1,314,276	190,826	610,335	801,161
Strip Mall Retail	192,779.06	50,565	243,344	35,332	113,006	148,339
Hotel	850,330.64	269,166	1,119,496	1,179,402	1,130,334	2,309,736
Total	**8,509,211.90**	**9,141,463.57**	**17,650,675.47**	**35,007,507.15**	**21,492,450.61**	**56,499,957.76**

Water Use

Indoor Water Demand

	Potable Water Demand (gal/day)	Total Annual Water Demand (gpy)[2]
Apartment Low-Rise	309,553	112,986,860
General Office	19,781	7,219,980
Quality Restaurant	21,906	7,995,739
High Turnover Sit Down Restaurant	126,450	46,154,240
Regional Shopping Center	12,518	4,569,023
Strip Mall Retail	2,318	845,975
Hotel	17,540	6,401,918
Total	510,065	186,173,734

[1] *Table 5.15-6, Net Increase in Water Demand Under the Proposed Project, Chapter 5.15, Utilities and Service Systems, of this Draft EIR.*

[2] *Assumes 365 days per year.*

	CalEEMod Default	Adjusted
Septic Tank	10.33%	0%
Aerobic	87.46%	97.7899990081786000%
Facultative Lagoons	2.21%	2.2100000381469700%
Total	100.00%	100.00%

Summary

Land Use	Total Annual Indoor Water Demand (gpy)[1]	Total Outdoor Water (gpy)[1]
Apartment Low-Rise	112,986,860	0
General Office	7,219,980	0
Quality Restaurant	7,995,739	0
High Turnover Sit Down Restaurant	46,154,240	0
Regional Shopping Center	4,569,023	0
Strip Mall Retail	845,975	0
Hotel	6,401,918	0
	186,173,734	0

[1] *Evenly distributed among the land uses for purposes of modeling.*

Solid Waste

	Factor (residents or employees)	Waste Generation Rate (pounds/person/day)[1]	Waste Generation (pounds/day)	Waste Generation (pounds/year)[2]	Waste Generation (tons/year)
Residential	6934	6.1	42297.4	15438551	7719.2755
Employees	356	13.2	4699.2	1715208	857.604
TOTAL	**n/a**	**n/a**	**46,997**	**17,153,759**	**8,577**

[1] *Table 5.15-8, Estimated Solid Waste Generation, Chapter 5.15, Utilities and Service Systems, of this Draft EIR.*

[2] *Assumes 365 days per year for modeling purposes.*

Land Use	Total Annual Solid Waste (tpy)	Amount[2]	unit	Solid Waste Generation Rate
Apartment Low-Rise	7,719	5,864	resident	1.316

Land Use	Total Annual Solid Waste (gpy)[1]	Solid Waste Generation Rate
General Office	143	1.35
Quality Restaurant	143	6.10
High Turnover Sit Down Restaurant	143	1.06
Regional Shopping Center	143	1.07
Strip Mall Retail	143	5.77
Hotel	143	0.95
Total	**858**	**NA**

[1] *Evenly distributed among the land uses for purposes of modeling.*

[2] *CalEEMod default.*

Architectural Coating[1]

Land Use	Land Use Amount	Paintable Surface Area Factor	Total Paintable Surface Area	Interior Area	Exterior Area
Multi-Family	2,099,860	2.70	5,669,622	4,252,217	1,417,406
			Total Residential Building	**4,252,217**	**1,417,406**
General Office	105,730	2.0	211,460	158,595	52,865
Quality Restaurant	23,418	2.0	46,836	35,127	11,709
High Turnover Sit Down Restaurant	135,177	2.0	270,354	202,766	67,589
Regional Shopping Center	133,818	2.0	267,636	200,727	66,909
Strip Mall Retail	24,777	2.0	49,554	37,166	12,389
Hotel	80,000	2.0	160,000	120,000	40,000

[1] *Based on CalEEMod default methodology.*

Carbon Intensity Factors

Southern California Edison Carbon Intensity Factors

SCE CO_2e Intensity Factor[1]	405	pounds per megawatt hour
CO2:[1,2]	402.983	pounds per megawatt hour
CH4:[3]	0.033	pound per megawatt hour
N2O:[3]	0.004	pound per megawatt hour

[1] *Based on CO_2e intensity factor of 405 pounds per megawatt hour for year 2022; Southern California Edison. 2024. 2023 Sustainability Report. https://download.edison.com/406/files/20245/eix-2023-sustainability-report.pdf?Signature=f5MEnkVHx0Bs72YlK4GYg%2F2v2uc%3D&Expires=1726864139&AWSAccessKeyId=AKIAJX7XEOOELCYGIVDQ&versionId=xtFaY0bJYnXT90468zJhc4oar_ZyN5Wo&response-content-disposition=attachment*

[2] *Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.*

[3] *CalEEMod default values.*

General Conversion Factors	
lbs to kg	0.4536
kg to MTons	0.001
Mmbtu to Therm	0.1
Therms to kwh	29.30711111
kilowatt hrs to megawatt hrs	0.001
lbs to Tons	2000
Tons to MTon	0.9071847

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

	Global Warming Potentials (GWP)
CO_2	1
CH_4	25
N_2O	298

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH4 and N2O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

Construction Activities and Schedule Assumptions

Construction Activities	Construction Schedule			
	Start Date	End Date	Duration (Calendar Days)	Duration (Work Days)
CalEEMod Default Schedule				
Demolition	1/1/2025	2/12/2025	42	30
Site Preparation	2/13/2025	3/13/2025	28	20
Grading	3/14/2025	5/16/2025	63	45
Building Construction	5/17/2025	4/17/2027	700	500
Paving	4/18/2027	6/6/2027	49	35
Architectural Coating	6/7/2027	7/26/2027	49	35
Adjusted CalEEMod Schedule				
Demolition	1/1/2025	2/12/2025	42	30
Site Preparation	1/1/2025	1/29/2025	28	20
Grading	1/1/2025	3/5/2025	63	45
Building Construction	1/1/2025	12/2/2026	700	500
Paving	1/1/2025	2/18/2025	49	35
Architectural Coating	1/1/2025	2/18/2025	49	35

Construction Equipment Mix

CalEEMod defaults unless otherwise noted.

Equipment	Pieces of Equipment	Hrs Op	HP	LF	Worker Trips/ Day	Vendor Trips/Day	Onsite Truck Travel Distance (miles)
Demolition					**Default**	**Default**	
Concrete/Industrial Saws	**1**	8	**33**	**0.73**			**n/a**
Excavators	**3**	8	**36**	**0.38**			**n/a**
Rubber Tired Dozers	**2**	8	**367**	**0.40**			**n/a**
Site Preparation					**Default**	**8**	
Rubber Tired Dozers	**3**	8	**367**	**0.40**			**n/a**
Tractors/Loaders/Backhoes	**4**	8	**84**	**0.37**			**n/a**
Water truck[1]	**4**		**n/a**	**n/a**		**8**	**n/a**
Onsite Truck[2]	**1**		**n/a**	**n/a**			**1.2375**
Grading					**Default**	**16**	
Excavator	**2**	8	**36**	**0.38**			**n/a**
Graders	**1**	8	**148**	**0.41**			**n/a**
Rubber Tired Dozers	**1**	8	**367**	**0.40**			**n/a**
Scrapers	**2**	8	**423**	**0.48**			**n/a**
Tractors/Loaders/Backhoes	**2**	8	**84**	**0.37**			**n/a**
Water truck[1]	**8**		**n/a**	**n/a**		**16**	**n/a**
Onsite Truck[2]	**1**		**n/a**	**n/a**			**2.475**
Building Construction					**Default**	**Default**	
Cranes	**1**	7	**367**	**0.29**			**n/a**
Forklifts	**3**	8	**82**	**0.20**			**n/a**
Generator Sets	**1**	8	**14**	**0.74**			**n/a**
Tractors/Loaders/Backhoes	**3**	7	**84**	**0.37**			**n/a**
Welders	**1**	8	**46**	**0.45**			**n/a**
Asphalt Paving					**Default**	**Default**	
Pavers	**2**	8	**81**	**0.42**			**n/a**
Paving Equipment	**2**	8	**89**	**0.36**			**n/a**
Rollers	**2**	8	**36**	**0.38**			**n/a**
Architectural Coating					**Default**	**Default**	
Air Compressors	**1**	6	**37**	**0.48**			**n/a**

[1] *Based on 10,000 gallons per acre disturbed and a 4,000 gallon water truck. 2005, June 5. Maricopa Air Quality Department. Guidance for Application for Dust Control Permit. https://www.epa.gov/sites/default/files/2019-04/documents/mr_guidanceforapplicationfordustcontrolpermit.pdf*

[2] *Represents onsite water truck travel distance and based on 0.825 mi/acre.*

Future With Project Traffic Volumes

AM Peak Hour

No.	Intersection	Northbound			Southbound			Eastbound			Westbound			Intersection Total
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	
1	Gridely Road/South Street	148	242	59	89	153	267	201	542	79	57	800	95	2,732
2	Pioneer Boulevard/183rd Street	58	338	46	111	402	91	76	304	43	49	347	86	1,951
3	Pioneer Boulevard/187th Street	27	338	22	21	393	66	72	15	24	49	24	16	1,067
4	Pioneer Boulevard/South Street	82	222	98	59	275	135	129	398	92	84	720	54	2,348
5	I-605 Freeway SB Off-Ramp/South Street	0	0	0	428	0	661	0	654	560	0	982	390	3,675
6	I-605 Freeway NB Off-Ramp/South Street	544	0	313	0	0	0	0	764	326	0	740	452	3,139
7	Pioneer Boulevard/SR-91 Freeway WB Off-Ramp	19	785	481	0	1045	5	0	0	18	217	3	89	2,662
8	Pioneer Boulevard/SR-91 Freeway EB Off-Ramp-Frampton Court	0	970	13	175	853	253	314	56	502	4	0	164	3,304

PM Peak Hour

No.	Intersection	Northbound			Southbound			Eastbound			Westbound			Intersection Total
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	
1	Gridely Road/South Street	125	276	64	204	284	392	315	982	143	93	801	155	3,834
2	Pioneer Boulevard/183rd Street	80	419	43	132	485	140	182	473	65	81	551	83	2,734
3	Pioneer Boulevard/187th Street	33	430	49	6	496	60	50	43	46	26	38	11	1,288
4	Pioneer Boulevard/South Street	182	334	182	102	302	199	113	751	175	153	753	82	3,328
5	I-605 Freeway SB Off-Ramp/South Street	0	0	0	865	0	579	0	976	559	0	970	418	4,367
6	I-605 Freeway NB Off-Ramp/South Street	432	0	576	0	0	0	0	1448	410	0	915	718	4,499
7	Pioneer Boulevard/SR-91 Freeway WB Off-Ramp	29	1003	368	0	960	6	0	0	15	237	3	99	2,720
8	Pioneer Boulevard/SR-91 Freeway EB Off-Ramp-Frampton Court	0	1125	5	14	677	160	406	15	521	13	0	115	3,051
													Maximum Peak Hour Total	**4,499**

Source: Linscott, Law, & Greenspan Engineers.

3. CalEEMod Output: Construction

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ART-02 Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	ART-02 Construction
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.30
Precipitation (days)	8.00
Location	18635 Pioneer Blvd, Artesia, CA 90701, USA
County	Los Angeles-South Coast
City	Artesia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4709
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Low Rise	1,981	Dwelling Unit	4.52	2,099,860	0.00	—	5,864	—

General Office Building	106	1000sqft	4.52	105,730	0.00	—	—	—
Quality Restaurant	23.4	1000sqft	4.52	23,418	0.00	—	—	—
High Turnover (Sit Down Restaurant)	135	1000sqft	4.52	135,177	0.00	—	—	—
Regional Shopping Center	134	1000sqft	4.52	133,818	0.00	—	—	—
Strip Mall	24.8	1000sqft	4.52	24,777	0.00	—	—	—
Hotel	150	Room	4.52	80,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.72	8.31	28.0	130	0.09	0.56	23.6	24.1	0.46	5.63	6.10	—	34,008	34,008	1.43	2.09	107	34,774
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	533	529	139	232	0.33	4.62	61.0	65.6	4.20	15.6	19.8	—	67,214	67,214	3.05	4.38	4.03	68,600
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	56.9	55.7	30.9	94.9	0.09	0.75	19.9	20.6	0.66	4.79	5.45	—	26,739	26,739	1.18	1.68	34.9	27,305
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	10.4	10.2	5.64	17.3	0.02	0.14	3.63	3.77	0.12	0.87	0.99	—	4,427	4,427	0.20	0.28	5.78	4,521

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	9.72	8.31	28.0	130	0.09	0.56	23.6	24.1	0.46	5.63	6.10	—	34,008	34,008	1.43	2.09	107	34,774
2026	8.64	7.28	26.2	122	0.09	0.51	23.6	24.1	0.41	5.63	6.05	—	33,398	33,398	1.38	2.09	98.6	34,155
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	533	529	139	232	0.33	4.62	61.0	65.6	4.20	15.6	19.8	—	67,214	67,214	3.05	4.38	4.03	68,600
2026	8.63	7.23	27.4	107	0.09	0.51	23.6	24.1	0.41	5.63	6.05	—	32,268	32,268	1.42	2.09	2.56	32,929
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	56.9	55.7	30.9	94.9	0.09	0.75	19.9	20.6	0.66	4.79	5.45	—	26,739	26,739	1.18	1.68	34.9	27,305
2026	5.64	4.72	18.4	72.7	0.06	0.33	15.4	15.7	0.27	3.67	3.94	—	21,352	21,352	0.93	1.37	28.0	21,812
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	10.4	10.2	5.64	17.3	0.02	0.14	3.63	3.77	0.12	0.87	0.99	—	4,427	4,427	0.20	0.28	5.78	4,521
2026	1.03	0.86	3.36	13.3	0.01	0.06	2.81	2.87	0.05	0.67	0.72	—	3,535	3,535	0.15	0.23	4.63	3,611

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	14.7	14.7	—	2.23	2.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.20	1.82	1.64	< 0.005	0.08	—	0.08	0.07	—	0.07	—	282	282	0.01	< 0.005	—	282
Demolition	—	—	—	—	—	—	1.21	1.21	—	0.18	0.18	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.33	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.6	46.6	< 0.005	< 0.005	—	46.8
Demolition	—	—	—	—	—	—	0.22	0.22	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	0.01	0.01	0.02	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.91	0.17	15.2	5.74	0.08	0.15	3.18	3.33	0.15	0.87	1.02	—	11,895	11,895	0.65	1.87	0.72	12,468
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.4	16.4	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.01	1.26	0.47	0.01	0.01	0.26	0.27	0.01	0.07	0.08	—	977	977	0.05	0.15	0.98	1,025
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.71	2.71	< 0.005	< 0.005	< 0.005	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.23	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	162	162	0.01	0.03	0.16	170

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.02	1.02	< 0.005	0.10	0.10	—	5.91	5.91	< 0.005	< 0.005	< 0.005	6.21
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.73	1.65	< 0.005	0.07	—	0.07	0.07	—	0.07	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.0	48.0	< 0.005	< 0.005	—	48.2
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.06
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.03	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	229	229	0.01	0.01	0.02	232

Vendor	0.01	< 0.005	0.15	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	127	127	0.01	0.02	0.01	132
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	12.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.95	6.95	< 0.005	< 0.005	0.01	7.26
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.11	2.11	< 0.005	< 0.005	< 0.005	2.14
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.15	1.15	< 0.005	< 0.005	< 0.005	1.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	2.04	2.04	< 0.005	0.20	0.20	—	10.1	10.1	< 0.005	< 0.005	< 0.005	10.6

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.39	3.66	3.49	0.01	0.15	—	0.15	0.14	—	0.14	—	814	814	0.03	0.01	—	816
Dust From Material Movement	—	—	—	—	—	—	0.44	0.44	—	0.18	0.18	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.25	0.25	< 0.005	0.02	0.02	—	1.24	1.24	< 0.005	< 0.005	< 0.005	1.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.67	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	135	135	0.01	< 0.005	—	135
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.22
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.10	1.18	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	262	262	0.01	0.01	0.03	265
Vendor	0.02	0.01	0.30	0.14	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	254	254	0.01	0.04	0.02	265
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.8	32.8	< 0.005	< 0.005	0.05	33.2

Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	0.04	32.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.43	5.43	< 0.005	< 0.005	0.01	5.50
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.18	5.18	< 0.005	< 0.005	0.01	5.41
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.96	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28	—	1,713	1,713	0.07	0.01	—	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	7.71	6.91	6.98	112	0.00	0.00	21.1	21.1	0.00	4.94	4.94	—	22,276	22,276	0.94	0.76	81.6	22,609
Vendor	0.67	0.28	10.6	5.19	0.07	0.13	2.52	2.65	0.07	0.70	0.76	—	9,334	9,334	0.39	1.31	25.5	9,759
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	7.64	6.84	7.74	95.0	0.00	0.00	21.1	21.1	0.00	4.94	4.94	—	21,115	21,115	0.98	0.80	2.11	21,380
Vendor	0.66	0.27	11.1	5.25	0.07	0.13	2.52	2.65	0.07	0.70	0.76	—	9,338	9,338	0.39	1.31	0.66	9,738
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.43	4.86	5.97	71.3	0.00	0.00	15.0	15.0	0.00	3.51	3.51	—	15,306	15,306	0.70	0.55	25.2	15,511
Vendor	0.47	0.19	7.95	3.71	0.05	0.09	1.79	1.88	0.05	0.49	0.54	—	6,668	6,668	0.28	0.93	7.91	6,962
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.99	0.89	1.09	13.0	0.00	0.00	2.73	2.73	0.00	0.64	0.64	—	2,534	2,534	0.12	0.09	4.17	2,568

Vendor	0.09	0.04	1.45	0.68	0.01	0.02	0.33	0.34	0.01	0.09	0.10	—	1,104	1,104	0.05	0.15	1.31	1,153
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.84	0.70	6.46	8.50	0.02	0.25	—	0.25	0.23	—	0.23	—	1,572	1,572	0.06	0.01	—	1,577
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.15	0.13	1.18	1.55	< 0.005	0.05	—	0.05	0.04	—	0.04	—	260	260	0.01	< 0.005	—	261
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.70	5.93	6.25	104	0.00	0.00	21.1	21.1	0.00	4.94	4.94	—	21,828	21,828	0.91	0.76	73.9	22,153
Vendor	0.66	0.28	10.1	4.89	0.07	0.13	2.52	2.65	0.07	0.70	0.76	—	9,172	9,172	0.38	1.31	24.8	9,597
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.70	5.90	7.01	88.8	0.00	0.00	21.1	21.1	0.00	4.94	4.94	—	20,694	20,694	0.94	0.76	1.92	20,947
Vendor	0.65	0.26	10.6	5.01	0.07	0.13	2.52	2.65	0.07	0.70	0.76	—	9,177	9,177	0.38	1.31	0.64	9,577
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.37	3.84	5.01	60.9	0.00	0.00	13.7	13.7	0.00	3.22	3.22	—	13,766	13,766	0.62	0.50	20.9	13,952
Vendor	0.43	0.18	6.97	3.25	0.04	0.09	1.64	1.73	0.04	0.45	0.50	—	6,014	6,014	0.25	0.86	7.01	6,283
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.80	0.70	0.91	11.1	0.00	0.00	2.51	2.51	0.00	0.59	0.59	—	2,279	2,279	0.10	0.08	3.47	2,310
Vendor	0.08	0.03	1.27	0.59	0.01	0.02	0.30	0.32	0.01	0.08	0.09	—	996	996	0.04	0.14	1.16	1,040
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.71	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	145
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	0.01	0.01	0.02	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.1	19.1	< 0.005	< 0.005	0.03	19.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.17	3.17	< 0.005	< 0.005	0.01	3.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134

Architectural Coating	509	509	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Architectural Coatings	48.8	48.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.12	2.12	< 0.005	< 0.005	—	2.13
Architectural Coatings	8.90	8.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.53	1.37	1.55	19.0	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	4,223	4,223	0.20	0.16	0.42	4,276
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.16	1.91	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	411	411	0.02	0.01	0.68	416
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.35	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	68.0	68.0	< 0.005	< 0.005	0.11	68.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	2/12/2025	5.00	30.0	—
Site Preparation	Site Preparation	1/1/2025	1/28/2025	5.00	20.0	—
Grading	Grading	1/1/2025	3/4/2025	5.00	45.0	—

Building Construction	Building Construction	1/1/2025	12/1/2026	5.00	500	—
Paving	Paving	1/1/2025	2/18/2025	5.00	35.0	—
Architectural Coating	Architectural Coating	1/1/2025	2/18/2025	5.00	35.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	172	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	1.00	1.24	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	8.00	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	1.00	2.48	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,611	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	294	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2

Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	322	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	4,252,217	1,417,406	754,380	251,460	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	447,718	—
Site Preparation	—	—	30.0	0.00	—

Grading	—	—	135	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Low Rise	—	0%
General Office Building	0.00	0%
Quality Restaurant	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Regional Shopping Center	0.00	0%
Strip Mall	0.00	0%
Hotel	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.52	annual days of extreme heat
Extreme Precipitation	4.10	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	37.6
AQ-PM	72.4
AQ-DPM	49.2
Drinking Water	47.9
Lead Risk Housing	72.5
Pesticides	43.9
Toxic Releases	89.3
Traffic	39.5
Effect Indicators	—
CleanUp Sites	27.5
Groundwater	67.5
Haz Waste Facilities/Generators	26.7
Impaired Water Bodies	0.00
Solid Waste	86.9
Sensitive Population	—
Asthma	23.2

Cardio-vascular	46.8
Low Birth Weights	75.6
Socioeconomic Factor Indicators	—
Education	66.3
Housing	81.3
Linguistic	44.8
Poverty	42.8
Unemployment	25.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	55.20338766
Employed	42.62799949
Median HI	48.26126011
Education	—
Bachelor's or higher	52.44450148
High school enrollment	9.29038881
Preschool enrollment	21.429488
Transportation	—
Auto Access	34.87745413
Active commuting	67.53496728
Social	—
2-parent households	19.00423457
Voting	30.50173232
Neighborhood	—
Alcohol availability	31.23315796

Park access	81.35506224
Retail density	47.32452201
Supermarket access	69.71641216
Tree canopy	39.75362505
Housing	—
Homeownership	38.72706275
Housing habitability	18.33696907
Low-inc homeowner severe housing cost burden	20.62107019
Low-inc renter severe housing cost burden	23.55960477
Uncrowded housing	28.33311947
Health Outcomes	—
Insured adults	31.82343128
Arthritis	0.0
Asthma ER Admissions	68.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	26.2
Cognitively Disabled	9.0
Physically Disabled	30.9
Heart Attack ER Admissions	37.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	75.1

Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	90.9
Elderly	40.9
English Speaking	13.9
Foreign-born	93.7
Outdoor Workers	93.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	15.3
Traffic Density	49.9
Traffic Access	23.0
Other Indices	—
Hardship	53.9
Other Decision Support	—
2016 Voting	27.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64.0
Healthy Places Index Score for Project Location (b)	35.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Based on land use numbers determined for the project.
Operations: Vehicle Data	Based on trip generation and VMT data provided by traffic consultant.
Operations: Hearths	Assumes natural gas fireplace for multi-family units. No wood fireplaces per South Coast AQMD Rule 445.
Operations: Water and Waste Water	Water demand based on values found in the Utilities chapter of the DEIR. For purposes of modeling, no septic is assumed. See AQ/GHG appendix of the DEIR for details.
Characteristics: Utility Information	Based on year 2022 CO2e intensity factor of 405 lbs/MWh as reported in SCE's 2023 Sustainability Report.
Operations: Solid Waste	Based on solid waste data from Chapter 5.19, Utilities & Service System, of the DEIR. See AQ/GHG appendix of the DEIR for details.
Construction: Construction Phases	Assumes all activities overlap. See AQ/GHG appendix of the DEIR for details.

4. CalEEMod Output: Operation Existing to be Redeveloped Baseline Year

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ART-02 Existing Op_Baseline Yr v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	ART-02 Existing Op_Baseline Yr v2
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.30
Precipitation (days)	8.00
Location	18635 Pioneer Blvd, Artesia, CA 90701, USA
County	Los Angeles-South Coast
City	Artesia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4709
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	4.00	Dwelling Unit	0.38	7,800	0.00	—	12.0	—

Apartments Low Rise	15.0	Dwelling Unit	1.41	15,900	0.00	—	44.0	—
General Office Building	43.4	1000sqft	3.52	43,422	0.00	—	—	—
Regional Shopping Center	310	1000sqft	21.2	309,506	0.00	—	—	—
Strip Mall	44.7	1000sqft	2.90	44,711	0.00	—	—	—
General Light Industry	26.4	1000sqft	2.24	26,379	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	122	113	72.7	807	1.69	1.27	148	150	1.19	37.7	38.9	315	179,277	179,591	36.3	7.35	684	183,375
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	117	108	79.4	732	1.62	1.24	148	150	1.16	37.7	38.8	315	171,943	172,257	36.8	7.74	26.4	175,510
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	101	92.8	66.7	635	1.36	1.06	122	123	0.99	31.1	32.1	315	145,277	145,592	35.0	6.47	251	148,646
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.4	16.9	12.2	116	0.25	0.19	22.3	22.5	0.18	5.67	5.85	52.1	24,052	24,104	5.80	1.07	41.5	24,610

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	108	98.7	71.2	786	1.69	1.14	148	149	1.06	37.7	38.7	—	172,287	172,287	9.23	7.15	676	175,324
Area	14.1	13.8	0.23	19.5	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	163	163	< 0.005	< 0.005	—	163
Energy	0.14	0.07	1.27	1.02	0.01	0.10	—	0.10	0.10	—	0.10	—	6,590	6,590	0.55	0.05	—	6,620
Water	—	—	—	—	—	—	—	—	—	—	—	67.2	236	304	1.77	0.15	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	247	0.00	247	24.7	0.00	—	866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.91	8.91
Total	122	113	72.7	807	1.69	1.27	148	150	1.19	37.7	38.9	315	179,277	179,591	36.3	7.35	684	183,375
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	106	97.1	78.1	731	1.61	1.14	148	149	1.06	37.7	38.7	—	165,032	165,032	9.71	7.54	17.5	167,539
Area	10.7	10.7	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	84.2	84.2	< 0.005	< 0.005	—	84.3
Energy	0.14	0.07	1.27	1.02	0.01	0.10	—	0.10	0.10	—	0.10	—	6,590	6,590	0.55	0.05	—	6,620
Water	—	—	—	—	—	—	—	—	—	—	—	67.2	236	304	1.77	0.15	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	247	0.00	247	24.7	0.00	—	866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.91	8.91
Total	117	108	79.4	732	1.62	1.24	148	150	1.16	37.7	38.8	315	171,943	172,257	36.8	7.74	26.4	175,510
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	87.6	79.9	65.3	620	1.35	0.94	122	123	0.88	31.1	31.9	—	138,391	138,391	7.98	6.26	242	140,699
Area	13.0	12.8	0.12	13.4	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	59.7	59.7	< 0.005	< 0.005	—	59.9
Energy	0.14	0.07	1.27	1.02	0.01	0.10	—	0.10	0.10	—	0.10	—	6,590	6,590	0.55	0.05	—	6,620
Water	—	—	—	—	—	—	—	—	—	—	—	67.2	236	304	1.77	0.15	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	247	0.00	247	24.7	0.00	—	866

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.91	8.91
Total	101	92.8	66.7	635	1.36	1.06	122	123	0.99	31.1	32.1	315	145,277	145,592	35.0	6.47	251	148,646
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.0	14.6	11.9	113	0.25	0.17	22.3	22.5	0.16	5.67	5.83	—	22,912	22,912	1.32	1.04	40.0	23,294
Area	2.38	2.34	0.02	2.44	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	9.88	9.88	< 0.005	< 0.005	—	9.91
Energy	0.03	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	1,091	1,091	0.09	0.01	—	1,096
Water	—	—	—	—	—	—	—	—	—	—	—	11.1	39.1	50.3	0.29	0.02	—	64.9
Waste	—	—	—	—	—	—	—	—	—	—	—	41.0	0.00	41.0	4.10	0.00	—	143
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47
Total	18.4	16.9	12.2	116	0.25	0.19	22.3	22.5	0.18	5.67	5.85	52.1	24,052	24,104	5.80	1.07	41.5	24,610

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.14	0.13	0.10	1.05	< 0.005	< 0.005	0.20	0.20	< 0.005	0.05	0.05	—	231	231	0.01	0.01	0.91	235
Apartments Low Rise	0.39	0.35	0.25	2.81	0.01	< 0.005	0.53	0.53	< 0.005	0.13	0.14	—	616	616	0.03	0.03	2.41	626
General Office Building	1.79	1.64	1.18	13.1	0.03	0.02	2.47	2.48	0.02	0.63	0.64	—	2,865	2,865	0.15	0.12	11.2	2,915

Regional	95.7	87.6	63.2	698	1.50	1.01	132	133	0.94	33.4	34.4	—	152,931	152,931	8.19	6.35	600	155,627
Strip Mall	9.29	8.50	6.14	67.7	0.15	0.10	12.8	12.9	0.09	3.24	3.34	—	14,841	14,841	0.80	0.62	58.2	15,103
General Light Industry	0.50	0.46	0.33	3.67	0.01	0.01	0.69	0.70	< 0.005	0.18	0.18	—	804	804	0.04	0.03	3.15	818
Total	108	98.7	71.2	786	1.69	1.14	148	149	1.06	37.7	38.7	—	172,287	172,287	9.23	7.15	676	175,324
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.14	0.13	0.10	0.98	< 0.005	< 0.005	0.20	0.20	< 0.005	0.05	0.05	—	221	221	0.01	0.01	0.02	225
Apartments Low Rise	0.38	0.35	0.28	2.61	0.01	< 0.005	0.53	0.53	< 0.005	0.13	0.14	—	590	590	0.03	0.03	0.06	599
General Office Building	1.77	1.62	1.30	12.1	0.03	0.02	2.47	2.48	0.02	0.63	0.64	—	2,744	2,744	0.16	0.13	0.29	2,786
Regional Shopping Center	94.5	86.2	69.3	649	1.43	1.01	132	133	0.94	33.4	34.4	—	146,491	146,491	8.62	6.69	15.5	148,716
Strip Mall	9.17	8.37	6.73	62.9	0.14	0.10	12.8	12.9	0.09	3.24	3.34	—	14,216	14,216	0.84	0.65	1.51	14,432
General Light Industry	0.50	0.45	0.36	3.41	0.01	0.01	0.69	0.70	< 0.005	0.18	0.18	—	770	770	0.05	0.04	0.08	782
Total	106	97.1	78.1	731	1.61	1.14	148	149	1.06	37.7	38.7	—	165,032	165,032	9.71	7.54	17.5	167,539
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.03	0.02	0.02	0.18	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	35.9	35.9	< 0.005	< 0.005	0.06	36.5

Apartments Low Rise	0.06	0.06	0.05	0.44	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	88.2	88.2	0.01	< 0.005	0.15	89.7
General Office Building	0.24	0.22	0.18	1.71	< 0.005	< 0.005	0.34	0.34	< 0.005	0.09	0.09	—	346	346	0.02	0.02	0.60	352
Regional Shopping Center	13.9	12.7	10.4	98.6	0.22	0.15	19.4	19.6	0.14	4.94	5.07	—	19,950	19,950	1.15	0.90	34.8	20,283
Strip Mall	1.66	1.52	1.24	11.8	0.03	0.02	2.32	2.34	0.02	0.59	0.61	—	2,382	2,382	0.14	0.11	4.16	2,421
General Light Industry	0.08	0.07	0.06	0.55	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	110	110	0.01	< 0.005	0.19	112
Total	16.0	14.6	11.9	113	0.25	0.17	22.3	22.5	0.16	5.67	5.83	—	22,912	22,912	1.32	1.04	40.0	23,294

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	30.5	30.5	< 0.005	< 0.005	—	30.6
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	63.5	63.5	0.01	< 0.005	—	63.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	854	854	0.07	0.01	—	859

Regiona Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	3,356	3,356	0.27	0.03	—	3,373
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	485	485	0.04	< 0.005	—	487
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	279	279	0.02	< 0.005	—	281
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,069	5,069	0.42	0.05	—	5,094
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	30.5	30.5	< 0.005	< 0.005	—	30.6
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	63.5	63.5	0.01	< 0.005	—	63.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	854	854	0.07	0.01	—	859
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	3,356	3,356	0.27	0.03	—	3,373
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	485	485	0.04	< 0.005	—	487
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	279	279	0.02	< 0.005	—	281
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,069	5,069	0.42	0.05	—	5,094
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5.04	5.04	< 0.005	< 0.005	—	5.07

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5	< 0.005	< 0.005	—	10.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	141	141	0.01	< 0.005	—	142
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	556	556	0.05	0.01	—	558
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	80.3	80.3	0.01	< 0.005	—	80.7
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	< 0.005	< 0.005	—	46.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	839	839	0.07	0.01	—	843

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.1	49.1	< 0.005	< 0.005	—	49.3
Apartments Low Rise	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78.4	78.4	0.01	< 0.005	—	78.6
General Office Building	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	353	353	0.03	< 0.005	—	354

Regional Shopping	0.05	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	594	594	0.05	< 0.005	—	596
Strip Mall	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	85.8	85.8	0.01	< 0.005	—	86.0
General Light Industry	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	362	362	0.03	< 0.005	—	363
Total	0.14	0.07	1.27	1.02	0.01	0.10	—	0.10	0.10	—	0.10	—	1,522	1,522	0.13	< 0.005	—	1,526
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.1	49.1	< 0.005	< 0.005	—	49.3
Apartments Low Rise	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78.4	78.4	0.01	< 0.005	—	78.6
General Office Building	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	353	353	0.03	< 0.005	—	354
Regional Shopping Center	0.05	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	594	594	0.05	< 0.005	—	596
Strip Mall	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	85.8	85.8	0.01	< 0.005	—	86.0
General Light Industry	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	362	362	0.03	< 0.005	—	363
Total	0.14	0.07	1.27	1.02	0.01	0.10	—	0.10	0.10	—	0.10	—	1,522	1,522	0.13	< 0.005	—	1,526
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.14	8.14	< 0.005	< 0.005	—	8.16

Apartment Low Rise	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.0
General Office Building	0.01	< 0.005	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.4	58.4	0.01	< 0.005	—	58.6
Regional Shopping Center	0.01	< 0.005	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.3	98.3	0.01	< 0.005	—	98.6
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
General Light Industry	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	59.9	59.9	0.01	< 0.005	—	60.1
Total	0.03	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	252	252	0.02	< 0.005	—	253

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	84.2	84.2	< 0.005	< 0.005	—	84.3
Consumer Products	9.58	9.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.12	1.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	3.38	3.12	0.17	19.5	< 0.005	0.03	—	0.03	0.03	—	0.03	—	78.7	78.7	< 0.005	< 0.005	—	79.0
Total	14.1	13.8	0.23	19.5	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	163	163	< 0.005	< 0.005	—	163
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	84.2	84.2	< 0.005	< 0.005	—	84.3
Consumer Products	9.58	9.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.12	1.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	10.7	10.7	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	84.2	84.2	< 0.005	< 0.005	—	84.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.96	0.96	< 0.005	< 0.005	—	0.96
Consumer Products	1.75	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.20	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.42	0.39	0.02	2.44	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.93	8.93	< 0.005	< 0.005	—	8.96
Total	2.38	2.34	0.02	2.44	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	9.88	9.88	< 0.005	< 0.005	—	9.91

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.95	3.34	4.28	0.03	< 0.005	—	5.54
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	2.13	7.51	9.64	0.06	< 0.005	—	12.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	7.92	27.9	35.8	0.21	0.02	—	46.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	42.3	149	191	1.12	0.09	—	247
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	13.3	46.6	59.9	0.35	0.03	—	77.4
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.60	2.12	2.72	0.02	< 0.005	—	3.51
Total	—	—	—	—	—	—	—	—	—	—	—	67.2	236	304	1.77	0.15	—	392
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.95	3.34	4.28	0.03	< 0.005	—	5.54
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	2.13	7.51	9.64	0.06	< 0.005	—	12.5

General Office Building	—	—	—	—	—	—	—	—	—	—	—	7.92	27.9	35.8	0.21	0.02	—	46.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	42.3	149	191	1.12	0.09	—	247
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	13.3	46.6	59.9	0.35	0.03	—	77.4
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.60	2.12	2.72	0.02	< 0.005	—	3.51
Total	—	—	—	—	—	—	—	—	—	—	—	67.2	236	304	1.77	0.15	—	392
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.16	0.55	0.71	< 0.005	< 0.005	—	0.92
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.35	1.24	1.60	0.01	< 0.005	—	2.06
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.31	4.61	5.92	0.03	< 0.005	—	7.66
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	7.01	24.7	31.7	0.18	0.02	—	40.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.19	7.72	9.91	0.06	< 0.005	—	12.8
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.10	0.35	0.45	< 0.005	< 0.005	—	0.58
Total	—	—	—	—	—	—	—	—	—	—	—	11.1	39.1	50.3	0.29	0.02	—	64.9

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	5.92	0.00	5.92	0.59	0.00	—	20.7
General Office Building	—	—	—	—	—	—	—	—	—	—	—	21.8	0.00	21.8	2.18	0.00	—	76.1
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	25.3	0.00	25.3	2.53	0.00	—	88.5
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	17.6	0.00	17.6	1.76	0.00	—	61.7
Total	—	—	—	—	—	—	—	—	—	—	—	247	0.00	247	24.7	0.00	—	866
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00

Apartments	—	—	—	—	—	—	—	—	—	—	—	5.92	0.00	5.92	0.59	0.00	—	20.7
General Office Building	—	—	—	—	—	—	—	—	—	—	—	21.8	0.00	21.8	2.18	0.00	—	76.1
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	25.3	0.00	25.3	2.53	0.00	—	88.5
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	17.6	0.00	17.6	1.76	0.00	—	61.7
Total	—	—	—	—	—	—	—	—	—	—	—	247	0.00	247	24.7	0.00	—	866
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.99
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.43
General Office Building	—	—	—	—	—	—	—	—	—	—	—	3.60	0.00	3.60	0.36	0.00	—	12.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	29.0	0.00	29.0	2.90	0.00	—	101
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.19	0.00	4.19	0.42	0.00	—	14.7
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.92	0.00	2.92	0.29	0.00	—	10.2
Total	—	—	—	—	—	—	—	—	—	—	—	41.0	0.00	41.0	4.10	0.00	—	143

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.49	1.49
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.28	0.28
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.87	6.87
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.91	8.91
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.49	1.49
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.28	0.28
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.87	6.87
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.91	8.91
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.14	1.14
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	37.0	37.9	33.9	13,392	274	281	251	99,104
Apartments Low Rise	101	68.3	57.9	32,910	747	505	428	243,534
General Office Building	470	96.0	30.4	129,124	3,478	710	225	955,520
Regional Shopping Center	20,897	25,092	13,210	7,445,289	154,638	185,678	97,752	55,095,140
Strip Mall	2,435	2,435	2,435	888,775	18,019	18,019	18,019	6,576,935
General Light Industry	128	18.2	132	41,198	947	135	976	304,864

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	4
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0

Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	15
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
47992.5	15,998	636,027	212,009	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)

Single Family Housing	27,581	403	0.0330	0.0040	153,341
Apartments Low Rise	57,526	403	0.0330	0.0040	244,585
General Office Building	773,792	403	0.0330	0.0040	1,100,594
Regional Shopping Center	3,039,772	403	0.0330	0.0040	1,852,995
Strip Mall	439,123	403	0.0330	0.0040	267,682
General Light Industry	253,047	403	0.0330	0.0040	1,129,072

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	443,866	0.00
Apartments Low Rise	998,699	0.00
General Office Building	3,706,454	0.00
Regional Shopping Center	19,814,319	0.00
Strip Mall	6,201,783	0.00
General Light Industry	281,460	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	3.18	—
Apartments Low Rise	11.0	—
General Office Building	40.4	—
Regional Shopping Center	325	—
Strip Mall	46.9	—
General Light Industry	32.7	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.52	annual days of extreme heat
Extreme Precipitation	4.10	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A

Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	37.6
AQ-PM	72.4
AQ-DPM	49.2
Drinking Water	47.9
Lead Risk Housing	72.5
Pesticides	43.9
Toxic Releases	89.3
Traffic	39.5
Effect Indicators	—
CleanUp Sites	27.5
Groundwater	67.5
Haz Waste Facilities/Generators	26.7
Impaired Water Bodies	0.00
Solid Waste	86.9
Sensitive Population	—
Asthma	23.2
Cardio-vascular	46.8
Low Birth Weights	75.6
Socioeconomic Factor Indicators	—
Education	66.3
Housing	81.3
Linguistic	44.8
Poverty	42.8
Unemployment	25.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	55.20338766
Employed	42.62799949
Median HI	48.26126011
Education	—
Bachelor's or higher	52.44450148
High school enrollment	9.29038881
Preschool enrollment	21.429488
Transportation	—
Auto Access	34.87745413
Active commuting	67.53496728
Social	—
2-parent households	19.00423457
Voting	30.50173232
Neighborhood	—
Alcohol availability	31.23315796
Park access	81.35506224
Retail density	47.32452201
Supermarket access	69.71641216
Tree canopy	39.75362505
Housing	—
Homeownership	38.72706275
Housing habitability	18.33696907
Low-inc homeowner severe housing cost burden	20.62107019
Low-inc renter severe housing cost burden	23.55960477

Uncrowded housing	28.33311947
Health Outcomes	—
Insured adults	31.82343128
Arthritis	0.0
Asthma ER Admissions	68.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	26.2
Cognitively Disabled	9.0
Physically Disabled	30.9
Heart Attack ER Admissions	37.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	75.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	90.9
Elderly	40.9
English Speaking	13.9
Foreign-born	93.7
Outdoor Workers	93.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	15.3
Traffic Density	49.9
Traffic Access	23.0
Other Indices	—
Hardship	53.9
Other Decision Support	—
2016 Voting	27.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64.0
Healthy Places Index Score for Project Location (b)	35.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Based on land use numbers determined for the project.
Operations: Vehicle Data	Based on data provided by traffic consultant.
Operations: Hearths	Assumes natural gas fireplace for single-family homes and no fireplaces for multi-family units.
Operations: Water and Waste Water	Water demand based on values found in the Utilities chapter of the DEIR. For purposes of modeling, no septic is assumed.
Characteristics: Utility Information	Based on year 2022 CO2e intensity factor of 405 lbs/MWh as reported in SCE's 2023 Sustainability Report.

5. CalEEMod Output: Operation Existing to be Redeveloped – Year 2045

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ART-02 Existing Op_Yr 2045 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	ART-02 Existing Op_Yr 2045
Operational Year	2045
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.30
Precipitation (days)	8.00
Location	18635 Pioneer Blvd, Artesia, CA 90701, USA
County	Los Angeles-South Coast
City	Artesia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4709
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	4.00	Dwelling Unit	0.38	7,800	0.00	—	12.0	—

Apartments Low Rise	15.0	Dwelling Unit	1.41	15,900	0.00	—	44.0	—
General Office Building	43.4	1000sqft	3.52	43,422	0.00	—	—	—
Regional Shopping Center	310	1000sqft	21.2	309,506	0.00	—	—	—
Strip Mall	44.7	1000sqft	2.90	44,711	0.00	—	—	—
General Light Industry	26.4	1000sqft	2.24	26,379	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	72.6	68.0	31.3	470	1.29	0.59	147	148	0.55	37.3	37.9	315	137,167	137,481	31.4	4.60	40.1	139,678
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	69.2	64.8	34.0	415	1.23	0.56	147	148	0.53	37.3	37.8	315	131,427	131,741	31.6	4.83	9.71	133,981
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	61.0	57.3	28.6	366	1.03	0.50	121	122	0.47	30.8	31.2	315	111,340	111,655	30.8	4.04	20.1	113,650
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.1	10.5	5.21	66.9	0.19	0.09	22.1	22.2	0.09	5.61	5.70	52.1	18,434	18,486	5.10	0.67	3.32	18,816

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	58.3	54.1	29.8	450	1.28	0.46	147	147	0.43	37.3	37.7	—	130,177	130,177	4.36	4.40	31.2	131,628
Area	14.1	13.8	0.23	19.6	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	163	163	< 0.005	< 0.005	—	163
Energy	0.14	0.07	1.27	1.02	0.01	0.10	—	0.10	0.10	—	0.10	—	6,590	6,590	0.55	0.05	—	6,620
Water	—	—	—	—	—	—	—	—	—	—	—	67.2	236	304	1.77	0.15	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	247	0.00	247	24.7	0.00	—	866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.91	8.91
Total	72.6	68.0	31.3	470	1.29	0.59	147	148	0.55	37.3	37.9	315	137,167	137,481	31.4	4.60	40.1	139,678
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	58.3	54.1	32.7	414	1.22	0.46	147	147	0.43	37.3	37.7	—	124,516	124,516	4.54	4.63	0.81	126,009
Area	10.7	10.7	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	84.2	84.2	< 0.005	< 0.005	—	84.3
Energy	0.14	0.07	1.27	1.02	0.01	0.10	—	0.10	0.10	—	0.10	—	6,590	6,590	0.55	0.05	—	6,620
Water	—	—	—	—	—	—	—	—	—	—	—	67.2	236	304	1.77	0.15	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	247	0.00	247	24.7	0.00	—	866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.91	8.91
Total	69.2	64.8	34.0	415	1.23	0.56	147	148	0.53	37.3	37.8	315	131,427	131,741	31.6	4.83	9.71	133,981
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	47.9	44.4	27.2	352	1.03	0.38	121	122	0.35	30.8	31.1	—	104,454	104,454	3.73	3.84	11.2	105,703
Area	13.0	12.8	0.12	13.4	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	59.7	59.7	< 0.005	< 0.005	—	59.9
Energy	0.14	0.07	1.27	1.02	0.01	0.10	—	0.10	0.10	—	0.10	—	6,590	6,590	0.55	0.05	—	6,620
Water	—	—	—	—	—	—	—	—	—	—	—	67.2	236	304	1.77	0.15	—	392
Waste	—	—	—	—	—	—	—	—	—	—	—	247	0.00	247	24.7	0.00	—	866

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.91	8.91
Total	61.0	57.3	28.6	366	1.03	0.50	121	122	0.47	30.8	31.2	315	111,340	111,655	30.8	4.04	20.1	113,650
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.74	8.09	4.96	64.2	0.19	0.07	22.1	22.2	0.06	5.61	5.68	—	17,294	17,294	0.62	0.64	1.85	17,500
Area	2.38	2.34	0.02	2.44	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	9.88	9.88	< 0.005	< 0.005	—	9.91
Energy	0.03	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	1,091	1,091	0.09	0.01	—	1,096
Water	—	—	—	—	—	—	—	—	—	—	—	11.1	39.1	50.3	0.29	0.02	—	64.9
Waste	—	—	—	—	—	—	—	—	—	—	—	41.0	0.00	41.0	4.10	0.00	—	143
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47
Total	11.1	10.5	5.21	66.9	0.19	0.09	22.1	22.2	0.09	5.61	5.70	52.1	18,434	18,486	5.10	0.67	3.32	18,816

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.08	0.07	0.04	0.60	< 0.005	< 0.005	0.20	0.20	< 0.005	0.05	0.05	—	175	175	0.01	0.01	0.04	177
Apartments Low Rise	0.21	0.19	0.11	1.61	< 0.005	< 0.005	0.53	0.53	< 0.005	0.13	0.13	—	465	465	0.02	0.02	0.11	470
General Office Building	0.97	0.90	0.50	7.48	0.02	0.01	2.44	2.45	0.01	0.62	0.63	—	2,164	2,164	0.07	0.07	0.52	2,189

Regional	51.8	48.0	26.5	399	1.14	0.41	131	131	0.38	33.1	33.5	—	115,552	115,552	3.87	3.90	27.7	116,839
Strip Mall	5.03	4.66	2.57	38.7	0.11	0.04	12.7	12.7	0.04	3.21	3.25	—	11,214	11,214	0.38	0.38	2.69	11,339
General Light Industry	0.27	0.25	0.14	2.10	0.01	< 0.005	0.69	0.69	< 0.005	0.17	0.18	—	607	607	0.02	0.02	0.15	614
Total	58.3	54.1	29.8	450	1.28	0.46	147	147	0.43	37.3	37.7	—	130,177	130,177	4.36	4.40	31.2	131,628
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.08	0.07	0.04	0.56	< 0.005	< 0.005	0.20	0.20	< 0.005	0.05	0.05	—	167	167	0.01	0.01	< 0.005	169
Apartments Low Rise	0.21	0.19	0.12	1.48	< 0.005	< 0.005	0.53	0.53	< 0.005	0.13	0.13	—	445	445	0.02	0.02	< 0.005	450
General Office Building	0.97	0.90	0.54	6.88	0.02	0.01	2.44	2.45	0.01	0.62	0.63	—	2,070	2,070	0.08	0.08	0.01	2,095
Regional Shopping Center	51.8	48.0	29.0	368	1.09	0.41	131	131	0.38	33.1	33.5	—	110,527	110,527	4.03	4.11	0.72	111,852
Strip Mall	5.02	4.66	2.82	35.7	0.11	0.04	12.7	12.7	0.04	3.21	3.25	—	10,726	10,726	0.39	0.40	0.07	10,855
General Light Industry	0.27	0.25	0.15	1.93	0.01	< 0.005	0.69	0.69	< 0.005	0.17	0.18	—	581	581	0.02	0.02	< 0.005	588
Total	58.3	54.1	32.7	414	1.22	0.46	147	147	0.43	37.3	37.7	—	124,516	124,516	4.54	4.63	0.81	126,009
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.01	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	27.1	27.1	< 0.005	< 0.005	< 0.005	27.4

Apartments Low Rise	0.03	0.03	0.02	0.25	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	66.6	66.6	< 0.005	< 0.005	0.01	67.4
General Office Building	0.13	0.12	0.07	0.97	< 0.005	< 0.005	0.33	0.34	< 0.005	0.08	0.09	—	261	261	0.01	0.01	0.03	264
Regional Shopping Center	7.61	7.05	4.32	55.9	0.16	0.06	19.3	19.3	0.06	4.89	4.94	—	15,058	15,058	0.54	0.55	1.61	15,238
Strip Mall	0.91	0.84	0.52	6.68	0.02	0.01	2.30	2.31	0.01	0.58	0.59	—	1,798	1,798	0.06	0.07	0.19	1,819
General Light Industry	0.04	0.04	0.02	0.31	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	83.3	83.3	< 0.005	< 0.005	0.01	84.3
Total	8.74	8.09	4.96	64.2	0.19	0.07	22.1	22.2	0.06	5.61	5.68	—	17,294	17,294	0.62	0.64	1.85	17,500

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	30.5	30.5	< 0.005	< 0.005	—	30.6
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	63.5	63.5	0.01	< 0.005	—	63.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	854	854	0.07	0.01	—	859

Regiona Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	3,356	3,356	0.27	0.03	—	3,373
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	485	485	0.04	< 0.005	—	487
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	279	279	0.02	< 0.005	—	281
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,069	5,069	0.42	0.05	—	5,094
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	30.5	30.5	< 0.005	< 0.005	—	30.6
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	63.5	63.5	0.01	< 0.005	—	63.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	854	854	0.07	0.01	—	859
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	3,356	3,356	0.27	0.03	—	3,373
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	485	485	0.04	< 0.005	—	487
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	279	279	0.02	< 0.005	—	281
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,069	5,069	0.42	0.05	—	5,094
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5.04	5.04	< 0.005	< 0.005	—	5.07

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5	< 0.005	< 0.005	—	10.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	141	141	0.01	< 0.005	—	142
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	556	556	0.05	0.01	—	558
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	80.3	80.3	0.01	< 0.005	—	80.7
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	< 0.005	< 0.005	—	46.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	839	839	0.07	0.01	—	843

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.1	49.1	< 0.005	< 0.005	—	49.3
Apartments Low Rise	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78.4	78.4	0.01	< 0.005	—	78.6
General Office Building	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	353	353	0.03	< 0.005	—	354

Regional Shopping	0.05	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	594	594	0.05	< 0.005	—	596
Strip Mall	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	85.8	85.8	0.01	< 0.005	—	86.0
General Light Industry	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	362	362	0.03	< 0.005	—	363
Total	0.14	0.07	1.27	1.02	0.01	0.10	—	0.10	0.10	—	0.10	—	1,522	1,522	0.13	< 0.005	—	1,526
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.1	49.1	< 0.005	< 0.005	—	49.3
Apartments Low Rise	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78.4	78.4	0.01	< 0.005	—	78.6
General Office Building	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	353	353	0.03	< 0.005	—	354
Regional Shopping Center	0.05	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	594	594	0.05	< 0.005	—	596
Strip Mall	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	85.8	85.8	0.01	< 0.005	—	86.0
General Light Industry	0.03	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	362	362	0.03	< 0.005	—	363
Total	0.14	0.07	1.27	1.02	0.01	0.10	—	0.10	0.10	—	0.10	—	1,522	1,522	0.13	< 0.005	—	1,526
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.14	8.14	< 0.005	< 0.005	—	8.16

Apartment Low Rise	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.0
General Office Building	0.01	< 0.005	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.4	58.4	0.01	< 0.005	—	58.6
Regional Shopping Center	0.01	< 0.005	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.3	98.3	0.01	< 0.005	—	98.6
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
General Light Industry	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	59.9	59.9	0.01	< 0.005	—	60.1
Total	0.03	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	252	252	0.02	< 0.005	—	253

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	84.2	84.2	< 0.005	< 0.005	—	84.3
Consumer Products	9.58	9.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.12	1.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	3.38	3.12	0.17	19.5	< 0.005	0.03	—	0.03	0.03	—	0.03	—	78.7	78.7	< 0.005	< 0.005	—	79.0
Total	14.1	13.8	0.23	19.6	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	163	163	< 0.005	< 0.005	—	163
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	84.2	84.2	< 0.005	< 0.005	—	84.3
Consumer Products	9.58	9.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.12	1.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	10.7	10.7	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	84.2	84.2	< 0.005	< 0.005	—	84.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.96	0.96	< 0.005	< 0.005	—	0.96
Consumer Products	1.75	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.20	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.42	0.39	0.02	2.44	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.93	8.93	< 0.005	< 0.005	—	8.96
Total	2.38	2.34	0.02	2.44	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	9.88	9.88	< 0.005	< 0.005	—	9.91

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.95	3.34	4.28	0.03	< 0.005	—	5.54
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	2.13	7.51	9.64	0.06	< 0.005	—	12.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	7.92	27.9	35.8	0.21	0.02	—	46.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	42.3	149	191	1.12	0.09	—	247
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	13.3	46.6	59.9	0.35	0.03	—	77.4
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.60	2.12	2.72	0.02	< 0.005	—	3.51
Total	—	—	—	—	—	—	—	—	—	—	—	67.2	236	304	1.77	0.15	—	392
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.95	3.34	4.28	0.03	< 0.005	—	5.54
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	2.13	7.51	9.64	0.06	< 0.005	—	12.5

General Office Building	—	—	—	—	—	—	—	—	—	—	—	7.92	27.9	35.8	0.21	0.02	—	46.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	42.3	149	191	1.12	0.09	—	247
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	13.3	46.6	59.9	0.35	0.03	—	77.4
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.60	2.12	2.72	0.02	< 0.005	—	3.51
Total	—	—	—	—	—	—	—	—	—	—	—	67.2	236	304	1.77	0.15	—	392
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.16	0.55	0.71	< 0.005	< 0.005	—	0.92
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.35	1.24	1.60	0.01	< 0.005	—	2.06
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.31	4.61	5.92	0.03	< 0.005	—	7.66
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	7.01	24.7	31.7	0.18	0.02	—	40.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.19	7.72	9.91	0.06	< 0.005	—	12.8
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.10	0.35	0.45	< 0.005	< 0.005	—	0.58
Total	—	—	—	—	—	—	—	—	—	—	—	11.1	39.1	50.3	0.29	0.02	—	64.9

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	5.92	0.00	5.92	0.59	0.00	—	20.7
General Office Building	—	—	—	—	—	—	—	—	—	—	—	21.8	0.00	21.8	2.18	0.00	—	76.1
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	25.3	0.00	25.3	2.53	0.00	—	88.5
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	17.6	0.00	17.6	1.76	0.00	—	61.7
Total	—	—	—	—	—	—	—	—	—	—	—	247	0.00	247	24.7	0.00	—	866
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00

Apartments	—	—	—	—	—	—	—	—	—	—	—	5.92	0.00	5.92	0.59	0.00	—	20.7
General Office Building	—	—	—	—	—	—	—	—	—	—	—	21.8	0.00	21.8	2.18	0.00	—	76.1
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	175	0.00	175	17.5	0.00	—	613
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	25.3	0.00	25.3	2.53	0.00	—	88.5
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	17.6	0.00	17.6	1.76	0.00	—	61.7
Total	—	—	—	—	—	—	—	—	—	—	—	247	0.00	247	24.7	0.00	—	866
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.99
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.98	0.00	0.98	0.10	0.00	—	3.43
General Office Building	—	—	—	—	—	—	—	—	—	—	—	3.60	0.00	3.60	0.36	0.00	—	12.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	29.0	0.00	29.0	2.90	0.00	—	101
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.19	0.00	4.19	0.42	0.00	—	14.7
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.92	0.00	2.92	0.29	0.00	—	10.2
Total	—	—	—	—	—	—	—	—	—	—	—	41.0	0.00	41.0	4.10	0.00	—	143

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.49	1.49
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.28	0.28
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.87	6.87
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.91	8.91
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.49	1.49
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.28	0.28
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.87	6.87
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.91	8.91
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.14	1.14
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	37.0	37.9	33.9	13,392	272	279	250	98,568
Apartments Low Rise	101	68.3	57.9	32,910	743	502	426	242,217
General Office Building	470	96.0	30.4	129,124	3,459	706	224	950,355
Regional Shopping Center	20,897	25,092	13,210	7,445,289	153,802	184,675	97,224	54,797,328
Strip Mall	2,435	2,435	2,435	888,775	17,922	17,922	17,922	6,541,384
General Light Industry	128	18.2	132	41,198	942	134	971	303,216

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	4
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0

Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	15
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
47992.5	15,998	636,027	212,009	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)

Single Family Housing	27,581	403	0.0330	0.0040	153,341
Apartments Low Rise	57,526	403	0.0330	0.0040	244,585
General Office Building	773,792	403	0.0330	0.0040	1,100,594
Regional Shopping Center	3,039,772	403	0.0330	0.0040	1,852,995
Strip Mall	439,123	403	0.0330	0.0040	267,682
General Light Industry	253,047	403	0.0330	0.0040	1,129,072

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	443,866	0.00
Apartments Low Rise	998,699	0.00
General Office Building	3,706,454	0.00
Regional Shopping Center	19,814,319	0.00
Strip Mall	6,201,783	0.00
General Light Industry	281,460	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	3.18	—
Apartments Low Rise	11.0	—
General Office Building	40.4	—
Regional Shopping Center	325	—
Strip Mall	46.9	—
General Light Industry	32.7	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.52	annual days of extreme heat
Extreme Precipitation	4.10	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A

Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	37.6
AQ-PM	72.4
AQ-DPM	49.2
Drinking Water	47.9
Lead Risk Housing	72.5
Pesticides	43.9
Toxic Releases	89.3
Traffic	39.5
Effect Indicators	—
CleanUp Sites	27.5
Groundwater	67.5
Haz Waste Facilities/Generators	26.7
Impaired Water Bodies	0.00
Solid Waste	86.9
Sensitive Population	—
Asthma	23.2
Cardio-vascular	46.8
Low Birth Weights	75.6
Socioeconomic Factor Indicators	—
Education	66.3
Housing	81.3
Linguistic	44.8
Poverty	42.8
Unemployment	25.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	55.20338766
Employed	42.62799949
Median HI	48.26126011
Education	—
Bachelor's or higher	52.44450148
High school enrollment	9.29038881
Preschool enrollment	21.429488
Transportation	—
Auto Access	34.87745413
Active commuting	67.53496728
Social	—
2-parent households	19.00423457
Voting	30.50173232
Neighborhood	—
Alcohol availability	31.23315796
Park access	81.35506224
Retail density	47.32452201
Supermarket access	69.71641216
Tree canopy	39.75362505
Housing	—
Homeownership	38.72706275
Housing habitability	18.33696907
Low-inc homeowner severe housing cost burden	20.62107019
Low-inc renter severe housing cost burden	23.55960477

Uncrowded housing	28.33311947
Health Outcomes	—
Insured adults	31.82343128
Arthritis	0.0
Asthma ER Admissions	68.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	26.2
Cognitively Disabled	9.0
Physically Disabled	30.9
Heart Attack ER Admissions	37.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	75.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	90.9
Elderly	40.9
English Speaking	13.9
Foreign-born	93.7
Outdoor Workers	93.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	15.3
Traffic Density	49.9
Traffic Access	23.0
Other Indices	—
Hardship	53.9
Other Decision Support	—
2016 Voting	27.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64.0
Healthy Places Index Score for Project Location (b)	35.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Based on land use numbers determined for the project.
Operations: Vehicle Data	Based on data provided by traffic consultant.
Operations: Hearths	Assumes natural gas fireplace for single-family homes and no fireplaces for multi-family units.
Operations: Water and Waste Water	Water demand based on values found in the Utilities chapter of the DEIR. For purposes of modeling, no septic is assumed.
Characteristics: Utility Information	Based on year 2022 CO2e intensity factor of 405 lbs/MWh as reported in SCE's 2023 Sustainability Report.

6. CalEEMod Output: Operation Proposed Project

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ART-02 Proposed New Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	ART-02 Proposed New
Operational Year	2045
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.30
Precipitation (days)	8.00
Location	18635 Pioneer Blvd, Artesia, CA 90701, USA
County	Los Angeles-South Coast
City	Artesia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4709
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Low Rise	1,981	Dwelling Unit	4.52	2,099,860	0.00	—	5,864	—

General Office Building	106	1000sqft	4.52	105,730	0.00	—	—	—
Quality Restaurant	23.4	1000sqft	4.52	23,418	0.00	—	—	—
High Turnover (Sit Down Restaurant)	135	1000sqft	4.52	135,177	0.00	—	—	—
Regional Shopping Center	134	1000sqft	4.52	133,818	0.00	—	—	—
Strip Mall	24.8	1000sqft	4.52	24,777	0.00	—	—	—
Hotel	150	Room	4.52	80,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	149	140	86.1	672	1.73	4.46	159	163	4.40	40.3	44.7	5,259	227,024	232,283	489	7.10	427	247,047
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	135	127	88.3	499	1.67	4.37	159	163	4.33	40.3	44.6	5,259	220,678	225,938	489	7.35	390	240,744
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	131	125	52.7	520	1.29	1.87	135	137	1.83	34.4	36.2	5,259	163,569	168,828	487	6.48	403	183,349
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	23.8	22.7	9.62	94.9	0.24	0.34	24.7	25.0	0.33	6.27	6.60	871	27,081	27,951	80.7	1.07	66.7	30,356

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	68.8	63.5	37.3	514	1.42	0.56	159	159	0.52	40.3	40.8	—	145,126	145,126	5.22	5.40	37.7	146,905
Area	78.6	75.9	34.1	149	0.22	2.75	—	2.75	2.72	—	2.72	0.00	42,102	42,102	0.80	0.08	—	42,147
Energy	1.67	0.83	14.7	8.93	0.09	1.15	—	1.15	1.15	—	1.15	—	37,595	37,595	3.20	0.23	—	37,743
Water	—	—	—	—	—	—	—	—	—	—	—	626	2,200	2,826	16.5	1.39	—	3,652
Waste	—	—	—	—	—	—	—	—	—	—	—	4,634	0.00	4,634	463	0.00	—	16,212
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	389	389
Total	149	140	86.1	672	1.73	4.46	159	163	4.40	40.3	44.7	5,259	227,024	232,283	489	7.10	427	247,047
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	68.8	63.5	40.8	476	1.37	0.56	159	159	0.52	40.3	40.8	—	139,171	139,171	5.40	5.66	0.98	140,993
Area	64.4	62.5	32.9	14.0	0.21	2.66	—	2.66	2.66	—	2.66	0.00	41,712	41,712	0.79	0.08	—	41,755
Energy	1.67	0.83	14.7	8.93	0.09	1.15	—	1.15	1.15	—	1.15	—	37,595	37,595	3.20	0.23	—	37,743
Water	—	—	—	—	—	—	—	—	—	—	—	626	2,200	2,826	16.5	1.39	—	3,652
Waste	—	—	—	—	—	—	—	—	—	—	—	4,634	0.00	4,634	463	0.00	—	16,212
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	389	389
Total	135	127	88.3	499	1.67	4.37	159	163	4.33	40.3	44.6	5,259	220,678	225,938	489	7.35	390	240,744
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	58.4	53.8	35.0	418	1.18	0.48	135	136	0.45	34.4	34.8	—	120,649	120,649	4.61	4.86	14.0	122,225
Area	70.6	69.9	3.09	93.3	0.02	0.24	—	0.24	0.23	—	0.23	0.00	3,124	3,124	0.06	0.01	—	3,128
Energy	1.67	0.83	14.7	8.93	0.09	1.15	—	1.15	1.15	—	1.15	—	37,595	37,595	3.20	0.23	—	37,743

Water	—	—	—	—	—	—	—	—	—	—	—	626	2,200	2,826	16.5	1.39	—	3,652
Waste	—	—	—	—	—	—	—	—	—	—	—	4,634	0.00	4,634	463	0.00	—	16,212
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	389	389
Total	131	125	52.7	520	1.29	1.87	135	137	1.83	34.4	36.2	5,259	163,569	168,828	487	6.48	403	183,349
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.7	9.82	6.39	76.3	0.22	0.09	24.7	24.8	0.08	6.27	6.35	—	19,975	19,975	0.76	0.80	2.31	20,236
Area	12.9	12.7	0.56	17.0	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	517	517	0.01	< 0.005	—	518
Energy	0.30	0.15	2.67	1.63	0.02	0.21	—	0.21	0.21	—	0.21	—	6,224	6,224	0.53	0.04	—	6,249
Water	—	—	—	—	—	—	—	—	—	—	—	104	364	468	2.73	0.23	—	605
Waste	—	—	—	—	—	—	—	—	—	—	—	767	0.00	767	76.7	0.00	—	2,684
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	64.4	64.4
Total	23.8	22.7	9.62	94.9	0.24	0.34	24.7	25.0	0.33	6.27	6.60	871	27,081	27,951	80.7	1.07	66.7	30,356

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	15.9	14.7	8.62	119	0.33	0.13	36.6	36.7	0.12	9.30	9.42	—	33,503	33,503	1.21	1.25	8.71	33,914
General Office Building	1.69	1.56	0.92	12.6	0.03	0.01	3.89	3.90	0.01	0.99	1.00	—	3,559	3,559	0.13	0.13	0.93	3,602

Quality Restaurant	3.10	2.87	1.69	23.2	0.06	0.03	7.16	7.18	0.02	1.82	1.84	—	6,548	6,548	0.24	0.24	1.70	6,628
High Turnover (Sit Down Restaurant)	28.4	26.2	15.4	212	0.59	0.23	65.4	65.7	0.21	16.6	16.8	—	59,878	59,878	2.15	2.23	15.6	60,612
Regional Shopping Center	16.0	14.7	8.67	119	0.33	0.13	36.8	36.9	0.12	9.35	9.47	—	33,690	33,690	1.21	1.25	8.76	34,103
Strip Mall	1.99	1.83	1.08	14.8	0.04	0.02	4.58	4.59	0.02	1.16	1.18	—	4,189	4,189	0.15	0.16	1.09	4,241
Hotel	1.78	1.65	0.97	13.3	0.04	0.01	4.11	4.12	0.01	1.04	1.06	—	3,759	3,759	0.14	0.14	0.98	3,805
Total	68.8	63.5	37.3	514	1.42	0.56	159	159	0.52	40.3	40.8	—	145,126	145,126	5.22	5.40	37.7	146,905
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	15.9	14.7	9.41	110	0.32	0.13	36.6	36.7	0.12	9.30	9.42	—	32,128	32,128	1.25	1.31	0.23	32,549
General Office Building	1.69	1.56	1.00	11.7	0.03	0.01	3.89	3.90	0.01	0.99	1.00	—	3,413	3,413	0.13	0.14	0.02	3,457
Quality Restaurant	3.10	2.86	1.84	21.5	0.06	0.03	7.16	7.18	0.02	1.82	1.84	—	6,279	6,279	0.24	0.26	0.04	6,362
High Turnover (Sit Down Restaurant)	28.4	26.2	16.8	196	0.56	0.23	65.4	65.7	0.21	16.6	16.8	—	57,421	57,421	2.23	2.33	0.40	58,173
Regional Shopping Center	16.0	14.7	9.46	111	0.32	0.13	36.8	36.9	0.12	9.35	9.47	—	32,307	32,307	1.25	1.31	0.23	32,730

Strip Mall	1.99	1.83	1.18	13.7	0.04	0.02	4.58	4.59	0.02	1.16	1.18	—	4,017	4,017	0.16	0.16	0.03	4,070
Hotel	1.78	1.64	1.06	12.3	0.04	0.01	4.11	4.12	0.01	1.04	1.06	—	3,605	3,605	0.14	0.15	0.03	3,652
Total	68.8	63.5	40.8	476	1.37	0.56	159	159	0.52	40.3	40.8	—	139,171	139,171	5.40	5.66	0.98	140,993
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	2.78	2.56	1.67	19.9	0.06	0.02	6.44	6.46	0.02	1.64	1.66	—	5,213	5,213	0.20	0.21	0.60	5,281
General Office Building	0.23	0.21	0.14	1.64	< 0.005	< 0.005	0.53	0.53	< 0.005	0.14	0.14	—	430	430	0.02	0.02	0.05	436
Quality Restaurant	0.52	0.48	0.31	3.70	0.01	< 0.005	1.20	1.20	< 0.005	0.30	0.31	—	970	970	0.04	0.04	0.11	982
High Turnover (Sit Down Restaurant)	4.11	3.79	2.47	29.5	0.08	0.03	9.53	9.57	0.03	2.42	2.45	—	7,715	7,715	0.29	0.31	0.89	7,815
Regional Shopping Center	2.35	2.16	1.41	16.8	0.05	0.02	5.43	5.45	0.02	1.38	1.40	—	4,398	4,398	0.17	0.18	0.51	4,456
Strip Mall	0.36	0.33	0.22	2.57	0.01	< 0.005	0.83	0.83	< 0.005	0.21	0.21	—	673	673	0.03	0.03	0.08	682
Hotel	0.31	0.28	0.18	2.20	0.01	< 0.005	0.71	0.72	< 0.005	0.18	0.18	—	577	577	0.02	0.02	0.07	584
Total	10.7	9.82	6.39	76.3	0.22	0.09	24.7	24.8	0.08	6.27	6.35	—	19,975	19,975	0.76	0.80	2.31	20,236

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	8,388	8,388	0.69	0.08	—	8,430
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2,080	2,080	0.17	0.02	—	2,091
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	895	895	0.07	0.01	—	900
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	5,168	5,168	0.42	0.05	—	5,194
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451	0.12	0.01	—	1,458
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	269	269	0.02	< 0.005	—	270
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,236	1,236	0.10	0.01	—	1,242
Total	—	—	—	—	—	—	—	—	—	—	—	—	19,487	19,487	1.60	0.19	—	19,585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	8,388	8,388	0.69	0.08	—	8,430
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2,080	2,080	0.17	0.02	—	2,091
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	895	895	0.07	0.01	—	900

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	5,168	5,168	0.42	0.05	—	5,194
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,451	1,451	0.12	0.01	—	1,458
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	269	269	0.02	< 0.005	—	270
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,236	1,236	0.10	0.01	—	1,242
Total	—	—	—	—	—	—	—	—	—	—	—	—	19,487	19,487	1.60	0.19	—	19,585
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,389	1,389	0.11	0.01	—	1,396
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	344	344	0.03	< 0.005	—	346
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	148	148	0.01	< 0.005	—	149
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	856	856	0.07	0.01	—	860
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	240	240	0.02	< 0.005	—	241
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	44.5	44.5	< 0.005	< 0.005	—	44.7
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	205	205	0.02	< 0.005	—	206
Total	—	—	—	—	—	—	—	—	—	—	—	—	3,226	3,226	0.26	0.03	—	3,243

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.95	0.48	8.16	3.47	0.05	0.66	—	0.66	0.66	—	0.66	—	10,352	10,352	0.92	0.02	—	10,381
General Office Building	0.08	0.04	0.72	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	859	859	0.08	< 0.005	—	861
Quality Restaurant	0.08	0.04	0.72	0.61	< 0.005	0.06	—	0.06	0.06	—	0.06	—	864	864	0.08	< 0.005	—	866
High Turnover (Sit Down Restaurant)	0.46	0.23	4.18	3.51	0.03	0.32	—	0.32	0.32	—	0.32	—	4,988	4,988	0.44	0.01	—	5,002
Regional Shopping Center	0.02	0.01	0.22	0.18	< 0.005	0.02	—	0.02	0.02	—	0.02	—	257	257	0.02	< 0.005	—	257
Strip Mall	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.5	47.5	< 0.005	< 0.005	—	47.7
Hotel	0.07	0.03	0.62	0.52	< 0.005	0.05	—	0.05	0.05	—	0.05	—	740	740	0.07	< 0.005	—	742
Total	1.67	0.83	14.7	8.93	0.09	1.15	—	1.15	1.15	—	1.15	—	18,107	18,107	1.60	0.03	—	18,158
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.95	0.48	8.16	3.47	0.05	0.66	—	0.66	0.66	—	0.66	—	10,352	10,352	0.92	0.02	—	10,381

General Office Building	0.08	0.04	0.72	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	859	859	0.08	< 0.005	—	861
Quality Restaurant	0.08	0.04	0.72	0.61	< 0.005	0.06	—	0.06	0.06	—	0.06	—	864	864	0.08	< 0.005	—	866
High Turnover (Sit Down Restaurant)	0.46	0.23	4.18	3.51	0.03	0.32	—	0.32	0.32	—	0.32	—	4,988	4,988	0.44	0.01	—	5,002
Regional Shopping Center	0.02	0.01	0.22	0.18	< 0.005	0.02	—	0.02	0.02	—	0.02	—	257	257	0.02	< 0.005	—	257
Strip Mall	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.5	47.5	< 0.005	< 0.005	—	47.7
Hotel	0.07	0.03	0.62	0.52	< 0.005	0.05	—	0.05	0.05	—	0.05	—	740	740	0.07	< 0.005	—	742
Total	1.67	0.83	14.7	8.93	0.09	1.15	—	1.15	1.15	—	1.15	—	18,107	18,107	1.60	0.03	—	18,158
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.17	0.09	1.49	0.63	0.01	0.12	—	0.12	0.12	—	0.12	—	1,714	1,714	0.15	< 0.005	—	1,719
General Office Building	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	142	142	0.01	< 0.005	—	143
Quality Restaurant	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	143	143	0.01	< 0.005	—	143
High Turnover (Sit Down Restaurant)	0.08	0.04	0.76	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	826	826	0.07	< 0.005	—	828
Regional Shopping Center	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	42.5	42.5	< 0.005	< 0.005	—	42.6

Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.87	7.87	< 0.005	< 0.005	—	7.89
Hotel	0.01	0.01	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	123	123	0.01	< 0.005	—	123
Total	0.30	0.15	2.67	1.63	0.02	0.21	—	0.21	0.21	—	0.21	—	2,998	2,998	0.27	0.01	—	3,006

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	3.85	1.92	32.9	14.0	0.21	2.66	—	2.66	2.66	—	2.66	0.00	41,712	41,712	0.79	0.08	—	41,755
Consumer Products	55.7	55.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.88	4.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	14.2	13.4	1.22	135	0.01	0.09	—	0.09	0.07	—	0.07	—	390	390	0.02	< 0.005	—	392
Total	78.6	75.9	34.1	149	0.22	2.75	—	2.75	2.72	—	2.72	0.00	42,102	42,102	0.80	0.08	—	42,147
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	3.85	1.92	32.9	14.0	0.21	2.66	—	2.66	2.66	—	2.66	0.00	41,712	41,712	0.79	0.08	—	41,755
Consumer Products	55.7	55.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	4.88	4.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	64.4	62.5	32.9	14.0	0.21	2.66	—	2.66	2.66	—	2.66	0.00	41,712	41,712	0.79	0.08	—	41,755
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.02	0.41	0.17	< 0.005	0.03	—	0.03	0.03	—	0.03	0.00	473	473	0.01	< 0.005	—	473
Consumer Products	10.2	10.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.89	0.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.78	1.67	0.15	16.9	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.3	44.3	< 0.005	< 0.005	—	44.4
Total	12.9	12.7	0.56	17.0	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	517	517	0.01	< 0.005	—	518

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	241	849	1,091	6.37	0.54	—	1,410
General Office Building	—	—	—	—	—	—	—	—	—	—	—	15.4	54.3	69.7	0.41	0.03	—	90.1

Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	17.1	60.1	77.2	0.45	0.04	—	99.7
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	98.6	347	446	2.60	0.22	—	576
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	9.76	34.3	44.1	0.26	0.02	—	57.0
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.81	6.36	8.17	0.05	< 0.005	—	10.6
Hotel	—	—	—	—	—	—	—	—	—	—	—	241	849	1,091	6.37	0.54	—	1,410
Total	—	—	—	—	—	—	—	—	—	—	—	626	2,200	2,826	16.5	1.39	—	3,652
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	241	849	1,091	6.37	0.54	—	1,410
General Office Building	—	—	—	—	—	—	—	—	—	—	—	15.4	54.3	69.7	0.41	0.03	—	90.1
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	17.1	60.1	77.2	0.45	0.04	—	99.7
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	98.6	347	446	2.60	0.22	—	576
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	9.76	34.3	44.1	0.26	0.02	—	57.0

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.81	6.36	8.17	0.05	< 0.005	—	10.6
Hotel	—	—	—	—	—	—	—	—	—	—	—	241	849	1,091	6.37	0.54	—	1,410
Total	—	—	—	—	—	—	—	—	—	—	—	626	2,200	2,826	16.5	1.39	—	3,652
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	40.0	141	181	1.05	0.09	—	233
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.55	8.98	11.5	0.07	0.01	—	14.9
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	2.83	9.95	12.8	0.07	0.01	—	16.5
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	16.3	57.4	73.8	0.43	0.04	—	95.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	1.62	5.69	7.30	0.04	< 0.005	—	9.44
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.30	1.05	1.35	0.01	< 0.005	—	1.75
Hotel	—	—	—	—	—	—	—	—	—	—	—	40.0	141	181	1.05	0.09	—	233
Total	—	—	—	—	—	—	—	—	—	—	—	104	364	468	2.73	0.23	—	605

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	4,172	0.00	4,172	417	0.00	—	14,595
General Office Building	—	—	—	—	—	—	—	—	—	—	—	76.9	0.00	76.9	7.69	0.00	—	269
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	77.2	0.00	77.2	7.72	0.00	—	270
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	77.2	0.00	77.2	7.71	0.00	—	270
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.70	0.00	—	270
Hotel	—	—	—	—	—	—	—	—	—	—	—	76.8	0.00	76.8	7.68	0.00	—	269
Total	—	—	—	—	—	—	—	—	—	—	—	4,634	0.00	4,634	463	0.00	—	16,212
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	4,172	0.00	4,172	417	0.00	—	14,595
General Office Building	—	—	—	—	—	—	—	—	—	—	—	76.9	0.00	76.9	7.69	0.00	—	269
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.69	0.00	—	269

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	77.2	0.00	77.2	7.72	0.00	—	270
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	77.2	0.00	77.2	7.71	0.00	—	270
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	77.0	0.00	77.0	7.70	0.00	—	270
Hotel	—	—	—	—	—	—	—	—	—	—	—	76.8	0.00	76.8	7.68	0.00	—	269
Total	—	—	—	—	—	—	—	—	—	—	—	4,634	0.00	4,634	463	0.00	—	16,212
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	691	0.00	691	69.0	0.00	—	2,416
General Office Building	—	—	—	—	—	—	—	—	—	—	—	12.7	0.00	12.7	1.27	0.00	—	44.6
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	12.7	0.00	12.7	1.27	0.00	—	44.6
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	12.8	0.00	12.8	1.28	0.00	—	44.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.8	0.00	12.8	1.28	0.00	—	44.7
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	12.8	0.00	12.8	1.27	0.00	—	44.6
Hotel	—	—	—	—	—	—	—	—	—	—	—	12.7	0.00	12.7	1.27	0.00	—	44.5
Total	—	—	—	—	—	—	—	—	—	—	—	767	0.00	767	76.7	0.00	—	2,684

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.6	36.6
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	211	211
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.64	0.64
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	125	125
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	389	389
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.6	36.6
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	211	211
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.64	0.64
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	125	125
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	389	389
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.49	2.49
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.06	6.06
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35.0	35.0

Regional	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.7	20.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	64.4	64.4

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Low Rise	7,013	6,760	5,735	2,479,792	51,612	49,755	42,210	18,251,270
General Office Building	745	152	48.1	204,634	5,482	1,118	354	1,506,106
Quality Restaurant	1,276	1,371	1,096	461,246	9,391	10,087	8,063	3,394,772
High Turnover (Sit Down Restaurant)	9,419	10,755	12,533	3,669,997	69,325	79,154	92,243	27,011,177
Regional Shopping Center	5,873	7,052	3,712	2,092,375	43,223	51,900	27,323	15,399,878
Strip Mall	877	877	877	320,050	6,454	6,454	6,454	2,355,570
Hotel	779	787	579	274,414	5,736	5,791	4,263	2,019,683

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	1981

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
4252216.5	1,417,406	754,380	251,460	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Low Rise	7,597,225	403	0.0330	0.0040	32,301,543
General Office Building	1,884,139	403	0.0330	0.0040	2,679,882
Quality Restaurant	810,973	403	0.0330	0.0040	2,696,152
High Turnover (Sit Down Restaurant)	4,681,223	403	0.0330	0.0040	15,563,145

Regional Shopping Center	1,314,276	403	0.0330	0.0040	801,161
Strip Mall	243,344	403	0.0330	0.0040	148,339
Hotel	1,119,496	403	0.0330	0.0040	2,309,736

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Low Rise	112,986,860	0.00
General Office Building	7,219,980	0.00
Quality Restaurant	7,995,739	0.00
High Turnover (Sit Down Restaurant)	46,154,240	0.00
Regional Shopping Center	4,569,023	0.00
Strip Mall	845,975	0.00
Hotel	112,986,860	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Low Rise	7,740	—
General Office Building	143	—
Quality Restaurant	143	—
High Turnover (Sit Down Restaurant)	143	—
Regional Shopping Center	143	—
Strip Mall	143	—
Hotel	143	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Quality Restaurant	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Quality Restaurant	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Quality Restaurant	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	7.52	annual days of extreme heat
Extreme Precipitation	4.10	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	37.6
AQ-PM	72.4
AQ-DPM	49.2
Drinking Water	47.9
Lead Risk Housing	72.5
Pesticides	43.9
Toxic Releases	89.3
Traffic	39.5
Effect Indicators	—
CleanUp Sites	27.5
Groundwater	67.5

Haz Waste Facilities/Generators	26.7
Impaired Water Bodies	0.00
Solid Waste	86.9
Sensitive Population	—
Asthma	23.2
Cardio-vascular	46.8
Low Birth Weights	75.6
Socioeconomic Factor Indicators	—
Education	66.3
Housing	81.3
Linguistic	44.8
Poverty	42.8
Unemployment	25.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	55.20338766
Employed	42.62799949
Median HI	48.26126011
Education	—
Bachelor's or higher	52.44450148
High school enrollment	9.29038881
Preschool enrollment	21.429488
Transportation	—
Auto Access	34.87745413
Active commuting	67.53496728

Social	—
2-parent households	19.00423457
Voting	30.50173232
Neighborhood	—
Alcohol availability	31.23315796
Park access	81.35506224
Retail density	47.32452201
Supermarket access	69.71641216
Tree canopy	39.75362505
Housing	—
Homeownership	38.72706275
Housing habitability	18.33696907
Low-inc homeowner severe housing cost burden	20.62107019
Low-inc renter severe housing cost burden	23.55960477
Uncrowded housing	28.33311947
Health Outcomes	—
Insured adults	31.82343128
Arthritis	0.0
Asthma ER Admissions	68.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	26.2
Cognitively Disabled	9.0
Physically Disabled	30.9

Heart Attack ER Admissions	37.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	75.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	90.9
Elderly	40.9
English Speaking	13.9
Foreign-born	93.7
Outdoor Workers	93.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	15.3
Traffic Density	49.9
Traffic Access	23.0
Other Indices	—
Hardship	53.9
Other Decision Support	—
2016 Voting	27.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64.0
Healthy Places Index Score for Project Location (b)	35.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Based on land use numbers determined for the project.
Operations: Vehicle Data	Based on trip generation and VMT data provided by traffic consultant.
Operations: Hearths	Assumes natural gas fireplace for multi-family units. No wood fireplaces per South Coast AQMD Rule 445.
Operations: Water and Waste Water	Water demand based on values found in the Utilities chapter of the DEIR. For purposes of modeling, no septic is assumed. See AQ/GHG appendix of the DEIR for details.
Characteristics: Utility Information	Based on year 2022 CO2e intensity factor of 405 lbs/MWh as reported in SCE's 2023 Sustainability Report.
Operations: Solid Waste	Based on solid waste data from Chapter 5.19, Utilities & Service System, of the DEIR. See AQ/GHG appendix of the DEIR for details.

7. Energy Demand Calculations

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Operation-Related Vehicle Fuel/Energy Usage

PROJECT LAND USE COMMUTE

Vehicle Type	Gas			Diesel			CNG			Electricity		
	VMT	Gallons	Mile/Gal	VMT	Gallons	Mile/Gal	VMT	Gallons	Mile/Gal	VMT	kWh	Mile/kWh
Existing (2024)	58,437,609	2,381,955	24.53	2,077,248	196,924	10.55	87,300	16,537	5.28	2,672,940	976,504	2.74
Existing - Year 2045 No Project	54,094,266	1,783,850	30.32	2,031,032	175,845	11.55	46,314	3,975	11.65	7,185,947	2,191,445	3.28
Future (2045) - With Project	59,712,994	1,969,137	30.32	2,241,994	194,110	11.55	51,124	4,388	11.65	7,932,345	2,419,068	3.28
Net Change from Existing 2024	**1,275,385**	**(412,819)**	**5.79**	**164,745**	**(2,814)**	**1.00**	**(36,176)**	**(12,149)**	**6.37**	**5,259,405**	**1,442,564**	**0.54**
Net Change from No Project 2045	**5,618,729**	**185,287**	**0.00**	**210,962**	**18,265**	**0.00**	**4,811**	**413**	**0.00**	**746,399**	**227,624**	**0.00**

Existing Land Uses to be Redeveloped - Baseline Year 2024

Land Use	Annual VMT
Single Family Housing	99,104
Apartments Low Rise	243,534
General Office Building	955,520
Regional Shopping Center	55,095,140
Strip Mall	6,576,935
General Light Industry	304,864
Total	63,275,097

Existing (2024)

Vehicle type	Fleet percent	VMT	
	All Vehicles	All Vehicles	Total
HHD	0.83%	526,072	526,072
LDA	51.18%	32,381,237	32,381,237
LDT1	4.47%	2,830,176	2,830,176
LDT2	22.78%	14,411,545	14,411,545
LHD1	2.57%	1,626,081	1,626,081
LHD2	0.63%	399,098	399,098
MCY	2.10%	1,327,894	1,327,894
MDV	13.87%	8,774,817	8,774,817
MH	0.29%	184,197	184,197
MHD	1.07%	678,462	678,462
OBUS	0.09%	55,341	55,341
SBUS	0.06%	40,508	40,508
UBUS	0.06%	39,672	39,672
	100.00%	63,275,097	63,275,097

EXISTING CONDITIONS

Vehicle type	Gas percent	Diesel percent	CNG percent	Electricity percent	
HHD	0.04%	94.44%	5.29%	0.23%	<< Equal to T7 (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
LDA	92.60%	0.18%	0.00%	7.22%	
LDT1	99.56%	0.02%	0.00%	0.42%	
LDT2	98.54%	0.33%	0.00%	1.13%	
LHD1	66.30%	33.18%	0.00%	0.52%	
LHD2	39.17%	60.31%	0.00%	0.52%	
MCY	100.00%	0.00%	0.00%	0.00%	
MDV	97.22%	1.14%	0.00%	1.64%	
MH	72.54%	27.46%	0.00%	0.00%	
MHD	23.82%	74.60%	1.25%	0.33%	<< Equal to T6 (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
OBUS	43.73%	50.15%	5.95%	0.18%	<< Motor coach, all other buses, and OBUS (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
SBUS	46.60%	24.60%	28.53%	0.28%	
UBUS	6.83%	0.27%	91.09%	1.80%	

EXISTING CONDITIONS

Vehicle type	Gasoline			Diesel			CNG			Electricity		
	VMT	mpg	Gallons	VMT	mpg	Gallons	VMT	mpg	Gallons	VMT	m/kWh	kWh
HHD	226	4.05	56	496,804	6.04	82,243	27,824	5.85	4,757	1,218	0.56	2,166
LDA	29,984,347	28.97	1,035,029	57,957	40.08	1,446	0	0.00	0	2,338,933	2.71	861,808
LDT1	2,817,604	24.21	116,367	587	23.02	26	0	0.00	0	11,985	2.76	4,348
LDT2	14,201,386	23.75	597,915	46,929	31.45	1,492	0	0.00	0	163,230	2.90	56,374
LHD1	1,078,142	13.52	79,771	539,499	20.44	26,400	0	0.00	0	8,440	1.79	0
LHD2	156,311	11.79	13,256	240,700	17.23	13,969	0	0.00	0	2,086	1.79	0
MCY	1,327,894	41.21	32,223	0	0.00	0	0	0.00	0	0	0.00	0
MDV	8,530,710	19.35	440,859	100,227	23.53	4,259	0	0.00	0	143,880	2.78	51,808
MH	133,624	4.84	27,621	50,573	9.96	5,077	0	0.00	0	0	0.00	0
MHD	161,581	5.15	31,351	506,145	8.90	56,879	8,491	8.12	0	2,245	0.96	0
OBUS	24,198	5.03	4,809	27,754	7.36	3,771	3,291	8.61	0	98	0.95	0
SBUS	18,875	8.95	2,109	9,965	7.32	1,362	11,556	4.19	0	112	0.86	0
UBUS	2,711	4.59	591	109	5.82	0	36,138	3.07	11,780	714	0.48	0
	58,437,609		**2,381,955**	**2,077,248**	**16.26**	**196,924**	**87,300**		**16,537**	**2,672,940**		**976,504**

Existing Land Uses to be Redeveloped - Year 2045 No Project

Land Use	Annual VMT
Single Family Housing	99,233
Apartments Low Rise	243,851
General Office Building	956,766
Regional Shopping Center	55,166,941
Strip Mall	6,585,506
General Light Industry	305,262
Total	63,357,558

Future (2045) - No Project

Vehicle type	Fleet percent	VMT	
	All Vehicles	All Vehicles	Total
HHD	1.25%	791,962	791,962
LDA	43.62%	27,637,886	27,637,886
LDT1	3.57%	2,264,353	2,264,353
LDT2	26.78%	16,966,645	16,966,645
LHD1	3.32%	2,102,784	2,102,784
LHD2	0.94%	592,629	592,629
MCY	2.59%	1,643,873	1,643,873
MDV	16.03%	10,156,341	10,156,341
MH	0.27%	172,440	172,440
MHD	1.41%	891,320	891,320
OBUS	0.07%	45,011	45,011
SBUS	0.06%	39,126	39,126
UBUS	0.08%	53,187	53,187
	100.00%	63,357,558	63,357,558

PROPOSED CONDITIONS

Vehicle type	Gas percent	Diesel percent	CNG percent	Electricity percent	
HHD	0.01%	81.38%	3.30%	15.30%	<< Equal to T7 (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
LDA	85.70%	0.05%	0.00%	14.25%	
LDT1	95.77%	0.00%	0.00%	4.23%	
LDT2	95.43%	0.36%	0.00%	4.21%	
LHD1	31.68%	23.43%	0.00%	44.89%	
LHD2	16.03%	40.45%	0.00%	43.52%	
MCY	100.00%	0.00%	0.00%	0.00%	
MDV	93.06%	0.99%	0.00%	5.96%	
MH	64.76%	35.24%	0.00%	0.00%	
MHD	7.01%	43.57%	0.88%	48.53%	<< Equal to T6 (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
OBUS	15.63%	59.29%	8.02%	17.06%	<< Motor coach, all other buses, and OBUS (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
SBUS	31.55%	7.70%	21.34%	39.41%	
UBUS	1.79%	0.00%	0.61%	97.60%	

PROPOSED CONDITIONS

Vehicle type	Gasoline			Diesel			CNG			Electricity		
	VMT	mpg	Gallons	VMT	mpg	Gallons	VMT	mpg	Gallons	VMT	m/kWh	kWh
HHD	76	5.27	14	644,538	7.51	85,794	26,163	6.62	3,952	121,185	0.56	216,780
LDA	23,684,521	35.71	663,221	13,746	52.80	260	0	0.00	0	3,939,619	2.69	1,466,091
LDT1	2,168,497	30.75	70,528	25	28.38	1	0	0.00	0	95,832	2.78	34,514
LDT2	16,190,639	29.83	542,714	60,976	38.31	1,592	0	0.00	0	715,030	2.81	254,315
LHD1	666,137	16.41	40,588	492,728	21.51	22,910	0	0.00	0	943,919	1.78	0
LHD2	95,020	14.59	6,513	239,689	18.41	13,020	0	0.00	0	257,920	1.78	0
MCY	1,643,873	41.87	39,258	0	0.00	0	0	0.00	0	0	0.00	0
MDV	9,450,985	24.55	384,956	100,467	29.45	3,412	0	0.00	0	604,889	2.75	219,745
MH	111,666	4.84	23,071	60,774	9.94	6,115	0	0.00	0	0	0.00	0
MHD	62,521	5.98	10,462	388,389	9.92	39,133	7,866	8.31	0	432,544	0.95	0
OBUS	7,035	5.74	1,226	26,686	8.22	3,246	3,610	9.68	0	7,680	0.95	0
SBUS	12,344	10.00	1,234	3,013	8.32	362	8,348	4.64	0	15,420	0.86	0
UBUS	952	15.20	63	0	0.00	0	326	13.81	24	51,909	0.48	0
	54,094,266		**1,783,850**	**2,031,032**	**18.77**	**175,845**	**46,314**		**3,975**	**7,185,947**		**2,191,445**
				11.55								

Proposed Project - Year 2045

Land Use	Annual VMT
Apartments Low Rise	18,251,270
General Office Building	1,506,106
Quality Restaurant	3,394,772
High Turnover (Sit Down Restaura	27,011,177
Regional Shopping Center	15,399,878
Strip Mall	2,355,570
Hotel	2,019,683
Total	69,938,458

Future (2045) - With Project

Vehicle type	Fleet percent	VMT	
	All Vehicles	All Vehicles	Total
HHD	1.25%	874,223	874,223
LDA	43.62%	30,508,612	30,508,612
LDT1	3.57%	2,499,550	2,499,550
LDT2	26.78%	18,728,956	18,728,956
LHD1	3.32%	2,321,198	2,321,198
LHD2	0.94%	654,185	654,185
MCY	2.59%	1,814,621	1,814,621
MDV	16.03%	11,211,272	11,211,272
MH	0.27%	190,351	190,351
MHD	1.41%	983,901	983,901
OBUS	0.07%	49,686	49,686
SBUS	0.06%	43,190	43,190
UBUS	0.08%	58,712	58,712
	100.00%	69,938,458	69,938,458

PROPOSED CONDITIONS

Vehicle type	Gas percent	Diesel percent	CNG percent	Electricity percent	
HHD	0.01%	81.38%	3.30%	15.30%	<< Equal to T7 (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
LDA	85.70%	0.05%	0.00%	14.25%	
LDT1	95.77%	0.00%	0.00%	4.23%	
LDT2	95.43%	0.36%	0.00%	4.21%	
LHD1	31.68%	23.43%	0.00%	44.89%	
LHD2	16.03%	40.45%	0.00%	43.52%	
MCY	100.00%	0.00%	0.00%	0.00%	
MDV	93.06%	0.99%	0.00%	5.96%	
MH	64.76%	35.24%	0.00%	0.00%	
MHD	7.01%	43.57%	0.88%	48.53%	<< Equal to T6 (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
OBUS	15.63%	59.29%	8.02%	17.06%	<< Motor coach, all other buses, and OBUS (https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf)
SBUS	31.55%	7.70%	21.34%	39.41%	
UBUS	1.79%	0.00%	0.61%	97.60%	

PROPOSED CONDITIONS

Vehicle type	Gasoline			Diesel			CNG			Electricity		
	VMT	mpg	Gallons	VMT	mpg	Gallons	VMT	mpg	Gallons	VMT	m/kWh	kWh
HHD	83	5.27	16	711,486	7.51	94,705	28,881	6.62	4,362	133,773	0.56	239,296
LDA	26,144,614	35.71	732,109	15,173	52.80	287	0	0.00	0	4,348,825	2.69	1,618,373
LDT1	2,393,737	30.75	77,854	27	28.38	1	0	0.00	0	105,786	2.78	38,099
LDT2	17,872,347	29.83	599,085	67,310	38.31	1,757	0	0.00	0	789,300	2.81	280,731
LHD1	735,328	16.41	44,804	543,908	21.51	25,290	0	0.00	0	1,041,963	1.78	0
LHD2	104,890	14.59	7,189	264,586	18.41	14,373	0	0.00	0	284,710	1.78	0
MCY	1,814,621	41.87	43,336	0	0.00	0	0	0.00	0	0	0.00	0
MDV	10,432,652	24.55	424,942	110,902	29.45	3,766	0	0.00	0	667,718	2.75	242,570
MH	123,264	4.84	25,467	67,086	9.94	6,750	0	0.00	0	0	0.00	0
MHD	69,015	5.98	11,549	428,731	9.92	43,198	8,683	8.31	0	477,472	0.95	0
OBUS	7,765	5.74	1,353	29,458	8.22	3,583	3,985	9.68	0	8,478	0.95	0
SBUS	13,627	10.00	1,362	3,326	8.32	400	9,215	4.64	0	17,022	0.86	0
UBUS	1,051	15.20	69	0	0.00	0	360	13.81	26	57,300	0.48	0
	59,712,994		**1,969,137**	**2,241,994**	**18.77**	**194,110**	**51,124**		**4,388**	**7,932,345**		**2,419,068**
				11.550								

8. Mass Emissions and Health Effects

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We Can Model Regional Emissions, But Are the Results Meaningful for CEQA?

Authors: AEP Climate Change Committee (Michael Hendrix, Dave Mitchell, Haseeb Qureshi, Jennifer Reed, Brian Schuster, Nicole Vermilion, and Rich Walters)

On December 24, 2018, the California Supreme Court, *Sierra Club v. County of Fresno (Friant Ranch, L.P.] (2018) 6 Cal.5th 502, Case No. S219783 (Friant Ranch*), held that simply identifying that a project exceeds an emissions threshold is not sufficient to identify a project's significant effect on the environment relative to the health effects of project emissions. The Court found that an EIR should make a reasonable effort to substantively connect a project's criteria pollutant emissions to likely health consequences, or explain why it is not currently feasible to provide such an analysis. In 2019, there were several CEQA documents that included health effects modeling to provide additional analysis for projects with criteria air pollutant emissions that exceed a significance threshold. While it is technically possible to conduct this modeling, we argue that this additional layer of quantitative analysis may not always provide decision-makers and the public with additional meaningful information. It is the air districts that are best suited to provide frameworks for how to identify health effects of regional criteria pollutant emissions under CEQA.

Introduction

Significance thresholds for regional criteria pollutants used by California air districts and lead agencies represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard (AAQS). By analyzing the project's emissions against these thresholds, the CEQA document assesses whether these emissions directly contribute to any regional or local exceedances of the applicable AAQS and exposure levels. The basis of the ruling in Friant Ranch was that the EIR did not provide a meaningful analysis of the adverse health effects that would be associated with the project's criteria pollutant emissions, which were identified as being far above the relevant thresholds. The discussion of the adverse health effects in the EIR was general in nature and did not connect the levels of the pollutants that would be emitted by the project to adverse health effects.

The process of correlating project-related criteria pollutant emissions to health-based consequences is called a health impact assessment (HIA). An HIA involves two steps: 1) running a regional photochemical grid model (PGM) to estimate the small increases in concentrations of ozone and particulate matter (PM) in the region as a result of a project's emissions of criteria and precursor pollutants; and 2) running the U.S. EPA Benefits Mapping and Analysis Program (BenMAP) to estimate the resulting health impacts from these increases in concentrations of ozone and PM.

Limitations of Regional-Scale Dispersion Models

It is technically feasible to conduct regional-scale criteria pollutant modeling for a development project. Particulate matter (PM) can be divided into two categories: directly emitted PM and secondary PM. Secondary PM, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur oxides (SO_x) and NO_x, Ozone (O_3) is a secondary pollutant formed from the oxidation of reactive organic gases (ROGs) and nitrogen oxides (NOx) in the presence of sunlight. Rates of ozone formation are a function of a variety of complex physical factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns.. Secondary formation of PM and ozone can occur far from the original emissions source from regional transport due to wind and topography (e.g. low-level jet stream). As such, modeling concentrations of secondary PM and ozone require photochemical grid models (PGMs), such as CMAQ and CAMx. These models have a much larger "grid" system and much lower resolution than localized dispersion modeling (e.g., AERMOD). For example, common grid cells in PGMs are 4x4 kilometers, while AERMOD can identify concentrations at the meter-level.

Photochemical modeling also depends on all emission sources in the entire domain. Low resolution and spatial averaging produces "noise" and model uncertainty that can exceed a project's specific emissions. Additionally, regional-scale models are highly contingent upon background concentrations. Factors such as meteorology and topography greatly affect the certainty levels of predicted concentrations at receptor points. As a result, there are statistical ranges of uncertainty through all the modeling steps. Due to these factors, it is difficult to predict ground-level secondary PM and ozone concentrations associated with relatively small emission sources with a high degree of certainty. While it is possible to use a regional-scale model to predict these regional concentrations, when a project's emissions are less than the regional model's resolution, the resultant ambient air quality concentrations will be within the margin of uncertainty. In CEQA terms, this would fit the definition of "speculative". Only when the scale of emissions would result in changes in ambient air quality beyond the model margin of uncertainty would the results not be "speculative" as defined by CEQA.

Identifying Health Effects due to Ambient Air Quality Changes

BenMap is a model developed by the USEPA to understand the health effects from changes in ozone and PM concentrations. If there is an acceptable level of confidence that the results provided by the regional dispersion modeling are valid, then these concentrations can be translated into health outcomes using BenMap. The health outcomes in BenMap are based on changes in ambient air concentrations and the population exposed to these changes. Data provided by this analysis may indicate increased number of workdays lost to illness, hospital admissions (respiratory), emergency room visits (asthma), or mortality, among other health effects. These are called "health incidences."

Translating the incremental increase in PM and ozone concentrations to specific health effects is also subject to uncertainty. For example, regional models assign the same toxicity to PM regardless of the source of PM (such as road dust as exhaust), and thus potentially overpredict adverse health effects of PM. BenMap also assumes that health effects can occur at any concentration, including small incremental concentrations, and assumes that impacts seen at large concentration differences can be linearly scaled down to small increases in concentration, with no consideration of potential thresholds below which health impacts may not occur. Additionally, BenMap is used for assessing impacts over large areas and populations and was not intended to be used for individual projects. For health incidences, the number of hospitalizations or increase in morbidity predicted by BenMap is greatly affected by the population characteristics.[1] Small increases in emissions in an area with a high population have a much greater affect than large increases in emissions over an area with a small population. As a result, the same amount of emissions generated in an urban area could result in greater health consequences than if the same emissions occurred on the urban periphery, where fewer people may be affected. This will also depend on other factors including meteorology and photochemistry, as discussed above. Emissions in areas with conditions that favor high air dispersion or unfavorable ozone formation will likely have relatively lower effects on ambient air quality and health outcomes.

While BenMap provides additional statistical information about health consequences requested by the Court in the Friant Ranch decision, this information is only meaningful when presented with the full health context of the region or locality at hand. For example, if the BenMap analysis says that the project would result in two additional hospital admissions, this result alone is not useful unless one identifies how many hospital admissions are caused by poor air quality now (without the project) and how many hospital admissions occur

[1] BenMap assigns prevalence rate for asthma and other health effects based on indicators such as gender, race, age, ethnicity, etc. The BenMap user manual specifically states that there are a wide range of variables that can be included in the health effect function. The health effect function was developed based on epidemiological studies, and specifically states that "there are a number of issues that arise when deriving and choosing between health effect functions that go well beyond this user manual. Hence, it is important to have a trained health researcher assist in developing the impact function data file."

overall (due to air quality and other causes). Because health is not solely influenced by ambient air quality, and has many factors that are highly variable across geographies and populations, there is an added level of uncertainty in using a generalized identification of health effects due to air quality conditions overlaid onto a specific diverse set of health conditions and other factors. Regardless of the uncertainty levels, if regional health effects are identified for a project, then the CEQA analysis needs to provide a full health baseline for decision-makers and the public to be able to understand the marginal change due to project criteria pollutant emissions. Given the margin of uncertainty at each step in the process (regional scale modeling, existing ambient air quality effects on health, population health conditions vulnerability, and marginal health effects of air pollution), the identification of marginal health effects due to individual projects using regional air quality modelling and tools such as BenMap are likely to be within the level of uncertainty and thus defined as "speculative" per CEQA.

The Role of Air Districts

Regional, community, multiscale air quality modeling conducted by the air districts for each individual air basin or locality within the air basin would be the most appropriate indictor of health effects for projects. The AQMPs provide a forecast of regional emissions based on regional dispersion modeling for all sources within the air basin. Regional-scale models attempt to account for all emissions sources within an air basin.

The regional scale model requires inputs such as existing and future regional sources of pollutants and global meteorological data, which are generally not accessible by CEQA practitioners. Modeling of future years should consider future concentrations of air pollutants based on regional growth projections and existing programs, rules, and regulations adopted by Federal, State, and local air districts. In general, air pollution in California is decreasing as a result of Federal and State laws. Based on the air quality management plans (AQMPs) required for air districts in a nonattainment area, air quality in the air basins are anticipated to improve despite an increase in population and employment growth. Air districts are charged with assessing programs, rules, and regulations so that the increase in population and employment does not conflict with the mandate to achieve the AAQS. Because emissions forecasting and health outcomes based on the regional growth projections to achieve the AAQS is under the purview of the air districts, it should also fall on the air districts to identify the potential health outcomes associated with individual project's criteria pollutant emissions.

The South Coast Air Quality Management District (South Coast AQMD) and the Sacramento Metropolitan Air Quality Management District (Sacramento Metropolitan AQMD) are exploring concepts for project-level analysis in light of Friant Ranch to assist local lead agencies.

» South Coast AQMD is looking at the largest land use development project they have had in the air basin and doing a sensitivity analysis (using CAMx for photochemical grid modeling and BenMap for health outcomes) to see how locating a very large project in different parts of the air basin (Los Angeles, Inland Empire, v. Orange County) would affect the health incidence.

» Sacramento Metropolitan AQMD is also looking at a screening process. Rather than looking at the upper end (i.e., largest project in the air basin), Sacramento Metropolitan AQMD is starting at the smallest project that exceeds the regional significance threshold and running CAMx and BenMap at different locations in the air basin to see how it affects regional health incidences.

Guidance from Air Districts would be the most effective way to incorporate meaningful information concerning regional health effects of project criteria pollutants in CEQA analyses, including guidance as to when modelling is and is not useful and meaningful, how modelling should be conducted, and how to best present additional information to inform decision-makers and the public about a project's impacts.

So…until air districts do their part, what should we do?

PROJECTS WITH CRITERIA POLLUTANT EMISSIONS BELOW AIR DISTRICT THRESHOLDS

The Friant Ranch ruling was about providing disclosure of health effects of project emissions that were well over the significance thresholds. Since the air district thresholds are tied to a level the air districts find to not have a significant effect on ambient air quality, there should be no need to discuss the health effects of criteria pollutant emissions that are less than the significance thresholds.

PROJECTS WITH CRITERIA POLLUTANT EMISSIONS ABOVE AIR DISTRICT THRESHOLDS

Pursuant to Section 15125 of the CEQA Guidelines, the environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. For CEQA, the health effects associated with buildout of a project would occur at the project's horizon year. Because CEQA requires an analysis of the change from existing conditions, the change in effects would be associated with changes in ambient air quality and associated health outcomes between existing conditions and the project's horizon year. Therefore, in order to show how a project affects health outcomes in an air basin, the CEQA documents will need to qualitatively or quantitatively address: (1) existing ambient criteria pollutant concentrations, health incidences due to existing air quality, and health incidences overall; 2) future (without project) ambient criteria pollutant concentrations and health incidences, and 3) future (with project) ambient criteria pollutant concentrations and health incidences.

Projects with significant criteria pollutant emissions could use regional modelling and BenMap to identify health effects of project emissions, but it is likely that many (or most) projects that are not regionally substantial in scale will be shown to have minimal regional changes in PM and ozone concentrations and therefore minimal changes in associated health effects. In addition, many projects may have emissions that are less than the uncertainty level of regional air quality models and BenMap health effects modeling; in these cases, quantitative results will not be meaningful. Thus, absent better direction from air districts, CEQA lead agencies will have to determine on a case by case basis whether a qualitative discussion of health effects will suffice, or whether regional modeling, despite its limitations, should be conducted for the project.

Where a project has substantial criteria pollutant emissions when considered on a regional scale, and there is reason to believe that the modeling of ambient air quality and regional health effects would produce non-speculative results when considering modeling uncertainties, then CEQA lead agencies should use regional modelling.

Conclusion

The purpose of CEQA is to inform the public as to the potential for a project to result in one or more significant adverse effects on the environment (including health effects). A CEQA document must provide an understandable and clear environmental analysis and provide an adequate basis for decision making and public disclosure. Regional dispersion modeling of criteria pollutants and secondary pollutants like PM and ozone can provide additional information, but that information may be within the margin of modelling uncertainty and/or may not be meaningful for the public and decision-makers unless a full health context is presented in the CEQA document. Simply providing health outcomes based on use of a regional-scale model and BenMap may not satisfy the goal to provide decision-makers and the public with information that would assist in weighting the environmental consequences of a project. A CEQA document must provide an analysis that is understandable for decision making and public disclosure. Regional scale modeling may provide a technical method for this type of analysis, but it does not necessarily provide a meaningful way to connect the magnitude of a project's criteria pollutant emissions to health effects without speculation.

In order to accurately connect the dots, we urge California air districts to provide more guidance on how to identify and describe the health effects of exceeding regional criteria pollutant thresholds. The air districts are the primary agency responsible for ensuring that the air basins attain the AAQS and ensure the health and welfare of its residents relative to air quality. Because emissions forecasting and health outcomes are based on the regional growth projections to achieve the AAQS is under the purview of the air districts, it should fall on the air districts to identify the potential health outcomes associated with exceeding the CEQA thresholds for projects. The air districts should provide lead agencies with a consistent, reliable, and meaningful analytical approach to correlate specific health effects that may result from a project's criteria pollutant emissions.

Glossary

AAQS – Ambient Air Quality Standards

BenMap – Benefits Mapping and Analysis Program

CAMx – Comprehensive Air Quality Model with extensions

CMAQ – Community Multiscale Air Quality

NOx – Nitrogen Oxides

PM – Particulate Matter

SOx – Sulfur Oxides

State – California

USEPA – United States Environmental Protection Agency

S219783

IN THE SUPREME COURT OF C ALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,

Plaintiffs and Appellants,

v.

COUNTY OF FRESNO,

Defendant and Respondent,

and,

FRIANT RANCH, L.P.,

Real Party in Interest and Respondent.

After a Published Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726
Honorable Rosendo A. Pena, Jr.

APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*

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TO THE HONORABLE CHIEF JUSTICE AND JUSTICES OF THE SUPREME COURT:

APPLICATION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF

Pursuant to Rule 8.520(f) of the California Rules of Court, the South Coast Air Quality Management District (SCAQMD) respectfully requests leave to file the attached *amicus curiae* brief. Because SCAQMD's position differs from that of either party, we request leave to submit this amicus brief in support of neither party.

HOW THIS BRIEF WILL ASSIST THE COURT

SCAQMD's proposed amicus brief takes a position on two of the issues in this case. In both instances, its position differs from that of either party. The issues are:

1) Does the California Environmental Quality Act (CEQA) require an environmental impact report (EIR) to correlate a project's air pollution emissions with specific levels of health impacts?
2) What is the proper standard of review for determining whether an EIR provides sufficient information on the health impacts caused by a project's emission of air pollutants?

This brief will assist the Court by discussing the practical realities of correlating identified air quality impacts with specific health outcomes. In short, CEQA requires agencies to provide detailed information about a project's air quality impacts that is sufficient for the public and decisionmakers to adequately evaluate the project and meaningfully understand its impacts. However, the level of analysis is governed by a rule of reason; CEQA only requires agencies to conduct analysis if it is reasonably feasible to do so.

With regard to health-related air quality impacts, an analysis that correlates a project's air pollution emissions with specific levels of health impacts will be feasible in some cases but not others. Whether it is feasible depends on a variety of factors, including the nature of the project and the nature of the analysis under consideration. The feasibility of analysis may also change over time as air districts and others develop new tools for measuring projects' air quality related health impacts. Because SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, it is uniquely situated to express an opinion on the extent to which the Court should hold that CEQA requires lead agencies to correlate air quality impacts with specific health outcomes.

SCAQMD can also offer a unique perspective on the question of the appropriate standard of review. SCAQMD submits that the proper standard of review for determining whether an EIR is sufficient as an informational document is more nuanced than argued by either party. In our view, this is a mixed question of fact and law. It includes determining whether additional analysis is feasible, which is primarily a factual question that should be reviewed under the substantial evidence standard. However, it also involves determining whether the omission of a particular analysis renders an EIR insufficient to serve CEQA's purpose as a meaningful, informational document. If a lead agency has not determined that a requested analysis is infeasible, it is the court's role to determine whether the EIR nevertheless meets CEQA's purposes, and courts should not defer to the lead agency's conclusions regarding the legal sufficiency of an EIR's analysis. The ultimate question of whether an EIR's analysis is "sufficient" to serve CEQA's informational purposes is predominately a question of law that courts should review de novo.

This brief will explain the rationale for these arguments and may assist the Court in reaching a conclusion that accords proper respect to a lead agency's factual conclusions while maintaining judicial authority over the ultimate question of what level of analysis CEQA requires.

STATEMENT OF INTEREST OF *AMICUS CURIAE*

The SCAQMD is the regional agency primarily responsible for air pollution control in the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of the Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410; Cal. Code Regs., tit. 17, § 60104.) The SCAQMD participates in the CEQA process in several ways. Sometimes it acts as a lead agency that prepares CEQA documents for projects. Other times it acts as a responsible agency when it has permit authority over some part of a project that is undergoing CEQA review by a different lead agency. Finally, SCAQMD also acts as a commenting agency for CEQA documents that it receives because it is a public agency with jurisdiction by law over natural resources affected by the project.

In all of these capacities, SCAQMD will be affected by the decision in this case. SCAQMD sometimes submits comments requesting that a lead agency perform an additional type of air quality or health impacts analysis. On the other hand, SCAQMD sometimes determines that a particular type of health impact analysis is not feasible or would not produce reliable and informative results. Thus, SCAQMD will be affected by the Court's resolution of the extent to which CEQA requires EIRs to correlate emissions and health impacts, and its resolution of the proper standard of review.

CERTIFICATION REGARDING AUTHORSHIP AND FUNDING

No party or counsel in the pending case authored the proposed amicus curiae brief in whole or in part, or made any monetary contribution intended to fund the preparation or submission of the brief. No person or entity other than the proposed *Amicus Curiae* made any monetary contribution intended to fund the preparation or submission of the brief.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT
KURT R. WIESE, GENERAL COUNSEL
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SOUTH COAST AIR QUALITY
MANAGEMENT DISTICT

BRIEF OF AMICUS CURIAE

SUMMARY OF ARGUMENT

The South Coast Air Quality Management District (SCAQMD) submits that this Court should not try to establish a hard-and-fast rule concerning whether lead agencies are required to correlate emissions of air pollutants with specific health consequences in their environmental impact reports (EIR). The level of detail required in EIRs is governed by a few, core CEQA (California Environmental Quality Act) principles. As this Court has stated, "[a]n EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Laurel Heights Improvement Assn. v. Regents of the Univ of Cal.* (1988) 47 Cal.3d 376, 405 ["*Laurel Heights I*"]) Accordingly, "an agency must use its best efforts to find out and disclose all that it reasonably can." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 428 (quoting CEQA Guidelines § 15144)[1].). However, "[a]nalysis of environmental effects need not be exhaustive, but will be judged in light of what is reasonably feasible." (*Association of Irritated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1390; CEQA Guidelines §§ 15151, 15204(a).)

With regard to analysis of air quality related health impacts, EIRs must generally quantify a project's pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions). In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient. In other cases, due to the magnitude

[1] The CEQA Guidelines are found at Cal. Code Regs., tit. 14 §§ 15000, *et seq.*

or nature of the pollution emissions, as well as the specificity of the project involved, it may be feasible to quantify health impacts. Or there may be a less exacting, but still meaningful analysis of health impacts that can feasibly be performed. In these instances, agencies should disclose those impacts.

SCAQMD also submits that whether or not an EIR complies with CEQA's informational mandates by providing sufficient, feasible analysis is a mixed question of fact and law. Pertinent here, the question of whether an EIR's discussion of health impacts from air pollution is sufficient to allow the public to understand and consider meaningfully the issues involves two inquiries: (1) Is it feasible to provide the information or analysis that a commenter is requesting or a petitioner is arguing should be required?; and (2) Even if it is feasible, is the agency relying on other policy or legal considerations to justify not preparing the requested analysis? The first question of whether an analysis is feasible is primarily a question of fact that should be judged by the substantial evidence standard. The second inquiry involves evaluating CEQA's information disclosure purposes against the asserted reasons to not perform the requested analysis. For example, an agency might believe that its EIR meets CEQA's informational disclosure standards even without a particular analysis, and therefore choose not to conduct that analysis. SCAQMD submits that this is more of a legal question, which should be reviewed de novo as a question of law.

ARGUMENT

I. RELEVANT FACTUAL AND LEGAL FRAMEWORK.

A. Air Quality Regulatory Background

The South Coast Air Quality Management District (SCAQMD) is one of the local and regional air pollution control districts and air quality

management districts in California. The SCAQMD is the regional air pollution agency for the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410, 17 Cal. Code Reg. § 60104.) The SCAQMD also includes the Coachella Valley in Riverside County (Palm Springs area to the Salton Sea). (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "chapter 7" hyperlink; pp 7-1, 7-3 (last visited Apr. 1, 2015).) The SCAQMD's jurisdiction includes over 16 million residents and has the worst or nearly the worst air pollution levels in the country for ozone and fine particulate matter. (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Executive Summary" hyperlink p. ES-1 (last visited Apr. 1, 2015).)

Under California law, the local and regional districts are primarily responsible for controlling air pollution from all sources except motor vehicles. (Health & Saf. Code § 40000.) The California Air Resources Board (CARB), part of the California Environmental Protection Agency, is primarily responsible for controlling pollution from motor vehicles. (*Id.*) The air districts must adopt rules to achieve and maintain the state and federal ambient air quality standards within their jurisdictions. (Health & Saf. Code § 40001.)

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to identify pollutants that are widely distributed and pose a threat to human health, developing a so-called "criteria" document. (42 U.S.C. § 7408; CAA § 108.) These pollutants are frequently called "criteria pollutants." EPA must then establish "national ambient air quality standards" at levels "requisite to protect public health",

allowing "an adequate margin of safety." (42 U.S.C. § 7409; CAA § 109.) EPA has set standards for six identified pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter (PM), and lead. (U.S. EPA, National Ambient Air Quality Standards (NAAQS), http://www.epa.gov/air/criteria.html (last updated Oct. 21, 2014).)[2]

Under the Clean Air Act, EPA sets emission standards for motor vehicles and "nonroad engines" (mobile farm and construction equipment, marine vessels, locomotives, aircraft, etc.). (42 U.S.C. §§ 7521, 7547; CAA §§ 202, 213.) California is the only state allowed to establish emission standards for motor vehicles and most nonroad sources; however, it may only do so with EPA's approval. (42 U.S.C. §§ 7543(b), 7543(e); CAA §§ 209(b), 209(c).) Sources such as manufacturing facilities, power plants and refineries that are not mobile are often referred to as "stationary sources." The Clean Air Act charges state and local agencies with the primary responsibility to attain the national ambient air quality standards. (42 U.S.C. § 7401(a)(3); CAA § 101(a)(3).) Each state must adopt and implement a plan including enforceable measures to achieve and maintain the national ambient air quality standards. (42 U.S.C. § 7410; CAA § 110.) The SCAQMD and CARB jointly prepare portion of the plan for the South Coast Air Basin and submit it for approval by EPA. (Health & Saf. Code §§ 40460, et seq.)

The Clean Air Act also requires state and local agencies to adopt a permit program requiring, among other things, that new or modified "major" stationary sources use technology to achieve the "lowest achievable emission rate," and to control minor stationary sources as

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[2] Particulate matter (PM) is further divided into two categories: fine particulate or $PM_{2.5}$ (particles with a diameter of less than or equal to 2.5 microns) and coarse particulate (PM_{10}) (particles with a diameter of 10 microns or less). (U.S. EPA, Particulate Matter (PM), http://www.epa.gov/airquality/particlepollution/ (last visited Apr. 1, 2015).)

needed to help attain the standards. (42 U.S.C. §§ 7502(c)(5), 7503(a)(2), 7410(a)(2)(C); CAA §§ 172(c)(5), 173(a)(2), 110(a)(2)(C).) The air districts implement these permit programs in California. (Health & Saf. Code §§ 42300, et seq.)

The Clean Air Act also sets out a regulatory structure for over 100 so-called "hazardous air pollutants" calling for EPA to establish "maximum achievable control technology" (MACT) for sources of these pollutants. (42 U.S.C. § 7412(d)(2); CAA § 112(d)(2).) California refers to these pollutants as "toxic air contaminants" (TACs) which are subject to two state-required programs. The first program requires "air toxics control measures" for specific categories of sources. (Health & Saf. Code § 39666.) The other program requires larger stationary sources and sources identified by air districts to prepare "health risk assessments" for impacts of toxic air contaminants. (Health & Saf. Code §§ 44320(b), 44322, 44360.) If the health risk exceeds levels identified by the district as "significant," the facility must implement a "risk reduction plan" to bring its risk levels below "significant" levels. Air districts may adopt additional more stringent requirements than those required by state law, including requirements for toxic air contaminants. (Health & Saf. Code § 41508; *Western Oil & Gas Assn. v. Monterey Bay Unified APCD* (1989) 49 Cal.3d 408, 414.) For example, SCAQMD has adopted a rule requiring new or modified sources to keep their risks below specified levels and use best available control technology (BACT) for toxics. (SCAQMD, *Rule 1401-New Source Review of Toxic Air Contaminants*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiv; then follow "Rule 1401" hyperlink (last visited Apr. 1, 2015).)

B. The SCAQMD's Role Under CEQA

The California Environmental Quality Act (CEQA) requires public agencies to perform an environmental review and appropriate analysis for projects that they implement or approve. (Pub. Resources Code § 21080(a).) The agency with primary approval authority for a particular project is generally the "lead agency" that prepares the appropriate CEQA document. (CEQA Guidelines §§ 15050, 15051.) Other agencies having a subsequent approval authority over all or part of a project are called "responsible" agencies that must determine whether the CEQA document is adequate for their use. (CEQA Guidelines §§ 15096(c), 15381.) Lead agencies must also consult with and circulate their environmental impact reports to "trustee agencies" and agencies "with jurisdiction by law" including "authority over resources which may be affected by the project." (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines §§ 15086(a)(3), 15073(c).) The SCAQMD has a role in all these aspects of CEQA.

Fulfilling its responsibilities to implement its air quality plan and adopt rules to attain the national ambient air quality standards, SCAQMD adopts a dozen or more rules each year to require pollution reductions from a wide variety of sources. The SCAQMD staff evaluates each rule for any adverse environmental impact and prepares the appropriate CEQA document. Although most rules reduce air emissions, they may have secondary environmental impacts such as use of water or energy or disposal of waste—e.g., spent catalyst from control equipment.[3]

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[3] The SCAQMD's CEQA program for its rules is a "Certified Regulatory Program" under which it prepares a "functionally equivalent" document in lieu of a negative declaration or EIR. (Pub. Resources Code § 21080.5, CEQA Guidelines § 15251(l).)

The SCAQMD also approves a large number of permits every year to construct new, modified, or replacement facilities that emit regulated air pollutants. The majority of these air pollutant sources have already been included in an earlier CEQA evaluation for a larger project, are currently being evaluated by a local government as lead agency, or qualify for an exemption. However, the SCAQMD sometimes acts as lead agency for major projects where the local government does not have a discretionary approval. In such cases, SCAQMD prepares and certifies a negative declaration or environmental impact report (EIR) as appropriate.[4] SCAQMD evaluates perhaps a dozen such permit projects under CEQA each year. SCAQMD is often also a "responsible agency" for many projects since it must issue a permit for part of the projects (e.g., a boiler used to provide heat in a commercial building). For permit projects evaluated by another lead agency under CEQA, SCAQMD has the right to determine that the CEQA document is inadequate for its purposes as a responsible agency, but it may not do so because its permit program already requires all permitted sources to use the best available air pollution control technology. (SCAQMD, *Rule 1303(a)(1) – Requirements*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiii; then follow "Rule 1303" hyperlink (last visited Apr. 1, 2015).)

Finally, SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with "jurisdiction by law" over air quality—a natural resource affected by the project. (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines § 15366(a)(3).) The SCAQMD staff provides comments on as many as 25 or 30 such documents each month.

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[4] The SCAQMD's permit projects are not included in its Certified Regulatory Program, and are evaluated under the traditional local government CEQA analysis. (Pub. Resources Code §§ 21150-21154.)

(SCAQMD Governing Board Agenda, Apr. 3, 2015, Agenda Item 16, Attachment A, http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-april-3-2015; then follow "16. Lead Agency Projects and Environmental Documents Received by SCAQMD" hyperlink (last visited Apr. 1, 2015).) Of course, SCAQMD focuses its commenting efforts on the more significant projects.

Typically, SCAQMD comments on the adequacy of air quality analysis, appropriateness of assumptions and methodology, and completeness of the recommended air quality mitigation measures. Staff may comment on the need to prepare a health risk assessment detailing the projected cancer and noncancer risks from toxic air contaminants resulting from the project, particularly the impacts of diesel particulate matter, which CARB has identified as a toxic air contaminant based on its carcinogenic effects. (California Air Resources Board, Resolution 98-35, Aug. 27, 1998, http://www.arb.ca.gov/regact/diesltac/diesltac.htm; then follow Resolution 98-35 hyperlink (last visited Apr. 1, 2015).) Because SCAQMD already requires new or modified stationary sources of toxic air contaminants to use the best available control technology for toxics and to keep their risks below specified levels, (SCAQMD Rule 1401, supra, note 15), the greatest opportunity to further mitigate toxic impacts through the CEQA process is by reducing emissions—particularly diesel emissions—from vehicles.

II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT'S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS.

Numerous cases hold that courts do not review the correctness of an EIR's conclusions but rather its sufficiency as an informative document. (*Laurel Heights 1, supra*, 47 Cal.3d at p. 392; *Citizens of Goleta Valley v.*

Bd. of Supervisors (1990) 52 Cal.3d 553, 569; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197.)

As stated by the Court of Appeal in this case, where an EIR has addressed a topic, but the petitioner claims that the information provided about that topic is insufficient, courts must "draw[] a line that divides *sufficient* discussions from those that are *insufficient*." (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) The Court of Appeal readily admitted that "[t]he terms themselves – sufficient and insufficient – provide little, if any, guidance as to where the line should be drawn. They are simply labels applied once the court has completed its analysis." (*Id.*)

The CEQA Guidelines, however, provide guidance regarding what constitutes a sufficient discussion of impacts. Section 15151 states that "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." Case law reflects this: "Analysis of environmental effects need not be exhaustive, but will be judged in light of what was reasonably feasible." (*Association of Irritated Residents v. County of Madera, supra,* 107 Cal.App.4th at p. 1390; see also CEQA Guidelines § 15204(a).)

Applying this test, this Court cannot realistically establish a hard-and-fast rule that an analysis correlating air pollution impacts of a project to quantified resulting health impacts is always required, or indeed that it is never required. Simply put, in some cases such an analysis will be "feasible"; in some cases it will not.

For example, air pollution control districts often require a proposed new source of toxic air contaminants to prepare a "health risk assessment" before issuing a permit to construct. District rules often limit the allowable cancer risk the new source may cause to the "maximally exposed individual" (worker and residence exposures). (*See, e.g.*, SCAQMD Rule 1401(c)(8); 1401(d)(1), *supra* note 15.) In order to perform this analysis, it

is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). (SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588), pp. 11-16*; (last visited Apr. 1, 2015) http://www.aqmd.gov/home/library/documents-support-material; "Guidelines" hyperlink; AB2588; then follow AB2588 Risk Assessment Guidelines hyperlink.)

Thus, it is feasible to determine the health risk posed by a new gas station locating at an intersection in a mixed use area, where receptor locations are known. On the other hand, it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s)). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk—it does not necessarily mean anyone will contract cancer as a result of the project.

In order to find the "cancer burden" or expected additional cases of cancer resulting from the project, it is also necessary to know the numbers and location of individuals living within the "zone of impact" of the project: i.e., those living in areas where the projected cancer risk from the project exceeds one in a million. (SCAQMD, Health Risk Assessment Summary form, http://www.aqmd.gov/home/forms ; filter by "AB2588" category; then "Health Risk Assessment" hyperlink (last visited Apr. 1, 2015).) The affected population is divided into bands of those exposed to at least 1 in a million risk, those exposed to at least 10 in a million risk, etc. up to those exposed at the highest levels. (*Id.*) This data allows agencies to calculate an approximate number of additional cancer cases expected from

the project. However, it is not possible to predict which particular individuals will be affected.

For the so-called criteria pollutants[5], such as ozone, it may be more difficult to quantify health impacts. Ozone is formed in the atmosphere from the chemical reaction of the nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. (U.S. EPA, Ground Level Ozone, http://www.epa.gov/airquality/ozonepollution/ (last updated Mar. 25, 2015).) It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. (U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2, http://www.epa.gov/ttnamti1/archive/cpreldoc.html (last visited Apr. 1, 2015).) NO_x and VOC are known as "precursors" of ozone.

Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes. (U.S. EPA, *Health Effects of Ozone in the General Population,* Figure 9, http://www.epa.gov/apti/ozonehealth/population.html#levels (last visited Apr. 1, 2015).) However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NO_x by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. (South Coast Air Quality Management District, *Final 2012 AQMP (February 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Appendix V: Modeling & Attainment Demonstrations" hyperlink,

[5] See discussion of types of pollutants, supra, Part I.A.

pp. v-4-2, v-7-4, v-7-24.) SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from relatively small projects.

On the other hand, this type of analysis may be feasible for projects on a regional scale with very high emissions of NO_x and VOCs, where impacts are regional. For example, in 2011 the SCAQMD performed a health impact analysis in its CEQA document for proposed Rule 1315, which authorized various newly-permitted sources to use offsets from the districts "internal bank" of emission reductions. This CEQA analysis accounted for essentially *all* the increases in emissions due to new or modified sources in the District between 2010 and 2030.[6] The SCAQMD was able to correlate this very large emissions increase (e.g., 6,620 pounds per day NO_x (1,208 tons per year), 89,180 pounds per day VOC (16,275 tons per year)) to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).[7] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System* (see hyperlink in fn 6*)* at p. 4.1-35, Table 4.1-29.)

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[6] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, Attachment G, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System, Vol. 1, p.4.0-6,* http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-february-4-2011; the follow "26. Adopt Proposed Rule 1315 – Federal New Source Review Tracking System" (last visited April 1, 2015).)

[7] The SCAQMD was able to establish the location of future NO_x and VOC emissions by assuming that new projects would be built in the same locations and proportions as existing stationary sources. This CEQA document was upheld by the Los Angeles County Superior Court in *Natural Res. Def. Council v SCAQMD*, Los Angeles Superior Court No. BS110792).

However, a project emitting only 10 tons per year of NO_x or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or NO_x with specific health impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission. (EPA Guideline on Ozone Monitoring Site Selection (Aug. 1998) EPA-454/R-98-002, § 5.1.2; https://www.epa.gov/ttnamti1/archive/cpreldoc.html; then search "Guideline on Ozone Monitoring Site Selection" click on pdf) (last viewed Apr. 1, 2015).)

SCAQMD has set its CEQA "significance" threshold for NO_x and VOC at 10 tons per year (expressed as 55 lb/day). (SCAQMD, *Air Quality Analysis Handbook*, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook; then follow "SCAQMD Air Quality Significance Thresholds" hyperlink (last visited Apr. 1, 2015).) This is because the federal Clean Air Act defines a "major" stationary source for "extreme" ozone nonattainment areas such as SCAQMD as one emitting 10 tons/year. (42 U.S.C. §§ 7511a(e), 7511a(f); CAA §§ 182(e), 182(f).) Under the Clean Air Act, such sources are subject to enhanced control requirements (42 U.S.C. §§ 7502(c)(5), 7503; CAA §§ 172(c)(5), 173), so SCAQMD decided this was an appropriate threshold for making a CEQA "significance" finding and requiring feasible mitigation. Essentially, SCAQMD takes the position that a source that emits 10 tons/year of NO_x or VOC would contribute cumulatively to ozone formation. Therefore, lead agencies that use SCAQMD's thresholds of significance may determine

that many projects have "significant" air quality impacts and must apply all feasible mitigation measures, yet will not be able to precisely correlate the project to quantifiable health impacts, unless the emissions are sufficiently high to use a regional modeling program.

In the case of particulate matter ($PM_{2.5}$)[8], another "criteria" pollutant, SCAQMD staff is aware of two possible methods of analysis. SCAQMD used regional modeling to predict expected health impacts from its proposed Rule 1315, as mentioned above. Also, the California Air Resources Board (CARB) has developed a methodology that can predict expected mortality (premature deaths) from large amounts of $PM_{2.5}$. (California Air Resources Board, *Health Impacts Analysis: PM Premature Death Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort_arch.htm (last reviewed Jan. 19, 2012).) SCAQMD used the CARB methodology to predict impacts from three very large power plants (e.g., 731-1837 lbs/day). (Final Environmental Assessment for Rule 1315, *supra*, pp 4.0-12, 4.1-13, 4.1-37 (e.g., 125 premature deaths in the entire SCAQMD in 2030), 4.1-39 (0.05 to 1.77 annual premature deaths from power plants.) Again, this project involved large amounts of additional $PM_{2.5}$ in the District, up to 2.82 tons/day (5,650 lbs/day of $PM_{2.5}$, or, or 1029 tons/year. (*Id.* at table 4.1-4, p. 4.1-10.)

However, the primary author of the CARB methodology has reported that this $PM_{2.5}$ health impact methodology is not suited for small projects and may yield unreliable results due to various uncertainties. [9] (SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren*

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[8] SCAQMD has not attained the latest annual or 24-hour national ambient air quality standards for "$PM_{2.5}$" or particulate matter less than 2.5 microns in diameter.

[9] Among these uncertainties are the representativeness of the population used in the methodology, and the specific source of PM and the corresponding health impacts. (*Id.* at p. 2-24.)

E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011), http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2011; then follow "Final Subsequent Mitigated Negative Declaration for Warren E&P Inc. WTU Central Facility, New Equipment Project" hyperlink, pp. 2-22, 2-23 (last visited Apr. 1, 2015).) Therefore, when SCAQMD prepared a CEQA document for the expansion of an existing oil production facility, with very small $PM_{2.5}$ increases (3.8 lb/day) and a very small affected population, staff elected not to use the CARB methodology for using estimated $PM_{2.5}$ emissions to derive a projected premature mortality number and explained why it would be inappropriate to do so. (*Id.* at pp 2-22 to 2-24.) SCAQMD staff concluded that use of this methodology for such a small source could result in unreliable findings and would not provide meaningful information. (*Id.* at pp. 2-23, 2-25.) This CEQA document was not challenged in court.

In the above case, while it may have been technically possible to plug the data into the methodology, the results would not have been reliable or meaningful. SCAQMD believes that an agency should not be required to perform analyses that do not produce reliable or meaningful results. This Court has already held that an agency may decline to use even the "normal" "existing conditions" CEQA baseline where to do so would be misleading or without informational value. (*Neighbors for Smart Rail v. Exposition Metro Line* (2013) 57 Cal.4th 439, 448, 457.) The same should be true for a decision that a particular study or analysis would not provide reliable or meaningful results.[10]

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[10] Whether a particular study would result in "informational value" is a part of deciding whether it is "feasible." CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and

Therefore, it is not possible to set a hard-and-fast rule on whether a correlation of air quality impacts with specific quantifiable health impacts is required in all cases. Instead, the result turns on whether such an analysis is reasonably feasible in the particular case.[11] Moreover, what is reasonably feasible may change over time as scientists and regulatory agencies continually seek to improve their ability to predict health impacts. For example, CARB staff has been directed by its Governing Board to reassess and improve the methodology for estimating premature deaths. (California Air Resources Board, *Health Impacts Analysis: PM Mortality Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm (last reviewed Dec. 29, 2010).) This factor also counsels against setting any hard-and-fast rule in this case.

III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW.

A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document

A second issue in this case is whether courts should review an EIR's informational sufficiency under the "substantial evidence" test as argued by Friant Ranch or the "independent judgment" test as argued by Sierra Club.

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technological factors." (Pub. Resources Code § 21061.1.) A study cannot be "accomplished in a *successful* manner" if it produces unreliable or misleading results.

[11] In this case, the lead agency did not have an opportunity to determine whether the requested analysis was feasible because the comment was non-specific. Therefore, SCAQMD suggests that this Court, after resolving the legal issues in the case, direct the Court of Appeal to remand the case to the lead agency for a determination of whether the requested analysis is feasible. Because Fresno County, the lead agency, did not seek review in this Court, it seems likely that the County has concluded that at least some level of correlation of air pollution with health impacts is feasible.

As this Court has explained, "a reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on whether the claim is predominantly one of improper procedure or a dispute over the facts." (*Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 435.) For questions regarding compliance with proper procedure or other legal questions, courts review an agency's action de novo under the "independent judgment" test. (*Id.*) On the other hand, courts review factual disputes only for substantial evidence, thereby "accord[ing] greater deference to the agency's substantive factual conclusions." (*Id.*)

Here, Friant Ranch and Sierra Club agree that the case involves the question of whether an EIR includes sufficient information regarding a project's impacts. However, they disagree on the proper standard of review for answering this question: Sierra Club contends that courts use the independent judgment standard to determine whether an EIR's analysis is sufficient to meet CEQA's informational purposes,[12] while Friant Ranch contends that the substantial evidence standard applies to this question.

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[12] Sierra Club acknowledges that courts use the substantial evidence standard when reviewing predicate factual issues, but argues that courts ultimately decide as a matter of law what CEQA requires. (Answering Brief, pp. 14, 23.)

SCAQMD submits that the issue is more nuanced than either party contends. We submit that, whether a CEQA document includes sufficient analysis to satisfy CEQA's informational mandates is a mixed question of fact and law,[13] containing two levels of inquiry that should be judged by different standards.[14]

The state CEQA Guidelines set forth standards for the adequacy of environmental analysis. Guidelines Section 15151 states:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

In this case, the basic question is whether the underlying analysis of air quality impacts made the EIR "sufficient" as an informative document. However, whether the EIR's analysis was sufficient is judged in light of what was reasonably feasible. This represents a mixed question of fact and law that is governed by two different standards of review.

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[13] Friant Ranch actually states that the claim that an EIR lacks sufficient relevant information is, "most properly thought of as raising mixed questions of fact and law." (Opening Brief, p. 27.) However, the remainder of its argument claims that the court should apply the substantial evidence standard of review to all aspects of the issue.

[14] Mixed questions of fact and law issues may implicate predominantly factual subordinate questions that are reviewed under the substantial evidence test even though the ultimate question may be reviewed by the independent judgment test. *Crocker National Bank v. City and County of San Francisco* (1989) 49 Cal.3d 881, 888-889.

SCAQMD submits that an EIR's sufficiency as an informational document is ultimately a legal question that courts should determine using their independent judgment. This Court's language in *Laurel Heights I* supports this position. As this Court explained: "The court does not pass upon the correctness of the EIR's environmental conclusions, but only upon its *sufficiency as an informative document*." (*Laurel Heights I, supra*, 47 Cal.3d at 392-393) (emphasis added.) As described above, the Court in *Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 431, also used its independent judgment to determine what level of analysis CEQA requires for water supply impacts. The Court did not defer to the lead agency's opinion regarding the law's requirements; rather, it determined for itself what level of analysis was necessary to meet "[t]he law's informational demands." (*Id.* at p. 432.) Further, existing case law also holds that where an agency fails to comply with CEQA's information disclosure requirements, the agency has "failed to proceed in the manner required by law." (*Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 118.)

However, whether an EIR satisfies CEQA's requirements depends in part on whether it was reasonably feasible for an agency to conduct additional or more thorough analysis. EIRs must contain "a detailed statement" of a project's impacts (Pub. Res. Code § 21061), and an agency must "use its best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144.) Nevertheless, "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." (CEQA Guidelines § 15151.)

SCAQMD submits that the question of whether additional analysis or a particular study suggested by a commenter is "feasible" is generally a question of fact. Courts have already held that whether a particular alternative is "feasible" is reviewed by the substantial evidence test.

(*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 598-99; *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866, 883.) Thus, if a lead agency determines that a particular study or analysis is infeasible, that decision should generally be judged by the substantial evidence standard. However, SCAQMD urges this Court to hold that lead agencies must explain the basis of any determination that a particular analysis is infeasible in the EIR itself. An EIR must discuss information, including issues related to the feasibility of particular analyses "in sufficient detail to enable meaningful participation and criticism by the public. '[W]hatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.'" (*Laurel Heights I, supra*, 47 Cal.3d at p. 405 (quoting *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831) (discussing analysis of alternatives).) The evidence on which the determination is based should also be summarized in the EIR itself, with appropriate citations to reference materials if necessary. Otherwise commenting agencies such as SCAQMD would be forced to guess where the lead agency's evidence might be located, thus thwarting effective public participation.

Moreover, if a lead agency determines that a particular study or analysis would not result in reliable or useful information and for that reason is not feasible, that determination should be judged by the substantial evidence test. (See *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority, supra*, 57 Cal.4th 439, 448, 457:

whether "existing conditions" baseline would be misleading or uninformative judged by substantial evidence standard.[15])

If the lead agency's determination that a particular analysis or study is not feasible is supported by substantial evidence, then the agency has not violated CEQA's information disclosure provisions, since it would be infeasible to provide additional information. This Court's decisions provide precedent for such a result. For example, this Court determined that the issue of whether the EIR should have included a more detailed discussion of future herbicide use was resolved because substantial evidence supported the agency's finding that "the precise parameters of future herbicide use could not be predicted." *Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection* (2008) 43 Cal.4th 936, 955.

Of course, SCAQMD expects that courts will continue to hold lead agencies to their obligations to consult with, and not to ignore or misrepresent, the views of sister agencies having special expertise in the area of air quality. (*Berkeley Keep Jets Over the Bay v. Board of Port Commissioners* (2007) 91 Cal.App.4th 1344, 1364 n.11.) In some cases, information provided by such expert agencies may establish that the purported evidence relied on by the lead agency is not in fact "substantial". (*Id.* at pp. 1369-1371.)

In sum, courts retain ultimate responsibility to determine what CEQA requires. However, the law does not require exhaustive analysis, but only what is reasonably feasible. Agencies deserve deference for their factual determinations regarding what type of analysis is reasonably feasible. On the other hand, if a commenter requests more information, and the lead agency declines to provide it but does *not* determine that the

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[15] The substantial evidence standard recognizes that the courts "have neither the resources nor the scientific expertise" to weigh conflicting evidence on technical issues. (*Laurel Heights I, supra,* 47 Cal.3d 376, 393.)

requested study or analysis would be infeasible, misleading or uninformative, the question becomes whether the omission of that analysis renders the EIR inadequate to satisfy CEQA's informational purposes. (*Id.* at pp. 1370-71.) Again, this is predominantly a question of law and should be judged by the de novo or independent judgment standard of review. Of course, this Court has recognized that a "project opponent or reviewing court can always imagine some additional study or analysis that might provide helpful information. It is not for them to design the EIR. That further study...might be helpful does not make it necessary." (*Laurel Heights I, supra,* 47 Cal.3d 376, 415 – see also CEQA Guidelines § 15204(a) [CEQA "does not require a lead agency to conduct every test. . . recommended or demanded by commenters."].) Courts, then, must adjudicate whether an omission of particular information renders an EIR inadequate to serve CEQA's informational purposes.[16]

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[16] We recognize that there is case law stating that the substantial evidence standard applies to "challenges to the scope of an EIR's analysis of a topic" as well as the methodology used and the accuracy of the data relied on in the document "because these types of challenges involve factual questions." (*Bakersfield Citizens for Local Control v. City of Bakersfield, supra,* 124 Cal.App.4th 1184, 1198, and cases relied on therein.) However, we interpret this language to refer to situations where the question of the scope of the analysis really is factual—that is, where it involves whether further analysis is feasible, as discussed above. This interpretation is supported by the fact that the *Bakersfield* court expressly rejected an argument that a claimed "omission of information from the EIR should be treated as inquiries whether there is substantial evidence supporting the decision approving the project. " *Bakersfield, supra,* 124 Cal.App.4th at p. 1208. And the *Bakersfield* court ultimately decided that the lead agency must analyze the connection between the identified air pollution impacts and resulting health impacts, even though the EIR already included some discussion of air-pollution-related respiratory illnesses. *Bakersfield, supra,* 124 Cal.App.4th at p. 1220. Therefore, the court must not have interpreted this question as one of the "scope of the analysis" to be judged by the substantial evidence standard.

B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law.

In its brief, Friant Ranch makes a distinction between cases where a required CEQA topic is not discussed at all (to be reviewed by independent judgment as a failure to proceed in the manner required by law) and cases where a topic is discussed, but the commenter claims the information provided is insufficient (to be judged by the substantial evidence test). (Opening Brief, pp. 13-17.) The Court of Appeal recognized these two types of cases, but concluded that both raised questions of law. (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) We believe the distinction drawn by Friant Ranch is unduly narrow, and inconsistent with cases which have concluded that CEQA documents are insufficient. In many instances, CEQA's requirements are stated broadly, and the courts must interpret the law to determine what level of analysis satisfies CEQA's mandate for providing meaningful information, even though the EIR discusses the issue to some extent.

For example, the CEQA Guidelines require discussion of the existing environmental baseline. In *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 954-955, the lead agency had discussed the environmental baseline by describing historic month-end water levels in the affected lakes. However, the court held that this was not an adequate baseline discussion because it failed to discuss the timing and amounts of past actual water releases, to allow comparison with the proposed project. The court evidently applied the independent judgment test to its decision, even though the agency discussed the issue to some extent.

Likewise, in *Vineyard Area Citizens* (2007) 40 Cal.4th 412, this Court addressed the question of whether an EIR's analysis of water supply impacts complied with CEQA. The parties agreed that the EIR was required to analyze the effects of providing water to the development project, "and that in order to do so the EIR had, in some manner, to identify the planned sources of that water." (*Vineyard Area Citizens, supra,* at p. 428.) However, the parties disagreed as to the level of detail required for this analysis and "what level of uncertainty regarding the availability of water supplies can be tolerated in an EIR . . . ." (*Id.*) In other words, the EIR had analyzed water supply impacts for the project, but the petitioner claimed that the analysis was insufficient.

This Court noted that neither CEQA's statutory language or the CEQA Guidelines specifically addressed the question of how precisely an EIR must discuss water supply impacts. (*Id.*) However, it explained that CEQA "states that '[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.'" (*Id.*, [Guidelines § 15144].) The Court used this general principle, along with prior precedent, to elucidate four "principles for analytical adequacy" that are necessary in order to satisfy "CEQA's informational purposes." (*Vineyard Area Citizens, supra,* at p. 430.) The Court did not defer to the agency's determination that the EIR's analysis of water supply impacts was sufficient. Rather, this Court used its independent judgment to determine for itself the level of analysis required to satisfy CEQA's fundamental purposes. (*Vineyard Area Citizens, supra*, at p. 441: an EIR does not serve its purposes where it neglects to explain likely sources of water and "... leaves long term water supply considerations to later stages of the project.")

Similarly, the CEQA Guidelines require an analysis of noise impacts of the project. (Appendix G, "Environmental Checklist Form."[17]) In *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1123, the court held that the lead agency's noise impact analysis was inadequate even though it had addressed the issue and concluded that the increase would not be noticeable. If the court had been using the substantial evidence standard, it likely would have upheld this discussion.

Therefore, we do not agree that the issue can be resolved on the basis suggested by Friant Ranch, which would apply the substantial evidence standard to *every* challenge to an analysis that addresses a required CEQA topic. This interpretation would subvert the courts' proper role in interpreting CEQA and determining what the law requires.

Nor do we agree that the Court of Appeal in this case violated CEQA's prohibition on courts interpreting its provisions "in a manner which imposes procedural or substantive requirements beyond those explicitly stated in this division or in the state guidelines." (Pub. Resources Code § 21083.1.) CEQA requires an EIR to describe *all* significant impacts of the project on the environment. (Pub. Resources Code § 21100(b)(2); *Vineyard Area Citizens, supra,* at p. 428.) Human beings are part of the environment, so CEQA requires EIRs to discuss a project's significant impacts on human health. However, except in certain particular circumstances,[18] neither the CEQA statute nor Guidelines specify the precise level of analysis that agencies must undertake to satisfy the law's requirements. (see, e.g., CEQA Guidelines § 15126.2(a) [EIRs must describe "health and safety problems caused by {a project's} physical changes"].) Accordingly, courts must interpret CEQA as a whole to

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[17] Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) p.287.

[18] E.g., Pub. Resources Code § 21151.8(C)(3)(B)(iii) (requiring specific type of health risk analysis for siting schools).

determine whether a particular EIR is sufficient as an informational document. A court determining whether an EIR's discussion of human health impacts is legally sufficient does not constitute imposing a new substantive requirement.[19] Under Friant Ranch's theory, the above-referenced cases holding a CEQA analysis inadequate would have violated the law. This is not a reasonable interpretation.

IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS

Courts must "scrupulously enforce" CEQA's legislatively mandated requirements. (*Vineyard Area Citizens, supra*, 40 Cal.4th 412, 435.) Case law has firmly established that lead agencies must consult with the relevant air pollution control district before conducting an initial study, and must provide the districts with notice of the intention to adopt a negative declaration (or EIR). (*Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 958.) As *Schenck* held, neither publishing the notice nor providing it to the State Clearinghouse was a sufficient substitute for sending notice directly to the air district. (*Id.*) Rather, courts "must be satisfied that [administrative] agencies have fully complied with the procedural requirements of CEQA, since only in this way can the important public purposes of CEQA be protected from subversion." *Schenck,* 198 Cal.App.4th at p. 959 (citations omitted).[20]

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[19] We submit that Public Resources Code Section 21083.1 was intended to prevent courts from, for example, holding that an agency must analyze economic impacts of a project where there are no resulting environmental impacts (see CEQA Guidelines § 15131) , or imposing new procedural requirements, such as imposing additional public notice requirements not set forth in CEQA or the Guidelines.

[20] Lead agencies must consult air districts, as public agencies with jurisdiction by law over resources affected by the project, *before* releasing an EIR. (Pub. Resources Code §§ 21104(a); 21153.) Moreover, air

Lead agencies should be aware, therefore, that failure to properly seek and consider input from the relevant air district constitutes legal error which may jeopardize their project approvals. For example, the court in *Fall River Wild Trout Foundation v. County of Shasta,* (1999) 70 Cal.App.4th 482, 492 held that the failure to give notice to a trustee agency (Department of Fish and Game) was prejudicial error requiring reversal. The court explained that the lack of notice prevented the Department from providing any response to the CEQA document. (*Id.* at p. 492.) It therefore prevented relevant information from being presented to the lead agency, which was prejudicial error because it precluded informed decision-making. (*Id.*)[21]

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districts should be considered "state agencies" for purposes of the requirement to consult with "trustee agencies" as set forth in Public Resources Code § 20180.3(a). This Court has long ago held that the districts are not mere "local agencies" whose regulations are superseded by those of a state agency regarding matters of statewide concern, but rather have concurrent jurisdiction over such issues. (*Orange County Air Pollution Control District v. Public Util. Com.* (1971) 4 Cal.3d 945, 951, 954.) Since air pollution is a matter of statewide concern, *Id* at 952, air districts should be entitled to trustee agency status in order to ensure that this vital concern is adequately protected during the CEQA process.

[21] In *Schenck,* the court concluded that failure to give notice to the air district was not prejudicial, but this was partly because the trial court had already corrected the error before the case arrived at the Court of Appeal. The trial court issued a writ of mandate requiring the lead agency to give notice to the air district. The air district responded by concurring with the lead agency that air impacts were not significant. (*Schenck,* 198 Cal.App.4th 949, 960.) We disagree with the *Schenck* court that the failure to give notice to the air district would not have been prejudicial (even in the absence of the trial court writ) merely because the lead agency purported to follow the air district's published CEQA guidelines for significance. (*Id.*, 198 Cal.App.4th at p. 960.) In the first place, absent notice to the air district, it is uncertain whether the lead agency properly followed those guidelines. Moreover, it is not realistic to expect that an air district's published guidelines would necessarily fully address all possible air-quality related issues that can arise with a CEQA project, or that those

Similarly, lead agencies must obtain additional information requested by expert agencies, including those with jurisdiction by law, if that information is necessary to determine a project's impacts. (*Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236-37.) Approving a project without obtaining that information constitutes a failure to proceed in the manner prescribed by CEQA. (*Id.* at p. 1236.)

Moreover, a lead agency can save significant time and money by consulting with the air district early in the process. For example, the lead agency can learn what the air district recommends as an appropriate analysis on the facts of its case, including what kinds of health impacts analysis may be available, and what models are appropriate for use. This saves the lead agency from the need to do its analysis all over again and possibly needing to recirculate the document after errors are corrected, if new significant impacts are identified. (CEQA Guidelines § 15088.5(a).) At the same time, the air district's expert input can help the lead agency properly determine whether another commenter's request for additional analysis or studies is reasonable or feasible. Finally, the air district can provide input on what mitigation measures would be feasible and effective.

Therefore, we suggest that this Court provide guidance to lead agencies reminding them of the importance of consulting with the relevant air districts regarding these issues. Otherwise, their feasibility decisions may be vulnerable to air district evidence that establishes that there is no substantial evidence to support the lead agency decision not to provide specific analysis. (*See Berkeley Keep Jets Over the Bay, supra,* 91 Cal.App.4th 1344, 1369-1371.)

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guidelines would necessarily be continually modified to reflect new developments. Therefore we believe that, had the trial court not already ordered the lead agency to obtain the air district's views, the failure to give notice would have been prejudicial, as in *Fall River, supra,* 70 Cal.App.4th 482, 492.

CONCLUSION

The SCAQMD respectfully requests this Court *not* to establish a hard-and-fast rule concerning whether CEQA requires a lead agency to correlate identified air quality impacts of a project with resulting health outcomes. Moreover, the question of whether an EIR is "sufficient as an informational document" is a mixed question of fact and law containing two levels of inquiry. Whether a particular proposed analysis is feasible is predominantly a question of fact to be judged by the substantial evidence standard of review. Where the requested analysis is feasible, but the lead agency relies on legal or policy reasons not to provide it, the question of whether the EIR is nevertheless sufficient as an informational document is predominantly a question of law to be judged by the independent judgment standard of review.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
KURT R. WIESE, GENERAL COUNSEL
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CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.520(c)(1) of the California Rules of Court, I hereby certify that this brief contains 8,476 words, including footnotes, but excluding the Application, Table of Contents, Table of Authorities, Certificate of Service, this Certificate of Word Count, and signature blocks. I have relied on the word count of the Microsoft Word Vista program used to prepare this Certificate.

DATED: April 3, 2015 Respectfully submitted,

Barbara Baird

Barbara Baird

PROOF OF SERVICE

I am employed in the County of Los Angeles, California. I am over the age of 18 years and not a party to the within action. My business address is 21865 Copley Drive, Diamond Bar, California 91765.

On April 3, 2015 I served true copies of the following document(s) described as **APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*** by placing a true copy of the foregoing document(s) in a sealed envelope addressed as set forth on the attached service list as follows:

BY MAIL: I enclosed the document(s) in a sealed envelope or package addressed to the persons at the addresses listed in the Service List and placed the envelope for collection and mailing following our ordinary business practices. I am readily familiar with this District's practice for collection and processing of correspondence for mailing. Under that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid at Diamond Bar, California, in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on April 3, 2015 at Diamond Bar, California.

Patricia Anderson

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CASE NO. S219783

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LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

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APPLICATION

Pursuant to California Rules of Court 8.520(f)(1), proposed Amicus Curiae San Joaquin Valley Unified Air Pollution Control District hereby requests permission from the Chief Justice to file an amicus brief in support of Defendant and Respondent, County of Fresno, and Defendant and Real Parties in Interest Friant Ranch, L.P. Pursuant to Rule 8.520(f)(5) of the California Rules of Court, the proposed amicus curiae brief is combined with this Application. The brief addresses the following issue certified by this Court for review:

> Is an EIR adequate when it identifies the health impacts of air pollution and quantifies a project's expected emissions, or does CEQA further require the EIR to *correlate* a project's air quality emissions to specific health impacts?

As of the date of this filing, the deadline for the final reply brief on the merits was March 5, 2015. Accordingly, under Rule 8.520(f)(2), this application and brief are timely.

1. Background and Interest of San Joaquin Valley Unified Air Pollution Control District

The San Joaquin Valley Unified Air Pollution Control District ("Air District") regulates air quality in the eight counties comprising the San Joaquin Valley ("Central Valley"): Kern, Tulare, Madera, Fresno, Merced, San Joaquin, Stanislaus, and Kings, and is primarily responsible for attaining air quality standards within its jurisdiction. After billions of dollars of investment by Central Valley businesses, pioneering air quality regulations, and consistent efforts by residents, the Central Valley air basin has made historic improvements in air quality.

The Central Valley's geographical, topographical and meteorological features create exceptionally challenging air quality

conditions. For example, it receives air pollution transported from the San Francisco Bay Area and northern Central Valley communities, and the southern portion of the Central Valley includes three mountain ranges (Sierra, Tehachapi, and Coastal) that, under some meteorological conditions, effectively trap air pollution. Central Valley air pollution is only a fraction of what the Bay Area and Los Angeles produce, but these natural conditions result in air quality conditions that are only marginally better than Los Angeles, even though about ten times more pollution is emitted in the Los Angeles region. Bay Area air quality is much better than the Central Valley's, even though the Bay Area produces about six times more pollution. The Central Valley also receives air pollution transported from the Bay Area and northern counties in the Central Valley, including Sacramento, and transboundary anthropogenic ozone from as far away as China.

Notwithstanding these challenges, the Central Valley has reduced emissions at the same or better rate than other areas in California and has achieved unparalleled milestones in protecting public health and the environment:

- In the last decade, the Central Valley became the first air basin classified by the federal government under the Clean Air Act as a "serious nonattainment" area to come into attainment of health-based National Ambient Air Quality Standard ("NAAQS") for coarse particulate matter (PM10), an achievement made even more notable given the Valley's extensive agricultural sector. Unhealthy levels of particulate matter can cause and exacerbate a range of chronic and acute illnesses.
- In 2013, the Central Valley became the first air basin in the country to improve from a federal designation of "extreme" nonattainment to

actually attain (and quality for an attainment designation) of the 1-hour ozone NAAQS; ozone creates "smog" and, like PM10, causes adverse health impacts.

- The Central Valley also is in full attainment of federal standards for lead, nitrogen dioxide, sulfur dioxide, and carbon monoxide.
- The Central Valley continues to make progress toward compliance with its last two attainment standards, with the number of exceedences for the 8-hour ozone NAAQS reduced by 74% (for the 1997 standard) and 38% (for the 2008 standard) since 1991, and for the small particulate matter (PM2.5) NAAQS reduced by 85% (for the 1997 standard) and 61% (for the 2006 standard).

Sustained improvement in Central Valley air quality requires a rigorous and comprehensive regulatory framework that includes prohibitions (e.g., on wood-burning fireplaces in new residences), mandates (e.g., requiring the installation of best available pollution reduction technologies on new and modified equipment and industrial operations), innovations (e.g., fees assessed against residential development to fund pollution reduction actions to "offset" vehicular emissions associated with new residences), incentive programs (e.g., funding replacements of older, more polluting heavy duty trucks and school buses)[1], ongoing planning for continued air quality improvements, and enforcement of Air District permits and regulations.

The Air District is also an expert air quality agency for the eight counties and cities in the San Joaquin Valley. In that capacity, the Air District has developed air quality emission guidelines for use by the Central

[1] San Joaquin's incentive program has been so successful that through 2012, it has awarded over $ 432 million in incentive funds and has achieved 93,349 tons of lifetime emissions reductions. *See* SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 2012 PM2.5 PLAN, 6-6 (2012) *available at* http://www.valleyair.org/Workshops/postings/2012/12-20-12PM25/FinalVersion/06%20Chapter%206%20Incentives.pdf.

Valley counties and cities that implement the California Environment Quality Act (CEQA).[2] In its guidance, the Air District has distinguished between toxic air contaminants and criteria air pollutants.[3] Recognizing this distinction, the Air District's CEQA Guidance has adopted distinct thresholds of significance for *criteria* pollutants (i.e., ozone, PM2.5 and their respective precursor pollutants) based upon scientific and factual data which demonstrates the level that can be accommodated on a cumulative basis in the San Joaquin Valley without affecting the attainment of the applicable NAAQS.[4] For *toxic air* pollutants, the District has adopted different thresholds of significance which scientific and factual data demonstrates has the potential to expose sensitive receptors (i.e., children, the elderly) to levels which may result in localized health impacts.[5]

The Air District's CEQA Guidance was followed by the County of Fresno in its environment review of the Friant Ranch project, for which the Air District also served as a commenting agency. The Court of Appeal's holding, however, requiring correlation between the project's criteria

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[2] *See, e.g.*, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, PLANNING DIVISION, GUIDE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACTS (2015), *available at* http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf ("CEQA Guidance").

[3] Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health, they are distinguishable from toxic air contaminants and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of toxic air contaminants occurs solely under section 112 of the Act. Compare 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 with 42 U.S.C. § 7411.

[4] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 64-66, 80.

[5] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 66, 99-101.

pollutants and local health impacts, departs from the Air District's Guidance and approved methodology for assessing criteria pollutants. A close reading of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants (for which a local health risk assessment is feasible and routinely performed) and criteria air pollutants (for which a local health risk assessment is not feasible and would result in speculative results).[6] The Air District has a direct interest in ensuring the lawfulness and consistent application of its CEQA Guidance, and will explain how the Court of Appeal departed from the Air District's long-standing CEQA Guidance in addressing criteria pollutants and toxic air contaminants in this amicus brief.

2. How the Proposed Amicus Curiae Brief Will Assist the Court

As counsel for the proposed amicus curiae, we have reviewed the briefs filed in this action. In addition to serving as a "commentary agency" for CEQA purposes over the Friant Ranch project, the Air District has a strong interest in assuring that CEQA is used for its intended purpose, and believes that this Court would benefit from additional briefing explaining the distinction between criteria pollutants and toxic air contaminants and the different methodologies employed by local air pollution control agencies such as the Air District to analyze these two categories of air pollutants under CEQA. The Air District will also explain how the Court of Appeal's opinion is based upon a fundamental misunderstanding of these two different approaches by requiring the County of Fresno to correlate the project's *criteria* pollution emissions with *local* health impacts. In doing

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[6] CEQA does not require speculation. *See, e.g., Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.*, 6 Cal. 4th 1112, 1137 (1993) (upholding EIR that failed to evaluate cumulative toxic air emission increases given absence of any acceptable means for doing so).

so, the Air District will provide helpful analysis to support its position that at least insofar as criteria pollutants are concerned, CEQA does not require an EIR to correlate a project's air quality emissions to specific health impacts, because such an analysis is not reasonably feasible.

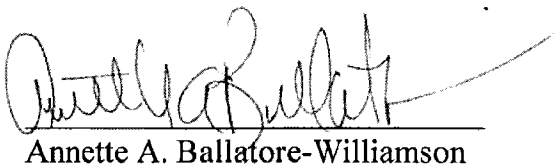
Rule 8.520 Disclosure

Pursuant to Cal. R. 8.520(f)(4), neither the Plaintiffs nor the Defendant or Real Party In Interest or their respective counsel authored this brief in whole or in part. Neither the Plaintiffs nor the Defendant or Real Party in Interest or their respective counsel made any monetary contribution towards or in support of the preparation of this brief.

CONCLUSION

On behalf of the San Joaquin Valley Unified Air Pollution Control District, we respectfully request that this Court accept the filing of the attached brief.

Dated: April 2, 2015



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SAN JOAQUIN VALLEY UNIFIED
AIR POLLUTION CONTROL
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I. INTRODUCTION.

The San Joaquin Valley Unified Air Pollution Control District ("Air District") respectfully submits that the Court of Appeal erred when it held that the air quality analysis contained in the Environmental Impact Report ("EIR") for the Friant Ranch development project was inadequate under the California Environmental Quality Act ("CEQA") because it did not include an analysis of the correlation between the project's criteria air pollutants and the potential adverse human health impacts. A close reading of the portion of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants and criteria air pollutants.

Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants (hereinafter referred to as "TACs") regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health,

they are distinguishable from TACs and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of TACs occurs solely under section 112 of the Act. *Compare* 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 *with* 42 U.S.C. § 7411.

The most relevant difference between criteria pollutants and TACs for purposes of this case is the manner in which human health impacts are accounted for. While it is common practice to analyze the correlation between an individual facility's TAC emissions and the expected localized human health impacts, such is not the case for criteria pollutants. Instead, the human health impacts associated with criteria air pollutants are analyzed and taken into consideration when EPA sets the national ambient air quality standard ("NAAQS") for each criteria pollutant. 42 U.S.C. § 7409(b)(1). The health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the NAAQS. Accordingly, while the type of individual facility / health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task.

It is clear from a reading of both the administrative record and the Court of Appeal's decision that the Court did not have the expertise to fully

appreciate the difference between TACs and criteria air pollutants. As a result, the Court has ordered the County of Fresno to conduct an analysis that is not practicable and not likely yield valid information. The Air District respectfully requests that this portion of the Court of Appeal's decision be reversed.

II. THE COURT OF APPEAL ERRED IN FINDING THE FRIANT RANCH EIR INADEQUATE FOR FAILING TO ANALYZE THE SPECIFIC HUMAN HEALTH IMPACTS ASSOCIATED CRITERIA AIR POLLUTANTS.

Although the Air District does not take lightly the amount of air emissions at issue in this case, it submits that the Court of Appeal got it wrong when it required Fresno County to revise the Friant Ranch EIR to include an analysis correlating the criteria air pollutant emissions associated with the project with specific, localized health-impacts. The type of analysis the Court of Appeal has required will not yield reliable information because currently available modeling tools are not well suited for this task. Further, in reviewing this issue de novo, the Court of Appeal failed to appreciate that it lacked the scientific expertise to appreciate the significant differences between a health risk assessment commonly performed for toxic air contaminants and a similar type of analysis it felt should have been conducted for criteria air pollutants.

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A. Currently Available Modeling Tools are not Equipped to Provide a Meaningful Analysis of the Correlation between an Individual Development Project's Air Emissions and Specific Human Health Impacts.

In order to appreciate the problematic nature of the Court of Appeals' decision requiring a health risk type analysis for criteria air pollutants, it is important to understand how the relevant criteria pollutants (ozone and particulate matter) are formed, dispersed and regulated.

Ground level ozone (smog) is not directly emitted into the air, but is formed when precursor pollutants such as oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are emitted into the atmosphere and undergo complex chemical reactions in the process of sunlight.[1] Once formed, ozone can be transported long distances by wind.[2] Because of the complexity of ozone formation, a specific tonnage amount of NOx or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area. In fact, even rural areas that have relatively low tonnages of emissions of NOx or VOCs can have high levels of ozone concentration simply due to wind transport.[3] Conversely, the San Francisco Bay Area has six times more NOx and VOC emissions per square mile than the San Joaquin Valley, but experiences lower

[1] *See* United States Environmental Protection Agency, *Ground-level Ozone: Basic Information*, available at: http://www.epa.gov/airquality/ozonepollution/basic.html (visited March 10, 2015).
[2] *Id.*
[3] *Id.*

concentrations of ozone (and better air quality) simply because sea breezes disperse the emissions.[4]

Particulate matter ("PM") can be divided into two categories: directly emitted PM and secondary PM.[5] While directly emitted PM can have a localized impact, the tonnage emitted does not always equate to the local PM concentration because it can be transported long distances by wind.[6] Secondary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SOx) and NOx.[7] Because of the complexity of secondary PM formation, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area.

The disconnect between the *tonnage* of precursor pollutants (NOx, SOx and VOCs) and the *concentration* of ozone or PM formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or PM. Indeed, the national ambient air quality standards ("NAAQS"), which are statutorily required to be set by the United States Environmental Protection

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[4] *San Joaquin Valley Air Pollution Control District 2007 Ozone Plan*, Executive Summary p. ES-6, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/03%20Executive%20Summary.pdf (visited March 10, 2015).

[5] United States Environmental Protection Agency, *Particulate Matter: Basic Information*, available at: http://www.epa.gov/airquality/particlepollution/basic.html (visited March 10, 2015).

[6] *Id.*

[7] *Id.*

Agency ("EPA") at levels that are "requisite to protect the public health," 42 U.S.C. § 7409(b)(1), are established as concentrations of ozone or particulate matter and not as tonnages of their precursor pollutants.[8]

Attainment of a particular NAAQS occurs when the concentration of the relevant pollutant remains below a set threshold on a consistent basis throughout a particular region. For example, the San Joaquin Valley attained the 1-hour ozone NAAQS when ozone concentrations remained at or below 0.124 parts per million Valley-wide on 3 or fewer days over a 3-year period.[9] Because the NAAQS are focused on achieving a particular concentration of pollution region-wide, the Air District's tools and plans for attaining the NAAQS are regional in nature.

For instance, the computer models used to simulate and predict an attainment date for the ozone or particulate matter NAAQS in the San Joaquin Valley are based on regional inputs, such as regional inventories of precursor pollutants (NOx, SOx and VOCs) and the atmospheric chemistry and meteorology of the Valley.[10] At a very basic level, the models simulate future ozone or PM levels based on predicted changes in precursor

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[8] See, e.g., United States Environmental Protection Agency, *Table of National Ambient Air Quality Standards*, available at: http://www.epa.gov/air/criteria.html#3 (visited March 10, 2015).

[9] *San Joaquin Valley Unified Air Pollution Control District 2013 Plan for the Revoked 1-Hour Ozone Standard*, Ch. 2 p. 2-16, available at: http://www.valleyair.org/Air_Quality_Plans/OzoneOneHourPlan2013/02Chapter2ScienceTrendsModeling.pdf (visited March 10, 2015).

[10] *Id.* at Ch. 2 p. 2-19 (visited March 12, 2015); *San Joaquin Valley Unified Air Pollution Control District 2008 PM2.5 Plan*, Appendix F, pp. F-2 – F-5, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Final_Adopted_PM2.5/20%20Appendix%20F.pdf (visited March 19, 2015).

emissions Valley wide.[11] Because the NAAQS are set levels necessary to protect human health, the closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant.

The goal of these modeling exercises is not to determine whether the emissions generated by a particular factory or development project will affect the date that the Valley attains the NAAQS. Rather, the Air District's modeling and planning strategy is regional in nature and based on the extent to which *all* of the emission-generating sources in the Valley (current and future) must be controlled in order to reach attainment.[12]

Accordingly, the Air District has based its thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the Valley can accommodate without affecting the attainment date for the NAAQS.[13] The Air District has tied its CEQA significance thresholds to the level at which stationary pollution sources permitted by the Air District must "offset" their emissions.[14] This "offset"

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[11] *Id.*

[12] Although the Air District does have a dispersion modeling tool used during its air permitting process that is used to predict whether a particular project's directly emitted PM will either cause an exceedance of the PM NAAQS or contribute to an existing exceedance, this model bases the prediction on a worst case scenario of emissions and meteorology and has no provision for predicting any associated human health impacts. Further, this analysis is only performed for stationary sources (factories, oil refineries, etc.) that are required to obtain a New Source Review permit from the Air District and not for development projects such as Friant Ranch over which the Air District has no preconstruction permitting authority. *See* San Joaquin Valley Unified Air Pollution Control District Rule 2201 §§ 2.0; 3.3.9; 4.14.1, available at: http://www.valleyair.org/rules/currntrules/Rule2201041l.pdf (visited March 19, 2015).

[13] *San Joaquin Valley Unified Air Pollution Control District Guide to Assessing and Mitigating Air Quality Impacts*, (March 19, 2015) p. 22, available at: http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf (visited March 30, 2015).

[14] *Id.* at pp. 22, 25.

level allows for growth while keeping the cumulative effects of all new sources at a level that will not impede attainment of the NAAQS.[15] In the Valley, these thresholds are 15 tons per year of PM, and 10 tons of NOx or VOC per year. *Sierra Club*, *supra*, 172 Cal.Rptr.3d at 303; AR 4554. Thus, the CEQA air quality analysis for criteria pollutants is not really a localized, project-level impact analysis but one of regional, "cumulative impacts."

Accordingly, the significance thresholds applied in the Friant Ranch EIR (15 tons per year of PM and 10 tons of NOx or VOCs) are not intended to be indicative of any localized human health impact that the project may have. While the health effects of air pollution are of primary concern to the Air District (indeed, the NAAQS are established to protect human health), the Air District is simply not equipped to analyze whether and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area. This is true even for projects with relatively high levels of emissions of criteria pollutant precursor emissions.

For instance, according to the EIR, the Friant Ranch project is estimated to emit 109.52 tons per year of ROG (VOC), 102.19 tons per year of NOx, and 117.38 tons per year of PM. Although these levels well

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[15] [15] *San Joaquin Valley Unified Air Pollution Control District Environmental Review Guidelines* (Aug. 2000) p. 4-11, available at: http://www.valleyair.org/transportation/CEQA%20Rules/ERG%20Adopted%20_August%202000_.pdf (visited March 12, 2015).

exceed the Air District's CEQA significance thresholds, this does not mean that one can easily determine the concentration of ozone or PM that will be created at or near the Friant Ranch site on a particular day or month of the year, or what specific health impacts will occur. Meteorology, the presence of sunlight, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone or PM. This is especially true for a project like Friant Ranch where most of the criteria pollutant emissions derive not from a single "point source," but from area wide sources (consumer products, paint, etc.) or mobile sources (cars and trucks) driving to, from and around the site.

In addition, it would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have. As discussed above, the currently available modeling tools are equipped to model the impact of *all* emission sources in the Valley on attainment. According to the most recent EPA-approved emission inventory, the NOx inventory for the Valley is for the year 2014 is 458.2 tons per day, or 167,243 tons per year and the VOC (or ROG) inventory is 361.7 tons per day, or 132,020.5 tons per year.[16] Running the photochemical grid model used for predicting ozone attainment with the

[16] *San Joaquin Valley Unified Air Pollution Control District 2007 Ozone Plan*, Appendix B pp. B-6, B-9,
available at:
http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/19%20Appendix%20B%20April%202007.pdf (visited March 12, 2015).

emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NOx and VOC in the Valley) is not likely to yield valid information given the relative scale involved.

Finally, even once a model is developed to accurately ascertain local increases in concentrations of photochemical pollutants like ozone and some particulates, it remains impossible, using today's models, to correlate that increase in concentration to a specific health impact. The reason is the same: such models are designed to determine regional, population-wide health impacts, and simply are not accurate when applied at the local level.

For these reasons, it is not the norm for CEQA practitioners, including the Air District, to conduct an analysis of the localized health impacts associated with a project's criteria air pollutant emissions as part of the EIR process. When the accepted scientific method precludes a certain type of analysis, "the court cannot impose a legal standard to the contrary." *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 717 n. 8. However, that is exactly what the Court of Appeal has done in this case. Its decision upends the way CEQA air quality analysis of criteria pollutants occurs and should be reversed.

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B. The Court of Appeal Improperly Extrapolated a Request for a Health Risk Assessment for Toxic Air Contaminants into a Requirement that the EIR contain an Analysis of Localized Health Impacts Associated with Criteria Air Pollutants.

The Court of Appeal's error in requiring the new health impact analysis for criteria air pollutants clearly stems from a misunderstanding of terms of art commonly used in the air pollution field. More specifically, the Court of Appeal (and Appellants Sierra Club et al.) appear to have confused the health risk analysis ("HRA") performed to determine the health impacts associated with a project's toxic air contaminants ("TACs"), with an analysis correlating a project's criteria air pollutants (ozone, PM and the like) with specific localized health impacts.

The first type of analysis, the HRA, is commonly performed during the Air District's stationary source permitting process for projects that emit TACs and is, thus, incorporated into the CEQA review process. An HRA is a comprehensive analysis to evaluate and predict the dispersion of TACs emitted by a project and the potential for exposure of human populations. It also assesses and quantifies both the individual and population-wide health risks associated with those levels of exposure. There is no similar analysis conducted for criteria air pollutants. Thus, the second type of analysis (required by the Court of Appeal), is not currently part of the Air District's process because, as outlined above, the health risks associated

with exposure to criteria pollutants are evaluated on a regional level based on the region's attainment of the NAAQS.

The root of this confusion between the types of analyses conducted for TACs versus criteria air pollutants appears to stem from a comment that was presented to Fresno County by the City of Fresno during the administrative process.

In its comments on the draft EIR, the City of Fresno (the only party to raise this issue) stated:

> [t]he EIR must disclose the human health related effects of the Project's air pollution impacts. (CEQA Guidelines section 15126.2(a).) The EIR fails completely in this area. The EIR should be revised to disclose and determine the significance of TAC impacts, and of human health risks due to exposure to Project-related air emissions.

(AR 4602.)

In determining that the issue regarding the correlation between the Friant Ranch project's criteria air pollutants and adverse health impacts was adequately exhausted at the administrative level, the Court of Appeal improperly read the first two sentences of the City of Fresno's comment in isolation rather than in the context of the entire comment. *See Sierra Club v. County of Fresno* (2014) 172 Cal.Rptr.3d 271, 306. Although the comment first speaks generally in terms of "human health related effects" and "air pollution," it requests only that the EIR be revised to disclose "the significance of TACs" and the "human health risks due to exposure."

The language of this request in the third sentence of the comment is significant because, to an air pollution practitioner, the language would only have indicated only that a HRA for TACs was requested, and not a separate analysis of the health impacts associated with the project's criteria air pollutants. Fresno County clearly read the comment as a request to perform an HRA for TACs and limited its response accordingly. (AR 4602.)[17] The Air District submits that it would have read the City's comment in the same manner as the County because the City's use of the terms "human health risks" and "TACs" signal that an HRA for TACs is being requested. Indeed, the Air District was also concerned that an HRA be conducted, but understood that it was not possible to conduct such an analysis until the project entered the phase where detailed site specific information, such as the types of emission sources and the proximity of the sources to sensitive receptors became available. (AR 4553.)[18] The City of Fresno was apparently satisfied with the County's discussion of human health risks, as it did not raise the issue again when it commented on the final EIR. (AR 8944 – 8960.)

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[17] Appellants do not challenge the manner in which the County addressed TACs in the EIR. (Appellants' Answer Brief p. 28 fn. 7.)

[18] Appellants rely on the testimony of Air District employee, Dan Barber, as support for their position that the County should have conducted an analysis correlating the project's criteria air pollutant emissions with localized health impacts. (Appellants Answer Brief pp. 10-11; 28.) However, Mr. Barber's testimony simply reinforces the Air District's concern that a risk assessment (HRA) be conducted once the actual details of the project become available. (AR 8863.) As to criteria air pollutants, Mr. Barber's comments are aimed at the Air District's concern about the amount of emissions and the fact that the emissions will make it "more difficult for Fresno County and the Valley to reach attainment which means that the health of Valley residents maybe [sic] adversely impacted." Mr. Barber says nothing about conducting a separate analysis of the localized health impacts the project's emissions may have.

The Court of Appeal's holding, which incorrectly extrapolates a request for an HRA for TACs into a new analysis of the localized health impacts of the project's criteria air pollutants, highlights two additional errors in the Court's decision.

First, the Court of Appeal's holding illustrates why the Court should have applied the deferential substantial evidence standard of review to the issue of whether the EIR's air quality analysis was sufficient. The regulation of air pollution is a technical and complex field and the Court of Appeal lacked the expertise to fully appreciate the difference between TACs and criteria air pollutants and tools available for analyzing each type of pollutant.

Second, it illustrates that the Court likely got it wrong when it held that the issue regarding the criteria pollutant / localized health impact analysis was properly exhausted during the administrative process. In order to preserve an issue for the court, '[t]he "exact issue" must have been presented to the administrative agency....' [Citation.] *Citizens for Responsible Equitable Environmental Development v. City of San Diego*, (2011) 196 Cal.App.4th 515, 527 129 Cal.Rptr.3d 512, 521; *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 535, 78 Cal.Rptr.3d 1, 13. "'[T]he objections must be sufficiently specific so that the agency has the

opportunity to evaluate and respond to them.' [Citation.]" *Sierra Club v. City of Orange*,163 Cal.App.4th at 536.[19]

As discussed above, the City's comment, while specific enough to request a commonly performed HRA for TACs, provided the County with no notice that it should perform a new type of analysis correlating criteria pollutant tonnages to specific human health effects. Although the parties have not directly addressed the issue of failure to exhaust administrative remedies in their briefs, the Air District submits that the Court should consider how it affects the issues briefed by the parties since "[e]xhaustion of administrative remedies is a jurisdictional prerequisite to maintenance of a CEQA action." *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1199, 22 Cal.Rptr.3d 203.

III. CONCLUSION

For all of the foregoing reasons, the Air District respectfully requests that the portion of the Court of Appeal's decision requiring an analysis correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

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[19] *Sierra Club v. City of Orange*, is illustrative here. In that case, the plaintiffs challenged an EIR approved for a large planned community on the basis that the EIR improperly broke up the various environmental impacts by separate project components or "piecemealed" the analysis in violation of CEQA. In evaluating the defense that the plaintiffs had failed to adequately raise the issue at the administrative level, the Court held that comments such as *"the use of a single document for both a project-level and a program-level EIR [is] 'confusing',"* and *"[t]he lead agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project,"* were too vague to fairly raise the argument of piecemealing before the agency. *Sierra Club v. City of Orange*, 163 Cal.App.4th at 537.

correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

Respectfully submitted,

Dated: April 2, 2015

Catherine T. Redmond
Attorney for Proposed Amicus Curiae

SAN JOAQUIN VALLEY
UNIFIED
AIR POLLUTION CONTROL
DISTRICT

CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.204 of the California Rules of Court, I hereby certify that this document, based on the Word County feature of the Microsoft Word software program used to compose and print this document, contains, exclusive of caption, tables, certificate of word count, signature block and certificate of service, 3806 words.

Dated: April 2, 2015

Annette A. Ballatore-Williamson
District Counsel (SBN 192176)

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

PROOF OF SERVICE

I am over the age of 18 years and not a p[arty to the above-captioned action; that my business address is San Joaquin Valley Unified Air Pollution Control District located at 1990 E. Gettysburg Avenue, Fresno, California 93726.

On April 2, 2015, I served the document described below:

APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO

On all parties to this action at the following addresses and in the following manner:

PLEASE SEE ATTACHED SERVICE LIST

(XX) **(BY MAIL)** I caused a true copy of each document(s) to be laced in a sealed envelope with first-class postage affixed and placed the envelope for collection. Mail is collected daily at my office and placed in a United State Postal Service collection box for pick-up and delivery that same day.

( ) **(BY ELECTRONIC MAIL)** I caused a true and correct scanned image (.PDF file) copy to be transmitted via electronic mail transfer system in place at the San Joaquin Valley Unified Air Pollution Control District ("District"), originating from the undersigned at 1990 E. Gettysburg Avenue, Fresno, CA, to the address(es) indicated below.

( ) **(BY OVERNIGHT MAIL)** I caused a true and correct copy to be delivered via Federal Express to the following person(s) or their representative at the address(es) listed below.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that I executed this document on April 2, 2015, at Fresno, California.

Esthela Soto

SERVICE LIST

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

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Appendix D Records Search Results from South Central Coastal Information Center at California State University, Fullerton

Appendices

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800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395
California Historical Resources Information System
Los Angeles, Orange, Ventura and San Bernardino Counties
sccic@fullerton.edu

3/21/2024 SCCIC File #: 25635.11775

Jennifer Kelley
PlaceWorks (ART-02.0)
700 Flower St #600
Los Angeles, CA 90017

Re: Record Search Results for the Artesia Downtown Specific Plan

The South Central Coastal Information Center received your records search request for the project area referenced above, located on the Los Alamitos, CA USGS 7.5' quadrangle(s). The following summary reflects the results of the records search for the project area and a ¼-mile radius. The search includes a review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest (SPHI), the California Historical Landmarks (SHL), the California Register of Historical Resources (CAL REG), the National Register of Historic Places (NRHP), and the California State Built Environment Resources Directory (BERD) listings were reviewed for the above referenced project site and a ¼-mile radius. Due to the sensitive nature of cultural resources, archaeological site locations are not released.

RECORDS SEARCH RESULTS SUMMARY

Archaeological Resources* (*see Recommendations section)	Within project area: 0 Within ¼-mile radius: 0
Built-Environment Resources	Within project area: 0 Within ¼-mile radius: 1
Reports and Studies	Within project area: 2 Within ¼-mile radius: 1
OHP Built Environment Resources Directory (BERD) 2022	Within project area: 1 Within ¼-mile radius: 9
California Points of Historical Interest (SPHI) 2022	Within project area: 0 Within ¼-mile radius: 0
California Historical Landmarks (SHL) 2022	Within project area: 0 Within ¼-mile radius: 0
California Register of Historical Resources (CAL REG) 2022	Within project area: 0 Within ¼-mile radius: 0
National Register of Historic Places (NRHP) 2022	Within project area: 0 Within ¼-mile radius: 0

HISTORIC MAP REVIEW - Downey, CA (1943) 15' USGS historic map indicates that in 1943 there were several buildings and roads within the project area. There were additional buildings and roads within the project search radius which was located within the historic place name of Artesia. Also of note was the Pacific Electric rail line which ran through both the search radius and the project area.

RECOMMENDATIONS

**When we report that no archaeological resources are recorded in your project area or within a specified radius around the project area; that does not necessarily mean that nothing is there. It may simply mean that the area has not been studied and/or that no information regarding the archaeological sensitivity of the property has been filed at this office. The reported records search result does not preclude the possibility that surface or buried artifacts might be found during a survey of the property or ground-disturbing activities.*

According to our records, almost all of the Artesia Downtown Specific Plan boundary has not been subjected to any previous studies; consequently, the cultural resource sensitivity of the project boundary is unknown. Historic maps from the 1940's show the project boundary was mostly developed and the Pacific Electric Railroad (later the Southern Pacific Railroad) bisected the project boundary. The San Gabriel River is nearby to the west of the project boundary. Archaeological resources could be found buried or on the ground surface. Therefore, it is recommended that a qualified archaeologist be retained to examine soils for projects with undeveloped land and projects with ground disturbing activities – especially those projects with structures that are 45 years and older. Additionally any built-environment resources 45 years and older should be identified, recorded, and evaluated for local, state, or national significance (if applicable) by a qualified architectural historian prior to the approval of any project plans.

For your convenience, you may find a professional consultant**at www.chrisinfo.org. Any resulting reports by the qualified consultant should be submitted to the South Central Coastal Information Center as soon as possible.

**The SCCIC does not endorse any particular consultant and makes no claims about the qualifications of any person listed. Each consultant on this list self-reports that they meet current professional standards.

If you have any questions regarding the results presented herein, please contact the office at 657.278.5395 Monday through Thursday 9:00 am to 3:30 pm. Should you require any additional information for the above referenced project, reference the SCCIC number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System,

Stacy St. James

Digitally signed by Stacy St. James
Date: 2024.03.21 09:46:00 -07'00'

Isabela Kott
Assistant Coordinator, GIS Program Specialist

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

January 18, 2024

Jennifer Kelley
Placeworks

Via Email to: jkelley@placeworks.com

Re: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, as well as Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2, Downtown Artesia Specific Plan Draft Environmental Impact Report Project, Los Angeles County

Dear Ms. Kelley:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties or projects.

Government Codes §65352.3 and §65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

Public Resources Codes §21080.3.1 and §21080.3.2 requires public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to tribal cultural resources as defined, for California Environmental Quality Act (CEQA) projects.

The law does not preclude local governments and agencies from initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

Best practice for the AB52 process and in accordance with Public Resources Code §21080.3.1(d), is to do the following:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The NAHC also recommends, but does not require that lead agencies include in their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential affect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

    - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE, such as known archaeological sites;
    - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
    - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
    - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

3. The result of the Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was positive. Please contact the tribes on the attached list for more information.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event, that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Appendix E Paleontological Records Search Results from the Natural History Museum of Los Angeles County

Appendices

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Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

January 7, 2024

Placeworks

Attn: Jennifer Kelley

re: Paleontological resources for the Artesia Downtown Specific Plan Project (Project No. ART-02.0)

Dear Jennifer:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Artesia Downtown Specific Plan project area as outlined on the portion of the Los Alamitos USGS topographic quadrangle map that you sent to me via e-mail on December 21, 2023. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that may occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County (NHMLA).

Locality Number	Location	Formation	Taxa	Depth
LACM VP 3347	11204 Bluefield; Whittier	La Habra Formation (lacustrine silt with caliche and plant detritus)	Horse (*Equus*)	2 feet bgs
LACM VP 3660	Cover St & Pixie Ave; Lakewood	Unknown formation (Pleistocene)	Mammoth (*Mammuthus*)	19 feet bgs
LACM VP 3245; LACM IP 2668, 423	south side of the San Diego Freeway where it crosses Cherry Ave	Fernando Formation (dark grey sand & silt)	Fish (Osteichthyes) in a dense shell bed	37 feet bgs
LACM VP 7493	30 yards south of Pacific Coast Highway & 10 yards west of Grand Avenue; Long Beach	Lakewood Formation	Camel family (Camelidae)	8.5 feet bgs
LACM VP 3260	Long Beach (more specific locality not available)	Unknown formation (Pleistocene)	Bison (*Bison*)	Unknown
LACM VP 4185-4201	Coyote Creek, adjacent to Ralph B Clark	La Habra Formation (Pleistocene; sandy	Bison (*Bison*), camel (*Camelops*), horse (*Equus*),	Surface, in creek

Locality Number	Location	Formation	Taxa	Depth
	Regional Park in West Coyote Hills	silt shot through with caliche)	mammoth (*Mammuthus*), mastodon (*Mamut*), elephant clade (Proboscidea), dire wolf *(Canis dirus*), Coyote (*C. latrans*), deer (*Odocoileus*), dwarf pronghorn (*Capromeryx*), unidentified artiodactyl; sea duck (*Chendytes*)	bed

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the NHMLA. It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice

Appendix F Noise Modeling Data

Appendices

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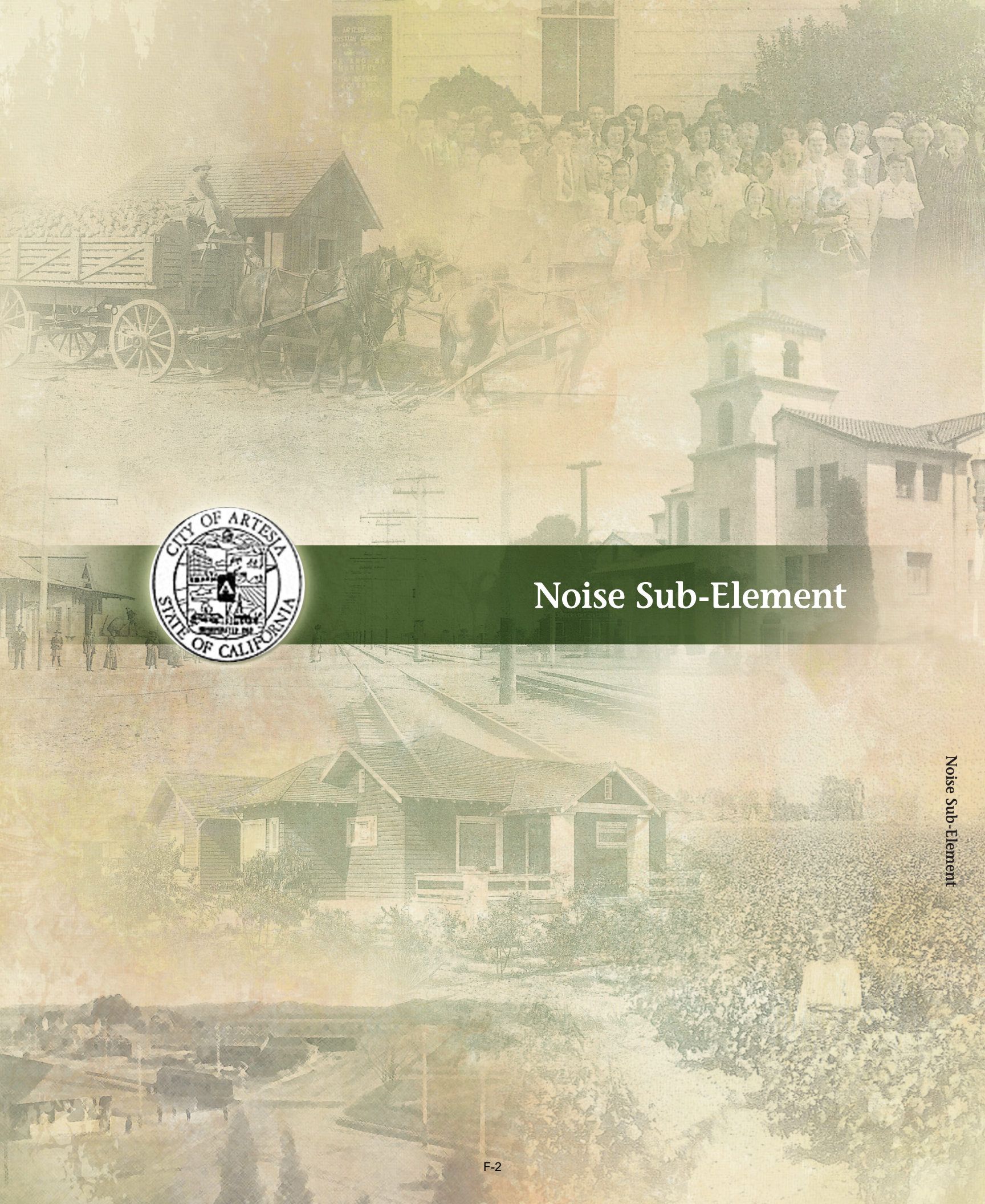

Noise Sub-Element

A. INTRODUCTION AND PURPOSE

The Noise Sub-Element identifies noise sources in the City, evaluates the potential for noise conflicts and problems, and identifies ways to reduce existing and potential noise impacts. The Sub-Element discusses compatibility of land uses, presence of sensitive receptors, and stationary noise generators. The Sub-Element also identifies projected noise levels and contains policies and programs to achieve and maintain appropriate noise levels, including how to prevent high noise levels in sensitive areas. It is important to note that the Sub-Element addresses noise that affects the community at large, rather than noise associated with site-specific conditions.

Government Code Section 65302(f) requires that a General Plan include:

> *"... a noise element which shall identify and appraise noise problems in the community. The Noise Element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and shall analyze and quantify…current and projected noise levels for all of the following sources: (1) highways and freeways; (2) primary arterials and major local streets; (3) passenger and freight on-line railroad operations and ground rapid transit systems; (4) commercial, general aviation, heliport, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation; (5) local industrial plants, including but not limited to, railroad classification yards; (6) other ground stationary noise sources identified by local agencies as contributing to the community noise environment."*

B. BACKGROUND

Noise Definitions

Noise is often defined as unwanted sound. Health studies have shown that excessive noise can cause adverse physiological and psychological effects on human beings. While sound levels can be easily measured, impacts on an individual person vary based on subjective and physical responses.

Sound is created when an object vibrates and radiates part of its energy as acoustic pressure waves through a medium such as air, water, or a solid. The ear, which is the hearing mechanism of humans and most animals, receives these pressure waves and converts them to neurological impulses, which are then transferred to the brain for interpretation. The interpretation of sound depends both on the characteristics of the sound and the characteristics of the individual person hearing it.

Standard Units of Measurement

Sound is technically described in terms of its loudness (amplitude) and frequency (pitch).

The standard unit of measurement of loudness of sound is the decibel (dB). Everyday noises typically range from 30 dB (very quiet) to 100 dB (very loud). Decibels are based on a logarithmic scale. The scale compresses the wide range in noise levels to a more usable range of numbers, relating the sound pressure level of a noise source to the reference pressure level.

Frequency is the rate of repetition of sound pressure oscillations (waves) as they reach our ears and is expressed in hertz (Hz). When analyzing the total noise of any source, the frequency components are sometimes analyzed to determine the relative amounts of low-frequency, middle-frequency and high-frequency noise. Our ear is better equipped to hear mid- and high-frequencies than lower frequencies. Thus, we find mid- and high-frequency noise to be more annoying. High-frequency noise is also more capable of causing hearing loss. Engineering solutions to noise issues are different for different frequency ranges. Low-frequency noise is generally harder to control. The normal frequency range of hearing for most people extends from about 20 Hz to about 10,000 to 15,000 Hz. People respond to sound most readily when the predominant frequency is in the range of normal conversation, typically around 1,000 to 2,000 Hz.

Since the human ear is not equally sensitive to sound at all frequencies, several filters or scales have been developed that match the sensitivity of the human ear and thus help us evaluate the relative loudness of various sounds made up of different frequencies. The "A" filter is the most commonly used for environmental noise sources. The A-weighted decibel scale (dBA) performs this compensation by filtering or weighting frequencies to approximate the response of the human ear to sound. The A-weighted filter significantly deemphasizes those parts of the total noise that occur at frequencies that we do not hear as well (frequencies below about 500 Hz and above 10,000 Hz). The filter has very little effect, or is nearly "flat," in the middle range of frequencies, where our ears are most sensitive. Because this filter generally matches our ears' sensitivity, sounds having a higher A-weighted sound level or dBA are usually judged to be louder than those with a lower A-weighted sound level.

Equivalent Sound Level (L_{eq})

The equivalent sound level (L_{eq}) is a measure of the exposure resulting from the accumulation of A-weighted sound levels over a particular time period (e.g., 1 hour, 8 hours, a school day, nighttime, or a full 24-hour day). Since the length of the period can be different based on the timeframe of interest, the applicable period is identified along with the metric (e.g. $L_{eq}(24)$).

L_{eq} may be thought of as a constant sound level over the period of interest, containing as much total sound energy as the actual sound level that varies over time with peaks and valleys. The two signals (the constant one and time-varying one) would sound very different from each other if compared in real life. Variation in the "average" sound level suggested by L_{eq} is not an arithmetic value, but a logarithmic ("energy-averaged") sound level. Therefore, loud events dominate any noise environment described by the metric.

Community Noise Equivalent Level (CNEL)

Cumulative noise metrics were developed to assess community response to noise. These metrics take into account the loudness and duration of the noise, the total number of noise events and the time of day these events occur in one single-number rating scale. They are also designed to account for the known health effects of noise on people. These metrics are useful when evaluating noise within developed areas and developing policies for noise.

The community noise equivalent level (CNEL) is a 24-hour, time-weighted energy-average noise level based on dBA that measures the overall noise during the entire day. Noise that occurs during certain sensitive time periods is penalized and weighted higher by adding decibels to its L_{eq} measurement. On the CNEL scale, noise occurring between 7:00 p.m. and 10:00 p.m. is penalized by approximately five dB to account for the greater potential for noise to interfere during these hours, as well as the typically lower ambient (background) noise levels during these hours. Noise occurring during the night (from 10:00 p.m. to 7:00 a.m.) is penalized by 10 dB to account for our higher sensitivity to noise during the nighttime and the expected further decrease in ambient noise levels that typically occur at night.

Day-Night Average (L_{dn})

The day-night average noise level (L_{dn}) is a measure of the 24-hour average noise level at a given location. It was adopted by the EPA for developing criteria to evaluate community noise exposure. L_{dn} is based on a measure of the average noise level over a given time period. The L_{dn} is calculated by averaging the L_{eq} for each hour of the day at a given location after weighting or penalizing the nighttime hours (10:00 p.m. to 7:00 a.m.) by 10 dBA to take into account the increased sensitivity of people to noises that occur at night.

Other Noise Factors

As previously discussed, changes in the loudness of sound or the sound pressure are described in a logarithmic manner. In general, a 1dBA change in the sound pressure level of a given sound is detectable only under laboratory conditions. A 3 dBA change in sound pressure level is a detectable difference in most situations. A 5 dBA change is readily noticeable and a 10 dBA change is considered a doubling (or halving) of the subjective loudness.

When looking at noise generated by traffic, a 3 dBA increase or decrease in the average traffic noise level occurs through a doubling or halving of the traffic volume; or by about a 7 mile per hour increase or decrease in speed. Noise barriers can provide approximately a 5 dBA CNEL noise reduction, depending on the material, length, location, and height. A row of buildings provides up to a 5 dBA CNEL noise reduction with a 1.5 dBA CNEL reduction for each additional row up to a maximum reduction of approximately 10 dBA. The exact level of noise attenuation depends on the nature and orientation of the structure and intervening barriers.

Existing Conditions

Ambient Noise

Ambient noise is described as the all-encompassing background noise associated with a given environment and is usually a composite of sounds from a variety of close and distant sources.

Artesia's noise environment is primarily dominated by vehicular traffic along the 91 freeway and the major arterials. The major arterials that traverse the City are Artesia Boulevard, South Street and Pioneer Boulevard.

A Technical Memorandum identifying the existing noise conditions within the City was prepared by RBF Consulting in 2007. Locations for noise measurements were selected utilizing aerial photographs and a land use map. RBF utilized the aerial photograph to divide the City into a concentric grid pattern. The grid was then further grouped into similar land uses to determine specific areas to be measured. RBF determined seven areas that would provide sufficient data to establish an acoustical baseline for the City. RBF conducted one short-term noise measurement (10 minutes in length) in each designated area. Additionally, RBF conducted one long-term noise measurement (24 hours in length). The noise measurement sites were representative of typical existing noise exposure adjacent to major roadways as well as within residential and commercial uses.

Short-Term Measurements

Noise monitoring equipment used for the ambient short-term noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a 4189 microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute (ANSI) for Type I (precision) sound level meters. The results of the field measurements are indicated in Table N-1. Existing measured short-term noise levels ranged from 50.8 dBA to 66.5 dBA.

Long-Term Measurement

Noise monitoring equipment used for the ambient long-term noise survey consisted of a Larson Davis Laboratories Model LDL 820 sound level analyzer equipped with a Larson Davis Random Incidence Model 2561 microphone. The instrumentation was calibrated prior to use with a Larson Davis Model CAL250 acoustical calibrator to ensure the accuracy of the measurements, and complies with applicable requirements of the American National Standards Institute (ANSI) for Type I (precision) sound level meters. The result of the field measurement is indicated in Table N-1. The long-term noise level is approximately 63.1 dBA.

Table N-1 Noise Measurements			
Site No.	Location	Leq (dBA)	Time
LT-1[1]	Located along Pioneer Boulevard near service and professional uses.	63.1	10:02 A.M.
2	Located within residential uses.	50.8	10:35 A.M.
3	Located along abandoned railroad right-of-way within and adjacent to low and high density residential uses.	51.4	10:58 A.M.
4	Located along South Street within commercial general land uses.	66.5	11:22 A.M.
5	Located within residential uses to the south of South Street.	57.6	12:22 P.M.
6	Located within residential uses (specifically located at Trinity Christian Center and First Baptist Church) to the south of 183rd Street.	55.3	12:44 P.M.
7	Located within residential uses (to the north of Artesia Boulevard) that adjoin light manufacturing and industrial uses as well as commercial uses.	53.7	1:18 P.M.
8	Located within residential and commercial general uses to the east of Pioneer Boulevard and to the north of SR-91.	65.4	1:44 P.M.
Notes: [1]Noise Measurement Long-Term 1 (LT-1) was taken over a 24-hour time period.			
Source: Noise Monitoring Survey conducted by RBF Consulting, April 19 and 20, 2007.			

Noise Sensitive Receptors

Human response to noise varies widely depending on the type of noise, time of day and the sensitivity of the receptor. The effects of noise on humans can range from temporary or permanent hearing loss to stress and annoyance due to such things as sleep deprivation and speech interference. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders.

Sensitive populations are more susceptible to the effects of noise and air pollution than are the general population. Land uses considered sensitive by the State of California include schools, playgrounds, athletic facilities, hospitals, rest homes, rehabilitation centers and long-term care and mental care facilities. Some jurisdictions also consider day care centers, single-family dwellings, mobile home parks, churches, and libraries to be sensitive to noise. Generally, a sensitive receptor is identified as a location where human populations (especially children, senior citizens, and sick persons) are present, and where there is a reasonable expectation of continuous human exposure to noise.

Moderately sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories and outpatient clinics. Land uses less sensitive to noise are business, commercial and professional developments. Noise receptors categorized as being least

sensitive to noise include industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, motorcycle parks, rifle ranges, warehousing, liquid and solid waste facilities, salvage yards and transit terminals. Some of these land uses generate high noise levels.

Noise and Land Use Compatibility Matrix

The State of California Office of Planning and Research (OPR) Noise Element Guidelines include recommended interior and exterior level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The OPR Guidelines describe the compatibility of various land uses with a range of environmental noise levels in terms of dBA CNEL.

A noise environment of 50 dBA CNEL to 60 dBA CNEL is considered to be "normally acceptable" for residential uses. The State indicates that locating residential units, parks, and institutions (such as churches, schools, libraries, and hospitals) in areas where exterior ambient noise levels exceed 65 dBA CNEL is undesirable. The OPR recommendations also note that, under certain conditions, more restrictive standards than the maximum levels cited may be appropriate. As an example, the standards for quiet suburban and rural communities may be reduced by 5 to 10 dB to reflect their lower existing outdoor noise levels in comparison with urban environments.

In addition, Title 25, Section 1092 of the California Code of Regulations sets forth requirements for the insulation of multiple-family residential dwelling units from excessive and potentially harmful noise. Whenever multiple-family residential dwelling units are proposed in areas with excessive noise exposure, the developer must incorporate construction features into the building's design that reduce interior noise levels to 45 dBA CNEL or lower.

Table N-2, Noise and Land Use Compatibility Matrix, illustrates the guidelines established by the State Department of Health Services for acceptable noise levels. These guidelines are incorporated into the land use planning process to reduce future noise and land use incompatibilities. This table is the primary tool that allows the City to ensure integrated planning for compatibility between land uses and outdoor noise.

Table N-2 Noise and Land Use Compatibility Matrix				
	Community Noise Exposure (L_{dn} or CNEL, dBA)			
Land Use Category	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70-75	75-85
Residential - Multiple Family	50 - 65	60 - 70	70 - 75	70 – 85
Transient Lodging - Motel, Hotels	50 - 65	60 - 70	70 - 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 - 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 70	NA	70 - 80	80 – 85
Office Buildings, Business Commercial and Professional	50 - 70	67.5 - 77.5	75 - 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	75 - 85	NA
NA: Not Applicable				
Source: Office of Planning and Research, California, *General Plan Guidelines*, October 2003.				
Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. **Conditionally Acceptable** – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice. **Normally Unacceptable** – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. **Clearly Unacceptable** – New construction or development should generally not be undertaken.				

City of Artesia Noise Standards

The City of Artesia has established citywide interior and exterior noise level standards in a comprehensive Noise Ordinance within the Municipal Code. The purpose of the Ordinance is to control loud, unnecessary and unusual noises, sounds, or vibrations emanating from areas of the City. The Noise Ordinance (Municipal Code Title 5, Chapter 2: Noise) establishes daytime and nighttime permissible sound limits or levels for all residentially zoned properties in the City as well as prohibited noises.

Permissible Exterior Sound Limits or Levels

The City's Noise Ordinance establishes permissible exterior sound limits provided below.

The source cannot cause the noise level to exceed the greater of either the actual measured ambient noise level, or the following ambient noise level for a cumulative period of more than thirty minutes in any hour as measured at any property line:

Time Period	Permissible Noise Level
7:00 a.m.- 10:00 p.m.	55 dBA
10:00 p.m.- 7:00 a.m.	50 dBA

If the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, the permissible noise level set forth above is reduced by 5 dBA.

The Ordinance allows for short term increases in noise levels as follows:

Permitted Increase in Noise Level	Duration of Increase in Minutes Per Hour
5 dBA	15
10 dBA	5
15 dBA	1
20 dBA	Less than 1 minute

Permissible Interior Sound Limits or Levels

The City's Noise Ordinance establishes permissible interior sound limits provided below.

The source cannot cause the noise level to exceed the greater of either the actual measured ambient noise level, or the following ambient noise level for a cumulative period of more than five minutes in any hour:

Time Period	Permissible Noise Level
7:00 a.m.- 10:00 p.m.	55 dBA
10:00 p.m.- 7:00 a.m.	45 dBA

If the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, the permissible noise level set forth above is reduced by 5 dBA.

The Ordinance allows for short term increases in noise levels as follows:

Permitted Increase in Noise Level	Duration of Increase in Minutes Per Hour
5 dBA	1
10 dBA	Less than 1 minute

Prohibited Noises

The Noise Ordinance states that it is unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, or unusual noise, sound or vibration which unreasonably disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area.

The Ordinance also regulates specific noise sources such as radios, mechanical devices near residential areas, construction, emergency signaling devices, commercial establishments adjacent to residential property, and leaf blowers.

C. COMMUNITY PLANNING PRINCIPLES

Community Planning Principle N 1

Potential noise impacts are closely related to land use planning decisions. Because future development in the City will be in the form of infill and redevelopment, the likelihood of noise impacts based on differing uses will increase. Land use planning decisions should consider both noise sources and receptors.

Community Planning Principle N 2

Transportation sources are the primary sources of noise in Artesia. Noise impacts resulting from transportation sources are difficult to mitigate at the source. Therefore sound attenuation measures are important to minimize exposure to noise.

Community Planning Principle N 3

Commercial and industrial uses, construction activity and other non-transportation related sources of noise can negatively impact the noise environment. Identifying and mitigating these potential noise sources will reduce negative impacts.

Community Planning Principle N 4

Residential uses and sensitive receptors such as schools, churches, and parks are most likely to be affected by intrusive noise. Special consideration should be given when planning for or implementing changes with the potential to increase noise around these uses.

D. COMMUNITY POLICY PROGRAM

Community Goal N 1
Land use planning decisions, including planning for new development, consider noise impacts.

Community Policy N 1.1
Permit only those new development or redevelopment projects that have incorporated appropriate mitigation measures, so that standards contained in the Noise Sub-Element or adopted ordinances are met.

Policy Action N 1.1.1
Enforce noise standards, as contained in the City's Noise Ordinance.

Policy Action N 1.1.2

Require a noise impact evaluation for projects, if determined necessary through the environmental review process. If noise abatement is found necessary, require implementation mitigation measures based on a technical study prepared by a qualified acoustical professional.

Policy Action N 1.1.3

Implement noise mitigation by placing conditions of approval on development projects, and require a clear description of mitigation on subdivision maps, site plans, and building plans for inspection purposes.

Community Policy N 1.2

Consider noise impacts associated with the development of non-residential uses in the vicinity of residential uses.

Policy Action N 1.2.1

Require that any proposed development near existing residential land uses demonstrate compliance with the City's Noise Ordinance prior to the approval of the project.

Policy Action N 1.2.2

Review the Noise Ordinance to determine if additional or modified standards are necessary to address mixed use development.

Policy Action N 1.2.3

Require the design of mixed use structures to incorporate techniques to prevent the transfer of noise and vibration from the non-residential to residential uses.

Policy Action N 1.2.4

Encourage commercial uses that are not noise intensive in mixed use developments.

Policy Action N 1.2.4

Orient residential uses away from major noise sources, particularly in mixed use areas.

Community Goal N 2

Noise impacts from transportation sources are minimized.

Community Policy N 2.1

Encourage outside agencies to minimize impacts of noise from regional transportation corridors.

Policy Action N 2.1.1

Coordinate sound attenuation projects with Caltrans to meet the State standard of 65 dBA CNEL for exterior noise levels for the 91 Freeway.

Policy Action N 2.1.2

Coordinate sound attenuation projects with Caltrans to mitigate noise to keep interior residential levels below the State standard of 45 dBA CNEL.

Community Policy N 2.2

Reduce noise impacts from transportation corridors under the City's jurisdiction.

Policy Action N 2.2.1

Ensure the inclusion of noise mitigation measures in the design of new roadway projects in the City to reduce noise impacts to residential neighborhoods.

Policy Action N 2.2.2

Evaluate truck movements and routes in the City to provide effective separation from residential or other noise sensitive land uses.

Policy Action N 2.2.3

Discourage through traffic on residential local streets to reduce noise.

Community Policy N 2.3

Encourage programs to retrofit existing homes to reduce noise impacts in the homes.

Community Goal N 3

Noise impacts from non-transportation sources are minimized.

Community Policy N 3.1

Ensure non-transportation sources of noise have incorporated appropriate mitigation measures, so that standards contained in the Noise Sub-Element or adopted ordinances are met.

Policy Action N 3.1.1

Require that noise mitigation techniques are incorporated into all construction-related activities.

Policy Action N 3.1.2

Enforce the Noise Ordinance to ensure that stationary noise and noise emanating from construction activities, private development, and/or special events are minimized.

Community Goal N 4

Noise impacts to noise sensitive receptors are minimized, ensuring that City and State interior and exterior noise levels are not exceeded.

Community Policy N 1.1

Ensure Community Noise Equivalent Levels (CNEL) for noise sensitive land uses meet normally acceptable levels, as defined by State standards.

Policy Action N4.1.1

Require buffers or appropriate mitigation of potential noise sources on noise sensitive areas.

Title 5. Public Welfare

Chapter 2. NOISE

Editor's Note: Former Chapter 2, Fortune-Telling, was repealed by Ordinance No. 375, § 3.

§ 5-2.01. Declaration of Policy.

In order to control loud, unnecessary and unusual noises, sounds or vibrations emanating from areas of the City, it is hereby declared to be the policy of the City to prohibit such noise, sound and vibration generated from or by all sources as specified in this chapter. It is determined that certain noise levels and vibrations are detrimental to the public health, welfare and safety, and are contrary to public interest. Creating, maintaining, causing or allowing to be created, caused or maintained, any noise, sound or vibration in a manner prohibited by or not in conformity with the provisions of this chapter is declared to be a public nuisance and shall be punishable as such.
(Ord. 599, § 1)

§ 5-2.02. Definitions.

For purposes of this chapter, unless it is plainly evident from the context that a different meaning is intended, the following definitions shall apply:

"Ambient noise level" shall mean the all encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

"Cumulative period" shall mean an addictive period of time composed of individual time segments which may be continuous or interrupted.

"Decibel (dB)" shall mean a unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base of 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 120 microPascals.

"Fixed noise source" shall mean a stationary device which creates sounds while fixed or motionless, including but not limited to industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditioners and refrigeration equipment.

"Grading" shall mean any excavating or filling or earth material, or any combination thereof, conducted at a site to prepare said site for construction or other improvements thereon.

"Impact noise" shall mean the noise produced by the collision of one mass in motion with a second mass which may be either in motion or at rest.

"Impulsive noise" shall mean a sound of high intensity, short duration, usually less than one second, with an abrupt onset and rapid decay.

"Mobile noise source" shall mean any noise source other than a fixed noise source.

"Noise levels" shall mean the "A" weighted sound pressure level in decibels obtained by using a sound level meter at slow response with a reference pressure of 20 microNewtons per square meter. The unit of measurement shall be designated as dB(A).

"Person" shall mean a person, firm, association, co-partnership, joint venture, corporation or any entity, public or private in nature.

"Residential property" shall mean a parcel of real property which is zoned and used either in part or in whole for residential purposes, other than transient uses such as hotels and motels.

"Simple tone noise" shall mean a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

"Sound level meter" shall mean an instrument meeting American National Standard Institutes Stand S1.4-1971 for Type 1 sound level meters or an instrument and the associated recording and analyzing equipment which will provide equivalent data.
(Ord. 599, § 1)

§ 5-2.03. Permissible Exterior Sound Limits or Levels.

(a) The noise, sound or vibration limits or levels imposed by this section shall apply to all residential-ly zoned properties in the City.

(b) Except as otherwise allowed in this chapter, no person, from any location within the City, shall create or allow the creation of noise, sound or vibration on any property owned, leased, occupied, or other controlled by such person, which causes the noise level on any residential property to exceed the greater of either the actual measured ambient noise level, or the following ambient noise level for a cumulative period of more than 30 minutes in any hour as measured at any property line:

Time Period	Permissible Noise Level
7:00 a.m. - 10:00 p.m.	55 dB(A)
10:00 p.m. - 7:00 a.m.	50 dB(A)

If the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, the permissible noise level set forth above shall be reduced by five dB(A).

(c) If the intruding noise source is continuous and cannot be reasonably discontinued for sufficient time in which the ambient noise level can be determined, the presumed ambient noise level shall be used.

(d) Increases in noise levels prescribed in this section are permitted in accordance with the following:

Permitted Increase in Noise Level	Duration of Increase in Minutes Per Hour
5 dB(A)	15
10 dB(A)	5
15 dB(A)	1
20 dB(A)	Less than one minute

(Ord. 599, § 1)

§ 5-2.04. Permissible Interior Sound Limits or Levels.

(a) The noise, sound or vibration limits or levels imposed by this section shall apply to all interior spaces within buildings or structures on residentially zoned properties in the City.

(b) Except as otherwise allowed in this chapter, no person, from any location within the City, shall create or allow the creation of noise, sound or vibration on any property owned, leased, occupied, or other controlled by such person, which causes the noise level on any residential property to exceed the greater of either the actual measured ambient noise level, or the following ambient noise level for a cumulative period of more than five minutes in any hour:

Time Period	Permissible Noise Level
7:00 a.m. - 10:00 p.m.	55 dB(A)
10:00 p.m. - 7:00 a.m.	45 dB(A)

If the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, the permissible noise level set forth above shall be reduced by five dB(A).

(c) If the intruding noise source is continuous and cannot be reasonably discontinued for sufficient time in which the ambient noise level can be determined, the presumed ambient noise level shall be used.

(d) Increases in noise levels prescribed in this section are permitted in accordance with the following:

Permitted Increase in Noise Level	Duration of Increase in Minutes Per Hour
5 dB(A)	1
10 dB(A)	Less than one minute

(Ord. 599, § 1)

§ 5-2.05. Prohibited Noises—General Standard.

Notwithstanding any other provision of this chapter, and in addition thereto, it is unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, or unusual noise, sound or vibration which unreasonably disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area. The factors which shall be considered in determining whether such noise violates the provisions of this section shall include, but not be limited to, the following:

(a) The volume of the noise;

(b) The intensity of the noise;

(c) Whether the nature of the noise is usual or unusual;

(d) Whether the origin of the noise is natural or unnatural;

(e) The volume and intensity of the background noise, if any;

(f) The proximity of the noise to residential sleeping facilities;

(g) The nature and zoning of the area within which the noise emanates;

(h) The density of the inhabitation of the area within which the noise emanates;

(i) The time of the day or night the noise occurs;

(j) The duration of the noise;

(k) Whether the noise is recurrent, intermittent, or constant; and

(l) Whether the noise is produced by a commercial or noncommercial activity.
(Ord. 599, § 1)

§ 5-2.06. Prohibited Noises—Specific Violations.

Except as set forth in Section **5-2.07** of this chapter, the following acts and the causing or permitting thereof, are specifically declared to be a violation of this chapter:

(a) *Radios, Phonographs, Etc*. The using, operating or permitting to be played, used or operated between the hours of 10:00 p.m. and 7:00 a.m. of any radio, musical instrument, phonograph, television set, or instrument or device similar to those heretofore specifically mentioned (hereinafter "device") for the production or reproduction of sound in volume sufficiently loud as to be plainly audible at a distance of 50 feet or more from the property line of the property from which the noise, sound or vibration is emanating, and the using, operating or permitting to be played, used or operated between the hours of 7:00 a.m. and 10:00 p.m. of any such device for the production or reproduction of sound in volume sufficiently loud as to be plainly audible at a distance of 200 feet or more from the property line of the property from which the noise, sound or vibration is emanating.

(b) *Band or Orchestral Rehearsals*. The conducting of or carrying on, or allowing the conducting or carrying on of band or orchestral concerts or rehearsals or practice between the hours of 10:00 p.m. and 7:00 a.m. sufficiently loud as to be plainly audible at a distance of 50 feet or more from the property line of the property where the concert, rehearsal or practice is occurring, and the conducting of or carrying on, or allowing the conducting or carrying on of band or orchestral concerts or rehearsals or practice between the hours of 7:00 a.m. and 10:00 p.m. sufficiently loud as to be plainly audible at a distance of 200 feet or more from the property line of the property where the concert, rehearsal or practice is occurring.

(c) *Engines, Motors and Mechanical Devices Near Residential District*. The sustained, continuous or repeated operation or use between the hours of 8:00 p.m. and 7:00 a.m. of any motor or engine or the repair, modification, reconstruction, testing or operation of any automobile, motorcycle, machine, contrivance, or mechanical device or other contrivance or facility unless such motor, engine, automobile, motorcycle, machine or mechanical device is enclosed within a sound insulated structure so as to prevent noise and sound from being plainly audible at: (1) a distance of 50 feet or more from the property line of the property from which the noise, sound or vibration is emanating or (2) the exterior wall of any adjacent residence, whichever is less.

(d) *Motor Vehicles*. Racing the engine of any motor vehicle or needlessly bringing to a sudden start or stop of any motor vehicle.

(e) *Loading and Unloading*. Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans or similar objects between the hours of 8:00 p.m. and 7:00 a.m. in volume sufficiently loud as to be plainly audible at a distance of 50 feet or more from the property line of the property where the activity is occurring.

(f) *Construction*. Operating or causing the operation of any tools, equipment, impact devices, derricks or hoists used on construction, drilling, repair, alteration, demolition or earthwork, between the hours of 7:00 p.m. and 7:00 a.m. on weekdays or at any time on Sunday or Federal holiday.

(g) *Nonemergency Signaling Devices*. Sounding or permitting the sounding of any bell, chime, siren, whistle or similar device, intended primarily for nonemergency purposes between the hours of 8:00 p.m. and 7:00 a.m. Sound sources included within this provision may be exempted by a variance issued by the Planning Commission.

(h) *Emergency Signaling Devices*.

(1) The intentional sounding, or permitting the sounding, outdoors of any emergency signaling device including fire, burglar, civil defense alarm, siren, whistle or similar emergency signaling device, for testing, except as provided in Subsection **5-2.06(h)(2)5-2.06(h**)(2).

(2) Testing of an emergency signaling device shall not occur between the hours of 8:00 p.m. and 7:00 a.m. Any such testing shall use only the minimum cycle test time. In no case shall such test time exceed 60 seconds. Testing of the emergency signaling system shall not occur more than once in each calendar month.

(3) Sounding or permitting the sounding of any exterior burglar or fire alarm unless such alarm is terminated within 15 minutes of activation.

(4) Sounding or permitting the sounding of any motor vehicle alarm unless such alarm is terminated within five minutes of activation.

(5) Sounding or permitting the sounding of any motor vehicle alarm more than three times of any duration in any 24 hour period.

(i) *Commercial Establishments Adjacent to Residential Property*. Continuous, repeated or sustained noise, sound or vibration from the premises of any commercial establishment, including any outdoor area that is a part or under the control of the establishment, which is licensed by the City and is adjacent to one or more residential dwelling units, between the hours of 10:00 p.m. and 7:00 a.m., that is plainly audible from the exterior wall of the adjacent residential dwelling unit.

(j) *Leaf Blowers*. The use or operation or allowing the use or operation of any leaf blower, as defined and regulated in Chapter 12 of Title **5** of this Code, between the hours of 8:00 p.m. and 8:00 a.m. of the next day.

(Ord. 599, § 1)

§ 5-2.07. Exemptions.

The following activities shall be exempt from the provisions of this chapter:

(a) Outdoor events, such as gatherings, fairs, bazaars, festivals and similar events if and to the extent the events are conducted pursuant to a temporary use permit issued by the City.

(b) The emission of sound for the purpose of alerting persons to the existence of an emergency or the emission of sound in the performance of emergency work. For the purposes of this section, "emergency" means a condition that constitutes an immediate threat to public safety, health or welfare or to property.

(c) Noise sources associated with the maintenance of real property such as the operation of any mechanically powered saw, sander, drill, grinder, lawn or garden tool or similar tool, provided such activities take place between 7:00 a.m. and 7:00 p.m. on weekdays and the hours of 9:00 a.m. and 6:00 p.m. on weekends and holidays.

(d) Any activity to the extent regulation thereof has been preempted by State or Federal law.

(e) Activities of the Federal, State or local jurisdiction while performing governmental duties.

(f) Warning devices necessary for the protection of public safety as for example, police, fire and ambulance sirens and train horns.

(g) Activities conducted on public playgrounds, public or private school grounds including, but not limited to, school athletic and school entertainment events and band or orchestral rehearsals for school athletic or school entertainment events.

(Ord. 599, § 1)

§ 5-2.08. Noise Level Measurement.

(a) Using the "A" weighting scale of the sound level meter and the "slow" meter response ("fast" response for impulsive-type sounds), the noise level shall be measured at the street or at any point

on the property where the noise is received. In general, the microphone shall be located four to five feet above the ground; 10 feet or more from the nearest structure or wall. In those cases where another elevation is deemed appropriate, it shall be utilized.

(b) If the noise complaint is related to interior noise levels, interior noise measurements shall be made within the structure or building from which the noise emanates. The measurements shall be made at a point at least four feet from the wall, ceiling, or floor nearest the noise source, with windows in the normal seasonal configuration.

(c) Calibration of the measurement equipment shall be performed immediately prior to recording any noise data utilizing an acoustic calibrator.

(Ord. 599, § 1)

§ 5-2.09. Penalty for Violation.

A violation of any of the provisions of this chapter is a misdemeanor which is punishable as provided in Chapter 2 of Title **1** of this Code.

(Ord. 599, § 1)

CONSTRUCTION NOISE MODELING

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 09/17/2024
Case Description: ART-02.0 Demolition

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor at 50 feet	Residential	65.0	60.0	55.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Dozer	No	40		81.7	50.0	0.0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw		89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator		80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	89.6	84.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 09/17/2024
Case Description: ART-02.0 Site Preparation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor at 50 feet	Residential	65.0	60.0	55.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Front End Loader	No	40		79.1	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0
Dozer	No	40		81.7	50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	81.7	80.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 09/17/2024
Case Description: ART-02.0 Grading

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor at 50 feet	Residential	65.0	60.0	55.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	50.0	0.0
Grader	No	40	85.0		50.0	0.0
Scraper	No	40		83.6	50.0	0.0

Results

Equipment		Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Excavator		80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper		83.6	79.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	85.0	84.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 09/17/2024
Case Description: ART-02.0 Building Construction

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor at 50 feet	Residential	65.0	60.0	55.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	50.0	0.0
Generator	No	50		80.6	50.0	0.0
Front End Loader	No	40		79.1	50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	80.6	80.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 09/17/2024
Case Description: ART-02.0 Paving

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor at 50 feet	Residential	65.0	60.0	55.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	50.0	0.0
Paver	No	50		77.2	50.0	0.0
Roller	No	20		80.0	50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80.0	73.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	80.0	78.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 09/17/2024
Case Description: ART-02.0 Architectural Coating

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Receptor at 50 feet	Residential	65.0	60.0	55.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	50.0	0.0
Compressor (air)	No	40		77.7	50.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TRAFFIC NOISE MODELING

Traffic Noise Calculator: FHWA 77-108 — **Artesia Downtown Specific Plan (ART-02.0) Existing 2024 Traffic Noise**

	Output						Inputs													Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour				Segment													
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	From - To		ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
1	64.9	67.6	68	31	97	308	Pioneer Road	the South	South St	11,980	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
2	59.4	62.2	62	9	28	87	Pioneer Road	South St	187th St	8,960	25	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
3	57.1	59.9	60	5	16	52	Pioneer Road	187th St	183rd St	8,040	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
4	62.3	65.1	65	17	54	171	Pioneer Road	183rd St	SR-91 EB Ramps	11,650	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
5	65.7	68.5	69	37	118	374	Pioneer Road	SR-91 WB Ramps	the North	19,520	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
6	64.7	67.5	68	30	94	298	Gridley Rd	the North	South St	15,550	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
7	62.8	65.6	66	19	60	191	Gridley Rd	South St	the South	9,970	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
8	68.9	71.7	72	78	246	778	South St	the West	I-605 SB Ramps	30,320	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
9	69.5	72.2	72	89	280	887	South St	I-605 NB Ramps	Gridley Rd	34,550	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
10	67.4	70.2	70	55	175	553	South St	Gridley Rd	Pioneer Blvd	21,540	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
11	67.0	69.8	70	50	160	505	South St	Pioneer Blvd	the East	19,670	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
12	51.1	53.9	54	1	4	13	187th St	the West	Pioneer Blvd	2,000	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
13	50.4	53.2	53	1	3	11	187th St	Pioneer Blvd	the East	1,710	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
14	63.2	66.0	66	21	66	209	183rd St	the West	Pioneer Blvd	14,220	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
15	62.9	65.6	66	19	61	194	183rd St	Pioneer Blvd	the East	13,170	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44

Traffic Noise Calculator: FHWA 77-108 — **Artesia Downtown Specific Plan (ART-02.0) Existing Plus Project Traffic Noise**

	Output						Inputs														Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour				Segment From - To														
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway			ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
1	65.0	67.8	68.0	32	101	318	Pioneer Road	the South	South St	12,390	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
2	60.1	62.8	63.1	10	32	102	Pioneer Road	South St	187th St	10,420	25	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
3	58.1	60.9	61.1	6	20	65	Pioneer Road	187th St	183rd St	10,060	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
4	62.9	65.7	65.9	20	62	197	Pioneer Road	183rd St	SR-91 EB Ramps	13,370	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
5	65.9	68.7	69.0	39	124	393	Pioneer Road	SR-91 WB Ramps	the North	20,520	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
6	64.9	67.7	67.9	31	98	311	Gridley Rd	the North	South St	16,240	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
7	62.7	65.5	65.7	19	59	188	Gridley Rd	South St	the South	9,800	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
8	68.9	71.7	72.0	79	249	788	South St	the West	I-605 SB Ramps	30,710	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
9	69.7	72.5	72.7	94	297	939	South St	I-605 NB Ramps	Gridley Rd	36,570	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
10	67.7	70.5	70.7	59	186	589	South St	Gridley Rd	Pioneer Blvd	22,960	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
11	67.1	69.9	70.1	52	163	515	South St	Pioneer Blvd	the East	20,080	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
12	52.4	55.2	55.4	2	5	17	187th St	the West	Pioneer Blvd	2,700	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
13	50.2	53.0	53.2	1	3	11	187th St	Pioneer Blvd	the East	1,640	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
14	63.4	66.2	66.4	22	69	219	183rd St	the West	Pioneer Blvd	14,910	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
15	63.0	65.8	66.0	20	63	201	183rd St	Pioneer Blvd	the East	13,630	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44

Traffic Noise Calculator: FHWA 77-108 — **Artesia Downtown Specific Plan (ART-02.0) Future Year Traffic Noise**

	Output						Inputs														Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour				Segment														
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	From - To		ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
1	65.2	68.0	68.2	33	104	330	Pioneer Road	the South	South St	12,870	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
2	59.8	62.6	62.8	10	30	96	Pioneer Road	South St	187th St	9,860	25	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
3	57.4	60.2	60.4	5	17	55	Pioneer Road	187th St	183rd St	8,510	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
4	62.7	65.5	65.7	19	59	187	Pioneer Road	183rd St	SR-91 EB Ramps	12,690	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
5	65.9	68.7	69.0	39	125	394	Pioneer Road	SR-91 WB Ramps	the North	20,580	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
6	64.7	67.5	67.8	30	94	298	Gridley Rd	the North	South St	15,570	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
7	62.8	65.5	65.8	19	60	190	Gridley Rd	South St	the South	9,900	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
8	68.9	71.7	72.0	78	248	785	South St	the West	I-605 SB Ramps	30,570	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
9	69.5	72.2	72.5	89	280	887	South St	I-605 NB Ramps	Gridley Rd	34,550	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
10	67.4	70.2	70.4	55	175	554	South St	Gridley Rd	Pioneer Blvd	21,570	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
11	67.0	69.8	70.1	51	161	509	South St	Pioneer Blvd	the East	19,820	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
12	51.1	53.9	54.1	1	4	13	187th St	the West	Pioneer Blvd	2,000	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
13	50.6	53.4	53.6	1	4	12	187th St	Pioneer Blvd	the East	1,800	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
14	63.2	66.0	66.2	21	66	209	183rd St	the West	Pioneer Blvd	14,220	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
15	62.9	65.6	65.9	19	61	194	183rd St	Pioneer Blvd	the East	13,170	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44

Traffic Noise Calculator: FHWA 77-108 — **Artesia Downtown Specific Plan (ART-02.0) Future Year Plus Project Traffic Noise**

	Output						Inputs														Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour			Segment															
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	From	To	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
1	65.3	68.1	68.3	34	108	341	Pioneer Road	the South	South St	13,280	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
2	60.4	63.2	63.4	11	35	110	Pioneer Road	South St	187th St	11,320	25	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
3	58.3	61.1	61.3	7	21	68	Pioneer Road	187th St	183rd St	10,530	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
4	63.2	66.0	66.3	21	67	212	Pioneer Road	183rd St	SR-91 EB Ramps	14,410	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
5	66.0	68.7	69.0	40	125	396	Pioneer Road	SR-91 WB Ramps	the North	20,680	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
6	64.9	67.7	67.9	31	98	311	Gridley Rd	the North	South St	16,260	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
7	62.7	65.5	65.8	19	60	188	Gridley Rd	South St	the South	9,840	35	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
8	69.0	71.8	72.0	79	250	792	South St	the West	I-605 SB Ramps	30,840	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
9	69.7	72.5	72.7	94	297	939	South St	I-605 NB Ramps	Gridley Rd	36,570	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
10	67.7	70.5	70.7	59	187	590	South St	Gridley Rd	Pioneer Blvd	22,990	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
11	67.1	69.9	70.2	52	164	519	South St	Pioneer Blvd	the East	20,230	40	0.0%	96.0%	2.5%	1.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
12	52.4	55.2	55.4	2	5	17	187th St	the West	Pioneer Blvd	2,700	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
13	50.4	53.2	53.5	1	4	11	187th St	Pioneer Blvd	the East	1,730	25	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	2	Hard	50	0	20
14	63.4	66.2	66.4	22	69	219	183rd St	the West	Pioneer Blvd	14,910	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44
15	63.0	65.8	66.0	20	63	201	183rd St	Pioneer Blvd	the East	13,630	35	0.0%	98.0%	1.5%	0.5%	85.0%	5.0%	10.0%	4	Hard	50	0	44

Appendix G Local Transportation Assessment

Appendices

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LOCAL TRANSPORTATION ASSESSMENT

ARTESIA DOWNTOWN SPECIFIC PLAN

City of Artesia, California
February 5, 2025

Prepared for:

PlaceWorks
3 MacArthur Place, Suite 1100
Santa Ana, California 92707

LLG Ref: 1-23-4585-1

Prepared by:

Grace Turney, P.E., RSP1
Transportation Engineer III

Under the Supervision of:

David S. Shender, P.E.
Principal

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LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
ABM	Activity-Based Model
ADA	Americans with Disabilities Act
CEQA	California Environmental Quality Act
FAR	Floor Area Ratio
HCM	Highway Capacity Manual
HOV	High-Occupancy Vehicle
ITE	Institute of Transportation Engineers
LACPW	Los Angeles County Public Works
LD-IGR	Local Development and Intergovernmental Review
LOS	Level of Service
OCTA	Orange County Transportation Authority
SCAG	Southern California Association of Governments
SR	State Route
TISG	Transportation Impact Study Guide
VMT	Vehicle Miles Traveled

1.0 INTRODUCTION

This local transportation assessment has been conducted to identify and evaluate the potential effects of the Artesia Downtown Specific Plan project ("proposed project" herein) on the local transportation network. The proposed Artesia Downtown Specific Plan area is located within the City of Artesia, California. The City of Artesia is located in southeast Los Angeles County and is situated adjacent to the City of Cerritos to the west, south, and east, and to the City of Norwalk to the north. The City of Artesia and the Artesia Downtown Specific Plan area and general vicinity are shown in ***Figure 1-1***.

The local transportation assessment follows the analysis criteria set forth by Los Angeles County in the Los Angeles County Public Works (LACPW) *Transportation Impact Analysis Guidelines*[1] ("County Guidelines" herein). In compliance with California Environmental Quality Act (CEQA) Sections 15064.3 and 15064.7, the County Guidelines utilize Vehicle Miles Traveled (VMT) for the purpose of analyzing transportation impacts under CEQA. The determination of transportation impacts based on VMT analysis is presented under separate cover in the "Artesia Downtown Specific Plan Transportation Impact Study," prepared by Linscott, Law & Greenspan, Engineers, September 9, 2024.

The County Guidelines require additional site access studies in order to identify a proposed project's effect on local transportation infrastructure. The site access studies prepared for the proposed project evaluate potential project-related effects on intersection operations and Level of Service (LOS) at eight (8) key intersections in the vicinity of the proposed project site, including four (4) intersections under local jurisdiction and four (4) intersections under the California Department of Transportation's (Caltrans) jurisdiction. Further, an analysis was also completed as it relates to the State Highway System and freeway off-ramp queuing at the four (4) freeway ramp intersections selected for analysis. The study intersections were determined in consultation with City of Artesia staff.

In summary, this report presents (i) a description of the proposed project, (ii) the existing transportation network context, (iii) the existing traffic volumes, (iv) forecasts future cumulative baseline conditions, (v) assesses the potential for project-related effects based on non-CEQA metrics, and (vi) recommends transportation network improvement measures, where necessary.

[1] Los Angeles County Public Works "Transportation Impact Analysis Guidelines", prepared by Public Works, July 23, 2020.

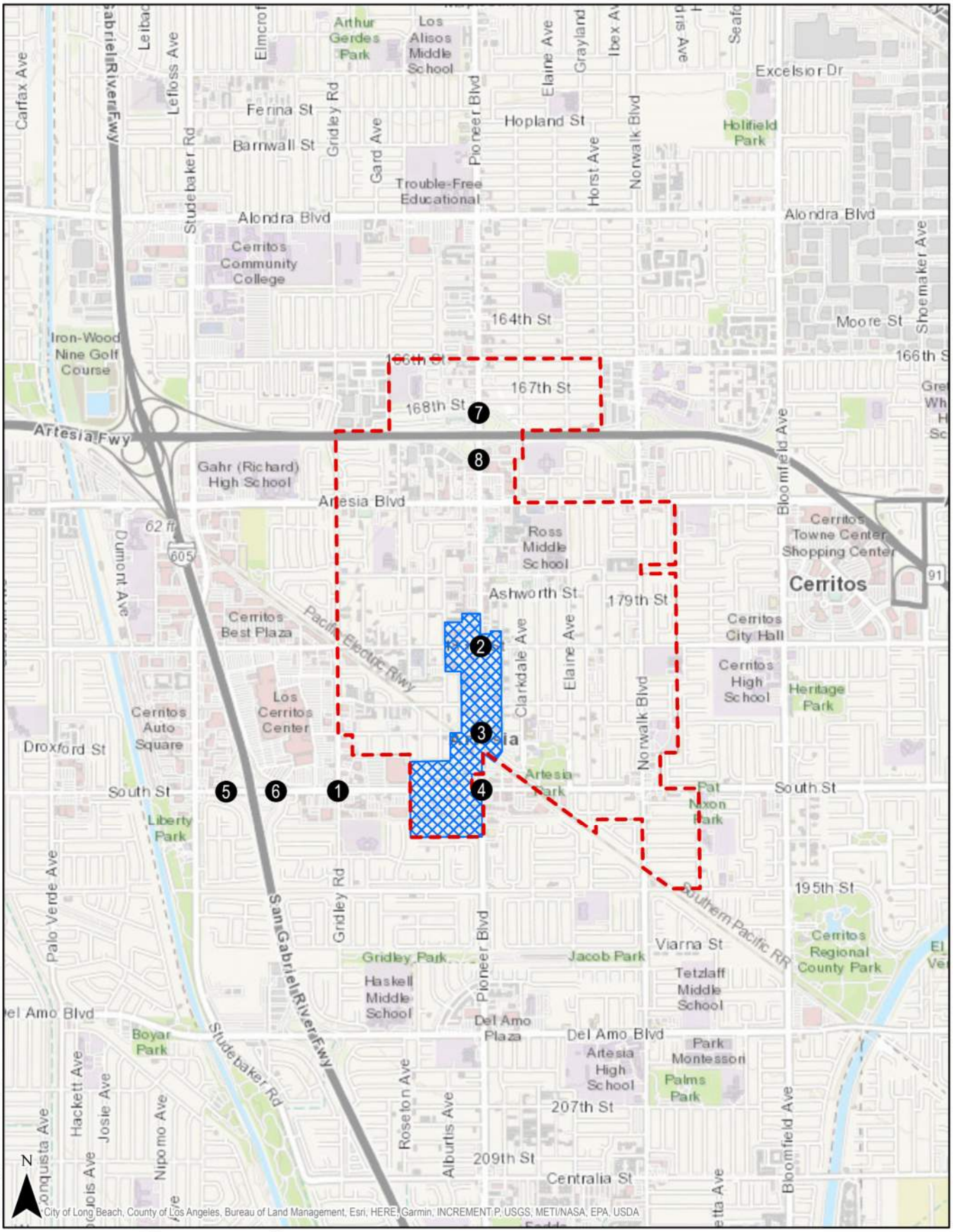

Figure 1-1
Vicinity Map

Artesia Downtown Specific Plan

1.1 Study Methodology

The non-CEQA analysis criteria for this local transportation assessment were identified in consultation with City of Artesia staff. It is noted that the City of Artesia does not have current analysis guidelines, therefore, the local transportation assessment has been prepared in compliance with the methodology set forth in the LACPW *Transportation Impact Analysis Guidelines*. The analysis criteria were therefore determined based on the County Guidelines, the proposed project description and location, and the characteristics of the surrounding transportation system. The City of Artesia confirmed the appropriateness of the analysis criteria when it approved the Transportation Impact Study Scope of Work. The approved Scope of Work is attached to this report in ***Appendix A***.

Pursuant to current statutes, the City of Artesia utilizes VMT as the metric for determining environmental impacts in CEQA in compliance with Senate Bill (SB) 743 (2013, Steinberg). However, the passage of SB 743 and the resulting implementation of VMT does not prevent agencies from continuing to analyze delay or LOS outside of CEQA review for other transportation planning or analysis purposes (i.e., general plans, impact fee programs, corridor studies, congestion reduction, or ongoing network monitoring). The County Guidelines therefore also require additional studies of the local transportation network. Specifically, the County Guidelines require an operational analysis of intersections in the vicinity of a proposed project in order to evaluate site access and circulation constraints that may be caused or worsened by project-generated traffic. For purposes of this analysis, eight (8) study intersections which are expected to be integral to access and circulation within the Specific Plan area were selected in coordination with City of Artesia staff, including four (4) intersections under the jurisdiction of the Cities of Artesia and Cerritos, and four (4) intersections under Caltrans' jurisdiction. The study intersections are summarized in ***Table 1-1***, along with the current traffic controls and the agencies which have jurisdiction at each intersection, and are also illustrated in *Figure 1-1*. This assessment utilizes the *Highway Capacity Manual* (HCM), 7th Edition[2] methodology to evaluate LOS and queuing at the study intersections.

As required by State law, the California Department of Transportation (Caltrans) has also formally adopted VMT as the metric for evaluating the transportation impacts of local development projects on the State Highway System as stated in the *Transportation Impact Study Guide*[3] (TISG). The TISG further states, "Additional future guidance will include the basis for requesting transportation impact analysis that is not based on VMT. This guidance will include a simplified safety analysis approach that reduces risks to all road users and that focuses on multi-modal conflict analysis as well as access management issues." While the final guidance is still being developed, Caltrans has released the "Interim Local Development and Intergovernmental Review (LD-IGR) Safety Review

[2] *Highway Capacity Manual 7th Edition*, Transportation Research Board of the National Academies of Sciences-Engineering-Medicine, 2022.

[3] "Vehicle Miles-Traveled Focused Transportation Impact Study Guide," Caltrans, May 20, 2020.

Table 1-1
LIST OF STUDY INTERSECTIONS

NO.	STUDY INTERSECTION	TRAFFIC CONTROL	JURISDICTION(S)
1	Gridley Road/ South Street	Signalized	City of Cerritos
2	Pioneer Boulevard/ 183rd Street	Signalized	City of Artesia
3	Pioneer Boulevard/ 187th Street	Signalized	City of Artesia
4	Pioneer Boulevard/ South Street	Signalized	City of Artesia
5	I-605 Freeway Southbound Off-Ramp/ South Street	Signalized	City of Cerritos/ Caltrans
6	I-605 Freeway Northbound Off-Ramp/ South Street	Signalized	City of Cerritos/ Caltrans
7	Pioneer Boulevard/ SR-91 Freeway Westbound Off-Ramp	Signalized	City of Artesia/ Caltrans
8	Pioneer Boulevard/ SR-91 Freeway Eastbound Off-Ramp-Frampton Court	Signalized	City of Artesia/ Caltrans

Practitioners Guidance."[4] The proposed project does not take direct access to/from a State facility; however, it is situated in the vicinity of the I-605 Freeway and SR-91 Freeway and is expected to generate net new project trips at four (4) nearby ramp intersections. The off-ramp locations selected for further study are summarized in *Table 1-1*. Therefore, the Caltrans interim safety guidance was reviewed and analyses relevant to the proposed project were identified for inclusion in the transportation impact analysis.

In summary, in order to evaluate the proposed project's effects on local transportation infrastructure, a non-CEQA assessment of eight (8) study intersections has been conducted for the weekday AM and PM peak hours utilizing the HCM operational analysis methodology. Further, the I-605 Freeway and SR-91 Freeway ramp intersections under Caltrans' jurisdiction were also evaluated based on the HCM operational analysis methodology.

[4] "Traffic Safety Bulletin 20-02-R1: Interim Local Development Intergovernmental Review Safety Review Practitioners Guidance", Memorandum from Rachel Carpenter, Chief Safety Officer, Caltrans, to District Directors, December 18, 2020.

2.0 ARTESIA DOWNTOWN SPECIFIC PLAN DESCRIPTION

2.1 Project Location

The proposed Artesia Downtown Specific Plan area is located within the City of Artesia, California. The City of Artesia is located in southeast Los Angeles County and is situated adjacent to the City of Cerritos to the west, south, and east, and to the City of Norwalk to the north. The City of Artesia and the Specific Plan area and general vicinity are shown in *Figure 1-1*.

The project site encompasses the blocks adjoining Pioneer Boulevard to the southeast and ending at 180th Street to the north. The northern portion of the project site is bounded by Alburtis Avenue and Corby Avenues to the west, 180th Street to the north, Arline Avenue to the east, and 188th Street to the south. The southern portion of the site is bounded by 188th Street to the north, the La Belle Chateau Estates Mobile Home Park to the south, Pioneer Boulevard to the east, and Jersey Avenue to the west.

2.2 Existing Land Use[5]

The project site is fully built up and consists primarily of one- and two- story commercial uses and multifamily residential properties. The southern portion of the project site is anchored by a shopping center and La Belle Chateau Estates Mobile Home Park, which is bordered by South Street to the north, the City of Cerritos to the west and south, and Pioneer Boulevard to the east. The northern portion of the project site is anchored by a shopping center to the north and south of 183rd Street and to the east and west of Arline Avenue and Alburtis Avenue, respectively. The north and south ends of the project site are connected by the Pioneer Boulevard corridor which includes one- and two-story retail, restaurant and office uses. Multi-family residential, mixed-use residential, commercial, general office and industrial uses are located on various parcels throughout the entire project site to the east and west of Pioneer Boulevard. Limited vacant parcels exist within the project area south of 188th Street.

2.3 Specific Plan Description[5]

The Artesia Downtown Specific Plan would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district as the city prepares for the planned expansion of a new Metro light rail line (referred to as the Southeast Gateway Line, discussed further in *Section 2.5.2*) that would connect southeastern Los Angeles County communities, including Artesia, to Downtown Los Angeles. The new Metro light rail line extension is anticipated to connect to Pioneer Boulevard in 2035.

While there are no specific development projects proposed at this time, the Artesia Downtown Specific Plan will establish goals and objectives, development standards, and implementation actions associated with land use, mobility, and infrastructure, and establishes a transit-oriented

[5] "Artesia Downtown Specific Plan Initial Study," PlaceWorks, February 2024.

plan that would provide new opportunities for housing, retail/commercial, and entertainment uses. The proposed project would establish the necessary plans, development standards, regulations, infrastructure requirements, and implementation programs on which subsequent project-related development activities in the Specific Plan area would be based.

The land use plan divides the Specific Plan area into six zoning districts. These distinct zoning districts would allow for a range of land uses and density within a defined building envelope. The zones would also implement the City's urban design objectives for each part of the project site to establish and maintain attractive distinctions between each zone. The six zoning districts include:

- **Downtown North.** The Downtown North District would become the northern gateway and anchor to downtown Artesia. This district would allow for higher density mixed-use development at 65 dwelling units per acre (du/ac) or 75 du/ac with a density bonus. The southwest corner of this district would encompass approximately 5.5 acres and would allow 4- to 5-story mixed-use development and 2- and 3-story townhomes. Where the City owns property at the northwest corner of 183rd Street and Pioneer Boulevard, a public private partnership is encouraged to develop a parking structure with ground-floor retail uses as well as potentially civic and/or community uses. The parking structure would serve visitors, residents, and employees as they travel to and from downtown Artesia and the Artesia Freeway (SR-91) to the north.
- **Pioneer Boulevard.** The Pioneer Boulevard District would front Pioneer Boulevard north of the future Metro transit station and is in the center of downtown Artesia. This area is currently known as "Little India" and is composed of narrow parcels with a continuous street frontage of 1-story commercial establishments such as restaurants, markets, and jewelry shops. Although significant new development is not expected in this district, the district would allow for 3-story buildings at 50 du/ac or 60 du/ac with a density bonus.
- **Downtown Neighborhood.** The Downtown Neighborhood District would be in the residential west and east edges of the Downtown area along Corby Avenue and Arline Avenue. The downtown neighborhood would retain its residential character at 40 du/ac.
- **188th Street / Corby Avenue.** The 188th/Corby District would be south of the future Metro station and presently includes residential and light industrial uses. This district would allow for residential uses such as duplex, triplex, and townhomes at 65 du/ac as well as limited commercial office and retail uses.
- **Downtown South.** The Downtown South District would become the southern gateway to downtown Artesia and the city. The district would allow 4- to 6-story mixed-use development at 75 du/ac or 85 du/ac with a density bonus and incorporate land uses such as ground-floor retail, a hotel, townhomes, and neighborhood parks for residents and visitors. A Metro parking structure is planned in the South Street Mixed District just south of the transit station.

- **Chateau Estates.** The Le Belle Chateau Estates Mobile Home Park District sits at the southern edge of the project site. The mobile home park use would be maintained.

The location of each of the proposed zoning districts within the Specific Plan area is illustrated in ***Figure 2-1***.

2.4 Proposed Project Buildout Scenario

The Artesia Downtown Specific Plan proposes six (6) new land use zones within the Specific Plan area, as described in *Section 2.3*. These zones will allow for a range of residential density and Floor Area Ratio (FAR) intensity. The total buildout for the Specific Plan area depends on the maximum density and FAR permitted in each zone, but is based on a selection of parcels which have been identified as having the likelihood for redevelopment. The parcels identified for redevelopment were selected through the Redevelopment Opportunity Analysis conducted by PlaceWorks[6]. Based on this analysis, a total of 53 parcels were selected. The location of the selected parcels is displayed in *Figure 2-1*. The proposed project reflects full redevelopment of each of the selected parcels utilizing the following assumptions:

- Eighty percent (80%) of the area within each parcel will be developed with residential land uses at the maximum allowed density.
- Twenty percent (20%) of the area within each parcel will be developed with non-residential land uses.
    - Twenty-five percent (25%) of the non-residential space will be developed with office land uses.
    - Seventy-five percent (75%) of the non-residential space will be developed with restaurant and retail land uses in a 50:50 ratio (i.e., 50% assumed to be restaurant and 50% assumed to be retail).

Application of these assumptions to the 53 parcels identified for redevelopment results in the following development totals summarized in ***Table 2-1***.

Table 2-1
Summary of Specific Plan Development Totals

RESIDENTIAL DWELLING UNITS	OFFICE SPACE (SF)	COMMERCIAL SPACE (SF)
1,981	105,730	397,190 [1]

[1] The commercial space includes an 80,000 square-foot, 150-room hotel located in the proposed Downtown South Zoning District.

[6] "Artesia Downtown Specific Plan Buildout Memo," PlaceWorks, December 11, 2023.

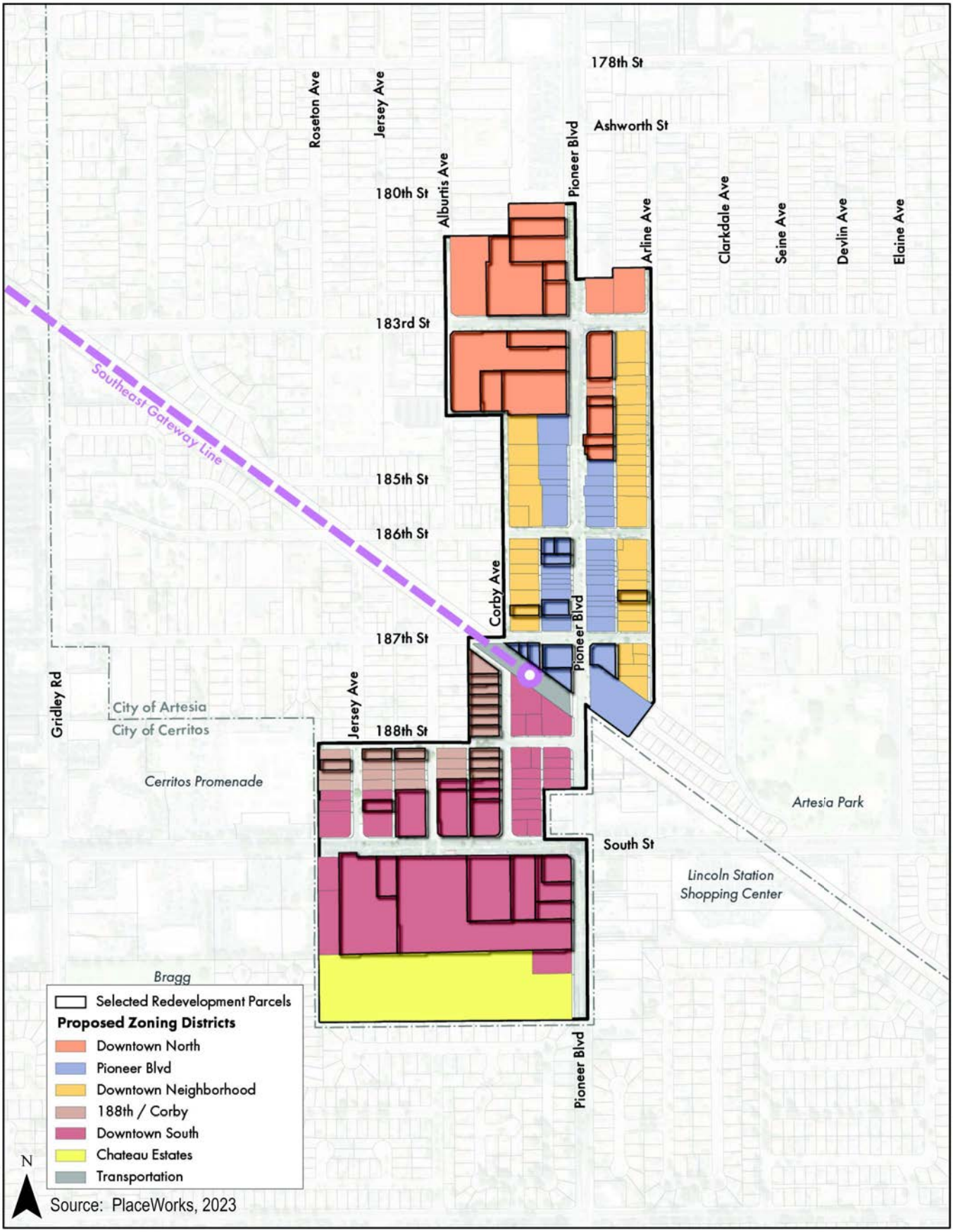

Figure 2-1
Proposed Zoning and Selected Redevelopment Parcels

Artesia Downtown Specific Plan

2.5 Project Site Access

The following sections provide a brief description of the existing and anticipated access to and within the Specific Plan area.

2.5.1 *Vehicle Access*

The roadway network serving the Specific Plan area is situated in a regular grid system of roadways which provide access to the individual parcels within the Specific Plan. Principal roadways providing access to and within the Specific Plan area include Pioneer Boulevard which provides connection to the SR-91 Freeway to the north and communities located south of the Specific Plan area, as well as South Street which provides connection to the I-605 Freeway to the west and communities located east of the Specific Plan area. Both Pioneer Boulevard and South Street are designated as Primary Arterial Highways in the City of Artesia's General Plan 2030 Circulation and Mobility Sub-Element. Additional vehicular access within the Specific Plan is accommodated by 183rd Street, which is designated as a Secondary Arterial Highway, and by roadways such as 186th Street and 187th Street which are designated as Collector roadways. These roadways, along with local streets, provide direct access to the parcels included in the Specific Plan area.

2.5.2 *Transit Access*

Public bus transit access within the Specific Plan area is provided by the Los Angeles County Metropolitan Transportation Authority (Metro), Norwalk Transit System, and the Orange County Transportation Authority (OCTA). Additional discussion of the existing transit network is provided in *Section 3.2*, herein.

There are no existing light-rail lines providing service to the Specific Plan area. However, Metro plans to construct the new Southeast Gateway Light Rail Line, part of the West Santa Ana Branch Transit Corridor project, which will connect communities in southeast LA County to Downtown Los Angeles[7]. Metro planning documents indicate that the project area has population and employment densities which are five times higher than the average in LA County. The rail corridor is anticipated to serve commuters in a high travel demand corridor and provide relief to the limited transportation systems currently available in the adjacent communities. The new line will include 14.8 miles of new light rail transit connecting from the A (previously Blue) Line Slauson Station to the southern terminus at the Pioneer Station located in the City of Artesia. The project will construct nine (9) new stations along the Southeast Gateway Line and one new infill station on the C (previously Green) Line. Four (4) surface parking lots will be provided, and one parking garage will be constructed at the Pioneer Station in the City of Artesia. The Pioneer Station is planned to be located on the west side of Pioneer Boulevard between 187th Street and 188th Street. Construction of the Southeast Gateway Line and Pioneer Station is expected to result in the closure

[7] "West Santa Ana Branch Transit Corridor Fact Sheet", Metro, Spring 2023.

of 186th Street but will maintain through access along 187th Street[8]. The Southeast Gateway Line is currently expected to open in year 2035.

2.5.3 *Pedestrian and Bicycle Access*

Pedestrian access within the Specific Plan area is accommodated by a complete network of public sidewalks and supporting pedestrian infrastructure, including pedestrian-scale lighting, public benches, and public trash receptacles along Pioneer Boulevard between 183rd Street and 188th Street. The public sidewalks provide pedestrian access to all parcels within the Specific Plan area in a manner that promotes walkability (walkability is a term for the extent to which walking is readily available as a safe, connected, accessible and pleasant mode of transport). There are five basic components that are widely accepted as the key to achieving walkability, with the underlying principle being that pedestrians should not be delayed, diverted, or placed in danger. The five primary components of walkability include the following:

- Connectivity: People can walk from one place to another without encountering major obstacles, obstructions, or loss of interconnections.
- Convivial: Pedestrian routes are friendly and attractive, and are perceived as such by pedestrians.
- Conspicuous: Suitable levels of lighting and visibility over its entire length, with high quality delineation and signage.
- Comfortable: High quality and well-maintained footpaths of suitable widths, attractive landscaping and architecture, shelter and rest spaces, and a suitable allocation of roadspace to pedestrians.
- Convenient: Walking is a realistic travel choice, partly because of the impact of the other criteria set forth above, but also because walking routes are of a suitable length as a result of land use planning with minimal delays.

These primary characteristics of walkability are currently provided within the Specific Plan area and are expected to be expanded as redevelopment within the Specific Plan area occurs.

Bicycle access is accommodated by on-street bicycle lanes provided on both sides of South Street and on Pioneer Boulevard south of South Street. Implementation of the Artesia Active Transportation Plan[9] will result in the construction of additional bicycle facilities along Pioneer Boulevard, 183rd Street, and 186th Street within the Specific Plan area. Where bicycle-specific facilities are not provided, bicycle access through the remainder of the Specific Plan area will be accommodated by the existing roadway network. Additional discussion of the existing pedestrian

[8] *Southeast Gateway Line (Previously West Santa Ana Branch Transit Corridor)*. Los Angeles Metropolitan Transportation Authority. https://www.metro.net/projects/southeastgateway. Accessed August 28, 2024.
[9] "Artesia Active Transportation Plan," prepared by KTUA and Kimely-Horn and Associates, Adopted February 1, 2022.

and bicycle network is provided in *Section 3.1*, herein. The proposed project will not result in any changes to the existing pedestrian or bicycle access within the Specific Plan area.

2.6 Project Trip Generation and Distribution

2.6.1 *Existing Trip Generation Forecast*

Traffic trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. The traffic volumes expected to be generated by the existing land uses on the parcels selected for redevelopment were forecast for the typical weekday AM and PM peak commute hours as well as over a 24-hour period (i.e., daily). Trip generation rate information provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition[10] for the following land uses were used to forecast the traffic volumes expected to be generated by the existing uses:

- ITE Land Use 110: General Light Industrial
- ITE Land Use 210: Single-Family Detached Housing
- ITE Land Use 220: Multifamily Housing (Low Rise) (Not Close to Rail Transit)
- ITE Land Use 710: General Office Building
- ITE Land Use 821: Shopping Plaza (40-150K) (No Supermarket)
- ITE Land Use 822: Strip Retail Plaza (<40K)

Trip generation average rates per dwelling unit and per 1,000 square feet of floor area were utilized to prepare the trip generation forecast. The trip generation forecast was prepared based on four (4) transportation analysis subareas. The boundaries of the subareas were determined based on the intersection of the Artesia Downtown Specific Plan area and the Southern California Association of Governments' (SCAG) Activity-Based Model (ABM) Tier 2 Transportation Analysis Zones. The subareas utilized in the analysis are displayed in ***Figure 2-2.***

The trip generation forecast for the existing uses is summarized in ***Table 2-2***. As presented in *Table 2-2*, the existing uses are expected to generate 734 vehicle trips (473 inbound trips and 261 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the existing uses are expected to generate 1,990 vehicle trips (953 inbound trips and 1,037 outbound trips). On typical a weekday, the existing uses are expected to generate 24,040 daily trip ends (12,020 inbound trips and 12,020 outbound trips) over a 24-hour period.

2.6.2 *Project Trip Generation Forecast*

The traffic volumes anticipated to be generated by the proposed project were forecast for the typical weekday AM and PM peak commute hours as well as over a 24-hour period (i.e., daily).

[10] Institute of Transportation Engineers *Trip Generation Manual*, 11th Edition, Washington D.C., 2021.

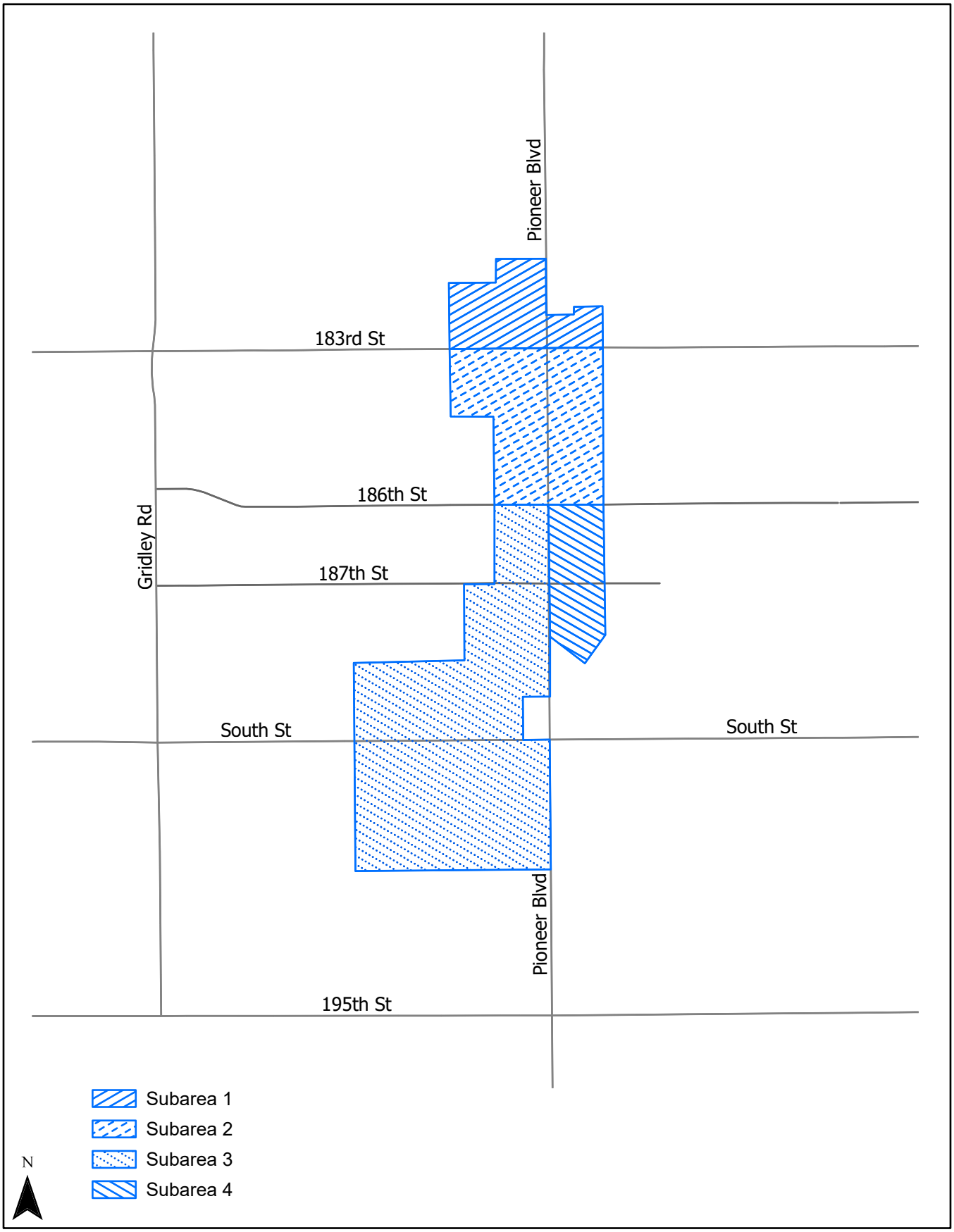

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Figure 2-2
Transportation Analysis Subareas

Artesia Downtown Specific Plan

Table 2-2
EXISTING USE TRIP GENERATION FORECAST [1]
Summary for All Subareas

TRIP GENERATION RATES [1]									
	ITE			WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
ITE LAND USE CATEGORY	LAND USE CODE	VARIABLE	WEEKDAY DAILY	IN (%)	OUT (%)	TOTAL	IN (%)	OUT (%)	TOTAL
General Light Industrial	110	Per 1,000 SF	4.87	88%	12%	0.74	13%	87%	0.65
Single-Family Detached Housing	210	Per Dwelling Unit	9.43	26%	74%	0.70	63%	37%	0.94
Multifamily Housing (Low Rise) (Not Close to Rail Transit)	220	Per Dwelling Unit	6.74	24%	76%	0.40	63%	37%	0.51
General Office Building	710	Per 1,000 SF	10.84	88%	12%	1.52	17%	83%	1.44
Shopping Plaza (40-150K) (No Supermarket)	821	Per 1,000 SF	67.52	62%	38%	1.73	49%	51%	5.19
Strip Retail Plaza (<40K)	822	Per 1,000 SF	54.45	60%	40%	2.36	50%	50%	6.59

PROJECT TRIP GENERATION FORECAST									
	ITE		DAILY	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
LAND USE	LAND USE CODE	SIZE	TRIP ENDS [2] VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
Subarea 1									
Multi-Family Residential	220	6 DU	40	0	2	2	2	1	3
Commercial General	822	38,231 SF	2,082	54	36	90	126	126	252
Service & Professional	710	3,252 SF	35	4	1	5	1	4	5
			2,157	*58*	*39*	*97*	*129*	*131*	*260*
Subarea 2									
Commercial General	821	89,366 SF	6,034	96	59	155	227	237	464
Subarea 3									
Single Family Residential	210	3 DU	28	1	1	2	2	1	3
Multi-Family Residential	220	9 DU	61	1	3	4	3	2	5
South Street Specific Plan [3]	710	40,170 SF	435	54	7	61	10	48	58
South Street Specific Plan [3]	821	40,170 SF	2,712	43	26	69	102	106	208
Commercial Planned Development	821	100,389 SF	6,778	108	66	174	255	266	521
Commercial General	821	79,581 SF	5,373	86	52	138	202	211	413
Light Industrial	110	26,379 SF	128	18	2	20	2	15	17
			15,487	*310*	*156*	*466*	*574*	*648*	*1,222*
Subarea 4									
Single Family Residential	210	1 DU	9	0	1	1	1	0	1
Commercial General	822	6,480 SF	353	9	6	15	22	21	43
			362	*9*	*7*	*16*	*23*	*21*	*44*
Total Existing Uses			***24,040***	***473***	***261***	***734***	***953***	***1,037***	***1,990***

[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] The South Street Specific Plan is assumed to consist of 50% service and professional land uses and 50% retail land uses.

Trip generation rate information provided in the *Trip Generation Manual* for the following land uses were used to forecast the traffic volumes expected to be generated by the proposed project:

- ITE Land Use 220: Multifamily Housing (Low-Rise) (Close to Rail Transit)
- ITE Land Use 310: Hotel
- ITE Land Use 710: General Office Building
- ITE Land Use 821: Shopping Plaza (40-150K) (No Supermarket)
- ITE Land Use 822: Strip Retail Plaza (<40K)
- ITE Land Use 931: Fine Dining Restaurant
- ITE Land Use 932: High-Turnover (Sit-Down) Restaurant

Trip generation average rates per dwelling unit and per 1,000 square feet of floor area were utilized to prepare the trip generation forecast.

The trip generation rates utilized for forecasting purposes are based on single-use stand-alone sites in suburban contexts, which generate primarily vehicular traffic. However, in locations which have a variety of complimentary land uses, there is the potential for interaction among those uses, particularly where trips between uses can be made via active transportation modes such as walking or biking. Therefore, the total trip generation is typically less than the trips forecast for each land use as a stand-alone use.

A 25% trip reduction adjustment has been applied to the proposed project trip generation forecast for all proposed land uses in order to reflect the mixed-use nature of the proposed zoning and land use assumptions[11]. The adjustment accounts for the synergy among the proposed land uses which is expected to result in increased activation and walkability in the Downtown Artesia area. The mixed-use nature of the proposed project will allow for shorter trips between various land use components to be completed on foot or by bicycle, resulting in fewer vehicular trips than would be forecast for each land use component on a stand-alone basis.

In addition, a 10% adjustment has been applied to the proposed non-residential land uses in order to reflect the anticipated use of light-rail transit in the specific plan area upon completion of the Metro Southeast Gateway Line[12]. The specific plan area falls within 0.5-miles of the planned Southeast Gateway Line Pioneer Station. Similar to the existing use trip forecast, the proposed

[11] LLG reviewed the methodology provided in NCHRP Report 684 in order to estimate the potential trip reductions which can be expected due to the mixed-use nature of the specific plan. The proposed mix of land uses would be expected to result in up to 50% fewer trips during the PM peak hour. A 25% trip reduction was applied to daily as well as AM and PM peak hour trips in order to provide a conservative trip forecast.

[12] A 10% transit reduction is consistent with typical practice in the Southern California region. Many agencies, including the City of Los Angeles, allow between 10 and 25% transit reductions for projects located within 0.5-miles of major transit facilities such as light rail stations. A 10% trip reduction was applied in order to provide a conservative trip forecast.

project trip forecast was prepared for each of the four (4) transportation analysis subareas shown in *Figure 2-2*.

The trips generated by the existing land uses on the parcels identified for redevelopment are assumed to be removed in order to accommodate full build-out of the proposed project. Therefore, the existing trips presented in *Table 2-2* have been applied as a credit towards the proposed project's trip generation forecast.

The trip generation forecast for the proposed project is summarized in ***Table 2-3***. As presented in *Table 2-3*, the proposed project is expected to generate 1,020 net new vehicle trips (393 net new inbound trips and 627 net new outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 543 net new vehicle trips (476 net new inbound trips and 67 net new outbound trips). On a typical weekday, the proposed project is forecast to generate 1,941 net new trip ends (approximately 971 net new inbound trips and approximately 970 net new outbound trips) over a 24-hour period.

2.6.3 *Project Trip Distribution and Assignment*

Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- The site's proximity to the I-605 Freeway, SR-91 Freeway, and major traffic corridors (i.e., Artesia Boulevard, South Street, Gridley Street, Pioneer Boulevard, etc.);
- Expected localized traffic flow patterns based on adjacent roadway channelization and the presence of traffic signals;
- Existing intersection traffic volumes;
- Existing site parcel access ingress/egress schemes;
- Nearby population and employment centers; and,
- Input from City of Artesia staff.

Separate distribution patterns have been prepared for the residential and non-residential (i.e., office and commercial) development within each transportation analysis subarea. The general, directional traffic distribution patterns for the proposed project are presented in ***Appendix Figures B-1*** through ***B-8***. The forecast net new weekday AM and PM peak hour traffic volumes at the study intersections associated with the proposed project are presented in ***Figure 2-3***. The traffic volume assignment presented in *Figure 2-3* reflects the traffic distribution characteristics shown in *Appendix Figures B-1* through *B-8* and the project trip generation forecast presented in *Table 2-3*.

Table 2-3
SPECIFIC PLAN TRIP GENERATION FORECAST [1]
Summary for All Subareas

TRIP GENERATION RATES [1]

ITE LAND USE CATEGORY	ITE LAND USE CODE	VARIABLE	WEEKDAY DAILY	WEEKDAY AM PEAK HOUR IN (%)	WEEKDAY AM PEAK HOUR OUT (%)	WEEKDAY AM PEAK HOUR TOTAL	WEEKDAY PM PEAK HOUR IN (%)	WEEKDAY PM PEAK HOUR OUT (%)	WEEKDAY PM PEAK HOUR TOTAL
Multifamily Housing (Low Rise) (Close to Rail Transit)	220	Per Dwelling Unit	4.72	29%	71%	0.38	60%	40%	0.61
Hotel	310	Per Room	7.99	56%	44%	0.46	51%	49%	0.59
General Office Building	710	Per 1,000 SF	10.84	88%	12%	1.52	17%	83%	1.44
Shopping Plaza (40-150K) No Supermarket	821	Per 1,000 SF	67.52	62%	38%	1.73	49%	51%	5.19
Strip Retail Plaza (<40K)	822	Per 1,000 SF	54.45	60%	40%	2.36	50%	50%	6.59
Fine Dining Restaurant	931	Per 1,000 SF	83.84	50%	50%	0.73	67%	33%	7.80
High-Turnover (Sit-Down) Restaurant	932	Per 1,000 SF	107.20	55%	45%	9.57	61%	39%	9.05

PROJECT TRIP GENERATION FORECAST

LAND USE	ITE LAND USE CODE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2] IN	AM PEAK HOUR VOLUMES [2] OUT	AM PEAK HOUR VOLUMES [2] TOTAL	PM PEAK HOUR VOLUMES [2] IN	PM PEAK HOUR VOLUMES [2] OUT	PM PEAK HOUR VOLUMES [2] TOTAL
Subarea 1									
Multi-Family Residential	220	203 DU	958	22	55	77	74	50	124
General Office	710	14,867 SF	161	20	3	23	4	17	21
Retail [3]	822	22,301 SF	1,214	32	21	53	74	73	147
Fine Dining Restaurant [4]	931	3,345 SF	280	1	1	2	17	9	26
High-Turnover (Sit-Down) Restaurant [4]	932	18,956 SF	2,032	100	81	181	105	67	172
Less 25% Mixed-Use TOD Adjustment [5]			(1,161)	(44)	(40)	(84)	(69)	(54)	(123)
Less 10% Transit Adjustment [6]			(369)	(15)	(11)	(26)	(20)	(17)	(37)
			3,115	*116*	*110*	*226*	*185*	*145*	*330*
Subarea 2									
Multi-Family Residential	220	431 DU	2,034	48	116	164	158	105	263
General Office	710	31,620 SF	343	42	6	48	8	38	46
Retail	821	47,430 SF	3,202	51	31	82	121	125	246
Fine Dining Restaurant [4]	931	7,115 SF	597	3	2	5	37	18	55
High-Turnover (Sit-Down) Restaurant [4]	932	40,315 SF	4,322	212	174	386	223	142	365
Less 25% Mixed-Use TOD Adjustment [5]			(2,625)	(89)	(82)	(171)	(137)	(107)	(244)
Less 10% Transit Adjustment [6]			(846)	(31)	(21)	(52)	(39)	(32)	(71)
			7,027	*236*	*226*	*462*	*371*	*289*	*660*
Subarea 3									
Multi-Family Residential	220	1,322 DU	6,240	146	356	502	484	322	806
Hotel [7]	310	150 Rooms	1,199	39	30	69	45	44	89
General Office	710	57,592 SF	624	77	11	88	14	69	83
Retail	821	86,388 SF	5,833	92	57	149	220	228	448
Fine Dining Restaurant [4]	931	12,958 SF	1,086	5	4	9	68	33	101
High-Turnover (Sit-Down) Restaurant [4]	932	73,430 SF	7,872	387	316	703	406	259	665
Less 25% Mixed-Use TOD Adjustment [5]			(5,714)	(187)	(194)	(381)	(309)	(239)	(548)
Less 10% Transit Adjustment [6]			(1,661)	(60)	(42)	(102)	(75)	(63)	(138)
			15,479	*499*	*538*	*1,037*	*853*	*653*	*1,506*
Subarea 4									
Multi-Family Residential	220	25 DU	118	3	7	10	9	6	15
General Office	710	1,651 SF	18	3	0	3	0	2	2
Retail	822	2,476 SF	135	4	2	6	8	8	16
High-Turnover (Sit-Down) Restaurant [4]	932	2,476 SF	265	13	11	24	13	9	22
Less 25% Mixed-Use TOD Adjustment [5]			(134)	(6)	(5)	(11)	(8)	(6)	(14)
Less 10% Transit Adjustment [6]			(42)	(2)	(1)	(3)	(2)	(2)	(4)
			360	*15*	*14*	*29*	*20*	*17*	*37*
Subtotal Specific Plan Buildout			*25,981*	*866*	*888*	*1,754*	*1,429*	*1,104*	*2,533*
Less Existing Uses (Refer to Table 2-2)			(24,040)	(473)	(261)	(734)	(953)	(1,037)	(1,990)
NET NEW PROJECT TRIPS			***1,941***	***393***	***627***	***1,020***	***476***	***67***	***543***

[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] The size of this project component reflects the sum of all proposed square-footage in the subject area. Individual developments are anticipated to be less than 40,000 square feet, therefore the trip rates provided for ITE Land Use 822: Strip Retail Plaza (<40K) have been applied.
[4] The total restaurant space within each subarea was assumed to consist of 15% quality and fine dining restaurant space and 85% high-turnover (sit-down) restaurant space. Total restaurant space under 2,500 square feet was assumed to consist of high-turnover (sit-down) restaurant only.
[5] A 25% mixed-use adjustment has been applied to all specific plan land uses. The adjustment accounts for the synergistic nature of the proposed mixed-use zoning included in the specific plan, which is expected to result in increased walkability in the Downtown Artesia area. The mixed-use nature of the Specific Plan will allow for shorter trips between various land use components to be completed on foot or by bicycle, resulting in fewer vehicular trips compared to the trips which would be generated by the land use components on a stand-alone basis.
[6] A 10% transit adjustment has been applied to all non-residential land uses. The transit adjustment reflects the anticipated use of light-rail transit in the specific plan area upon completion of the Metro Southeast Gateway Light-Rail Line. It is noted that the Specific Plan area falls within 1/2 mile of the planned Artesia Station.
[7] The proposed hotel is assumed to consist of 80,000 square feet of non-residential space in Subarea 3. It should be noted that trip generation rates for ITE Land Use 310: Hotel are based on the number of rooms.

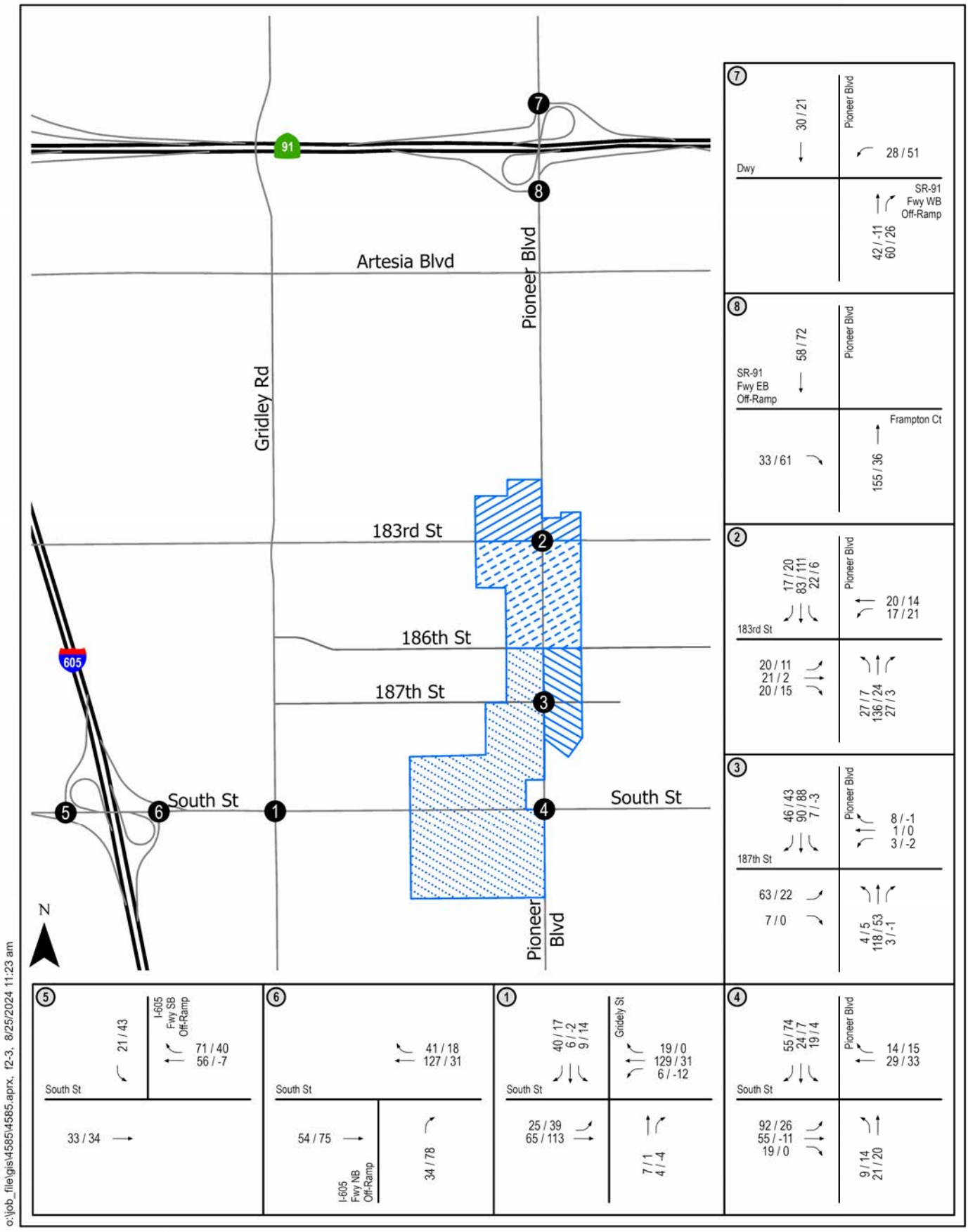


Figure 2-3
Net New Project Traffic Volumes

Artesia Downtown Specific Plan

3.0 PROJECT SITE CONTEXT

The project site is located within a well-established multi-modal transportation network maintained by the City of Artesia. The following sections provide an overview of the transportation infrastructure in the vicinity of the proposed project, including infrastructure which supports both motorized and non-motorized transportation modes.

3.1 Active Transportation Network

Active transportation generally encompasses walking, biking, and other active transportation modes. Distinct facilities are often provided for these non-vehicular modes. Most prominently, paved sidewalks are typically provided to facilitate pedestrian travel outside of the roadway. In some cases, bicycle facilities such as painted bike lanes or separated bike paths are provided within the roadway in order to separate bike traffic from vehicular traffic. Roadways which are designed to prioritize non-vehicular transportation modes utilize complimentary non-vehicular infrastructure in order to promote comfortable, safe travel for both pedestrians and bicyclists. A review of the pedestrian and bicycle infrastructure provided in the vicinity of the project site is provided below.

3.1.1 *Pedestrian System*

Pedestrian infrastructure consists of facilities such as sidewalks, crosswalks, pedestrian signals, curb access ramps, Americans with Disabilities Act (ADA) compliant tactile warning strips, and curb extensions, among other things. These facilities are generally provided within the study area. Public sidewalks are provided along all roadways within the vicinity of the project site, including along Pioneer Boulevard, 183rd Street, 187th Street, and South Street. Striped crosswalks are provided at all intersections along Pioneer Boulevard and South Street, and pedestrian signals are provided at all signalized intersections. Additionally, ADA curb ramps with tactile warning strips consisting of yellow or grey truncated dome pads are provided at most major intersections in the vicinity of the project site, although truncated dome pads are not provided for all existing curb ramps at the intersections of Pioneer Boulevard/186th Street or Pioneer Boulevard/187th Street.

As described in *Section 2.5*.3, pedestrian-scale lighting, public benches, and public trash receptacles are provided along Pioneer Boulevard between 183rd Street and 188th Street. A signalized mid-block crosswalk and median refuge islands are provided across Pioneer Boulevard between 183rd Street and 186th Street. Curb bulb-outs are provided on all corners of the Pioneer Boulevard/186th Street intersection, and on three corners of the Pioneer Boulevard/187th Street intersection.

3.1.2 *Bicycle System*

Bicycle infrastructure consists of both facilities within the roadway as well as public bicycle parking spaces. The Federal and State transportation systems recognize three primary bikeway facilities: Bicycle Paths (Class I), Bicycle Lanes (Class II), Bicycle Routes (Class III), and Separated Bikeways (Class IV). Bicycle Paths (Class I) are exclusive car free facilities that are

typically not located within a roadway area. Bicycle Lanes (Class II) are part of the street design that is dedicated only for bicycles and identified by a striped lane separating vehicle lanes from bicycle lanes. Bicycle Routes (Class III) are preferably located on collector and lower volume arterial streets. Separated Bikeways (Class IV), also referred to as cycle tracks, are bicycle lanes that are provided adjacent to or within the roadway which are physically separated from adjacent traffic by a buffer (e.g., bollards, curb, on-street parking, or grade separation).

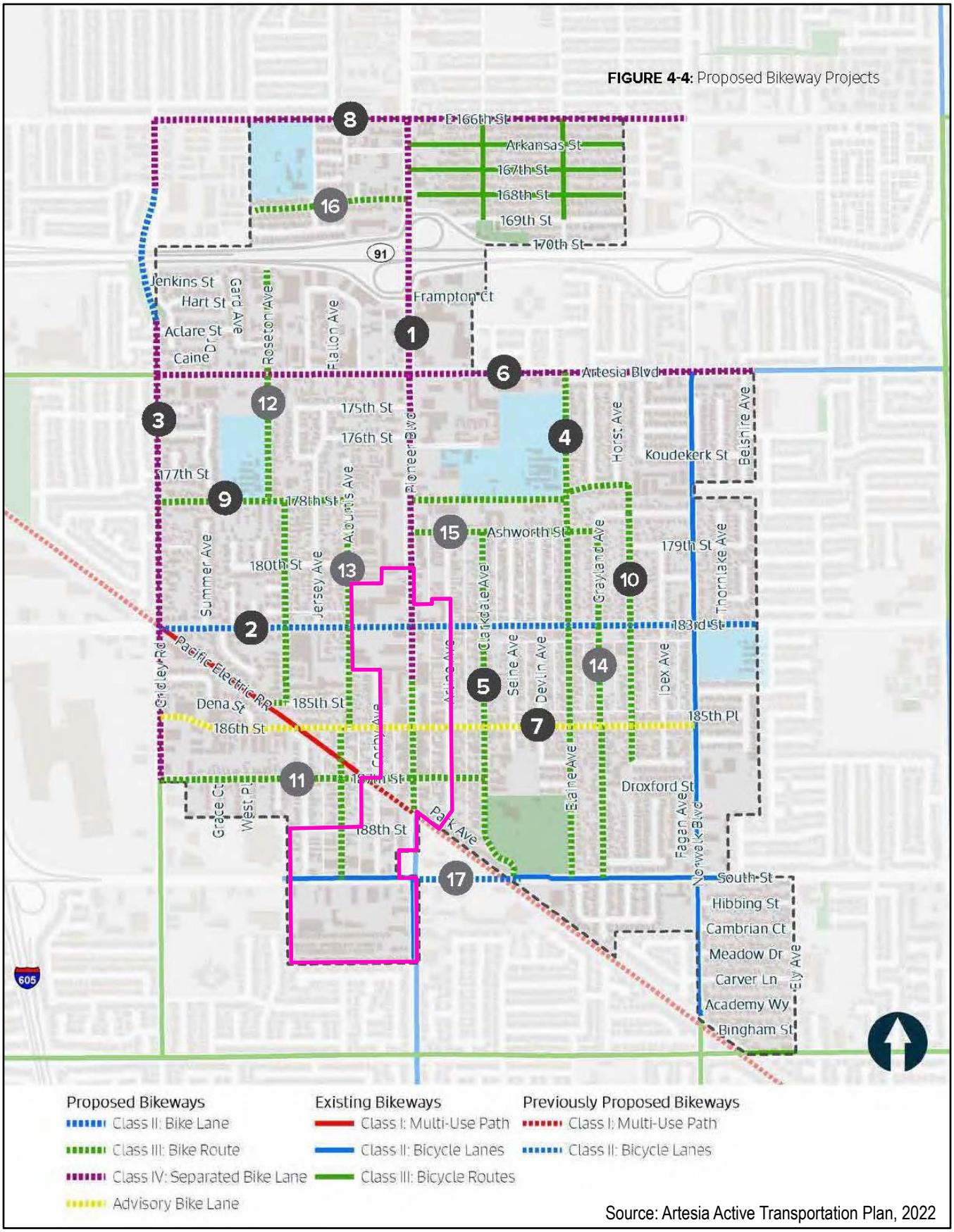
Currently, a Class I bicycle path is provided along the West Santa Ana Branch Transit Corridor right-of-way within the City of Artesia. Within the Specific Plan area, Class II bicycle lanes are provided on both sides of South Street between Park Place Center and Pioneer Boulevard, and along Pioneer Boulevard between 188th Street and the City Limit. The Artesia Active Transportation Plan identifies additional planned facilities within the City of Artesia, including a planned extension of the Class I bicycle path to the eastern City Limit, as well as Class IV separated bikeway along Pioneer Boulevard north of 184th Street. Class II bike lanes are proposed along 183rd Street, while a Class III Bike Route is proposed along 187th Street. The Artesia Active Transportation Plan existing and proposed bicycle network is illustrated in ***Figure 3-1***. Refer to the Active Transportation Plan for further information on the specific numbered projects included in *Figure 3-1*.

3.2 Transit Network

Public transit services are provided within the project study area by Metro, Orange County Transportation Authority (OCTA), Long Beach Transit, the City of Norwalk (Norwalk Transit), the City of Cerritos (Cerritos on Wheels), and the City of Artesia (Artesia Transit). The existing public transit routes in the vicinity of the proposed project site are illustrated in ***Figure 3-2***. A summary of the existing transit service within approximately 0.5-miles of the project site, including the transit line number, corridor(s) served, nearest stop, and typical number of buses per hour is presented in ***Table 3-1***. As summarized in *Table 3-1*, a total of seven (7) public bus transit routes provide service in the vicinity of the project site. Each line provides service approximately every 20-60 minutes during the morning and evening peak commute hours.

Regular public bus transit services are provided along Pioneer Boulevard from north of the project site to 183rd Street, and from South Street to south of the project site. Regular public bus transit services are also provided along South Street from Gridley Road to east of the project site. Additional service is provided along 183rd Street by local transit operators. It is noted that the majority of public bus routes traveling along Pioneer Boulevard and South Street are routed so as to provide service to the Los Cerritos Center Transit Center located west of the project site on Gridley Road between 183rd Street and South Street.

As described in *Section 2.5.2*, Metro plans to construct the new Southeast Gateway Light Rail Line, part of the West Santa Ana Branch Transit Corridor project, which will connect communities in southeast LA County to Downtown Los Angeles. The new line will include 14.8 miles of new light rail transit connecting from the A (previously Blue) Line Slauson Station to the southern



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Specific Plan Area

Figure 3-1
Existing and Proposed Bicycle Network

Artesia Downtown Specific Plan

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Figure 3-2
Existing Transit Routes

Artesia Downtown Specific Plan

Table 3-1
EXISTING TRANSIT ROUTES [1]

ROUTE	DESTINATIONS	TRANSIT CORRIDOR(S) IN VICINITY OF SITE	TRANSIT STOP NEAREST TO SITE	NO. OF BUSES DURING PEAK HOUR		
				DIR	AM	PM
Metro 62	Hawaiian Gardens, Artesia, Cerritos, Norwalk, Pico Rivera, Boyle Heights, Downtown Los Angeles	Gridley Road, South Street, Pioneer Boulevard, 183rd Street	Pioneer Boulevard/183rd Street Pioneer Boulevard/South Street	NB SB	1 3	3 2
OCTA Route 30	Anaheim, Placentia, Fullerton, LA Palma, Artesia, Cerritos	Gridley Road, South Street	Pioneer Boulevard/ South Street	EB WB	2 2	2 2
OCTA Route 38	Anaheim Hills, Anaheim, Buena Park, LA Palma, Artesia, Cerritos, Lakewood	Gridley Road, South Street, Pioneer Boulevard	Pioneer Boulevard/ South Street	EB WB	2 3	3 3
Long Beach Route 173	Norwalk, Bellflower, Artesia, Cerritos, La Palma, Hawaiian Gardens, Los Alamitos, Long Beach	Gridley Road, South Street	Pioneer Boulevard/ South Street	NB SB	2 2	2 2
Norwalk Transit Route 2	Cerritos Mall, Cerritos College Via Artesia	Pioneer Boulevard, 183rd Street	Pioneer Boulevard/ 183rd Street	NB SB	2 2	2 2
Cerritos On Wheels Route 1C/2B	Lakewood, Artesia, Cerritos, Norwalk, La Palma	South Street, Gridley Road	Pioneer Boulevard/ South Street	EB WB	0 0	1 1
Artesia Transit	Artesia	183rd Street, Gridley Road, South Street, Pioneer Boulevard	Alburtis Avenue/183rd Street Alburtis Avenue/South Street	Circular	1	1
TOTAL					**22**	**26**

[1] Sources: Los Angeles County Metropolitan Transportation Authority (LA Metro), Orange County Transportation Authority (OCTA), Long Beach Transit (LBT), Norwalk Transit System (NTS), Cerritos On Wheels (COW), and City of Artesia Transit websites, 2024.

terminus at the Pioneer Station located in the City of Artesia. The project will construct nine (9) new stations along the Southeast Gateway Line and one new infill station on the C (previously Green) Line. Four (4) surface parking lots will be provided, and one parking garage will be constructed at the Pioneer Station in the City of Artesia. The Pioneer Station is planned to be located on the west side of Pioneer Boulevard between 187th Street and 188th Street. Construction of the Southeast Gateway Line and Pioneer Station is expected to result in the closure of 186th Street but will maintain through access along 187th Street. The Southeast Gateway Line is currently expected to open in year 2035.

3.3 Vehicle Network

3.3.1 *Roadway Classifications*

The City of Artesia utilizes the roadway categories recognized by regional, state and federal transportation agencies. There are four general categories in the roadway hierarchy, ranging from freeways with the highest capacity to two-lane undivided roadways with the lowest capacity. The roadway categories are summarized as follows:

- *Freeways* are limited-access and high speed travel ways included in the state and federal highway systems. Their purpose is to carry regional through-traffic. Access is provided by interchanges with typical spacing of one mile or greater. No local access is provided to adjacent land uses.
- *Arterial* roadways are major streets that primarily serve through-traffic and provide access to abutting properties as a secondary function. Arterials are generally designed with four to six travel lanes and their major intersections are signalized. This roadway type is divided into two categories: principal and secondary arterials. Principal arterials are typically four-or-more lane roadways and serve both local and regional through-traffic. Secondary arterials are typically two-to-four lane streets that serve local and commute traffic.
- *Collector* roadways are streets that provide access and traffic circulation within residential and non-residential (e.g., commercial and industrial) areas. Collector roadways connect local streets to arterials and are typically designed with two through travel lanes (i.e., one through travel lane in each direction) that may accommodate on-street parking. They may also provide access to abutting properties.
- *Local* roadways distribute traffic within a neighborhood, or similar adjacent neighborhoods, and are not intended for use as a through-street or a link between higher capacity facilities such as collector or arterial roadways. Local streets are fronted by residential uses and do not typically serve commercial uses.

3.3.2 *Regional Highway Access*

Regional access to the proposed project site is provided via the I-605 (San Gabriel River) Freeway and the SR-91 (Artesia) Freeway as shown in *Figure 1-1*. Brief descriptions of each freeway are provided in the paragraphs below.

The *I-605 (San Gabriel River) Freeway* is a north-south freeway located west of the project site. The I-605 Freeway connects to the I-210 (Foothill) Freeway at its northern terminus and to the I-405 (San Diego) Freeway at its southern terminus, connecting the East San Gabriel Valley to the Gateway Cities of southeast Los Angeles County. In the project vicinity, four mixed-flow mainline lanes and one High-Occupancy Vehicle (HOV) lane are provided in each direction on the I-605 Freeway. North of South Street, additional auxiliary lanes are provided to accommodate the I-605 Freeway and SR-91 Freeway interchange. Full access freeway ramps (i.e., northbound and southbound on- and off-ramps) are provided at South Street.

The *SR-91 (Artesia) Freeway* is an east-west freeway located north of the project site. The SR-91 Freeway connects to the I-110 (Harbor) Freeway at its western terminus in the City of Gardena and to the SR-60 (Pomona) Freeway at its eastern terminus in the City of Riverside. In the project vicinity, four mixed-flow mainline lanes and one HOV lane are provided in each direction on the SR-91 Freeway. West of Pioneer Boulevard, additional auxiliary lanes are provided to accommodate the I-605 Freeway and SR-91 Freeway interchange. Full access freeway ramps (i.e., eastbound and westbound on- and off-ramps) are provided at Pioneer Boulevard.

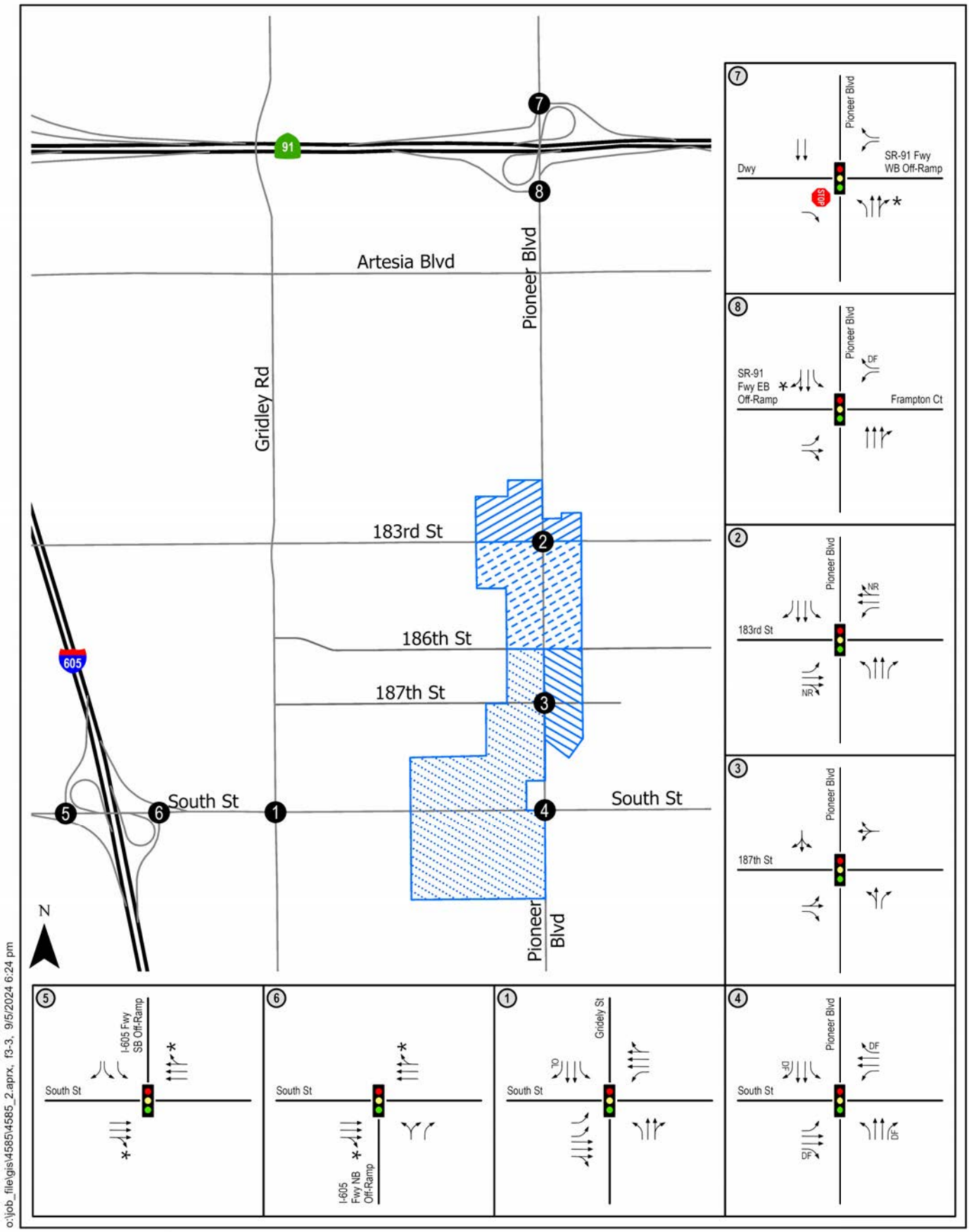
3.3.3 *Roadway Descriptions*

The current lane configurations and traffic control measures at each study intersection are presented in ***Figure 3-3***. Descriptions of the roadways which make up the study area are provided in ***Table 3-2***, including the roadway classification, number of lanes, median types, and speed limits designated by the City of Artesia and other agencies with jurisdiction over the roadways in the study area.

3.4 Vehicle, Pedestrian, and Bicycle Count Data

Manual counts of vehicle, pedestrian, and bicycle volumes were conducted at each of the eight study intersections during the weekday morning (AM) and afternoon (PM) peak periods to determine the peak hour traffic volumes. The manual counts were conducted in April 2024 by an independent traffic count subconsultant (Counts Unlimited, Inc.) at the study intersections on a typical weekday from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM to determine the AM and PM peak commute hours, respectively. It is noted that all traffic counts were conducted when local schools were in regular, in-person session.

In conjunction with the manual turning movement vehicle counts, a count of bicycle and pedestrian volumes were collected during the peak periods at all eight study intersections. Based on the pedestrian and bicycle counts, it is noted that pedestrian activity is moderate in the vicinity of the project site, with between 45 and 60 pedestrians documented at each local intersection during the peak AM period and between 100 and 160 pedestrians documented at each local intersection during the peak PM period. Between 50-100 pedestrians were documented at the SR-91 Freeway ramp intersections during the AM and PM peak periods, while minimal pedestrian activity was observed at the I-605 Freeway ramp intersections.



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OL Overlap Phase
NR No Right-Turn On Red
DF De-Facto Right-Turn Lane
* Free-Flow Right-Turn
Specific Plan Area

Figure 3-3
Existing Intersection Configurations

Artesia Downtown Specific Plan

Table 3-2
EXISTING ROADWAY DESCRIPTIONS

ROADWAY	CLASSIFICATION [1]	TRAVEL LANES		MEDIAN TYPES [4]	SPEED LIMIT
		DIRECTION [2]	NO. LANES [3]		
Gridley Road	Secondary Arterial Highway	NB-SB	4 to 6 [5]	RMI-2WLT	35
Pioneer Boulevard	Primary Arterial Highway	NB-SB	2 to 4 [6]	RMI-2WLT-N/A	35-40
183rd Street	Secondary Arterial Highway	EB-WB	4	N/A	35
187th Street	Collector	EB-WB	2	N/A	25
South Street	Primary Arterial Highway	EB-WB	4 to 6 [7]	RMI-2WLT	40

Notes:
[1] Roadway classifications obtained from the *Artesia General Plan* 2030.
[2] Direction of roadways in the project area: NB-SB = northbound and southbound; and EB-WB = eastbound and westbound.
[3] Number of lanes in both directions on the roadway.
[4] Median type of the road: RMI = Raised Median Island; 2WLT = 2-Way Left-Turn Lane; and N/A = Not Applicable.
[5] Class III Bike Route. In the vicinity of the project site, the bike route is provided from 183rd Street to 195th Street.
[6] Class II Bike Lane. In the vicinity of the project site, bike lanes are provided between 188th Street and Del Amo Boulevard.
[7] Class II Bike Lane. In the vicinity of the project site, bike lanes are provided bewteen Park Place Center and the East City Limit.

The existing weekday AM and PM peak hour intersection vehicle traffic volumes by approach are summarized in ***Table 3-3***. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are shown in ***Figure 3-4***. Summary data worksheets of the manual traffic counts of the study intersections are contained in ***Appendix C***.

3.5 Future Cumulative Traffic Forecast

The year 2045 future without project traffic volume forecasts were obtained through utilization of the SCAG ABM travel demand forecasting model. The current SCAG ABM includes a baseline year of 2016 and a future cumulative year of 2045 (assuming full build-out of the 2024 Regional Transportation Plan/Sustainable Communities Strategy). Specifically, AM peak period and PM peak period link traffic volumes along the study intersection roadways were obtained from the SCAG ABM for existing baseline year 2016 and the future cumulative baseline year 2045 conditions. The AM peak period corresponds to a three-hour morning commute period while the PM peak period corresponds to a four-hour afternoon commute period. Using the peak period model runs and appropriate SCAG ABM peak hour factors (i.e. AM = 0.35 and PM = 0.25), the one-hour peak hour link traffic volumes were determined for the existing baseline year 2016 and future cumulative baseline year 2045.

The link volumes were post-processed based on the relationship of the baseline year 2016 link volumes to the existing traffic counts collected in April 2024 (refer to *Section 3.4*, herein). The year 2045 future without project traffic volumes at each of the study intersections were determined by interpolating the total growth between years 2016 and 2045 projected by the model to reflect growth from existing year 2024 to future cumulative year 2045. The projected growth was then added to the existing year 2024 traffic counts. The year 2045 future without project traffic volumes during the weekday AM and PM peak hours are shown in ***Figure 3-5***. It should be noted that each forecast volume was reviewed carefully for reasonableness based on local conditions and professional judgement. Where the future traffic volumes were projected by the model to decrease, no downward adjustments were applied. Therefore, the year 2045 future without project traffic volumes are conservative in that they reflect the assumption that future traffic volumes will only increase.

Table 3-3
EXISTING TRAFFIC VOLUMES [1]
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME	BEGAN	VOLUME
1	Gridley Road/ South Street	04/24/2024	NB SB EB WB	7:45 AM	438 452 732 798	5:00 PM	466 851 1,288 1,027
2	Pioneer Boulevard/ 183rd Street	04/24/2024	NB SB EB WB	7:45 AM	252 440 360 445	4:45 PM	455 569 692 680
3	Pioneer Boulevard/ 187th Street	04/24/2024	NB SB EB WB	7:45 AM	256 331 41 52	5:00 PM	436 406 117 69
4	Pioneer Boulevard/ South Street	04/24/2024	NB SB EB WB	7:45 AM	347 331 452 815	5:00 PM	624 466 1,023 933
5	I-605 Freeway SB Off-Ramp/ South Street	04/24/2024	NB SB EB WB	7:45 AM	0 1,063 1,125 1,245	4:15 PM	0 1,376 1,501 1,355
6	I-605 Freeway NB Off-Ramp/ South Street	04/24/2024	NB SB EB WB	8:00 AM	823 0 1,036 1,024	4:15 PM	930 0 1,783 1,584
7	Pioneer Boulevard/ SR-91 Freeway WB Off-Ramp	04/24/2024	NB SB EB WB	7:30 AM	1,183 1,020 18 217	5:00 PM	1,279 945 15 203
8	Pioneer Boulevard/ SR-91 Freeway EB Off-Ramp Frampton Court	04/24/2024	NB SB EB WB	7:30 AM	828 1,172 789 168	5:00 PM	1,067 736 850 128

[1] Counts conducted by Counts Unlimited

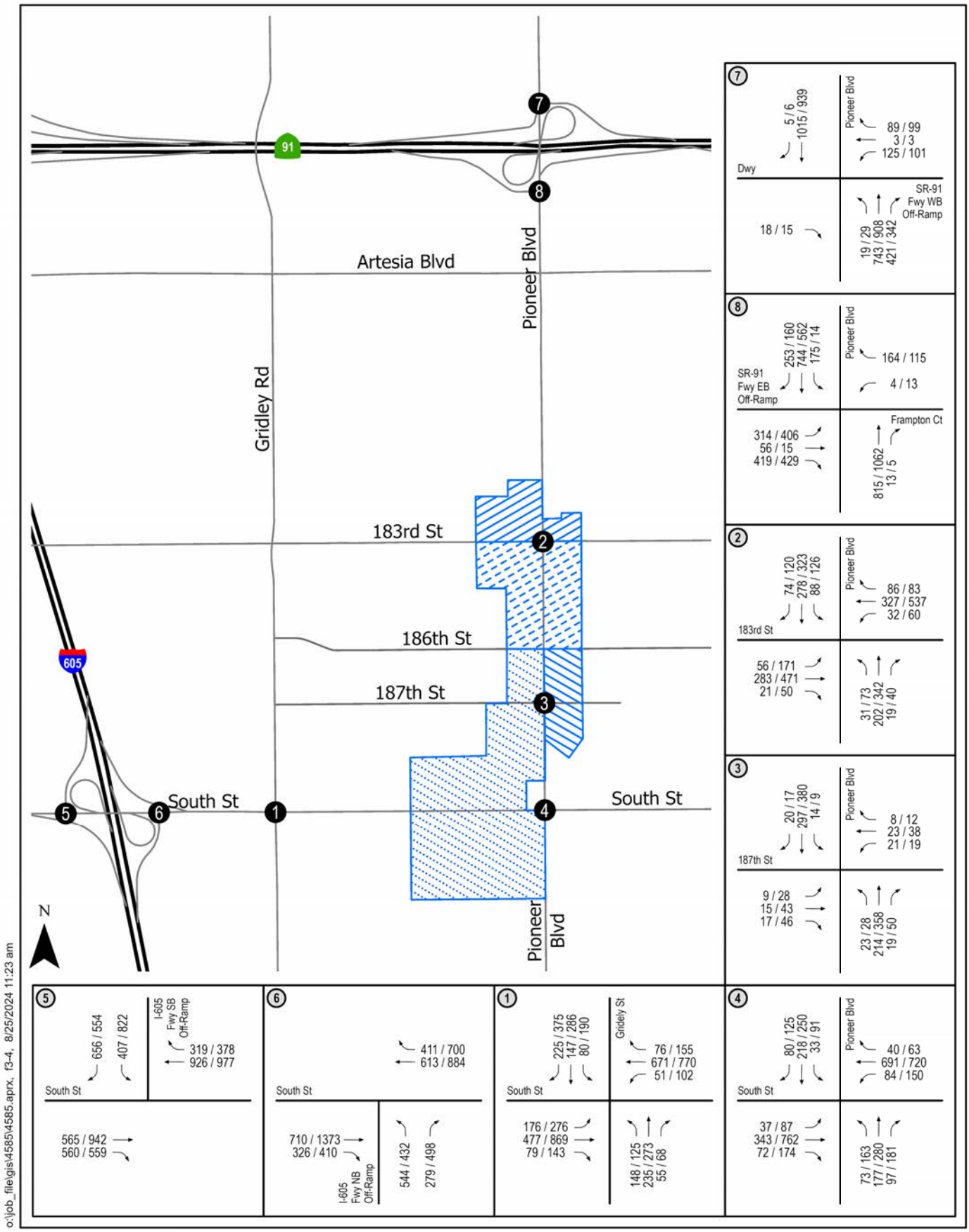
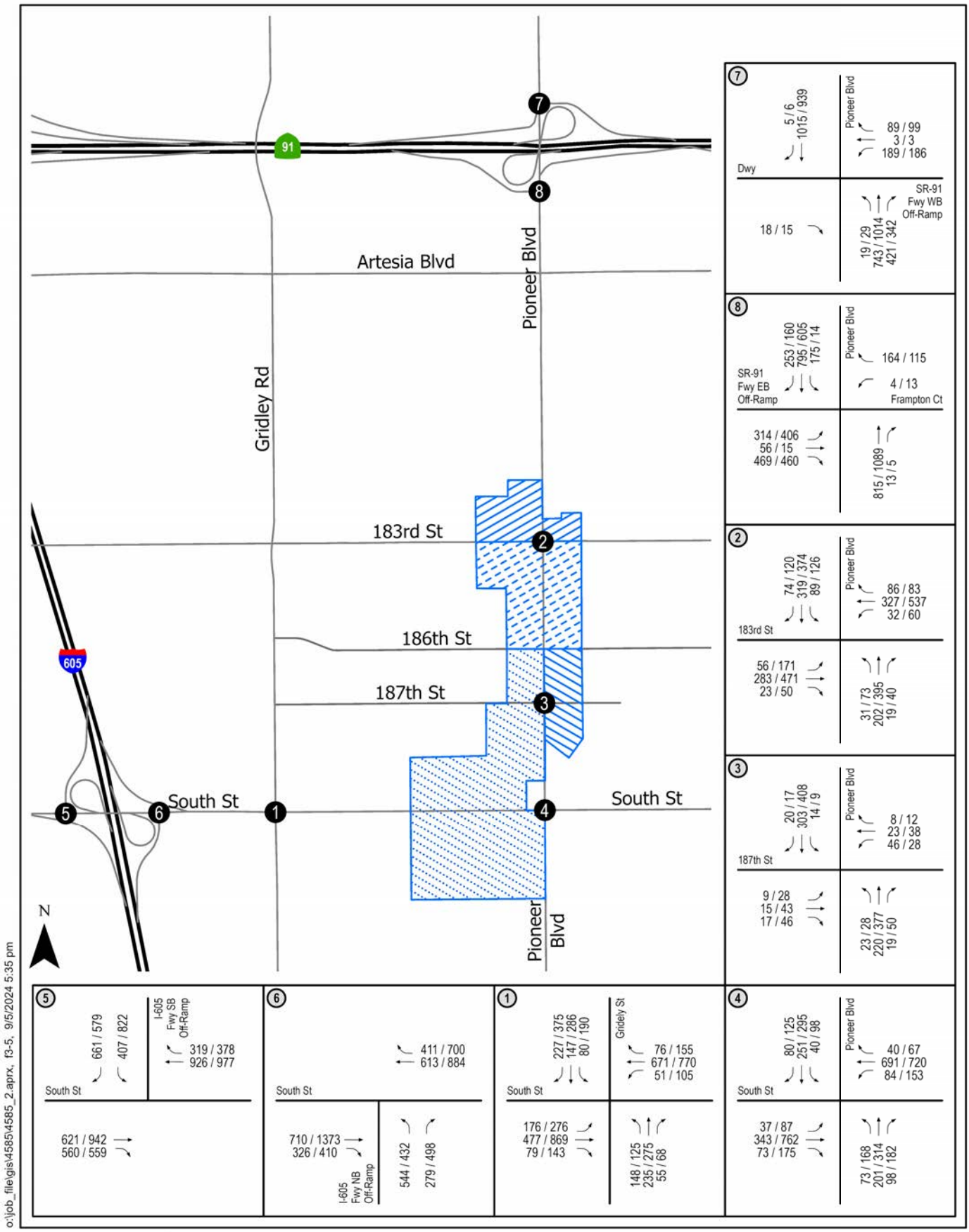


Figure 3-4
Existing Traffic Volumes

Artesia Downtown Specific Plan



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XX/XX Weekday AM/PM Peak Hour

Specific Plan Area

Figure 3-5
Future Without Project Traffic Volumes

4.0 INTERSECTION OPERATIONAL ANALYSIS

Pursuant to Public Resources Code Section 21099, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment." As a result of SB 743 and the revisions to the CEQA Guidelines, LOS may no longer be used to identify transportation impacts in CEQA. However, the implementation of VMT does not prevent agencies from continuing to analyze delay or LOS outside of CEQA review for other transportation planning or analysis purposes. As part of a project's discretionary review and approval process, the City has the authority to require additional local transportation network analyses and site access studies. Specifically, the County Guidelines require an operational analysis of intersections in the vicinity of a proposed project in order to evaluate site access and circulation constraints that may be caused or worsened by project-generated traffic. The following section presents the operational (i.e., Level of Service) and queuing analyses prepared for the proposed project pursuant to this requirement.

4.1 Methodology

In order to estimate the proposed project's effect on intersection operations, a multi-step process has been utilized. The first step is trip generation, which estimates the total arriving and departing traffic volumes on a peak hour and daily basis. The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound project traffic volumes. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area. The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area. The proposed project's forecast trip generation, distribution, and assignment is presented in *Section 2.6*, herein. With the forecasting process complete and project traffic assignments developed, the effect of the proposed project is isolated by comparing operational conditions at each of the selected study intersections using traffic volumes without and with the addition of project-generated traffic. In coordination with City of Artesia staff, a total of eight (8) study intersections were identified for operational and queuing evaluation. The study intersections are summarized in *Table 1-1*.

The study intersection LOS was analyzed using the HCM method of analysis. The HCM methodology determines the average control delay (expressed in seconds per vehicle) at the intersection. Average control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. The overall intersection delay represents the weighted average of delay for each intersection approach. The intersection delay is subsequently assigned a LOS value to describe intersection operations. LOS varies from LOS A (free flow conditions) to LOS F (jammed condition). The average control delay for signalized intersections represents the delay attributed to the traffic control facility as compared to a reference travel time in the absence of traffic control, geometric delay, incidents, and the influence of other vehicles. Average control

delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. A detailed description of the HCM method and corresponding LOS for signalized intersections is provided in ***Appendix D***.

The HCM methodology was also utilized to analyze vehicular queuing at the study intersections. The HCM methodology determines the 95th percentile queues, which represent the maximum back of vehicle queues with 95th percentile traffic volumes. These queues are assumed to represent the expected maximum vehicle queues, as the probability that these queues will be exceeded is 5% or less. The 95th percentile condition is anticipated to occur at a signalized intersection only during one or two signal cycles within each of the respective analysis peak hours. The HCM method reports delays in vehicles per lane (veh/ln). For the purposes of comparing the calculated vehicle queuing to the existing available storage space, an average length of 25 feet per vehicle (including vehicle separation) was assumed. The corresponding maximum vehicle queue lengths were then compared to the length of available queue storage space in order to determine the potential for queue spill back into adjacent lanes or intersections.

The HCM calculations were prepared using the *Synchro 12* software package which implements the HCM operational methodology. A *Synchro* network was created based on existing conditions field reviews at the eight (8) study intersections which documented lane configurations, available vehicle storage lengths, crosswalk locations, posted speed limits, etc., at each of the study intersections. Current signal timing and phasing data provided by the City of Artesia for intersections under local jurisdiction and by Caltrans for the freeway ramp intersections were coded into the network and utilized in the analysis. The operational analysis utilizes the following additional data previously presented herein:

- Net New Project Peak Hour Traffic Generation: Refer to *Section 2.6*.
- Project Trip Distribution and Assignment: Refer to *Section 2.6*.
- Existing Roadway Network: Refer to *Section 3.3*.
- Existing Weekday AM and PM Peak Hour Traffic Volumes: Refer to *Section 3.4*.
- Future Without Project Weekday AM and PM Peak Hour Traffic Volumes: Refer to *Section 3.5*.

4.2 Analysis Scenarios

The operational and queuing analyses at the study intersections were prepared for the typical weekday AM peak hour and PM peak hour time periods. Pursuant to the County Guidelines and in coordination with City staff, LOS and queuing calculations have been prepared for the following scenarios:

[a] Existing conditions.

[b] Existing with project conditions (i.e., condition [a] with full buildout of the proposed project).

[c] Future without project conditions.

[d] Future with project conditions (i.e., condition [c] with full buildout of the proposed project).

[e] Condition [d] with implementation of recommended improvement measures, if necessary.

The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figure 3-4*. The existing with project traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in ***Figure 4-1***. The future without project traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figure 3-5*. The future with project traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in ***Figure 4-2***.

4.3 Operational Criteria

As shown in the Artesia General Plan 2030, the acceptable operating LOS for transportation facilities in the City of Artesia is LOS D or better, while LOS E or F is considered deficient.

The County Guidelines indicate that unacceptable or extended queuing is defined as:

- Spill over from turn pockets into through lanes,
- Spill over into intersections.

For purposes of determining unacceptable or extended queuing at intersections and roadways under local jurisdiction, the following criteria were utilized:

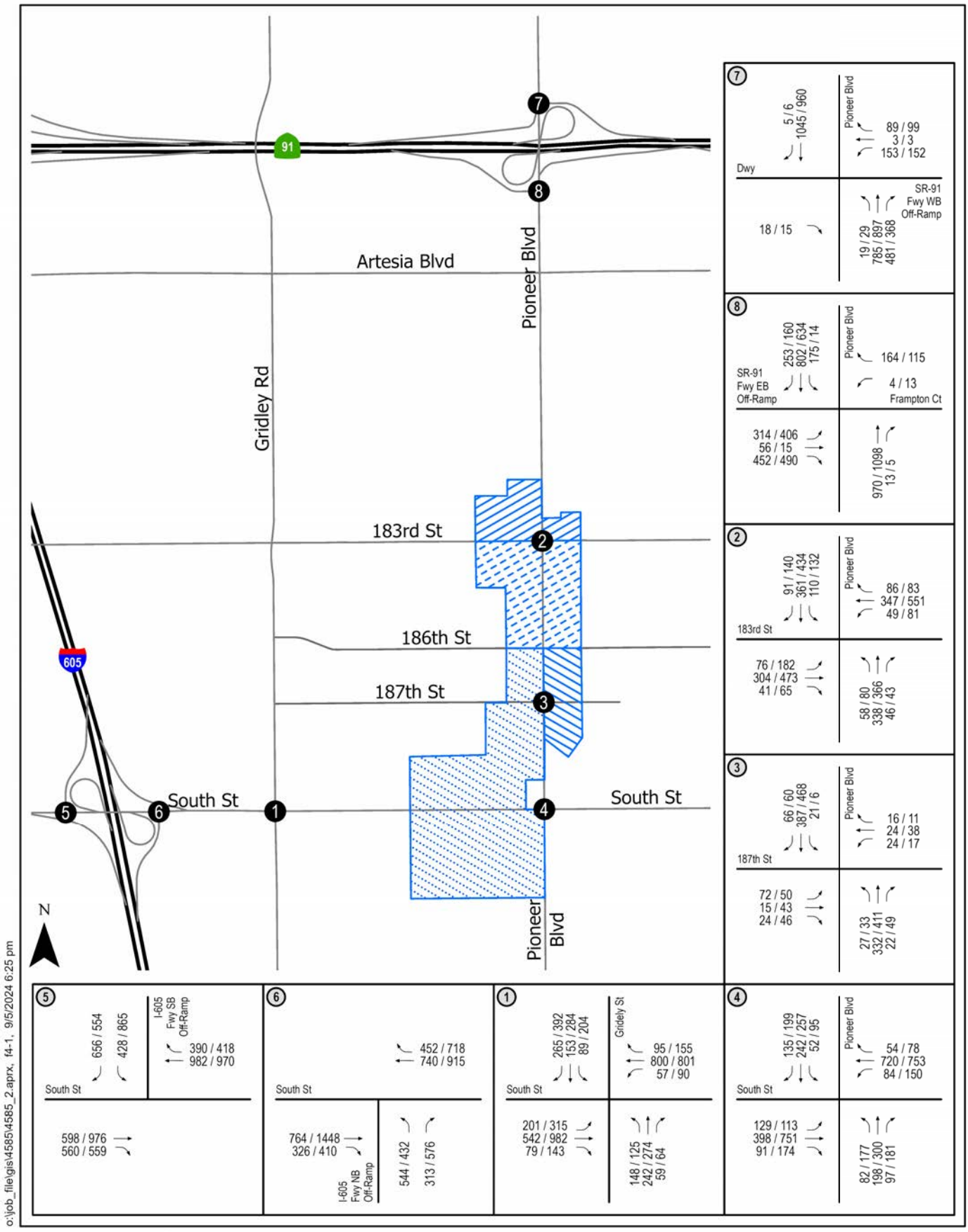
- For queues which are adequately accommodated by the available storage space prior to the addition of project-generated traffic, unacceptable queuing occurs when the addition of project-generated traffic causes the queue to exceed the available storage space; or,
- For queues which exceed the available storage space prior to the addition of project-generated traffic, unacceptable queueing occurs when the addition of project-generated traffic causes the queue to increase by one (1) vehicle (i.e., 25 feet) or more.

4.4 Intersection LOS Analysis

The weekday AM and PM peak hour intersection delay and LOS prepared for the study intersections using the HCM methodology is summarized in ***Table 4-1***. The HCM data worksheets for the analyzed intersections under each analysis scenario are provided in *Appendix D*.

4.4.1 *Existing Conditions*

As shown in column [a] of *Table 4-1*, seven (7) of the eight (8) study intersections are currently operating at LOS D or better during the weekday AM and PM peak hours under existing conditions. The following study intersection is operating at LOS E during the peak hour shown below:



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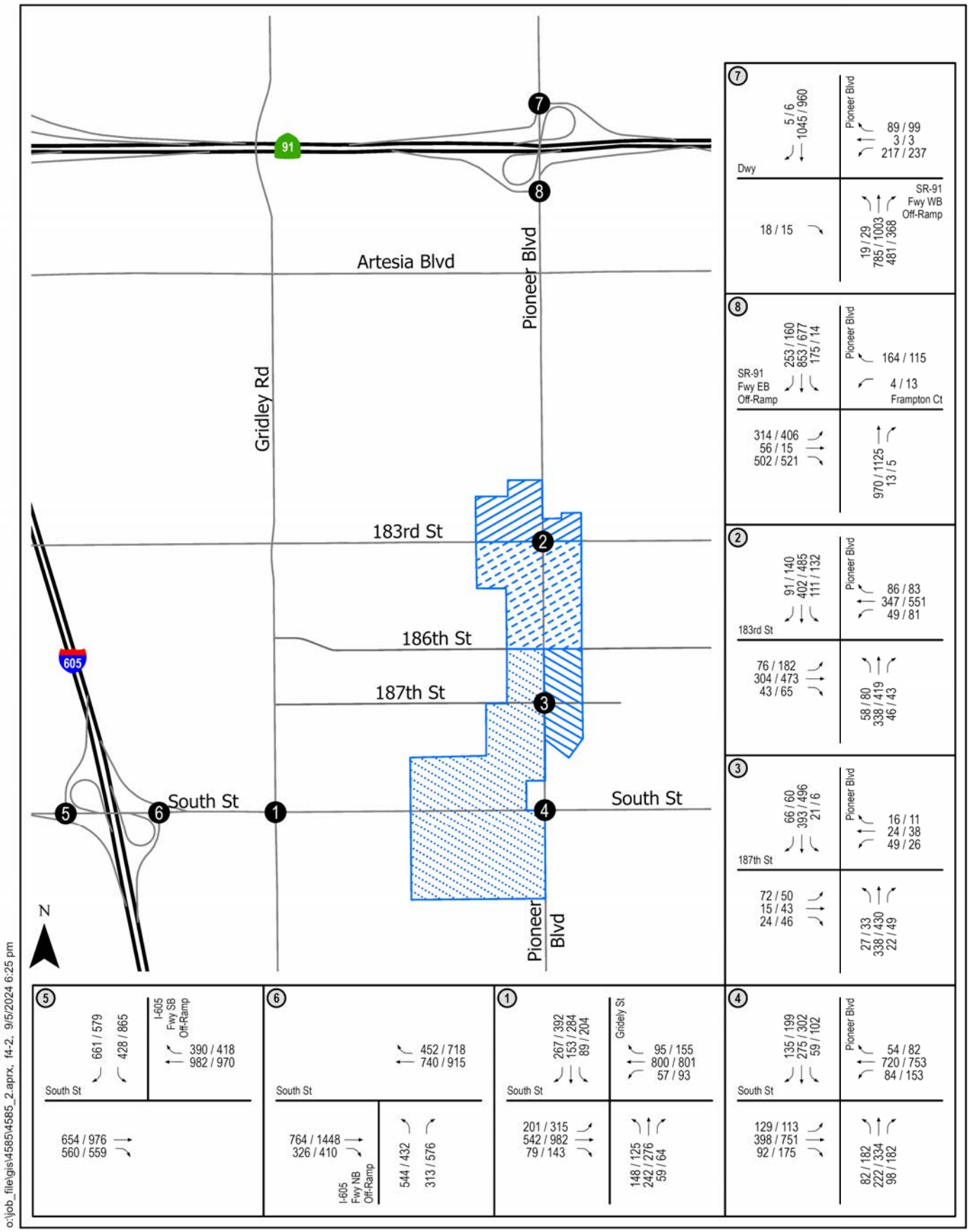
XX/XX Weekday AM/PM Peak Hour

Specific Plan Area

Figure 4-1
Existing With Project Traffic Volumes



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XX/XX Weekday AM/PM Peak Hour

Specific Plan Area

Figure 4-2
Future With Project Traffic Volumes

Table 4-1
SUMMARY OF INTERSECTION DELAYS AND LEVELS OF SERVICE [1]

NO.	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	[a] EXISTING 2024 DELAY [2]	[a] EXISTING 2024 LOS [3]	[b] EXISTING 2024 WITH PROJECT DELAY [2]	[b] EXISTING 2024 WITH PROJECT LOS [3]	CHANGE IN DELAY ([b]-[a])	[c] FUTURE 2045 W/O PROJECT DELAY [2]	[c] FUTURE 2045 W/O PROJECT LOS [3]	[d] FUTURE 2045 WITH PROJECT DELAY [2]	[d] FUTURE 2045 WITH PROJECT LOS [3]	CHANGE IN DELAY ([d]-[c])
1	Gridley Road/ South Street	Signal	AM PM	23.3 32.2	B C	24.1 33.1	B C	0.8 0.9	23.3 32.3	B C	24.1 33.1	B C	0.8 0.8
2	Pioneer Boulevard/ 183rd Street	Signal	AM PM	28.8 31.8	C C	29.9 32.1	C C	1.1 0.3	28.3 31.5	C C	29.6 31.9	C C	1.3 0.4
3	Pioneer Boulevard/ 187th Street	Signal	AM PM	8.4 8.2	A A	13.7 6.9	A A	5.3 -1.3	9.5 8.2	A A	14.6 6.9	A A	5.1 -1.3
4	Pioneer Boulevard/ South Street	Signal	AM PM	27.0 33.1	C C	28.0 35.5	C D	1.0 2.4	26.5 34.4	C C	27.7 37.2	C D	1.2 2.8
5	I-605 Freeway SB Off-Ramp/ South Street	Signal	AM PM	59.7 34.4	E C	30.9 25.9	C C	-28.8 -8.5	31.1 26.5	C C	31.1 26.5	C C	0.0 0.0
6	I-605 Freeway NB Off-Ramp/ South Street	Signal	AM PM	24.3 25.0	B B	23.3 28.3	B C	-1.0 3.3	24.3 25.0	B B	23.3 28.3	B C	-1.0 3.3
7	Pioneer Boulevard/ SR-91 Freeway WB Off-Ramp	Signal	AM PM	9.4 8.4	A A	10.3 10.0	A A	0.9 1.6	11.4 11.1	A A	12.4 13.0	A A	1.0 1.9
8	Pioneer Boulevard/ SR-91 Freeway EB Off-Ramp - Frampton Court	Signal	AM PM	43.6 31.9	D C	48.3 34.9	D C	4.7 3.0	49.2 33.3	D C	54.9 37.6	D D	5.7 4.3

[1] Intersection level of service analysis based on the Highway Capacity Manual, 7th Edition operational analysis methodology for signalized intersections.
[2] Reported control delay values in seconds per vehicle.
[3] Intersection Levels of Service are based on the following criteria:

Control Delay (s/veh)	LOS
<= 10	A
> 10-20	B
> 20-35	C
> 35-55	D
> 55-80	E
> 80	F

- Int. 5 – I-605 Freeway Southbound Off-Ramp/South Street:
  AM Peak Hour: 59.7 seconds, LOS E

  A review of the existing signal timing and phasing data provided by Caltrans for this off-ramp location indicates that the signal time ("phase splits") assigned to the off-ramp traffic movements and the through traffic movements along South Street are not appropriate based on the current weekday AM and PM peak hour traffic volumes on each intersection approach collected in April 2024. The LOS reported for existing conditions reflects the accurate coding of the phase splits as provided by Caltrans. However, for the analysis of the subsequent existing with project conditions (a theoretical condition, as full buildout of the proposed project would not occur in year 2024) and future without and with project conditions, it is assumed that the phase splits would have been reviewed and corrected to reflect a more appropriate assignment of signal time at the intersection. The signal timing utilized in the analysis for all subsequent conditions for this intersection was therefore manually adjusted based on engineering judgement.

4.4.2 *Existing With Project Conditions*

As presented in column [b] of *Table 4-1*, all eight (8) study intersections are calculated to operate at LOS D or better during the weekday AM and PM peak hours under existing with project conditions. The delays at the study intersections are generally expected to incrementally increase with the addition of project-generated traffic. Since all of the study intersections are expected to operate at an acceptable LOS, no project-specific improvements are required or proposed.

4.4.3 *Future Without Project Conditions*

The future without project conditions were derived from the traffic growth forecast by the SCAG ABM. A full discussion of the future without project traffic forecast is provided in *Section 3.5*. As shown in column [c] of *Table 4-1*, all eight (8) study intersections are calculated to operate at LOS D or better during the weekday AM and PM peak hours under future without project conditions.

4.4.4 *Future With Project Conditions*

As presented in column [d] of *Table 4-1*, all eight (8) study intersections are calculated to operate at LOS D or better during the weekday AM and PM peak hours under future with project conditions. The delays at the study intersections are generally expected to incrementally increase with the addition of project-generated traffic. Since all of the study intersections are expected to operate at an acceptable LOS, no project-specific improvements are required or proposed.

4.5 Intersection Queuing Analysis

The weekday AM and PM peak hour vehicle queuing analysis prepared for the study intersections is summarized in ***Table 4-2***. The HCM data worksheets for the analyzed intersections under each analysis scenario are provided in *Appendix D*.

Table 4-2
SUMMARY OF INTERSECTION VEHICLE QUEUEING [1]

NO.	INTERSECTION	TRAFFIC CONTROL [1]	MOVE-MENT	STORAGE LENGTH (FT) [2]	95TH PERCENTILE QUEUE (FT) [3]						CONTRIBUTES TOWARD UNACCEPTABLE QUEUING? (Y/N)		95TH PERCENTILE QUEUE (FT) [3]						CONTRIBUTES TOWARD UNACCEPTABLE QUEUING? (Y/N)	
					[a]		[b]						[c]		[d]					
					EXISTING 2024 CONDITIONS		EXISTING 2024 WITH PROJECT		CHANGE IN QUEUE				FUTURE 2045 WITHOUT PROJECT		FUTURE 2045 WITH PROJECT		CHANGE IN QUEUE			
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Gridley Road/ South Street	Signal	NBL	180	173	145	173	145	0	0	No	No	173	145	173	145	0	0	No	No
			NBT	500	123	150	125	150	2	0	No	No	123	150	125	150	2	0	No	No
			NBR	500	125	150	128	150	3	0	No	No	125	153	128	153	3	0	No	No
			SBL	135	85	210	95	228	10	18	No	No	85	210	95	228	10	18	No	No
			SBT	275	63	113	65	113	2	0	No	No	63	113	65	113	2	0	No	No
			SBR	275	198	288	223	293	25	5	No	No	200	288	225	293	25	5	No	No
			EBL	195	85	148	103	175	18	27	No	No	85	148	103	175	18	27	No	No
			EBT	330	13	278	25	305	12	27	No	No	15	278	25	308	10	30	No	No
			EBR	330	18	293	30	325	12	32	No	No	18	293	30	325	12	32	No	No
			WBL	105 [4]	58	113	63	93	5	-20	No	No	58	118	63	98	5	-20	No	No
			WBT	450	150	228	198	243	48	15	No	No	150	228	198	243	48	15	No	No
			WBR	450	163	240	210	255	47	15	No	No	165	240	210	255	45	15	No	No
2	Pioneer Boulevard/ 183rd Street	Signal	NBL	105	38	78	70	83	32	5	No	No	38	78	70	83	32	5	No	No
			NBT	400	95	145	153	153	58	8	No	No	95	163	153	170	58	7	No	No
			NBR	105	18	33	40	33	22	0	No	No	18	30	40	33	22	3	No	No
			SBL	160	53	100	75	110	22	10	No	No	53	103	75	110	22	7	No	No
			SBT	500	65	110	100	158	35	48	No	No	78	128	113	180	35	52	No	No
			SBR	125	35	83	50	100	15	17	No	No	35	83	50	100	15	17	No	No
			EBL	115 [4]	68	215	110	230	42	15	No	No	68	215	110	230	42	15	No	No
			EBT	500	138	203	158	213	20	10	No	No	138	203	158	213	20	10	No	No
			EBR	500	143	208	160	215	17	7	No	No	143	208	163	215	20	7	No	No
			WBL	105	40	68	58	88	18	20	No	No	40	68	58	88	18	20	No	No
			WBT	300	205	283	213	290	8	7	No	No	205	283	213	290	8	7	No	No
			WBR	300	203	285	213	290	10	5	No	No	203	285	213	290	10	5	No	No
3	Pioneer Boulevard/ 187th Street	Signal	NBL/T	450	5	10	8	10	3	0	No	No	5	10	8	13	3	3	No	No
			NBR	70	0	0	0	0	0	0	No	No	0	0	0	0	0	0	No	No
			SB All	450	145	75	380	15	235	-60	No	No	158	83	390	15	232	-68	No	No
			EBL/T	300	25	73	93	95	68	22	No	No	25	73	88	95	63	22	No	No
			EBR	50	18	48	25	48	7	0	No	No	18	45	23	45	5	0	No	No
			WB All	300	53	70	70	65	17	-5	No	No	80	80	98	78	18	-2	No	No

Table 4-2
SUMMARY OF INTERSECTION VEHICLE QUEUEING [1]

NO.	INTERSECTION	TRAFFIC CONTROL [1]	MOVE-MENT	STORAGE LENGTH (FT) [2]	95TH PERCENTILE QUEUE (FT) [3]						CONTRIBUTES TOWARD UNACCEPTABLE QUEUING? (Y/N)		95TH PERCENTILE QUEUE (FT) [3]						CONTRIBUTES TOWARD UNACCEPTABLE QUEUING? (Y/N)	
					[a]		[b]						[c]		[d]					
					EXISTING 2024 CONDITIONS		EXISTING 2024 WITH PROJECT		CHANGE IN QUEUE				FUTURE 2045 WITHOUT PROJECT		FUTURE 2045 WITH PROJECT		CHANGE IN QUEUE			
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
4	Pioneer Boulevard/ South Street	Signal	NBL	135	78	225	90	268	12	43	No	Yes	78	240	90	285	12	45	No	Yes
			NBT	500	43	100	58	108	15	8	No	No	50	115	68	123	18	8	No	No
			NBR	50 [5]	50	143	60	143	10	0	No	No	50	145	63	145	13	0	No	No
			SBL	140	40	95	55	103	15	8	No	No	45	110	63	120	18	10	No	No
			SBT	430	13	83	33	100	20	17	No	No	13	133	38	155	25	22	No	No
			SBR	50 [5]	10	88	40	173	30	85	No	Yes	10	115	40	218	30	103	No	Yes
			EBL	95	43	93	155	130	112	37	Yes	Yes	43	93	155	130	112	37	Yes	Yes
			EBT	275	143	328	150	323	7	-5	No	No	143	328	150	323	7	-5	No	No
			EBR	50 [5]	58	143	65	143	7	0	No	No	58	143	65	145	7	2	No	No
			WBL	160	88	195	88	195	0	0	No	No	88	198	88	198	0	0	No	No
			WBT	500	285	280	295	308	10	28	No	No	285	280	295	308	10	28	No	No
			WBR	50 [5]	30	43	40	58	10	15	No	No	30	48	40	60	10	12	No	No
5	I-605 Freeway SB Off-Ramp/ South Street	Signal	SBL	[6]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			SBR	[6]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			EBT	495	93	168	130	205	37	37	No	No	135	203	143	210	8	7	No	No
			WBT	500	280	293	310	300	30	7	No	No	293	303	308	303	15	0	No	No
6	I-605 Freeway NB Off-Ramp/ South Street	Signal	NBL	[6]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			NBR	[6]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			EBT	500	215	388	233	408	18	20	No	No	215	388	233	408	18	20	No	No
			WBT	500	3	5	3	5	0	0	No	No	3	5	3	5	0	0	No	No
7	Pioneer Boulevard/ SR-91 Freeway WB Off-Ramp	Signal	NBL	90	8	10	10	13	2	3	No	No	10	13	10	15	0	2	No	No
			NBT	500	100	108	118	135	18	27	No	No	123	180	140	203	17	23	No	No
			SBT	375	158	118	180	150	22	32	No	No	190	165	208	195	18	30	No	No
			SBR	375	165	123	188	158	23	35	No	No	198	173	215	203	17	30	No	No
			WBL	[6]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			WBR	[6]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 4-2
SUMMARY OF INTERSECTION VEHICLE QUEUEING [1]

NO.	INTERSECTION	TRAFFIC CONTROL [1]	MOVE-MENT	STORAGE LENGTH (FT) [2]	95TH PERCENTILE QUEUE (FT) [3] [a] EXISTING 2024 CONDITIONS AM	[a] EXISTING 2024 CONDITIONS PM	[b] EXISTING 2024 WITH PROJECT AM	[b] EXISTING 2024 WITH PROJECT PM	[b] CHANGE IN QUEUE AM	[b] CHANGE IN QUEUE PM	CONTRIBUTES TOWARD UNACCEPTABLE QUEUING? (Y/N) AM	CONTRIBUTES TOWARD UNACCEPTABLE QUEUING? (Y/N) PM	95TH PERCENTILE QUEUE (FT) [3] [c] FUTURE 2045 WITHOUT PROJECT AM	[c] FUTURE 2045 WITHOUT PROJECT PM	[d] FUTURE 2045 WITH PROJECT AM	[d] FUTURE 2045 WITH PROJECT PM	[d] CHANGE IN QUEUE AM	[d] CHANGE IN QUEUE PM	CONTRIBUTES TOWARD UNACCEPTABLE QUEUING? (Y/N) AM	CONTRIBUTES TOWARD UNACCEPTABLE QUEUING? (Y/N) PM
8	Pioneer Boulevard/ SR-91 Freeway EB Off-Ramp-Frampton Court	Signal	NBT	500	203	258	240	280	37	22	No	No	203	273	240	290	37	17	No	No
			NBR	500	223	290	265	315	42	25	No	No	223	305	265	328	42	23	No	No
			SBL	100	238	15	283	15	45	0	Yes	No	238	15	283	15	45	0	Yes	No
			SBT	500	278	208	303	245	25	37	No	No	300	230	325	263	25	33	No	No
			EBL	[6]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			EBR	[6]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			WBL	100	5	13	5	13	0	0	No	No	5	13	5	13	0	0	No	No
			WBR	100	373	183	373	183	0	0	No	No	373	183	373	183	0	0	No	No

[1] Intersection vehicle queuing analysis based on the Highway Capacity Manual, 7th Edition operational analysis methodology for signalized intersections. The 95th percentile queue is the maximum back of queue with 95th percentile volumes.

[2] Storage length measured from aerial photographs obtained from Google Earth, 2024, and as verified by field review. Storage length for through and shared through/turn movements represents the distance to the nearest adjacent upstream intersection or 500 feet, whichever is less.

[3] The HCM 7th Edition methodology worksheets report queues in number of vehicles per lane. A length of 25 feet per queued vehicle (including vehicle separation) was assumed for analysis purposes. The reported queues therefore represent the calculated maximum back of queue in feet.

[4] The queue storage space includes the length of the formally striped turn pocket and the inclusion of 10 feet of the provided taper area.

[5] De-facto right-turn lane. No formal storage space is provided. A storage length of 50 feet (corresponding to two queued vehicles) is shown for comparison purposes.

[6] The vehicular queuing associated with the freeway off-ramp at this location is assessed in *Section 5.0, California Department of Transportation Analysis.*

4.5.1 *Existing Conditions*

As shown in column [a] of *Table 4-2*, certain traffic movements at four (4) of the eight (8) study intersections are calculated to exceed the available storage space under existing conditions. The following study intersections are calculated to have extended queuing for the movements and peak hours shown below:

- Int. 1 – Gridley Road/South Street: Southbound Left-Turn – PM Peak Hour
  Southbound Right-Turn – PM Peak Hour
  Westbound Left-Turn – PM Peak Hour

- Int. 2 – Pioneer Boulevard/183rd Street: Eastbound Left-Turn – PM Peak Hour

- Int. 4 – Pioneer Boulevard/South Street:
- Northbound Left-Turn – PM Peak Hour
  Northbound Right-Turn – AM and PM Peak Hour
  Southbound Right-Turn – PM Peak Hour
  Eastbound Right-Turn – AM and PM Peak Hour
  Westbound Left-Turn – PM Peak Hour

  It should be noted that de-facto right-turn lanes are assumed for all approaches at this intersection based on field observations of existing driver behavior at the intersection. No formally striped right-turn storage space is currently provided; however, a storage length of 50 feet (corresponding to two queued vehicles) was assumed for comparison purposes.

- Int. 8 – Pioneer Boulevard/SR-91 Freeway Eastbound Off-Ramp-Frampton Court:
  Southbound Left-Turn – AM Peak Hour
  Westbound Right-Turn – AM and PM Peak Hours

4.5.2 *Existing With Project Conditions*

As presented in column [b] of *Table 4-2*, the proposed project is expected to cause or significantly contribute towards unacceptable or extended queuing at two (2) of the eight (8) study intersections under existing with project conditions. The following study intersections are calculated to have unacceptable or extended project-generated queuing for the movements and peak hours shown below:

- Int. 4 – Gridley Road/South Street: Northbound Left-Turn – PM Peak Hour
  Southbound Right-Turn – PM Peak Hour
  Eastbound Left-Turn – AM and PM Peak Hours

- Int. 8 – Pioneer Boulevard/SR-91 Freeway Eastbound Off-Ramp-Frampton Court:
  Southbound Left-Turn – AM Peak Hour

Increases in queuing for certain traffic movements due to the addition of project-generated traffic are calculated to occur at the remaining six (6) study intersections under existing with project conditions. However, the calculated increases are not expected to cause a queue which was previously adequately accommodated to exceed the available storage space, nor result in the addition of 25 or more feet (i.e., one or more vehicles) to an already extended queue.

It is noted that the existing with project condition is theoretical, as the proposed project buildout would not occur in year 2024. Therefore, no improvements are recommended or proposed to address the calculated existing with project queues.

4.5.3 *Future Without Project Conditions*

The future without project conditions were derived from the traffic growth forecast by the SCAG ABM. A full discussion of the future without project traffic forecast is provided in *Section 3.5*. As shown in column [c] of *Table 4-2*, certain traffic movements at four (4) of the eight (8) study intersections are calculated to exceed the available storage space under future without project conditions. The following study intersections are calculated to have extended queuing for the movements and peak hours shown below:

- Int. 1 – Gridley Road/South Street: Southbound Left-Turn – PM Peak Hour
  Southbound Right-Turn – PM Peak Hour
  Westbound Left-Turn – PM Peak Hour
- Int. 2 – Pioneer Boulevard/183rd Street: Eastbound Left-Turn – PM Peak Hour
- Int. 4 – Gridley Road/South Street: Northbound Left-Turn – PM Peak Hour
  Northbound Right-Turn – AM and PM Peak Hour
  Southbound Right-Turn – PM Peak Hour
  Eastbound Right-Turn – AM and PM Peak Hour
  Westbound Left-Turn – PM Peak Hour
- Int. 8 – Pioneer Boulevard/SR-91 Freeway Eastbound Off-Ramp-Frampton Court:
  Southbound Left-Turn – AM Peak Hour
  Westbound Right-Turn – AM and PM Peak Hours

4.5.4 *Future With Project Conditions*

As presented in column [d] of *Table 4-2*, the proposed project is expected to cause or significantly contribute towards unacceptable or extended queuing at two (2) of the eight (8) study intersections under future with project conditions. The following study intersections are calculated to have unacceptable or extended project-generated queuing for the movements and peak hours shown below:

- Int. 4 – Gridley Road/South Street: Northbound Left-Turn – PM Peak Hour

Southbound Right-Turn – PM Peak Hour
Eastbound Left-Turn – AM and PM Peak Hours

- Int. 8 – Pioneer Boulevard/SR-91 Freeway Eastbound Off-Ramp-Frampton Court:
  Southbound Left-Turn – AM Peak Hour

Increases in queuing for certain traffic movements due to the addition of project-generated traffic are generally calculated to occur at the remaining six (6) study intersections under future with project conditions. However, the calculated increases are not expected to cause a queue which was previously adequately accommodated to exceed the available storage space, nor result in the addition of 25 or more feet (i.e., one or more vehicles) to an already extended queue.

The improvements recommended to address the vehicular queuing at each of the study intersections where project-generated traffic is expected to cause or significantly contribute towards unacceptable or extended queuing are discussed in detail below. The intersection LOS and queuing expected to occur as a result of the recommended improvements are presented in ***Table 4-3***.

4.5.5 *Intersection 4 – Pioneer Boulevard/South Street*

Unacceptable or extended queuing due to the addition of project-generated traffic is calculated to occur for the northbound left-turn, southbound right-turn, and eastbound left-turn movements. Protected phases are currently provided for all left-turn movements at the intersection. Storage space for the northbound left-turn movement is constrained by the presence of the existing Los Angeles County Fire Station No. 30 and the associated emergency access signal and "Keep Clear" pavement markings provided on Pioneer Boulevard south of South Street. Storage space for the eastbound left-turn movement is constrained by the presence of an existing raised median island which is currently improved with landscaping. The southbound right-turn lane is a de-facto turn lane, as documented in field observations of existing driver behavior at the intersection. Therefore, no formal storage space is currently provided for the southbound right-turn movement.

In order to reduce the northbound left-turn and eastbound left-turn queues, it is recommended that the traffic signal timing and phasing be modified. The amount of time ("phase splits") provided for the various movements can be optimized to reduce queuing while maintaining LOS D or better during the weekday AM and PM peak hours. The phase sequence can likewise be optimized to provide consistent lagging left-turn phases at the intersection (i.e., a lag left-turn phase will activate towards the end of the portion of the signal cycle provided for the subject roadway instead of activating concurrently with the opposing left-turn phase at the beginning of the cycle). An analysis based on the HCM methodologies indicates that providing a lagging northbound left-turn and eastbound left-turn is expected to result in additional improvements in signal operations. As shown in *Table 4-3*, these signal timing and phasing improvements are expected to reduce the northbound left-turn queue to 153 feet during the PM peak hour. While this still exceeds the formally striped storage area for the northbound left-turn lane, it is not expected to extend into the marked "Keep

Table 4-3
SUMMARY OF INTERSECTION OPERATIONS AFTER IMPROVEMENTS

NO.	INTERSECTION	TRAFFIC CONTROL	DELAYS AND LEVELS OF SERVICE [1]				95TH PERCENTILE QUEUE (FT) [2]					
			FUTURE 2045 WITH PROJECT		FUTURE 2045 WITH PROJECT & IMPROVEMENTS		MOVE-MENT	STORAGE LENGTH (FT) [3]	FUTURE 2045 WITH PROJECT		FUTURE 2045 WITH PROJECT & IMPROVEMENTS	
			AM	PM	AM	PM			AM	PM	AM	PM
4	Pioneer Boulevard/ South Street	Signal	27.7 C	37.2 D	33.5 C	36.7 D	NBL	135	90	285	60	153
							NBT	500	68	123	65	118
							NBR	50 [4]	63	145	60	140
							SBL	140	63	120	65	115
							SBT	430	38	155	150	170
							SBR	50 [4]	40	218	165	205
							EBL	95	155	130	130	120
							EBT	275	150	323	153	350
							EBR	50 [4]	65	145	65	140
							WBL	160	88	198	88	198
							WBT	500	295	308	320	350
							WBR	50 [4]	40	60	40	63
8	Pioneer Boulevard/ SR-91 Freeway EB Off-Ramp-Frampton Court	Signal	54.9 D	37.6 D	54.5 D	41.9 D	NBT	500	240	290	323	335
							NBR	500	265	328	378	390
							SBL	100	283	15	140	10
							SBT	500	325	263	318	260
							EBL	[5]	--	--	--	--
							EBR	[5]	--	--	--	--
							WBL	100	5	13	5	13
							WBR	100	373	183	373	183

[1] Intersection level of service analysis based on the Highway Capacity Manual, 7th Edition operational analysis methodology for signalized intersections.

[2] Intersection vehicle queuing analysis based on the Highway Capacity Manual, 7th Edition operational analysis methodology for signalized intersections. The 95th percentile queue is the maximum back of queue with 95th percentile volumes.The HCM 7th Edition methodology worksheets report queues in number of vehicles per lane. A length of 25 feet per queued vehicle (including vehicle separation) was assumed for analysis purposes. The reported queues therefore represent the calculated maximum back of queue in feet.

[3] Storage length measured from aerial photographs obtained from Google Earth, 2024, and as verified by field review. Storage length for through and shared through/turn movements represents the distance to the nearest adjacent upstream intersection or 500 feet, whichever is less.

[4] De-facto right-turn lane. No formal storage space is provided. A storage length of 50 feet (corresponding to two queued vehicles) is shown for comparison purposes.

[5] The vehicular queuing associated with the freeway off-ramp at this location is assessed in *Section 5.0, California Department of Transportation Analysis.*

Clear" zone which begins approximately 210 feet south of the intersection. The excess 18 feet (less than one vehicle) of queuing which cannot be accommodated with the existing turn lane can be accommodated in the striped taper area which transitions into a two-way left-turn lane south of the intersection.

The signal improvements are also expected to reduce the eastbound left-turn queue to 130 feet during the AM peak hour and 120 feet during the PM peak hour, which still exceeds the formally striped turn lane and could impede the flow of traffic in the adjacent travel lane. It is recommended that the raised median island on South Street west of Pioneer Boulevard should be modified to extend the eastbound turn lane by 35 feet in order to provide a total of 130 feet of storage space.

In order to accommodate the southbound right-turn queue, it is recommended that the southbound approach be restriped to provide a dedicated right-turn lane. As a result of the signal timing modifications recommended above, the right-turn lane queue is calculated to decrease to a total of 205 feet during the PM peak hour. Therefore, the dedicated right-turn lane may be striped to provide up to 210 feet of storage space. This improvement is expected to result in the loss of approximately three (3) free on-street parking spaces. However, right-turn queues do not typically interfere with intersection operations, as right-turning vehicles which exceed the storage space and extend into mainline travel lanes are generally permitted into and through the intersection at the same time as the adjacent through traffic movement. The presence of No Right Turn on Red restrictions or substantial pedestrian volumes may restrict the movement capacity for right-turning vehicles, however neither condition is expected at the subject intersection. Therefore, the City of Artesia may consider the length of the dedicated right-turn lane in the context of existing and proposed development as well as other multi-modal infrastructure projects planned for the roadway. A right-turn overlap phase (i.e., a green right-turn arrow is provided to the right-turning movement during a corresponding protected left-turn phase on the conflicting roadway, such as a southbound right-turn overlap phase occurring with a protected eastbound left-turn phase) provided along with the dedicated right-turn lane may further reduce the southbound right-turn queue. However, an analysis based on the HCM methodologies indicates that providing a southbound right-turn overlap is expected to result in only modest improvements to the southbound right-turn queue. The City of Artesia may consider costs, length of the dedicated right-turn lane[13], and other multi-modal infrastructure projects planned for the roadway when considering providing a southbound right-turn overlap phase.

Implementation of signal timing and phasing modifications, modification of the median island to accommodate additional eastbound left-turn storage space, and striping of a dedicated right-turn

[13] Right-turn overlap phases are typically provided in conjunction with substantial dedicated turn-lanes in order to effectively aggregate and serve the right-turn demand. For example, a southbound right-turn overlap phase is provided at Gridley Road/South Street, along with a 275-foot dedicated turn-lane. A right-turn overlap phase paired with a 25-foot turn pocket would not be effective in serving the right-turn demand.

lane as described above are expected to adequately accommodate the calculated queues forecast for project buildout under future with project conditions.

The City of Artesia should ensure that the recommended improvements are constructed at such time as when a focused queuing assessment prepared for a proposed development project indicates that the vehicle queues will exceed the available storage space, specifically for the eastbound left-turn and southbound right-turn movements. The City of Artesia may require developers to provide fair-share contributions towards the improvements or may require an impact fee for all developments in the proposed project area in order to fund the construction of the recommended improvements.

4.5.6 *Intersection 8 – Pioneer Boulevard/SR-91 Freeway Eastbound Off-Ramp-Frampton Court*

Unacceptable or extended queuing due to the addition of project-generated traffic is calculated to occur for the southbound left-turn movement. A permissive left-turn phase is currently provided for the southbound left-turn at the intersection. Storage space for the southbound left-turn lane is constrained by the presence of an existing raised median island which is currently improved with landscaping and decorative concrete.

In order to reduce the southbound left-turn queue, it is recommended that the traffic signal timing and phasing be modified. The amount of time ("phase splits") provided for the various movements can be optimized to reduce queuing while maintaining LOS D or better during the weekday AM and PM peak hours. The phase sequence can likewise be optimized to provide protected-permissive left-turn phasing for the southbound left-turn movement (i.e., a green left-turn arrow is provided at the beginning of the signal cycle, after which a standard green indication is provided, requiring left-turning drivers to yield to oncoming traffic prior to completing the turn). As shown in *Table 4-3*, these signal improvements are expected to reduce the southbound left-turn queue to 140 feet during the AM peak hour. However, the queue would still exceed the formally striped turn lane and could impede the flow of traffic in the adjacent travel lane. It is therefore recommended that the raised median island on Pioneer Boulevard north of the SR-91 Freeway Eastbound Off-Ramp-Frampton Court should be modified to extend the southbound left-turn lane by 40 feet in order to provide a total of 140 feet of storage space.

It is further noted that the proposed signal timing and phasing improvements may affect the operations of the freeway off-ramp. In order to maintain acceptable operations for the off-ramp, it is recommended that the existing off-ramp lanes be reassigned. Currently, the off-ramp is striped to provide one eastbound left-turn lane and one shared through/right-turn lane. Based on a review of the existing and future with project traffic volumes, it is noted that the right-turning volumes exceed left-turning volumes during both the weekday AM and PM peak hours. Through traffic movements in the shared through/right-turn lane likely interfere with the ability of right-turning motorists to conduct a Right-Turn on Red maneuver when at the head of the queue. It is therefore recommended to reassign the off-ramp lanes in order to provide one shared left-turn/through lane

and one right-turn lane. This modification is expected to reduce delay and queueing for right-turning motorists without significant detriment to left-turning motorists.

Implementation of signal timing and phasing modifications, modification of the median island to accommodate additional southbound left-turn storage space, and lane reassignment of the freeway off-ramp lanes as described above are expected to adequately accommodate the calculated queues forecast for project buildout under future with project conditions.

Since the intersection is under the joint jurisdiction of the City of Artesia and Caltrans, and as Caltrans operates the signal and retains control of the off-ramp approach, improvements at the study intersection will require approval from Caltrans prior to implementation. Should Caltrans reject the recommended improvements, extended queuing may continue to occur for the southbound left-turn movement.

5.0 CALIFORNIA DEPARTMENT OF TRANSPORTATION ANALYSIS

Caltrans has released the TISG and the Interim Safety Review Practitioners Guidance in order to provide guidance on Caltrans' review of land use projects. The Interim Safety Review Guidance provides direction on a simplified safety analysis approach that reduces the risk to all road users and that focuses on multi-modal conflict analysis as well as access management issues. District traffic safety staff are encouraged to consider the proposed project's potential influence on safety on state roadways, including the following factors:

- Degradation of the walking and bicycling environment and experience
- New pedestrian and bicyclist desire lines
- Multimodal conflict points, especially at intersections and project access locations
- Change in traffic composition, such as an increase in bicyclists or pedestrians, where features such as shoulders or sidewalks may not exist or are inconsistent with facility design (sidewalks, bicyclist and multi-user paths, multimodal roadways, etc.)
- Increased vehicular speeds
- Transition between free flow and metered flow

The intent of the Interim Safety Review Guidance is to provide a framework for when queueing should be reviewed for traffic safety impacts, in order to evaluate if a significant safety impact based on speed differential may occur. The Interim Safety Review Guidance acknowledges that freeway exit ramp queuing is fluid in nature, and that it is difficult to establish a nexus to any one project. Therefore, the significance of traffic safety impacts are to be determined on a case-by-case basis.

District traffic safety staff are also encouraged to review site design for access management, such as the following:

- Sight distance constraints cause by placement of a driveway
- Driveway or intersection spacing
- Queuing onto roadways caused by project access design features such as driveway placement near ramp intersections or missing left-turn pockets
- Multi-modal conflict points caused by turning vehicles
- Pedestrian and bicycle connections from the state highway to the entrance(s) of the new land use that are incomplete

The proposed project site does not take direct access from any State facility; therefore, the project has not been reviewed for factors pertaining to site access on or near state highways. However, the proposed project is expected to generate new project trips at the I-605 Freeway ramp interchange at South Street to the west of the project site and at the SR-91 Freeway ramp interchange at Pioneer Boulevard to the north of the project site. Therefore, an analysis of the project's effect on off-ramp queuing was prepared in order to determine if the project would cause, or contribute towards, slowing or stopped traffic on mainline travel lanes resulting in unsafe speed differentials between adjacent lanes. The following four (4) off-ramp locations were analyzed:

- Study Int. 5 – I-605 Freeway Southbound Off-Ramp/South Street
- Study Int. 6 – I-605 Freeway Northbound Off-Ramp/South Street
- Study Int. 7 – Pioneer Boulevard/SR-91 Freeway Westbound Off-Ramp
- Study Int. 8 – Pioneer Boulevard/SR-91 Freeway Eastbound Off-Ramp-Frampton Court

5.1 Off-Ramp Vehicle Queuing Methodology

Pursuant to prior direction from Caltrans staff, and as described in *Section 4.1*, the off-ramp queuing at the selected ramp intersections was analyzed using the HCM method for signalized intersections. The off-ramp queuing calculations were prepared using the *Synchro 12* software package which implements the HCM operational methodology. A *Synchro* network was created based on existing conditions field reviews at the above noted ramp intersections which documented lane configurations, available vehicle storage lengths, crosswalk locations, posted speed limits, etc., at each of the study intersections. Current signal timing and phasing data provided by Caltrans for the freeway ramp intersections were coded into the network and utilized in the analysis. As described in *Section 4.4.1*, the existing signal timing provided by Caltrans for Study Int. 5 – I-605 Freeway Southbound Off-Ramp/South Street was coded accurately for the analysis of existing conditions. For subsequent scenarios (i.e., existing with project, and future without and with project) an adjustment was made to the signal timing at this location based on engineering judgement.

The queuing analysis was prepared for the existing without and with project and future without and with project traffic conditions. The freeway off-ramp approach was reviewed in terms of expected maximum vehicle queues (i.e., 95th percentile queues) which represent the maximum back of vehicle queues with 95th percentile traffic volumes. The corresponding maximum vehicle queue lengths were then compared to the total ramp storage lengths (i.e., the available storage length as measured from the applicable off-ramp lane striping from the point of gore to the respective off-ramp approach limit lines). The total queuing for the off-ramp was determined based on the sum of the maximum vehicle queues for each off-ramp lane. It is noted that the HCM worksheets report vehicle queuing in number of vehicles per lane (veh/ln), therefore an average length of 25 feet per queued vehicle (including vehicle separation) was assumed for analysis

purposes. The total ramp storage length was determined based on the sum of the striped storage for all lanes provided at the off-ramp location. The corresponding weekday AM and PM peak hour HCM worksheets for purposes of determining the 95th percentile vehicle queues are contained in *Appendix D*.

5.2 Off-Ramp Vehicle Queuing Analysis

The weekday AM and PM peak hour off-ramp vehicle queuing prepared for the ramp intersections is summarized in ***Table 5-1***. As presented in *Table 5-1*, adequate storage area is provided at the I-605 Freeway southbound and northbound off-ramps at South Street and at the SR-91 Freeway westbound and eastbound off-ramps at Pioneer Boulevard to accommodate the forecast 95th percentile queues under existing and future conditions without and with project-generated traffic. The proposed project is expected to neither cause nor contribute towards vehicle queuing which extends back into the I-605 Freeway or SR-91 Freeway mainline travel lanes resulting in unsafe speed differentials between adjacent lanes. Therefore, the proposed project is not anticipated to negatively influence safety on the State Highway System.

Table 5-1
SUMMARY OF OFF-RAMP VEHICLE QUEUEING [1]

NO.	INTERSECTION	TRAFFIC CONTROL	STORAGE LENGTH (FT) [2]	95TH PERCENTILE QUEUE (FT) [3]											
				EXISTING 2024 CONDITIONS		EXCEEDS STORAGE?	EXISTING 2024 WITH PROJECT		EXCEEDS STORAGE?	FUTURE 2045 WITHOUT PROJECT		EXCEEDS STORAGE?	FUTURE 2045 WITH PROJECT		EXCEEDS STORAGE?
				AM	PM	(YES/NO)	AM	PM	(YES/NO)	AM	PM	(YES/NO)	AM	PM	(YES/NO)
5	I-605 Freeway SB Off-Ramp/ South Street	Signal	2,870	1,508	1,390	No	895	1,100	No	893	1,085	No	908	1,113	No
6	I-605 Freeway NB Off-Ramp/ South Street	Signal	1,490	756	870	No	786	1,020	No	756	870	No	786	1,020	No
7	Pioneer Boulevard/ SR-91 Freeway WB Off-Ramp	Signal	2,150	218	213	No	245	258	No	278	288	No	300	328	No
8	Pioneer Boulevard/ SR-91 Freeway EB Off-Ramp - Frampton Court	Signal	2,280	760	745	No	865	818	No	925	778	No	1,055	896	No

[1] Intersection vehicle queuing analysis based on the Highway Capacity Manual (HCM), 7th Edition operational analysis methodology for signalized intersections. The 95th percentile queue is the maximum back of queue with 95th percentile volumes.

[2] Storage length measured from aerial photographs obtained from Google Earth, 2024. Available storage represents the sum of storage space provided by all off-ramp lanes.

[3] The HCM 7th Edition methodology worksheets report queues in number of vehicles per lane. The queue in vehicles per lane is multiplied by the number of lanes in the lane group, as determined according to the HCM methodology. A length of 25 feet per queued vehicle (including vehicle separation) was assumed for analysis purposes. The reported queues therefore represent the sum of the calculated maximum back of queue in feet for all off-ramp lanes.

6.0 SUMMARY AND CONCLUSIONS

- ***Project Description –*** The Artesia Downtown Specific Plan would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district as the city prepares for the planned expansion of the new Metro Southeast Gateway Light Rail Line that would connect southeastern Los Angeles County communities, including Artesia, to Downtown Los Angeles. There are no specific development projects proposed at this time. The Artesia Downtown Specific Plan proposes six (6) new land use zones within the Specific Plan area, which will allow for a range of residential density and Floor Area Ratio (FAR) intensity. The proposed project assumed for analysis purposes is based on the potential redevelopment of certain parcels within the specific plan area, which would result in the development of a total of 1,981 residential units, approximately 105,730 square feet of office space, and approximately 397,190 square feet of commercial space.

- ***Project Trip Generation*** – The proposed project is expected to generate 1,020 net new vehicle trips (393 net new inbound trips and 627 net new outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 543 net new vehicle trips (476 net new inbound trips and 67 net new outbound trips). On a typical weekday, the proposed project is forecast to generate 1,941 net new trip ends (approximately 971 net new inbound trips and approximately 970 net new outbound trips) over a 24-hour period.

- ***Intersection LOS Analysis*** – A total of eight (8) study intersections were reviewed to determine the proposed project's effect on weekday AM and PM peak hour LOS. The intersections were evaluated using the HCM methodology to determine intersection LOS under existing, existing with project, future without project, and future with project traffic conditions. All study intersections are forecast to operate at an acceptable LOS (i.e., LOS D or better) with the addition of project-generated traffic.

- ***Intersection Queuing Analysis*** – The eight (8) study intersections were reviewed to determine if the addition of project-generated traffic would result in unacceptable or extended vehicle queuing. The intersections were evaluated using the HCM methodology to calculate queuing for all traffic movements under existing, existing with project, future without project, and future with project traffic conditions. The proposed project is expected to cause or significantly contribute towards unacceptable or extended queuing at two (2) study intersections: Study Int. 4 – Pioneer Boulevard/South Street; and Study Int. 8 – Pioneer Boulevard/SR-91 Freeway Eastbound Off-Ramp-Frampton Court.

- ***Recommended Queuing Improvements*** – Improvements are recommended for each of the study intersections where project-generated traffic is expected to cause or significantly contribute towards unacceptable or extended queuing. At Study Int. 4 – Pioneer Boulevard/South Street, modifications to the signal timing and phasing to optimize the phase

splits and provide lagging left-turn phases for the northbound and eastbound left-turn movements, modification of the existing raised median island to provide an additional 35 feet of queue storage space for the eastbound left-turn, and striping of a dedicated southbound right-turn lane are expected to adequately accommodate the calculated queues forecast for project buildout under future with project conditions. At Study Int. 8 – Pioneer Boulevard/SR-91 Freeway Eastbound Off-Ramp-Frampton Court, modifications to the signal timing and phasing to optimize the phase splits and provide a protected-permissive southbound left-turn phasing, modification of the existing raised median island to provide an additional 40 feet of queue storage space for the southbound left-turn, and reassignment of the off-ramp lanes to provide one shared left-turn/through lane and one right-turn lane are expected to adequately accommodate the calculated queues forecast for project buildout under future with project conditions.

- ***Caltrans Analysis*** – Pursuant to the direction provided in the "Interim LD-IGR Safety Review Practitioners Guidance," an analysis of the project's effect on off-ramp queuing at the I-605 Freeway interchange with South Street and the SR-91 Freeway interchange with Pioneer Boulevard (i.e., Study Ints. 5, 6, 7 and 8) determined that the proposed project is not expected to cause or contribute towards vehicle queuing which extends back into the I-605 Freeway or SR-91 Freeway mainline travel lanes.

APPENDIX A

APPROVED TRANSPORTATION IMPACT STUDY SCOPE OF WORK

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MEMORANDUM

To:	Karen Lee, Special Projects Manager City of Artesia	Date:	April 5, 2024
From:	Grace Turney, P.E., RSP1 Francesca Bravo LLG Engineers	LLG Ref:	1-23-4585-1
Subject:	Artesia Downtown Specific Plan – Transportation Impact Study Scope of Work		

Linscott, Law and Greenspan, Engineers (LLG) is pleased to submit the following Transportation Impact Study Scope of Work for the Artesia Downtown Specific Plan (DTSP) project ("proposed project") for review and approval.

TRANSPORTATION IMPACT STUDY SCOPE OF WORK

The Transportation Impact Study (TIS) for the Artesia DTSP Environmental Impact Report (EIR) will be prepared according to the analysis and significance criteria outlined in the Los Angeles County Public Works "Transportation Impact Analysis Guidelines" ("Guidelines"), July 2020. In compliance with the Guidelines, the proposed TIS will be prepared using appropriate VMT screening, analysis methodologies, and thresholds of significance. The applicable non-CEQA site access and circulation studies set forth in the Guidelines will also be prepared and provided in a separate Local Transportation Assessment study.

PROJECT DESCRIPTION

A. Project Description: The TIS will evaluate the preferred CEQA Alternative Project: Redevelopment with Commercial Incentives Utilized (Density Bonus), as identified in the "Artesia Downtown Specific Plan Buildout Memo", dated December 11, 2023, prepared by PlaceWorks. The Artesia DTSP area is located within ½-mile of the future Metro Southeast Gateway Light Rail Line Pioneer Station. The identified Project includes land use and zoning changes that would allow for development of 1,981 new residential units and 502,919 square feet of new commercial and non-residential development. The proposed rezoning and identified potential future redevelopment parcels are displayed in ***Figure 1***. The proposed Project includes estimates for full redevelopment of selected sites. The Project assumes the development of commercial uses (at 20 percent of the land, assuming at least 2 stories) results in increased residential density through density bonus. The proposed buildout by proposed zone is summarized in ***Table 1*** below. The assumed buildout year for the proposed Project is year 2045.

Table 1
PROPOSED PROJECT BUILDOUT BY PROPOSED ZONE [1]

Proposed Zone	Maximum Buildout of Units on Selected Sites[1]
Station Mixed Use	150 DU
South Street Mixed Use	1,094 DU
Pioneer Boulevard Mixed Use	90 DU
183rd Street Mixed Use	634 DU
Downtown Housing (housing only)	13 DU
Mobile Home Park	0 DU
Commercial as Mixed Use[2]	502,936 SF
Total Residential **Total Commercial**	**1,981 DU** **502,919 SF**

1. On sites where commercial uses are identified for 20% of the site, the residential units total the density multiplied by the remaining acreage at 80%.
2. Commercial buildout assumes 20% of land at a minimum of 2 stories on selected sites in the South St. Mixed Use, 183rd St. Mixed Use, and the Pioneer Blvd. Mixed Use zones.

[1] Proposed Project Buildout provided by PlaceWorks, December 2023.

CEQA SCOPE OF WORK

B. Vehicle Miles Traveled (VMT) Screening: LLG has reviewed the screening criteria set forth in the Los Angeles County Guidelines. Projects which satisfy any one of the screening criteria can be determined to have a less than significant transportation impact without providing further VMT analysis. The Guidelines provide screening criteria based on daily trip generation, size of local-serving retail, proximity to high quality transit, and provision of affordable housing.

Based on a review of the screening criteria, the proposed Project is not expected to be screened from further VMT analysis. It is noted that the Artesia DTSP area falls within ½-mile of the future Metro Pioneer Station, and therefore potentially would qualify for the proximity to transit screening criteria. However, the Guidelines include secondary screening questions which require project-specific information (e.g., proposed Floor Area Ratio, proposed parking, consistency with RTP/SCS, and replacement of affordable housing with market-rate dwelling units). Since the answers to these questions cannot be determined at the redevelopment parcel-level during the preparation and adoption of the Artesia DTSP, and further since the proposed Specific Plan consists of rezoning of various parcels, it is conservatively concluded that the proposed Project does not meet the screening criteria, and will be required to provide quantitative VMT analysis in order to determine the significance of transportation impacts.

C. VMT Thresholds: According to the Los Angeles County Guidelines, a Land Use Plan has a potentially significant impact if it meets the criteria listed below:

- The plan total VMT per service population[1] (residents and employees) would not be 16.8% below the existing VMT per service population for the Baseline Area in which the plan is located.

D. VMT Methodology: The VMT analysis will be conducted using the Southern California Association of Governments' (SCAG) current Regional Travel Demand Model (RTDM), which includes a baseline year of 2016 and a future year of 2045. The proposed Project development totals will be converted into socio-economic data (SED). The SED for the appropriate Transportation Analysis Zones (TAZs) will be updated to reflect full buildout of the proposed project.

E. VMT Mitigation: If a significant transportation impact is identified through the above-described analysis, potential VMT mitigation measures will be identified which could reduce the VMT impact to less than significant levels. LLG will review the transportation demand management (TDM) strategies provided in the California Air Pollution Control Officer's Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (2021)*, which provides substantial evidence for calculating the reduction in VMT associated with each measure.

NON-CEQA SITE ACCESS STUDIES

LLG will prepare an operational analysis of nearby intersections in order to determine the proposed Project's effects on circulation in the vicinity of the Specific Plan area (i.e., vehicular delay and queueing). While not required for CEQA, the local transportation analysis is provided for informational purposes in support of the City of Artesia's discretionary review of the proposed Project.

F. Project Study Area: The following eight (8) study locations have been identified for intersection operational evaluation, including four (4) intersections in the vicinity of the specific plan area and four (4) freeway ramp intersections which will be analyzed for potential impacts to freeway off-ramp queuing (refer to *Item J* below). The study locations which have been selected are expected to be integral to access and circulation in the specific plan area. The location of the study intersections is presented in ***Figure 2***, and listed below:

1. Gridley Road/South Street (City of Cerritos)
2. Pioneer Boulevard/183rd Street (City of Artesia)

[1] Service population is the sum of the number of residents and the number of employees.

3. Pioneer Boulevard/187th Street (City of Artesia)
4. Pioneer Boulevard/South Street (City of Artesia)
5. I-605 Freeway Southbound Off-Ramp/South Street (City of Cerritos/Caltrans)
6. I-605 Freeway Northbound Off-Ramp/South Street (City of Cerritos/Caltrans)
7. Pioneer Boulevard/SR-91 Freeway Westbound Off-Ramp (City of Artesia/Caltrans)
8. Pioneer Boulevard/SR-91 Freeway Eastbound Off-Ramp (City of Artesia/Caltrans)

G. Traffic Counts

New traffic counts will be collected in April 2024, when local schools are in session. The manual intersection turning movement counts will be conducted during the weekday morning (7:00 to 9:00 AM) and afternoon (4:00 to 6:00 PM) peak commute periods for each of the eight study intersections identified in *Item F*.

H. Project Trip Generation

Traffic volumes to be generated by the proposed project were forecast for the weekday AM and PM peak hours, and over a 24-hour period. Trip generation rates provided in the Institute of Transportation Engineers' (ITE) Trip Generation Manual were utilized to forecast vehicular traffic generation for existing conditions, in order to identify the net change resulting from the proposed project. Specifically, the following land use trip rates were utilized to forecast the traffic volumes generated by the existing land uses present on each of the parcels identified for redevelopment:

- ITE Land Use 110: General Light Industrial
- ITE Land Use 210: Single-Family Detached Housing
- ITE Land Use 220: Multifamily Housing (Low Rise) (Not Close to Rail Transit)
- ITE Land Use 710: General Office Building
- ITE Land Use 821: Shopping Plaza (40-150K) (No Supermarket)
- ITE Land Use 822: Strip Retail Plaza (<40K)

The trip generation forecast for the existing land uses provided on the proposed rezone parcels is summarized in ***Table 2 – Existing Conditions Trip Generation Forecast***. It should be noted that the trip generation forecast was prepared based on four (4) transportation analysis subareas. The boundaries of the subareas were determined based on the intersection of the Artesia DTSP area and the Tier 2 TAZs utilized in the SCAG RTDM. The subareas are displayed in ***Figure 3***.

The following land use trip rates were utilized to forecast the traffic volumes expected to be generated by the proposed specific plan land uses on the redevelopment parcels:

- ITE Land Use 220: Multifamily Housing (Low-Rise) (Close to Rail Transit)

- ITE Land Use 310: Hotel
- ITE Land Use 710: General Office Building
- ITE Land Use 821: Shopping Plaza (40-150K) (No Supermarket)
- ITE Land Use 822: Strip Retail Plaza (<40K)
- ITE Land Use 931: Fine Dining Restaurant
- ITE Land Use 932: High-Turnover (Sit-Down) Restaurant

It should be noted that the trip generation rates utilized for forecasting purposes are based on single-use stand-alone sites in suburban contexts, which generate primarily vehicular traffic. However, in locations which have a variety of complimentary land uses, there is the potential for interaction among those uses, particularly where trips between uses can be made via active transportation modes such as walking or biking. Therefore, the total trip generation is typically less than the trips forecast for each land use as a stand-alone use.

A 25% trip reduction adjustment has been applied to the proposed project trip generation forecast for all proposed land uses in order to reflect the mixed-use nature of the proposed zoning and land use assumptions[2]. The adjustment accounts for the synergy among the specific plan land uses which is expected to result in increased activation and walkability in the Downtown Artesia area. The mixed-use nature of the proposed Specific Plan will allow for shorter trips between various land use components to be completed on foot or by bicycle, resulting in fewer vehicular trips than would be forecast for each land use component on a stand-alone basis.

In addition, a 10% adjustment has been applied to the proposed non-residential land uses in order to reflect the anticipated use of light-rail transit in the specific plan area upon completion of the Metro Southwest Gateway Line[3]. The specific plan area falls within 0.5-miles of the planned Southeast Gateway Line Pioneer Station. Similar to the existing use trip forecast, the proposed project trip forecast was prepared for each of the four (4) transportation analysis subareas.

The trips generated by the existing land uses on the redevelopment parcels are assumed to be removed in order to accommodate full build-out of the Specific Plan. Therefore, the existing trips have been applied as a credit towards the proposed project's trip generation forecast.

[2] LLG reviewed the methodology provided in NCHRP Report 684 in order to estimate the potential trip reductions which can be expected due to the mixed-use nature of the specific plan. The proposed mix of land uses would be expected to result in up to 50% fewer trips during the PM peak hour. A 25% trip reduction was applied to daily as well as AM and PM peak hour trips in order to provide a conservative trip forecast.

[3] A 10% transit reduction is consistent with typical practice in the Southern California region. Many agencies, including the City of Los Angeles, allow between 10 and 25% transit reductions for projects located within 0.5-miles of major transit facilities such as light rail stations. A 10% trip reduction was applied in order to provide a conservative trip forecast.

The trip generation forecast for the proposed project is summarized in ***Table 3 – Specific Plan Trip Generation Forecast***. As presented in *Table 3*, the proposed project is expected to generate 1,235 net new vehicle trips (520 net new inbound trips and 715 net new outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 835 net new vehicle trips (634 net new inbound trips and 201 net new outbound trips). Over a 24-hour period, the proposed project is forecast to generate 5,421 net new trip ends during a typical weekday (approximately 2,711 net new inbound trips and approximately 2,710 net new outbound trips).

The net new vehicle trips will be assigned to the study locations. Distribution patterns will be prepared for residential and non-residential land uses for each transportation analysis subarea. The distribution patterns will be prepared based on the location and intensity of potential re-development sites within each subarea, and will reflect the anticipated turning movements at each location required to access each subarea.

I. Future Traffic Volume Forecasts

Future traffic volumes will be estimated based on the SCAG RTDM for future year 2045. The model data will be post-processed in order to determine future intersection turning movement volumes without the proposed project.

J. Caltrans Facilities Analysis

In compliance with CEQA, Caltrans also now requires VMT-based analysis of land use projects and plans. Caltrans' Vehicle Miles Traveled-Focused Transportation Impact Study Guidelines (dated May 20, 2020) states that Caltrans will review and comment on impact determinations which are consistent with OPR's Technical Advisory and State greenhouse gas (GHG) emissions goals. The VMT analysis prepared for the City of Artesia will be consistent with the Technical Advisory and State GHG goals, and therefore no separate VMT analysis will be prepared for Caltrans. However, Caltrans has also released the Interim Land Development and Intergovernmental Review (LD-IGR) Safety Review Practitioner's Guide (dated July 2020), which requires a detailed safety review for land use projects or plans which are expected to affect the State Highway System. Therefore, based on the specific plan's location and proximity to the I-605 and SR-91 Freeways, existing and future year analyses will be prepared for the I-605 Freeway/South Street and SR-91 Freeway/Pioneer Boulevard ramp intersections (Study Intersection Nos. 5-8 in *Item F* above) in order to address any potential impacts in accordance with the Interim LD-IGR Safety Review Practitioner's Guide.

K. Transportation Impact Study

LLG will prepare a Transportation Impact Study in technical memorandum format which summarizes the above-mentioned CEQA-compliant VMT impact analysis, including our

analysis, findings, and conclusions. The Transportation Impact Study will be suitably documented with tables, figures, and appendix materials.

LLG will also prepare a separate Local Transportation Assessment in report format which summarizes the above-mentioned non-CEQA site access studies, including our analysis, findings, and conclusions. The Local Transportation Assessment will be suitably documented with tables, figures, and appendix materials.

Please feel free to call us at 626.796.2322 if you have any questions, comments or suggested revisions regarding the above. Thank you!

Attachments

c: Addie Farrell, PlaceWorks
Jennifer Kelly, PlaceWorks

Table 2
EXISTING USE TRIP GENERATION FORECAST [1]
Summary for All Subareas

TRIP GENERATION RATES [1]									
	ITE LAND USE		WEEKDAY	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
ITE LAND USE CATEGORY	CODE	VARIABLE	DAILY	IN (%)	OUT (%)	TOTAL	IN (%)	OUT (%)	TOTAL
General Light Industrial	110	Per 1,000 SF	4.87	88%	12%	0.74	13%	87%	0.65
Single-Family Detached Housing	210	Per Dwelling Unit	9.43	26%	74%	0.70	63%	37%	0.94
Multifamily Housing (Low Rise) (Not Close to Rail Transit)	220	Per Dwelling Unit	6.74	24%	76%	0.40	63%	37%	0.51
General Office Building	710	Per 1,000 SF	10.84	88%	12%	1.52	17%	83%	1.44
Shopping Plaza (40-150K) (No Supermarket)	821	Per 1,000 SF	67.52	62%	38%	1.73	49%	51%	5.19
Strip Retail Plaza (<40K)	822	Per 1,000 SF	54.45	60%	40%	2.36	50%	50%	6.59

PROJECT TRIP GENERATION FORECAST									
	ITE LAND USE		DAILY TRIP ENDS [2]	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
LAND USE	CODE	SIZE	VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
Subarea 1									
Multi-Family Residential	220	6 DU	40	0	2	2	2	1	3
Commercial General	822	38,231 SF	2,082	54	36	90	126	126	252
Service & Professional	710	3,252 SF	35	4	1	5	1	4	5
			2,157	*58*	*39*	*97*	*129*	*131*	*260*
Subarea 2									
Commercial General	821	89,366 SF	6,034	96	59	155	227	237	464
Subarea 3									
Single Family Residential	210	3 DU	28	1	1	2	2	1	3
Multi-Family Residential	220	9 DU	61	1	3	4	3	2	5
South Street Specific Plan [3]	710	40,170 SF	435	54	7	61	10	48	58
South Street Specific Plan [3]	821	40,170 SF	2,712	43	26	69	102	106	208
Commercial Planned Development	821	100,389 SF	6,778	108	66	174	255	266	521
Commercial General	821	79,581 SF	5,373	86	52	138	202	211	413
Light Industrial	110	26,379 SF	128	18	2	20	2	15	17
			15,487	*310*	*156*	*466*	*574*	*648*	*1,222*
Subarea 4									
Single Family Residential	210	1 DU	9	0	1	1	1	0	1
Commercial General	822	6,480 SF	353	9	6	15	22	21	43
			362	*9*	*7*	*16*	*23*	*21*	*44*
Total Existing Uses			***24,040***	***473***	***261***	***734***	***953***	***1,037***	***1,990***

[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] The South Street Specific Plan is assumed to consist of 50% service and professional land uses and 50% retail land uses.

Table 3
SPECIFIC PLAN TRIP GENERATION FORECAST [1]
Summary for All Subareas

TRIP GENERATION RATES [1]									
	ITE			WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
ITE LAND USE CATEGORY	LAND USE CODE	VARIABLE	WEEKDAY DAILY	IN (%)	OUT (%)	TOTAL	IN (%)	OUT (%)	TOTAL
Multifamily Housing (Low Rise) (Close to Rail Transit)	220	Per Dwelling Unit	4.72	29%	71%	0.38	60%	40%	0.61
Hotel	310	Per Room	7.99	56%	44%	0.46	51%	49%	0.59
General Office Building	710	Per 1,000 SF	10.84	88%	12%	1.52	17%	83%	1.44
Shopping Plaza (40-150K) No Supermarket	821	Per 1,000 SF	67.52	62%	38%	1.73	49%	51%	5.19
Strip Retail Plaza (<40K)	822	Per 1,000 SF	54.45	60%	40%	2.36	50%	50%	6.59
Fine Dining Restaurant	931	Per 1,000 SF	83.84	50%	50%	0.73	67%	33%	7.80
High-Turnover (Sit-Down) Restaurant	932	Per 1,000 SF	107.20	55%	45%	9.57	61%	39%	9.05

PROJECT TRIP GENERATION FORECAST									
	ITE		DAILY TRIP ENDS [2]	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
LAND USE	LAND USE CODE	SIZE	VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
Subarea 1									
Multi-Family Residential	220	203 DU	958	22	55	77	74	50	124
General Office	710	14,867 SF	161	20	3	23	4	17	21
Retail [3]	822	22,301 SF	1,214	32	21	53	74	73	147
Fine Dining Restaurant [4]	931	3,345 SF	280	1	1	2	17	9	26
High-Turnover (Sit-Down) Restaurant [4]	932	18,956 SF	2,032	100	81	181	105	67	172
Less 25% Mixed-Use TOD Adjustment [5]			(1,161)	(44)	(40)	(84)	(69)	(54)	(123)
Less 10% Transit Adjustment [6]			(369)	(15)	(11)	(26)	(20)	(17)	(37)
			3,115	*116*	*110*	*226*	*185*	*145*	*330*
Subarea 2									
Multi-Family Residential	220	431 DU	2,034	48	116	164	158	105	263
General Office	710	31,620 SF	343	42	6	48	8	38	46
Retail	821	47,430 SF	3,202	51	31	82	121	125	246
Fine Dining Restaurant [4]	931	7,115 SF	597	3	2	5	37	18	55
High-Turnover (Sit-Down) Restaurant [4]	932	40,315 SF	4,322	212	174	386	223	142	365
Less 25% Mixed-Use TOD Adjustment [5]			(2,625)	(89)	(82)	(171)	(137)	(107)	(244)
Less 10% Transit Adjustment [6]			(846)	(31)	(21)	(52)	(39)	(32)	(71)
			7,027	*236*	*226*	*462*	*371*	*289*	*660*
Subarea 3									
Multi-Family Residential	220	1,322 DU	6,240	146	356	502	484	322	806
Hotel	310	150 Rooms	1,199	39	30	69	45	44	89
General Office	710	77,592 SF	841	104	14	118	19	93	112
Retail	821	116,388 SF	7,859	125	76	201	296	308	604
Fine Dining Restaurant [4]	931	17,458 SF	1,464	7	6	13	91	45	136
High-Turnover (Sit-Down) Restaurant [4]	932	98,930 SF	10,605	521	426	947	546	349	895
Less 25% Mixed-Use TOD Adjustment [5]			(7,052)	(236)	(227)	(463)	(370)	(290)	(660)
Less 10% Transit Adjustment [6]			(2,197)	(80)	(55)	(135)	(100)	(84)	(184)
			18,959	*626*	*626*	*1,252*	*1,011*	*787*	*1,798*
Subarea 4									
Multi-Family Residential	220	25 DU	118	3	7	10	9	6	15
General Office	710	1,651 SF	18	3	0	3	0	2	2
Retail	822	2,476 SF	135	4	2	6	8	8	16
High-Turnover (Sit-Down) Restaurant [4]	932	2,476 SF	265	13	11	24	13	9	22
Less 25% Mixed-Use TOD Adjustment [5]			(134)	(6)	(5)	(11)	(8)	(6)	(14)
Less 10% Transit Adjustment [6]			(42)	(2)	(1)	(3)	(2)	(2)	(4)
			360	*15*	*14*	*29*	*20*	*17*	*37*
Subtotal Specific Plan Buildout			*29,461*	*993*	*976*	*1,969*	*1,587*	*1,238*	*2,825*
Less Existing Uses (Refer to Table 2)			(24,040)	(473)	(261)	(734)	(953)	(1,037)	(1,990)
NET NEW PROJECT TRIPS			***5,421***	***520***	***715***	***1,235***	***634***	***201***	***835***

[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] The size of this project component reflects the sum of all proposed square-footage in the subject area. Individual developments are anticipated to be less than 40,000 square feet, therefore the trip rates provided for ITE Land Use 822: Strip Retail Plaza (<40K) have been applied.
[4] The total restaurant space within each subarea was assumed to consist of 15% quality and fine dining restaurant space and 85% high-turnover (sit-down) restaurant space. Total restaurant space under 2,500 square feet was assumed to consist of high-turnover (sit-down) restaurant only.
[5] A 25% mixed-use adjustment has been applied to all specific plan land uses. The adjustment accounts for the synergistic nature of the proposed mixed-use zoning included in the specific plan, which is expected to result in increased walkability in the Downtown Artesia area. The mixed-use nature of the Specific Plan will allow for shorter trips between various land use components to be completed on foot or by bicycle, resulting in fewer vehicular trips compared to the trips which would be generated by the land use components on a stand-alone basis.
[6] A 10% transit adjustment has been applied to all non-residential land uses. The transit adjustment reflects the anticipated use of light-rail transit in the specific plan area upon completion of the Metro Southeast Gateway Light-Rail Line. It is noted that the Specific Plan area falls within 1/2 mile of the planned Artesia Station.

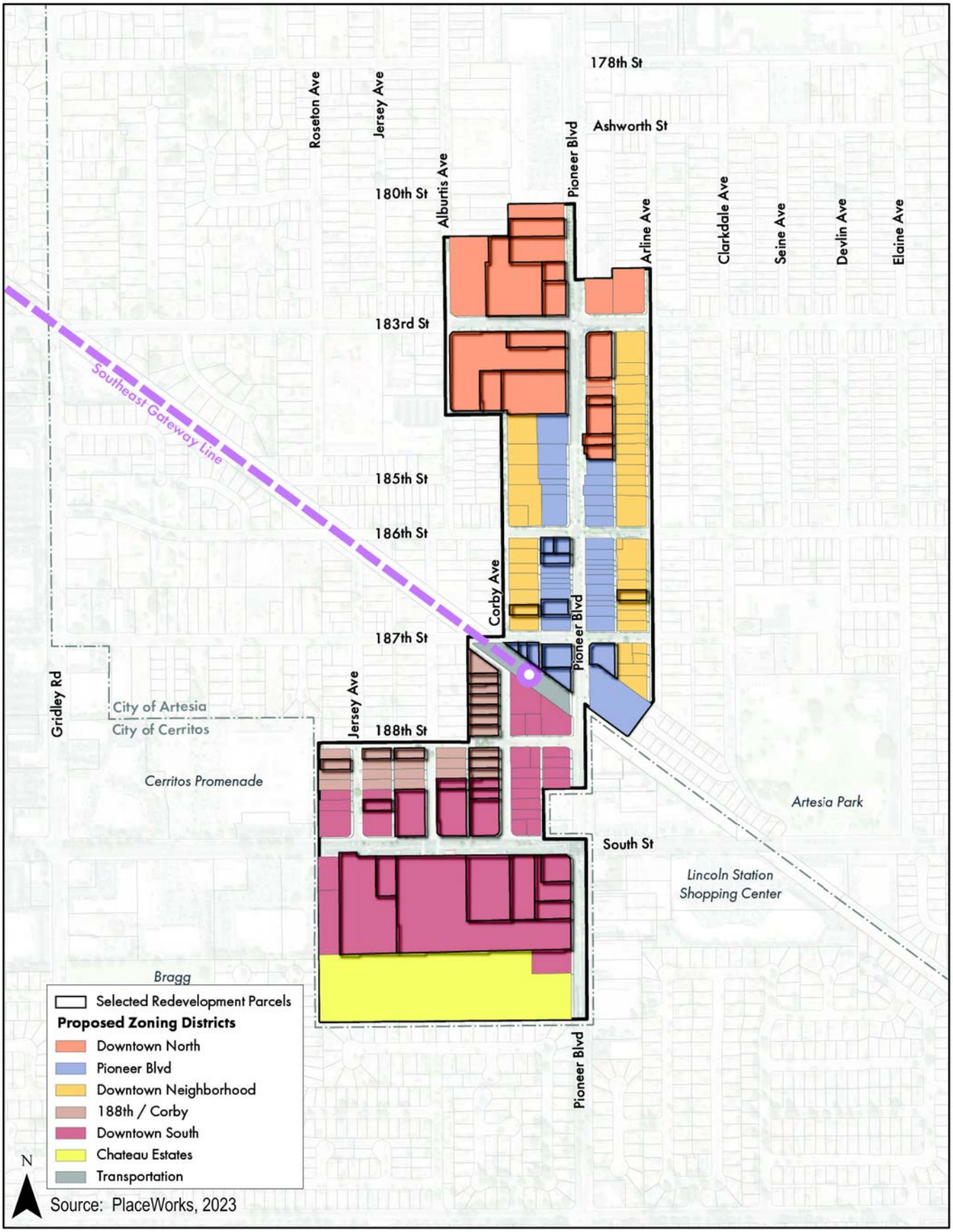

Figure 1
Proposed Zoning and Selected Redevelopment Parcels

Artesia Downtown Specific Plan

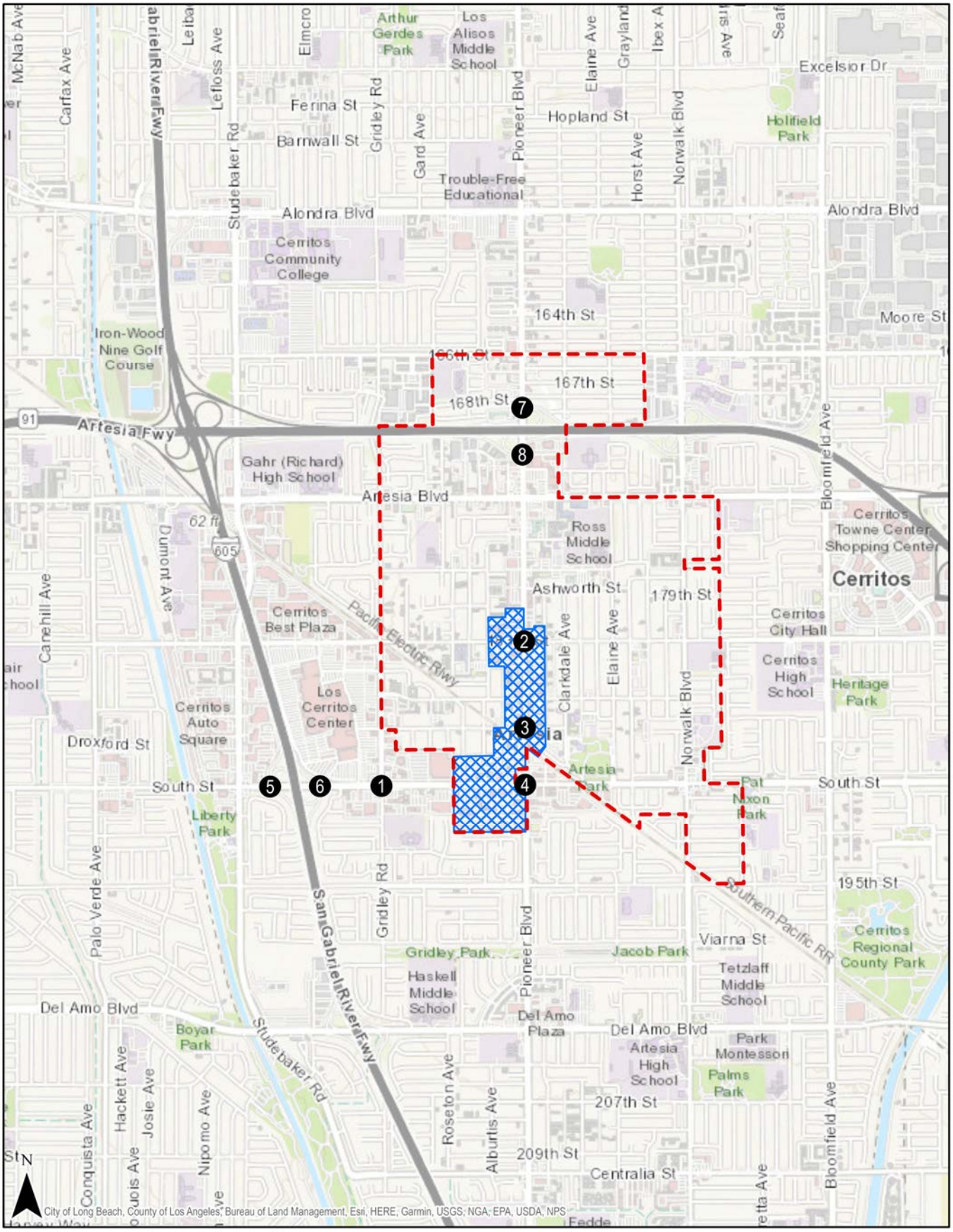

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Figure 2
Vicinity Map

Artesia Downtown Specific Plan

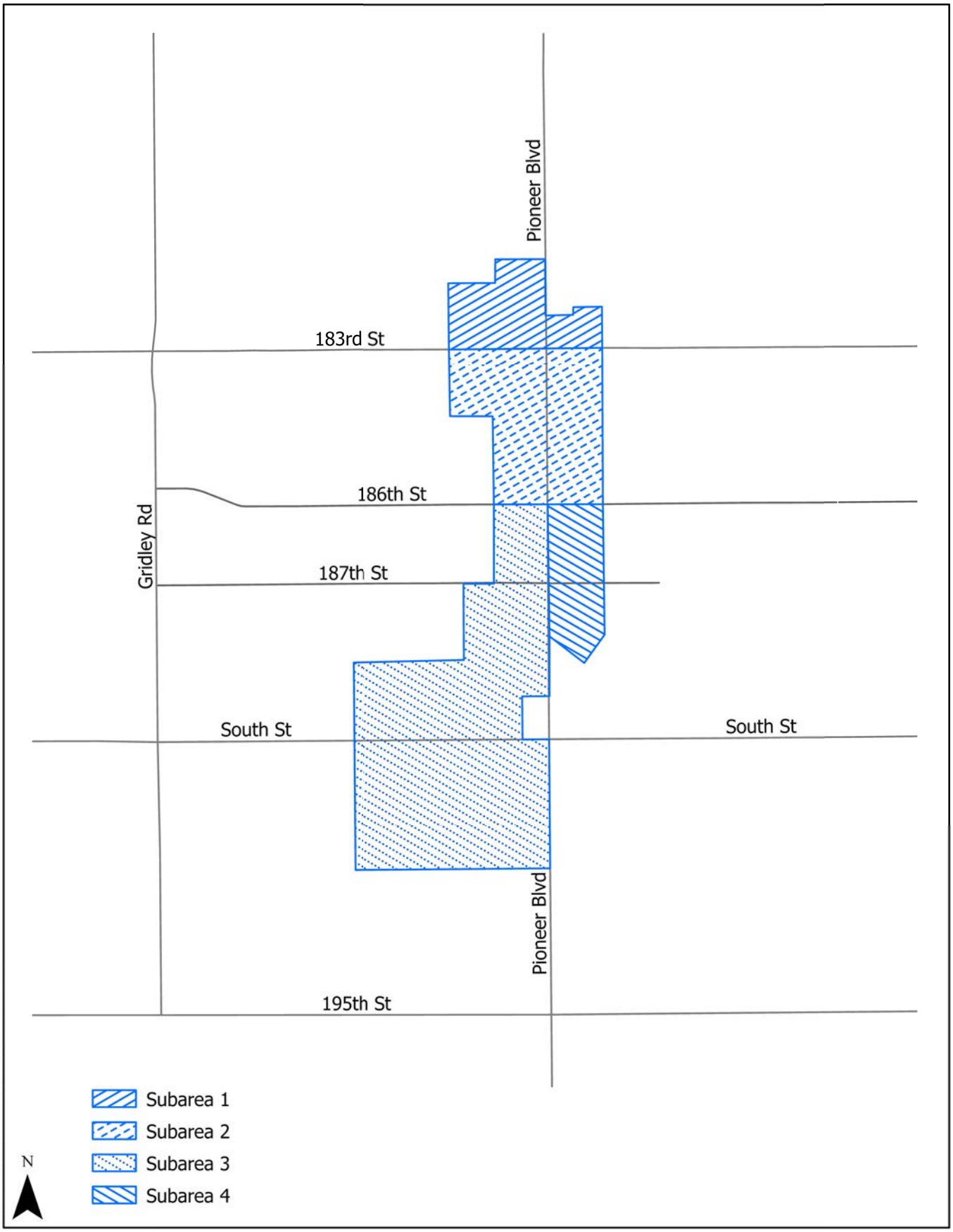
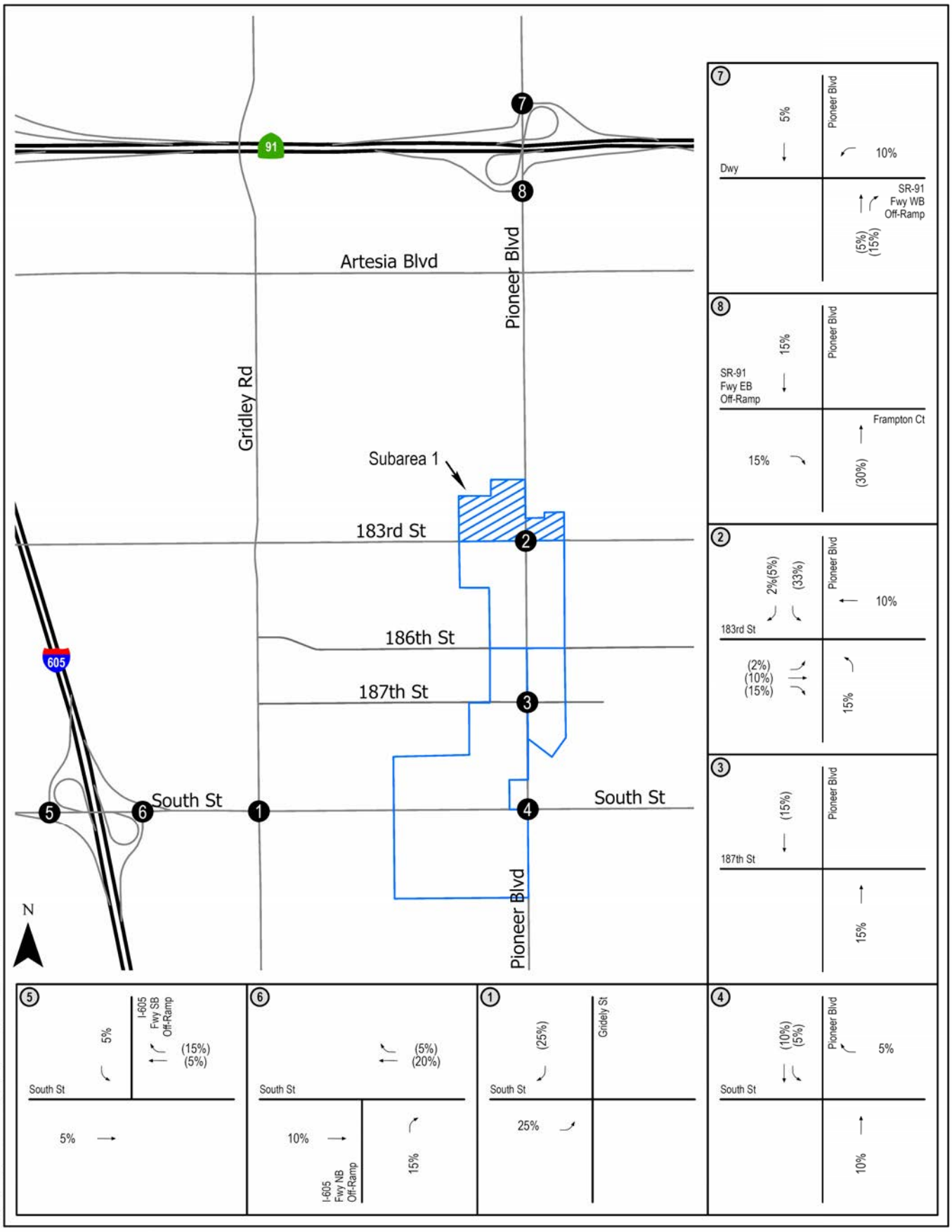


Figure 3
Transportation Analysis Subareas

Artesia Downtown Specific Plan

APPENDIX B

PROJECT TRIP DISTRIBUTION PATTERNS



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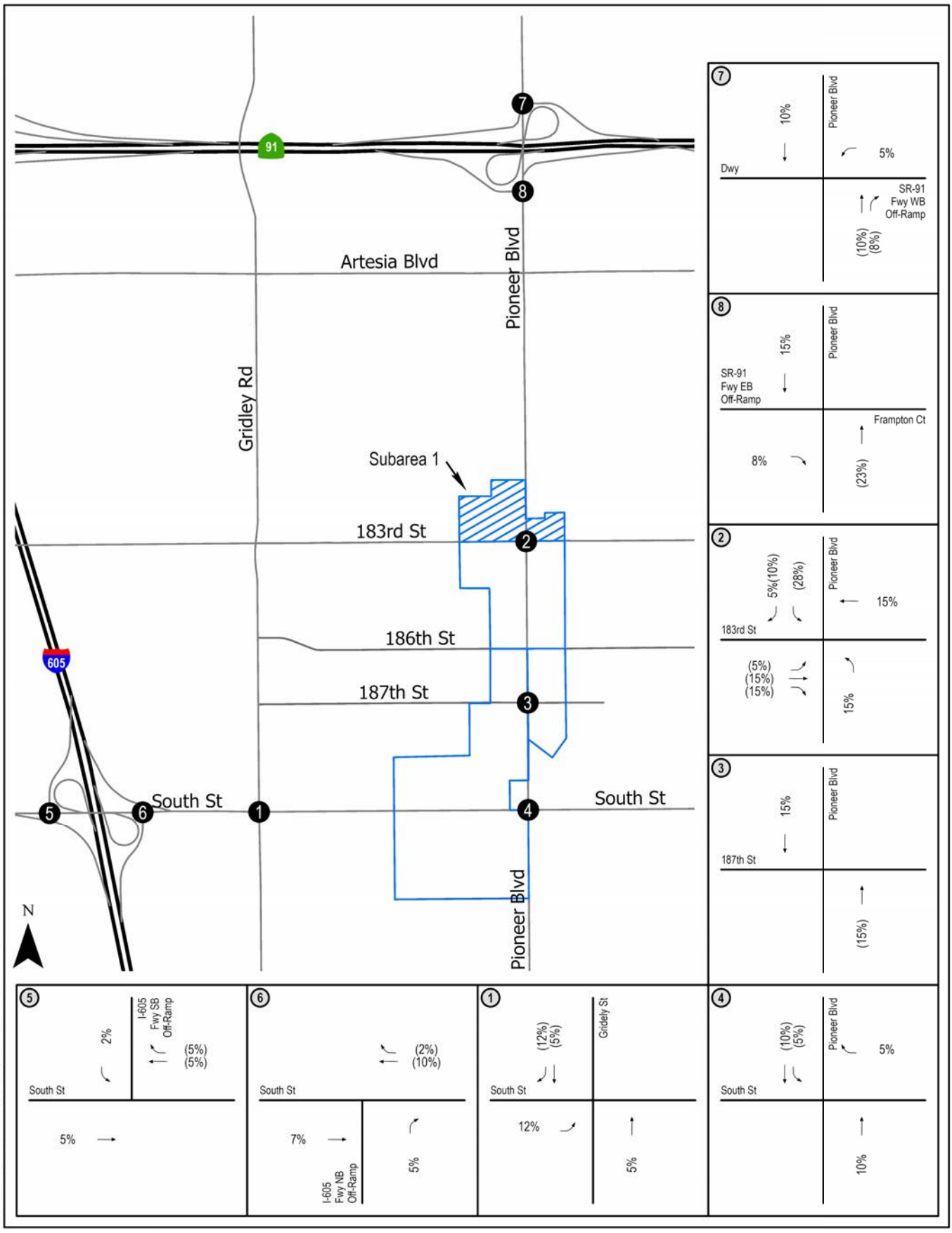
XX% Inbound Trip Distribution
(XX%) Outbound Trip Distribution

Appendix Figure B-1
Project Trip Distribution
Subarea 1 Residential Component
Artesia Downtown Specific Plan



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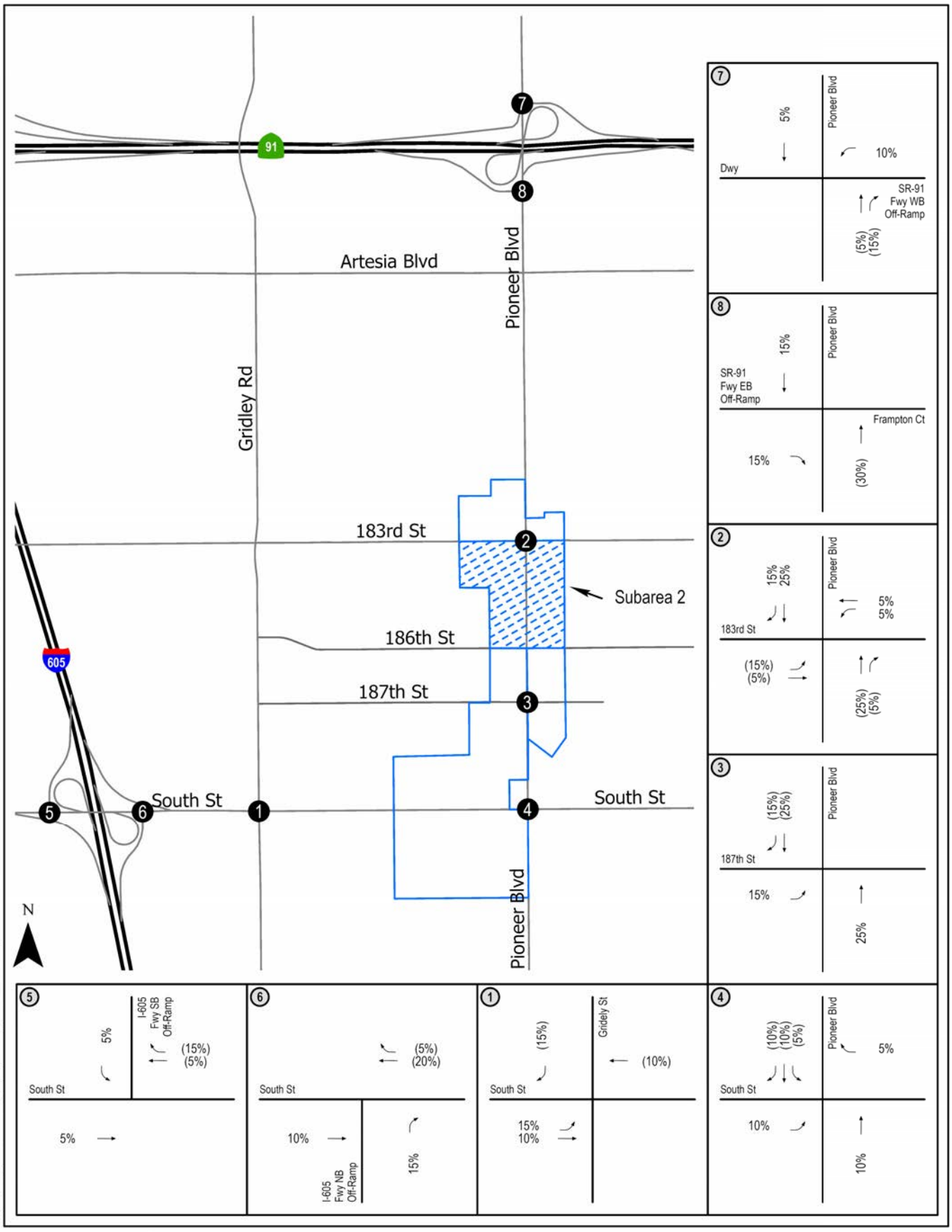
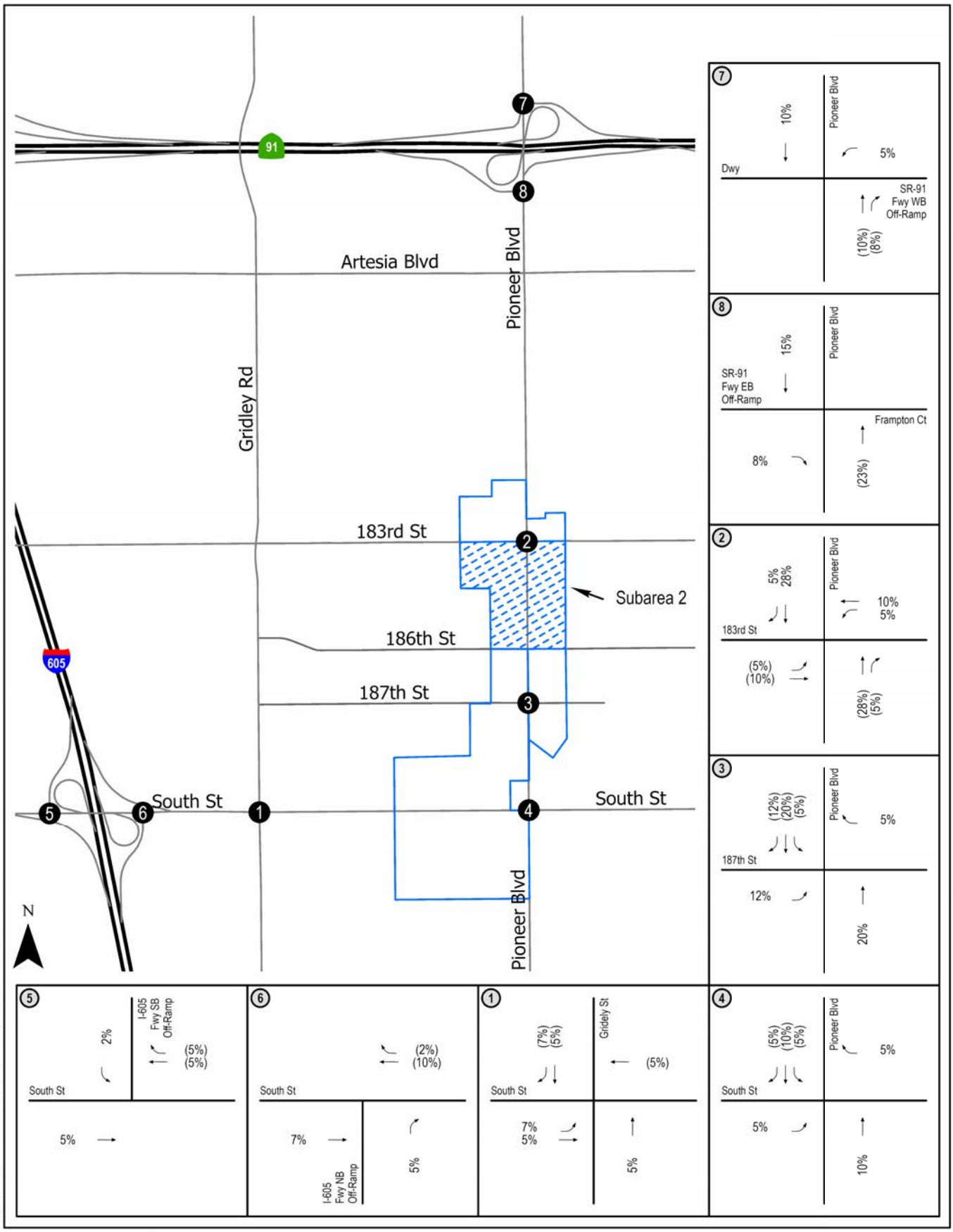
XX% Inbound Trip Distribution
(XX%) Outbound Trip Distribution

Appendix Figure B-2
Project Trip Distribution
Subarea 1 Non-Residential Component
Artesia Downtown Specific Plan



XX% Inbound Trip Distribution
(XX%) Outbound Trip Distribution

Appendix Figure B-3
Project Trip Distribution
Subarea 2 Residential Component
Artesia Downtown Specific Plan



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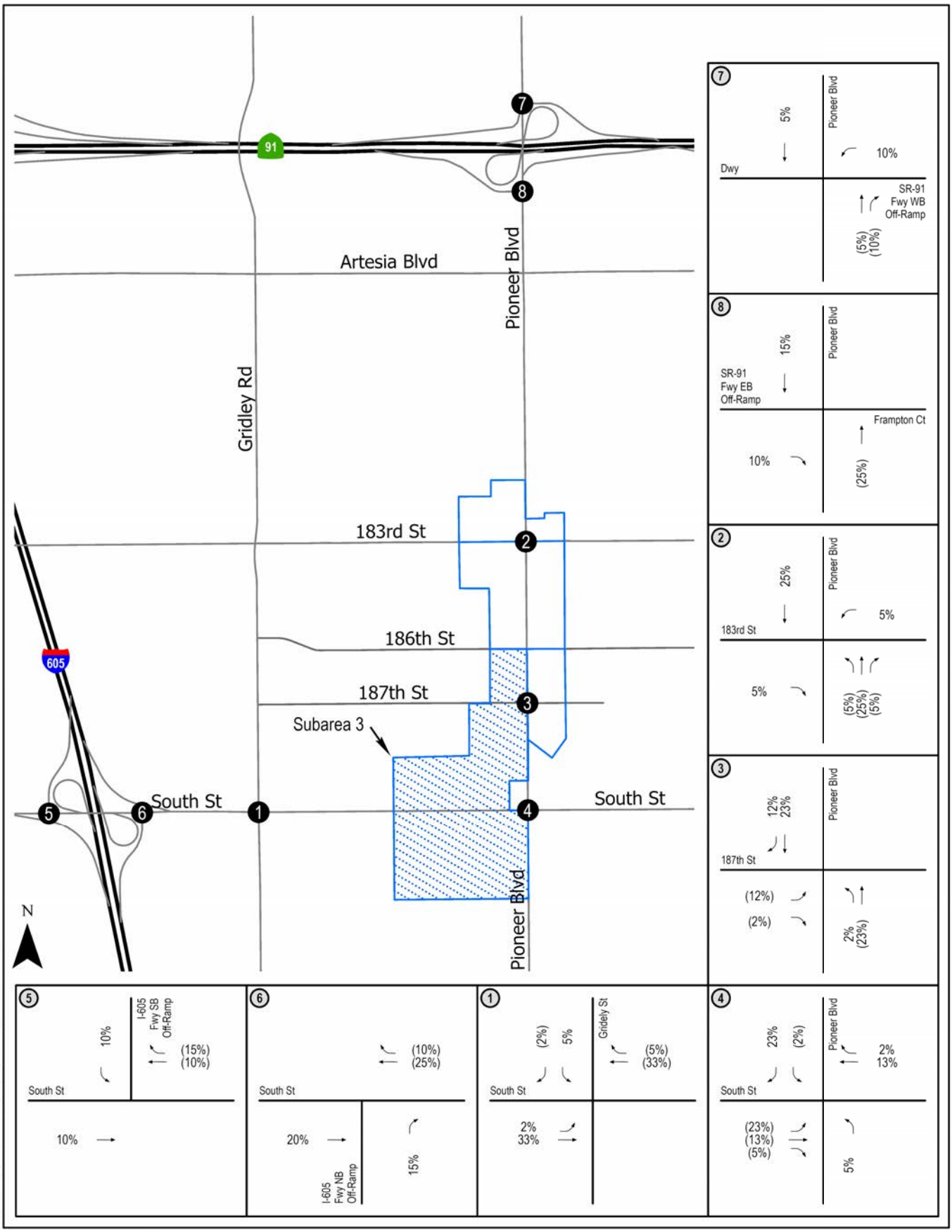
XX% Inbound Trip Distribution
(XX%) Outbound Trip Distribution

Appendix Figure B-4
Project Trip Distribution
Subarea 2 Non-Residential Component
Artesia Downtown Specific Plan



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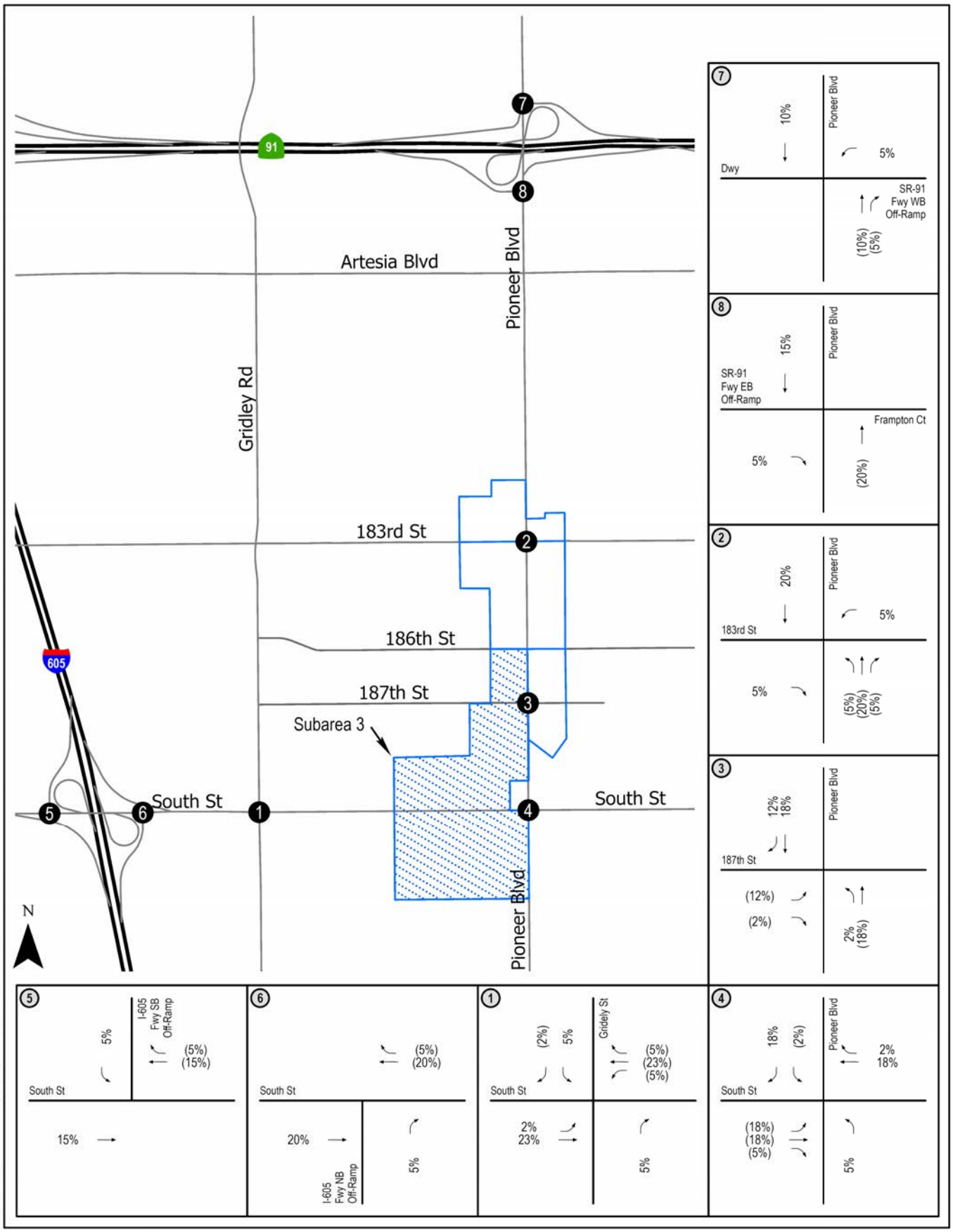
XX% Inbound Trip Distribution
(XX%) Outbound Trip Distribution

Appendix Figure B-5
Project Trip Distribution
Subarea 3 Residential Component
Artesia Downtown Specific Plan



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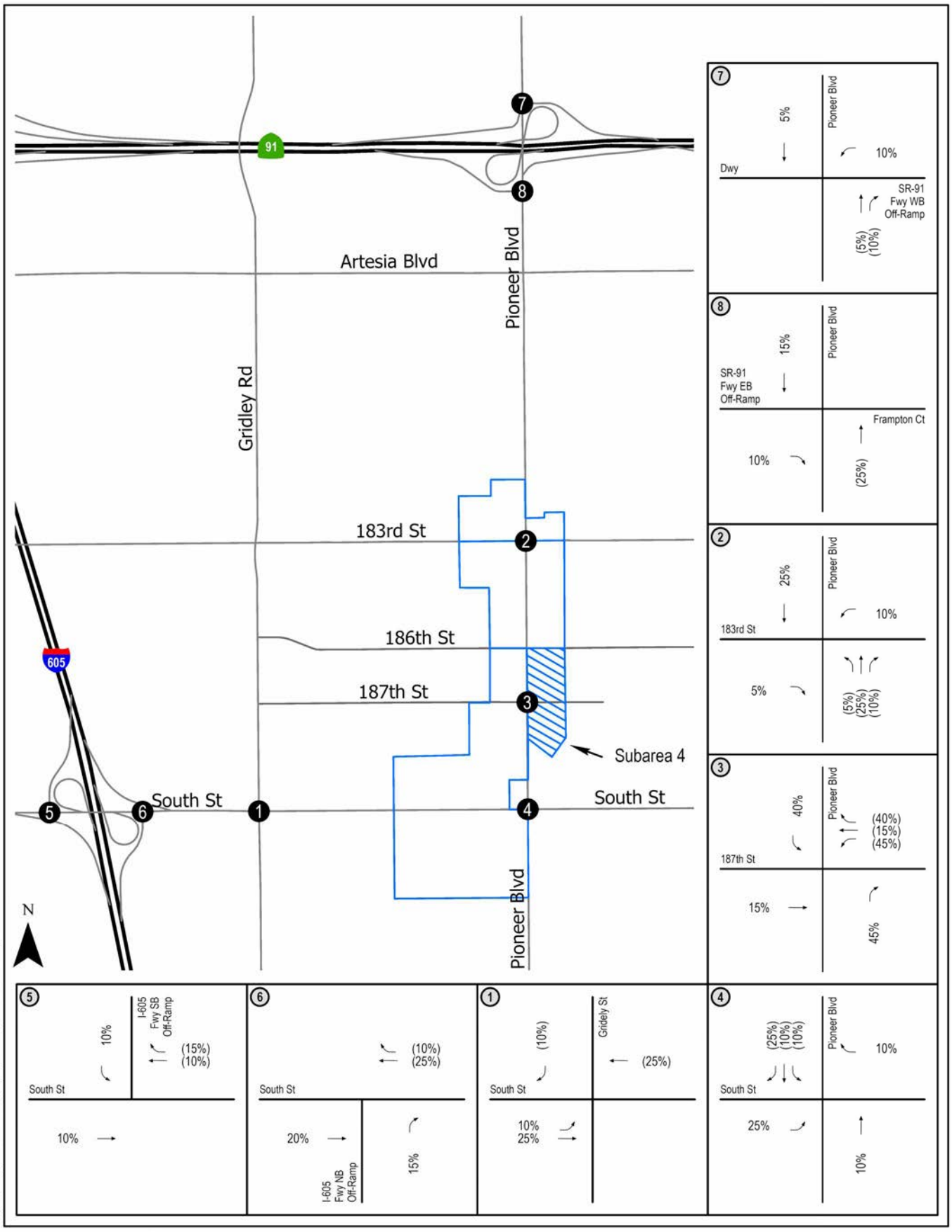
XX% Inbound Trip Distribution
(XX%) Outbound Trip Distribution

Appendix Figure B-6
Project Trip Distribution
Subarea 3 Non-Residential Component
Artesia Downtown Specific Plan



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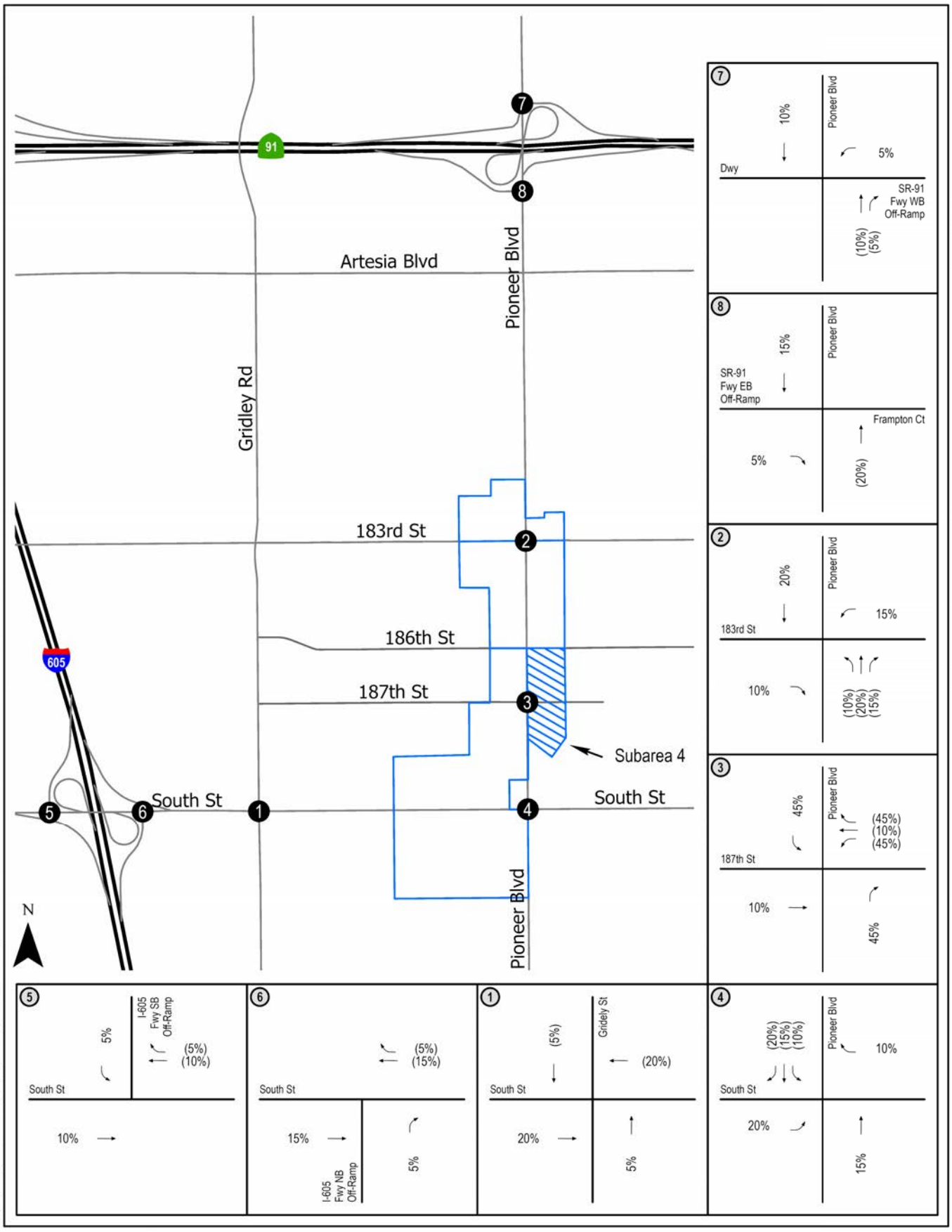
XX% Inbound Trip Distribution
(XX%) Outbound Trip Distribution

Appendix Figure B-7
Project Trip Distribution
Subarea 4 Residential Component
Artesia Downtown Specific Plan



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XX% Inbound Trip Distribution
(XX%) Outbound Trip Distribution

Appendix Figure B-8
Project Trip Distribution
Subarea 4 Non-Residential Component
Artesia Downtown Specific Plan

APPENDIX C

PEDESTRIAN, BICYCLE, AND VEHICLE TRAFFIC COUNT DATA

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Artesia
N/S: Gridley Road
E/W: South Street
Weather: Clear

File Name : 01_ATS_Grid_South AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

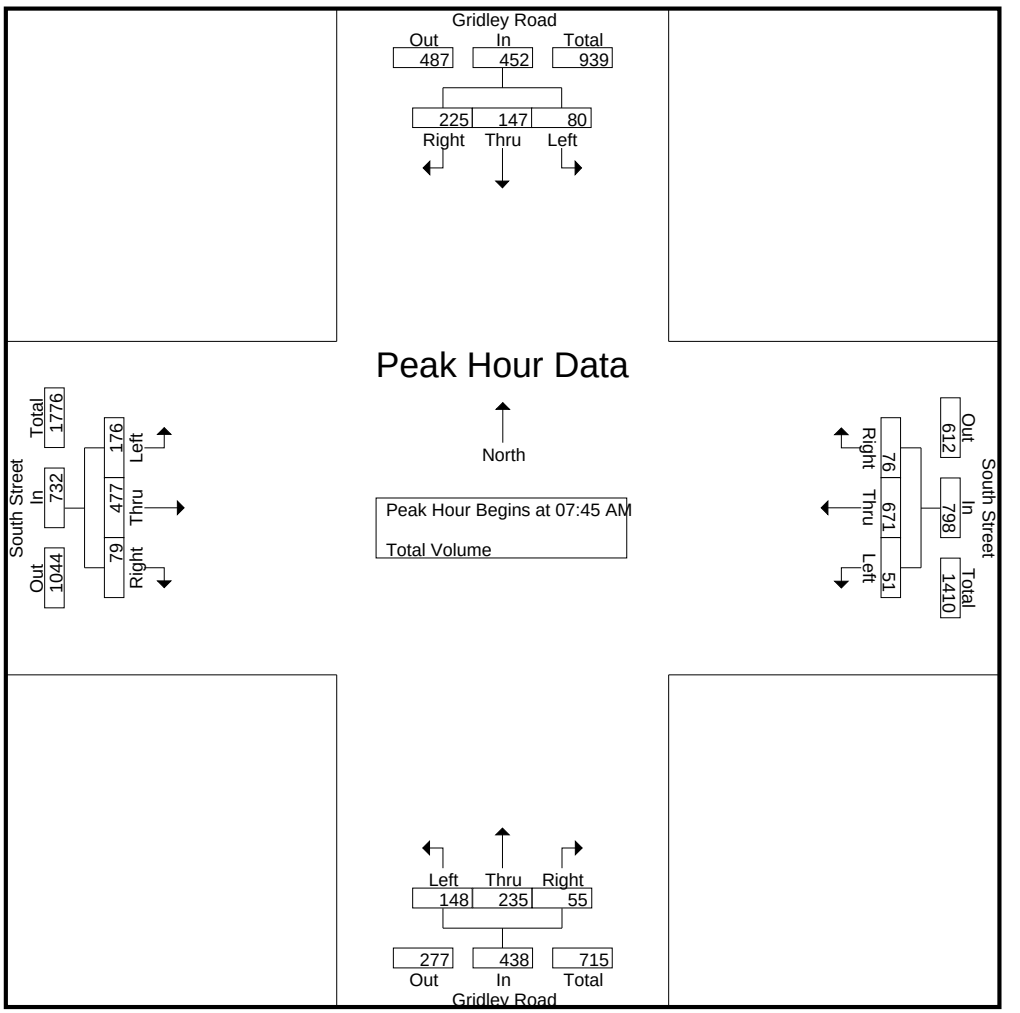
	Gridley Road Southbound				South Street Westbound				Gridley Road Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	15	42	59	8	97	3	108	32	12	5	49	24	55	21	100	316
07:15 AM	10	26	53	89	11	113	4	128	54	25	12	91	34	97	35	166	474
07:30 AM	7	35	52	94	13	143	13	169	64	45	19	128	32	108	61	201	592
07:45 AM	14	26	58	98	10	151	14	175	53	76	23	152	35	109	30	174	599
Total	33	102	205	340	42	504	34	580	203	158	59	420	125	369	147	641	1981
08:00 AM	20	30	55	105	11	172	19	202	29	59	14	102	43	124	20	187	596
08:15 AM	18	41	60	119	14	174	19	207	44	70	10	124	50	117	9	176	626
08:30 AM	28	50	52	130	16	174	24	214	22	30	8	60	48	127	20	195	599
08:45 AM	16	32	37	85	17	128	18	163	27	26	14	67	53	164	24	241	556
Total	82	153	204	439	58	648	80	786	122	185	46	353	194	532	73	799	2377
Grand Total	115	255	409	779	100	1152	114	1366	325	343	105	773	319	901	220	1440	4358
Apprch %	14.8	32.7	52.5		7.3	84.3	8.3		42	44.4	13.6		22.2	62.6	15.3		
Total %	2.6	5.9	9.4	17.9	2.3	26.4	2.6	31.3	7.5	7.9	2.4	17.7	7.3	20.7	5	33	

	Gridley Road Southbound				South Street Westbound				Gridley Road Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	14	26	58	98	10	151	14	175	**53**	**76**	**23**	**152**	35	109	**30**	174	599
08:00 AM	20	30	55	105	11	172	19	202	29	59	14	102	43	124	20	187	596
08:15 AM	18	41	**60**	119	14	**174**	19	207	44	70	10	124	**50**	117	9	176	**626**
08:30 AM	**28**	**50**	52	**130**	**16**	174	**24**	**214**	22	30	8	60	48	**127**	20	**195**	599
Total Volume	80	147	225	452	51	671	76	798	148	235	55	438	176	477	79	732	2420
% App. Total	17.7	32.5	49.8		6.4	84.1	9.5		33.8	53.7	12.6		24	65.2	10.8		
PHF	.714	.735	.938	.869	.797	.964	.792	.932	.698	.773	.598	.720	.880	.939	.658	.938	.966

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Artesia
N/S: Gridley Road
E/W: South Street
Weather: Clear

File Name : 01_ATS_Grid_South AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:30 AM				08:00 AM			
+0 mins.	14	26	58	98	10	151	14	175	**64**	45	19	128	43	124	20	187
+15 mins.	20	30	55	105	11	172	19	202	53	**76**	**23**	**152**	50	117	9	176
+30 mins.	18	41	**60**	119	14	**174**	19	207	29	59	14	102	48	127	20	195
+45 mins.	**28**	**50**	52	**130**	**16**	174	**24**	**214**	44	70	10	124	**53**	**164**	**24**	**241**
Total Volume	80	147	225	452	51	671	76	798	190	250	66	506	194	532	73	799
% App. Total	17.7	32.5	49.8		6.4	84.1	9.5		37.5	49.4	13		24.3	66.6	9.1	
PHF	.714	.735	.938	.869	.797	.964	.792	.932	.742	.822	.717	.832	.915	.811	.760	.829

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Artesia
N/S: Gridley Road
E/W: South Street
Weather: Clear

File Name : 01_ATS_Grid_South PM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Gridley Road Southbound				South Street Westbound				Gridley Road Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	33	69	105	207	23	202	50	275	24	67	18	109	86	205	26	317	908
04:15 PM	49	68	92	209	26	179	42	247	36	53	21	110	87	193	35	315	881
04:30 PM	41	59	103	203	26	186	40	252	31	77	17	125	86	185	34	305	885
04:45 PM	38	71	71	180	23	179	38	240	31	71	13	115	71	218	40	329	864
Total	161	267	371	799	98	746	170	1014	122	268	69	459	330	801	135	1266	3538
05:00 PM	52	75	110	237	25	197	40	262	28	67	22	117	68	195	30	293	909
05:15 PM	51	80	93	224	19	202	38	259	28	67	14	109	74	234	26	334	926
05:30 PM	44	70	90	204	23	194	44	261	32	64	21	117	77	219	37	333	915
05:45 PM	43	61	82	186	35	177	33	245	37	75	11	123	57	221	50	328	882
Total	190	286	375	851	102	770	155	1027	125	273	68	466	276	869	143	1288	3632
Grand Total	351	553	746	1650	200	1516	325	2041	247	541	137	925	606	1670	278	2554	7170
Apprch %	21.3	33.5	45.2		9.8	74.3	15.9		26.7	58.5	14.8		23.7	65.4	10.9		
Total %	4.9	7.7	10.4	23	2.8	21.1	4.5	28.5	3.4	7.5	1.9	12.9	8.5	23.3	3.9	35.6	

	Gridley Road Southbound				South Street Westbound				Gridley Road Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**52**	75	**110**	**237**	25	197	40	**262**	28	67	**22**	117	68	195	30	293	909
05:15 PM	51	**80**	93	224	19	**202**	38	259	28	67	14	109	74	**234**	26	**334**	**926**
05:30 PM	44	70	90	204	23	194	**44**	261	32	64	21	117	**77**	219	37	333	915
05:45 PM	43	61	82	186	**35**	177	33	245	**37**	**75**	11	**123**	57	221	**50**	328	882
Total Volume	190	286	375	851	102	770	155	1027	125	273	68	466	276	869	143	1288	3632
% App. Total	22.3	33.6	44.1		9.9	75	15.1		26.8	58.6	14.6		21.4	67.5	11.1		
PHF	.913	.894	.852	.898	.729	.953	.881	.980	.845	.910	.773	.947	.896	.928	.715	.964	.981

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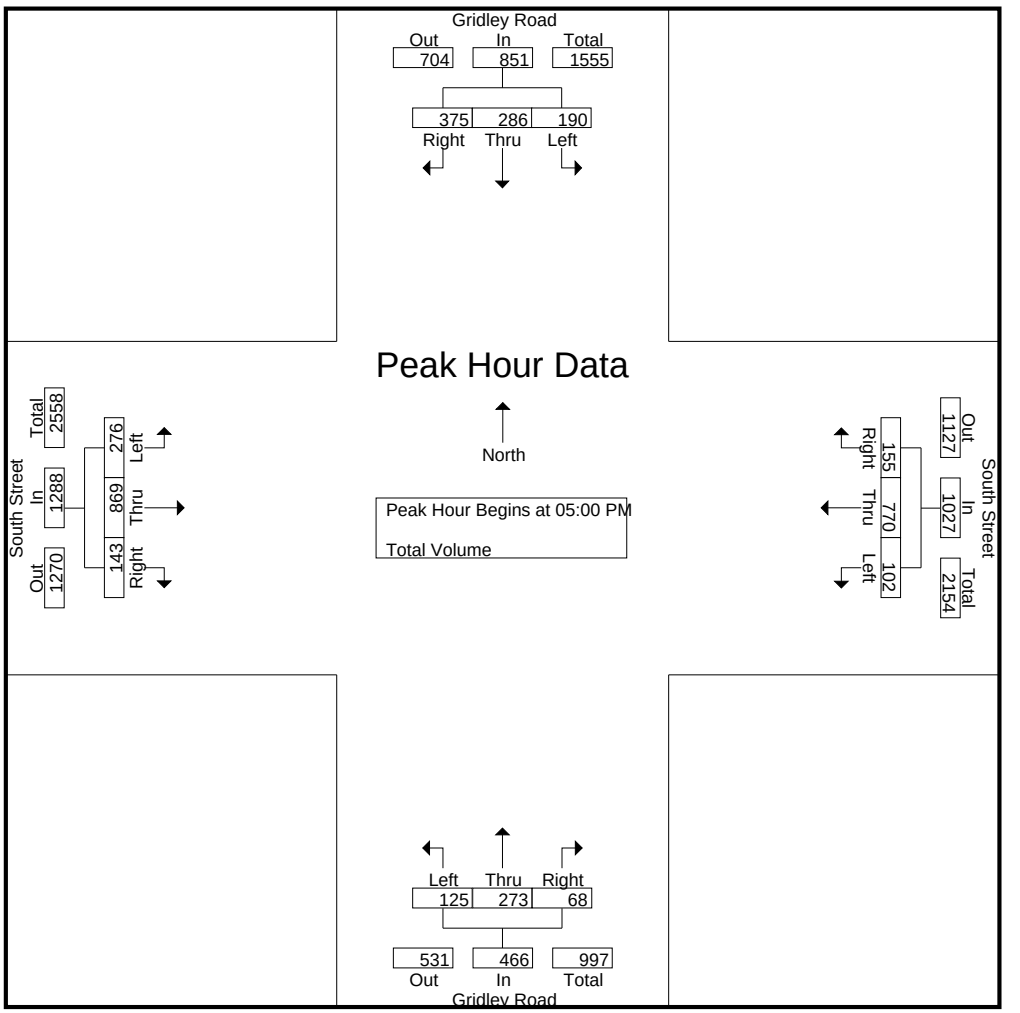
City of Artesia
N/S: Gridley Road
E/W: South Street
Weather: Clear

File Name : 01_ATS_Grid_South PM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:15 PM				04:45 PM			
+0 mins.	**52**	75	**110**	**237**	25	197	40	**262**	**36**	53	21	110	71	218	**40**	329
+15 mins.	51	**80**	93	224	19	**202**	38	259	31	**77**	17	**125**	68	195	30	293
+30 mins.	44	70	90	204	23	194	**44**	261	31	71	13	115	74	**234**	26	**334**
+45 mins.	43	61	82	186	**35**	177	33	245	28	67	**22**	117	**77**	219	37	333
Total Volume	190	286	375	851	102	770	155	1027	126	268	73	467	290	866	133	1289
% App. Total	22.3	33.6	44.1		9.9	75	15.1		27	57.4	15.6		22.5	67.2	10.3	
PHF	.913	.894	.852	.898	.729	.953	.881	.980	.875	.870	.830	.934	.942	.925	.831	.965

Location: Artesia
N/S: Gridley Road
E/W: South Street

Date: 4/24/2024
Day: Wednesday

PEDESTRIANS

	North Leg Gridley Road Pedestrians	East Leg South Street Pedestrians	South Leg Gridley Road Pedestrians	West Leg South Street Pedestrians	
7:00 AM	4	4	0	0	8
7:15 AM	1	1	1	1	4
7:30 AM	0	2	0	3	5
7:45 AM	0	1	2	1	4
8:00 AM	2	1	2	0	5
8:15 AM	1	1	0	1	3
8:30 AM	1	3	1	3	8
8:45 AM	1	4	4	3	12
TOTAL VOLUMES:	10	17	10	12	49

	North Leg Gridley Road Pedestrians	East Leg South Street Pedestrians	South Leg Gridley Road Pedestrians	West Leg South Street Pedestrians	
4:00 PM	2	9	5	2	18
4:15 PM	5	7	1	1	14
4:30 PM	0	2	0	3	5
4:45 PM	6	7	4	4	21
5:00 PM	3	2	4	0	9
5:15 PM	3	3	0	2	8
5:30 PM	3	7	2	3	15
5:45 PM	2	2	5	6	15
TOTAL VOLUMES:	24	39	21	21	105

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Location: Artesia
N/S: Gridley Road
E/W: South Street

Date: 4/24/2024
Day: Wednesday

BICYCLES

	Southbound Gridley Road			Westbound South Street			Northbound Gridley Road			Eastbound South Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Gridley Road			Westbound South Street			Northbound Gridley Road			Eastbound South Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	1	0	1	0	1	0	0	0	0	4

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City of Artesia
N/S: Pioneer Boulevard
E/W: 183rd Street
Weather: Clear

File Name : 02_ATS_Pion_183rd AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Pioneer Boulevard Southbound				183rd Street Westbound				Pioneer Boulevard Northbound				183rd Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	18	16	42	0	18	7	25	9	24	2	35	10	31	2	43	145
07:15 AM	9	30	13	52	3	46	11	60	3	19	6	28	10	37	8	55	195
07:30 AM	15	53	27	95	9	66	16	91	14	25	4	43	11	60	6	77	306
07:45 AM	21	73	24	118	4	82	22	108	7	56	3	66	6	58	7	71	363
Total	53	174	80	307	16	212	56	284	33	124	15	172	37	186	23	246	1009
08:00 AM	22	55	14	91	6	81	17	104	6	40	7	53	18	89	5	112	360
08:15 AM	28	78	16	122	14	85	19	118	12	49	4	65	17	77	7	101	406
08:30 AM	17	72	20	109	8	79	28	115	6	57	5	68	15	59	2	76	368
08:45 AM	16	69	19	104	5	72	22	99	9	38	4	51	18	34	3	55	309
Total	83	274	69	426	33	317	86	436	33	184	20	237	68	259	17	344	1443
Grand Total	136	448	149	733	49	529	142	720	66	308	35	409	105	445	40	590	2452
Apprch %	18.6	61.1	20.3		6.8	73.5	19.7		16.1	75.3	8.6		17.8	75.4	6.8		
Total %	5.5	18.3	6.1	29.9	2	21.6	5.8	29.4	2.7	12.6	1.4	16.7	4.3	18.1	1.6	24.1	

	Pioneer Boulevard Southbound				183rd Street Westbound				Pioneer Boulevard Northbound				183rd Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	21	73	**24**	118	4	82	22	108	7	56	3	66	6	58	**7**	71	363
08:00 AM	22	55	14	91	6	81	17	104	6	40	**7**	53	**18**	**89**	5	**112**	360
08:15 AM	**28**	**78**	16	**122**	**14**	**85**	19	**118**	**12**	49	4	65	17	77	7	101	**406**
08:30 AM	17	72	20	109	8	79	**28**	115	6	**57**	5	**68**	15	59	2	76	368
Total Volume	88	278	74	440	32	327	86	445	31	202	19	252	56	283	21	360	1497
% App. Total	20	63.2	16.8		7.2	73.5	19.3		12.3	80.2	7.5		15.6	78.6	5.8		
PHF	.786	.891	.771	.902	.571	.962	.768	.943	.646	.886	.679	.926	.778	.795	.750	.804	.922

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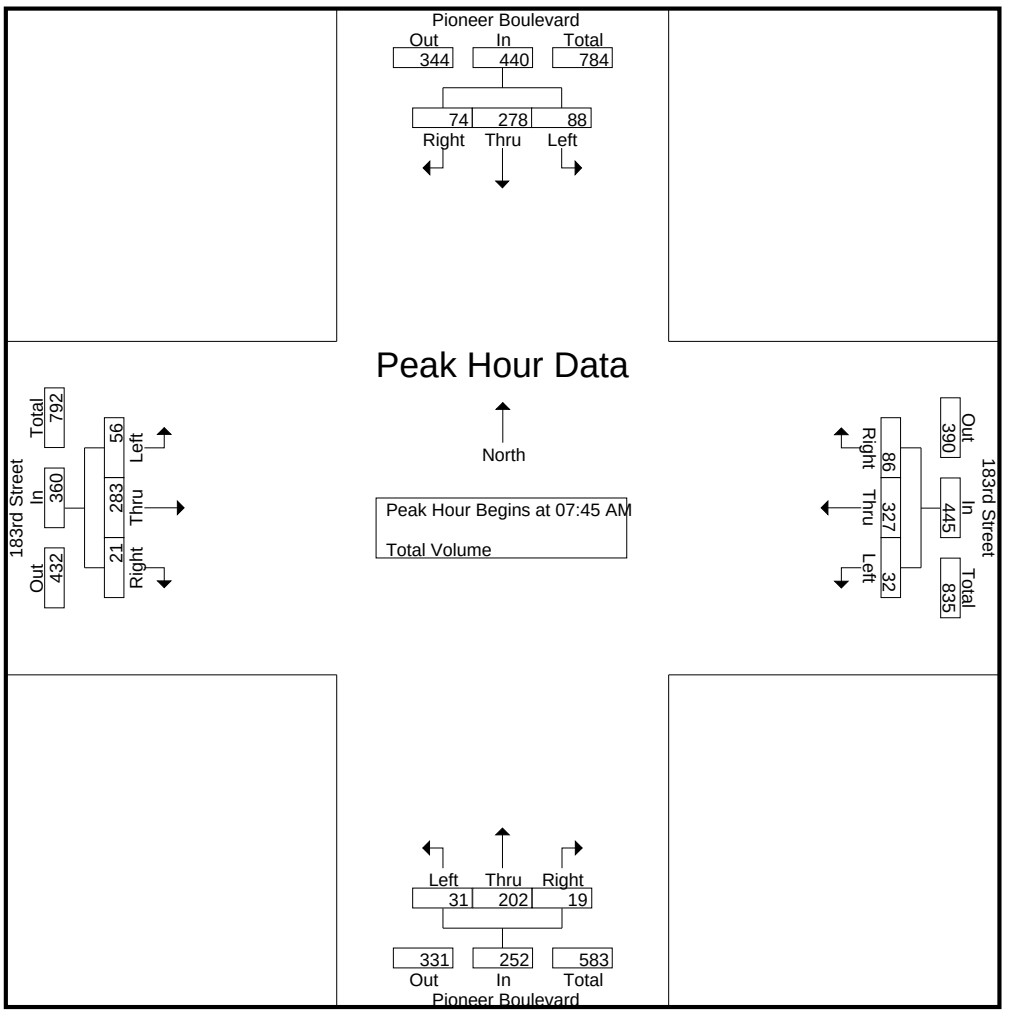
City of Artesia
N/S: Pioneer Boulevard
E/W: 183rd Street
Weather: Clear

File Name : 02_ATS_Pion_183rd AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:30 AM			
+0 mins.	21	73	**24**	118	4	82	22	108	7	56	3	66	11	60	6	77
+15 mins.	22	55	14	91	6	81	17	104	6	40	**7**	53	6	58	**7**	71
+30 mins.	**28**	**78**	16	**122**	**14**	**85**	19	**118**	**12**	49	4	65	**18**	**89**	5	**112**
+45 mins.	17	72	20	109	8	79	**28**	115	6	**57**	5	**68**	17	77	7	101
Total Volume	88	278	74	440	32	327	86	445	31	202	19	252	52	284	25	361
% App. Total	20	63.2	16.8		7.2	73.5	19.3		12.3	80.2	7.5		14.4	78.7	6.9	
PHF	.786	.891	.771	.902	.571	.962	.768	.943	.646	.886	.679	.926	.722	.798	.893	.806

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City of Artesia
N/S: Pioneer Boulevard
E/W: 183rd Street
Weather: Clear

File Name : 02_ATS_Pion_183rd PM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Pioneer Boulevard Southbound				183rd Street Westbound				Pioneer Boulevard Northbound				183rd Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	33	107	24	164	13	127	21	161	13	51	13	77	43	86	10	139	541
04:15 PM	29	92	44	165	4	90	24	118	18	81	8	107	38	89	7	134	524
04:30 PM	24	70	39	133	18	129	25	172	20	76	8	104	32	115	12	159	568
04:45 PM	29	70	31	130	17	133	18	168	25	89	11	125	49	112	10	171	594
Total	115	339	138	592	52	479	88	619	76	297	40	413	162	402	39	603	2227
05:00 PM	41	79	28	148	11	137	24	172	14	85	8	107	37	126	14	177	604
05:15 PM	30	76	28	134	15	132	26	173	14	80	9	103	43	100	12	155	565
05:30 PM	26	98	33	157	17	135	15	167	20	88	12	120	42	133	14	189	633
05:45 PM	44	96	29	169	21	108	27	156	13	68	7	88	39	67	9	115	528
Total	141	349	118	608	64	512	92	668	61	321	36	418	161	426	49	636	2330
Grand Total	256	688	256	1200	116	991	180	1287	137	618	76	831	323	828	88	1239	4557
Apprch %	21.3	57.3	21.3		9	77	14		16.5	74.4	9.1		26.1	66.8	7.1		
Total %	5.6	15.1	5.6	26.3	2.5	21.7	3.9	28.2	3	13.6	1.7	18.2	7.1	18.2	1.9	27.2	

	Pioneer Boulevard Southbound				183rd Street Westbound				Pioneer Boulevard Northbound				183rd Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	29	70	31	130	**17**	133	18	168	**25**	**89**	11	**125**	**49**	112	10	171	594
05:00 PM	**41**	79	28	148	11	**137**	24	172	14	85	8	107	37	126	**14**	177	604
05:15 PM	30	76	28	134	15	132	**26**	**173**	14	80	9	103	43	100	12	155	565
05:30 PM	26	**98**	**33**	**157**	17	135	15	167	20	88	**12**	120	42	**133**	14	**189**	**633**
Total Volume	126	323	120	569	60	537	83	680	73	342	40	455	171	471	50	692	2396
% App. Total	22.1	56.8	21.1		8.8	79	12.2		16	75.2	8.8		24.7	68.1	7.2		
PHF	.768	.824	.909	.906	.882	.980	.798	.983	.730	.961	.833	.910	.872	.885	.893	.915	.946

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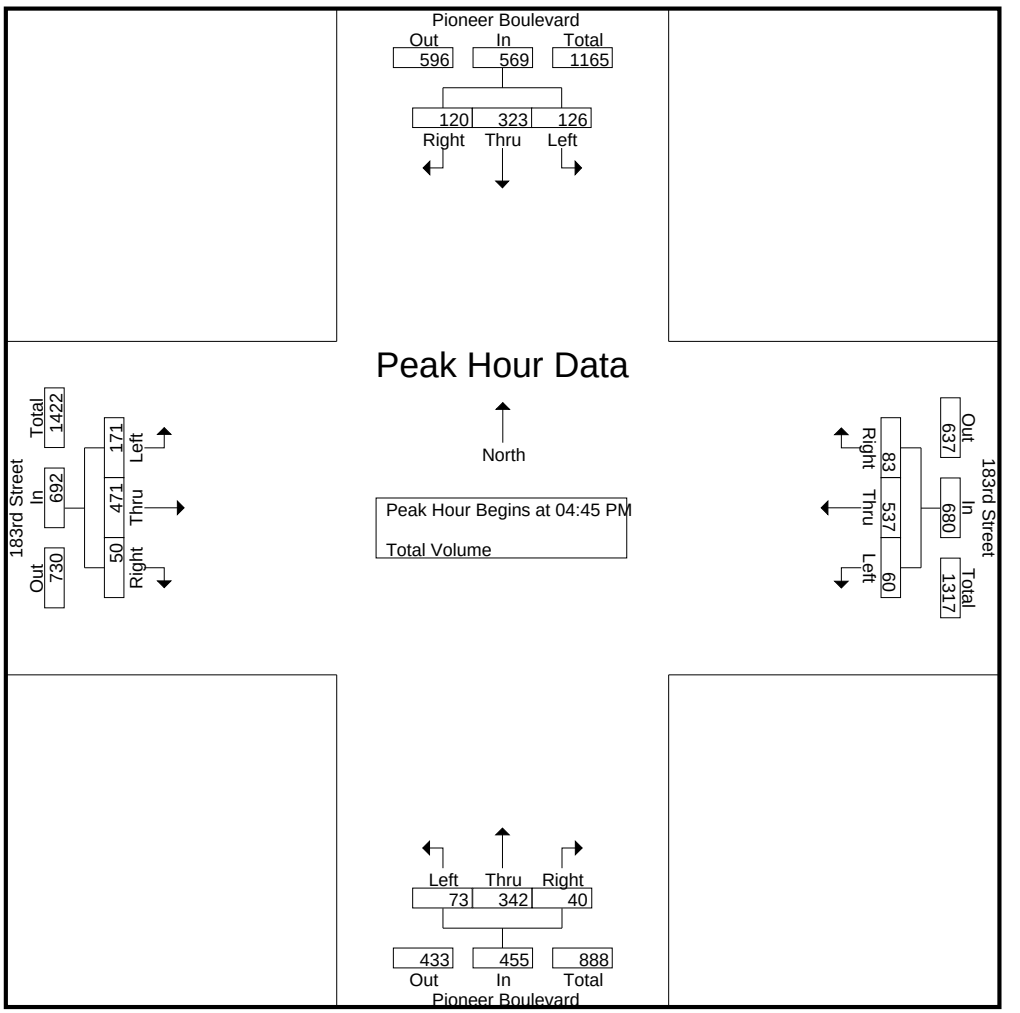
City of Artesia
N/S: Pioneer Boulevard
E/W: 183rd Street
Weather: Clear

File Name : 02_ATS_Pion_183rd PM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:45 PM				04:45 PM			
+0 mins.	41	79	28	148	**18**	129	25	172	**25**	**89**	11	**125**	**49**	112	10	171
+15 mins.	30	76	28	134	17	133	18	168	14	85	8	107	37	126	**14**	177
+30 mins.	26	**98**	**33**	157	11	**137**	24	172	14	80	9	103	43	100	12	155
+45 mins.	**44**	96	29	**169**	15	132	**26**	**173**	20	88	**12**	120	42	**133**	14	**189**
Total Volume	141	349	118	608	61	531	93	685	73	342	40	455	171	471	50	692
% App. Total	23.2	57.4	19.4		8.9	77.5	13.6		16	75.2	8.8		24.7	68.1	7.2	
PHF	.801	.890	.894	.899	.847	.969	.894	.990	.730	.961	.833	.910	.872	.885	.893	.915

Location: Artesia
N/S: Pioneer Boulevard
E/W: 183rd Street

Date: 4/24/2024
Day: Wednesday

PEDESTRIANS

	North Leg Pioneer Boulevard	East Leg 183rd Street	South Leg Pioneer Boulevard	West Leg 183rd Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	2	0	0	1	3
7:15 AM	0	4	3	3	10
7:30 AM	1	1	0	2	4
7:45 AM	1	2	1	1	5
8:00 AM	1	0	1	2	4
8:15 AM	1	7	4	2	14
8:30 AM	2	1	5	3	11
8:45 AM	1	3	2	0	6
TOTAL VOLUMES:	9	18	16	14	57

	North Leg Pioneer Boulevard	East Leg 183rd Street	South Leg Pioneer Boulevard	West Leg 183rd Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	4	4	8	17
4:15 PM	0	6	0	2	8
4:30 PM	1	5	2	6	14
4:45 PM	2	7	3	5	17
5:00 PM	5	6	5	3	19
5:15 PM	3	2	4	6	15
5:30 PM	2	3	0	3	8
5:45 PM	2	1	3	5	11
TOTAL VOLUMES:	16	34	21	38	109

Location: Artesia
N/S: Pioneer Boulevard
E/W: 183rd Street

Date: 4/24/2024
Day: Wednesday

BICYCLES

	Southbound Pioneer Boulevard			Westbound 183rd Street			Northbound Pioneer Boulevard			Eastbound 183rd Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	2	0	0	0	0	3
7:45 AM	0	0	0	0	0	1	0	2	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	1	0	1	0	0	1	0	3
TOTAL VOLUMES:	0	1	0	0	0	2	0	7	0	0	1	0	11

	Southbound Pioneer Boulevard			Westbound 183rd Street			Northbound Pioneer Boulevard			Eastbound 183rd Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
4:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	2
TOTAL VOLUMES:	0	5	0	0	0	0	0	3	0	0	3	0	11

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City of Artesia
N/S: Pioneer Boulevard
E/W: 187th Street
Weather: Clear

File Name : 03_ATS_Pion_187th AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Pioneer Boulevard Southbound				187th Street Westbound				Pioneer Boulevard Northbound				187th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	24	2	26	5	3	0	8	1	22	0	23	3	0	1	4	61
07:15 AM	4	42	1	47	7	1	1	9	3	25	5	33	1	6	5	12	101
07:30 AM	2	48	4	54	5	12	2	19	4	38	1	43	3	8	7	18	134
07:45 AM	6	77	6	89	7	4	2	13	5	57	5	67	1	5	6	12	181
Total	12	191	13	216	24	20	5	49	13	142	11	166	8	19	19	46	477
08:00 AM	5	63	3	71	4	6	1	11	6	45	9	60	5	3	4	12	154
08:15 AM	3	78	8	89	1	7	1	9	9	57	2	68	2	5	3	10	176
08:30 AM	0	79	3	82	9	6	4	19	3	55	3	61	1	2	4	7	169
08:45 AM	1	77	3	81	6	6	0	12	4	43	2	49	2	4	4	10	152
Total	9	297	17	323	20	25	6	51	22	200	16	238	10	14	15	39	651
Grand Total	21	488	30	539	44	45	11	100	35	342	27	404	18	33	34	85	1128
Apprch %	3.9	90.5	5.6		44	45	11		8.7	84.7	6.7		21.2	38.8	40		
Total %	1.9	43.3	2.7	47.8	3.9	4	1	8.9	3.1	30.3	2.4	35.8	1.6	2.9	3	7.5	

	Pioneer Boulevard Southbound				187th Street Westbound				Pioneer Boulevard Northbound				187th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**6**	77	6	**89**	7	4	2	13	5	**57**	5	67	1	**5**	**6**	**12**	**181**
08:00 AM	5	63	3	71	4	6	1	11	6	45	**9**	60	**5**	3	4	12	154
08:15 AM	3	78	**8**	89	1	**7**	1	9	**9**	57	2	**68**	2	5	3	10	176
08:30 AM	0	**79**	3	82	**9**	6	**4**	**19**	3	55	3	61	1	2	4	7	169
Total Volume	14	297	20	331	21	23	8	52	23	214	19	256	9	15	17	41	680
% App. Total	4.2	89.7	6		40.4	44.2	15.4		9	83.6	7.4		22	36.6	41.5		
PHF	.583	.940	.625	.930	.583	.821	.500	.684	.639	.939	.528	.941	.450	.750	.708	.854	.939

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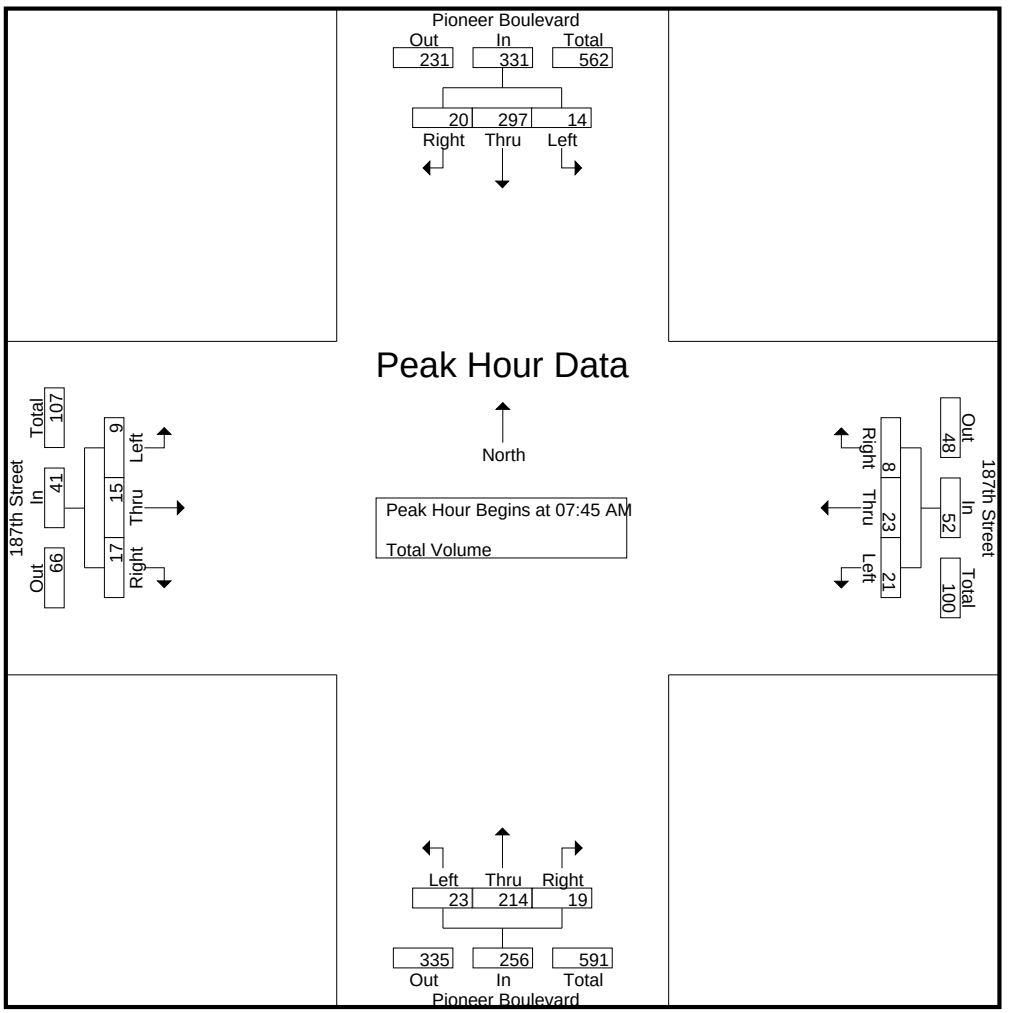
City of Artesia
N/S: Pioneer Boulevard
E/W: 187th Street
Weather: Clear

File Name : 03_ATS_Pion_187th AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:15 AM				07:45 AM				07:15 AM			
+0 mins.	**6**	77	6	**89**	**7**	1	1	9	5	**57**	5	67	1	6	5	12
+15 mins.	5	63	3	71	5	**12**	**2**	**19**	6	45	**9**	60	3	**8**	**7**	**18**
+30 mins.	3	78	**8**	89	7	4	2	13	**9**	57	2	**68**	1	5	6	12
+45 mins.	0	**79**	3	82	4	6	1	11	3	55	3	61	**5**	3	4	12
Total Volume	14	297	20	331	23	23	6	52	23	214	19	256	10	22	22	54
% App. Total	4.2	89.7	6		44.2	44.2	11.5		9	83.6	7.4		18.5	40.7	40.7	
PHF	.583	.940	.625	.930	.821	.479	.750	.684	.639	.939	.528	.941	.500	.688	.786	.750

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City of Artesia
N/S: Pioneer Boulevard
E/W: 187th Street
Weather: Clear

File Name : 03_ATS_Pion_187th PM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Pioneer Boulevard Southbound				187th Street Westbound				Pioneer Boulevard Northbound				187th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	104	12	119	6	4	1	11	5	77	10	92	13	5	16	34	256
04:15 PM	3	73	1	77	7	14	1	22	7	80	9	96	4	10	12	26	221
04:30 PM	7	97	2	106	11	12	5	28	5	98	10	113	7	11	13	31	278
04:45 PM	2	77	4	83	7	8	4	19	6	104	8	118	5	5	17	27	247
Total	15	351	19	385	31	38	11	80	23	359	37	419	29	31	58	118	1002
05:00 PM	2	84	3	89	3	10	3	16	9	90	13	112	5	11	10	26	243
05:15 PM	3	92	1	96	5	8	3	16	10	92	17	119	7	10	10	27	258
05:30 PM	3	108	5	116	4	11	0	15	5	86	7	98	8	8	9	25	254
05:45 PM	1	96	8	105	7	9	6	22	4	90	13	107	8	14	17	39	273
Total	9	380	17	406	19	38	12	69	28	358	50	436	28	43	46	117	1028
Grand Total	24	731	36	791	50	76	23	149	51	717	87	855	57	74	104	235	2030
Apprch %	3	92.4	4.6		33.6	51	15.4		6	83.9	10.2		24.3	31.5	44.3		
Total %	1.2	36	1.8	39	2.5	3.7	1.1	7.3	2.5	35.3	4.3	42.1	2.8	3.6	5.1	11.6	

	Pioneer Boulevard Southbound				187th Street Westbound				Pioneer Boulevard Northbound				187th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	2	84	3	89	3	10	3	16	9	90	13	112	5	11	10	26	243
05:15 PM	**3**	92	1	96	5	8	3	16	**10**	**92**	**17**	**119**	7	10	10	27	258
05:30 PM	3	**108**	5	**116**	4	**11**	0	15	5	86	7	98	**8**	8	9	25	254
05:45 PM	1	96	**8**	105	**7**	9	**6**	**22**	4	90	13	107	8	**14**	**17**	**39**	**273**
Total Volume	9	380	17	406	19	38	12	69	28	358	50	436	28	43	46	117	1028
% App. Total	2.2	93.6	4.2		27.5	55.1	17.4		6.4	82.1	11.5		23.9	36.8	39.3		
PHF	.750	.880	.531	.875	.679	.864	.500	.784	.700	.973	.735	.916	.875	.768	.676	.750	.941

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City of Artesia
N/S: Pioneer Boulevard
E/W: 187th Street
Weather: Clear

File Name : 03_ATS_Pion_187th PM
Site Code : 05724372
Start Date : 4/24/2024
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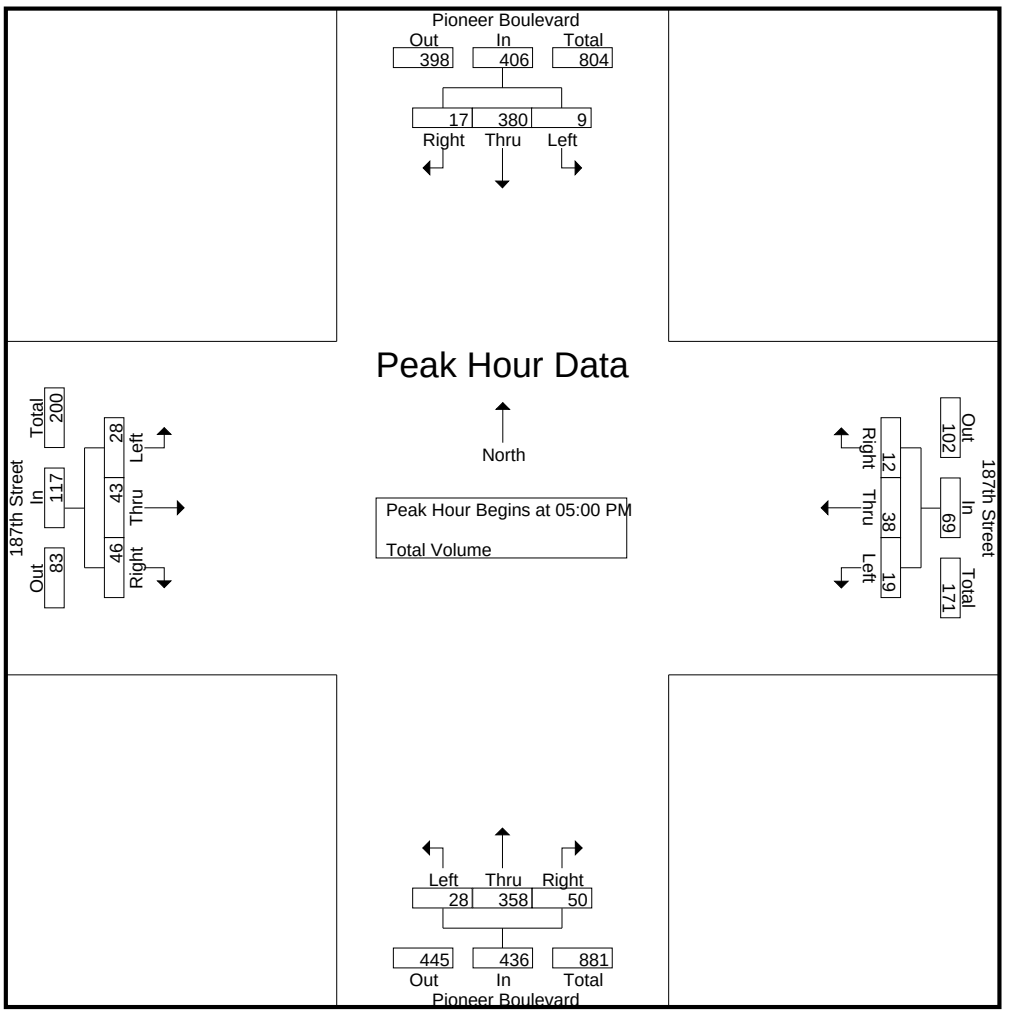

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				04:30 PM				04:00 PM			
+0 mins.	2	84	3	89	7	**14**	1	22	5	98	10	113	**13**	5	16	**34**
+15 mins.	**3**	92	1	96	**11**	12	**5**	**28**	6	**104**	8	118	4	10	12	26
+30 mins.	3	**108**	5	**116**	7	8	4	19	9	90	13	112	7	**11**	13	31
+45 mins.	1	96	**8**	105	3	10	3	16	**10**	92	**17**	**119**	5	5	**17**	27
Total Volume	9	380	17	406	28	44	13	85	30	384	48	462	29	31	58	118
% App. Total	2.2	93.6	4.2		32.9	51.8	15.3		6.5	83.1	10.4		24.6	26.3	49.2	
PHF	.750	.880	.531	.875	.636	.786	.650	.759	.750	.923	.706	.971	.558	.705	.853	.868

Location: Artesia
N/S: Pioneer Boulevard
E/W: 187th Street

Date: 4/24/2024
Day: Wednesday

PEDESTRIANS

	North Leg Pioneer Boulevard	East Leg 187th Street	South Leg Pioneer Boulevard	West Leg 187th Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	1	1	0	0	2
7:15 AM	0	0	1	3	4
7:30 AM	0	2	0	0	2
7:45 AM	1	0	1	3	5
8:00 AM	3	4	1	2	10
8:15 AM	2	0	0	0	2
8:30 AM	4	0	0	3	7
8:45 AM	3	6	1	2	12
TOTAL VOLUMES:	14	13	4	13	44

	North Leg Pioneer Boulevard	East Leg 187th Street	South Leg Pioneer Boulevard	West Leg 187th Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	3	4	1	13	21
4:15 PM	9	2	1	15	27
4:30 PM	0	2	5	9	16
4:45 PM	4	2	2	2	10
5:00 PM	15	7	4	6	32
5:15 PM	5	5	4	12	26
5:30 PM	2	4	1	4	11
5:45 PM	3	1	4	6	14
TOTAL VOLUMES:	41	27	22	67	157

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Location: Artesia
N/S: Pioneer Boulevard
E/W: 187th Street

Date: 4/24/2024
Day: Wednesday

BICYCLES

	Southbound Pioneer Boulevard			Westbound 187th Street			Northbound Pioneer Boulevard			Eastbound 187th Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
7:45 AM	0	1	0	0	0	0	1	1	0	0	0	0	3
8:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	2	0	2	4	0	0	0	1	10

	Southbound Pioneer Boulevard			Westbound 187th Street			Northbound Pioneer Boulevard			Eastbound 187th Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	2	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	1	0	0	1	2	0	0	0	2	7

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City of Artesia
N/S: Pioneer Boulevard
E/W: South Street
Weather: Clear

File Name : 04_ATS_Pion_South AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Pioneer Boulevard Southbound				South Street Westbound				Pioneer Boulevard Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	18	5	27	3	92	6	101	4	19	15	38	3	47	7	57	223
07:15 AM	6	38	12	56	22	97	3	122	4	24	12	40	5	84	9	98	316
07:30 AM	4	41	17	62	22	137	5	164	16	32	22	70	7	85	20	112	408
07:45 AM	9	74	16	99	20	149	10	179	17	54	24	95	10	95	12	117	490
Total	23	171	50	244	67	475	24	566	41	129	73	243	25	311	48	384	1437
08:00 AM	9	37	20	66	21	178	7	206	15	31	23	69	13	92	17	122	463
08:15 AM	7	55	20	82	19	179	7	205	20	52	28	100	10	84	14	108	495
08:30 AM	8	52	24	84	24	185	16	225	21	40	22	83	4	72	29	105	497
08:45 AM	13	38	27	78	23	141	15	179	31	36	24	91	10	103	26	139	487
Total	37	182	91	310	87	683	45	815	87	159	97	343	37	351	86	474	1942
Grand Total	60	353	141	554	154	1158	69	1381	128	288	170	586	62	662	134	858	3379
Apprch %	10.8	63.7	25.5		11.2	83.9	5		21.8	49.1	29		7.2	77.2	15.6		
Total %	1.8	10.4	4.2	16.4	4.6	34.3	2	40.9	3.8	8.5	5	17.3	1.8	19.6	4	25.4	

	Pioneer Boulevard Southbound				South Street Westbound				Pioneer Boulevard Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**9**	**74**	16	**99**	20	149	10	179	17	**54**	24	95	10	**95**	12	117	490
08:00 AM	9	37	20	66	21	178	7	206	15	31	23	69	**13**	92	17	**122**	463
08:15 AM	7	55	20	82	19	179	7	205	20	52	**28**	**100**	10	84	14	108	495
08:30 AM	8	52	**24**	84	**24**	**185**	**16**	**225**	**21**	40	22	83	4	72	**29**	105	**497**
Total Volume	33	218	80	331	84	691	40	815	73	177	97	347	37	343	72	452	1945
% App. Total	10	65.9	24.2		10.3	84.8	4.9		21	51	28		8.2	75.9	15.9		
PHF	.917	.736	.833	.836	.875	.934	.625	.906	.869	.819	.866	.868	.712	.903	.621	.926	.978

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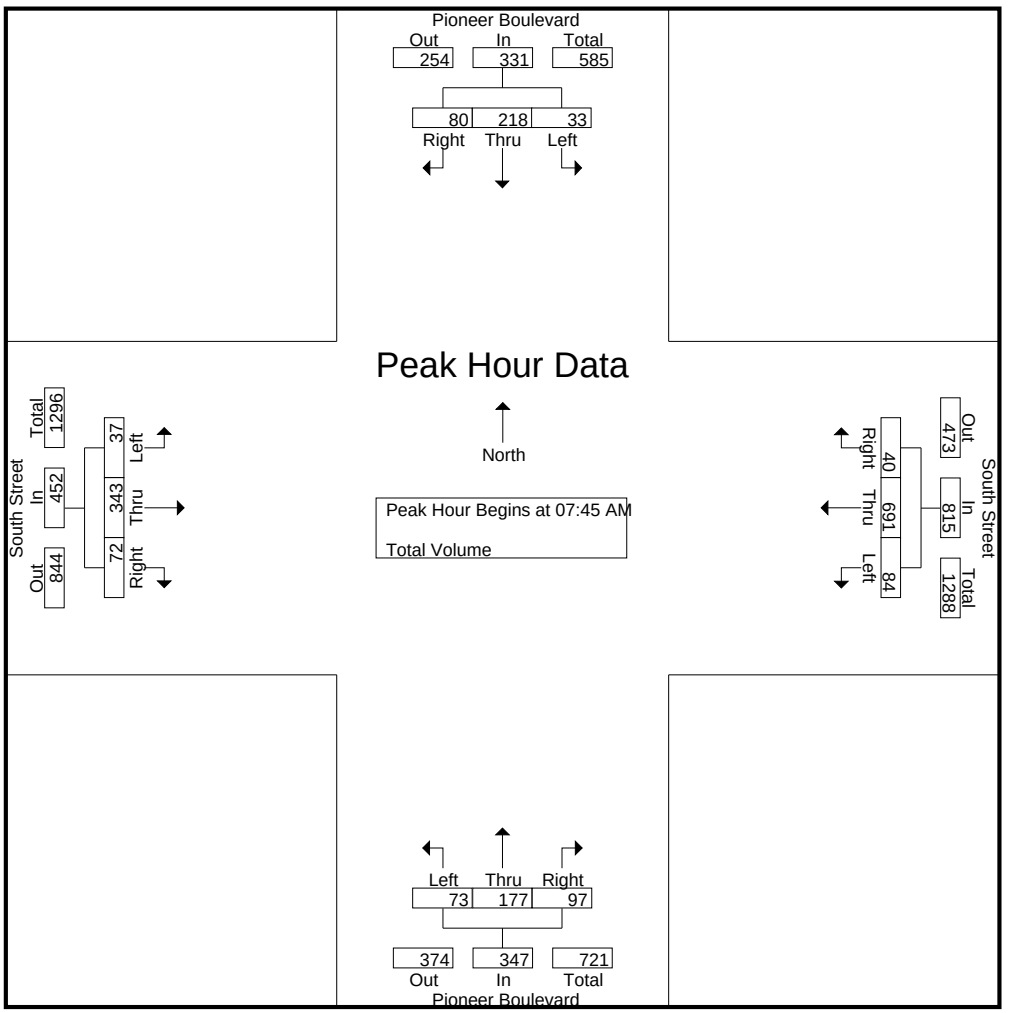
City of Artesia
N/S: Pioneer Boulevard
E/W: South Street
Weather: Clear

File Name : 04_ATS_Pion_South AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				08:00 AM			
+0 mins.	**9**	**74**	16	**99**	20	149	10	179	17	**54**	24	95	**13**	92	17	122
+15 mins.	9	37	20	66	21	178	7	206	15	31	23	69	10	84	14	108
+30 mins.	7	55	20	82	19	179	7	205	20	52	**28**	**100**	4	72	**29**	105
+45 mins.	8	52	**24**	84	**24**	**185**	**16**	**225**	**21**	40	22	83	10	**103**	26	**139**
Total Volume	33	218	80	331	84	691	40	815	73	177	97	347	37	351	86	474
% App. Total	10	65.9	24.2		10.3	84.8	4.9		21	51	28		7.8	74.1	18.1	
PHF	.917	.736	.833	.836	.875	.934	.625	.906	.869	.819	.866	.868	.712	.852	.741	.853

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City of Artesia
N/S: Pioneer Boulevard
E/W: South Street
Weather: Clear

File Name : 04_ATS_Pion_South PM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Pioneer Boulevard Southbound				South Street Westbound				Pioneer Boulevard Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	32	70	36	138	20	150	18	188	42	58	33	133	33	165	36	234	693
04:15 PM	14	60	25	99	27	176	12	215	40	58	25	123	31	173	28	232	669
04:30 PM	23	65	33	121	26	178	18	222	41	70	27	138	28	177	43	248	729
04:45 PM	23	49	23	95	29	172	25	226	32	55	27	114	31	196	40	267	702
Total	92	244	117	453	102	676	73	851	155	241	112	508	123	711	147	981	2793
05:00 PM	22	49	33	104	43	175	13	231	33	64	53	150	23	179	38	240	725
05:15 PM	29	50	30	109	37	190	20	247	45	81	41	167	22	212	45	279	802
05:30 PM	17	70	25	112	32	184	15	231	48	64	43	155	24	172	44	240	738
05:45 PM	23	81	37	141	38	171	15	224	37	71	44	152	18	199	47	264	781
Total	91	250	125	466	150	720	63	933	163	280	181	624	87	762	174	1023	3046
Grand Total	183	494	242	919	252	1396	136	1784	318	521	293	1132	210	1473	321	2004	5839
Apprch %	19.9	53.8	26.3		14.1	78.3	7.6		28.1	46	25.9		10.5	73.5	16		
Total %	3.1	8.5	4.1	15.7	4.3	23.9	2.3	30.6	5.4	8.9	5	19.4	3.6	25.2	5.5	34.3	

	Pioneer Boulevard Southbound				South Street Westbound				Pioneer Boulevard Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	22	49	33	104	**43**	175	13	231	33	64	**53**	150	23	179	38	240	725
05:15 PM	**29**	50	30	109	37	**190**	**20**	**247**	45	**81**	41	**167**	22	**212**	45	**279**	**802**
05:30 PM	17	70	25	112	32	184	15	231	**48**	64	43	155	**24**	172	44	240	738
05:45 PM	23	**81**	**37**	**141**	38	171	15	224	37	71	44	152	18	199	**47**	264	781
Total Volume	91	250	125	466	150	720	63	933	163	280	181	624	87	762	174	1023	3046
% App. Total	19.5	53.6	26.8		16.1	77.2	6.8		26.1	44.9	29		8.5	74.5	17		
PHF	.784	.772	.845	.826	.872	.947	.788	.944	.849	.864	.854	.934	.906	.899	.926	.917	.950

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City of Artesia
N/S: Pioneer Boulevard
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File Name : 04_ATS_Pion_South PM
Site Code : 05724372
Start Date : 4/24/2024
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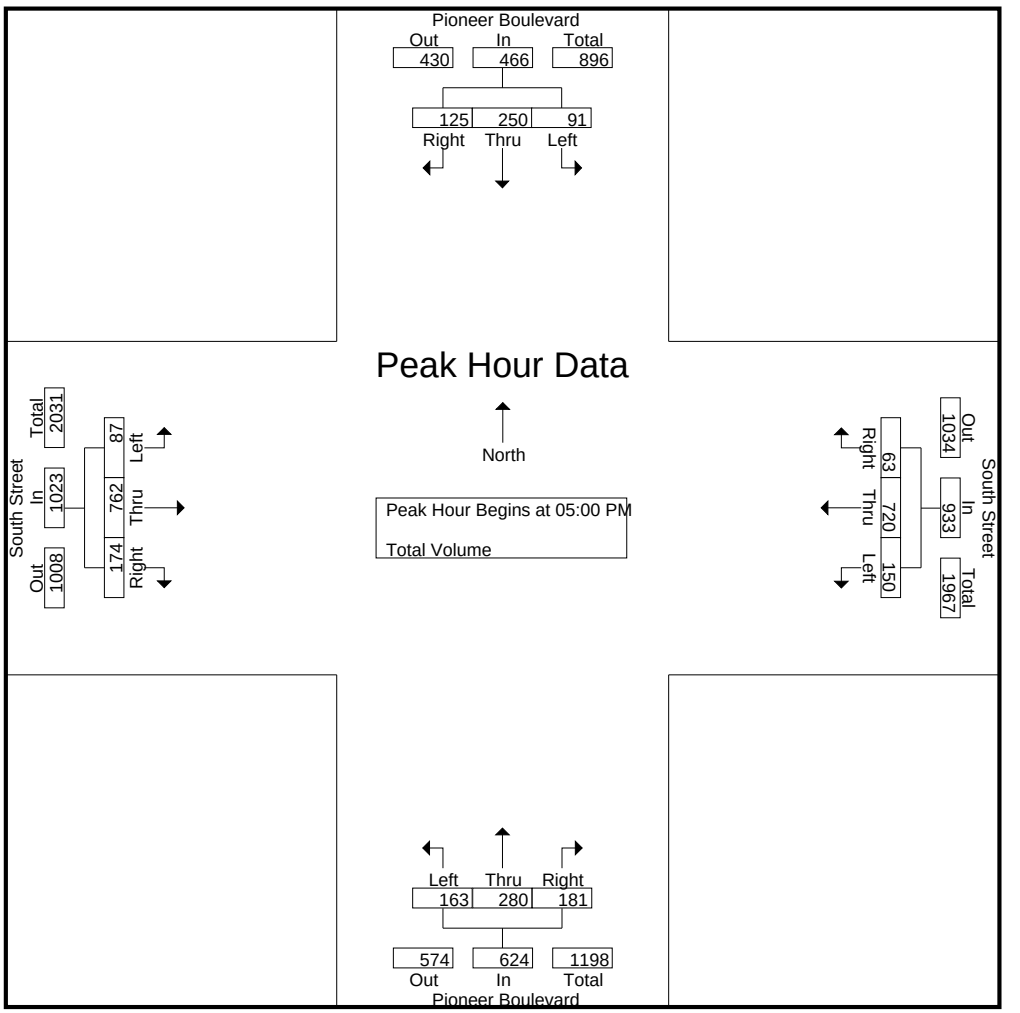

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				05:00 PM				04:30 PM			
+0 mins.	22	49	33	104	29	172	**25**	226	33	64	**53**	150	28	177	43	248
+15 mins.	**29**	50	30	109	**43**	175	13	231	45	**81**	41	**167**	**31**	196	40	267
+30 mins.	17	70	25	112	37	**190**	20	**247**	**48**	64	43	155	23	179	38	240
+45 mins.	23	**81**	**37**	**141**	32	184	15	231	37	71	44	152	22	**212**	**45**	**279**
Total Volume	91	250	125	466	141	721	73	935	163	280	181	624	104	764	166	1034
% App. Total	19.5	53.6	26.8		15.1	77.1	7.8		26.1	44.9	29		10.1	73.9	16.1	
PHF	.784	.772	.845	.826	.820	.949	.730	.946	.849	.864	.854	.934	.839	.901	.922	.927

Location: Artesia
N/S: Pioneer Boulevard
E/W: South Street

Date: 4/24/2024
Day: Wednesday

PEDESTRIANS

	North Leg Pioneer Boulevard	East Leg South Street	South Leg Pioneer Boulevard	West Leg South Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	2	0	0	0	2
7:15 AM	0	1	0	2	3
7:30 AM	1	3	4	2	10
7:45 AM	4	5	1	4	14
8:00 AM	3	2	3	3	11
8:15 AM	1	0	1	1	3
8:30 AM	0	1	1	2	4
8:45 AM	1	3	3	3	10
TOTAL VOLUMES:	12	15	13	17	57

	North Leg Pioneer Boulevard	East Leg South Street	South Leg Pioneer Boulevard	West Leg South Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	11	9	9	9	38
4:15 PM	3	7	5	0	15
4:30 PM	2	4	5	9	20
4:45 PM	2	1	2	2	7
5:00 PM	4	6	8	5	23
5:15 PM	0	0	0	5	5
5:30 PM	3	1	0	4	8
5:45 PM	0	1	2	3	6
TOTAL VOLUMES:	25	29	31	37	122

Location: Artesia
N/S: Pioneer Boulevard
E/W: South Street

Date: 4/24/2024
Day: Wednesday

BICYCLES

	Southbound Pioneer Boulevard			Westbound South Street			Northbound Pioneer Boulevard			Eastbound South Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	1	1	0	0	0	0	0	0	2
7:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	1	0	0	2	0	0	0	0	3
7:45 AM	0	2	0	0	0	2	0	2	1	0	0	0	7
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	1	1	0	0	1	0	0	0	0	3
TOTAL VOLUMES:	1	3	0	1	3	3	0	5	1	0	0	0	17

	Southbound Pioneer Boulevard			Westbound South Street			Northbound Pioneer Boulevard			Eastbound South Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	1	2	0	1	0	1	0	0	0	0	1	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	2
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
5:00 PM	0	1	0	0	0	0	0	2	0	0	0	0	3
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	1	3	0	2	1	2	0	3	0	0	3	1	16

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PO Box 1178
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City of Artesia
N/S: I-605 Southbound Ramps
E/W: South Street
Weather: Clear

File Name : 05_ATS_605S_South AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	I-605 Southbound Off Ramp Southbound				South Street Westbound				I-605 Southbound On Ramp Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	67	0	110	177	0	133	60	193	0	0	0	0	0	100	101	201	571
07:15 AM	81	0	113	194	0	135	69	204	0	0	0	0	0	118	93	211	609
07:30 AM	106	0	143	249	0	174	77	251	0	0	0	0	0	108	143	251	751
07:45 AM	105	0	158	263	0	258	75	333	0	0	0	0	0	133	139	272	868
Total	359	0	524	883	0	700	281	981	0	0	0	0	0	459	476	935	2799
08:00 AM	87	0	181	268	0	237	81	318	0	0	0	0	0	168	151	319	905
08:15 AM	90	0	161	251	0	223	89	312	0	0	0	0	0	131	148	279	842
08:30 AM	125	0	156	281	0	208	74	282	0	0	0	0	0	133	122	255	818
08:45 AM	155	0	171	326	0	202	58	260	0	0	0	0	0	136	111	247	833
Total	457	0	669	1126	0	870	302	1172	0	0	0	0	0	568	532	1100	3398
Grand Total	816	0	1193	2009	0	1570	583	2153	0	0	0	0	0	1027	1008	2035	6197
Apprch %	40.6	0	59.4		0	72.9	27.1		0	0	0		0	50.5	49.5		
Total %	13.2	0	19.3	32.4	0	25.3	9.4	34.7	0	0	0	0	0	16.6	16.3	32.8	

	I-605 Southbound Off Ramp Southbound				South Street Westbound				I-605 Southbound On Ramp Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	105	0	158	263	0	**258**	75	**333**	0	0	0	0	0	133	139	272	868
08:00 AM	87	0	**181**	268	0	237	81	318	0	0	0	0	0	**168**	**151**	**319**	**905**
08:15 AM	90	0	161	251	0	223	**89**	312	0	0	0	0	0	131	148	279	842
08:30 AM	**125**	0	156	**281**	0	208	74	282	0	0	0	0	0	133	122	255	818
Total Volume	407	0	656	1063	0	926	319	1245	0	0	0	0	0	565	560	1125	3433
% App. Total	38.3	0	61.7		0	74.4	25.6		0	0	0		0	50.2	49.8		
PHF	.814	.000	.906	.946	.000	.897	.896	.935	.000	.000	.000	.000	.000	.841	.927	.882	.948

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City of Artesia
N/S: I-605 Southbound Ramps
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Weather: Clear

File Name : 05_ATS_605S_South AM
Site Code : 05724372
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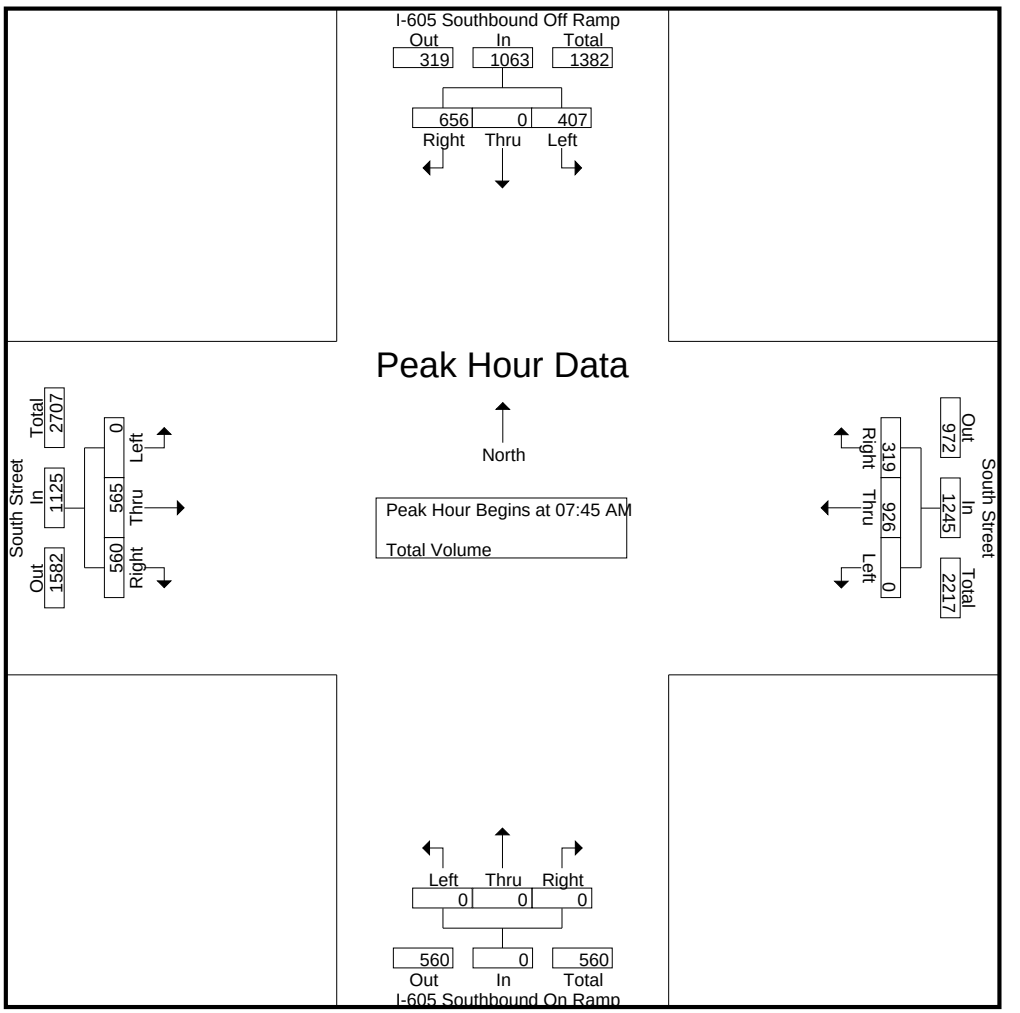

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:00 AM				07:45 AM			
+0 mins.	87	0	**181**	268	0	**258**	75	**333**	0	0	0	0	0	133	139	272
+15 mins.	90	0	161	251	0	237	81	318	0	0	0	0	0	**168**	**151**	**319**
+30 mins.	125	0	156	281	0	223	**89**	312	0	0	0	0	0	131	148	279
+45 mins.	**155**	0	171	**326**	0	208	74	282	0	0	0	0	0	133	122	255
Total Volume	457	0	669	1126	0	926	319	1245	0	0	0	0	0	565	560	1125
% App. Total	40.6	0	59.4		0	74.4	25.6		0	0	0		0	50.2	49.8	
PHF	.737	.000	.924	.863	.000	.897	.896	.935	.000	.000	.000	.000	.000	.841	.927	.882

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City of Artesia
N/S: I-605 Southbound Ramps
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File Name : 05_ATS_605S_South PM
Site Code : 05724372
Start Date : 4/24/2024
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Groups Printed- Total Volume

	I-605 Southbound Off Ramp Southbound				South Street Westbound				I-605 Southbound On Ramp Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	195	0	121	316	0	207	98	305	0	0	0	0	0	194	129	323	944
04:15 PM	187	0	126	313	0	261	89	350	0	0	0	0	0	214	151	365	1028
04:30 PM	227	0	140	367	0	218	96	314	0	0	0	0	0	233	134	367	1048
04:45 PM	211	0	155	366	0	232	92	324	0	0	0	0	0	229	128	357	1047
Total	820	0	542	1362	0	918	375	1293	0	0	0	0	0	870	542	1412	4067
05:00 PM	197	0	133	330	0	266	101	367	0	0	0	0	0	266	146	412	1109
05:15 PM	185	0	138	323	0	233	103	336	0	0	0	0	0	236	112	348	1007
05:30 PM	216	0	113	329	0	219	83	302	0	0	0	0	0	237	147	384	1015
05:45 PM	206	0	120	326	0	245	101	346	0	0	0	0	0	224	124	348	1020
Total	804	0	504	1308	0	963	388	1351	0	0	0	0	0	963	529	1492	4151
Grand Total	1624	0	1046	2670	0	1881	763	2644	0	0	0	0	0	1833	1071	2904	8218
Apprch %	60.8	0	39.2		0	71.1	28.9		0	0	0		0	63.1	36.9		
Total %	19.8	0	12.7	32.5	0	22.9	9.3	32.2	0	0	0	0	0	22.3	13	35.3	

	I-605 Southbound Off Ramp Southbound				South Street Westbound				I-605 Southbound On Ramp Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	187	0	126	313	0	261	89	350	0	0	0	0	0	214	**151**	365	1028
04:30 PM	**227**	0	140	**367**	0	218	96	314	0	0	0	0	0	233	134	367	1048
04:45 PM	211	0	**155**	366	0	232	92	324	0	0	0	0	0	229	128	357	1047
05:00 PM	197	0	133	330	0	**266**	**101**	**367**	0	0	0	0	0	**266**	146	**412**	**1109**
Total Volume	822	0	554	1376	0	977	378	1355	0	0	0	0	0	942	559	1501	4232
% App. Total	59.7	0	40.3		0	72.1	27.9		0	0	0		0	62.8	37.2		
PHF	.905	.000	.894	.937	.000	.918	.936	.923	.000	.000	.000	.000	.000	.885	.925	.911	.954

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City of Artesia
N/S: I-605 Southbound Ramps
E/W: South Street
Weather: Clear

File Name : 05_ATS_605S_South PM
Site Code : 05724372
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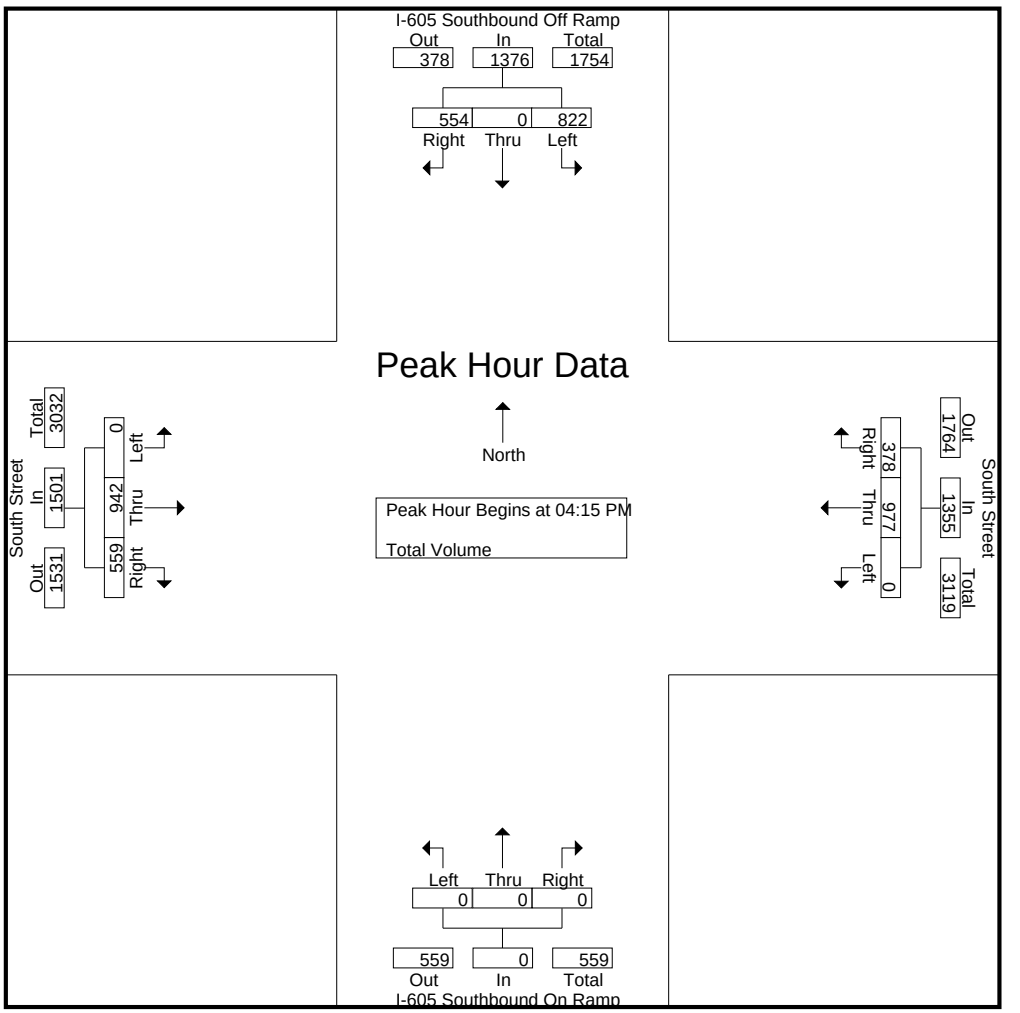

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				04:00 PM				04:15 PM			
+0 mins.	**227**	0	140	**367**	0	261	89	350	0	0	0	0	0	214	**151**	365
+15 mins.	211	0	**155**	366	0	218	96	314	0	0	0	0	0	233	134	367
+30 mins.	197	0	133	330	0	232	92	324	0	0	0	0	0	229	128	357
+45 mins.	185	0	138	323	0	**266**	**101**	**367**	0	0	0	0	0	**266**	146	**412**
Total Volume	820	0	566	1386	0	977	378	1355	0	0	0	0	0	942	559	1501
% App. Total	59.2	0	40.8		0	72.1	27.9		0	0	0		0	62.8	37.2	
PHF	.903	.000	.913	.944	.000	.918	.936	.923	.000	.000	.000	.000	.000	.885	.925	.911

Location: Artesia
N/S: I-605 SB Ramps
E/W: South Street

Date: 4/24/2024
Day: Wednesday

PEDESTRIANS

	North Leg I-605 SB Ramps	East Leg South Street	South Leg I-605 SB Ramps	West Leg South Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	2	0	1	0	3
7:30 AM	1	0	1	0	2
7:45 AM	0	0	0	0	0
8:00 AM	1	0	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	2	0	2	0	4
8:45 AM	3	0	1	0	4
TOTAL VOLUMES:	9	0	5	0	14

	North Leg I-605 SB Ramps	East Leg South Street	South Leg I-605 SB Ramps	West Leg South Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	2	0	0	0	2
4:45 PM	1	0	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	1	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	3	0	1	0	4

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Location: Artesia
N/S: I-605 SB Ramps
E/W: South Street

Date: 4/24/2024
Day: Wednesday

BICYCLES

	Southbound I-605 SB Ramps			Westbound South Street			Northbound I-605 SB Ramps			Eastbound South Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound I-605 SB Ramps			Westbound South Street			Northbound I-605 SB Ramps			Eastbound South Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Artesia
N/S: I-605 Northbound Ramps
E/W: South Street
Weather: Clear

File Name : 06_ATS_605N_South AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	I-605 Northbound On Ramp Southbound				South Street Westbound				I-605 Northbound Ramps Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	109	77	186	82	0	37	119	0	101	62	163	468
07:15 AM	0	0	0	0	0	117	111	228	82	0	59	141	0	121	86	207	576
07:30 AM	0	0	0	0	0	136	122	258	117	0	49	166	0	164	51	215	639
07:45 AM	0	0	0	0	0	175	105	280	154	0	68	222	0	150	82	232	734
Total	0	0	0	0	0	537	415	952	435	0	213	648	0	536	281	817	2417
08:00 AM	0	0	0	0	0	154	112	266	152	0	61	213	0	163	101	264	743
08:15 AM	0	0	0	0	0	179	105	284	128	0	61	189	0	150	73	223	696
08:30 AM	0	0	0	0	0	165	101	266	121	0	79	200	0	169	74	243	709
08:45 AM	0	0	0	0	0	115	93	208	143	0	78	221	0	228	78	306	735
Total	0	0	0	0	0	613	411	1024	544	0	279	823	0	710	326	1036	2883
Grand Total	0	0	0	0	0	1150	826	1976	979	0	492	1471	0	1246	607	1853	5300
Apprch %	0	0	0		0	58.2	41.8		66.6	0	33.4		0	67.2	32.8		
Total %	0	0	0	0	0	21.7	15.6	37.3	18.5	0	9.3	27.8	0	23.5	11.5	35	

	I-605 Northbound On Ramp Southbound				South Street Westbound				I-605 Northbound Ramps Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	154	**112**	266	**152**	0	61	213	0	163	**101**	264	**743**
08:15 AM	0	0	0	0	0	**179**	105	**284**	128	0	61	189	0	150	73	223	696
08:30 AM	0	0	0	0	0	165	101	266	121	0	**79**	200	0	169	74	243	709
08:45 AM	0	0	0	0	0	115	93	208	143	0	78	**221**	0	**228**	78	**306**	735
Total Volume	0	0	0	0	0	613	411	1024	544	0	279	823	0	710	326	1036	2883
% App. Total	0	0	0		0	59.9	40.1		66.1	0	33.9		0	68.5	31.5		
PHF	.000	.000	.000	.000	.000	.856	.917	.901	.895	.000	.883	.931	.000	.779	.807	.846	.970

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File Name : 06_ATS_605N_South AM
Site Code : 05724372
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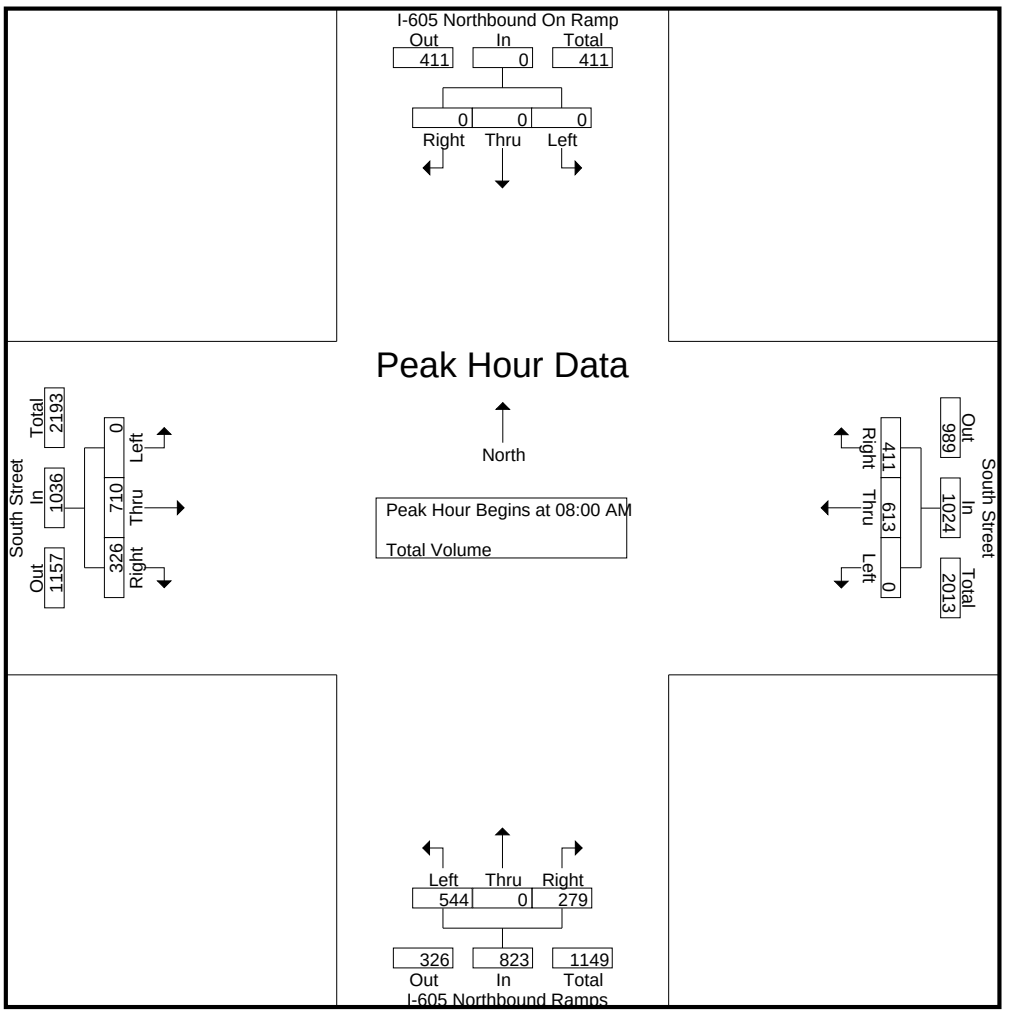

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:45 AM				08:00 AM			
+0 mins.	0	0	0	0	0	175	105	280	**154**	0	68	**222**	0	163	**101**	264
+15 mins.	0	0	0	0	0	154	**112**	266	152	0	61	213	0	150	73	223
+30 mins.	0	0	0	0	0	**179**	105	**284**	128	0	61	189	0	169	74	243
+45 mins.	0	0	0	0	0	165	101	266	121	0	**79**	200	0	**228**	78	**306**
Total Volume	0	0	0	0	0	673	423	1096	555	0	269	824	0	710	326	1036
% App. Total	0	0	0		0	61.4	38.6		67.4	0	32.6		0	68.5	31.5	
PHF	.000	.000	.000	.000	.000	.940	.944	.965	.901	.000	.851	.928	.000	.779	.807	.846

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City of Artesia
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File Name : 06_ATS_605N_South PM
Site Code : 05724372
Start Date : 4/24/2024
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Groups Printed- Total Volume

	I-605 Northbound On Ramp Southbound				South Street Westbound				I-605 Northbound Ramps Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	218	188	406	82	0	128	210	0	311	86	397	1013
04:15 PM	0	0	0	0	0	207	196	403	128	0	137	265	0	306	97	403	1071
04:30 PM	0	0	0	0	0	212	166	378	96	0	124	220	0	362	109	471	1069
04:45 PM	0	0	0	0	0	216	169	385	105	0	129	234	0	351	87	438	1057
Total	0	0	0	0	0	853	719	1572	411	0	518	929	0	1330	379	1709	4210
05:00 PM	0	0	0	0	0	249	169	418	103	0	108	211	0	354	117	471	1100
05:15 PM	0	0	0	0	0	227	192	419	100	0	119	219	0	319	101	420	1058
05:30 PM	0	0	0	0	0	212	181	393	80	0	109	189	0	360	91	451	1033
05:45 PM	0	0	0	0	0	241	143	384	92	0	130	222	0	352	93	445	1051
Total	0	0	0	0	0	929	685	1614	375	0	466	841	0	1385	402	1787	4242
Grand Total	0	0	0	0	0	1782	1404	3186	786	0	984	1770	0	2715	781	3496	8452
Apprch %	0	0	0		0	55.9	44.1		44.4	0	55.6		0	77.7	22.3		
Total %	0	0	0	0	0	21.1	16.6	37.7	9.3	0	11.6	20.9	0	32.1	9.2	41.4	

	I-605 Northbound On Ramp Southbound				South Street Westbound				I-605 Northbound Ramps Northbound				South Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	207	**196**	403	**128**	0	**137**	**265**	0	306	97	403	1071
04:30 PM	0	0	0	0	0	212	166	378	96	0	124	220	0	**362**	109	**471**	1069
04:45 PM	0	0	0	0	0	216	169	385	105	0	129	234	0	351	87	438	1057
05:00 PM	0	0	0	0	0	**249**	169	**418**	103	0	108	211	0	354	**117**	471	**1100**
Total Volume	0	0	0	0	0	884	700	1584	432	0	498	930	0	1373	410	1783	4297
% App. Total	0	0	0		0	55.8	44.2		46.5	0	53.5		0	77	23		
PHF	.000	.000	.000	.000	.000	.888	.893	.947	.844	.000	.909	.877	.000	.948	.876	.946	.977

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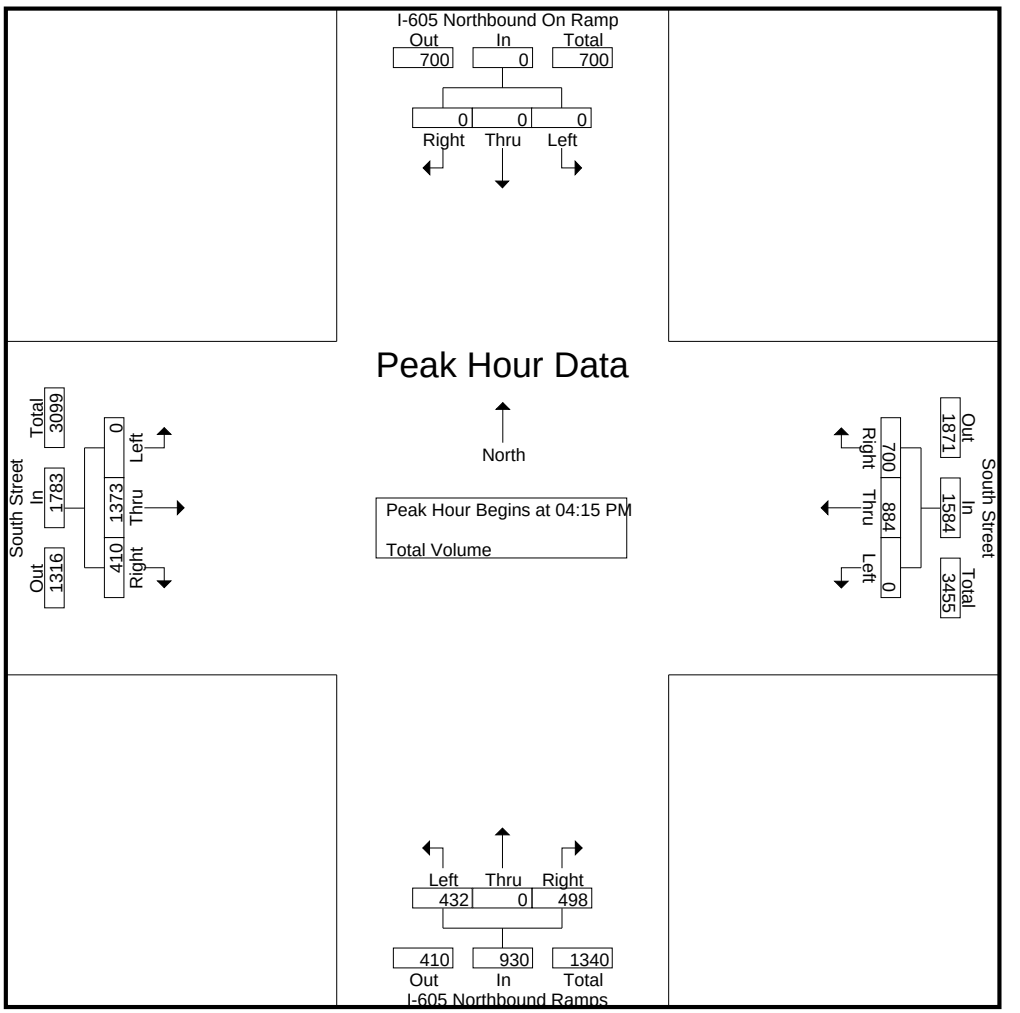
City of Artesia
N/S: I-605 Northbound Ramps
E/W: South Street
Weather: Clear

File Name : 06_ATS_605N_South PM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				04:15 PM				04:30 PM			
+0 mins.	0	0	0	0	0	216	169	385	**128**	0	**137**	**265**	0	**362**	109	**471**
+15 mins.	0	0	0	0	0	**249**	169	418	96	0	124	220	0	351	87	438
+30 mins.	0	0	0	0	0	227	**192**	**419**	105	0	129	234	0	354	**117**	471
+45 mins.	0	0	0	0	0	212	181	393	103	0	108	211	0	319	101	420
Total Volume	0	0	0	0	0	904	711	1615	432	0	498	930	0	1386	414	1800
% App. Total	0	0	0		0	56	44		46.5	0	53.5		0	77	23	
PHF	.000	.000	.000	.000	.000	.908	.926	.964	.844	.000	.909	.877	.000	.957	.885	.955

Location: Artesia
N/S: I-605 NB Ramps
E/W: South Street

Date: 4/24/2024
Day: Wednesday

PEDESTRIANS

	North Leg I-605 NB Ramps	East Leg South Street	South Leg I-605 NB Ramps	West Leg South Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	1	0	1	0	2
7:30 AM	1	0	1	0	2
7:45 AM	0	0	0	0	0
8:00 AM	1	0	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	1	0	2	0	3
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	4	0	5	0	9

	North Leg I-605 NB Ramps	East Leg South Street	South Leg I-605 NB Ramps	West Leg South Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	2	0	0	0	2
4:45 PM	1	0	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	1	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	3	0	1	0	4

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951-268-6268

Location: Artesia
N/S: I-605 NB Ramps
E/W: South Street

Date: 4/24/2024
Day: Wednesday

BICYCLES

	Southbound I-605 NB Ramps			Westbound South Street			Northbound I-605 NB Ramps			Eastbound South Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound I-605 NB Ramps			Westbound South Street			Northbound I-605 NB Ramps			Eastbound South Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Artesia
N/S: Pioneer Boulevard
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 07_ATS_Pion_91W AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Pioneer Boulevard Southbound				SR-91 Westbound Ramps Westbound				Pioneer Boulevard Northbound				Motel-6 Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	199	0	199	27	0	17	44	3	77	61	141	0	0	2	2	386
07:15 AM	0	225	2	227	36	1	17	54	3	92	69	164	0	0	3	3	448
07:30 AM	0	292	1	293	27	1	26	54	0	127	115	242	1	0	5	6	595
07:45 AM	0	236	1	237	32	1	20	53	8	237	110	355	0	0	3	3	648
Total	0	952	4	956	122	3	80	205	14	533	355	902	1	0	13	14	2077
08:00 AM	0	228	3	231	34	0	19	53	3	200	93	296	0	0	5	5	585
08:15 AM	0	259	0	259	32	1	24	57	8	179	103	290	0	0	4	4	610
08:30 AM	0	226	2	228	33	0	19	52	7	153	103	263	0	0	3	3	546
08:45 AM	0	170	2	172	23	0	18	41	10	108	95	213	0	0	7	7	433
Total	0	883	7	890	122	1	80	203	28	640	394	1062	0	0	19	19	2174
Grand Total	0	1835	11	1846	244	4	160	408	42	1173	749	1964	1	0	32	33	4251
Apprch %	0	99.4	0.6		59.8	1	39.2		2.1	59.7	38.1		3	0	97		
Total %	0	43.2	0.3	43.4	5.7	0.1	3.8	9.6	1	27.6	17.6	46.2	0	0	0.8	0.8	

	Pioneer Boulevard Southbound				SR-91 Westbound Ramps Westbound				Pioneer Boulevard Northbound				Motel-6 Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**292**	1	**293**	27	**1**	**26**	54	0	127	**115**	242	**1**	0	**5**	**6**	595
07:45 AM	0	236	1	237	32	1	20	53	**8**	**237**	110	**355**	0	0	3	3	**648**
08:00 AM	0	228	**3**	231	**34**	0	19	53	3	200	93	296	0	0	5	5	585
08:15 AM	0	259	0	259	32	1	24	**57**	8	179	103	290	0	0	4	4	610
Total Volume	0	1015	5	1020	125	3	89	217	19	743	421	1183	1	0	17	18	2438
% App. Total	0	99.5	0.5		57.6	1.4	41		1.6	62.8	35.6		5.6	0	94.4		
PHF	.000	.869	.417	.870	.919	.750	.856	.952	.594	.784	.915	.833	.250	.000	.850	.750	.941

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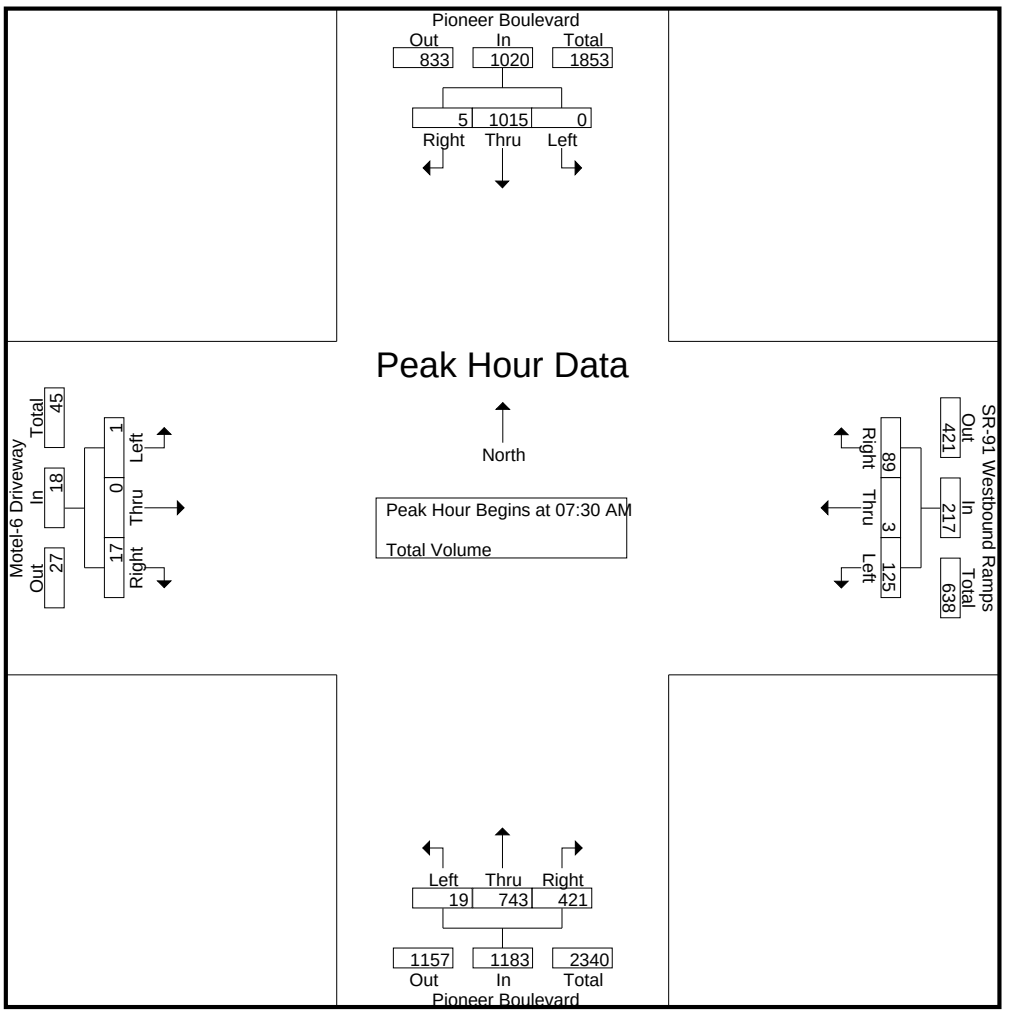
City of Artesia
N/S: Pioneer Boulevard
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 07_ATS_Pion_91W AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:45 AM				08:00 AM			
+0 mins.	0	**292**	1	**293**	27	**1**	**26**	54	**8**	**237**	**110**	**355**	0	0	5	5
+15 mins.	0	236	1	237	32	1	20	53	3	200	93	296	0	0	4	4
+30 mins.	0	228	**3**	231	**34**	0	19	53	8	179	103	290	0	0	3	3
+45 mins.	0	259	0	259	32	1	24	**57**	7	153	103	263	0	0	**7**	**7**
Total Volume	0	1015	5	1020	125	3	89	217	26	769	409	1204	0	0	19	19
% App. Total	0	99.5	0.5		57.6	1.4	41		2.2	63.9	34		0	0	100	
PHF	.000	.869	.417	.870	.919	.750	.856	.952	.813	.811	.930	.848	.000	.000	.679	.679

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City of Artesia
N/S: Pioneer Boulevard
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 07_ATS_Pion_91W PM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Pioneer Boulevard Southbound				SR-91 Westbound Ramps Westbound				Pioneer Boulevard Northbound				Motel-6 Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	239	0	239	28	0	30	58	5	217	79	301	0	0	6	6	604
04:15 PM	0	220	2	222	23	2	27	52	5	198	85	288	0	0	5	5	567
04:30 PM	0	191	0	191	23	0	28	51	10	222	78	310	1	0	8	9	561
04:45 PM	0	178	0	178	18	0	35	53	5	206	89	300	0	0	0	0	531
Total	0	828	2	830	92	2	120	214	25	843	331	1199	1	0	19	20	2263
05:00 PM	0	228	2	230	23	1	19	43	8	221	94	323	0	0	3	3	599
05:15 PM	0	260	1	261	15	0	27	42	8	251	88	347	0	0	2	2	652
05:30 PM	0	209	1	210	32	1	30	63	9	222	83	314	0	0	6	6	593
05:45 PM	0	242	2	244	31	1	23	55	4	214	77	295	0	0	4	4	598
Total	0	939	6	945	101	3	99	203	29	908	342	1279	0	0	15	15	2442
Grand Total	0	1767	8	1775	193	5	219	417	54	1751	673	2478	1	0	34	35	4705
Apprch %	0	99.5	0.5		46.3	1.2	52.5		2.2	70.7	27.2		2.9	0	97.1		
Total %	0	37.6	0.2	37.7	4.1	0.1	4.7	8.9	1.1	37.2	14.3	52.7	0	0	0.7	0.7	

	Pioneer Boulevard Southbound				SR-91 Westbound Ramps Westbound				Pioneer Boulevard Northbound				Motel-6 Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	228	**2**	230	23	**1**	19	43	8	221	**94**	323	0	0	3	3	599
05:15 PM	0	**260**	1	**261**	15	0	27	42	8	**251**	88	**347**	0	0	2	2	**652**
05:30 PM	0	209	1	210	**32**	1	**30**	**63**	**9**	222	83	314	0	0	**6**	**6**	593
05:45 PM	0	242	2	244	31	1	23	55	4	214	77	295	0	0	4	4	598
Total Volume	0	939	6	945	101	3	99	203	29	908	342	1279	0	0	15	15	2442
% App. Total	0	99.4	0.6		49.8	1.5	48.8		2.3	71	26.7		0	0	100		
PHF	.000	.903	.750	.905	.789	.750	.825	.806	.806	.904	.910	.921	.000	.000	.625	.625	.936

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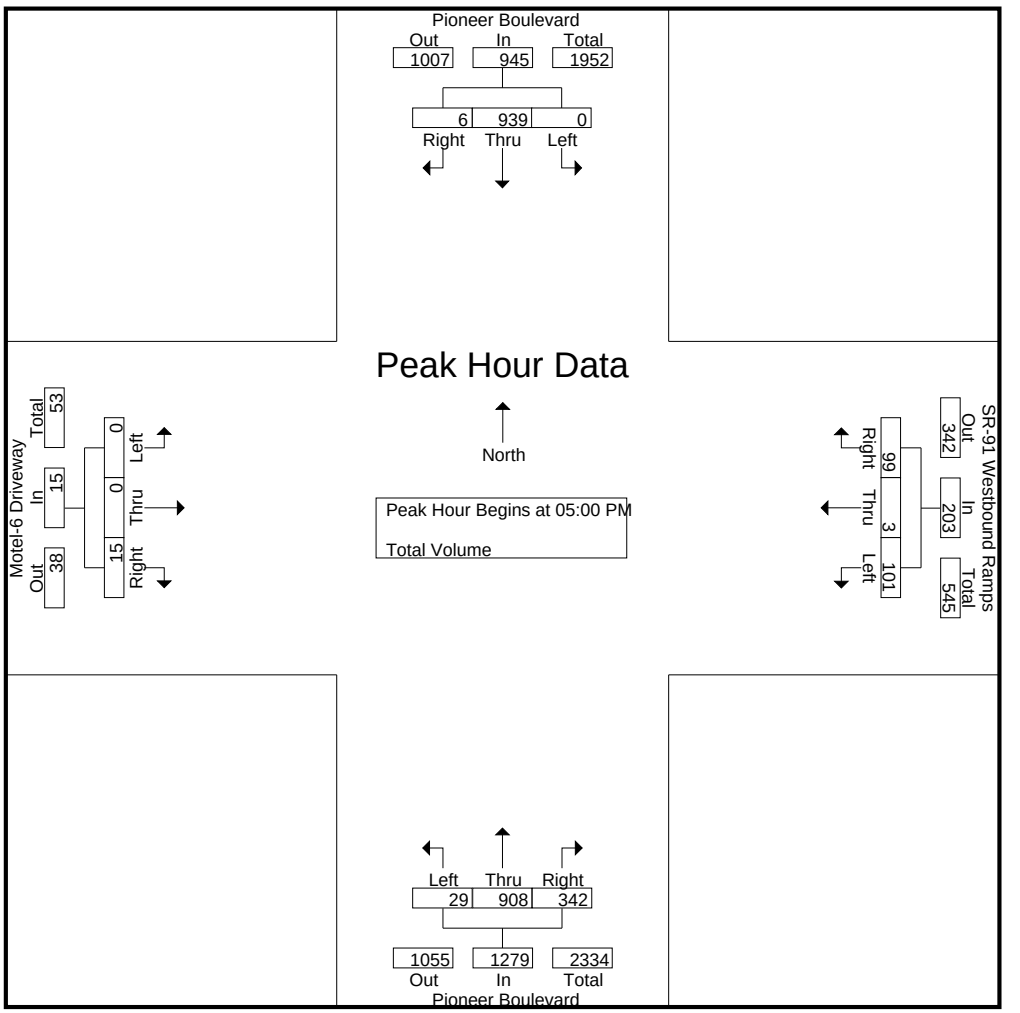
City of Artesia
N/S: Pioneer Boulevard
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 07_ATS_Pion_91W PM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:45 PM				04:00 PM			
+0 mins.	0	228	**2**	230	**28**	0	30	**58**	5	206	89	300	0	0	6	6
+15 mins.	0	**260**	1	**261**	23	**2**	27	52	8	221	**94**	323	0	0	5	5
+30 mins.	0	209	1	210	23	0	28	51	8	**251**	88	**347**	**1**	0	**8**	**9**
+45 mins.	0	242	2	244	18	0	**35**	53	**9**	222	83	314	0	0	0	0
Total Volume	0	939	6	945	92	2	120	214	30	900	354	1284	1	0	19	20
% App. Total	0	99.4	0.6		43	0.9	56.1		2.3	70.1	27.6		5	0	95	
PHF	.000	.903	.750	.905	.821	.250	.857	.922	.833	.896	.941	.925	.250	.000	.594	.556

Location: Artesia
N/S: Pioneer Boulevard
E/W: SR-91 WB Ramps

Date: 4/24/2024
Day: Wednesday

PEDESTRIANS

	North Leg Pioneer Boulevard	East Leg SR-91 WB Ramps	South Leg Pioneer Boulevard	West Leg Motel-6 DW	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	2	3	0	4	9
7:15 AM	1	4	0	3	8
7:30 AM	2	5	0	5	12
7:45 AM	8	6	0	0	14
8:00 AM	0	3	0	0	3
8:15 AM	8	4	0	2	14
8:30 AM	3	4	0	6	13
8:45 AM	3	12	0	6	21
TOTAL VOLUMES:	27	41	0	26	94

	North Leg Pioneer Boulevard	East Leg SR-91 WB Ramps	South Leg Pioneer Boulevard	West Leg Motel-6 DW	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	8	0	2	11
4:15 PM	2	10	0	6	18
4:30 PM	2	3	0	2	7
4:45 PM	0	3	0	2	5
5:00 PM	0	9	0	3	12
5:15 PM	2	8	0	4	14
5:30 PM	2	5	0	1	8
5:45 PM	0	4	0	1	5
TOTAL VOLUMES:	9	50	0	21	80

Location: Artesia
N/S: Pioneer Boulevard
E/W: SR-91 WB Ramps

Date: 4/24/2024
Day: Wednesday

BICYCLES

	Southbound Pioneer Boulevard			Westbound SR-91 WB Ramps			Northbound Pioneer Boulevard			Eastbound Motel-6 DW			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	1	2
8:00 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
8:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	7	0	0	0	0	0	2	0	0	0	1	10

	Southbound Pioneer Boulevard			Westbound SR-91 WB Ramps			Northbound Pioneer Boulevard			Eastbound Motel-6 DW			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	0	0	0	1	0	0	0	0	3

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City of Artesia
N/S: Pioneer Boulevard
E/W: SR-91 EB Ramps/Frampton Court
Weather: Clear

File Name : 08_ATS_Pion_91E AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Pioneer Boulevard Southbound				Frampton Court Westbound				Pioneer Boulevard Northbound				SR-91 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	79	54	135	2	0	8	10	0	134	1	135	31	10	72	113	393
07:15 AM	4	91	59	154	2	0	9	11	0	153	2	155	56	7	77	140	460
07:30 AM	43	210	70	323	1	0	21	22	0	188	3	191	57	12	125	194	730
07:45 AM	46	175	59	280	0	0	52	52	0	237	2	239	77	15	112	204	775
Total	95	555	242	892	5	0	90	95	0	712	8	720	221	44	386	651	2358
08:00 AM	35	168	63	266	0	0	40	40	0	200	4	204	97	18	104	219	729
08:15 AM	51	191	61	303	3	0	51	54	0	190	4	194	83	11	78	172	723
08:30 AM	43	167	49	259	2	0	37	39	0	196	4	200	52	10	75	137	635
08:45 AM	40	128	47	215	1	0	29	30	0	147	4	151	61	10	72	143	539
Total	169	654	220	1043	6	0	157	163	0	733	16	749	293	49	329	671	2626
Grand Total	264	1209	462	1935	11	0	247	258	0	1445	24	1469	514	93	715	1322	4984
Apprch %	13.6	62.5	23.9		4.3	0	95.7		0	98.4	1.6		38.9	7	54.1		
Total %	5.3	24.3	9.3	38.8	0.2	0	5	5.2	0	29	0.5	29.5	10.3	1.9	14.3	26.5	

	Pioneer Boulevard Southbound				Frampton Court Westbound				Pioneer Boulevard Northbound				SR-91 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	43	**210**	**70**	**323**	1	0	21	22	0	188	3	191	57	12	**125**	194	730
07:45 AM	46	175	59	280	0	0	**52**	52	0	**237**	2	**239**	77	15	112	204	**775**
08:00 AM	35	168	63	266	0	0	40	40	0	200	**4**	204	**97**	**18**	104	**219**	729
08:15 AM	**51**	191	61	303	**3**	0	51	**54**	0	190	4	194	83	11	78	172	723
Total Volume	175	744	253	1172	4	0	164	168	0	815	13	828	314	56	419	789	2957
% App. Total	14.9	63.5	21.6		2.4	0	97.6		0	98.4	1.6		39.8	7.1	53.1		
PHF	.858	.886	.904	.907	.333	.000	.788	.778	.000	.860	.813	.866	.809	.778	.838	.901	.954

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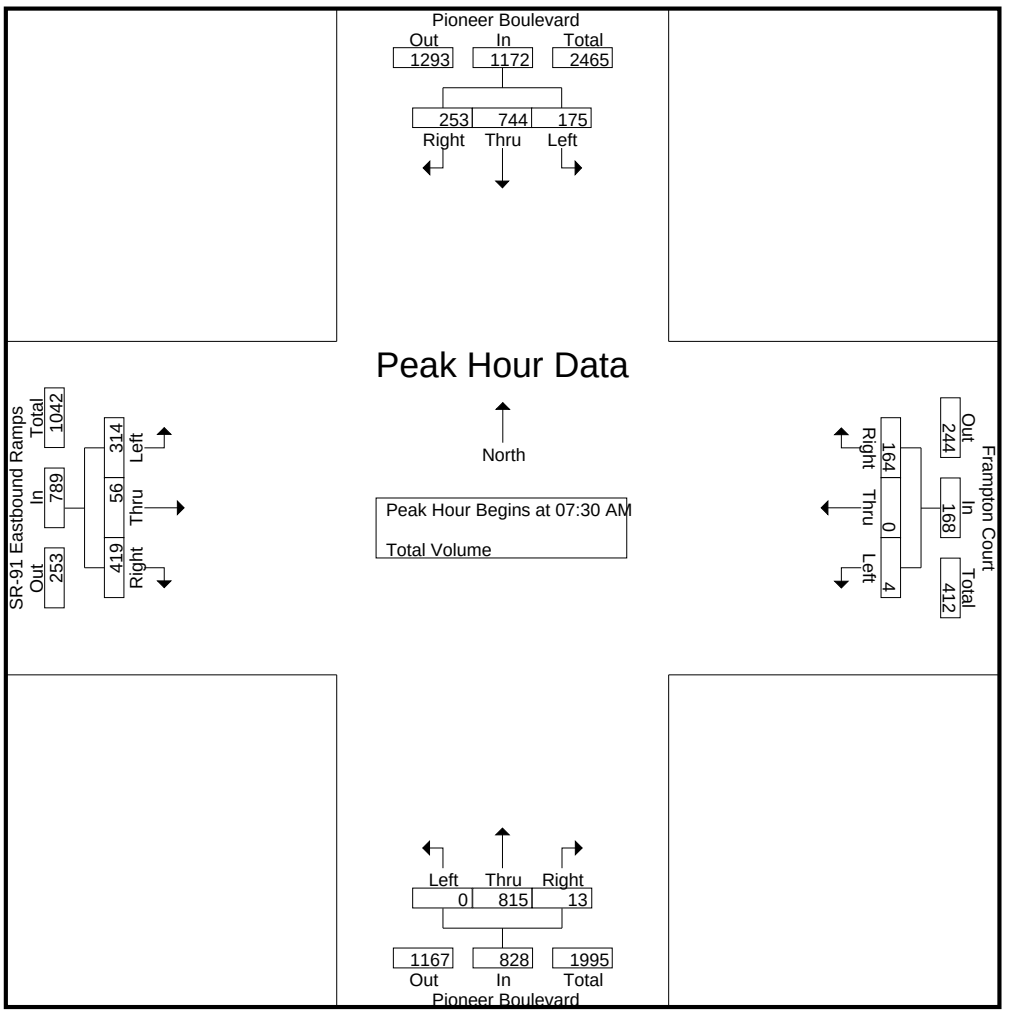
City of Artesia
N/S: Pioneer Boulevard
E/W: SR-91 EB Ramps/Frampton Court
Weather: Clear

File Name : 08_ATS_Pion_91E AM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:45 AM				07:30 AM			
+0 mins.	43	**210**	**70**	**323**	0	0	**52**	52	0	**237**	2	**239**	57	12	**125**	194
+15 mins.	46	175	59	280	0	0	40	40	0	200	**4**	204	77	15	112	204
+30 mins.	35	168	63	266	**3**	0	51	**54**	0	190	4	194	**97**	**18**	104	**219**
+45 mins.	**51**	191	61	303	2	0	37	39	0	196	4	200	83	11	78	172
Total Volume	175	744	253	1172	5	0	180	185	0	823	14	837	314	56	419	789
% App. Total	14.9	63.5	21.6		2.7	0	97.3		0	98.3	1.7		39.8	7.1	53.1	
PHF	.858	.886	.904	.907	.417	.000	.865	.856	.000	.868	.875	.876	.809	.778	.838	.901

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City of Artesia
N/S: Pioneer Boulevard
E/W: SR-91 EB Ramps/Frampton Court
Weather: Clear

File Name : 08_ATS_Pion_91E PM
Site Code : 05724372
Start Date : 4/24/2024
Page No : 1

Groups Printed- Total Volume

	Pioneer Boulevard Southbound				Frampton Court Westbound				Pioneer Boulevard Northbound				SR-91 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	150	37	189	5	0	25	30	1	254	1	256	90	7	111	208	683
04:15 PM	4	140	35	179	1	0	27	28	0	255	0	255	74	8	114	196	658
04:30 PM	2	124	37	163	4	0	22	26	0	245	2	247	98	6	98	202	638
04:45 PM	5	89	36	130	0	0	22	22	0	246	0	246	92	3	116	211	609
Total	13	503	145	661	10	0	96	106	1	1000	3	1004	354	24	439	817	2588
05:00 PM	3	110	45	158	6	0	33	39	0	264	1	265	98	5	91	194	656
05:15 PM	1	143	43	187	1	0	34	35	0	285	0	285	106	6	107	219	726
05:30 PM	6	143	33	182	5	0	31	36	0	252	3	255	111	1	113	225	698
05:45 PM	4	166	39	209	1	0	17	18	0	261	1	262	91	3	118	212	701
Total	14	562	160	736	13	0	115	128	0	1062	5	1067	406	15	429	850	2781
Grand Total	27	1065	305	1397	23	0	211	234	1	2062	8	2071	760	39	868	1667	5369
Apprch %	1.9	76.2	21.8		9.8	0	90.2		0	99.6	0.4		45.6	2.3	52.1		
Total %	0.5	19.8	5.7	26	0.4	0	3.9	4.4	0	38.4	0.1	38.6	14.2	0.7	16.2	31	

	Pioneer Boulevard Southbound				Frampton Court Westbound				Pioneer Boulevard Northbound				SR-91 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	3	110	**45**	158	**6**	0	33	**39**	0	264	1	265	98	5	91	194	656
05:15 PM	1	143	43	187	1	0	**34**	35	0	**285**	0	**285**	106	**6**	107	219	**726**
05:30 PM	**6**	143	33	182	5	0	31	36	0	252	**3**	255	**111**	1	113	**225**	698
05:45 PM	4	**166**	39	**209**	1	0	17	18	0	261	1	262	91	3	**118**	212	701
Total Volume	14	562	160	736	13	0	115	128	0	1062	5	1067	406	15	429	850	2781
% App. Total	1.9	76.4	21.7		10.2	0	89.8		0	99.5	0.5		47.8	1.8	50.5		
PHF	.583	.846	.889	.880	.542	.000	.846	.821	.000	.932	.417	.936	.914	.625	.909	.944	.958

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City of Artesia
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Weather: Clear

File Name : 08_ATS_Pion_91E PM
Site Code : 05724372
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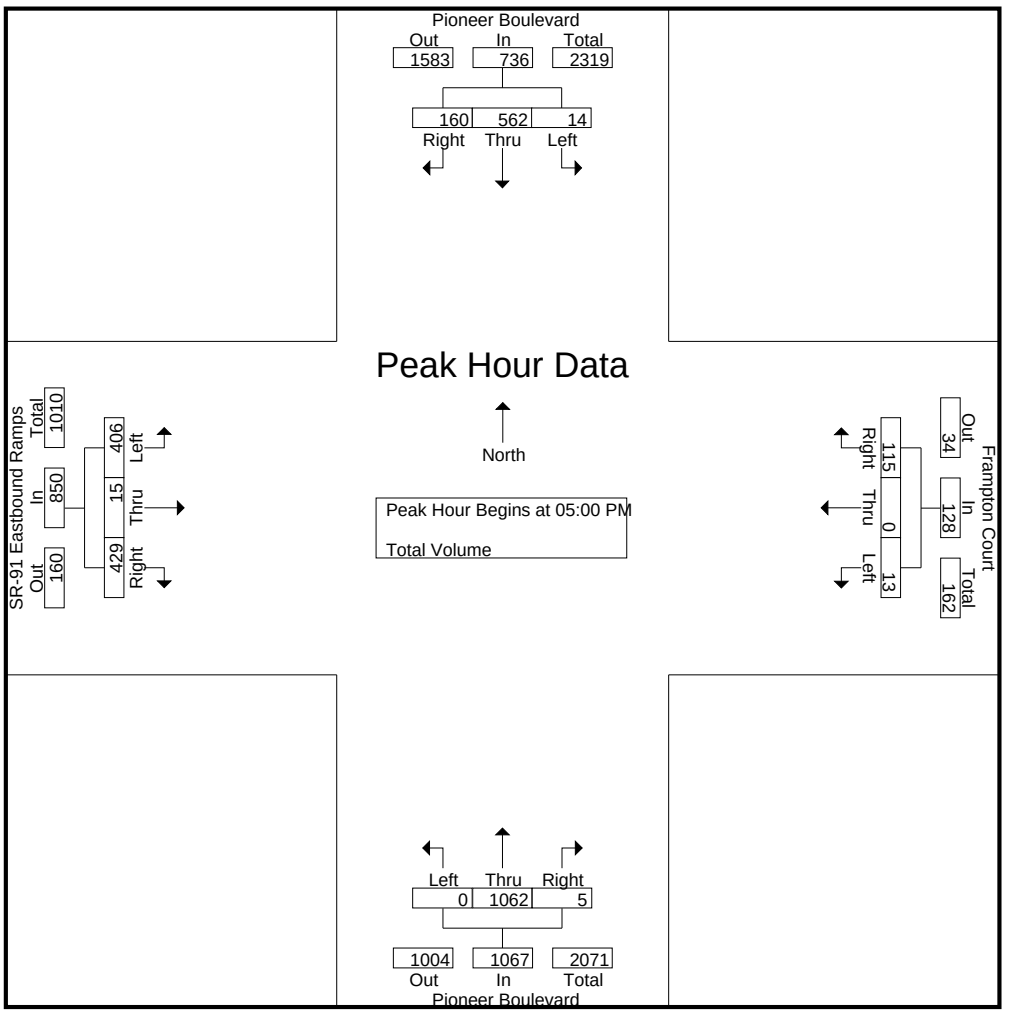

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				05:00 PM				05:00 PM			
+0 mins.	3	110	**45**	158	0	0	22	22	0	264	1	265	98	5	91	194
+15 mins.	1	143	43	187	**6**	0	33	**39**	0	**285**	0	**285**	106	**6**	107	219
+30 mins.	**6**	143	33	182	1	0	**34**	35	0	252	**3**	255	**111**	1	113	**225**
+45 mins.	4	**166**	39	**209**	5	0	31	36	0	261	1	262	91	3	**118**	212
Total Volume	14	562	160	736	12	0	120	132	0	1062	5	1067	406	15	429	850
% App. Total	1.9	76.4	21.7		9.1	0	90.9		0	99.5	0.5		47.8	1.8	50.5	
PHF	.583	.846	.889	.880	.500	.000	.882	.846	.000	.932	.417	.936	.914	.625	.909	.944

Location: Artesia
N/S: Pioneer Boulevard
E/W: SR-91 EB Ramps

Date: 4/24/2024
Day: Wednesday

PEDESTRIANS

	North Leg Pioneer Boulevard	East Leg Frampton Court	South Leg Pioneer Boulevard	West Leg SR-91 EB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	2	0	1	3
7:15 AM	0	1	0	1	2
7:30 AM	0	6	0	4	10
7:45 AM	0	6	1	2	9
8:00 AM	0	2	0	1	3
8:15 AM	0	6	0	3	9
8:30 AM	0	4	1	1	6
8:45 AM	0	9	3	1	13
TOTAL VOLUMES:	0	36	5	14	55

	North Leg Pioneer Boulevard	East Leg Frampton Court	South Leg Pioneer Boulevard	West Leg SR-91 EB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	7	1	2	10
4:15 PM	0	11	1	2	14
4:30 PM	0	5	3	5	13
4:45 PM	0	5	0	0	5
5:00 PM	0	8	1	3	12
5:15 PM	0	8	1	6	15
5:30 PM	0	4	1	2	7
5:45 PM	0	5	1	1	7
TOTAL VOLUMES:	0	53	9	21	83

Location: Artesia
N/S: Pioneer Boulevard
E/W: SR-91 EB Ramps

Date: 4/24/2024
Day: Wednesday

BICYCLES

	Southbound Pioneer Boulevard			Westbound Frampton Court			Northbound Pioneer Boulevard			Eastbound SR-91 EB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	0	0	0	3	0	0	0	0	5

	Southbound Pioneer Boulevard			Westbound Frampton Court			Northbound Pioneer Boulevard			Eastbound SR-91 EB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTAL VOLUMES:	0	1	0	0	0	0	0	2	0	1	0	0	4

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APPENDIX D

HCM LEVELS OF SERVICE EXPLANATION
HCM DATA WORKSHEETS – WEEKDAY AM AND PM PEAK HOUR

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

In the *Highway Capacity Manual (HCM)7th Edition*, published by the Transportation Research Board, 2022, level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of incidents, and when there are no other vehicles on the road. Only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Level of Service criteria for traffic signals are stated in terms of the average control delay per vehicle. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the *v/c* ratio for the lane group in question.

Level of Service Criteria for Signalized Intersections	
Level of Service	Control Delay (Sec/Veh)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Level of Service (LOS) values are used to describe intersection operations with service levels varying from LOS A (free flow) to LOS F (jammed condition). The following descriptions summarize *HCM* criteria for each level of service:

LOS A describes operations with very low control delay, up to 10 seconds per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay values.

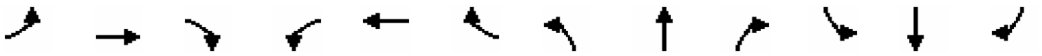
LOS B describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

LOS C describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with control delay greater than 55 and up to 80 seconds per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.

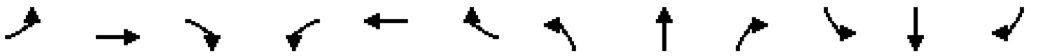
LOS F describes operations with control delay in excess of 80 seconds per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the lane groups. It may also occur at high *v/c* ratios with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	477	79	51	671	76	148	235	55	80	147	225
Future Volume (veh/h)	176	477	79	51	671	76	148	235	55	80	147	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	492	81	53	692	78	153	242	57	82	152	232
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	248	2076	335	68	2026	226	186	638	147	105	631	393
Arrive On Green	0.14	0.94	0.94	0.04	0.43	0.43	0.10	0.22	0.22	0.06	0.18	0.18
Sat Flow, veh/h	3456	4429	715	1781	4658	521	1781	2861	661	1781	3554	1572
Grp Volume(v), veh/h	181	376	197	53	504	266	153	148	151	82	152	232
Grp Sat Flow(s),veh/h/ln	1728	1702	1739	1781	1702	1775	1781	1777	1745	1781	1777	1572
Q Serve(g_s), s	4.5	0.8	0.8	2.7	8.8	9.0	7.6	6.4	6.6	4.1	3.3	11.7
Cycle Q Clear(g_c), s	4.5	0.8	0.8	2.7	8.8	9.0	7.6	6.4	6.6	4.1	3.3	11.7
Prop In Lane	1.00		0.41	1.00		0.29	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	248	1596	815	68	1481	772	186	396	389	105	631	393
V/C Ratio(X)	0.73	0.24	0.24	0.78	0.34	0.34	0.82	0.37	0.39	0.78	0.24	0.59
Avail Cap(c_a), veh/h	307	1596	815	139	1481	772	247	533	524	188	948	533
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	1.5	1.5	42.9	16.9	16.9	39.5	29.6	29.7	41.8	31.8	29.7
Incr Delay (d2), s/veh	4.6	0.3	0.7	7.1	0.6	1.2	11.7	0.8	0.9	4.6	0.3	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	0.5	0.7	2.3	6.0	6.5	6.9	4.9	5.0	3.4	2.5	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.3	1.9	2.2	50.1	17.5	18.1	51.1	30.5	30.6	46.4	32.1	31.7
LnGrp LOS	D	A	A	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		754			823			452			466	
Approach Delay, s/veh		11.7			19.8			37.5			34.4	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	47.2	13.9	21.0	11.0	44.1	9.8	25.1
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	7.0	27.5	12.5	24.0	8.0	26.5	9.5	27.0
Max Q Clear Time (g_c+I1), s	4.7	2.8	9.6	13.7	6.5	11.0	6.1	8.6
Green Ext Time (p_c), s	0.0	5.0	0.0	1.8	0.0	5.7	0.0	2.1

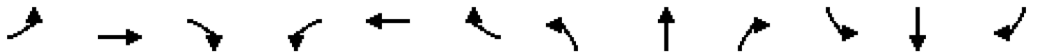
Intersection Summary	
HCM 7th Control Delay, s/veh	23.3
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	276	869	143	102	770	155	125	273	68	190	286	375
Future Volume (veh/h)	276	869	143	102	770	155	125	273	68	190	286	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	282	887	146	104	786	158	128	279	69	194	292	383
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	1648	270	132	1461	291	159	600	145	229	897	559
Arrive On Green	0.07	0.25	0.25	0.07	0.34	0.34	0.09	0.21	0.21	0.13	0.25	0.25
Sat Flow, veh/h	3456	4414	723	1781	4253	847	1781	2816	682	1781	3554	1564
Grp Volume(v), veh/h	282	683	350	104	628	316	128	174	174	194	292	383
Grp Sat Flow(s),veh/h/ln	1728	1702	1733	1781	1702	1695	1781	1777	1721	1781	1777	1564
Q Serve(g_s), s	7.2	15.6	15.8	5.2	13.4	13.6	6.3	7.7	8.0	9.6	6.0	18.8
Cycle Q Clear(g_c), s	7.2	15.6	15.8	5.2	13.4	13.6	6.3	7.7	8.0	9.6	6.0	18.8
Prop In Lane	1.00		0.42	1.00		0.50	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	359	1271	647	132	1169	582	159	379	367	229	897	559
V/C Ratio(X)	0.79	0.54	0.54	0.79	0.54	0.54	0.81	0.46	0.47	0.85	0.33	0.68
Avail Cap(c_a), veh/h	480	1271	647	188	1169	582	208	395	382	307	987	599
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	27.0	27.0	41.0	23.8	23.8	40.2	30.9	31.0	38.4	27.4	24.7
Incr Delay (d2), s/veh	4.3	1.6	3.2	8.4	1.8	3.6	12.1	1.2	1.4	12.1	0.3	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	11.1	11.7	4.5	9.1	9.6	5.8	6.0	6.0	8.4	4.5	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.1	28.6	30.3	49.4	25.6	27.5	52.3	32.1	32.4	50.4	27.7	28.1
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1315			1048			476			869	
Approach Delay, s/veh		32.6			28.5			37.6			33.0	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	38.6	12.5	27.7	13.8	35.9	16.1	24.2
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	9.5	26.0	10.5	25.0	12.5	23.0	15.5	20.0
Max Q Clear Time (g_c+I1), s	7.2	17.8	8.3	20.8	9.2	15.6	11.6	10.0
Green Ext Time (p_c), s	0.0	4.9	0.0	1.7	0.1	4.2	0.1	1.8

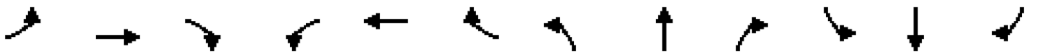
Intersection Summary	
HCM 7th Control Delay, s/veh	32.2
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	542	79	57	800	95	148	242	59	89	153	265
Future Volume (veh/h)	201	542	79	57	800	95	148	242	59	89	153	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	559	81	59	825	98	153	249	61	92	158	273
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	2004	286	76	1885	223	186	671	161	117	703	437
Arrive On Green	0.16	0.89	0.89	0.04	0.41	0.41	0.10	0.24	0.24	0.07	0.20	0.20
Sat Flow, veh/h	3456	4512	644	1781	4627	547	1781	2837	681	1781	3554	1573
Grp Volume(v), veh/h	207	420	220	59	606	317	153	154	156	92	158	273
Grp Sat Flow(s),veh/h/ln	1728	1702	1752	1781	1702	1770	1781	1777	1742	1781	1777	1573
Q Serve(g_s), s	5.2	1.6	1.7	3.0	11.5	11.7	7.6	6.5	6.8	4.6	3.4	13.7
Cycle Q Clear(g_c), s	5.2	1.6	1.7	3.0	11.5	11.7	7.6	6.5	6.8	4.6	3.4	13.7
Prop In Lane	1.00		0.37	1.00		0.31	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	274	1512	778	76	1386	721	186	420	412	117	703	437
V/C Ratio(X)	0.76	0.28	0.28	0.78	0.44	0.44	0.82	0.37	0.38	0.78	0.22	0.62
Avail Cap(c_a), veh/h	307	1512	778	139	1386	721	247	533	522	188	948	545
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	2.9	2.9	42.7	19.2	19.3	39.5	28.7	28.8	41.4	30.3	28.4
Incr Delay (d2), s/veh	7.6	0.5	0.9	6.3	1.0	1.9	11.7	0.8	0.8	4.3	0.2	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	1.0	1.2	2.5	7.9	8.4	6.9	5.0	5.1	3.8	2.6	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.6	3.3	3.8	49.0	20.2	21.2	51.1	29.5	29.6	45.7	30.5	30.5
LnGrp LOS	D	A	A	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		847			982			463			523	
Approach Delay, s/veh		13.6			22.3			36.7			33.2	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	45.0	13.9	22.8	11.6	41.7	10.4	26.3
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	7.0	27.5	12.5	24.0	8.0	26.5	9.5	27.0
Max Q Clear Time (g_c+I1), s	5.0	3.7	9.6	15.7	7.2	13.7	6.6	8.8
Green Ext Time (p_c), s	0.0	5.6	0.0	1.7	0.0	6.1	0.0	2.2

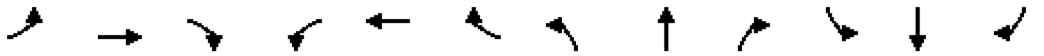
Intersection Summary	
HCM 7th Control Delay, s/veh	24.1
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	315	982	143	90	801	155	125	274	64	204	284	392
Future Volume (veh/h)	315	982	143	90	801	155	125	274	64	204	284	392
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	321	1002	146	92	817	158	128	280	65	208	290	400
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	1696	246	117	1405	270	159	598	136	243	912	584
Arrive On Green	0.08	0.25	0.25	0.07	0.33	0.33	0.09	0.21	0.21	0.14	0.26	0.26
Sat Flow, veh/h	3456	4496	654	1781	4283	822	1781	2855	650	1781	3554	1565
Grp Volume(v), veh/h	321	758	390	92	648	327	128	172	173	208	290	400
Grp Sat Flow(s),veh/h/ln	1728	1702	1746	1781	1702	1700	1781	1777	1728	1781	1777	1565
Q Serve(g_s), s	8.2	17.6	17.7	4.6	14.2	14.4	6.3	7.6	7.9	10.3	5.9	19.4
Cycle Q Clear(g_c), s	8.2	17.6	17.7	4.6	14.2	14.4	6.3	7.6	7.9	10.3	5.9	19.4
Prop In Lane	1.00		0.37	1.00		0.48	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	397	1284	658	117	1117	558	159	372	362	243	912	584
V/C Ratio(X)	0.81	0.59	0.59	0.78	0.58	0.59	0.81	0.46	0.48	0.86	0.32	0.69
Avail Cap(c_a), veh/h	480	1284	658	188	1117	558	208	395	384	307	987	617
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	27.5	27.6	41.4	25.1	25.1	40.2	31.1	31.2	38.0	27.1	23.9
Incr Delay (d2), s/veh	6.9	2.0	3.9	4.3	2.2	4.5	12.1	1.3	1.4	14.7	0.3	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.0	12.2	13.0	3.7	9.7	10.2	5.8	6.0	6.0	9.1	4.5	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.5	29.5	31.4	45.7	27.3	29.6	52.3	32.4	32.6	52.7	27.4	27.2
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1469			1067			473			898	
Approach Delay, s/veh		34.0			29.6			37.9			33.2	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	38.9	12.5	28.1	14.8	34.5	16.8	23.9
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	9.5	26.0	10.5	25.0	12.5	23.0	15.5	20.0
Max Q Clear Time (g_c+I1), s	6.6	19.7	8.3	21.4	10.2	16.4	12.3	9.9
Green Ext Time (p_c), s	0.0	4.3	0.0	1.5	0.1	3.9	0.1	1.8

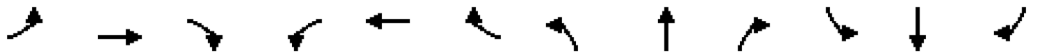
Intersection Summary	
HCM 7th Control Delay, s/veh	33.1
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	477	79	51	671	76	148	235	55	80	147	227
Future Volume (veh/h)	176	477	79	51	671	76	148	235	55	80	147	227
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	492	81	53	692	78	153	242	57	82	152	234
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	248	2072	334	68	2021	226	186	641	148	105	635	395
Arrive On Green	0.14	0.94	0.94	0.04	0.43	0.43	0.10	0.22	0.22	0.06	0.18	0.18
Sat Flow, veh/h	3456	4429	715	1781	4658	521	1781	2861	661	1781	3554	1572
Grp Volume(v), veh/h	181	376	197	53	504	266	153	148	151	82	152	234
Grp Sat Flow(s),veh/h/ln	1728	1702	1739	1781	1702	1775	1781	1777	1745	1781	1777	1572
Q Serve(g_s), s	4.5	0.8	0.8	2.7	8.9	9.0	7.6	6.4	6.6	4.1	3.3	11.8
Cycle Q Clear(g_c), s	4.5	0.8	0.8	2.7	8.9	9.0	7.6	6.4	6.6	4.1	3.3	11.8
Prop In Lane	1.00		0.41	1.00		0.29	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	248	1592	814	68	1477	770	186	398	391	105	635	395
V/C Ratio(X)	0.73	0.24	0.24	0.78	0.34	0.35	0.82	0.37	0.39	0.78	0.24	0.59
Avail Cap(c_a), veh/h	307	1592	814	139	1477	770	247	533	524	188	948	533
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	1.6	1.6	42.9	16.9	17.0	39.5	29.6	29.7	41.8	31.7	29.7
Incr Delay (d2), s/veh	4.6	0.3	0.7	7.1	0.6	1.2	11.7	0.8	0.9	4.6	0.3	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	0.6	0.7	2.3	6.0	6.6	6.9	4.9	5.0	3.4	2.5	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.3	1.9	2.3	50.1	17.6	18.2	51.1	30.4	30.5	46.4	32.0	31.7
LnGrp LOS	D	A	A	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		754			823			452			468	
Approach Delay, s/veh		11.7			19.9			37.5			34.4	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	47.1	13.9	21.1	11.0	44.1	9.8	25.2
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	7.0	27.5	12.5	24.0	8.0	26.5	9.5	27.0
Max Q Clear Time (g_c+I1), s	4.7	2.8	9.6	13.8	6.5	11.0	6.1	8.6
Green Ext Time (p_c), s	0.0	5.0	0.0	1.8	0.0	5.7	0.0	2.1

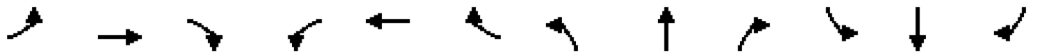
Intersection Summary	
HCM 7th Control Delay, s/veh	23.3
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	276	869	143	105	770	155	125	275	68	190	286	375
Future Volume (veh/h)	276	869	143	105	770	155	125	275	68	190	286	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	282	887	146	107	786	158	128	281	69	194	292	383
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	1640	269	135	1461	291	159	601	145	229	897	559
Arrive On Green	0.07	0.25	0.25	0.08	0.34	0.34	0.09	0.21	0.21	0.13	0.25	0.25
Sat Flow, veh/h	3456	4414	723	1781	4253	847	1781	2820	678	1781	3554	1564
Grp Volume(v), veh/h	282	683	350	107	628	316	128	175	175	194	292	383
Grp Sat Flow(s),veh/h/ln	1728	1702	1733	1781	1702	1695	1781	1777	1722	1781	1777	1564
Q Serve(g_s), s	7.2	15.7	15.8	5.3	13.4	13.6	6.3	7.7	8.0	9.6	6.0	18.8
Cycle Q Clear(g_c), s	7.2	15.7	15.8	5.3	13.4	13.6	6.3	7.7	8.0	9.6	6.0	18.8
Prop In Lane	1.00		0.42	1.00		0.50	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	359	1265	644	135	1169	582	159	379	367	229	897	559
V/C Ratio(X)	0.79	0.54	0.54	0.79	0.54	0.54	0.81	0.46	0.48	0.85	0.33	0.68
Avail Cap(c_a), veh/h	480	1265	644	188	1169	582	208	395	383	307	987	599
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	27.1	27.2	40.9	23.8	23.8	40.2	30.9	31.0	38.4	27.4	24.7
Incr Delay (d2), s/veh	4.3	1.7	3.3	9.5	1.8	3.6	12.1	1.2	1.4	12.1	0.3	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	11.1	11.7	4.7	9.1	9.6	5.8	6.0	6.1	8.4	4.5	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.1	28.8	30.5	50.4	25.6	27.5	52.3	32.2	32.4	50.4	27.7	28.1
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1315			1051			478			869	
Approach Delay, s/veh		32.7			28.7			37.6			33.0	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	38.4	12.5	27.7	13.8	35.9	16.1	24.2
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	9.5	26.0	10.5	25.0	12.5	23.0	15.5	20.0
Max Q Clear Time (g_c+I1), s	7.3	17.8	8.3	20.8	9.2	15.6	11.6	10.0
Green Ext Time (p_c), s	0.0	4.9	0.0	1.7	0.1	4.2	0.1	1.8

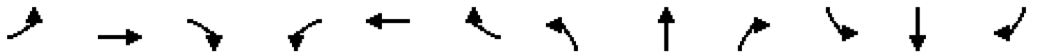
Intersection Summary	
HCM 7th Control Delay, s/veh	32.3
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	542	79	57	800	95	148	242	59	89	153	267
Future Volume (veh/h)	201	542	79	57	800	95	148	242	59	89	153	267
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	559	81	59	825	98	153	249	61	92	158	275
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	1999	285	76	1880	222	186	674	162	117	707	439
Arrive On Green	0.16	0.89	0.89	0.04	0.41	0.41	0.10	0.24	0.24	0.07	0.20	0.20
Sat Flow, veh/h	3456	4512	644	1781	4627	547	1781	2837	681	1781	3554	1573
Grp Volume(v), veh/h	207	420	220	59	606	317	153	154	156	92	158	275
Grp Sat Flow(s),veh/h/ln	1728	1702	1752	1781	1702	1770	1781	1777	1742	1781	1777	1573
Q Serve(g_s), s	5.2	1.7	1.7	3.0	11.6	11.7	7.6	6.5	6.8	4.6	3.4	13.8
Cycle Q Clear(g_c), s	5.2	1.7	1.7	3.0	11.6	11.7	7.6	6.5	6.8	4.6	3.4	13.8
Prop In Lane	1.00		0.37	1.00		0.31	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	274	1508	776	76	1383	719	186	422	413	117	707	439
V/C Ratio(X)	0.76	0.28	0.28	0.78	0.44	0.44	0.82	0.37	0.38	0.78	0.22	0.63
Avail Cap(c_a), veh/h	307	1508	776	139	1383	719	247	533	522	188	948	545
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	2.9	3.0	42.7	19.3	19.3	39.5	28.7	28.7	41.4	30.2	28.4
Incr Delay (d2), s/veh	7.6	0.5	0.9	6.3	1.0	2.0	11.7	0.8	0.8	4.3	0.2	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	1.0	1.2	2.5	7.9	8.4	6.9	5.0	5.1	3.8	2.6	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.6	3.4	3.9	49.0	20.3	21.3	51.1	29.4	29.6	45.7	30.4	30.6
LnGrp LOS	D	A	A	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		847			982			463			525	
Approach Delay, s/veh		13.6			22.3			36.6			33.2	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	44.9	13.9	22.9	11.6	41.6	10.4	26.4
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	7.0	27.5	12.5	24.0	8.0	26.5	9.5	27.0
Max Q Clear Time (g_c+I1), s	5.0	3.7	9.6	15.8	7.2	13.7	6.6	8.8
Green Ext Time (p_c), s	0.0	5.6	0.0	1.7	0.0	6.1	0.0	2.2

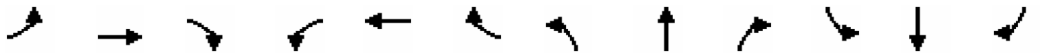
Intersection Summary	
HCM 7th Control Delay, s/veh	24.1
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	315	982	143	93	801	155	125	276	64	204	284	392
Future Volume (veh/h)	315	982	143	93	801	155	125	276	64	204	284	392
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	321	1002	146	95	817	158	128	282	65	208	290	400
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	1686	245	121	1405	270	159	599	135	243	912	584
Arrive On Green	0.08	0.25	0.25	0.07	0.33	0.33	0.09	0.21	0.21	0.14	0.26	0.26
Sat Flow, veh/h	3456	4496	654	1781	4283	822	1781	2859	646	1781	3554	1565
Grp Volume(v), veh/h	321	758	390	95	648	327	128	173	174	208	290	400
Grp Sat Flow(s),veh/h/ln	1728	1702	1746	1781	1702	1700	1781	1777	1728	1781	1777	1565
Q Serve(g_s), s	8.2	17.6	17.7	4.7	14.2	14.4	6.3	7.7	8.0	10.3	5.9	19.4
Cycle Q Clear(g_c), s	8.2	17.6	17.7	4.7	14.2	14.4	6.3	7.7	8.0	10.3	5.9	19.4
Prop In Lane	1.00		0.37	1.00		0.48	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	397	1277	655	121	1117	558	159	372	362	243	912	584
V/C Ratio(X)	0.81	0.59	0.60	0.79	0.58	0.59	0.81	0.46	0.48	0.86	0.32	0.69
Avail Cap(c_a), veh/h	480	1277	655	188	1117	558	208	395	384	307	987	617
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	27.7	27.7	41.3	25.1	25.1	40.2	31.2	31.3	38.0	27.1	23.9
Incr Delay (d2), s/veh	6.9	2.0	4.0	4.6	2.2	4.5	12.1	1.3	1.4	14.7	0.3	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.0	12.3	13.0	3.9	9.7	10.2	5.8	6.0	6.1	9.1	4.5	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.5	29.7	31.6	45.9	27.3	29.6	52.3	32.4	32.7	52.7	27.4	27.2
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1469			1070			475			898	
Approach Delay, s/veh		34.1			29.7			37.9			33.2	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	38.8	12.5	28.1	14.8	34.5	16.8	23.9
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	9.5	26.0	10.5	25.0	12.5	23.0	15.5	20.0
Max Q Clear Time (g_c+I1), s	6.7	19.7	8.3	21.4	10.2	16.4	12.3	10.0
Green Ext Time (p_c), s	0.0	4.3	0.0	1.5	0.1	3.9	0.1	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	33.1
HCM 7th LOS	C



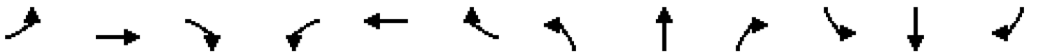
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	283	21	32	327	86	31	202	19	88	278	74
Future Volume (veh/h)	56	283	21	32	327	86	31	202	19	88	278	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	308	23	35	355	93	34	220	21	96	302	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	726	54	46	553	143	45	466	199	739	1890	839
Arrive On Green	0.04	0.22	0.22	0.03	0.20	0.20	0.05	0.26	0.26	0.42	0.53	0.53
Sat Flow, veh/h	1781	3349	249	1781	2782	718	1781	3554	1520	1781	3554	1578
Grp Volume(v), veh/h	61	163	168	35	225	223	34	220	21	96	302	80
Grp Sat Flow(s),veh/h/ln	1781	1777	1821	1781	1777	1723	1781	1777	1520	1781	1777	1578
Q Serve(g_s), s	3.1	7.1	7.2	1.8	10.4	10.7	1.7	4.7	0.8	3.0	3.9	2.3
Cycle Q Clear(g_c), s	3.1	7.1	7.2	1.8	10.4	10.7	1.7	4.7	0.8	3.0	3.9	2.3
Prop In Lane	1.00		0.14	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	78	385	395	46	353	342	45	466	199	739	1890	839
V/C Ratio(X)	0.78	0.42	0.43	0.76	0.64	0.65	0.75	0.47	0.11	0.13	0.16	0.10
Avail Cap(c_a), veh/h	119	592	607	119	592	574	119	987	422	739	1890	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	30.4	30.4	43.6	33.1	33.2	42.4	30.6	21.4	16.3	10.8	10.4
Incr Delay (d2), s/veh	7.9	1.0	1.0	9.1	2.7	3.0	8.9	3.4	1.1	0.0	0.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	5.5	5.7	1.6	8.2	8.1	1.5	3.8	0.7	2.1	2.6	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.5	31.4	31.5	52.6	35.8	36.2	51.3	34.0	22.4	16.3	11.0	10.6
LnGrp LOS	D	C	C	D	D	D	D	C	C	B	B	B
Approach Vol, veh/h		392			483			275			478	
Approach Delay, s/veh		34.4			37.2			35.2			12.0	
Approach LOS		C			D			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.4	16.8	6.3	24.5	6.3	52.9	8.0	22.9
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	* 25	6.0	30.0	6.0	30.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	5.0	6.7	3.8	9.2	3.7	5.9	5.1	12.7
Green Ext Time (p_c), s	0.0	1.9	0.0	2.5	0.0	3.1	0.0	3.3

Intersection Summary	
HCM 7th Control Delay, s/veh	28.8
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



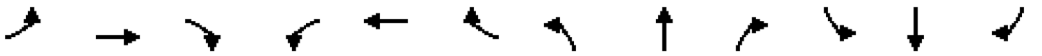
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	471	50	60	537	83	73	342	40	126	323	120
Future Volume (veh/h)	171	471	50	60	537	83	73	342	40	126	323	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	496	53	63	565	87	77	360	42	133	340	126
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	1034	110	81	755	116	98	599	255	454	1349	586
Arrive On Green	0.12	0.32	0.32	0.05	0.25	0.25	0.11	0.34	0.34	0.26	0.38	0.38
Sat Flow, veh/h	1781	3236	345	1781	3081	473	1781	3554	1512	1781	3554	1542
Grp Volume(v), veh/h	180	272	277	63	325	327	77	360	42	133	340	126
Grp Sat Flow(s),veh/h/ln	1781	1777	1804	1781	1777	1777	1781	1777	1512	1781	1777	1542
Q Serve(g_s), s	8.9	11.0	11.1	3.1	15.2	15.3	3.8	7.6	1.4	5.4	5.9	5.0
Cycle Q Clear(g_c), s	8.9	11.0	11.1	3.1	15.2	15.3	3.8	7.6	1.4	5.4	5.9	5.0
Prop In Lane	1.00		0.19	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	568	577	81	436	436	98	599	255	454	1349	586
V/C Ratio(X)	0.84	0.48	0.48	0.78	0.75	0.75	0.78	0.60	0.16	0.29	0.25	0.22
Avail Cap(c_a), veh/h	238	568	577	238	513	513	178	987	420	454	1349	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	24.6	24.6	42.5	31.4	31.4	39.5	27.3	17.3	27.0	19.2	18.9
Incr Delay (d2), s/veh	19.5	0.9	0.9	5.8	5.7	5.9	5.1	4.4	1.4	0.1	0.4	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	8.1	8.3	2.7	11.3	11.4	3.1	5.8	1.3	4.0	4.4	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.2	25.5	25.5	48.3	37.1	37.3	44.6	31.7	18.7	27.1	19.6	19.7
LnGrp LOS	E	C	C	D	D	D	D	C	B	C	B	B
Approach Vol, veh/h		729			715			479			599	
Approach Delay, s/veh		33.6			38.2			32.7			21.3	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	20.2	8.1	33.8	9.0	39.2	14.8	27.1
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	* 25	12.0	26.0	9.0	25.0	12.0	26.0
Max Q Clear Time (g_c+I1), s	7.4	9.6	5.1	13.1	5.8	7.9	10.9	17.3
Green Ext Time (p_c), s	0.0	3.0	0.0	3.6	0.0	3.3	0.0	3.3

Intersection Summary	
HCM 7th Control Delay, s/veh	31.8
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



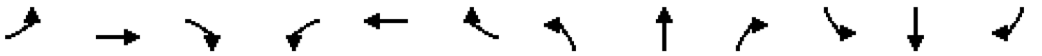
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	304	41	49	347	86	58	338	46	110	361	91
Future Volume (veh/h)	76	304	41	49	347	86	58	338	46	110	361	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	330	45	53	377	93	63	367	50	120	392	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	709	96	68	576	140	80	572	246	648	1744	774
Arrive On Green	0.06	0.23	0.23	0.04	0.20	0.20	0.09	0.32	0.32	0.36	0.49	0.49
Sat Flow, veh/h	1781	3139	424	1781	2820	687	1781	3554	1529	1781	3554	1577
Grp Volume(v), veh/h	83	185	190	53	236	234	63	367	50	120	392	99
Grp Sat Flow(s),veh/h/ln	1781	1777	1787	1781	1777	1730	1781	1777	1529	1781	1777	1577
Q Serve(g_s), s	4.1	8.1	8.3	2.7	11.0	11.2	3.1	7.9	1.8	4.1	5.7	3.1
Cycle Q Clear(g_c), s	4.1	8.1	8.3	2.7	11.0	11.2	3.1	7.9	1.8	4.1	5.7	3.1
Prop In Lane	1.00		0.24	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	402	404	68	363	354	80	572	246	648	1744	774
V/C Ratio(X)	0.78	0.46	0.47	0.78	0.65	0.66	0.78	0.64	0.20	0.19	0.22	0.13
Avail Cap(c_a), veh/h	119	592	596	119	592	577	119	987	425	648	1744	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	30.1	30.2	42.9	32.8	32.9	40.5	28.3	18.4	19.5	13.1	12.4
Incr Delay (d2), s/veh	22.1	1.2	1.2	7.2	2.8	3.0	10.0	5.5	1.9	0.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.4	6.3	6.4	2.3	8.5	8.5	2.8	6.1	1.6	3.0	4.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.8	31.3	31.4	50.1	35.6	36.0	50.6	33.7	20.2	19.6	13.4	12.8
LnGrp LOS	E	C	C	D	D	D	D	C	C	B	B	B
Approach Vol, veh/h		458			523			480			611	
Approach Delay, s/veh		37.2			37.2			34.5			14.5	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.8	19.5	7.4	25.3	8.1	49.2	9.4	23.4
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	* 25	6.0	30.0	6.0	30.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	6.1	9.9	4.7	10.3	5.1	7.7	6.1	13.2
Green Ext Time (p_c), s	0.1	3.1	0.0	2.8	0.0	4.0	0.0	3.5

Intersection Summary	
HCM 7th Control Delay, s/veh	29.9
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	473	65	81	551	83	80	366	43	132	434	140
Future Volume (veh/h)	182	473	65	81	551	83	80	366	43	132	434	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	498	68	85	580	87	84	385	45	139	457	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	983	134	109	767	115	107	621	264	427	1298	563
Arrive On Green	0.13	0.31	0.31	0.06	0.25	0.25	0.12	0.35	0.35	0.24	0.37	0.37
Sat Flow, veh/h	1781	3138	427	1781	3093	463	1781	3554	1514	1781	3554	1542
Grp Volume(v), veh/h	192	281	285	85	332	335	84	385	45	139	457	147
Grp Sat Flow(s),veh/h/ln	1781	1777	1788	1781	1777	1779	1781	1777	1514	1781	1777	1542
Q Serve(g_s), s	9.5	11.6	11.7	4.2	15.6	15.7	4.1	8.1	1.5	5.8	8.4	6.0
Cycle Q Clear(g_c), s	9.5	11.6	11.7	4.2	15.6	15.7	4.1	8.1	1.5	5.8	8.4	6.0
Prop In Lane	1.00		0.24	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	557	560	109	440	441	107	621	264	427	1298	563
V/C Ratio(X)	0.85	0.50	0.51	0.78	0.75	0.76	0.79	0.62	0.17	0.33	0.35	0.26
Avail Cap(c_a), veh/h	238	557	560	238	513	514	178	987	421	427	1298	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	25.2	25.2	41.6	31.3	31.3	39.0	26.8	16.0	28.2	20.8	20.0
Incr Delay (d2), s/veh	22.0	1.0	1.1	4.4	6.1	6.3	4.8	4.6	1.4	0.2	0.8	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	8.5	8.6	3.5	11.6	11.6	3.3	6.1	1.3	4.4	6.3	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.5	26.2	26.3	46.1	37.4	37.6	43.8	31.4	17.4	28.4	21.6	21.2
LnGrp LOS	E	C	C	D	D	D	D	C	B	C	C	C
Approach Vol, veh/h		758			752			514			743	
Approach Delay, s/veh		34.9			38.5			32.2			22.8	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.6	20.7	9.5	33.2	9.4	37.9	15.4	27.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	* 25	12.0	26.0	9.0	25.0	12.0	26.0
Max Q Clear Time (g_c+I1), s	7.8	10.1	6.2	13.7	6.1	10.4	11.5	17.7
Green Ext Time (p_c), s	0.0	3.2	0.0	3.6	0.0	4.1	0.0	3.3

Intersection Summary	
HCM 7th Control Delay, s/veh	32.1
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	283	23	32	327	86	31	202	19	89	319	74
Future Volume (veh/h)	56	283	23	32	327	86	31	202	19	89	319	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	308	25	35	355	93	34	220	21	97	347	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	721	58	46	553	143	45	466	199	739	1890	839
Arrive On Green	0.04	0.22	0.22	0.03	0.20	0.20	0.05	0.26	0.26	0.42	0.53	0.53
Sat Flow, veh/h	1781	3326	268	1781	2782	718	1781	3554	1520	1781	3554	1578
Grp Volume(v), veh/h	61	164	169	35	225	223	34	220	21	97	347	80
Grp Sat Flow(s),veh/h/ln	1781	1777	1817	1781	1777	1723	1781	1777	1520	1781	1777	1578
Q Serve(g_s), s	3.1	7.1	7.2	1.8	10.4	10.7	1.7	4.7	0.8	3.0	4.6	2.3
Cycle Q Clear(g_c), s	3.1	7.1	7.2	1.8	10.4	10.7	1.7	4.7	0.8	3.0	4.6	2.3
Prop In Lane	1.00		0.15	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	78	385	394	46	353	342	45	466	199	739	1890	839
V/C Ratio(X)	0.78	0.42	0.43	0.76	0.64	0.65	0.75	0.47	0.11	0.13	0.18	0.10
Avail Cap(c_a), veh/h	119	592	606	119	592	574	119	987	422	739	1890	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	30.4	30.4	43.6	33.1	33.2	42.4	30.6	21.4	16.3	10.9	10.4
Incr Delay (d2), s/veh	7.9	1.1	1.1	9.1	2.7	3.0	8.9	3.4	1.1	0.0	0.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	5.5	5.7	1.6	8.2	8.1	1.5	3.8	0.7	2.1	3.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.5	31.5	31.5	52.6	35.8	36.2	51.3	34.0	22.4	16.3	11.1	10.6
LnGrp LOS	D	C	C	D	D	D	D	C	C	B	B	B
Approach Vol, veh/h		394			483			275			524	
Approach Delay, s/veh		34.4			37.2			35.2			12.0	
Approach LOS		C			D			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.4	16.8	6.3	24.5	6.3	52.9	8.0	22.9
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	* 25	6.0	30.0	6.0	30.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	5.0	6.7	3.8	9.2	3.7	6.6	5.1	12.7
Green Ext Time (p_c), s	0.0	1.9	0.0	2.5	0.0	3.5	0.0	3.3

Intersection Summary	
HCM 7th Control Delay, s/veh	28.3
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

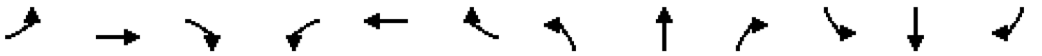
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	471	50	60	537	83	73	395	40	126	374	120
Future Volume (veh/h)	171	471	50	60	537	83	73	395	40	126	374	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	496	53	63	565	87	77	416	42	133	394	126
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	1034	110	81	755	116	98	647	276	431	1349	586
Arrive On Green	0.12	0.32	0.32	0.05	0.25	0.25	0.11	0.36	0.36	0.24	0.38	0.38
Sat Flow, veh/h	1781	3236	345	1781	3081	473	1781	3554	1516	1781	3554	1542
Grp Volume(v), veh/h	180	272	277	63	325	327	77	416	42	133	394	126
Grp Sat Flow(s),veh/h/ln	1781	1777	1804	1781	1777	1777	1781	1777	1516	1781	1777	1542
Q Serve(g_s), s	8.9	11.0	11.1	3.1	15.2	15.3	3.8	8.8	1.4	5.5	7.0	5.0
Cycle Q Clear(g_c), s	8.9	11.0	11.1	3.1	15.2	15.3	3.8	8.8	1.4	5.5	7.0	5.0
Prop In Lane	1.00		0.19	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	568	577	81	436	436	98	647	276	431	1349	586
V/C Ratio(X)	0.84	0.48	0.48	0.78	0.75	0.75	0.78	0.64	0.15	0.31	0.29	0.22
Avail Cap(c_a), veh/h	238	568	577	238	513	513	178	987	421	431	1349	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	24.6	24.6	42.5	31.4	31.4	39.5	26.2	16.2	28.0	19.5	18.9
Incr Delay (d2), s/veh	19.5	0.9	0.9	5.8	5.7	5.9	5.1	4.9	1.2	0.1	0.5	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	8.1	8.3	2.7	11.3	11.4	3.1	6.5	1.2	4.1	5.1	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.2	25.5	25.5	48.3	37.1	37.3	44.6	31.1	17.4	28.1	20.0	19.7
LnGrp LOS	E	C	C	D	D	D	D	C	B	C	C	B
Approach Vol, veh/h		729			715			535			653	
Approach Delay, s/veh		33.6			38.2			31.9			21.6	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.8	21.4	8.1	33.8	9.0	39.2	14.8	27.1
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	* 25	12.0	26.0	9.0	25.0	12.0	26.0
Max Q Clear Time (g_c+I1), s	7.5	10.8	5.1	13.1	5.8	9.0	10.9	17.3
Green Ext Time (p_c), s	0.0	3.4	0.0	3.6	0.0	3.6	0.0	3.3

Intersection Summary	
HCM 7th Control Delay, s/veh	31.5
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



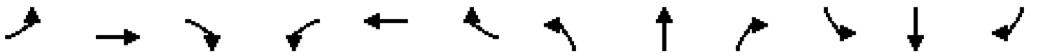
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	304	43	49	347	86	58	338	46	111	402	91
Future Volume (veh/h)	76	304	43	49	347	86	58	338	46	111	402	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	330	47	53	377	93	63	367	50	121	437	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	705	99	68	576	140	80	572	246	648	1744	774
Arrive On Green	0.06	0.23	0.23	0.04	0.20	0.20	0.09	0.32	0.32	0.36	0.49	0.49
Sat Flow, veh/h	1781	3120	440	1781	2820	687	1781	3554	1529	1781	3554	1577
Grp Volume(v), veh/h	83	186	191	53	236	234	63	367	50	121	437	99
Grp Sat Flow(s),veh/h/ln	1781	1777	1783	1781	1777	1730	1781	1777	1529	1781	1777	1577
Q Serve(g_s), s	4.1	8.2	8.3	2.7	11.0	11.2	3.1	7.9	1.8	4.2	6.4	3.1
Cycle Q Clear(g_c), s	4.1	8.2	8.3	2.7	11.0	11.2	3.1	7.9	1.8	4.2	6.4	3.1
Prop In Lane	1.00		0.25	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	402	403	68	363	354	80	572	246	648	1744	774
V/C Ratio(X)	0.78	0.46	0.47	0.78	0.65	0.66	0.78	0.64	0.20	0.19	0.25	0.13
Avail Cap(c_a), veh/h	119	592	594	119	592	577	119	987	425	648	1744	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	30.1	30.2	42.9	32.8	32.9	40.5	28.3	18.4	19.5	13.3	12.4
Incr Delay (d2), s/veh	22.1	1.2	1.2	7.2	2.8	3.0	10.0	5.5	1.9	0.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.4	6.3	6.5	2.3	8.5	8.5	2.8	6.1	1.6	3.0	4.5	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.8	31.3	31.4	50.1	35.6	36.0	50.6	33.7	20.2	19.6	13.6	12.8
LnGrp LOS	E	C	C	D	D	D	D	C	C	B	B	B
Approach Vol, veh/h		460			523			480			657	
Approach Delay, s/veh		37.2			37.2			34.5			14.6	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.8	19.5	7.4	25.3	8.1	49.2	9.4	23.4
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	* 25	6.0	30.0	6.0	30.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	6.2	9.9	4.7	10.3	5.1	8.4	6.1	13.2
Green Ext Time (p_c), s	0.1	3.1	0.0	2.9	0.0	4.4	0.0	3.5

Intersection Summary	
HCM 7th Control Delay, s/veh	29.6
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



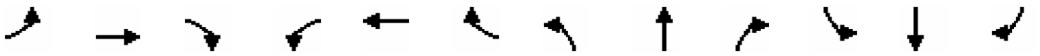
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	473	65	81	551	83	80	419	43	132	485	140
Future Volume (veh/h)	182	473	65	81	551	83	80	419	43	132	485	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	498	68	85	580	87	84	441	45	139	511	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	983	134	109	767	115	107	668	285	403	1298	563
Arrive On Green	0.13	0.31	0.31	0.06	0.25	0.25	0.12	0.38	0.38	0.23	0.37	0.37
Sat Flow, veh/h	1781	3138	427	1781	3093	463	1781	3554	1518	1781	3554	1542
Grp Volume(v), veh/h	192	281	285	85	332	335	84	441	45	139	511	147
Grp Sat Flow(s),veh/h/ln	1781	1777	1788	1781	1777	1779	1781	1777	1518	1781	1777	1542
Q Serve(g_s), s	9.5	11.6	11.7	4.2	15.6	15.7	4.1	9.3	1.4	5.9	9.6	6.0
Cycle Q Clear(g_c), s	9.5	11.6	11.7	4.2	15.6	15.7	4.1	9.3	1.4	5.9	9.6	6.0
Prop In Lane	1.00		0.24	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	557	560	109	440	441	107	668	285	403	1298	563
V/C Ratio(X)	0.85	0.50	0.51	0.78	0.75	0.76	0.79	0.66	0.16	0.34	0.39	0.26
Avail Cap(c_a), veh/h	238	557	560	238	513	514	178	987	422	403	1298	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	25.2	25.2	41.6	31.3	31.3	39.0	25.7	15.0	29.2	21.2	20.0
Incr Delay (d2), s/veh	22.0	1.0	1.1	4.4	6.1	6.3	4.8	5.1	1.2	0.2	0.9	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	8.5	8.6	3.5	11.6	11.6	3.3	6.8	1.3	4.4	7.2	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.5	26.2	26.3	46.1	37.4	37.6	43.8	30.8	16.2	29.4	22.1	21.2
LnGrp LOS	E	C	C	D	D	D	D	C	B	C	C	C
Approach Vol, veh/h		758			752			570			797	
Approach Delay, s/veh		34.9			38.5			31.5			23.2	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.4	21.9	9.5	33.2	9.4	37.9	15.4	27.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.0	* 25	12.0	26.0	9.0	25.0	12.0	26.0
Max Q Clear Time (g_c+I1), s	7.9	11.3	6.2	13.7	6.1	11.6	11.5	17.7
Green Ext Time (p_c), s	0.0	3.6	0.0	3.6	0.0	4.3	0.0	3.3

Intersection Summary	
HCM 7th Control Delay, s/veh	31.9
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

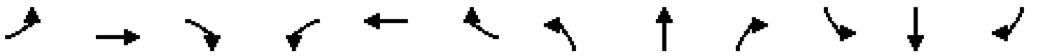


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	15	17	21	23	8	23	214	19	14	297	20
Future Volume (veh/h)	9	15	17	21	23	8	23	214	19	14	297	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.95		0.99	0.99		0.92	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	16	18	22	24	9	24	228	20	15	316	21
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	111	133	94	78	23	146	1352	1270	74	1373	89
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	0.55	0.55	0.55
Sat Flow, veh/h	400	1300	1567	442	920	266	124	1648	1548	39	1674	109
Grp Volume(v), veh/h	26	0	18	55	0	0	252	0	20	352	0	0
Grp Sat Flow(s),veh/h/ln	1700	0	1567	1628	0	0	1772	0	1548	1822	0	0
Q Serve(g_s), s	0.0	0.0	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	1.0	2.7	0.0	0.0	0.0	0.0	0.0	8.9	0.0	0.0
Prop In Lane	0.38		1.00	0.40		0.16	0.10		1.00	0.04		0.06
Lane Grp Cap(c), veh/h	200	0	133	195	0	0	1497	0	1270	1536	0	0
V/C Ratio(X)	0.13	0.00	0.14	0.28	0.00	0.00	0.17	0.00	0.02	0.23	0.00	0.00
Avail Cap(c_a), veh/h	599	0	522	582	0	0	1497	0	1270	1536	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.2	0.0	38.1	38.9	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.5	0.8	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	0.7	2.1	0.0	0.0	0.2	0.0	0.0	5.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.5	0.0	38.6	39.7	0.0	0.0	0.2	0.0	0.0	6.0	0.0	0.0
LnGrp LOS	D		D	D			A		A	A		

Approach Vol, veh/h	44		55		272		352	
Approach Delay, s/veh	38.5		39.7		0.2		6.0	
Approach LOS	D		D		A		A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	78.3	11.7	78.3	11.7
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	51.5	30.0	51.5	30.0
Max Q Clear Time (g_c+I1), s	2.0	3.2	10.9	4.7
Green Ext Time (p_c), s	2.7	0.1	2.6	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	8.4
HCM 7th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	43	46	19	38	12	28	358	50	9	380	17
Future Volume (veh/h)	28	43	46	19	38	12	28	358	50	9	380	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.92		0.94	0.96		0.89	0.99		0.97	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	46	49	20	40	13	30	381	53	10	404	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	138	172	82	125	34	110	1347	1214	52	1383	61
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	1.00	1.00	1.00	0.79	0.79	0.79
Sat Flow, veh/h	450	1204	1495	266	1084	293	85	1704	1535	14	1749	77
Grp Volume(v), veh/h	76	0	49	73	0	0	411	0	53	432	0	0
Grp Sat Flow(s),veh/h/ln	1654	0	1495	1643	0	0	1789	0	1535	1840	0	0
Q Serve(g_s), s	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	2.7	3.4	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0
Prop In Lane	0.39		1.00	0.27		0.18	0.07		1.00	0.02		0.04
Lane Grp Cap(c), veh/h	246	0	172	240	0	0	1458	0	1214	1495	0	0
V/C Ratio(X)	0.31	0.00	0.29	0.30	0.00	0.00	0.28	0.00	0.04	0.29	0.00	0.00
Avail Cap(c_a), veh/h	499	0	415	495	0	0	1458	0	1214	1495	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.8	0.0	36.5	36.8	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.9	0.7	0.0	0.0	0.5	0.0	0.1	0.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	0.0	1.9	2.8	0.0	0.0	0.4	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.5	0.0	37.4	37.5	0.0	0.0	0.5	0.0	0.1	3.1	0.0	0.0
LnGrp LOS	D		D	D			A		A	A		

Approach Vol, veh/h	125		73		464		432	
Approach Delay, s/veh	37.4		37.5		0.4		3.1	
Approach LOS	D		D		A		A	

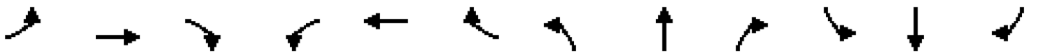
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	75.7	14.3	75.7	14.3
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	56.5	25.0	56.5	25.0
Max Q Clear Time (g_c+I1), s	2.0	5.4	7.7	5.4
Green Ext Time (p_c), s	5.0	0.5	3.3	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	8.2
HCM 7th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	15	24	24	24	16	27	332	22	21	387	66
Future Volume (veh/h)	72	15	24	24	24	16	27	332	22	21	387	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.97		0.99	0.99		0.93	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	16	26	26	26	17	29	353	23	22	412	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	27	162	73	59	25	115	1353	1242	73	1201	199
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	0.26	0.26	0.26
Sat Flow, veh/h	1017	264	1570	176	576	246	90	1686	1548	39	1497	248
Grp Volume(v), veh/h	93	0	26	69	0	0	382	0	23	504	0	0
Grp Sat Flow(s),veh/h/ln	1282	0	1570	997	0	0	1776	0	1548	1784	0	0
Q Serve(g_s), s	0.0	0.0	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.5	0.0	1.4	7.2	0.0	0.0	0.0	0.0	0.0	20.2	0.0	0.0
Prop In Lane	0.83		1.00	0.38		0.25	0.08		1.00	0.04		0.14
Lane Grp Cap(c), veh/h	205	0	162	158	0	0	1468	0	1242	1474	0	0
V/C Ratio(X)	0.45	0.00	0.16	0.44	0.00	0.00	0.26	0.00	0.02	0.34	0.00	0.00
Avail Cap(c_a), veh/h	527	0	523	514	0	0	1468	0	1242	1474	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.0	0.0	36.8	38.3	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.5	1.9	0.0	0.0	0.4	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	0.0	1.0	2.8	0.0	0.0	0.3	0.0	0.0	15.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.6	0.0	37.3	40.2	0.0	0.0	0.4	0.0	0.0	14.6	0.0	0.0
LnGrp LOS	D		D	D			A		A	B		
Approach Vol, veh/h		119			69			405			504	
Approach Delay, s/veh		39.9			40.2			0.4			14.6	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	76.7	13.3	76.7	13.3
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	51.5	30.0	51.5	30.0
Max Q Clear Time (g_c+I1), s	2.0	8.5	22.2	9.2
Green Ext Time (p_c), s	4.4	0.5	3.9	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	13.7
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	43	46	17	38	11	33	411	49	6	468	60
Future Volume (veh/h)	50	43	46	17	38	11	33	411	49	6	468	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.92		0.94	0.96		0.89	0.99		0.97	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	46	49	18	40	12	35	437	52	6	498	64
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	102	170	75	123	31	111	1330	1215	44	1273	162
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	720	896	1495	221	1077	268	85	1680	1535	5	1609	205
Grp Volume(v), veh/h	99	0	49	70	0	0	472	0	52	568	0	0
Grp Sat Flow(s),veh/h/ln	1616	0	1495	1566	0	0	1766	0	1535	1819	0	0
Q Serve(g_s), s	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.7	0.0	2.7	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.54		1.00	0.26		0.17	0.07		1.00	0.01		0.11
Lane Grp Cap(c), veh/h	246	0	170	229	0	0	1441	0	1215	1480	0	0
V/C Ratio(X)	0.40	0.00	0.29	0.31	0.00	0.00	0.33	0.00	0.04	0.38	0.00	0.00
Avail Cap(c_a), veh/h	487	0	415	488	0	0	1441	0	1215	1480	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.4	0.0	36.5	36.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.9	0.7	0.0	0.0	0.6	0.0	0.1	0.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	0.0	1.9	2.6	0.0	0.0	0.4	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.4	0.0	37.4	37.5	0.0	0.0	0.6	0.0	0.1	0.8	0.0	0.0
LnGrp LOS	D		D	D			A		A	A		
Approach Vol, veh/h		148			70			524			568	
Approach Delay, s/veh		38.1			37.5			0.6			0.8	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	75.7	14.3	75.7	14.3
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	56.5	25.0	56.5	25.0
Max Q Clear Time (g_c+I1), s	2.0	6.7	2.0	6.7
Green Ext Time (p_c), s	6.0	0.6	4.8	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	6.9
HCM 7th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	15	17	46	23	8	23	220	19	14	303	20
Future Volume (veh/h)	9	15	17	46	23	8	23	220	19	14	303	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.96		0.99	0.99		0.92	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	16	18	49	24	9	24	234	20	15	322	21
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	124	149	136	57	16	141	1341	1255	73	1360	87
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	0.54	0.54	0.54
Sat Flow, veh/h	432	1304	1568	765	604	169	120	1654	1548	38	1678	107
Grp Volume(v), veh/h	26	0	18	82	0	0	258	0	20	358	0	0
Grp Sat Flow(s),veh/h/ln	1736	0	1568	1537	0	0	1774	0	1548	1823	0	0
Q Serve(g_s), s	0.0	0.0	0.9	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.9	4.5	0.0	0.0	0.0	0.0	0.0	9.2	0.0	0.0
Prop In Lane	0.38		1.00	0.60		0.11	0.09		1.00	0.04		0.06
Lane Grp Cap(c), veh/h	220	0	149	210	0	0	1482	0	1255	1519	0	0
V/C Ratio(X)	0.12	0.00	0.12	0.39	0.00	0.00	0.17	0.00	0.02	0.24	0.00	0.00
Avail Cap(c_a), veh/h	605	0	523	565	0	0	1482	0	1255	1519	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.4	0.0	37.3	38.8	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.4	1.2	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	0.7	3.2	0.0	0.0	0.2	0.0	0.0	6.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.6	0.0	37.7	40.0	0.0	0.0	0.3	0.0	0.0	6.3	0.0	0.0
LnGrp LOS	D		D	D			A		A	A		
Approach Vol, veh/h		44			82			278			358	
Approach Delay, s/veh		37.6			40.0			0.2			6.3	
Approach LOS		D			D			A			A	

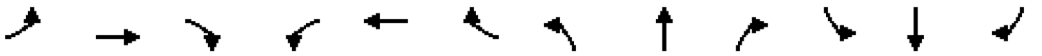
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	77.5	12.5	77.5	12.5
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	51.5	30.0	51.5	30.0
Max Q Clear Time (g_c+I1), s	2.0	3.1	11.2	6.5
Green Ext Time (p_c), s	2.8	0.1	2.6	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	9.5
HCM 7th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	43	46	28	38	12	28	377	50	9	408	17
Future Volume (veh/h)	28	43	46	28	38	12	28	377	50	9	408	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.92		0.94	0.96		0.89	0.99		0.97	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	46	49	30	40	13	30	401	53	10	434	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	142	175	98	111	29	105	1349	1210	51	1385	57
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	1.00	1.00	1.00	0.79	0.79	0.79
Sat Flow, veh/h	461	1212	1497	372	945	245	79	1711	1535	13	1756	72
Grp Volume(v), veh/h	76	0	49	83	0	0	431	0	53	462	0	0
Grp Sat Flow(s),veh/h/ln	1673	0	1497	1562	0	0	1791	0	1535	1841	0	0
Q Serve(g_s), s	0.0	0.0	2.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	2.7	4.3	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0
Prop In Lane	0.39		1.00	0.36		0.16	0.07		1.00	0.02		0.04
Lane Grp Cap(c), veh/h	252	0	175	237	0	0	1454	0	1210	1492	0	0
V/C Ratio(X)	0.30	0.00	0.28	0.35	0.00	0.00	0.30	0.00	0.04	0.31	0.00	0.00
Avail Cap(c_a), veh/h	502	0	416	482	0	0	1454	0	1210	1492	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.6	0.0	36.3	36.8	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.9	0.9	0.0	0.0	0.5	0.0	0.1	0.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	0.0	1.8	3.2	0.0	0.0	0.4	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.2	0.0	37.1	37.7	0.0	0.0	0.5	0.0	0.1	3.2	0.0	0.0
LnGrp LOS	D		D	D			A		A	A		
Approach Vol, veh/h		125			83			484			462	
Approach Delay, s/veh		37.2			37.7			0.5			3.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	75.5	14.5	75.5	14.5
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	56.5	25.0	56.5	25.0
Max Q Clear Time (g_c+I1), s	2.0	5.4	8.3	6.3
Green Ext Time (p_c), s	5.3	0.5	3.6	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	8.2
HCM 7th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	15	24	49	24	16	27	338	22	21	393	66
Future Volume (veh/h)	72	15	24	49	24	16	27	338	22	21	393	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.99	0.99		0.94	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	16	26	52	26	17	29	360	23	22	418	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	37	212	116	54	24	109	1305	1193	71	1159	189
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	1.00	1.00	1.00	0.25	0.25	0.25
Sat Flow, veh/h	1012	275	1573	403	401	175	86	1693	1548	38	1503	245
Grp Volume(v), veh/h	93	0	26	95	0	0	389	0	23	510	0	0
Grp Sat Flow(s),veh/h/ln	1287	0	1573	979	0	0	1779	0	1548	1786	0	0
Q Serve(g_s), s	0.0	0.0	1.3	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.1	0.0	1.3	9.7	0.0	0.0	0.0	0.0	0.0	20.7	0.0	0.0
Prop In Lane	0.83		1.00	0.55		0.18	0.07		1.00	0.04		0.14
Lane Grp Cap(c), veh/h	246	0	212	194	0	0	1415	0	1193	1419	0	0
V/C Ratio(X)	0.38	0.00	0.12	0.49	0.00	0.00	0.27	0.00	0.02	0.36	0.00	0.00
Avail Cap(c_a), veh/h	525	0	524	490	0	0	1415	0	1193	1419	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.3	0.0	34.3	38.5	0.0	0.0	0.0	0.0	0.0	15.4	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.3	1.9	0.0	0.0	0.5	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	0.0	0.9	3.9	0.0	0.0	0.3	0.0	0.0	15.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.2	0.0	34.5	40.4	0.0	0.0	0.5	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	D		C	D			A		A	B		
Approach Vol, veh/h		119			95			412			510	
Approach Delay, s/veh		36.6			40.4			0.5			16.1	
Approach LOS		D			D			A			B	

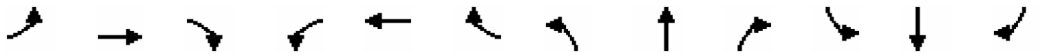
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	73.9	16.1	73.9	16.1
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	51.5	30.0	51.5	30.0
Max Q Clear Time (g_c+I1), s	2.0	8.1	22.7	11.7
Green Ext Time (p_c), s	4.5	0.5	3.9	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	14.6
HCM 7th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	43	46	26	38	11	33	430	49	6	496	60
Future Volume (veh/h)	50	43	46	26	38	11	33	430	49	6	496	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.93		0.94	0.96		0.89	0.99		0.97	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	46	49	28	40	12	35	457	52	6	528	64
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	106	174	89	105	25	106	1331	1211	44	1279	154
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	724	907	1497	298	899	211	80	1687	1535	5	1621	195
Grp Volume(v), veh/h	99	0	49	80	0	0	492	0	52	598	0	0
Grp Sat Flow(s),veh/h/ln	1631	0	1497	1408	0	0	1767	0	1535	1821	0	0
Q Serve(g_s), s	0.0	0.0	2.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.7	0.0	2.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.54		1.00	0.35		0.15	0.07		1.00	0.01		0.11
Lane Grp Cap(c), veh/h	252	0	174	218	0	0	1437	0	1211	1477	0	0
V/C Ratio(X)	0.39	0.00	0.28	0.37	0.00	0.00	0.34	0.00	0.04	0.40	0.00	0.00
Avail Cap(c_a), veh/h	490	0	416	465	0	0	1437	0	1211	1477	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.1	0.0	36.3	36.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.9	1.0	0.0	0.0	0.7	0.0	0.1	0.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	0.0	1.8	3.1	0.0	0.0	0.5	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.1	0.0	37.2	38.0	0.0	0.0	0.7	0.0	0.1	0.8	0.0	0.0
LnGrp LOS	D		D	D			A		A	A		
Approach Vol, veh/h		148			80			544			598	
Approach Delay, s/veh		37.8			38.0			0.6			0.8	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	75.5	14.5	75.5	14.5
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	56.5	25.0	56.5	25.0
Max Q Clear Time (g_c+I1), s	2.0	6.7	2.0	7.3
Green Ext Time (p_c), s	6.3	0.6	5.2	0.3

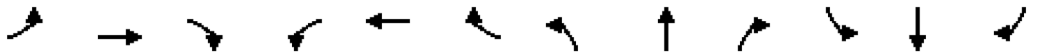
Intersection Summary	
HCM 7th Control Delay, s/veh	6.9
HCM 7th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	343	72	84	691	40	73	177	97	33	218	80
Future Volume (veh/h)	37	343	72	84	691	40	73	177	97	33	218	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	350	73	86	705	41	74	181	99	34	222	82
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	791	350	110	916	399	95	1709	748	42	1603	701
Arrive On Green	0.03	0.22	0.22	0.06	0.26	0.26	0.05	0.48	0.48	0.05	0.90	0.90
Sat Flow, veh/h	1781	3554	1572	1781	3554	1549	1781	3554	1556	1781	3554	1553
Grp Volume(v), veh/h	38	350	73	86	705	41	74	181	99	34	222	82
Grp Sat Flow(s),veh/h/ln	1781	1777	1572	1781	1777	1549	1781	1777	1556	1781	1777	1553
Q Serve(g_s), s	1.9	7.6	3.4	4.3	16.5	1.8	3.7	2.5	3.2	1.7	0.6	0.5
Cycle Q Clear(g_c), s	1.9	7.6	3.4	4.3	16.5	1.8	3.7	2.5	3.2	1.7	0.6	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	791	350	110	916	399	95	1709	748	42	1603	701
V/C Ratio(X)	0.80	0.44	0.21	0.78	0.77	0.10	0.78	0.11	0.13	0.81	0.14	0.12
Avail Cap(c_a), veh/h	198	1185	524	198	1185	516	158	1709	748	158	1603	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	30.2	28.5	41.6	30.9	25.5	42.1	12.8	13.0	42.7	2.4	2.4
Incr Delay (d2), s/veh	10.8	0.6	0.4	4.5	2.8	0.2	5.1	0.1	0.4	12.7	0.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	5.7	2.3	3.5	11.4	1.2	3.1	1.7	2.0	1.6	0.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.3	30.7	28.9	46.1	33.7	25.6	47.1	12.9	13.3	55.4	2.6	2.8
LnGrp LOS	D	C	C	D	C	C	D	B	B	E	A	A
Approach Vol, veh/h		461			832			354			338	
Approach Delay, s/veh		32.4			34.6			20.2			8.0	
Approach LOS		C			C			C			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	48.3	10.1	25.5	8.8	45.6	6.9	28.7
Change Period (Y+Rc), s	4.0	5.0	4.5	5.5	4.0	5.0	4.5	5.5
Max Green Setting (Gmax), s	8.0	23.0	10.0	30.0	8.0	23.0	10.0	30.0
Max Q Clear Time (g_c+I1), s	3.7	5.2	6.3	9.6	5.7	2.6	3.9	18.5
Green Ext Time (p_c), s	0.0	1.8	0.0	3.2	0.0	2.2	0.0	4.7

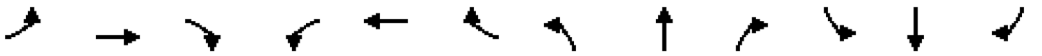
Intersection Summary	
HCM 7th Control Delay, s/veh	27.0
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	762	174	150	720	63	163	280	181	91	250	125
Future Volume (veh/h)	87	762	174	150	720	63	163	280	181	91	250	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	802	183	158	758	66	172	295	191	96	263	132
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	979	432	191	1125	492	198	1201	524	122	1049	454
Arrive On Green	0.07	0.28	0.28	0.11	0.32	0.32	0.11	0.34	0.34	0.09	0.39	0.39
Sat Flow, veh/h	1781	3554	1568	1781	3554	1555	1781	3554	1552	1781	3554	1538
Grp Volume(v), veh/h	92	802	183	158	758	66	172	295	191	96	263	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1568	1781	1777	1555	1781	1777	1552	1781	1777	1538
Q Serve(g_s), s	4.6	19.0	8.6	7.8	16.7	2.7	8.6	5.4	8.4	4.7	4.5	5.3
Cycle Q Clear(g_c), s	4.6	19.0	8.6	7.8	16.7	2.7	8.6	5.4	8.4	4.7	4.5	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	979	432	191	1125	492	198	1201	524	122	1049	454
V/C Ratio(X)	0.78	0.82	0.42	0.83	0.67	0.13	0.87	0.25	0.36	0.79	0.25	0.29
Avail Cap(c_a), veh/h	208	1086	479	208	1125	492	198	1201	524	198	1049	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	30.5	26.7	39.4	26.7	21.9	39.4	21.5	22.5	40.3	20.6	20.9
Incr Delay (d2), s/veh	4.2	5.0	0.9	20.1	1.8	0.2	30.3	0.5	2.0	4.2	0.6	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	13.1	5.7	7.8	11.2	1.7	9.0	4.0	5.7	3.8	3.3	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.6	35.5	27.7	59.5	28.5	22.1	69.6	22.0	24.4	44.5	21.2	22.5
LnGrp LOS	D	D	C	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		1077			982			658			491	
Approach Delay, s/veh		35.1			33.1			35.2			26.1	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	35.4	14.1	30.3	14.0	31.6	10.4	34.0
Change Period (Y+Rc), s	4.0	5.0	4.5	5.5	4.0	5.0	4.5	5.5
Max Green Setting (Gmax), s	10.0	23.0	10.5	27.5	10.0	23.0	10.5	27.5
Max Q Clear Time (g_c+I1), s	6.7	10.4	9.8	21.0	10.6	7.3	6.6	18.7
Green Ext Time (p_c), s	0.0	2.7	0.0	3.8	0.0	2.5	0.0	4.3

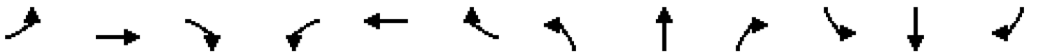
Intersection Summary	
HCM 7th Control Delay, s/veh	33.1
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	398	91	84	720	54	82	198	97	52	242	135
Future Volume (veh/h)	129	398	91	84	720	54	82	198	97	52	242	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	406	93	86	735	55	84	202	99	53	247	138
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	1051	466	110	945	412	108	1398	611	67	1318	575
Arrive On Green	0.09	0.30	0.30	0.06	0.27	0.27	0.06	0.39	0.39	0.08	0.74	0.74
Sat Flow, veh/h	1781	3554	1575	1781	3554	1549	1781	3554	1554	1781	3554	1551
Grp Volume(v), veh/h	132	406	93	86	735	55	84	202	99	53	247	138
Grp Sat Flow(s),veh/h/ln	1781	1777	1575	1781	1777	1549	1781	1777	1554	1781	1777	1551
Q Serve(g_s), s	6.5	8.2	4.0	4.3	17.2	2.4	4.2	3.3	3.7	2.6	1.9	2.5
Cycle Q Clear(g_c), s	6.5	8.2	4.0	4.3	17.2	2.4	4.2	3.3	3.7	2.6	1.9	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	163	1051	466	110	945	412	108	1398	611	67	1318	575
V/C Ratio(X)	0.81	0.39	0.20	0.78	0.78	0.13	0.78	0.14	0.16	0.79	0.19	0.24
Avail Cap(c_a), veh/h	198	1185	525	198	1185	516	158	1398	611	158	1318	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	25.2	23.7	41.6	30.6	25.1	41.7	17.6	17.7	41.2	7.6	7.6
Incr Delay (d2), s/veh	15.4	0.3	0.3	4.5	3.1	0.2	7.5	0.2	0.6	7.3	0.3	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	6.0	2.6	3.5	11.8	1.6	3.6	2.3	2.4	2.2	1.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.5	25.5	24.0	46.1	33.6	25.3	49.2	17.8	18.2	48.5	7.9	8.6
LnGrp LOS	E	C	C	D	C	C	D	B	B	D	A	A
Approach Vol, veh/h		631			876			385			438	
Approach Delay, s/veh		31.6			34.3			24.8			13.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	40.4	10.1	32.1	9.4	38.4	12.7	29.4
Change Period (Y+Rc), s	4.0	5.0	4.5	5.5	4.0	5.0	4.5	5.5
Max Green Setting (Gmax), s	8.0	23.0	10.0	30.0	8.0	23.0	10.0	30.0
Max Q Clear Time (g_c+I1), s	4.6	5.7	6.3	10.2	6.2	4.5	8.5	19.2
Green Ext Time (p_c), s	0.0	1.9	0.0	3.8	0.0	2.6	0.0	4.7

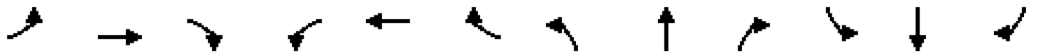
Intersection Summary	
HCM 7th Control Delay, s/veh	28.0
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	751	174	150	753	78	177	300	181	95	257	199
Future Volume (veh/h)	113	751	174	150	753	78	177	300	181	95	257	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	791	183	158	793	82	186	316	191	100	271	209
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	971	429	191	1055	461	198	1198	523	127	1056	457
Arrive On Green	0.08	0.27	0.27	0.11	0.30	0.30	0.11	0.34	0.34	0.07	0.30	0.30
Sat Flow, veh/h	1781	3554	1568	1781	3554	1554	1781	3554	1552	1781	3554	1538
Grp Volume(v), veh/h	119	791	183	158	793	82	186	316	191	100	271	209
Grp Sat Flow(s),veh/h/ln	1781	1777	1568	1781	1777	1554	1781	1777	1552	1781	1777	1538
Q Serve(g_s), s	5.9	18.7	8.6	7.8	18.2	3.5	9.3	5.8	8.4	5.0	5.2	9.9
Cycle Q Clear(g_c), s	5.9	18.7	8.6	7.8	18.2	3.5	9.3	5.8	8.4	5.0	5.2	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	149	971	429	191	1055	461	198	1198	523	127	1056	457
V/C Ratio(X)	0.80	0.81	0.43	0.83	0.75	0.18	0.94	0.26	0.37	0.79	0.26	0.46
Avail Cap(c_a), veh/h	208	1086	479	208	1086	475	198	1198	523	198	1056	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	30.6	26.9	39.4	28.6	23.5	39.7	21.7	22.5	41.1	24.1	25.7
Incr Delay (d2), s/veh	9.3	4.8	1.0	20.1	3.1	0.3	46.5	0.5	2.0	4.5	0.6	3.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	12.9	5.7	7.8	12.3	2.3	10.7	4.3	5.7	4.1	4.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.8	35.4	27.9	59.5	31.8	23.7	86.2	22.2	24.5	45.6	24.6	29.0
LnGrp LOS	D	D	C	E	C	C	F	C	C	D	C	C
Approach Vol, veh/h		1093			1033			693			580	
Approach Delay, s/veh		35.7			35.4			40.0			29.8	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	35.3	14.1	30.1	14.0	31.8	12.0	32.2
Change Period (Y+Rc), s	4.0	5.0	4.5	5.5	4.0	5.0	4.5	5.5
Max Green Setting (Gmax), s	10.0	23.0	10.5	27.5	10.0	23.0	10.5	27.5
Max Q Clear Time (g_c+I1), s	7.0	10.4	9.8	20.7	11.3	11.9	7.9	20.2
Green Ext Time (p_c), s	0.0	2.9	0.0	3.9	0.0	2.5	0.0	3.9

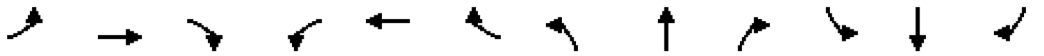
Intersection Summary	
HCM 7th Control Delay, s/veh	35.5
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	343	73	84	691	40	73	201	98	40	251	80
Future Volume (veh/h)	37	343	73	84	691	40	73	201	98	40	251	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	350	74	86	705	41	74	205	100	41	256	82
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	791	350	110	916	399	95	1690	740	51	1603	701
Arrive On Green	0.03	0.22	0.22	0.06	0.26	0.26	0.05	0.48	0.48	0.06	0.90	0.90
Sat Flow, veh/h	1781	3554	1572	1781	3554	1549	1781	3554	1556	1781	3554	1553
Grp Volume(v), veh/h	38	350	74	86	705	41	74	205	100	41	256	82
Grp Sat Flow(s),veh/h/ln	1781	1777	1572	1781	1777	1549	1781	1777	1556	1781	1777	1553
Q Serve(g_s), s	1.9	7.6	3.5	4.3	16.5	1.8	3.7	2.9	3.2	2.0	0.7	0.5
Cycle Q Clear(g_c), s	1.9	7.6	3.5	4.3	16.5	1.8	3.7	2.9	3.2	2.0	0.7	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	791	350	110	916	399	95	1690	740	51	1603	701
V/C Ratio(X)	0.80	0.44	0.21	0.78	0.77	0.10	0.78	0.12	0.14	0.80	0.16	0.12
Avail Cap(c_a), veh/h	198	1185	524	198	1185	516	158	1690	740	158	1603	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	30.2	28.5	41.6	30.9	25.5	42.1	13.1	13.2	42.1	2.5	2.4
Incr Delay (d2), s/veh	10.8	0.6	0.4	4.5	2.8	0.2	5.1	0.1	0.4	9.9	0.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	5.7	2.3	3.5	11.4	1.2	3.1	2.0	2.0	1.8	0.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.3	30.7	29.0	46.1	33.7	25.6	47.1	13.3	13.6	52.1	2.7	2.8
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	A	A
Approach Vol, veh/h		462			832			379			379	
Approach Delay, s/veh		32.4			34.6			20.0			8.0	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	47.8	10.1	25.5	8.8	45.6	6.9	28.7
Change Period (Y+Rc), s	4.0	5.0	4.5	5.5	4.0	5.0	4.5	5.5
Max Green Setting (Gmax), s	8.0	23.0	10.0	30.0	8.0	23.0	10.0	30.0
Max Q Clear Time (g_c+I1), s	4.0	5.2	6.3	9.6	5.7	2.7	3.9	18.5
Green Ext Time (p_c), s	0.0	2.0	0.0	3.2	0.0	2.5	0.0	4.7

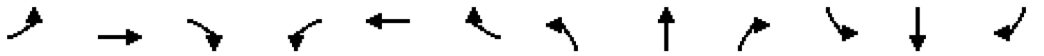
Intersection Summary	
HCM 7th Control Delay, s/veh	26.5
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	762	175	153	720	67	168	314	182	98	295	125
Future Volume (veh/h)	87	762	175	153	720	67	168	314	182	98	295	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	802	184	161	758	71	177	331	192	103	311	132
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	979	432	194	1131	495	198	1176	514	131	1043	451
Arrive On Green	0.07	0.28	0.28	0.11	0.32	0.32	0.11	0.33	0.33	0.05	0.20	0.20
Sat Flow, veh/h	1781	3554	1568	1781	3554	1555	1781	3554	1552	1781	3554	1538
Grp Volume(v), veh/h	92	802	184	161	758	71	177	331	192	103	311	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1568	1781	1777	1555	1781	1777	1552	1781	1777	1538
Q Serve(g_s), s	4.6	19.0	8.7	8.0	16.6	2.9	8.8	6.2	8.5	5.1	6.7	6.6
Cycle Q Clear(g_c), s	4.6	19.0	8.7	8.0	16.6	2.9	8.8	6.2	8.5	5.1	6.7	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	979	432	194	1131	495	198	1176	514	131	1043	451
V/C Ratio(X)	0.78	0.82	0.43	0.83	0.67	0.14	0.89	0.28	0.37	0.79	0.30	0.29
Avail Cap(c_a), veh/h	208	1086	479	208	1131	495	198	1176	514	198	1043	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	30.5	26.8	39.3	26.6	21.9	39.5	22.2	23.0	42.1	28.2	28.2
Incr Delay (d2), s/veh	4.2	5.0	0.9	20.9	1.7	0.2	35.5	0.6	2.1	5.6	0.7	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	13.1	5.7	7.9	11.2	1.9	9.6	4.6	5.8	4.4	5.3	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.6	35.5	27.7	60.2	28.3	22.1	75.0	22.8	25.1	47.7	29.0	29.8
LnGrp LOS	D	D	C	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		1078			990			700			546	
Approach Delay, s/veh		35.0			33.0			36.6			32.7	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	34.8	14.3	30.3	14.0	31.4	10.4	34.2
Change Period (Y+Rc), s	4.0	5.0	4.5	5.5	4.0	5.0	4.5	5.5
Max Green Setting (Gmax), s	10.0	23.0	10.5	27.5	10.0	23.0	10.5	27.5
Max Q Clear Time (g_c+I1), s	7.1	10.5	10.0	21.0	10.8	8.7	6.6	18.6
Green Ext Time (p_c), s	0.0	3.0	0.0	3.8	0.0	2.8	0.0	4.3

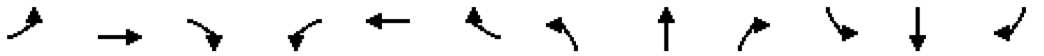
Intersection Summary	
HCM 7th Control Delay, s/veh	34.4
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	398	92	84	720	54	82	222	98	59	275	135
Future Volume (veh/h)	129	398	92	84	720	54	82	222	98	59	275	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	406	94	86	735	55	84	227	100	60	281	138
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	1051	466	110	945	412	108	1380	603	77	1318	575
Arrive On Green	0.09	0.30	0.30	0.06	0.27	0.27	0.06	0.39	0.39	0.09	0.74	0.74
Sat Flow, veh/h	1781	3554	1575	1781	3554	1549	1781	3554	1554	1781	3554	1551
Grp Volume(v), veh/h	132	406	94	86	735	55	84	227	100	60	281	138
Grp Sat Flow(s),veh/h/ln	1781	1777	1575	1781	1777	1549	1781	1777	1554	1781	1777	1551
Q Serve(g_s), s	6.5	8.2	4.0	4.3	17.2	2.4	4.2	3.8	3.8	3.0	2.2	2.5
Cycle Q Clear(g_c), s	6.5	8.2	4.0	4.3	17.2	2.4	4.2	3.8	3.8	3.0	2.2	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	163	1051	466	110	945	412	108	1380	603	77	1318	575
V/C Ratio(X)	0.81	0.39	0.20	0.78	0.78	0.13	0.78	0.16	0.17	0.78	0.21	0.24
Avail Cap(c_a), veh/h	198	1185	525	198	1185	516	158	1380	603	158	1318	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	25.2	23.7	41.6	30.6	25.1	41.7	18.0	18.0	40.7	7.6	7.6
Incr Delay (d2), s/veh	15.4	0.3	0.3	4.5	3.1	0.2	7.5	0.3	0.6	6.4	0.4	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	6.0	2.6	3.5	11.8	1.6	3.6	2.7	2.5	2.5	1.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.5	25.5	24.0	46.1	33.6	25.3	49.2	18.2	18.6	47.1	8.0	8.6
LnGrp LOS	E	C	C	D	C	C	D	B	B	D	A	A
Approach Vol, veh/h		632			876			411			479	
Approach Delay, s/veh		31.6			34.3			24.7			13.1	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	39.9	10.1	32.1	9.4	38.4	12.7	29.4
Change Period (Y+Rc), s	4.0	5.0	4.5	5.5	4.0	5.0	4.5	5.5
Max Green Setting (Gmax), s	8.0	23.0	10.0	30.0	8.0	23.0	10.0	30.0
Max Q Clear Time (g_c+I1), s	5.0	5.8	6.3	10.2	6.2	4.5	8.5	19.2
Green Ext Time (p_c), s	0.0	2.1	0.0	3.8	0.0	2.9	0.0	4.7

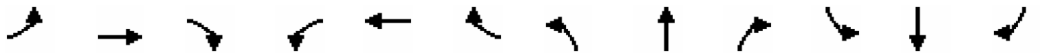
Intersection Summary	
HCM 7th Control Delay, s/veh	27.7
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	751	175	153	753	82	182	334	182	102	302	199
Future Volume (veh/h)	113	751	175	153	753	82	182	334	182	102	302	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	791	184	161	793	86	192	352	192	107	318	209
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	972	429	194	1061	464	198	1173	512	136	1050	455
Arrive On Green	0.08	0.27	0.27	0.11	0.30	0.30	0.11	0.33	0.33	0.03	0.10	0.10
Sat Flow, veh/h	1781	3554	1568	1781	3554	1554	1781	3554	1552	1781	3554	1538
Grp Volume(v), veh/h	119	791	184	161	793	86	192	352	192	107	318	209
Grp Sat Flow(s),veh/h/ln	1781	1777	1568	1781	1777	1554	1781	1777	1552	1781	1777	1538
Q Serve(g_s), s	5.9	18.7	8.7	8.0	18.1	3.7	9.7	6.6	8.5	5.4	7.5	11.6
Cycle Q Clear(g_c), s	5.9	18.7	8.7	8.0	18.1	3.7	9.7	6.6	8.5	5.4	7.5	11.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	149	972	429	194	1061	464	198	1173	512	136	1050	455
V/C Ratio(X)	0.80	0.81	0.43	0.83	0.75	0.19	0.97	0.30	0.37	0.79	0.30	0.46
Avail Cap(c_a), veh/h	208	1086	479	208	1086	475	198	1173	512	198	1050	455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	30.6	26.9	39.3	28.5	23.4	39.9	22.4	23.0	43.1	32.0	33.8
Incr Delay (d2), s/veh	9.3	4.8	1.0	20.9	3.1	0.3	54.9	0.7	2.1	7.0	0.7	3.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	12.9	5.8	7.9	12.3	2.4	11.4	4.9	5.8	4.8	6.2	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.8	35.4	27.9	60.2	31.5	23.7	94.7	23.1	25.1	50.1	32.7	37.1
LnGrp LOS	D	D	C	E	C	C	F	C	C	D	C	D
Approach Vol, veh/h		1094			1040			736			634	
Approach Delay, s/veh		35.7			35.3			42.3			37.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	34.7	14.3	30.1	14.0	31.6	12.0	32.4
Change Period (Y+Rc), s	4.0	5.0	4.5	5.5	4.0	5.0	4.5	5.5
Max Green Setting (Gmax), s	10.0	23.0	10.5	27.5	10.0	23.0	10.5	27.5
Max Q Clear Time (g_c+I1), s	7.4	10.5	10.0	20.7	11.7	13.6	7.9	20.1
Green Ext Time (p_c), s	0.0	3.1	0.0	3.9	0.0	2.6	0.0	3.9

Intersection Summary	
HCM 7th Control Delay, s/veh	37.2
HCM 7th LOS	D



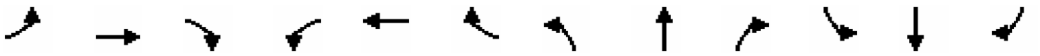
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	398	92	84	720	54	82	222	98	59	275	135
Future Volume (veh/h)	129	398	92	84	720	54	82	222	98	59	275	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	406	94	86	735	55	84	227	100	60	281	138
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1015	450	110	868	378	478	1415	619	77	576	248
Arrive On Green	0.09	0.29	0.29	0.06	0.24	0.24	0.27	0.40	0.40	0.01	0.05	0.05
Sat Flow, veh/h	1781	3554	1575	1781	3554	1548	1781	3554	1554	1781	3554	1531
Grp Volume(v), veh/h	132	406	94	86	735	55	84	227	100	60	281	138
Grp Sat Flow(s),veh/h/ln	1781	1777	1575	1781	1777	1548	1781	1777	1554	1781	1777	1531
Q Serve(g_s), s	6.5	8.3	1.9	4.3	17.7	2.0	3.3	3.7	3.7	3.0	6.9	7.9
Cycle Q Clear(g_c), s	6.5	8.3	1.9	4.3	17.7	2.0	3.3	3.7	3.7	3.0	6.9	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	1015	450	110	868	378	478	1415	619	77	576	248
V/C Ratio(X)	0.81	0.40	0.21	0.78	0.85	0.15	0.18	0.16	0.16	0.78	0.49	0.56
Avail Cap(c_a), veh/h	327	1165	516	208	928	404	478	1415	619	158	908	391
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	25.9	5.2	41.6	32.4	17.2	25.3	17.4	17.4	43.9	39.0	39.4
Incr Delay (d2), s/veh	3.5	0.4	0.3	4.4	7.4	0.2	0.1	0.2	0.6	6.1	2.9	8.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	6.1	2.6	3.5	12.8	1.6	2.4	2.6	2.4	2.6	6.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.6	26.3	5.5	46.1	39.8	17.4	25.3	17.7	18.0	50.0	41.9	48.2
LnGrp LOS	D	C	A	D	D	B	C	B	B	D	D	D
Approach Vol, veh/h		632			876			411			479	
Approach Delay, s/veh		26.8			39.0			19.3			44.7	
Approach LOS		C			D			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	40.8	10.1	31.2	29.2	19.6	13.8	27.5
Change Period (Y+Rc), s	4.0	5.0	4.5	5.5	5.0	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	8.0	23.0	10.5	29.5	8.0	* 23	16.5	* 24
Max Q Clear Time (g_c+I1), s	5.0	5.7	6.3	10.3	5.3	9.9	8.5	19.7
Green Ext Time (p_c), s	0.0	2.1	0.0	3.7	0.0	2.5	0.1	2.1

Intersection Summary	
HCM 7th Control Delay, s/veh	33.5
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



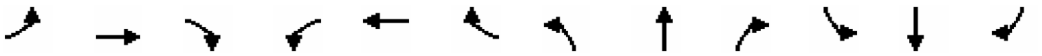
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	751	175	153	753	82	182	334	182	102	302	199
Future Volume (veh/h)	113	751	175	153	753	82	182	334	182	102	302	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	791	184	161	793	86	192	352	192	107	318	209
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	899	396	194	898	392	430	1245	544	137	620	421
Arrive On Green	0.10	0.25	0.25	0.11	0.25	0.25	0.24	0.35	0.35	0.03	0.06	0.06
Sat Flow, veh/h	1781	3554	1566	1781	3554	1552	1781	3554	1552	1781	3554	1519
Grp Volume(v), veh/h	119	791	184	161	793	86	192	352	192	107	318	209
Grp Sat Flow(s),veh/h/ln	1781	1777	1566	1781	1777	1552	1781	1777	1552	1781	1777	1519
Q Serve(g_s), s	5.8	19.2	4.7	8.0	19.3	3.0	8.2	6.4	8.3	5.4	7.8	2.6
Cycle Q Clear(g_c), s	5.8	19.2	4.7	8.0	19.3	3.0	8.2	6.4	8.3	5.4	7.8	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	899	396	194	898	392	430	1245	544	137	620	421
V/C Ratio(X)	0.68	0.88	0.46	0.83	0.88	0.22	0.45	0.28	0.35	0.78	0.51	0.50
Avail Cap(c_a), veh/h	208	928	409	208	928	405	430	1245	544	277	908	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	32.3	7.7	39.3	32.4	15.2	29.0	21.1	21.7	43.1	38.7	32.0
Incr Delay (d2), s/veh	4.5	9.8	1.2	20.9	10.1	0.4	0.3	0.6	1.8	3.7	3.0	4.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	14.0	5.6	7.9	14.0	2.5	6.1	4.7	5.6	4.6	6.8	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.8	42.1	8.9	60.2	42.5	15.6	29.3	21.7	23.5	46.8	41.7	36.1
LnGrp LOS	D	D	A	E	D	B	C	C	C	D	D	D
Approach Vol, veh/h		1094			1040			736			634	
Approach Delay, s/veh		36.7			43.0			24.1			40.7	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	36.5	14.3	28.3	26.7	20.7	14.3	28.2
Change Period (Y+Rc), s	4.0	5.0	4.5	5.5	5.0	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	14.0	23.0	10.5	23.5	14.0	* 23	10.5	* 24
Max Q Clear Time (g_c+I1), s	7.4	10.3	10.0	21.2	10.2	9.8	7.8	21.3
Green Ext Time (p_c), s	0.0	3.2	0.0	1.5	0.1	3.2	0.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	36.7
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



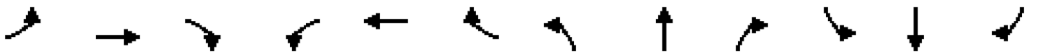
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	565	560	0	926	319	0	0	0	407	0	656
Future Volume (veh/h)	0	565	560	0	926	319	0	0	0	407	0	656
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	595	0	0	975	0				428	0	691
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2610		0	2610					1171	0	537
Arrive On Green	0.00	0.51	0.00	0.00	0.17	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	5443	0	0	5443	0				3456	0	1585
Grp Volume(v), veh/h	0	595	0	0	975	0				428	0	691
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0				1728	0	1585
Q Serve(g_s), s	0.0	5.8	0.0	0.0	15.2	0.0				8.4	0.0	30.5
Cycle Q Clear(g_c), s	0.0	5.8	0.0	0.0	15.2	0.0				8.4	0.0	30.5
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2610		0	2610					1171	0	537
V/C Ratio(X)	0.00	0.23		0.00	0.37					0.37	0.00	1.29
Avail Cap(c_a), veh/h	0	2610		0	2610					1171	0	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.2	0.0	0.0	24.6	0.0				22.4	0.0	29.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.4	0.0				0.1	0.0	142.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.7	0.0	0.0	11.2	0.0				6.0	0.0	48.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.4	0.0	0.0	25.0	0.0				22.6	0.0	172.2
LnGrp LOS		B			C					C		F
Approach Vol, veh/h		595			975						1119	
Approach Delay, s/veh		12.4			25.0						115.0	
Approach LOS		B			C						F	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	52.5	37.5	52.5
Change Period (Y+Rc), s	6.5	7.0	6.5
Max Green Setting (Gmax), s	46.0	30.5	46.0
Max Q Clear Time (g_c+I1), s	7.8	32.5	17.2
Green Ext Time (p_c), s	6.1	0.0	10.2

Intersection Summary	
HCM 7th Control Delay, s/veh	59.7
HCM 7th LOS	E

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



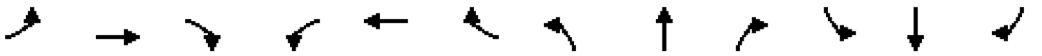
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	942	559	0	977	378	0	0	0	822	0	554
Future Volume (veh/h)	0	942	559	0	977	378	0	0	0	822	0	554
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	992	0	0	1028	0				865	0	583
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2610		0	2610					1171	0	537
Arrive On Green	0.00	0.51	0.00	0.00	0.17	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	5443	0	0	5443	0				3456	0	1585
Grp Volume(v), veh/h	0	992	0	0	1028	0				865	0	583
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0				1728	0	1585
Q Serve(g_s), s	0.0	10.6	0.0	0.0	16.1	0.0				19.9	0.0	30.5
Cycle Q Clear(g_c), s	0.0	10.6	0.0	0.0	16.1	0.0				19.9	0.0	30.5
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2610		0	2610					1171	0	537
V/C Ratio(X)	0.00	0.38		0.00	0.39					0.74	0.00	1.09
Avail Cap(c_a), veh/h	0	2610		0	2610					1171	0	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.3	0.0	0.0	25.0	0.0				26.2	0.0	29.7
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.4	0.0				2.4	0.0	64.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	6.7	0.0	0.0	11.7	0.0				13.0	0.0	29.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	13.8	0.0	0.0	25.4	0.0				28.6	0.0	93.7
LnGrp LOS		B			C					C		F
Approach Vol, veh/h		992			1028						1448	
Approach Delay, s/veh		13.8			25.4						54.8	
Approach LOS		B			C						D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	52.5	37.5	52.5
Change Period (Y+Rc), s	6.5	7.0	6.5
Max Green Setting (Gmax), s	46.0	30.5	46.0
Max Q Clear Time (g_c+I1), s	12.6	32.5	18.1
Green Ext Time (p_c), s	11.0	0.0	10.7

Intersection Summary	
HCM 7th Control Delay, s/veh	34.4
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



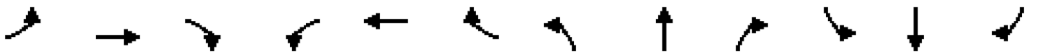
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	598	560	0	982	390	0	0	0	428	0	656
Future Volume (veh/h)	0	598	560	0	982	390	0	0	0	428	0	656
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	629	0	0	1034	0				451	0	691
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2047		0	2047					1552	0	712
Arrive On Green	0.00	0.40	0.00	0.00	0.13	0.00				0.45	0.00	0.45
Sat Flow, veh/h	0	5443	0	0	5443	0				3456	0	1585
Grp Volume(v), veh/h	0	629	0	0	1034	0				451	0	691
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0				1728	0	1585
Q Serve(g_s), s	0.0	7.6	0.0	0.0	16.9	0.0				7.4	0.0	38.3
Cycle Q Clear(g_c), s	0.0	7.6	0.0	0.0	16.9	0.0				7.4	0.0	38.3
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2047		0	2047					1552	0	712
V/C Ratio(X)	0.00	0.31		0.00	0.51					0.29	0.00	0.97
Avail Cap(c_a), veh/h	0	2047		0	2047					1555	0	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.4	0.0	0.0	30.7	0.0				15.7	0.0	24.2
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.9	0.0				0.1	0.0	26.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.2	0.0	0.0	12.4	0.0				5.1	0.0	25.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	18.8	0.0	0.0	31.6	0.0				15.8	0.0	50.7
LnGrp LOS		B			C					B		D
Approach Vol, veh/h		629			1034						1142	
Approach Delay, s/veh		18.8			31.6						36.9	
Approach LOS		B			C						D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	42.6	47.4	42.6
Change Period (Y+Rc), s	6.5	7.0	6.5
Max Green Setting (Gmax), s	36.0	40.5	36.0
Max Q Clear Time (g_c+I1), s	9.6	40.3	18.9
Green Ext Time (p_c), s	6.0	0.1	8.4

Intersection Summary	
HCM 7th Control Delay, s/veh	30.9
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



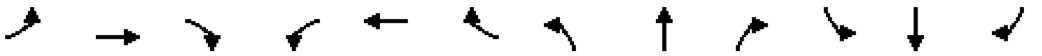
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	976	559	0	970	418	0	0	0	865	0	554
Future Volume (veh/h)	0	976	559	0	970	418	0	0	0	865	0	554
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	1027	0	0	1021	0				911	0	583
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2281		0	2281					1393	0	639
Arrive On Green	0.00	0.45	0.00	0.00	0.15	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	5443	0	0	5443	0				3456	0	1585
Grp Volume(v), veh/h	0	1027	0	0	1021	0				911	0	583
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0				1728	0	1585
Q Serve(g_s), s	0.0	12.5	0.0	0.0	16.4	0.0				19.2	0.0	31.2
Cycle Q Clear(g_c), s	0.0	12.5	0.0	0.0	16.4	0.0				19.2	0.0	31.2
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2281		0	2281					1393	0	639
V/C Ratio(X)	0.00	0.45		0.00	0.45					0.65	0.00	0.91
Avail Cap(c_a), veh/h	0	2281		0	2281					1555	0	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.2	0.0	0.0	28.2	0.0				21.8	0.0	25.4
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.6	0.0				0.7	0.0	14.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.2	0.0	0.0	12.0	0.0				12.1	0.0	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	17.9	0.0	0.0	28.9	0.0				22.5	0.0	40.1
LnGrp LOS		B			C					C		D
Approach Vol, veh/h		1027			1021						1494	
Approach Delay, s/veh		17.9			28.9						29.4	
Approach LOS		B			C						C	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	46.7	43.3	46.7
Change Period (Y+Rc), s	6.5	7.0	6.5
Max Green Setting (Gmax), s	36.0	40.5	36.0
Max Q Clear Time (g_c+I1), s	14.5	33.2	18.4
Green Ext Time (p_c), s	9.5	3.0	8.4

Intersection Summary	
HCM 7th Control Delay, s/veh	25.9
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



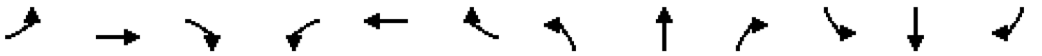
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	621	560	0	926	319	0	0	0	407	0	661
Future Volume (veh/h)	0	621	560	0	926	319	0	0	0	407	0	661
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	654	0	0	975	0				428	0	696
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2042		0	2042					1555	0	713
Arrive On Green	0.00	0.40	0.00	0.00	0.13	0.00				0.45	0.00	0.45
Sat Flow, veh/h	0	5443	0	0	5443	0				3456	0	1585
Grp Volume(v), veh/h	0	654	0	0	975	0				428	0	696
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0				1728	0	1585
Q Serve(g_s), s	0.0	7.9	0.0	0.0	15.9	0.0				7.0	0.0	38.8
Cycle Q Clear(g_c), s	0.0	7.9	0.0	0.0	15.9	0.0				7.0	0.0	38.8
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2042		0	2042					1555	0	713
V/C Ratio(X)	0.00	0.32		0.00	0.48					0.28	0.00	0.98
Avail Cap(c_a), veh/h	0	2042		0	2042					1555	0	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	0.0	0.0	30.3	0.0				15.5	0.0	24.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.8	0.0				0.1	0.0	27.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.4	0.0	0.0	11.7	0.0				4.8	0.0	26.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	19.0	0.0	0.0	31.1	0.0				15.6	0.0	51.9
LnGrp LOS		B			C					B		D
Approach Vol, veh/h		654			975						1124	
Approach Delay, s/veh		19.0			31.1						38.1	
Approach LOS		B			C						D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	42.5	47.5	42.5
Change Period (Y+Rc), s	6.5	7.0	6.5
Max Green Setting (Gmax), s	36.0	40.5	36.0
Max Q Clear Time (g_c+I1), s	9.9	40.8	17.9
Green Ext Time (p_c), s	6.2	0.0	8.2

Intersection Summary	
HCM 7th Control Delay, s/veh	31.1
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



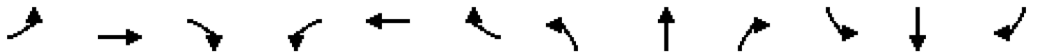
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	942	559	0	977	378	0	0	0	822	0	579
Future Volume (veh/h)	0	942	559	0	977	378	0	0	0	822	0	579
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	992	0	0	1028	0				865	0	609
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2219		0	2219					1436	0	658
Arrive On Green	0.00	0.43	0.00	0.00	0.14	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	5443	0	0	5443	0				3456	0	1585
Grp Volume(v), veh/h	0	992	0	0	1028	0				865	0	609
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0				1728	0	1585
Q Serve(g_s), s	0.0	12.3	0.0	0.0	16.6	0.0				17.6	0.0	32.8
Cycle Q Clear(g_c), s	0.0	12.3	0.0	0.0	16.6	0.0				17.6	0.0	32.8
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2219		0	2219					1436	0	658
V/C Ratio(X)	0.00	0.45		0.00	0.46					0.60	0.00	0.92
Avail Cap(c_a), veh/h	0	2219		0	2219					1555	0	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.9	0.0	0.0	28.9	0.0				20.5	0.0	25.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.7	0.0				0.5	0.0	16.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.1	0.0	0.0	12.1	0.0				11.2	0.0	21.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	18.5	0.0	0.0	29.6	0.0				21.0	0.0	41.9
LnGrp LOS		B			C					C		D
Approach Vol, veh/h		992			1028						1474	
Approach Delay, s/veh		18.5			29.6						29.6	
Approach LOS		B			C						C	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	45.6	44.4	45.6
Change Period (Y+Rc), s	6.5	7.0	6.5
Max Green Setting (Gmax), s	36.0	40.5	36.0
Max Q Clear Time (g_c+I1), s	14.3	34.8	18.6
Green Ext Time (p_c), s	9.2	2.6	8.4

Intersection Summary	
HCM 7th Control Delay, s/veh	26.5
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



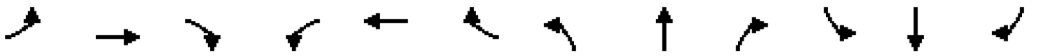
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	654	560	0	982	390	0	0	0	428	0	661
Future Volume (veh/h)	0	654	560	0	982	390	0	0	0	428	0	661
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	688	0	0	1034	0				451	0	696
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2042		0	2042					1555	0	713
Arrive On Green	0.00	0.40	0.00	0.00	0.13	0.00				0.45	0.00	0.45
Sat Flow, veh/h	0	5443	0	0	5443	0				3456	0	1585
Grp Volume(v), veh/h	0	688	0	0	1034	0				451	0	696
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0				1728	0	1585
Q Serve(g_s), s	0.0	8.4	0.0	0.0	17.0	0.0				7.4	0.0	38.8
Cycle Q Clear(g_c), s	0.0	8.4	0.0	0.0	17.0	0.0				7.4	0.0	38.8
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2042		0	2042					1555	0	713
V/C Ratio(X)	0.00	0.34		0.00	0.51					0.29	0.00	0.98
Avail Cap(c_a), veh/h	0	2042		0	2042					1555	0	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.7	0.0	0.0	30.8	0.0				15.7	0.0	24.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.9	0.0				0.1	0.0	27.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.7	0.0	0.0	12.3	0.0				5.1	0.0	26.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	19.2	0.0	0.0	31.7	0.0				15.7	0.0	51.9
LnGrp LOS		B			C					B		D
Approach Vol, veh/h		688			1034						1147	
Approach Delay, s/veh		19.2			31.7						37.7	
Approach LOS		B			C						D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	42.5	47.5	42.5
Change Period (Y+Rc), s	6.5	7.0	6.5
Max Green Setting (Gmax), s	36.0	40.5	36.0
Max Q Clear Time (g_c+I1), s	10.4	40.8	19.0
Green Ext Time (p_c), s	6.6	0.0	8.4

Intersection Summary	
HCM 7th Control Delay, s/veh	31.1
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



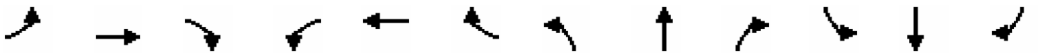
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	976	559	0	970	418	0	0	0	865	0	579
Future Volume (veh/h)	0	976	559	0	970	418	0	0	0	865	0	579
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	0	1027	0	0	1021	0				911	0	609
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2				2	0	2
Cap, veh/h	0	2216		0	2216					1438	0	659
Arrive On Green	0.00	0.43	0.00	0.00	0.14	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	5443	0	0	5443	0				3456	0	1585
Grp Volume(v), veh/h	0	1027	0	0	1021	0				911	0	609
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0				1728	0	1585
Q Serve(g_s), s	0.0	12.8	0.0	0.0	16.5	0.0				18.8	0.0	32.8
Cycle Q Clear(g_c), s	0.0	12.8	0.0	0.0	16.5	0.0				18.8	0.0	32.8
Prop In Lane	0.00		0.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2216		0	2216					1438	0	659
V/C Ratio(X)	0.00	0.46		0.00	0.46					0.63	0.00	0.92
Avail Cap(c_a), veh/h	0	2216		0	2216					1555	0	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.0	0.0	0.0	28.9	0.0				20.8	0.0	24.9
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.7	0.0				0.7	0.0	16.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.4	0.0	0.0	12.1	0.0				11.8	0.0	20.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	18.7	0.0	0.0	29.6	0.0				21.5	0.0	41.7
LnGrp LOS		B			C					C		D
Approach Vol, veh/h		1027			1021						1520	
Approach Delay, s/veh		18.7			29.6						29.6	
Approach LOS		B			C						C	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	45.6	44.4	45.6
Change Period (Y+Rc), s	6.5	7.0	6.5
Max Green Setting (Gmax), s	36.0	40.5	36.0
Max Q Clear Time (g_c+I1), s	14.8	34.8	18.5
Green Ext Time (p_c), s	9.4	2.6	8.4

Intersection Summary	
HCM 7th Control Delay, s/veh	26.5
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	710	326	0	613	411	544	0	279	0	0	0
Future Volume (veh/h)	0	710	326	0	613	411	544	0	279	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	732	0	0	632	0	561	0	288			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2633		0	2633		596	0	530			
Arrive On Green	0.00	0.17	0.00	0.00	1.00	0.00	0.33	0.00	0.33			
Sat Flow, veh/h	0	5443	0	0	5443	0	1781	0	1585			
Grp Volume(v), veh/h	0	732	0	0	632	0	561	0	288			
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0	1781	0	1585			
Q Serve(g_s), s	0.0	11.2	0.0	0.0	0.0	0.0	27.5	0.0	13.3			
Cycle Q Clear(g_c), s	0.0	11.2	0.0	0.0	0.0	0.0	27.5	0.0	13.3			
Prop In Lane	0.00		0.00	0.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2633		0	2633		596	0	530			
V/C Ratio(X)	0.00	0.28		0.00	0.24		0.94	0.00	0.54			
Avail Cap(c_a), veh/h	0	2633		0	2633		604	0	537			
HCM Platoon Ratio	1.00	0.33	0.33	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	22.7	0.0	0.0	0.0	0.0	29.1	0.0	24.4			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.2	0.0	23.2	0.0	1.3			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	8.6	0.0	0.0	0.1	0.0	21.5	0.0	8.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	23.0	0.0	0.0	0.2	0.0	52.4	0.0	25.6			
LnGrp LOS		C			A		D		C			
Approach Vol, veh/h		732			632			849				
Approach Delay, s/veh		23.0			0.2			43.3				
Approach LOS		C			A			D				

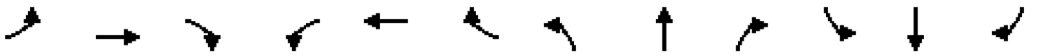
Timer - Assigned Phs	2				6		8					
Phs Duration (G+Y+Rc), s	52.9				52.9		37.1					
Change Period (Y+Rc), s	6.5				6.5		7.0					
Max Green Setting (Gmax), s	46.0				46.0		30.5					
Max Q Clear Time (g_c+I1), s	13.2				2.0		29.5					
Green Ext Time (p_c), s	7.6				6.7		0.5					

Intersection Summary	
HCM 7th Control Delay, s/veh	24.3
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Note: Northbound shared left/right-turn lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1373	410	0	884	700	432	0	498	0	0	0
Future Volume (veh/h)	0	1373	410	0	884	700	432	0	498	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1401	0	0	902	0	441	50	475			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2672		0	2672		525	60	518			
Arrive On Green	0.00	0.17	0.00	0.00	1.00	0.00	0.33	0.33	0.33			
Sat Flow, veh/h	0	5443	0	0	5443	0	1608	182	1585			
Grp Volume(v), veh/h	0	1401	0	0	902	0	491	0	475			
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0	1790	0	1585			
Q Serve(g_s), s	0.0	22.5	0.0	0.0	0.0	0.0	22.9	0.0	25.9			
Cycle Q Clear(g_c), s	0.0	22.5	0.0	0.0	0.0	0.0	22.9	0.0	25.9			
Prop In Lane	0.00		0.00	0.00		0.00	0.90		1.00			
Lane Grp Cap(c), veh/h	0	2672		0	2672		585	0	518			
V/C Ratio(X)	0.00	0.52		0.00	0.34		0.84	0.00	0.92			
Avail Cap(c_a), veh/h	0	2672		0	2672		607	0	537			
HCM Platoon Ratio	1.00	0.33	0.33	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	27.0	0.0	0.0	0.0	0.0	28.1	0.0	29.1			
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.3	0.0	10.2	0.0	20.6			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	15.5	0.0	0.0	0.2	0.0	16.6	0.0	18.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	27.8	0.0	0.0	0.3	0.0	38.3	0.0	49.7			
LnGrp LOS		C			A		D		D			
Approach Vol, veh/h		1401			902			966				
Approach Delay, s/veh		27.8			0.3			43.9				
Approach LOS		C			A			D				

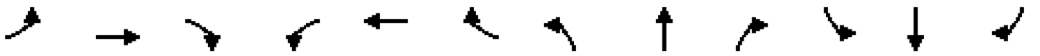
Timer - Assigned Phs	2				6		8					
Phs Duration (G+Y+Rc), s	53.6				53.6		36.4					
Change Period (Y+Rc), s	6.5				6.5		7.0					
Max Green Setting (Gmax), s	46.0				46.0		30.5					
Max Q Clear Time (g_c+I1), s	24.5				2.0		27.9					
Green Ext Time (p_c), s	13.1				10.5		1.5					

Intersection Summary												
HCM 7th Control Delay, s/veh		25.0										
HCM 7th LOS		C										

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Note: Northbound shared left/right-turn lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



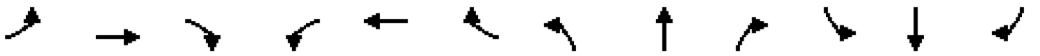
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	764	326	0	740	452	544	0	313	0	0	0
Future Volume (veh/h)	0	764	326	0	740	452	544	0	313	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	788	0	0	763	0	561	0	323			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2632		0	2632		596	0	530			
Arrive On Green	0.00	0.17	0.00	0.00	1.00	0.00	0.33	0.00	0.33			
Sat Flow, veh/h	0	5443	0	0	5443	0	1781	0	1585			
Grp Volume(v), veh/h	0	788	0	0	763	0	561	0	323			
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0	1781	0	1585			
Q Serve(g_s), s	0.0	12.1	0.0	0.0	0.0	0.0	27.5	0.0	15.3			
Cycle Q Clear(g_c), s	0.0	12.1	0.0	0.0	0.0	0.0	27.5	0.0	15.3			
Prop In Lane	0.00		0.00	0.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2632		0	2632		596	0	530			
V/C Ratio(X)	0.00	0.30		0.00	0.29		0.94	0.00	0.61			
Avail Cap(c_a), veh/h	0	2632		0	2632		604	0	537			
HCM Platoon Ratio	1.00	0.33	0.33	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	23.1	0.0	0.0	0.0	0.0	29.1	0.0	25.0			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0	23.2	0.0	2.1			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	9.3	0.0	0.0	0.1	0.0	21.5	0.0	9.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	23.4	0.0	0.0	0.3	0.0	52.3	0.0	27.2			
LnGrp LOS		C			A		D		C			
Approach Vol, veh/h		788			763			884				
Approach Delay, s/veh		23.4			0.3			43.1				
Approach LOS		C			A			D				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		52.9				52.9		37.1				
Change Period (Y+Rc), s		6.5				6.5		7.0				
Max Green Setting (Gmax), s		46.0				46.0		30.5				
Max Q Clear Time (g_c+I1), s		14.1				2.0		29.5				
Green Ext Time (p_c), s		8.2				8.5		0.6				

Intersection Summary	
HCM 7th Control Delay, s/veh	23.3
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Note: Northbound shared left/right-turn lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1448	410	0	915	718	432	0	576	0	0	0
Future Volume (veh/h)	0	1448	410	0	915	718	432	0	576	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1478	0	0	934	0	441	110	515			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2610		0	2610		488	122	537			
Arrive On Green	0.00	0.17	0.00	0.00	1.00	0.00	0.34	0.34	0.34			
Sat Flow, veh/h	0	5443	0	0	5443	0	1439	359	1585			
Grp Volume(v), veh/h	0	1478	0	0	934	0	551	0	515			
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0	1798	0	1585			
Q Serve(g_s), s	0.0	23.9	0.0	0.0	0.0	0.0	26.3	0.0	28.6			
Cycle Q Clear(g_c), s	0.0	23.9	0.0	0.0	0.0	0.0	26.3	0.0	28.6			
Prop In Lane	0.00		0.00	0.00		0.00	0.80		1.00			
Lane Grp Cap(c), veh/h	0	2610		0	2610		609	0	537			
V/C Ratio(X)	0.00	0.57		0.00	0.36		0.90	0.00	0.96			
Avail Cap(c_a), veh/h	0	2610		0	2610		609	0	537			
HCM Platoon Ratio	1.00	0.33	0.33	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	28.2	0.0	0.0	0.0	0.0	28.4	0.0	29.1			
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.4	0.0	17.1	0.0	28.7			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	16.3	0.0	0.0	0.2	0.0	19.8	0.0	21.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	29.1	0.0	0.0	0.4	0.0	45.5	0.0	57.8			
LnGrp LOS		C			A		D		E			
Approach Vol, veh/h		1478			934			1066				
Approach Delay, s/veh		29.1			0.4			51.4				
Approach LOS		C			A			D				

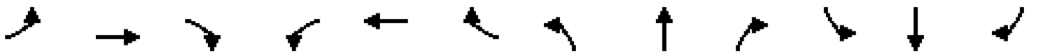
Timer - Assigned Phs	2				6		8					
Phs Duration (G+Y+Rc), s	52.5				52.5		37.5					
Change Period (Y+Rc), s	6.5				6.5		7.0					
Max Green Setting (Gmax), s	46.0				46.0		30.5					
Max Q Clear Time (g_c+I1), s	25.9				2.0		30.6					
Green Ext Time (p_c), s	13.1				11.0		0.0					

Intersection Summary												
HCM 7th Control Delay, s/veh		28.3										
HCM 7th LOS		C										

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Note: Northbound shared left/right-turn lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	710	326	0	613	411	544	0	279	0	0	0
Future Volume (veh/h)	0	710	326	0	613	411	544	0	279	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	732	0	0	632	0	561	0	288			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2633		0	2633		596	0	530			
Arrive On Green	0.00	0.17	0.00	0.00	1.00	0.00	0.33	0.00	0.33			
Sat Flow, veh/h	0	5443	0	0	5443	0	1781	0	1585			
Grp Volume(v), veh/h	0	732	0	0	632	0	561	0	288			
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0	1781	0	1585			
Q Serve(g_s), s	0.0	11.2	0.0	0.0	0.0	0.0	27.5	0.0	13.3			
Cycle Q Clear(g_c), s	0.0	11.2	0.0	0.0	0.0	0.0	27.5	0.0	13.3			
Prop In Lane	0.00		0.00	0.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2633		0	2633		596	0	530			
V/C Ratio(X)	0.00	0.28		0.00	0.24		0.94	0.00	0.54			
Avail Cap(c_a), veh/h	0	2633		0	2633		604	0	537			
HCM Platoon Ratio	1.00	0.33	0.33	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	22.7	0.0	0.0	0.0	0.0	29.1	0.0	24.4			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.2	0.0	23.2	0.0	1.3			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	8.6	0.0	0.0	0.1	0.0	21.5	0.0	8.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	23.0	0.0	0.0	0.2	0.0	52.4	0.0	25.6			
LnGrp LOS		C			A		D		C			
Approach Vol, veh/h		732			632			849				
Approach Delay, s/veh		23.0			0.2			43.3				
Approach LOS		C			A			D				

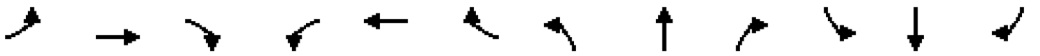
Timer - Assigned Phs	2				6		8					
Phs Duration (G+Y+Rc), s	52.9				52.9		37.1					
Change Period (Y+Rc), s	6.5				6.5		7.0					
Max Green Setting (Gmax), s	46.0				46.0		30.5					
Max Q Clear Time (g_c+I1), s	13.2				2.0		29.5					
Green Ext Time (p_c), s	7.6				6.7		0.5					

Intersection Summary	
HCM 7th Control Delay, s/veh	24.3
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Note: Northbound shared left/right-turn lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1373	410	0	884	700	432	0	498	0	0	0
Future Volume (veh/h)	0	1373	410	0	884	700	432	0	498	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1401	0	0	902	0	441	50	475			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2672		0	2672		525	60	518			
Arrive On Green	0.00	0.17	0.00	0.00	1.00	0.00	0.33	0.33	0.33			
Sat Flow, veh/h	0	5443	0	0	5443	0	1608	182	1585			
Grp Volume(v), veh/h	0	1401	0	0	902	0	491	0	475			
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0	1790	0	1585			
Q Serve(g_s), s	0.0	22.5	0.0	0.0	0.0	0.0	22.9	0.0	25.9			
Cycle Q Clear(g_c), s	0.0	22.5	0.0	0.0	0.0	0.0	22.9	0.0	25.9			
Prop In Lane	0.00		0.00	0.00		0.00	0.90		1.00			
Lane Grp Cap(c), veh/h	0	2672		0	2672		585	0	518			
V/C Ratio(X)	0.00	0.52		0.00	0.34		0.84	0.00	0.92			
Avail Cap(c_a), veh/h	0	2672		0	2672		607	0	537			
HCM Platoon Ratio	1.00	0.33	0.33	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	27.0	0.0	0.0	0.0	0.0	28.1	0.0	29.1			
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.3	0.0	10.2	0.0	20.6			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	15.5	0.0	0.0	0.2	0.0	16.6	0.0	18.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	27.8	0.0	0.0	0.3	0.0	38.3	0.0	49.7			
LnGrp LOS		C			A		D		D			
Approach Vol, veh/h		1401			902			966				
Approach Delay, s/veh		27.8			0.3			43.9				
Approach LOS		C			A			D				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		53.6				53.6		36.4				
Change Period (Y+Rc), s		6.5				6.5		7.0				
Max Green Setting (Gmax), s		46.0				46.0		30.5				
Max Q Clear Time (g_c+I1), s		24.5				2.0		27.9				
Green Ext Time (p_c), s		13.1				10.5		1.5				

Intersection Summary	
HCM 7th Control Delay, s/veh	25.0
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

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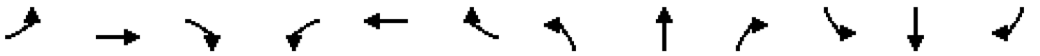

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	764	326	0	740	452	544	0	313	0	0	0
Future Volume (veh/h)	0	764	326	0	740	452	544	0	313	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	788	0	0	763	0	561	0	323			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2632		0	2632		596	0	530			
Arrive On Green	0.00	0.17	0.00	0.00	1.00	0.00	0.33	0.00	0.33			
Sat Flow, veh/h	0	5443	0	0	5443	0	1781	0	1585			
Grp Volume(v), veh/h	0	788	0	0	763	0	561	0	323			
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0	1781	0	1585			
Q Serve(g_s), s	0.0	12.1	0.0	0.0	0.0	0.0	27.5	0.0	15.3			
Cycle Q Clear(g_c), s	0.0	12.1	0.0	0.0	0.0	0.0	27.5	0.0	15.3			
Prop In Lane	0.00		0.00	0.00		0.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2632		0	2632		596	0	530			
V/C Ratio(X)	0.00	0.30		0.00	0.29		0.94	0.00	0.61			
Avail Cap(c_a), veh/h	0	2632		0	2632		604	0	537			
HCM Platoon Ratio	1.00	0.33	0.33	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	23.1	0.0	0.0	0.0	0.0	29.1	0.0	25.0			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0	23.2	0.0	2.1			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	9.3	0.0	0.0	0.1	0.0	21.5	0.0	9.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	23.4	0.0	0.0	0.3	0.0	52.3	0.0	27.2			
LnGrp LOS		C			A		D		C			
Approach Vol, veh/h		788			763			884				
Approach Delay, s/veh		23.4			0.3			43.1				
Approach LOS		C			A			D				

Timer - Assigned Phs	2				6		8					
Phs Duration (G+Y+Rc), s	52.9				52.9		37.1					
Change Period (Y+Rc), s	6.5				6.5		7.0					
Max Green Setting (Gmax), s	46.0				46.0		30.5					
Max Q Clear Time (g_c+I1), s	14.1				2.0		29.5					
Green Ext Time (p_c), s	8.2				8.5		0.6					

Intersection Summary	
HCM 7th Control Delay, s/veh	23.3
HCM 7th LOS	C

Notes

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Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

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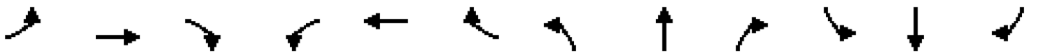

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1448	410	0	915	718	432	0	576	0	0	0
Future Volume (veh/h)	0	1448	410	0	915	718	432	0	576	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1478	0	0	934	0	441	110	515			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2610		0	2610		488	122	537			
Arrive On Green	0.00	0.17	0.00	0.00	1.00	0.00	0.34	0.34	0.34			
Sat Flow, veh/h	0	5443	0	0	5443	0	1439	359	1585			
Grp Volume(v), veh/h	0	1478	0	0	934	0	551	0	515			
Grp Sat Flow(s),veh/h/ln	0	1702	0	0	1702	0	1798	0	1585			
Q Serve(g_s), s	0.0	23.9	0.0	0.0	0.0	0.0	26.3	0.0	28.6			
Cycle Q Clear(g_c), s	0.0	23.9	0.0	0.0	0.0	0.0	26.3	0.0	28.6			
Prop In Lane	0.00		0.00	0.00		0.00	0.80		1.00			
Lane Grp Cap(c), veh/h	0	2610		0	2610		609	0	537			
V/C Ratio(X)	0.00	0.57		0.00	0.36		0.90	0.00	0.96			
Avail Cap(c_a), veh/h	0	2610		0	2610		609	0	537			
HCM Platoon Ratio	1.00	0.33	0.33	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	28.2	0.0	0.0	0.0	0.0	28.4	0.0	29.1			
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.4	0.0	17.1	0.0	28.7			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	16.3	0.0	0.0	0.2	0.0	19.8	0.0	21.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	29.1	0.0	0.0	0.4	0.0	45.5	0.0	57.8			
LnGrp LOS		C			A		D		E			
Approach Vol, veh/h		1478			934			1066				
Approach Delay, s/veh		29.1			0.4			51.4				
Approach LOS		C			A			D				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		52.5				52.5		37.5				
Change Period (Y+Rc), s		6.5				6.5		7.0				
Max Green Setting (Gmax), s		46.0				46.0		30.5				
Max Q Clear Time (g_c+I1), s		25.9				2.0		30.6				
Green Ext Time (p_c), s		13.1				11.0		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	28.3
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

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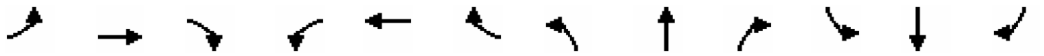


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	18	125	3	89	19	743	421	0	1015	5
Future Volume (veh/h)	0	0	18	125	3	89	19	743	421	0	1015	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	0	0	133	3	95	20	790	0	0	1080	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	263		275	4	214	385	2522		0	2574	12
Arrive On Green	0.00	0.00	0.00	0.14	0.14	0.14	0.71	0.71	0.00	0.00	0.71	0.71
Sat Flow, veh/h	0	1870	0	1394	31	1524	520	3647	0	0	3720	17
Grp Volume(v), veh/h	0	0	0	136	0	95	20	790	0	0	529	556
Grp Sat Flow(s),veh/h/ln	0	1870	0	1425	0	1524	520	1777	0	0	1777	1867
Q Serve(g_s), s	0.0	0.0	0.0	8.2	0.0	5.1	1.5	7.5	0.0	0.0	11.1	11.1
Cycle Q Clear(g_c), s	0.0	0.0	0.0	8.2	0.0	5.1	12.6	7.5	0.0	0.0	11.1	11.1
Prop In Lane	0.00		0.00	0.98		1.00	1.00		0.00	0.00		0.01
Lane Grp Cap(c), veh/h	0	263		279	0	214	385	2522		0	1261	1325
V/C Ratio(X)	0.00	0.00		0.49	0.00	0.44	0.05	0.31		0.00	0.42	0.42
Avail Cap(c_a), veh/h	0	436		412	0	356	385	2522		0	1261	1325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	36.8	0.0	35.5	8.0	4.9	0.0	0.0	5.4	5.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.6	0.0	1.7	0.3	0.3	0.0	0.0	1.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	5.2	0.0	3.5	0.3	4.0	0.0	0.0	6.3	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	38.3	0.0	37.2	8.3	5.2	0.0	0.0	6.4	6.4
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h		0			231			810			1085	
Approach Delay, s/veh		0.0			37.9			5.3			6.4	
Approach LOS					D			A			A	

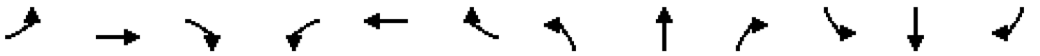
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	70.4	19.6	70.4	19.6
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	55.5	21.0	55.5	21.0
Max Q Clear Time (g_c+I1), s	14.6	0.0	13.1	10.2
Green Ext Time (p_c), s	9.6	0.0	13.2	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	9.4
HCM 7th LOS	A

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane and eastbound right-turn only lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	15	101	3	99	29	908	342	0	939	6
Future Volume (veh/h)	0	0	15	101	3	99	29	908	342	0	939	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	0	0	107	3	105	31	966	0	0	999	6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	206		232	4	173	439	2628		0	2678	16
Arrive On Green	0.00	0.00	0.00	0.11	0.11	0.11	0.74	0.74	0.00	0.00	0.74	0.74
Sat Flow, veh/h	0	1870	0	1388	39	1568	560	3647	0	0	3714	22
Grp Volume(v), veh/h	0	0	0	110	0	105	31	966	0	0	490	515
Grp Sat Flow(s),veh/h/ln	0	1870	0	1427	0	1568	560	1777	0	0	1777	1866
Q Serve(g_s), s	0.0	0.0	0.0	6.7	0.0	5.7	1.9	8.7	0.0	0.0	8.9	8.9
Cycle Q Clear(g_c), s	0.0	0.0	0.0	6.7	0.0	5.7	10.8	8.7	0.0	0.0	8.9	8.9
Prop In Lane	0.00		0.00	0.97		1.00	1.00		0.00	0.00		0.01
Lane Grp Cap(c), veh/h	0	206		236	0	173	439	2628		0	1314	1380
V/C Ratio(X)	0.00	0.00		0.47	0.00	0.61	0.07	0.37		0.00	0.37	0.37
Avail Cap(c_a), veh/h	0	488		412	0	366	439	2628		0	1314	1380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	38.6	0.0	38.2	6.2	4.2	0.0	0.0	4.2	4.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.7	0.0	4.1	0.3	0.4	0.0	0.0	0.8	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	4.3	0.0	4.2	0.4	4.3	0.0	0.0	4.7	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	40.3	0.0	42.3	6.5	4.6	0.0	0.0	5.0	5.0
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h		0			215			997			1005	
Approach Delay, s/veh		0.0			41.3			4.6			5.0	
Approach LOS					D			A			A	

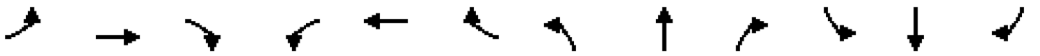
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	73.1	16.9	73.1	16.9
Change Period (Y+Rc), s	6.5	* 7	6.5	7.0
Max Green Setting (Gmax), s	55.5	* 24	55.5	21.0
Max Q Clear Time (g_c+I1), s	12.8	0.0	10.9	8.7
Green Ext Time (p_c), s	12.9	0.0	11.9	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	8.4
HCM 7th LOS	A

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane and eastbound right-turn only lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	18	153	3	89	19	785	481	0	1045	5
Future Volume (veh/h)	0	0	18	153	3	89	19	785	481	0	1045	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	0	0	163	3	95	20	835	0	0	1112	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	294		299	4	241	361	2462		0	2513	11
Arrive On Green	0.00	0.00	0.00	0.16	0.16	0.16	0.69	0.69	0.00	0.00	0.69	0.69
Sat Flow, veh/h	0	1870	0	1398	26	1531	504	3647	0	0	3721	16
Grp Volume(v), veh/h	0	0	0	166	0	95	20	835	0	0	545	572
Grp Sat Flow(s),veh/h/ln	0	1870	0	1424	0	1531	504	1777	0	0	1777	1867
Q Serve(g_s), s	0.0	0.0	0.0	10.0	0.0	5.0	1.6	8.5	0.0	0.0	12.2	12.2
Cycle Q Clear(g_c), s	0.0	0.0	0.0	10.0	0.0	5.0	13.9	8.5	0.0	0.0	12.2	12.2
Prop In Lane	0.00		0.00	0.98		1.00	1.00		0.00	0.00		0.01
Lane Grp Cap(c), veh/h	0	294		303	0	241	361	2462		0	1231	1293
V/C Ratio(X)	0.00	0.00		0.55	0.00	0.39	0.06	0.34		0.00	0.44	0.44
Avail Cap(c_a), veh/h	0	436		411	0	357	361	2462		0	1231	1293
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	36.2	0.0	34.1	9.2	5.6	0.0	0.0	6.1	6.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.9	0.0	1.3	0.3	0.4	0.0	0.0	1.2	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	6.4	0.0	3.4	0.4	4.7	0.0	0.0	7.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	38.0	0.0	35.3	9.5	5.9	0.0	0.0	7.3	7.2
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h		0			261			855			1117	
Approach Delay, s/veh		0.0			37.1			6.0			7.3	
Approach LOS					D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	68.8	21.2	68.8	21.2
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	55.5	21.0	55.5	21.0
Max Q Clear Time (g_c+I1), s	15.9	0.0	14.2	12.0
Green Ext Time (p_c), s	10.3	0.0	13.7	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	10.3
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

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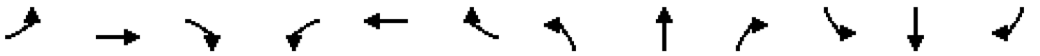

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	15	152	3	99	29	897	368	0	960	6
Future Volume (veh/h)	0	0	15	152	3	99	29	897	368	0	960	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	0	0	162	3	105	31	954	0	0	1021	6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	276		285	4	232	401	2497		0	2544	15
Arrive On Green	0.00	0.00	0.00	0.15	0.15	0.15	0.70	0.70	0.00	0.00	0.70	0.70
Sat Flow, veh/h	0	1870	0	1398	26	1572	549	3647	0	0	3715	21
Grp Volume(v), veh/h	0	0	0	165	0	105	31	954	0	0	501	526
Grp Sat Flow(s),veh/h/ln	0	1870	0	1424	0	1572	549	1777	0	0	1777	1866
Q Serve(g_s), s	0.0	0.0	0.0	10.1	0.0	5.5	2.2	9.8	0.0	0.0	10.5	10.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	10.1	0.0	5.5	12.7	9.8	0.0	0.0	10.5	10.5
Prop In Lane	0.00		0.00	0.98		1.00	1.00		0.00	0.00		0.01
Lane Grp Cap(c), veh/h	0	276		289	0	232	401	2497		0	1248	1311
V/C Ratio(X)	0.00	0.00		0.57	0.00	0.45	0.08	0.38		0.00	0.40	0.40
Avail Cap(c_a), veh/h	0	488		411	0	367	401	2497		0	1248	1311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	37.0	0.0	35.0	8.2	5.4	0.0	0.0	5.5	5.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.1	0.0	1.7	0.4	0.4	0.0	0.0	1.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	6.4	0.0	3.9	0.5	5.4	0.0	0.0	6.0	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	39.1	0.0	36.7	8.6	5.9	0.0	0.0	6.5	6.5
LnGrp LOS				D		D	A	A			A	A
Approach Vol, veh/h		0			270			985			1027	
Approach Delay, s/veh		0.0			38.2			6.0			6.5	
Approach LOS					D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	69.7	20.3	69.7	20.3
Change Period (Y+Rc), s	6.5	* 7	6.5	7.0
Max Green Setting (Gmax), s	55.5	* 24	55.5	21.0
Max Q Clear Time (g_c+I1), s	14.7	0.0	12.5	12.1
Green Ext Time (p_c), s	12.5	0.0	12.2	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	10.0
HCM 7th LOS	B

Notes

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Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

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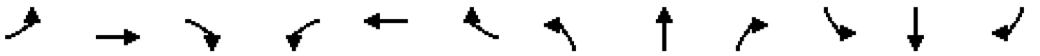


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	18	189	3	89	19	743	421	0	1015	5
Future Volume (veh/h)	0	0	18	189	3	89	19	743	421	0	1015	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	0	0	201	3	95	20	790	0	0	1080	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	333		329	4	274	357	2388		0	2437	11
Arrive On Green	0.00	0.00	0.00	0.18	0.18	0.18	0.67	0.67	0.00	0.00	0.67	0.67
Sat Flow, veh/h	0	1870	0	1402	21	1537	520	3647	0	0	3720	17
Grp Volume(v), veh/h	0	0	0	204	0	95	20	790	0	0	529	556
Grp Sat Flow(s),veh/h/ln	0	1870	0	1423	0	1537	520	1777	0	0	1777	1867
Q Serve(g_s), s	0.0	0.0	0.0	12.4	0.0	4.9	1.7	8.4	0.0	0.0	12.5	12.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	12.4	0.0	4.9	14.2	8.4	0.0	0.0	12.5	12.5
Prop In Lane	0.00		0.00	0.99		1.00	1.00		0.00	0.00		0.01
Lane Grp Cap(c), veh/h	0	333		333	0	274	357	2388		0	1194	1254
V/C Ratio(X)	0.00	0.00		0.61	0.00	0.35	0.06	0.33		0.00	0.44	0.44
Avail Cap(c_a), veh/h	0	436		411	0	359	357	2388		0	1194	1254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	35.5	0.0	32.4	10.2	6.2	0.0	0.0	6.9	6.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.2	0.0	0.9	0.3	0.4	0.0	0.0	1.2	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	7.8	0.0	3.3	0.4	4.9	0.0	0.0	7.6	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	37.7	0.0	33.3	10.5	6.6	0.0	0.0	8.1	8.0
LnGrp LOS				D		C	B	A			A	A
Approach Vol, veh/h		0			299			810			1085	
Approach Delay, s/veh		0.0			36.3			6.7			8.1	
Approach LOS					D			A			A	

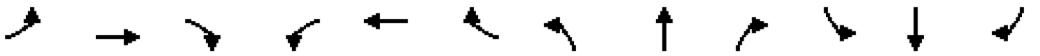
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	67.0	23.0	67.0	23.0
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	55.5	21.0	55.5	21.0
Max Q Clear Time (g_c+I1), s	16.2	0.0	14.5	14.4
Green Ext Time (p_c), s	9.6	0.0	13.1	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	11.4
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane and eastbound right-turn only lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	15	186	3	99	29	1014	342	0	939	6
Future Volume (veh/h)	0	0	15	186	3	99	29	1014	342	0	939	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	0	0	198	3	105	31	1079	0	0	999	6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	319		319	4	269	392	2414		0	2459	15
Arrive On Green	0.00	0.00	0.00	0.17	0.17	0.17	0.68	0.68	0.00	0.00	0.68	0.68
Sat Flow, veh/h	0	1870	0	1401	21	1574	560	3647	0	0	3714	22
Grp Volume(v), veh/h	0	0	0	201	0	105	31	1079	0	0	490	515
Grp Sat Flow(s),veh/h/ln	0	1870	0	1423	0	1574	560	1777	0	0	1777	1866
Q Serve(g_s), s	0.0	0.0	0.0	12.3	0.0	5.3	2.3	12.6	0.0	0.0	11.0	11.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	12.3	0.0	5.3	13.3	12.6	0.0	0.0	11.0	11.0
Prop In Lane	0.00		0.00	0.99		1.00	1.00		0.00	0.00		0.01
Lane Grp Cap(c), veh/h	0	319		322	0	269	392	2414		0	1207	1267
V/C Ratio(X)	0.00	0.00		0.62	0.00	0.39	0.08	0.45		0.00	0.41	0.41
Avail Cap(c_a), veh/h	0	488		411	0	367	392	2414		0	1207	1267
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	36.0	0.0	33.2	9.4	6.7	0.0	0.0	6.4	6.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.4	0.0	1.1	0.4	0.6	0.0	0.0	1.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	7.8	0.0	3.7	0.5	7.2	0.0	0.0	6.6	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	38.4	0.0	34.3	9.7	7.3	0.0	0.0	7.4	7.4
LnGrp LOS				D		C	A	A			A	A
Approach Vol, veh/h		0			306			1110			1005	
Approach Delay, s/veh		0.0			37.0			7.3			7.4	
Approach LOS					D			A			A	

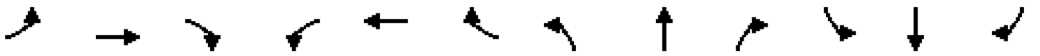
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	67.6	22.4	67.6	22.4
Change Period (Y+Rc), s	6.5	* 7	6.5	7.0
Max Green Setting (Gmax), s	55.5	* 24	55.5	21.0
Max Q Clear Time (g_c+I1), s	15.3	0.0	13.0	14.3
Green Ext Time (p_c), s	14.7	0.0	11.8	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	11.1
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane and eastbound right-turn only lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	18	217	3	89	19	785	481	0	1045	5
Future Volume (veh/h)	0	0	18	217	3	89	19	785	481	0	1045	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	0	0	231	3	95	20	835	0	0	1112	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	363		352	4	299	334	2331		0	2379	11
Arrive On Green	0.00	0.00	0.00	0.19	0.19	0.19	0.66	0.66	0.00	0.00	0.66	0.66
Sat Flow, veh/h	0	1870	0	1404	18	1541	504	3647	0	0	3721	16
Grp Volume(v), veh/h	0	0	0	234	0	95	20	835	0	0	545	572
Grp Sat Flow(s),veh/h/ln	0	1870	0	1422	0	1541	504	1777	0	0	1777	1867
Q Serve(g_s), s	0.0	0.0	0.0	14.3	0.0	4.8	1.8	9.5	0.0	0.0	13.7	13.7
Cycle Q Clear(g_c), s	0.0	0.0	0.0	14.3	0.0	4.8	15.5	9.5	0.0	0.0	13.7	13.7
Prop In Lane	0.00		0.00	0.99		1.00	1.00		0.00	0.00		0.01
Lane Grp Cap(c), veh/h	0	363		355	0	299	334	2331		0	1166	1225
V/C Ratio(X)	0.00	0.00		0.66	0.00	0.32	0.06	0.36		0.00	0.47	0.47
Avail Cap(c_a), veh/h	0	436		411	0	360	334	2331		0	1166	1225
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	35.0	0.0	31.2	11.5	7.0	0.0	0.0	7.7	7.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.5	0.0	0.7	0.3	0.4	0.0	0.0	1.3	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	8.8	0.0	3.2	0.4	5.6	0.0	0.0	8.3	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	38.5	0.0	31.9	11.9	7.4	0.0	0.0	9.0	9.0
LnGrp LOS				D		C	B	A			A	A
Approach Vol, veh/h		0			329			855			1117	
Approach Delay, s/veh		0.0			36.6			7.5			9.0	
Approach LOS					D			A			A	

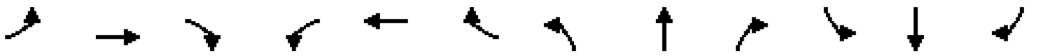
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	65.5	24.5	65.5	24.5
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	55.5	21.0	55.5	21.0
Max Q Clear Time (g_c+I1), s	17.5	0.0	15.7	16.3
Green Ext Time (p_c), s	10.2	0.0	13.5	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	12.4
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane and eastbound right-turn only lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	15	237	3	99	29	1003	368	0	960	6
Future Volume (veh/h)	0	0	15	237	3	99	29	1003	368	0	960	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	0	0	252	3	105	31	1067	0	0	1021	6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	381		366	3	321	358	2296		0	2340	14
Arrive On Green	0.00	0.00	0.00	0.20	0.20	0.20	0.65	0.65	0.00	0.00	0.65	0.65
Sat Flow, veh/h	0	1870	0	1405	17	1576	549	3647	0	0	3715	21
Grp Volume(v), veh/h	0	0	0	255	0	105	31	1067	0	0	501	526
Grp Sat Flow(s),veh/h/ln	0	1870	0	1422	0	1576	549	1777	0	0	1777	1866
Q Serve(g_s), s	0.0	0.0	0.0	15.7	0.0	5.1	2.7	13.7	0.0	0.0	12.5	12.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	15.7	0.0	5.1	15.2	13.7	0.0	0.0	12.5	12.5
Prop In Lane	0.00		0.00	0.99		1.00	1.00		0.00	0.00		0.01
Lane Grp Cap(c), veh/h	0	381		369	0	321	358	2296		0	1148	1206
V/C Ratio(X)	0.00	0.00		0.69	0.00	0.33	0.09	0.46		0.00	0.44	0.44
Avail Cap(c_a), veh/h	0	488		411	0	368	358	2296		0	1148	1206
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	34.8	0.0	30.6	11.6	8.1	0.0	0.0	7.8	7.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.6	0.0	0.7	0.5	0.7	0.0	0.0	1.2	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.0	9.6	0.0	3.5	0.6	8.1	0.0	0.0	7.8	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	39.4	0.0	31.3	12.1	8.7	0.0	0.0	9.1	9.0
LnGrp LOS				D		C	B	A			A	A
Approach Vol, veh/h		0			360			1098			1027	
Approach Delay, s/veh		0.0			37.0			8.8			9.0	
Approach LOS					D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	64.6	25.4	64.6	25.4
Change Period (Y+Rc), s	6.5	* 7	6.5	7.0
Max Green Setting (Gmax), s	55.5	* 24	55.5	21.0
Max Q Clear Time (g_c+I1), s	17.2	0.0	14.5	17.7
Green Ext Time (p_c), s	14.3	0.0	12.0	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	13.0
HCM 7th LOS	B

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane and eastbound right-turn only lane entered as shared left/through/right-turn lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	56	419	4	0	164	0	815	13	175	744	253
Future Volume (veh/h)	314	56	419	4	0	164	0	815	13	175	744	253
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	331	59	441	4	0	173	0	858	14	184	783	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	574	61	458	158	0	141	0	1868	30	228	1283	
Arrive On Green	0.32	0.32	0.32	0.09	0.00	0.09	0.00	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	1781	190	1422	1781	0	1585	0	5340	84	634	3647	0
Grp Volume(v), veh/h	331	0	500	4	0	173	0	564	308	184	783	0
Grp Sat Flow(s),veh/h/ln	1781	0	1613	1781	0	1585	0	1702	1852	634	1777	0
Q Serve(g_s), s	13.9	0.0	27.4	0.2	0.0	8.0	0.0	11.4	11.5	21.0	16.2	0.0
Cycle Q Clear(g_c), s	13.9	0.0	27.4	0.2	0.0	8.0	0.0	11.4	11.5	32.5	16.2	0.0
Prop In Lane	1.00		0.88	1.00		1.00	0.00		0.05	1.00		0.00
Lane Grp Cap(c), veh/h	574	0	520	158	0	141	0	1229	669	228	1283	
V/C Ratio(X)	0.58	0.00	0.96	0.03	0.00	1.23	0.00	0.46	0.46	0.81	0.61	
Avail Cap(c_a), veh/h	574	0	520	158	0	141	0	1229	669	228	1283	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.4	0.0	30.0	37.4	0.0	41.0	0.0	22.0	22.0	36.5	23.6	0.0
Incr Delay (d2), s/veh	1.6	0.0	30.1	0.1	0.0	149.7	0.0	1.2	2.3	25.4	2.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.8	0.0	20.6	0.2	0.0	14.9	0.0	8.1	8.9	9.5	11.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.0	0.0	60.0	37.5	0.0	190.7	0.0	23.3	24.3	61.9	25.7	0.0
LnGrp LOS	C		E	D		F		C	C	E	C	
Approach Vol, veh/h		831			177			872			967	
Approach Delay, s/veh		46.9			187.2			23.6			32.6	
Approach LOS		D			F			C			C	

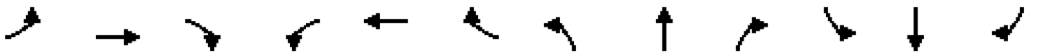
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	39.0	36.0	39.0	15.0
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	32.5	29.0	32.5	8.0
Max Q Clear Time (g_c+I1), s	13.5	29.4	34.5	10.0
Green Ext Time (p_c), s	7.3	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	43.6
HCM 7th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	406	15	429	13	0	115	0	1062	5	14	562	160
Future Volume (veh/h)	406	15	429	13	0	115	0	1062	5	14	562	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	423	16	447	14	0	120	0	1106	5	15	585	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	581	18	500	158	0	141	0	1874	8	174	1270	
Arrive On Green	0.33	0.33	0.33	0.09	0.00	0.09	0.00	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	1781	55	1533	1781	0	1585	0	5414	24	507	3647	0
Grp Volume(v), veh/h	423	0	463	14	0	120	0	718	393	15	585	0
Grp Sat Flow(s),veh/h/ln	1781	0	1588	1781	0	1585	0	1702	1865	507	1777	0
Q Serve(g_s), s	18.9	0.0	25.0	0.6	0.0	6.7	0.0	15.5	15.5	2.2	11.4	0.0
Cycle Q Clear(g_c), s	18.9	0.0	25.0	0.6	0.0	6.7	0.0	15.5	15.5	17.7	11.4	0.0
Prop In Lane	1.00		0.97	1.00		1.00	0.00		0.01	1.00		0.00
Lane Grp Cap(c), veh/h	581	0	518	158	0	141	0	1216	666	174	1270	
V/C Ratio(X)	0.73	0.00	0.89	0.09	0.00	0.85	0.00	0.59	0.59	0.09	0.46	
Avail Cap(c_a), veh/h	633	0	565	158	0	141	0	1216	666	174	1270	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	28.9	37.7	0.0	40.4	0.0	23.6	23.6	30.8	22.3	0.0
Incr Delay (d2), s/veh	4.1	0.0	16.1	0.3	0.0	36.9	0.0	2.1	3.8	1.0	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.0	0.0	16.8	0.5	0.0	7.3	0.0	10.3	11.6	0.6	8.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.9	0.0	45.0	37.9	0.0	77.3	0.0	25.7	27.4	31.7	23.5	0.0
LnGrp LOS	C		D	D		E		C	C	C	C	
Approach Vol, veh/h		886			134			1111			600	
Approach Delay, s/veh		38.3			73.2			26.3			23.7	
Approach LOS		D			E			C			C	

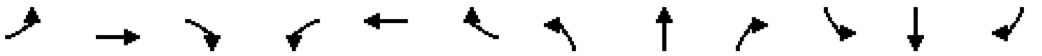
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	38.7	36.3	38.7	15.0
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	29.5	32.0	29.5	8.0
Max Q Clear Time (g_c+I1), s	17.5	27.0	19.7	8.7
Green Ext Time (p_c), s	7.0	2.4	3.6	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	31.9
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	56	452	4	0	164	0	970	13	175	802	253
Future Volume (veh/h)	314	56	452	4	0	164	0	970	13	175	802	253
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	331	59	476	4	0	173	0	1021	14	184	844	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	574	57	462	158	0	141	0	1873	26	191	1283	
Arrive On Green	0.32	0.32	0.32	0.09	0.00	0.09	0.00	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	1781	178	1433	1781	0	1585	0	5356	71	544	3647	0
Grp Volume(v), veh/h	331	0	535	4	0	173	0	670	365	184	844	0
Grp Sat Flow(s),veh/h/ln	1781	0	1611	1781	0	1585	0	1702	1855	544	1777	0
Q Serve(g_s), s	13.9	0.0	29.0	0.2	0.0	8.0	0.0	14.1	14.1	18.4	17.9	0.0
Cycle Q Clear(g_c), s	13.9	0.0	29.0	0.2	0.0	8.0	0.0	14.1	14.1	32.5	17.9	0.0
Prop In Lane	1.00		0.89	1.00		1.00	0.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	574	0	519	158	0	141	0	1229	670	191	1283	
V/C Ratio(X)	0.58	0.00	1.03	0.03	0.00	1.23	0.00	0.54	0.55	0.96	0.66	
Avail Cap(c_a), veh/h	574	0	519	158	0	141	0	1229	670	191	1283	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.4	0.0	30.5	37.4	0.0	41.0	0.0	22.9	22.9	39.4	24.1	0.0
Incr Delay (d2), s/veh	1.6	0.0	47.6	0.1	0.0	149.7	0.0	1.7	3.2	55.8	2.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.8	0.0	24.8	0.2	0.0	14.9	0.0	9.6	10.6	11.3	12.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.0	0.0	78.1	37.5	0.0	190.7	0.0	24.6	26.0	95.2	26.7	0.0
LnGrp LOS	C		F	D		F		C	C	F	C	
Approach Vol, veh/h		866			177			1035			1028	
Approach Delay, s/veh		58.6			187.2			25.1			39.0	
Approach LOS		E			F			C			D	

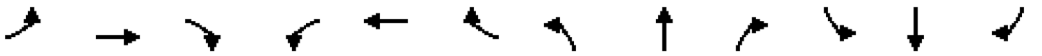
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	39.0	36.0	39.0	15.0
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	32.5	29.0	32.5	8.0
Max Q Clear Time (g_c+I1), s	16.1	31.0	34.5	10.0
Green Ext Time (p_c), s	8.1	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	48.3
HCM 7th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	406	15	490	13	0	115	0	1098	5	14	634	160
Future Volume (veh/h)	406	15	490	13	0	115	0	1098	5	14	634	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	423	16	510	14	0	120	0	1144	5	15	660	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	625	17	540	158	0	141	0	1744	8	152	1181	
Arrive On Green	0.35	0.35	0.35	0.09	0.00	0.09	0.00	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	1781	48	1539	1781	0	1585	0	5415	23	489	3647	0
Grp Volume(v), veh/h	423	0	526	14	0	120	0	742	407	15	660	0
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1585	0	1702	1866	489	1777	0
Q Serve(g_s), s	18.2	0.0	29.0	0.6	0.0	6.7	0.0	16.8	16.8	2.4	13.7	0.0
Cycle Q Clear(g_c), s	18.2	0.0	29.0	0.6	0.0	6.7	0.0	16.8	16.8	19.2	13.7	0.0
Prop In Lane	1.00		0.97	1.00		1.00	0.00		0.01	1.00		0.00
Lane Grp Cap(c), veh/h	625	0	557	158	0	141	0	1132	620	152	1181	
V/C Ratio(X)	0.68	0.00	0.94	0.09	0.00	0.85	0.00	0.66	0.66	0.10	0.56	
Avail Cap(c_a), veh/h	633	0	564	158	0	141	0	1132	620	152	1181	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.9	0.0	28.4	37.7	0.0	40.4	0.0	25.6	25.6	33.8	24.6	0.0
Incr Delay (d2), s/veh	3.0	0.0	24.8	0.3	0.0	36.9	0.0	3.0	5.3	1.3	1.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.4	0.0	20.3	0.5	0.0	7.3	0.0	11.2	12.6	0.6	9.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.9	0.0	53.2	37.9	0.0	77.3	0.0	28.6	31.0	35.1	26.5	0.0
LnGrp LOS	C		D	D		E		C	C	D	C	
Approach Vol, veh/h		949			134			1149			675	
Approach Delay, s/veh		41.9			73.2			29.5			26.7	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	36.4	38.6	36.4	15.0
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	29.5	32.0	29.5	8.0
Max Q Clear Time (g_c+I1), s	18.8	31.0	21.2	8.7
Green Ext Time (p_c), s	6.6	0.6	3.6	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	34.9
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

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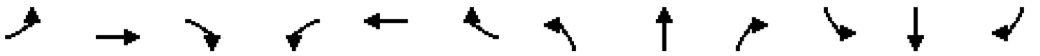

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	56	469	4	0	164	0	815	13	175	795	253
Future Volume (veh/h)	314	56	469	4	0	164	0	815	13	175	795	253
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	331	59	494	4	0	173	0	858	14	184	837	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	574	55	463	158	0	141	0	1868	30	228	1283	
Arrive On Green	0.32	0.32	0.32	0.09	0.00	0.09	0.00	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	1781	172	1438	1781	0	1585	0	5340	84	634	3647	0
Grp Volume(v), veh/h	331	0	553	4	0	173	0	564	308	184	837	0
Grp Sat Flow(s),veh/h/ln	1781	0	1610	1781	0	1585	0	1702	1852	634	1777	0
Q Serve(g_s), s	13.9	0.0	29.0	0.2	0.0	8.0	0.0	11.4	11.5	21.0	17.7	0.0
Cycle Q Clear(g_c), s	13.9	0.0	29.0	0.2	0.0	8.0	0.0	11.4	11.5	32.5	17.7	0.0
Prop In Lane	1.00		0.89	1.00		1.00	0.00		0.05	1.00		0.00
Lane Grp Cap(c), veh/h	574	0	519	158	0	141	0	1229	669	228	1283	
V/C Ratio(X)	0.58	0.00	1.07	0.03	0.00	1.23	0.00	0.46	0.46	0.81	0.65	
Avail Cap(c_a), veh/h	574	0	519	158	0	141	0	1229	669	228	1283	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.4	0.0	30.5	37.4	0.0	41.0	0.0	22.0	22.0	36.5	24.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	58.3	0.1	0.0	149.7	0.0	1.2	2.3	25.4	2.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.8	0.0	27.2	0.2	0.0	14.9	0.0	8.1	8.9	9.5	12.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.0	0.0	88.8	37.5	0.0	190.7	0.0	23.3	24.3	61.9	26.6	0.0
LnGrp LOS	C		F	D		F		C	C	E	C	
Approach Vol, veh/h		884			177			872			1021	
Approach Delay, s/veh		65.6			187.2			23.6			33.0	
Approach LOS		E			F			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	39.0	36.0	39.0	15.0
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	32.5	29.0	32.5	8.0
Max Q Clear Time (g_c+I1), s	13.5	31.0	34.5	10.0
Green Ext Time (p_c), s	7.3	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	49.2
HCM 7th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

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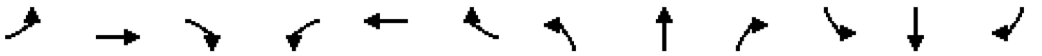


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	406	15	460	13	0	115	0	1089	5	14	605	160
Future Volume (veh/h)	406	15	460	13	0	115	0	1089	5	14	605	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	423	16	479	14	0	120	0	1134	5	15	630	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	605	17	522	158	0	141	0	1803	8	160	1221	
Arrive On Green	0.34	0.34	0.34	0.09	0.00	0.09	0.00	0.34	0.34	0.34	0.34	0.00
Sat Flow, veh/h	1781	51	1536	1781	0	1585	0	5415	23	494	3647	0
Grp Volume(v), veh/h	423	0	495	14	0	120	0	736	403	15	630	0
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1585	0	1702	1866	494	1777	0
Q Serve(g_s), s	18.5	0.0	26.9	0.6	0.0	6.7	0.0	16.3	16.3	2.4	12.7	0.0
Cycle Q Clear(g_c), s	18.5	0.0	26.9	0.6	0.0	6.7	0.0	16.3	16.3	18.7	12.7	0.0
Prop In Lane	1.00		0.97	1.00		1.00	0.00		0.01	1.00		0.00
Lane Grp Cap(c), veh/h	605	0	539	158	0	141	0	1170	641	160	1221	
V/C Ratio(X)	0.70	0.00	0.92	0.09	0.00	0.85	0.00	0.63	0.63	0.09	0.52	
Avail Cap(c_a), veh/h	633	0	564	158	0	141	0	1170	641	160	1221	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.7	0.0	28.5	37.7	0.0	40.4	0.0	24.7	24.7	32.5	23.6	0.0
Incr Delay (d2), s/veh	3.4	0.0	19.9	0.3	0.0	36.9	0.0	2.6	4.6	1.2	1.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.7	0.0	18.4	0.5	0.0	7.3	0.0	10.9	12.2	0.6	9.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.2	0.0	48.4	37.9	0.0	77.3	0.0	27.3	29.4	33.7	25.1	0.0
LnGrp LOS	C		D	D		E		C	C	C	C	
Approach Vol, veh/h		918			134			1139			645	
Approach Delay, s/veh		39.5			73.2			28.0			25.3	
Approach LOS		D			E			C			C	

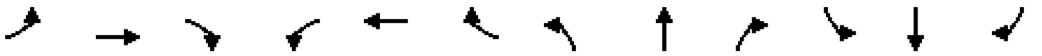
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	37.4	37.6	37.4	15.0
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	29.5	32.0	29.5	8.0
Max Q Clear Time (g_c+I1), s	18.3	28.9	20.7	8.7
Green Ext Time (p_c), s	6.8	1.6	3.6	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	33.3
HCM 7th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	56	502	4	0	164	0	970	13	175	853	253
Future Volume (veh/h)	314	56	502	4	0	164	0	970	13	175	853	253
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	331	59	528	4	0	173	0	1021	14	184	898	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	574	52	466	158	0	141	0	1873	26	191	1283	
Arrive On Green	0.32	0.32	0.32	0.09	0.00	0.09	0.00	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	1781	162	1447	1781	0	1585	0	5356	71	544	3647	0
Grp Volume(v), veh/h	331	0	587	4	0	173	0	670	365	184	898	0
Grp Sat Flow(s),veh/h/ln	1781	0	1608	1781	0	1585	0	1702	1855	544	1777	0
Q Serve(g_s), s	13.9	0.0	29.0	0.2	0.0	8.0	0.0	14.1	14.1	18.4	19.4	0.0
Cycle Q Clear(g_c), s	13.9	0.0	29.0	0.2	0.0	8.0	0.0	14.1	14.1	32.5	19.4	0.0
Prop In Lane	1.00		0.90	1.00		1.00	0.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	574	0	518	158	0	141	0	1229	670	191	1283	
V/C Ratio(X)	0.58	0.00	1.13	0.03	0.00	1.23	0.00	0.54	0.55	0.96	0.70	
Avail Cap(c_a), veh/h	574	0	518	158	0	141	0	1229	670	191	1283	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.4	0.0	30.5	37.4	0.0	41.0	0.0	22.9	22.9	39.4	24.6	0.0
Incr Delay (d2), s/veh	1.6	0.0	81.4	0.1	0.0	149.7	0.0	1.7	3.2	55.8	3.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.8	0.0	32.4	0.2	0.0	14.9	0.0	9.6	10.6	11.3	13.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.0	0.0	111.9	37.5	0.0	190.7	0.0	24.6	26.0	95.2	27.8	0.0
LnGrp LOS	C		F	D		F		C	C	F	C	
Approach Vol, veh/h		918			177			1035			1082	
Approach Delay, s/veh		81.3			187.2			25.1			39.2	
Approach LOS		F			F			C			D	

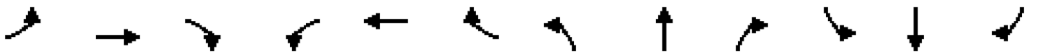
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	39.0	36.0	39.0	15.0
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	32.5	29.0	32.5	8.0
Max Q Clear Time (g_c+I1), s	16.1	31.0	34.5	10.0
Green Ext Time (p_c), s	8.1	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	54.9
HCM 7th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	406	15	521	13	0	115	0	1125	5	14	677	160
Future Volume (veh/h)	406	15	521	13	0	115	0	1125	5	14	677	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	423	16	543	14	0	120	0	1172	5	15	705	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	633	16	548	158	0	141	0	1720	7	144	1165	
Arrive On Green	0.36	0.36	0.36	0.09	0.00	0.09	0.00	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	1781	45	1541	1781	0	1585	0	5416	22	476	3647	0
Grp Volume(v), veh/h	423	0	559	14	0	120	0	760	417	15	705	0
Grp Sat Flow(s),veh/h/ln	1781	0	1587	1781	0	1585	0	1702	1866	476	1777	0
Q Serve(g_s), s	18.1	0.0	31.5	0.6	0.0	6.7	0.0	17.4	17.4	2.5	15.0	0.0
Cycle Q Clear(g_c), s	18.1	0.0	31.5	0.6	0.0	6.7	0.0	17.4	17.4	19.9	15.0	0.0
Prop In Lane	1.00		0.97	1.00		1.00	0.00		0.01	1.00		0.00
Lane Grp Cap(c), veh/h	633	0	564	158	0	141	0	1116	612	144	1165	
V/C Ratio(X)	0.67	0.00	0.99	0.09	0.00	0.85	0.00	0.68	0.68	0.10	0.61	
Avail Cap(c_a), veh/h	633	0	564	158	0	141	0	1116	612	144	1165	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.5	0.0	28.9	37.7	0.0	40.4	0.0	26.2	26.2	34.8	25.4	0.0
Incr Delay (d2), s/veh	2.9	0.0	35.5	0.3	0.0	36.9	0.0	3.4	6.0	1.4	2.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.3	0.0	23.5	0.5	0.0	7.3	0.0	11.6	13.1	0.6	10.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.4	0.0	64.3	37.9	0.0	77.3	0.0	29.6	32.2	36.3	27.7	0.0
LnGrp LOS	C		E	D		E		C	C	D	C	
Approach Vol, veh/h		982			134			1177			720	
Approach Delay, s/veh		48.4			73.2			30.5			27.9	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	36.0	39.0	36.0	15.0
Change Period (Y+Rc), s	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	29.5	32.0	29.5	8.0
Max Q Clear Time (g_c+I1), s	19.4	33.5	21.9	8.7
Green Ext Time (p_c), s	6.4	0.0	3.5	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	37.6
HCM 7th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	56	502	4	0	164	0	970	13	175	853	253
Future Volume (veh/h)	314	56	502	4	0	164	0	970	13	175	853	253
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	331	59	528	4	0	173	0	1021	14	184	898	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	474	84	493	158	0	141	0	1166	16	272	1323	
Arrive On Green	0.31	0.31	0.31	0.09	0.00	0.09	0.00	0.22	0.22	0.10	0.37	0.00
Sat Flow, veh/h	1523	271	1584	1781	0	1585	0	5355	71	1781	3647	0
Grp Volume(v), veh/h	390	0	528	4	0	173	0	670	365	184	898	0
Grp Sat Flow(s),veh/h/ln	1794	0	1584	1781	0	1585	0	1702	1854	1781	1777	0
Q Serve(g_s), s	17.2	0.0	28.0	0.2	0.0	8.0	0.0	17.1	17.1	6.8	19.1	0.0
Cycle Q Clear(g_c), s	17.2	0.0	28.0	0.2	0.0	8.0	0.0	17.1	17.1	6.8	19.1	0.0
Prop In Lane	0.85		1.00	1.00		1.00	0.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	558	0	493	158	0	141	0	765	417	272	1323	
V/C Ratio(X)	0.70	0.00	1.07	0.03	0.00	1.23	0.00	0.88	0.88	0.68	0.68	
Avail Cap(c_a), veh/h	558	0	493	158	0	141	0	765	417	297	1323	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.3	0.0	31.0	37.4	0.0	41.0	0.0	33.7	33.7	24.2	23.7	0.0
Incr Delay (d2), s/veh	4.0	0.0	61.1	0.1	0.0	149.7	0.0	13.3	21.9	5.4	2.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.2	0.0	26.6	0.2	0.0	14.9	0.0	12.9	15.1	5.6	12.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.3	0.0	92.1	37.5	0.0	190.7	0.0	47.0	55.6	29.5	26.6	0.0
LnGrp LOS	C		F	D		F		D	E	C	C	
Approach Vol, veh/h		918			177			1035			1082	
Approach Delay, s/veh		66.3			187.2			50.0			27.1	
Approach LOS		E			F			D			C	

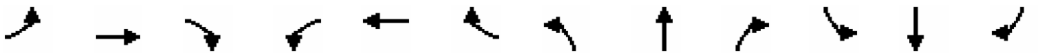
Timer - Assigned Phs	1	2	4	6	8
Phs Duration (G+Y+Rc), s	13.3	26.7	35.0	40.0	15.0
Change Period (Y+Rc), s	4.5	6.5	7.0	6.5	7.0
Max Green Setting (Gmax), s	10.0	19.0	28.0	33.5	8.0
Max Q Clear Time (g_c+I1), s	8.8	19.1	30.0	21.1	10.0
Green Ext Time (p_c), s	0.1	0.0	0.0	6.2	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	54.5
HCM 7th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	406	15	521	13	0	115	0	1125	5	14	677	160
Future Volume (veh/h)	406	15	521	13	0	115	0	1125	5	14	677	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	423	16	543	14	0	120	0	1172	5	15	705	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	602	23	553	158	0	141	0	1396	6	137	1185	
Arrive On Green	0.35	0.35	0.35	0.09	0.00	0.09	0.00	0.27	0.27	0.02	0.33	0.00
Sat Flow, veh/h	1719	65	1580	1781	0	1585	0	5416	22	1781	3647	0
Grp Volume(v), veh/h	439	0	543	14	0	120	0	760	417	15	705	0
Grp Sat Flow(s),veh/h/ln	1784	0	1580	1781	0	1585	0	1702	1866	1781	1777	0
Q Serve(g_s), s	19.1	0.0	30.6	0.6	0.0	6.7	0.0	19.0	19.0	0.5	14.8	0.0
Cycle Q Clear(g_c), s	19.1	0.0	30.6	0.6	0.0	6.7	0.0	19.0	19.0	0.5	14.8	0.0
Prop In Lane	0.96		1.00	1.00		1.00	0.00		0.01	1.00		0.00
Lane Grp Cap(c), veh/h	625	0	553	158	0	141	0	905	496	137	1185	
V/C Ratio(X)	0.70	0.00	0.98	0.09	0.00	0.85	0.00	0.84	0.84	0.11	0.60	
Avail Cap(c_a), veh/h	625	0	553	158	0	141	0	905	496	205	1185	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.2	0.0	29.0	37.7	0.0	40.4	0.0	31.2	31.2	24.4	24.9	0.0
Incr Delay (d2), s/veh	3.7	0.0	33.6	0.3	0.0	36.9	0.0	9.2	15.6	0.3	2.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.0	0.0	22.6	0.5	0.0	7.3	0.0	13.4	15.6	0.4	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.9	0.0	62.6	37.9	0.0	77.3	0.0	40.5	46.9	24.8	27.2	0.0
LnGrp LOS	C		E	D		E		D	D	C	C	
Approach Vol, veh/h		982			134			1177			720	
Approach Delay, s/veh		47.6			73.2			42.7			27.1	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	6.1	30.4		38.5		36.5		15.0				
Change Period (Y+Rc), s	4.5	6.5		7.0		6.5		7.0				
Max Green Setting (Gmax), s	5.0	20.5		31.5		30.0		8.0				
Max Q Clear Time (g_c+I1), s	2.5	21.0		32.6		16.8		8.7				
Green Ext Time (p_c), s	0.0	0.0		0.0		5.0		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	41.9
HCM 7th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Note: Westbound left-turn lane entered as shared left-turn/through lane in order to satisfy standard NEMA phasing conventions. Required to correctly calculate delays and queues using HCM 7th Ed. methodology.

Appendix H Transportation Impact Study

Appendices

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TRANSPORTATION IMPACT STUDY

ARTESIA DOWNTOWN SPECIFIC PLAN

City of Artesia, California
February 5, 2025

Prepared for:

PlaceWorks
3 MacArthur Place, Suite 1100
Santa Ana, California 92707

LLG Ref: 1-23-4585-1

Prepared by:

Grace Turney, P.E., RSP1
Transportation Engineer III

Under the Supervision of:

David S. Shender, P.E.
Principal

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LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
AB	Assembly Bill
ABM	Activity-Based Model
CAPCOA	California Air Pollution Control Officer's Association
CEQA	California Environmental Quality Act
FAR	Floor Area Ratio
GHG	Greenhouse Gas
ITE	Institute of Transportation Engineers
OCTA	Orange County Transportation Authority
OD	Origin-Destination
OPR	California Governor's Office of Planning and Research
PRC	Public Resources Code
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAG	Southern California Association of Governments
SED	Socio-Economic Data
SR	State Route
TAZ	Transportation Analysis Zone
TDM	Transportation Demand Management
TISG	Transportation Impact Study Guide
VMT	Vehicle Miles Traveled

1.0 INTRODUCTION

This transportation impact study has been conducted to identify and evaluate the potential transportation impacts of the Artesia Downtown Specific Plan project ("proposed project" herein). The proposed Artesia Downtown Specific Plan area is located within the City of Artesia, California. The City of Artesia is located in southeast Los Angeles County and is situated adjacent to the City of Cerritos to the west, south, and east, and to the City of Norwalk to the north. The City of Artesia and the Artesia Downtown Specific Plan area and general vicinity are shown in ***Figure 1-1***.

The transportation impact analysis follows the analysis criteria set forth by Los Angeles County in the Los Angeles County Public Works *Transportation Impact Analysis Guidelines*[1] ("County Guidelines" herein). In compliance with California Environmental Quality Act (CEQA) Sections 15064.3 and 15064.7, the County Guidelines utilize Vehicle Miles Traveled (VMT) for the purpose of analyzing transportation impacts under CEQA. This transportation analysis therefore evaluates project-generated VMT in order to determine the significance of potential transportation impacts in CEQA.

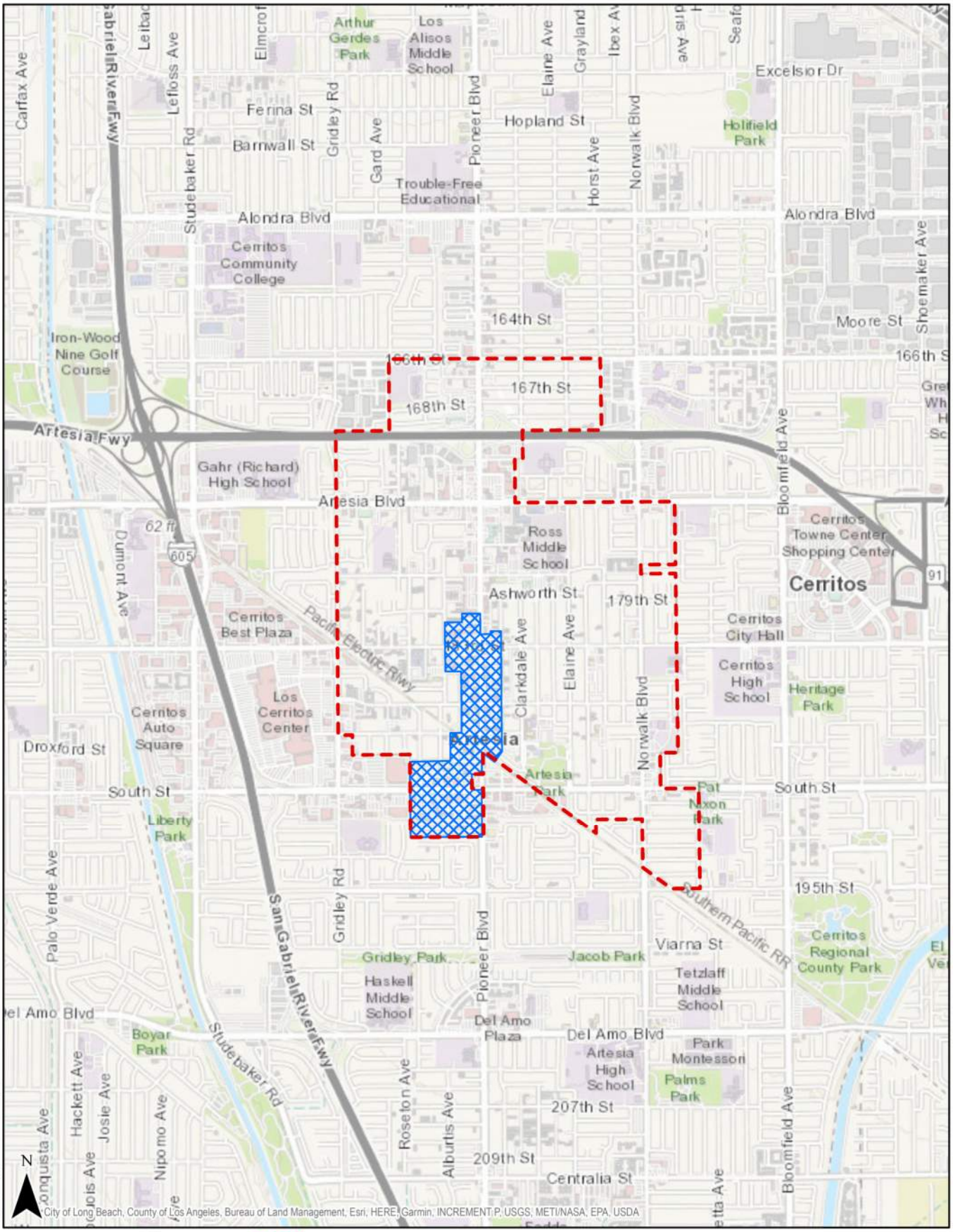
Additional site access studies have been prepared in order to determine the proposed project's effect on local transportation infrastructure. Since the additional studies do not constitute transportation impacts for purposes of CEQA, they are presented under separate cover in the "Artesia Downtown Specific Plan Local Transportation Assessment," prepared by Linscott, Law & Greenspan, Engineers, September 9, 2024.

In summary, this report presents (i) a description of the proposed project, (ii) assesses the potential for project-related transportation impacts, and (iii) recommends transportation mitigation measures, where necessary.

1.1 Study Methodology

The CEQA analysis criteria for this transportation impact study were identified in consultation with City of Artesia staff. The analysis criteria were determined based on the County Guidelines, the proposed project description and location, and the characteristics of the surrounding transportation system. The City of Artesia confirmed the appropriateness of the analysis criteria

[1] Los Angeles County Public Works "Transportation Impact Analysis Guidelines", prepared by Public Works, July 23, 2020.



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City of Artesia

Specific Plan Area

Figure 1-1
Vicinity Map

Artesia Downtown Specific Plan

when it approved the Transportation Impact Study Scope of Work. The approved Scope of Work is attached to this report in ***Appendix A***.

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743 (Steinberg, 2013). Among other things, SB 743 initiated a change in the methodology to analyze transportation impacts under CEQA (Public Resources Code Section [PRC] 21000 and following). Through PRC Section 21099, which states in part that "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment," SB 743 directed the Governor's Office of Planning and Research (OPR) to identify a new metric for evaluating transportation impacts. OPR identified VMT as the most appropriate metric, and developed the *Technical Advisory on Evaluating Transportation Impacts in CEQA* ("*Technical Advisory*" herein), which provides non-binding recommendations on the implementation of VMT analysis methodology that has significantly informed the way VMT analyses are conducted in the State. State-wide implementation of the new metric was required by July 1, 2020.

Pursuant to current statutes, the City of Artesia utilizes VMT as the metric for determining environmental impacts in compliance with SB 743. It is noted that the City of Artesia has not yet adopted transportation assessment guidelines for VMT analyses, therefore, the VMT assessment has been prepared in compliance with the methodology set forth in the Los Angeles County Public Works *Transportation Impact Analysis Guidelines*.

As required by State law, the California Department of Transportation (Caltrans) has also formally adopted VMT as the metric for evaluating the transportation impacts of local development projects on the State Highway System. Caltrans' *Transportation Impact Study Guide*[2] (TISG) relies on the *Technical Advisory* prepared by OPR as the basis for its guidance on VMT assessment. For the purpose of this transportation impact analysis, it is understood that Los Angeles County's adopted VMT methodology and criteria are consistent with the recommendations provided by OPR in the *Technical Advisory* and thus satisfy Caltrans' VMT analysis requirements as well. Therefore, no separate VMT analysis has been prepared for Caltrans' review of the proposed project.

[2] "Vehicle Miles-Traveled Focused Transportation Impact Study Guide," Caltrans, May 20, 2020.

2.0 ARTESIA DOWNTOWN SPECIFIC PLAN DESCRIPTION

2.1 Project Location

The proposed Artesia Downtown Specific Plan area is located within the City of Artesia, California. The City of Artesia is located in southeast Los Angeles County and is situated adjacent to the City of Cerritos to the west, south, and east, and to the City of Norwalk to the north. The City of Artesia and the Specific Plan area and general vicinity are shown in *Figure 1-1*.

The project site encompasses the blocks adjoining Pioneer Boulevard to the southeast and ending at 180th Street to the north. The northern portion of the project site is bounded by Alburtis Avenue and Corby Avenues to the west, 180th Street to the north, Arline Avenue to the east, and 188th Street to the south. The southern portion of the site is bounded by 188th Street to the north, the La Belle Chateau Estates Mobile Home Park to the south, Pioneer Boulevard to the east, and Jersey Avenue to the west.

2.2 Existing Land Use[3]

The project site is fully built up and consists primarily of one- and two- story commercial uses and multifamily residential properties. The southern portion of the project site is anchored by a shopping center and La Belle Chateau Estates Mobile Home Park, which is bordered by South Street to the north, the City of Cerritos to the west and south, and Pioneer Boulevard to the east. The northern portion of the project site is anchored by a shopping center to the north and south of 183rd Street and to the east and west of Arline Avenue and Alburtis Avenue, respectively. The north and south ends of the project site are connected by the Pioneer Boulevard corridor which includes one- and two-story retail, restaurant and office uses. Multi-family residential, mixed-use residential, commercial, general office and industrial uses are located on various parcels throughout the entire project site to the east and west of Pioneer Boulevard. Limited vacant parcels exist within the project area south of 188th Street.

2.3 Specific Plan Description[3]

The Artesia Downtown Specific Plan would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district as the city prepares for the planned expansion of a new Metro light rail line (referred to as the Southeast Gateway Line, discussed further in *Section 2.5.2*) that would connect southeastern Los Angeles County communities, including Artesia, to Downtown Los Angeles. The new Metro light rail line extension is anticipated to connect to Pioneer Boulevard in 2035.

While there are no specific development projects proposed at this time, the Artesia Downtown Specific Plan will establish goals and objectives, development standards, and implementation actions associated with land use, mobility, and infrastructure, and establishes a transit-oriented

[3] "Artesia Downtown Specific Plan Initial Study," PlaceWorks, February 2024.

plan that would provide new opportunities for housing, retail/commercial, and entertainment uses. The proposed project would establish the necessary plans, development standards, regulations, infrastructure requirements, and implementation programs on which subsequent project-related development activities in the Specific Plan area would be based.

The land use plan divides the Specific Plan area into six zoning districts. These distinct zoning districts would allow for a range of land uses and density within a defined building envelope. The zones would also implement the City's urban design objectives for each part of the project site to establish and maintain attractive distinctions between each zone. The six zoning districts include:

- **Downtown North.** The Downtown North District would become the northern gateway and anchor to downtown Artesia. This district would allow for higher density mixed-use development at 65 dwelling units per acre (du/ac) or 75 du/ac with a density bonus. The southwest corner of this district would encompass approximately 5.5 acres and would allow 4- to 5-story mixed-use development and 2- and 3-story townhomes. Where the City owns property at the northwest corner of 183rd Street and Pioneer Boulevard, a public private partnership is encouraged to develop a parking structure with ground-floor retail uses as well as potentially civic and/or community uses. The parking structure would serve visitors, residents, and employees as they travel to and from downtown Artesia and the Artesia Freeway (SR-91) to the north.
- **Pioneer Boulevard.** The Pioneer Boulevard District would front Pioneer Boulevard north of the future Metro transit station and is in the center of downtown Artesia. This area is currently known as "Little India" and is composed of narrow parcels with a continuous street frontage of 1-story commercial establishments such as restaurants, markets, and jewelry shops. Although significant new development is not expected in this district, the district would allow for 3-story buildings at 50 du/ac or 60 du/ac with a density bonus.
- **Downtown Neighborhood.** The Downtown Neighborhood District would be in the residential west and east edges of the Downtown area along Corby Avenue and Arline Avenue. The downtown neighborhood would retain its residential character at 40 du/ac.
- **188th Street / Corby Avenue.** The 188th/Corby District would be south of the future Metro station and presently includes residential and light industrial uses. This district would allow for residential uses such as duplex, triplex, and townhomes at 65 du/ac as well as limited commercial office and retail uses.
- **Downtown South.** The Downtown South District would become the southern gateway to downtown Artesia and the city. The district would allow 4- to 6-story mixed-use development at 75 du/ac or 85 du/ac with a density bonus and incorporate land uses such as ground-floor retail, a hotel, townhomes, and neighborhood parks for residents and visitors. A Metro parking structure is planned in the South Street Mixed District just south of the transit station.

- **Chateau Estates.** The Le Belle Chateau Estates Mobile Home Park District sits at the southern edge of the project site. The mobile home park use would be maintained.

The location of each of the proposed zoning districts within the Specific Plan area is illustrated in ***Figure 2-1***.

2.4 Proposed Project Buildout Scenario

The Artesia Downtown Specific Plan proposes six (6) new land use zones within the Specific Plan area, as described in *Section 2.3*. These zones will allow for a range of residential density and Floor Area Ratio (FAR) intensity. The total buildout for the Specific Plan area depends on the maximum density and FAR permitted in each zone, but is based on a selection of parcels which have been identified as having the likelihood for redevelopment. The parcels identified for redevelopment were selected through the Redevelopment Opportunity Analysis conducted by PlaceWorks[4]. Based on this analysis, a total of 53 parcels were selected. The location of the selected parcels is displayed in *Figure 2-1*. The proposed project reflects full redevelopment of each of the selected parcels utilizing the following assumptions:

- Eighty percent (80%) of the area within each parcel will be developed with residential land uses at the maximum allowed density.
- Twenty percent (20%) of the area within each parcel will be developed with non-residential land uses.
    - Twenty-five percent (25%) of the non-residential space will be developed with office land uses.
    - Seventy-five percent (75%) of the non-residential space will be developed with restaurant and retail land uses in a 50:50 ratio (i.e., 50% assumed to be restaurant and 50% assumed to be retail).

Application of these assumptions to the 53 parcels identified for redevelopment results in the following development totals summarized in ***Table 2-1***.

Table 2-1
Summary of Specific Plan Development Totals

RESIDENTIAL DWELLING UNITS	OFFICE SPACE (SF)	COMMERCIAL SPACE (SF)
1,981	105,730	397,190 [1]

[1] The commercial space includes an 80,000 square-foot, 150-room hotel located in the proposed Downtown South Zoning District.

[4] "Artesia Downtown Specific Plan Buildout Memo," PlaceWorks, December 11, 2023.

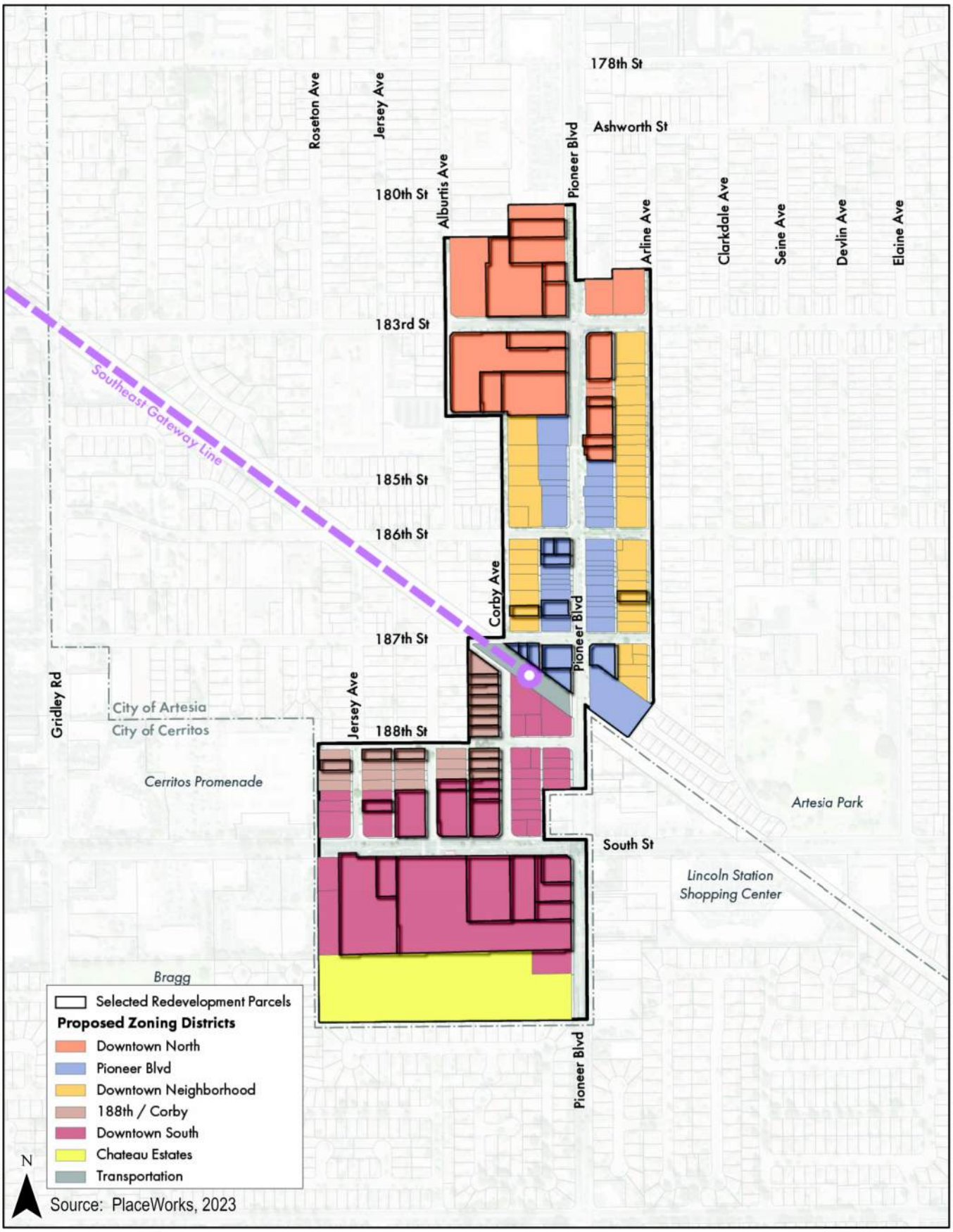

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Figure 2-1
Proposed Zoning and Selected Redevelopment Parcels

Artesia Downtown Specific Plan

2.5 Project Site Access

The following sections provide a brief description of the existing and anticipated access to and within the Specific Plan area.

2.5.1 *Vehicle Access*

The roadway network serving the Specific Plan area is situated in a regular grid system of roadways which provide access to the individual parcels within the Specific Plan. Principal roadways providing access to and within the Specific Plan area include Pioneer Boulevard which provides connection to the SR-91 Freeway to the north and communities located south of the Specific Plan area, as well as South Street which provides connection to the I-605 Freeway to the west and communities located east of the Specific Plan area. Both Pioneer Boulevard and South Street are designated as Primary Arterial Highways in the City of Artesia's General Plan 2030 Circulation and Mobility Sub-Element. Additional vehicular access within the Specific Plan is accommodated by 183rd Street, which is designated as a Secondary Arterial Highway, and by roadways such as 186th Street and 187th Street which are designated as Collector roadways. These roadways, along with local streets, provide direct access to the parcels included in the Specific Plan area.

2.5.2 *Transit Access*

Public bus transit access within the Specific Plan area is provided by the Los Angeles County Metropolitan Transportation Authority (Metro), Norwalk Transit System, and the Orange County Transportation Authority (OCTA).

There are no existing light-rail lines providing service to the Specific Plan area. However, Metro plans to construct the new Southeast Gateway Light Rail Line, part of the West Santa Ana Branch Transit Corridor project, which will connect communities in southeast LA County to Downtown Los Angeles[5]. Metro planning documents indicate that the project area has population and employment densities which are five times higher than the average in LA County. The rail corridor is anticipated to serve commuters in a high travel demand corridor and provide relief to the limited transportation systems currently available in the adjacent communities. The new line will include 14.8 miles of new light rail transit connecting from the A (previously Blue) Line Slauson Station to the southern terminus at the Pioneer Station located in the City of Artesia. The project will construct nine (9) new stations along the Southeast Gateway Line and one new infill station on the C (previously Green) Line. Four (4) surface parking lots will be provided, and one parking garage will be constructed at the Pioneer Station in the City of Artesia. The Pioneer Station is planned to be located on the west side of Pioneer Boulevard between 187th Street and 188th Street. Construction of the Southeast Gateway Line and Pioneer Station is expected to result in the closure

[5] "West Santa Ana Branch Transit Corridor Fact Sheet", Metro, Spring 2023.

of 186th Street but will maintain through access along 187th Street[6]. The Southeast Gateway Line is currently expected to open in year 2035.

2.5.3 *Pedestrian and Bicycle Access*

Pedestrian access within the Specific Plan area is accommodated by a complete network of public sidewalks and supporting pedestrian infrastructure, including pedestrian-scale lighting, public benches, and public trash receptacles along Pioneer Boulevard between 183rd Street and 188th Street. The public sidewalks provide pedestrian access to all parcels within the Specific Plan area in a manner that promotes walkability (walkability is a term for the extent to which walking is readily available as a safe, connected, accessible and pleasant mode of transport). There are five basic components that are widely accepted as the key to achieving walkability, with the underlying principle being that pedestrians should not be delayed, diverted, or placed in danger. The five primary components of walkability include the following:

- Connectivity: People can walk from one place to another without encountering major obstacles, obstructions, or loss of interconnections.
- Convivial: Pedestrian routes are friendly and attractive, and are perceived as such by pedestrians.
- Conspicuous: Suitable levels of lighting and visibility over its entire length, with high quality delineation and signage.
- Comfortable: High quality and well-maintained footpaths of suitable widths, attractive landscaping and architecture, shelter and rest spaces, and a suitable allocation of roadspace to pedestrians.
- Convenient: Walking is a realistic travel choice, partly because of the impact of the other criteria set forth above, but also because walking routes are of a suitable length as a result of land use planning with minimal delays.

These primary characteristics of walkability are currently provided within the Specific Plan area and are expected to be expanded as redevelopment within the Specific Plan area occurs.

Bicycle access is accommodated by on-street bicycle lanes provided on both sides of South Street and on Pioneer Boulevard south of South Street. Implementation of the Artesia Active Transportation Plan[7] will result in the construction of additional bicycle facilities along Pioneer Boulevard, 183rd Street, and 186th Street within the Specific Plan area. Where bicycle-specific facilities are not provided, bicycle access through the remainder of the Specific Plan area will be accommodated by the existing roadway network. The proposed project will not result in any changes to the existing pedestrian or bicycle access within the Specific Plan area.

[6] *Southeast Gateway Line (Previously West Santa Ana Branch Transit Corridor)*. Los Angeles Metropolitan Transportation Authority. https://www.metro.net/projects/southeastgateway. Accessed August 28, 2024.
[7] "Artesia Active Transportation Plan," prepared by KTUA and Kimely-Horn and Associates, Adopted February 1, 2022.

3.0 VEHICLE MILES TRAVELED ANALYSIS

As described in *Section 1.1*, and in compliance with the current statutory requirements for analysis of transportation impacts under CEQA, the County Guidelines set forth the VMT screening criteria, impact criteria, and methodology applicable to proposed development projects and land use plans. The following sections discuss the VMT screening criteria, impact thresholds, methodology, and analysis for the proposed project.

3.1 Screening Criteria

Traditionally, public agencies have set certain thresholds to determine whether a project requires detailed transportation analysis or if it could be assumed to have less than significant environmental impacts without additional study. Consistent with the recommendations provided by OPR in the *Technical Advisory*, the County Guidelines recognize four screening criteria which may be applied to screen proposed projects out of detailed VMT analysis. These criteria are based on a proposed project's number of daily vehicle trips, classification as a local serving retail use, proximity to high-quality transit, and inclusion of affordable housing. Proposed projects are not required to satisfy all of the screening criteria in order to screen out of further VMT analysis; satisfaction of one criterion is generally sufficient for screening purposes. Projects, or project components, which are screened out of detailed VMT assessment based on these criteria are presumed to have less than significant transportation impacts. Projects or project components which are not screened out would be required to conduct a formal Transportation Impact Analysis in order to determine the significance of project impacts.

3.1.1 *Non-Retail Project Trip Generation Screening Criteria*

Section 3.1.2.1 of the County Guidelines states that: "If the answer is no to the question below, further analysis is not required, and a less than significant determination can be made.

- Does the development project generate a net increase of 110 or more daily vehicle trips?"

The County Guidelines further indicate that a proposed project's daily vehicle trip generation should be estimated using the most recent edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, or through use of empirical trip generation data if the project's land use is not listed in the *Manual*.

The proposed project is forecast to generate a net increase of 5,421 daily vehicle trips[8]. Therefore, the non-retail project trip generation screening criteria is not satisfied.

3.1.2 *Retail Project Screening Criteria*

New local serving retail development typically redistributes shopping trips rather than creating new ones. By adding retail opportunities into the urban fabric and improving retail destination

[8] Refer to "Artesia Downtown Specific Plan Local Transportation Analysis," prepared by Linscott, Law & Greenspan, Engineers, September 9, 2024, *Section 2.6.2 – Project Trip Generation* for a full discussion of the daily vehicle trip forecast.

proximity, local serving retail developments tend to shorten trips and reduce VMT, and may be presumed to cause less than significant impacts. Consistent with OPR's guidance, the County assumes that retail projects of any type which are less than 50,000 square feet may be considered local serving retail.

Therefore, Section 3.1.2.2 of the County Guidelines states: "A project that contains a local serving retail use is assumed to have less than significant VMT impacts for the retail portion of the project. If the answer to the following question is no, a less than significant determination can be made for the portion of the project that contains retail uses.

- Does the project contain retail uses that exceed 50,000 square feet of gross floor area?"

The proposed project includes the development of a total of 397,190 square feet of new commercial space within the Specific Plan area. While the redevelopment potential of commercial space on many parcels may fall below the 50,000 square foot threshold, no specific development projects are proposed at this time. The answer to this screening question cannot be determined at the redevelopment parcel level during the preparation and adoption of the Artesia Downtown Specific Plan. Because the screening criteria cannot be adequately assessed at this time, it is conservatively assumed that the criteria is not satisfied.

3.1.3 *Proximity to Transit Screening Criteria*

CEQA Guidelines Section 15064.3(b)(1) states in part: "Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact." In keeping with the statutory presumption of less than significant impacts due to nearby high-quality transit, the County Guidelines include a screening criterion based on proximity to transit. Consistent with the recommendations provided by OPR, the County also notes certain project-specific or location-specific information which might indicate that the presumption is not appropriate.

Thus, Section 3.1.2.3 of the County Guidelines states that: "If the project is located near a major transit stop or high-quality transit corridor, the following question should be considered:

- Is the project located within a one-half mile radius of a major transit stop[9] or an existing stop along a high-quality transit corridor[10]?

If the answer to the above question is yes, then the following subsequent questions should be considered:

- Does the project have a Floor Area Ratio (FAR) less than 0.75?

[9] Public Resources Code Section 21064.3: ""Major transit stop" means a site containing any of the following: (a) An existing rail or bus rapid transit station. (b) A ferry terminal served by either a bus or rail transit service. (c) The intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

[10] Public Resources Code Section 21155(b): "For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours."

- Does the project provide more parking than required by the County Code?
- Is the project inconsistent with the SCAG RTP/SCS?
- Does the project replace residential units set aside for lower income households with a smaller number of market-rate residential units?

If the answer to all four subsequent questions is no, further analysis is not required, and a less than significant determination can be made."

The proposed project is located within 0.5-miles of the future Metro Southeast Gateway Light-Rail Line Pioneer Station, and therefore would potentially qualify for the proximity to transit screening criteria. However, the answers to the subsequent questions require project-specific information such as the proposed FAR, parking, and residential affordability levels. No specific development projects are proposed at this time. The answer to these screening questions cannot be determined at the redevelopment parcel level during the preparation and adoption of the Artesia Downtown Specific Plan. Because the screening criteria cannot be adequately assessed at this time, it is conservatively assumed that the criteria is not satisfied.

3.1.4 *Residential Project Screening Criteria*

Section 3.1.2.4 of the County Guidelines indicates that certain projects which further the State's affordable housing goals are presumed to have less than significant impacts on VMT. The County Guidelines state: "If the project requires discretionary action and the answer is yes to the question below, further analysis is not required, and a less than significant determination can be made.

- Are 100% of the units, excluding manager's units, set aside for lower income households?"

The proposed project includes the development of a total of 1,981 residential dwelling units. While a portion of the units may be set aside as affordable housing, no specific development projects are proposed at this time. The answer to this screening question cannot be determined at the redevelopment parcel level during the preparation and adoption of the Artesia Downtown Specific Plan. Because the screening criteria cannot be adequately assessed at this time, it is conservatively assumed that the criteria is not satisfied.

3.1.5 *Summary of Screening Conclusions*

The proposed project does not satisfy any of the four screening criteria stated in the County Guidelines. No specific development projects are proposed at this time, and the answers to the screening questions cannot be determined at the redevelopment parcel level during the preparation and adoption of the Artesia Downtown Specific Plan. The proposed project is not screened out of further analysis. Therefore, a detailed VMT analysis is required in order to determine the significance of any transportation impacts.

3.2 Methodology

As required by the County Guidelines, land use plans are to be evaluated using the current (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) travel demand forecast model to determine if it will have a significant impact on VMT. The current SCAG travel demand model is the 2016-2045 Activity-Based Model (ABM), which includes a baseline year of 2016 and a future cumulative year of 2045 (assuming full build-out of the RTP/SCS). The VMT methodology to be utilized for land use plans is the Origin-Destination (OD) VMT method, which tracks all trips by trip purpose and the full length of the trips generated by the proposed project. The OD VMT therefore represents the total VMT generated in a specific geographic area.

The level of project-generated daily VMT is determined by converting the proposed project's development totals into corresponding Socio-Economic Data (SED) and entering the SED into the Transportation Analysis Zone/s (TAZ) in which the project is located. The model is then run in order to generate a "With Project" VMT forecast. The "Without Project" VMT forecast is obtained from the baseline model outputs and is subtracted from the "With Project" forecast in order to determine the VMT expected to be generated by the proposed project.

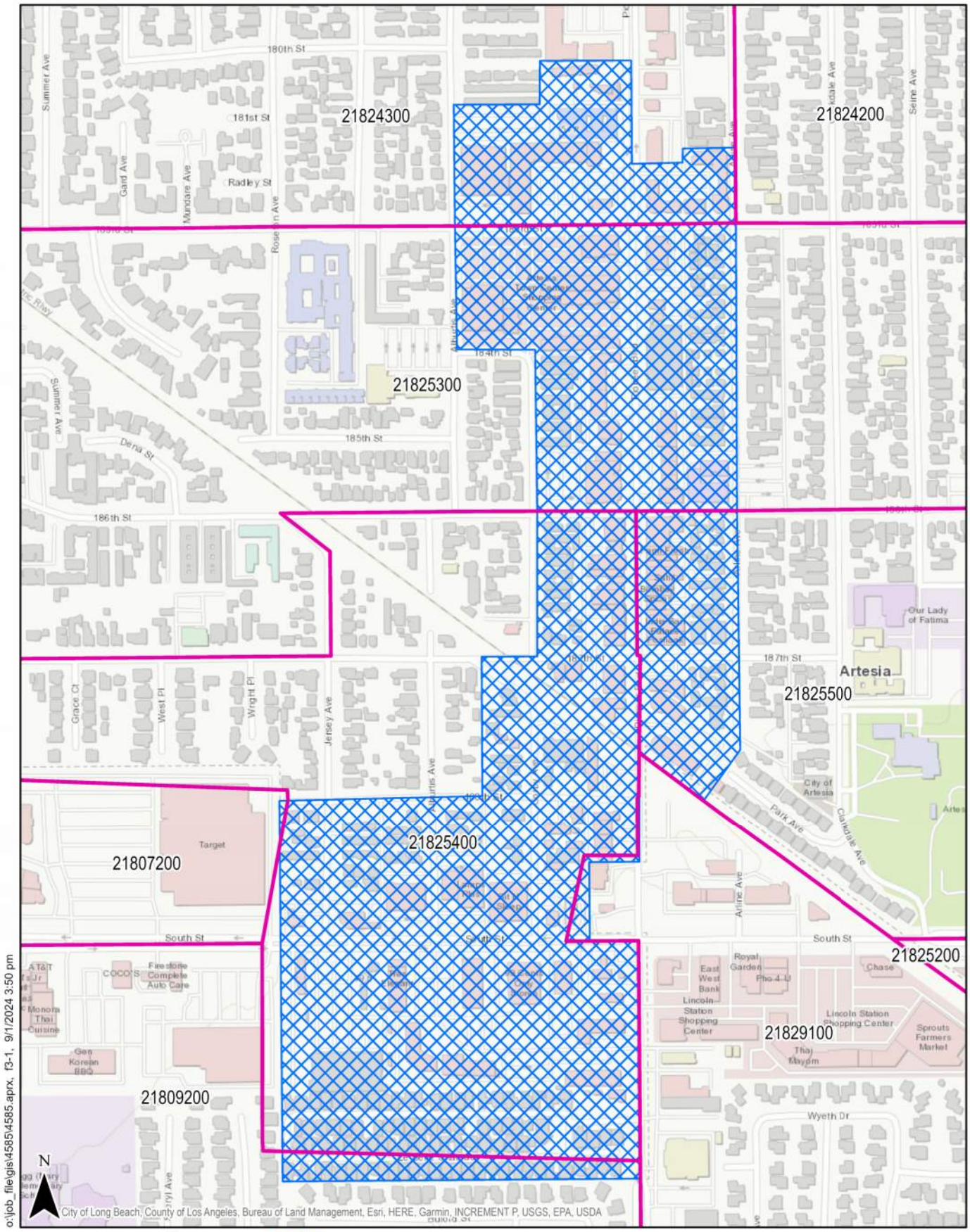
The Specific Plan area falls within four (4) TAZs, as illustrated in ***Figure 3-1***. The proposed development within each TAZ was determined based on the location of the parcels identified for full redevelopment and the redevelopment potential for each parcel. The proposed project's development totals within each TAZ are summarized in ***Table 3-1*** below.

Table 3-1
Summary of Specific Plan Development Per TAZ

TAZ	RESIDENTIAL DWELLING UNITS	OFFICE SPACE (SF)	COMMERCIAL SPACE (SF)
21824300	203	14,867	44,602
21825300	431	31,620	94,861
21825400	1,322	57,592	252,775 [1]
21825500	25	1,651	4,952

[1] The commercial space in the TAZ includes an 80,000 square-foot, 150-room hotel.

The existing land uses on the parcels identified for redevelopment were subtracted from the totals summarized in *Table 3-1* in order to calculate the net increases due to the proposed project. The corresponding net increases in SED were then entered into the corresponding TAZs.



Specific Plan Area

SCAG ABM Tier 2 TAZs

Figure 3
Transportation Analysis Zones

Artesia Downtown Specific Plan

3.3 Impact Criteria

The County Guidelines provides the following criteria for when a land use plan would result in a significant impact: "The plan total VMT per service population[11] would not be 16.8% below the existing total VMT per service population for the Baseline Area in which the project is located."

While the County Guidelines indicate that the threshold may be determined based on the project's location within the County (i.e., North County or South County), OPR has clarified that VMT thresholds should be derived based on the full geography of a region rather than only a select portion of a city or county.[12] Therefore, a threshold based on the existing Countywide total VMT per service population within Los Angeles County is most appropriate for determining the significance of the proposed project's VMT impacts. The County Guidelines further state that the baseline VMT applied in the transportation impact analysis should be consistent with the year the transportation study is conducted.

Long-term, or cumulative, impacts are determined through consistency with the SCAG RTP/SCS. Projects that are consistent with the current RTP/SCS plan in terms of meeting development location, density, and intensity are part of the regional solution for meeting air pollution and greenhouse gas (GHG) goals. Projects which fall under the RTP/SCS's efficiency-based impact thresholds are already shown to align with the long-term VMT and GHG reduction goals of the RTP/SCS. Therefore, if a project does not demonstrate a significant impact in the project-level impact analysis, then a less than significant cumulative can also be determined. Projects which are found to have a significant impact after applying an efficiency-based VMT threshold and which are not deemed consistent with the RTP/SCS should be evaluated further to determine the significance of the project's cumulative impact on VMT.

The applicable Countywide total VMT per service population has been derived the SCAG ABM baseline scenarios for years 2016 and 2045, and interpolated to reflect year 2024 conditions. The baseline total VMT per service population and relevant thresholds for existing and cumulative impacts are provided in ***Table 3-2*** below. The calculation and interpolation of the thresholds is summarized in ***Appendix Table B-1***.

Table 3-2
Thresholds of Significance

YEAR	BASELINE VMT/SP	THRESHOLD [1]
2024 (Existing)	30.81	25.63
2045 (Cumulative)	28.47	23.69

[1] Threshold represents 16.8% below the baseline VMT/SP.

[11] "Service population is the sum of the number of residents and the number of employees."

[12] *SB 743 Frequently Asked Questions*. California Governor's Office of Planning and Research. https://opr.ca.gov/ceqa/sb-743/faq.html#environmental-baseline. Accessed August 28, 2024.

3.4 VMT Impact Analysis

3.4.1 *Project-Generated VMT Analysis*

The proposed project's VMT per service population was forecast using the SCAG ABM. As described in *Section 3.2 – Methodology*, the project-generated VMT was determined by subtracting the baseline "Without Project" VMT forecast for the relevant TAZs from the "With Project" VMT forecast. The following model scenarios were utilized:

- Baseline Year 2016 Conditions
- Year 2016 With Project Conditions
- Baseline Cumulative Year 2045 Conditions
- Cumulative Year 2045 With Project Conditions

The project-generated VMT per service population was interpolated between years 2016 and 2045 in order to reflect year 2024 existing conditions. The calculation and interpolation of the project-generated VMT per service population in year 2024 is summarized in ***Appendix Tables B-2*** and ***B-3***.

The proposed project is forecast to generate 26.33 VMT per service population in year 2024, which exceeds the threshold of 25.63 VMT per service population. The proposed project is therefore expected to result in a significant project-level VMT impact. Mitigation measures will be required to reduce the VMT impact to less than significant levels. The project-generated VMT per service population, impact threshold, and percent reduction required (if any) under year 2024 conditions are summarized in ***Table 3-3***.

Table 3-3
Project Impact Analysis

TAZ	PROJECT-GENERATED VMT/SP	THRESHOLD	REQUIRED REDUCTION [1]
Year 2024	26.33	25.63	2.65%

[1] (Project VMT/SP – Threshold VMT/SP)/Project VMT SP

3.4.2 *Cumulative VMT Analysis*

As summarized in *Section 3.4.1*, the proposed project is expected to result in a significant project-level impact. The proposed project is assumed to be consistent with the SCAG RTP/SCS due to the Specific Plan area's proposed density and proximity to the future Metro Southeast Gateway Line Pioneer Station, which are expected to contribute towards achieving the State's VMT and GHG reduction goals. The proposed project may be presumed to result in a less than significant cumulative impact. However, in order to provide a complete analysis of the project's potential impacts, a cumulative impact assessment has been prepared.

The proposed project is forecast to generate 23.54 VMT per service population in year 2045, which is beneath the threshold of 23.69 VMT per service population. The proposed project is therefore expected to result in a less than significant cumulative VMT impact. The project-generated VMT per service population, impact threshold, and percent reduction required (if any) under year 2045 conditions are summarized in ***Table 3-4***. The calculation of the project-generated VMT per service population in year 2045 is summarized in *Appendix Table B-2*.

Table 3-4
Cumulative Impact Analysis

TAZ	PROJECT-GENERATED VMT/SP	THRESHOLD	REQUIRED REDUCTION
Year 2045	23.54	23.69	--

3.5 VMT Mitigation Measures

As described in *Section 3.4 – VMT Impact Analysis*, the proposed project is expected to result in a significant project-level impact under year 2024 conditions. CEQA requires identification of mitigation measures to reduce significant environmental impacts to less than significant levels, or to the greatest extent possible if a less than significant impact cannot be achieved.

3.5.1 *CAPCOA 2021 Handbook*

The California Air Pollution Control Officers Association's (CAPCOA) Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity[13] ("2021 Handbook" herein) provides a comprehensive set of guidelines for assessing and quantifying reductions in greenhouse gas emissions. The emissions reduction measures are grouped by emission sector into nine categories, including transportation, energy, water, and other related areas. Transportation emissions can be reduced by improving the emissions profile of the vehicle fleet, or by reducing VMT. Reductions in VMT are achieved when any of the following occurs: 1) vehicle ownership declines, 2) vehicle trips are reduced, 3) vehicle trip lengths are reduced, or 4) any combination of the first three variables. The 2021 Handbook lists 34 quantified measures covering a total of six transportation subsectors, including land use, trip reduction programs, parking or road pricing/management, neighborhood design, transit, and clean vehicles and fuels. The majority of the measures (i.e., 32 of the 34 measures) quantified in the 2021 Handbook aim to reduce VMT, although two strategies are aimed at improving the emissions profile of the vehicle fleet and thus do not result in quantified VMT reductions. The VMT reducing strategies are broadly referred to as transportation demand management (TDM) strategies due to the focus on reducing the amount of automobile travel generated by a project.

[13] *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity Final Draft*, California Air Pollution Control Officers Association, December 2021, adopted December 15, 2021.

The 2021 Handbook acknowledges that interactions between transportation measures are complex and sometimes counterintuitive, whereby combining measures can have substantive impact on reported emissions reductions. Therefore, in order to safeguard the accuracy and reliability of the methods, certain rules are recommended when combining reductions achieved by transportation measures. First, the quantified measures may be applied at one of two scales of application: 1) the Project/Site scale, which refers to measures that reduce VMT at the scale of a parcel, employer, or development project, or 2) the Plan/Community scale, which refers to measures that reduce emissions at the scale of a neighborhood (e.g., specific plan, general plan, or climate action plan), corridor, or entire municipality (e.g., city- or county-level). Second, the effectiveness of multiple measures within a subsector should be multiplied (i.e., not added) in order to determine a combined level of effectiveness. Each quantified measure has a maximum allowable reduction, and in turn each subsector has a maximum allowable reduction which is intended to ensure that emissions reductions are not double counted when measures within the subsector are combined. The subsector maximums vary by scale of application. Finally, there is limited research directly analyzing the combined VMT impact from implementation of all, or a majority, of transportation sector measures. However, the 2021 Handbook adopts a 70 percent (70%) maximum for the combined VMT reduction from the following four subsectors: land use, neighborhood design, parking or road pricing/management, and transit. The multi-subsector maximum does not include the trip reduction program subsector, since these measures are implemented by individual employers and are not as directly correlated with place type as the other subsectors.

3.5.2 *Transportation Demand Management (TDM) Program*

For the purpose of identifying mitigation measures for the proposed project, the TDM strategies provided in the CAPCOA 2021 Handbook were reviewed for applicability based on land use type, location, and feasibility of implementation. The TDM strategies which are applicable to the proposed project are summarized below:

- T-16. Unbundle Residential Parking Costs from Property Cost

  According to the CAPCOA 2021 Handbook, "This measure will unbundle, or separate, a residential project's parking costs from property costs, requiring those who wish to purchase parking spaces to do so at an additional cost. On the assumption that parking costs are passed through to the vehicle owners/drivers utilizing the parking spaces, this measure results in decreased vehicle ownership and, therefore, a reduction in VMT and GHG emissions."

  It is assumed that qualifying residential projects within the Specific Plan area will comply with the provisions of California Civil Code §1947.1 resulting from AB 1317 (2023, Carillo), which requires residential developments of 16 or more units located in Los Angeles County to unbundle parking from the cost of rent. Based on the redevelopment potential for each parcel identified for full redevelopment, it is assumed that this requirement will apply to 1,668 of the total 1,981 units, or approximately 84.2% of the proposed residential units. The remaining residential development is expected to occur on small parcels which would not support the

development of 16 or more units. A cost of $25.00 per month, or $300.00 per year, per parking space has been assumed for the purpose of calculating the potential VMT reductions resulting from implementation of this measure. Unbundling parking for qualifying residential developments is therefore expected to reduce VMT within the Specific Plan area by 0.84%. Calculation of the VMT reduction for this strategy is provided in ***Appendix C***. Greater monthly and annual parking costs would result in greater VMT reductions.

No action is required by the City of Artesia to implement this measure, as project developers would be required to comply with all applicable State laws at the time of project entitlement.

- T-24. Implement Market Price Public Parking (On-Street)

  According to the CAPCOA 2021 Handbook, "This measure will price all on-street parking in a given community. Increasing the costs of parking increases the total cost of driving to a location, incentivizing shifts to other modes and thus decreasing total VMT to and from the priced areas."

  The City of Artesia currently provides priced on-street parking within the Specific Plan area, primarily along Pioneer Boulevard, 186th Street, and 187th Street. Based on a review of aerial photography obtained from Google Earth in 2024, approximately 2,635 public parking spaces are provided within the Specific Plan area in support of the existing commercial and industrial land uses (via a mix of on-street spaces and off-street parking lots). It is conservatively estimated that approximately 175 on-street parking spaces are provided adjacent to non-residential land uses (approximately 6.6% of the total supply), with approximately 140 spaces currently priced (approximately 5.3% of the total supply).

  The SCAG ABM does not account for the presence of existing priced on-street parking within the Specific Plan area, therefore with the continued implementation of the City of Artesia's existing priced on-street parking, this measure is expected to reduce VMT within the Specific Plan area by 2.13%. Calculation of the VMT reduction for this strategy is provided in *Appendix C*. Decreases in the supply of free off-street public parking resulting from redevelopment of the identified parcels would potentially increase the effectiveness of this measure as the proportion of priced public parking in the area increases. Expansion of the priced on-street parking program to include all on-street parking spaces adjacent to non-residential land uses would also increase the effectiveness of this measure and lead to greater VMT reductions.

  The City of Artesia should continue to implement the priced on-street parking which currently exists within the Specific Plan area.

The TDM measures and associated VMT reductions described above are expected to result in a total VMT reduction of 2.95%. Calculation of the total VMT reduction for this strategy is provided in *Appendix C.* Application of the 2.95% VMT reduction to the proposed project's VMT forecast would therefore result in a project VMT of 25.55 VMT per service population (i.e., 26.33 * [1-

0.0295] = 25.55), which falls below the threshold of 25.63 VMT per service population. The mitigated VMT per service population, impact threshold, and percent reduction required (if any) under year 2024 conditions are summarized in ***Table 3-5***.

Table 3-5
Mitigated Project Impact Analysis

TAZ	PROJECT-GENERATED VMT/SP	THRESHOLD	REQUIRED REDUCTION
Year 2024	25.55	25.63	--

Implementation of the mitigation measures described above is therefore expected to reduce the proposed project's VMT impact to less than significant levels.

4.0 SUMMARY AND CONCLUSIONS

- ***Project Description*** **–** The Artesia Downtown Specific Plan would implement new land use, zoning, and development standards to guide the scale of future development and growth in Artesia's Downtown district as the city prepares for the planned expansion of the new Metro Southeast Gateway Light Rail Line that would connect southeastern Los Angeles County communities, including Artesia, to Downtown Los Angeles. There are no specific development projects proposed at this time. The Artesia Downtown Specific Plan proposes six (6) new land use zones within the Specific Plan area, which will allow for a range of residential density and Floor Area Ratio (FAR) intensity. The proposed project assumed for analysis purposes is based on the potential redevelopment of certain parcels within the specific plan area, which would result in the development of a total of 1,981 residential units, approximately 105,730 square feet of office space, and approximately 397,190 square feet of commercial space.

- ***Vehicle Miles Traveled Analysis*** **–** The proposed project's VMT per service population was forecast using the SCAG ABM. The proposed project is forecast to generate 26.33 VMT per service population in year 2024, which exceeds the threshold of 25.63 VMT per service population. The proposed project is therefore expected to result in a significant project-level VMT impact. The proposed project is forecast to generate 23.54 VMT per service population in year 2045, which is beneath the threshold of 23.69 VMT per service population. The proposed project is therefore not expected to result in significant cumulative VMT impact.

- ***Mitigation Measures*** **–** The proposed project is expected to result in a project-level VMT impact, and therefore mitigation measures are required to reduce the significant environmental impact to less than significant levels, or to the greatest extent possible if a less than significant impact cannot be achieved. Pursuant to the CAPCOA 2021 Handbook, the proposed project will implement the following mitigation measures:

    - T-16. Unbundle Residential Parking Costs from Property Cost: It is assumed that qualifying residential projects within the Specific Plan area will comply with the provisions of California Civil Code §1947.1 resulting from AB 1317 (2023, Carillo), which requires residential developments of 16 or more units located in Los Angeles County to unbundle parking from the cost of rent. A cost of $25.00 per month, or $300.00 per year, per leased parking space, is assumed for analysis purposes. The measure is expected to reduce VMT within the Specific Plan area by 0.84%. Greater monthly and annual parking costs would result in greater VMT reductions. No action is required by the City of Artesia to implement this measure, as project developers would be required to comply with all applicable State laws at the time of project entitlement.

- T-24. Implement Market Price Public Parking (On-Street): The City of Artesia currently provides priced on-street parking within the Specific Plan area, primarily along Pioneer Boulevard, 186th Street, and 187th Street. Based on a review of aerial photography of the Specific Plan area, approximately 5.3% of the total parking supply is currently priced. The SCAG ABM does not account for the presence of existing priced on-street parking within the Specific Plan area, therefore with the continued implementation of the City of Artesia's existing priced on-street parking, this measure is expected to reduce VMT within the Specific Plan area by 2.13%. Expansion of the priced on-street parking program to include all on-street parking spaces adjacent to non-residential land uses would lead to greater VMT reductions. The City of Artesia should continue to implement the priced on-street parking which currently exists within the Specific Plan area.

The TDM measures and associated VMT reductions described above are expected to result in a total VMT reduction of 2.95%. Application of the mitigation measures described above are expected to reduce the proposed project's project-level VMT impact to less than significant levels.

APPENDIX A

APPROVED TRANSPORTATION IMPACT STUDY SCOPE OF WORK

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MEMORANDUM

To:	Karen Lee, Special Projects Manager City of Artesia	Date:	April 5, 2024
From:	Grace Turney, P.E., RSP1 Francesca Bravo LLG Engineers	LLG Ref:	1-23-4585-1
Subject:	Artesia Downtown Specific Plan – Transportation Impact Study Scope of Work		

Linscott, Law and Greenspan, Engineers (LLG) is pleased to submit the following Transportation Impact Study Scope of Work for the Artesia Downtown Specific Plan (DTSP) project ("proposed project") for review and approval.

TRANSPORTATION IMPACT STUDY SCOPE OF WORK

The Transportation Impact Study (TIS) for the Artesia DTSP Environmental Impact Report (EIR) will be prepared according to the analysis and significance criteria outlined in the Los Angeles County Public Works "Transportation Impact Analysis Guidelines" ("Guidelines"), July 2020. In compliance with the Guidelines, the proposed TIS will be prepared using appropriate VMT screening, analysis methodologies, and thresholds of significance. The applicable non-CEQA site access and circulation studies set forth in the Guidelines will also be prepared and provided in a separate Local Transportation Assessment study.

PROJECT DESCRIPTION

A. Project Description: The TIS will evaluate the preferred CEQA Alternative Project: Redevelopment with Commercial Incentives Utilized (Density Bonus), as identified in the "Artesia Downtown Specific Plan Buildout Memo", dated December 11, 2023, prepared by PlaceWorks. The Artesia DTSP area is located within ½-mile of the future Metro Southeast Gateway Light Rail Line Pioneer Station. The identified Project includes land use and zoning changes that would allow for development of 1,981 new residential units and 502,919 square feet of new commercial and non-residential development. The proposed rezoning and identified potential future redevelopment parcels are displayed in ***Figure 1***. The proposed Project includes estimates for full redevelopment of selected sites. The Project assumes the development of commercial uses (at 20 percent of the land, assuming at least 2 stories) results in increased residential density through density bonus. The proposed buildout by proposed zone is summarized in ***Table 1*** below. The assumed buildout year for the proposed Project is year 2045.

Table 1
PROPOSED PROJECT BUILDOUT BY PROPOSED ZONE [1]

Proposed Zone	Maximum Buildout of Units on Selected Sites[1]
Station Mixed Use	150 DU
South Street Mixed Use	1,094 DU
Pioneer Boulevard Mixed Use	90 DU
183rd Street Mixed Use	634 DU
Downtown Housing (housing only)	13 DU
Mobile Home Park	0 DU
Commercial as Mixed Use[2]	502,936 SF
Total Residential **Total Commercial**	**1,981 DU** **502,919 SF**

1. On sites where commercial uses are identified for 20% of the site, the residential units total the density multiplied by the remaining acreage at 80%.
2. Commercial buildout assumes 20% of land at a minimum of 2 stories on selected sites in the South St. Mixed Use, 183rd St. Mixed Use, and the Pioneer Blvd. Mixed Use zones.

[1] Proposed Project Buildout provided by PlaceWorks, December 2023.

CEQA SCOPE OF WORK

B. Vehicle Miles Traveled (VMT) Screening: LLG has reviewed the screening criteria set forth in the Los Angeles County Guidelines. Projects which satisfy any one of the screening criteria can be determined to have a less than significant transportation impact without providing further VMT analysis. The Guidelines provide screening criteria based on daily trip generation, size of local-serving retail, proximity to high quality transit, and provision of affordable housing.

Based on a review of the screening criteria, the proposed Project is not expected to be screened from further VMT analysis. It is noted that the Artesia DTSP area falls within ½-mile of the future Metro Pioneer Station, and therefore potentially would qualify for the proximity to transit screening criteria. However, the Guidelines include secondary screening questions which require project-specific information (e.g., proposed Floor Area Ratio, proposed parking, consistency with RTP/SCS, and replacement of affordable housing with market-rate dwelling units). Since the answers to these questions cannot be determined at the redevelopment parcel-level during the preparation and adoption of the Artesia DTSP, and further since the proposed Specific Plan consists of rezoning of various parcels, it is conservatively concluded that the proposed Project does not meet the screening criteria, and will be required to provide quantitative VMT analysis in order to determine the significance of transportation impacts.

C. VMT Thresholds: According to the Los Angeles County Guidelines, a Land Use Plan has a potentially significant impact if it meets the criteria listed below:

- The plan total VMT per service population[1] (residents and employees) would not be 16.8% below the existing VMT per service population for the Baseline Area in which the plan is located.

D. VMT Methodology: The VMT analysis will be conducted using the Southern California Association of Governments' (SCAG) current Regional Travel Demand Model (RTDM), which includes a baseline year of 2016 and a future year of 2045. The proposed Project development totals will be converted into socio-economic data (SED). The SED for the appropriate Transportation Analysis Zones (TAZs) will be updated to reflect full buildout of the proposed project.

E. VMT Mitigation: If a significant transportation impact is identified through the above-described analysis, potential VMT mitigation measures will be identified which could reduce the VMT impact to less than significant levels. LLG will review the transportation demand management (TDM) strategies provided in the California Air Pollution Control Officer's Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (2021)*, which provides substantial evidence for calculating the reduction in VMT associated with each measure.

NON-CEQA SITE ACCESS STUDIES

LLG will prepare an operational analysis of nearby intersections in order to determine the proposed Project's effects on circulation in the vicinity of the Specific Plan area (i.e., vehicular delay and queueing). While not required for CEQA, the local transportation analysis is provided for informational purposes in support of the City of Artesia's discretionary review of the proposed Project.

F. Project Study Area: The following eight (8) study locations have been identified for intersection operational evaluation, including four (4) intersections in the vicinity of the specific plan area and four (4) freeway ramp intersections which will be analyzed for potential impacts to freeway off-ramp queuing (refer to *Item J* below). The study locations which have been selected are expected to be integral to access and circulation in the specific plan area. The location of the study intersections is presented in ***Figure 2***, and listed below:

1. Gridley Road/South Street (City of Cerritos)
2. Pioneer Boulevard/183rd Street (City of Artesia)

[1] Service population is the sum of the number of residents and the number of employees.

3. Pioneer Boulevard/187th Street (City of Artesia)
4. Pioneer Boulevard/South Street (City of Artesia)
5. I-605 Freeway Southbound Off-Ramp/South Street (City of Cerritos/Caltrans)
6. I-605 Freeway Northbound Off-Ramp/South Street (City of Cerritos/Caltrans)
7. Pioneer Boulevard/SR-91 Freeway Westbound Off-Ramp (City of Artesia/Caltrans)
8. Pioneer Boulevard/SR-91 Freeway Eastbound Off-Ramp (City of Artesia/Caltrans)

G. Traffic Counts

New traffic counts will be collected in April 2024, when local schools are in session. The manual intersection turning movement counts will be conducted during the weekday morning (7:00 to 9:00 AM) and afternoon (4:00 to 6:00 PM) peak commute periods for each of the eight study intersections identified in *Item F*.

H. Project Trip Generation

Traffic volumes to be generated by the proposed project were forecast for the weekday AM and PM peak hours, and over a 24-hour period. Trip generation rates provided in the Institute of Transportation Engineers' (ITE) Trip Generation Manual were utilized to forecast vehicular traffic generation for existing conditions, in order to identify the net change resulting from the proposed project. Specifically, the following land use trip rates were utilized to forecast the traffic volumes generated by the existing land uses present on each of the parcels identified for redevelopment:

- ITE Land Use 110: General Light Industrial
- ITE Land Use 210: Single-Family Detached Housing
- ITE Land Use 220: Multifamily Housing (Low Rise) (Not Close to Rail Transit)
- ITE Land Use 710: General Office Building
- ITE Land Use 821: Shopping Plaza (40-150K) (No Supermarket)
- ITE Land Use 822: Strip Retail Plaza (<40K)

The trip generation forecast for the existing land uses provided on the proposed rezone parcels is summarized in ***Table 2 – Existing Conditions Trip Generation Forecast***. It should be noted that the trip generation forecast was prepared based on four (4) transportation analysis subareas. The boundaries of the subareas were determined based on the intersection of the Artesia DTSP area and the Tier 2 TAZs utilized in the SCAG RTDM. The subareas are displayed in ***Figure 3***.

The following land use trip rates were utilized to forecast the traffic volumes expected to be generated by the proposed specific plan land uses on the redevelopment parcels:

- ITE Land Use 220: Multifamily Housing (Low-Rise) (Close to Rail Transit)

- ITE Land Use 310: Hotel
- ITE Land Use 710: General Office Building
- ITE Land Use 821: Shopping Plaza (40-150K) (No Supermarket)
- ITE Land Use 822: Strip Retail Plaza (<40K)
- ITE Land Use 931: Fine Dining Restaurant
- ITE Land Use 932: High-Turnover (Sit-Down) Restaurant

It should be noted that the trip generation rates utilized for forecasting purposes are based on single-use stand-alone sites in suburban contexts, which generate primarily vehicular traffic. However, in locations which have a variety of complimentary land uses, there is the potential for interaction among those uses, particularly where trips between uses can be made via active transportation modes such as walking or biking. Therefore, the total trip generation is typically less than the trips forecast for each land use as a stand-alone use.

A 25% trip reduction adjustment has been applied to the proposed project trip generation forecast for all proposed land uses in order to reflect the mixed-use nature of the proposed zoning and land use assumptions[2]. The adjustment accounts for the synergy among the specific plan land uses which is expected to result in increased activation and walkability in the Downtown Artesia area. The mixed-use nature of the proposed Specific Plan will allow for shorter trips between various land use components to be completed on foot or by bicycle, resulting in fewer vehicular trips than would be forecast for each land use component on a stand-alone basis.

In addition, a 10% adjustment has been applied to the proposed non-residential land uses in order to reflect the anticipated use of light-rail transit in the specific plan area upon completion of the Metro Southwest Gateway Line[3]. The specific plan area falls within 0.5-miles of the planned Southeast Gateway Line Pioneer Station. Similar to the existing use trip forecast, the proposed project trip forecast was prepared for each of the four (4) transportation analysis subareas.

The trips generated by the existing land uses on the redevelopment parcels are assumed to be removed in order to accommodate full build-out of the Specific Plan. Therefore, the existing trips have been applied as a credit towards the proposed project's trip generation forecast.

[2] LLG reviewed the methodology provided in NCHRP Report 684 in order to estimate the potential trip reductions which can be expected due to the mixed-use nature of the specific plan. The proposed mix of land uses would be expected to result in up to 50% fewer trips during the PM peak hour. A 25% trip reduction was applied to daily as well as AM and PM peak hour trips in order to provide a conservative trip forecast.

[3] A 10% transit reduction is consistent with typical practice in the Southern California region. Many agencies, including the City of Los Angeles, allow between 10 and 25% transit reductions for projects located within 0.5-miles of major transit facilities such as light rail stations. A 10% trip reduction was applied in order to provide a conservative trip forecast.

The trip generation forecast for the proposed project is summarized in ***Table 3 – Specific Plan Trip Generation Forecast***. As presented in *Table 3*, the proposed project is expected to generate 1,235 net new vehicle trips (520 net new inbound trips and 715 net new outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 835 net new vehicle trips (634 net new inbound trips and 201 net new outbound trips). Over a 24-hour period, the proposed project is forecast to generate 5,421 net new trip ends during a typical weekday (approximately 2,711 net new inbound trips and approximately 2,710 net new outbound trips).

The net new vehicle trips will be assigned to the study locations. Distribution patterns will be prepared for residential and non-residential land uses for each transportation analysis subarea. The distribution patterns will be prepared based on the location and intensity of potential re-development sites within each subarea, and will reflect the anticipated turning movements at each location required to access each subarea.

I. Future Traffic Volume Forecasts

Future traffic volumes will be estimated based on the SCAG RTDM for future year 2045. The model data will be post-processed in order to determine future intersection turning movement volumes without the proposed project.

J. Caltrans Facilities Analysis

In compliance with CEQA, Caltrans also now requires VMT-based analysis of land use projects and plans. Caltrans' Vehicle Miles Traveled-Focused Transportation Impact Study Guidelines (dated May 20, 2020) states that Caltrans will review and comment on impact determinations which are consistent with OPR's Technical Advisory and State greenhouse gas (GHG) emissions goals. The VMT analysis prepared for the City of Artesia will be consistent with the Technical Advisory and State GHG goals, and therefore no separate VMT analysis will be prepared for Caltrans. However, Caltrans has also released the Interim Land Development and Intergovernmental Review (LD-IGR) Safety Review Practitioner's Guide (dated July 2020), which requires a detailed safety review for land use projects or plans which are expected to affect the State Highway System. Therefore, based on the specific plan's location and proximity to the I-605 and SR-91 Freeways, existing and future year analyses will be prepared for the I-605 Freeway/South Street and SR-91 Freeway/Pioneer Boulevard ramp intersections (Study Intersection Nos. 5-8 in *Item F* above) in order to address any potential impacts in accordance with the Interim LD-IGR Safety Review Practitioner's Guide.

K. Transportation Impact Study

LLG will prepare a Transportation Impact Study in technical memorandum format which summarizes the above-mentioned CEQA-compliant VMT impact analysis, including our

analysis, findings, and conclusions. The Transportation Impact Study will be suitably documented with tables, figures, and appendix materials.

LLG will also prepare a separate Local Transportation Assessment in report format which summarizes the above-mentioned non-CEQA site access studies, including our analysis, findings, and conclusions. The Local Transportation Assessment will be suitably documented with tables, figures, and appendix materials.

Please feel free to call us at 626.796.2322 if you have any questions, comments or suggested revisions regarding the above. Thank you!

Attachments

c: Addie Farrell, PlaceWorks
Jennifer Kelly, PlaceWorks

Table 2
EXISTING USE TRIP GENERATION FORECAST [1]
Summary for All Subareas

TRIP GENERATION RATES [1]									
	ITE LAND USE		WEEKDAY	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
ITE LAND USE CATEGORY	CODE	VARIABLE	DAILY	IN (%)	OUT (%)	TOTAL	IN (%)	OUT (%)	TOTAL
General Light Industrial	110	Per 1,000 SF	4.87	88%	12%	0.74	13%	87%	0.65
Single-Family Detached Housing	210	Per Dwelling Unit	9.43	26%	74%	0.70	63%	37%	0.94
Multifamily Housing (Low Rise) (Not Close to Rail Transit)	220	Per Dwelling Unit	6.74	24%	76%	0.40	63%	37%	0.51
General Office Building	710	Per 1,000 SF	10.84	88%	12%	1.52	17%	83%	1.44
Shopping Plaza (40-150K) (No Supermarket)	821	Per 1,000 SF	67.52	62%	38%	1.73	49%	51%	5.19
Strip Retail Plaza (<40K)	822	Per 1,000 SF	54.45	60%	40%	2.36	50%	50%	6.59

PROJECT TRIP GENERATION FORECAST									
	ITE LAND USE		DAILY TRIP ENDS [2]	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
LAND USE	CODE	SIZE	VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
Subarea 1									
Multi-Family Residential	220	6 DU	40	0	2	2	2	1	3
Commercial General	822	38,231 SF	2,082	54	36	90	126	126	252
Service & Professional	710	3,252 SF	35	4	1	5	1	4	5
			2,157	*58*	*39*	*97*	*129*	*131*	*260*
Subarea 2									
Commercial General	821	89,366 SF	6,034	96	59	155	227	237	464
Subarea 3									
Single Family Residential	210	3 DU	28	1	1	2	2	1	3
Multi-Family Residential	220	9 DU	61	1	3	4	3	2	5
South Street Specific Plan [3]	710	40,170 SF	435	54	7	61	10	48	58
South Street Specific Plan [3]	821	40,170 SF	2,712	43	26	69	102	106	208
Commercial Planned Development	821	100,389 SF	6,778	108	66	174	255	266	521
Commercial General	821	79,581 SF	5,373	86	52	138	202	211	413
Light Industrial	110	26,379 SF	128	18	2	20	2	15	17
			15,487	*310*	*156*	*466*	*574*	*648*	*1,222*
Subarea 4									
Single Family Residential	210	1 DU	9	0	1	1	1	0	1
Commercial General	822	6,480 SF	353	9	6	15	22	21	43
			362	*9*	*7*	*16*	*23*	*21*	*44*
Total Existing Uses			***24,040***	***473***	***261***	***734***	***953***	***1,037***	***1,990***

[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] The South Street Specific Plan is assumed to consist of 50% service and professional land uses and 50% retail land uses.

Table 3
SPECIFIC PLAN TRIP GENERATION FORECAST [1]
Summary for All Subareas

TRIP GENERATION RATES [1]									
	ITE			WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
ITE LAND USE CATEGORY	LAND USE CODE	VARIABLE	WEEKDAY DAILY	IN (%)	OUT (%)	TOTAL	IN (%)	OUT (%)	TOTAL
Multifamily Housing (Low Rise) (Close to Rail Transit)	220	Per Dwelling Unit	4.72	29%	71%	0.38	60%	40%	0.61
Hotel	310	Per Room	7.99	56%	44%	0.46	51%	49%	0.59
General Office Building	710	Per 1,000 SF	10.84	88%	12%	1.52	17%	83%	1.44
Shopping Plaza (40-150K) No Supermarket	821	Per 1,000 SF	67.52	62%	38%	1.73	49%	51%	5.19
Strip Retail Plaza (<40K)	822	Per 1,000 SF	54.45	60%	40%	2.36	50%	50%	6.59
Fine Dining Restaurant	931	Per 1,000 SF	83.84	50%	50%	0.73	67%	33%	7.80
High-Turnover (Sit-Down) Restaurant	932	Per 1,000 SF	107.20	55%	45%	9.57	61%	39%	9.05

PROJECT TRIP GENERATION FORECAST									
	ITE		DAILY TRIP ENDS [2]	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
LAND USE	LAND USE CODE	SIZE	VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
Subarea 1									
Multi-Family Residential	220	203 DU	958	22	55	77	74	50	124
General Office	710	14,867 SF	161	20	3	23	4	17	21
Retail [3]	822	22,301 SF	1,214	32	21	53	74	73	147
Fine Dining Restaurant [4]	931	3,345 SF	280	1	1	2	17	9	26
High-Turnover (Sit-Down) Restaurant [4]	932	18,956 SF	2,032	100	81	181	105	67	172
Less 25% Mixed-Use TOD Adjustment [5]			(1,161)	(44)	(40)	(84)	(69)	(54)	(123)
Less 10% Transit Adjustment [6]			(369)	(15)	(11)	(26)	(20)	(17)	(37)
			3,115	*116*	*110*	*226*	*185*	*145*	*330*
Subarea 2									
Multi-Family Residential	220	431 DU	2,034	48	116	164	158	105	263
General Office	710	31,620 SF	343	42	6	48	8	38	46
Retail	821	47,430 SF	3,202	51	31	82	121	125	246
Fine Dining Restaurant [4]	931	7,115 SF	597	3	2	5	37	18	55
High-Turnover (Sit-Down) Restaurant [4]	932	40,315 SF	4,322	212	174	386	223	142	365
Less 25% Mixed-Use TOD Adjustment [5]			(2,625)	(89)	(82)	(171)	(137)	(107)	(244)
Less 10% Transit Adjustment [6]			(846)	(31)	(21)	(52)	(39)	(32)	(71)
			7,027	*236*	*226*	*462*	*371*	*289*	*660*
Subarea 3									
Multi-Family Residential	220	1,322 DU	6,240	146	356	502	484	322	806
Hotel	310	150 Rooms	1,199	39	30	69	45	44	89
General Office	710	77,592 SF	841	104	14	118	19	93	112
Retail	821	116,388 SF	7,859	125	76	201	296	308	604
Fine Dining Restaurant [4]	931	17,458 SF	1,464	7	6	13	91	45	136
High-Turnover (Sit-Down) Restaurant [4]	932	98,930 SF	10,605	521	426	947	546	349	895
Less 25% Mixed-Use TOD Adjustment [5]			(7,052)	(236)	(227)	(463)	(370)	(290)	(660)
Less 10% Transit Adjustment [6]			(2,197)	(80)	(55)	(135)	(100)	(84)	(184)
			18,959	*626*	*626*	*1,252*	*1,011*	*787*	*1,798*
Subarea 4									
Multi-Family Residential	220	25 DU	118	3	7	10	9	6	15
General Office	710	1,651 SF	18	3	0	3	0	2	2
Retail	822	2,476 SF	135	4	2	6	8	8	16
High-Turnover (Sit-Down) Restaurant [4]	932	2,476 SF	265	13	11	24	13	9	22
Less 25% Mixed-Use TOD Adjustment [5]			(134)	(6)	(5)	(11)	(8)	(6)	(14)
Less 10% Transit Adjustment [6]			(42)	(2)	(1)	(3)	(2)	(2)	(4)
			360	*15*	*14*	*29*	*20*	*17*	*37*
Subtotal Specific Plan Buildout			*29,461*	*993*	*976*	*1,969*	*1,587*	*1,238*	*2,825*
Less Existing Uses (Refer to Table 2)			(24,040)	(473)	(261)	(734)	(953)	(1,037)	(1,990)
NET NEW PROJECT TRIPS			***5,421***	***520***	***715***	***1,235***	***634***	***201***	***835***

[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] The size of this project component reflects the sum of all proposed square-footage in the subject area. Individual developments are anticipated to be less than 40,000 square feet, therefore the trip rates provided for ITE Land Use 822: Strip Retail Plaza (<40K) have been applied.
[4] The total restaurant space within each subarea was assumed to consist of 15% quality and fine dining restaurant space and 85% high-turnover (sit-down) restaurant space. Total restaurant space under 2,500 square feet was assumed to consist of high-turnover (sit-down) restaurant only.
[5] A 25% mixed-use adjustment has been applied to all specific plan land uses. The adjustment accounts for the synergistic nature of the proposed mixed-use zoning included in the specific plan, which is expected to result in increased walkability in the Downtown Artesia area. The mixed-use nature of the Specific Plan will allow for shorter trips between various land use components to be completed on foot or by bicycle, resulting in fewer vehicular trips compared to the trips which would be generated by the land use components on a stand-alone basis.
[6] A 10% transit adjustment has been applied to all non-residential land uses. The transit adjustment reflects the anticipated use of light-rail transit in the specific plan area upon completion of the Metro Southeast Gateway Light-Rail Line. It is noted that the Specific Plan area falls within 1/2 mile of the planned Artesia Station.

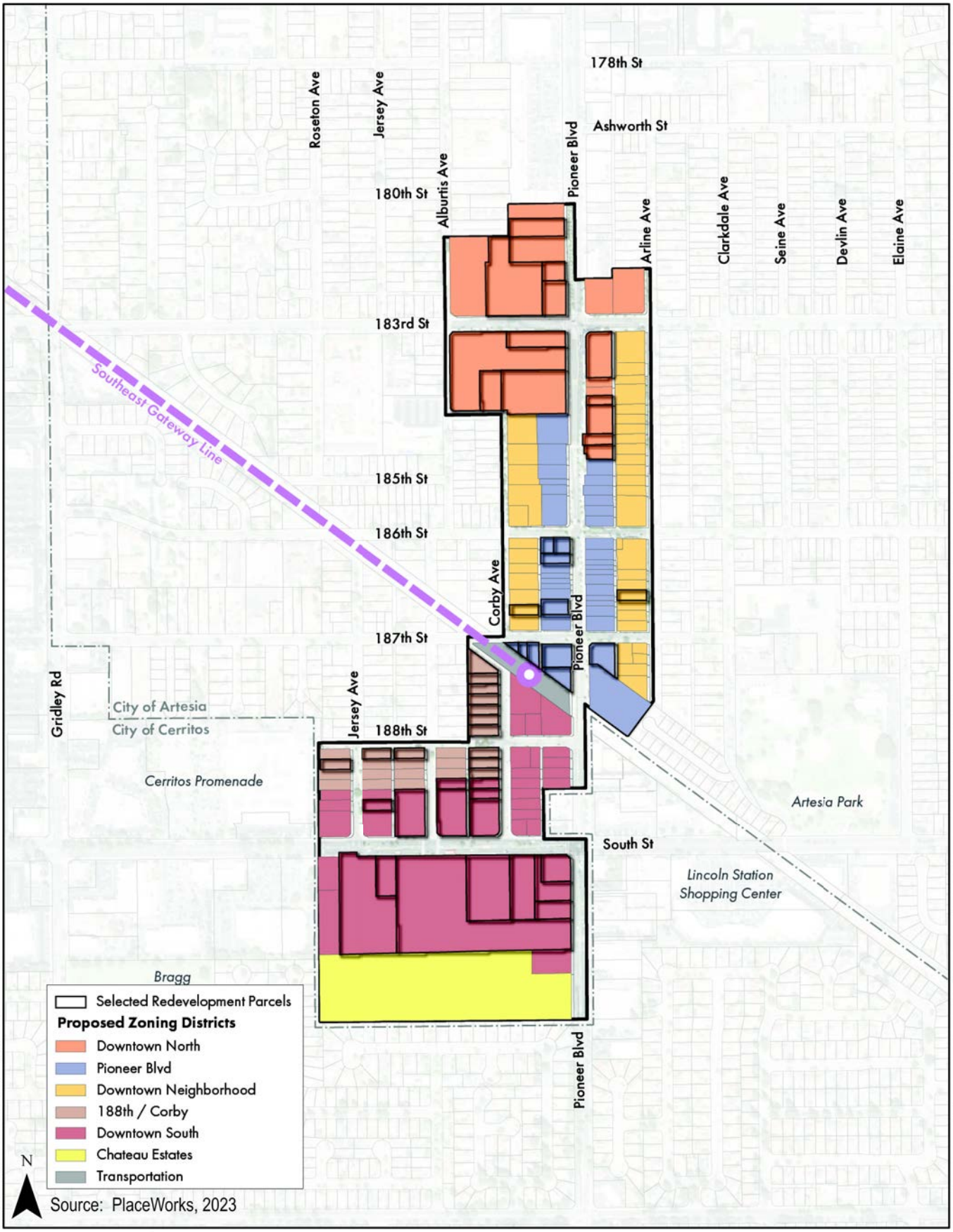

Figure 1
Proposed Zoning and Selected Redevelopment Parcels

Artesia Downtown Specific Plan

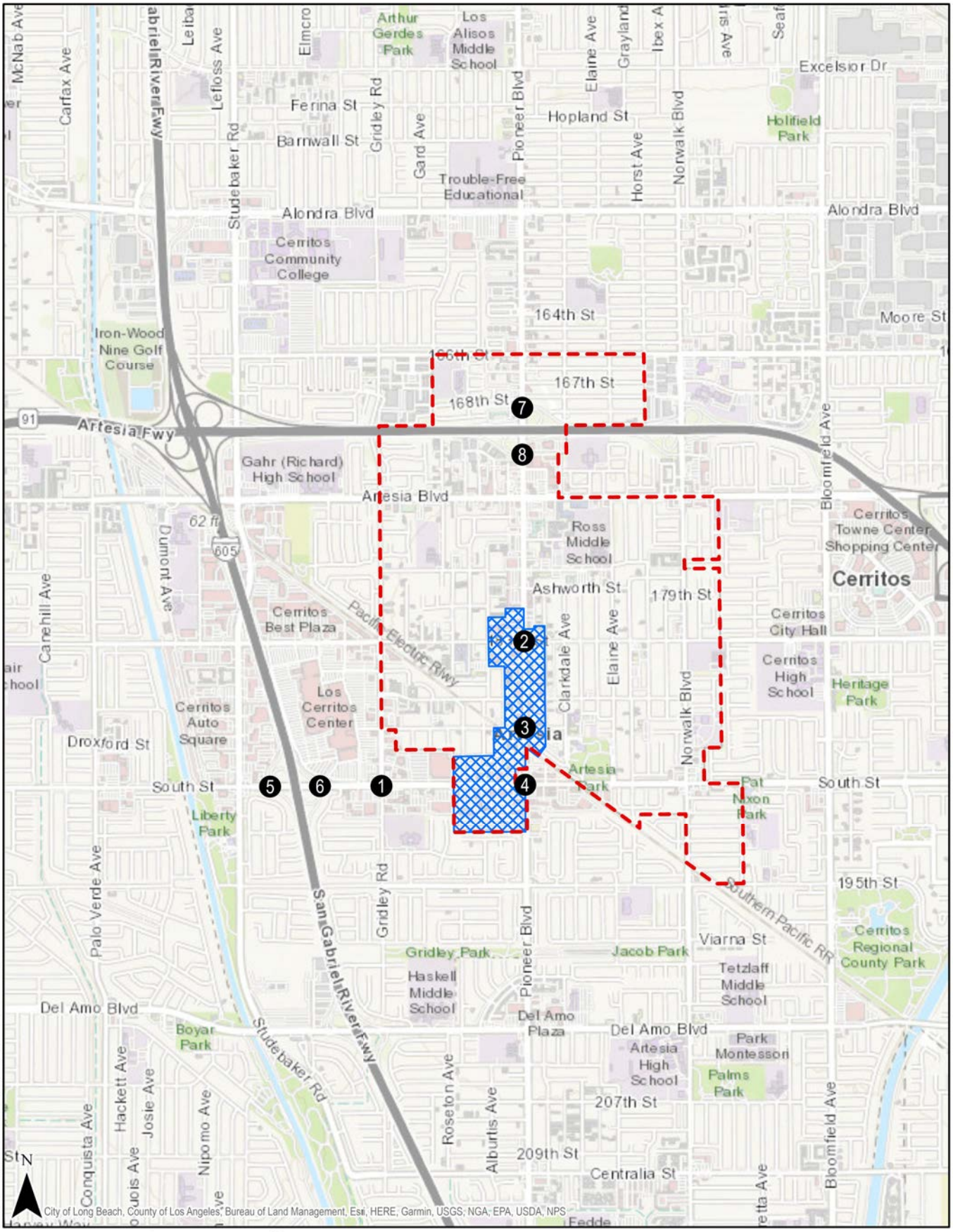

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Figure 2
Vicinity Map

Artesia Downtown Specific Plan

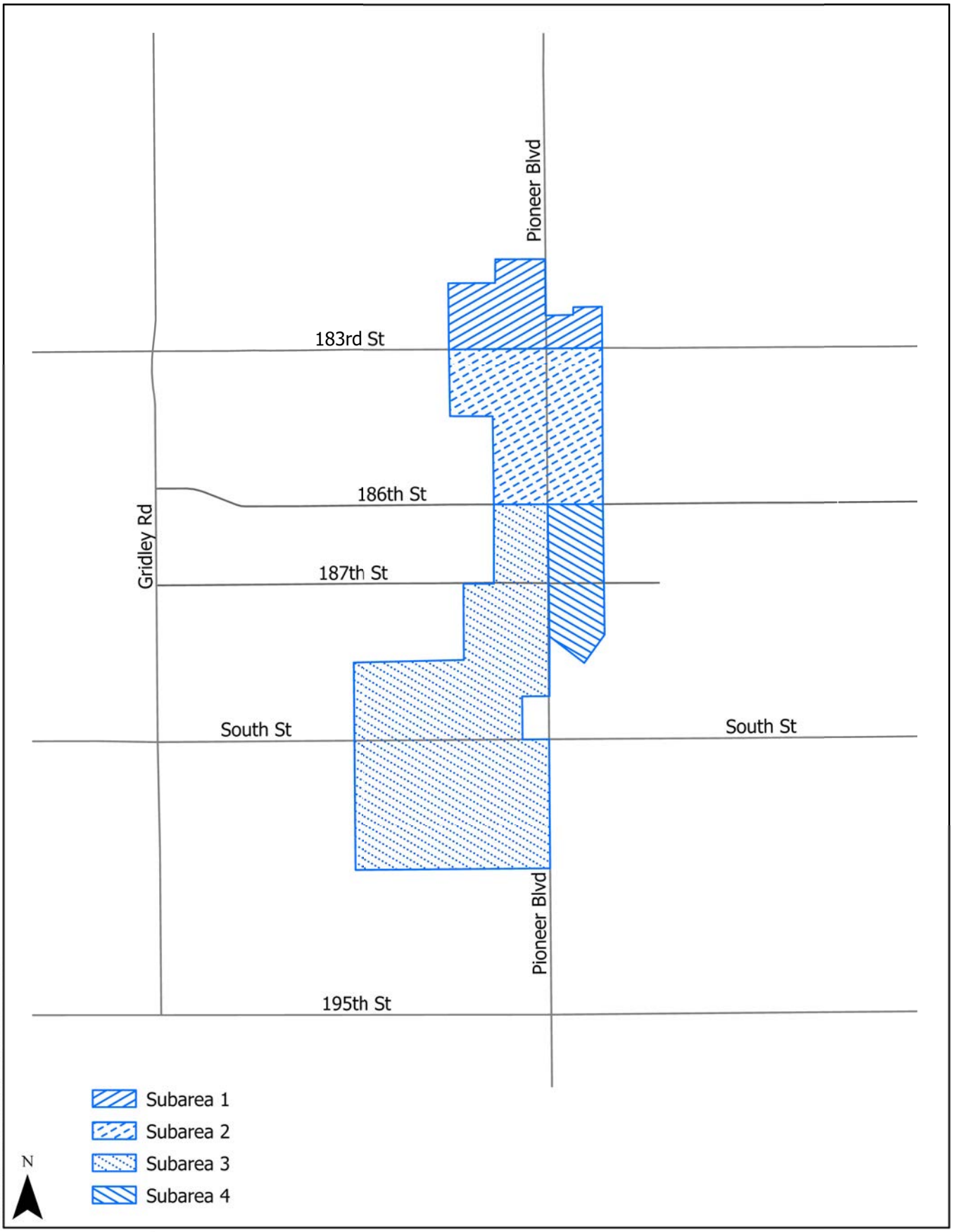

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Figure 3
Transportation Analysis Subareas

Artesia Downtown Specific Plan

APPENDIX B

VMT ANALYSIS CALCULATIONS

Appendix Table B-1
SUMMARY OF COUNTYWIDE VMT PER SERVICE POPULATION AND SIGNIFICANCE THRESHOLDS BY YEAR

	YEAR [1]		
	2016	2024	2045
Baseline OD VMT	470,679,733	--	485,385,391
Baseline SP	14,847,720	--	17,048,723
Baseline VMT/SP	31.70	30.81	28.47
Threshold (16.8% Below Baseline)	26.37	25.63	23.69

[1] Years 2016 and 2045 values obtained from the SCAG ABM baseline conditions. Year 2024 VMT/SP values are interpolated between years 2016 and 2045 VMT/SP.

Appendix Table B-2
SUMMARY OF VEHICLE MILES TRAVELED (VMT) MODELING RESULTS [1]

BASELINE YEAR 2016				
	TAZ (Tier 1) [2]	Service Population	Origin-Destination (OD) VMT	VMT per Service Pop.
Without Project [3]	21824000 21825000	8,711 9,639	271,640 281,830	
Total Without Project		*18,350*	*553,470*	*30.16*
With Project [4]	21824000 21825000	9,443 15,664	292,279 446,287	
Total With Project		*25,107*	*738,565*	*29.42*
Net Change Due to Project [5]	21824000 21825000	732 6,025	20,638 164,457	
Project-Generated VMT per Service Population		***6,757***	***185,095***	***27.39***

CUMULATIVE YEAR 2045				
	TAZ (Tier 1) [2]	Service Population	Origin-Destination (OD) VMT	VMT per Service Pop.
Without Project [3]	21824000 21825000	9,220 10,553	265,496 287,241	
Total Without Project		*19,773*	*552,737*	*27.95*
With Project [4]	21824000 21825000	9,903 16,393	278,276 428,028	
Total With Project		*26,296*	*706,304*	*26.86*
Net Change Due to Project [5]	21824000 21825000	683 5,840	12,780 140,787	
Project-Generated VMT per Service Population		***6,523***	***153,567***	***23.54***

[1] VMT analysis conducted with the SCAG ABM.

[2] Origin-Destination (OD) VMT is reported at the Tier 1 Transportation Analysis Zone (TAZ) level. Tier 1 TAZs are comprised of multiple Tier 2 TAZs.

[3] The Without Project results reflect the baseline model output without the addition of the proposed project.

[4] The proposed project was incorporated into the appropriate Tier 2 Transportation Analysis Zones (TAZs) and run in order to obtain the With Project modeling results at the Tier 1 level.

[5] The Without Project results have been subtracted from the With Project results in order to isolate the project-generated changes in service population (SP), origin-destination (OD) VMT, and VMT per SP.

Appendix Table B-3
SUMMARY OF PROJECT-GENERATED VMT PER SERVICE POPULATION BY YEAR

	YEAR [1]		
	2016	**2024**	**2045**
Project-Generated OD VMT	185,095	--	153,567
Project-Generated SP	6,757	--	6,523
Project-Generated VMT/SP	27.39	26.33	23.54

[1] Years 2016 and 2045 values obtained from the SCAG ABM, as presented in *Appendix Table B-2.* Year 2024 VMT/SP is interpolated between years 2016 and 2045 VMT/SP.

APPENDIX C

VMT MITIGATION MEASURE CALCULATIONS

VMT Reduction Summary
Near-Term Mitigation Analysis

Measure No.	Name	% VMT Reduction
Land Use		
	Land Use Subtotal (Project/Site Scale)	**0.00%**
Trip Reduction Programs		
	Trip Reduction Programs Subtotal (Project/Site Scale)	**0.00%**
Parking or Road Pricing/Management		
T-16	Unbundle Residential Parking Costs from Property Cost	0.84%
T-24	Implement Market Price Public Parking (On-Street)	2.13%
	Parking or Road Pricing/Management Subtotal	**2.95%**
Neighborhood Design		
	Neighborhood Design Subtotal (Plan/Community Scale)	**0.00%**
Transit		
	Transit Subtotal (Plan/Community Scale)	**0.00%**
Clean Vehicles and Fuels		
	Clean Vehicles and Fuels Subtotal	No VMT Reduction
	Total VMT Reduction	**2.95%**

- $Reduction_{Subsector} = 1 - [(1 - A) \times (1 - B) \times (1 - C) \times \dots]$

  $where\ A, B, C, \dots\ are\ the\ individual\ measure\ reduction\ percentages\ in\ each\ subsector$

- $Reduction_{Total} = 1 - [(1 - Land) \times (1 - Trip\ Reduction) \times (1 - Parking) \_$
  $\times (1 - Design) \times (1 - Transit)]$

Measure T-16. Unbundle Residential Parking Costs from Property Cost	
Subsector	Parking or Road Pricing/Management
Measure Scale	Project/Site
Maximum Reduction	15.7%

	Project VMT Reduction Due to Unbundling Residential Parking Costs from Property Cost	
B	Annual parking cost per space ($ per year) [1]	$300.00
C	Average annual vehicle cost ($ per year) [2]	$12,182.00
D	Elasticity of vehicle ownership with respect to total vehicle cost	-0.4
E	Adjustment factor from vehicle ownership to VMT	1.01
A	VMT Reduction = (B/C) * D * E	1.0%
	VMT Reduction	***0.99%***
	VMT Reduction Utilized [3]	***0.84%***

[1] A cost of $25.00 per month (corresponding to $300.00 per year) is assumed for analysis purposes. Greater annual parking costs will result in greater VMT reductions.

[2] "Your Driving Costs 2023", American Automobile Association (AAA), 2023.

[3] It is assumed that qualifying residential projects within the Specific Plan area will comply with the provisions of California Civil Code Section 1947.1, which requires residential developments of 16 or more units located in Los Angeles County to unbundle parking from the price of rent. Based on the assumed redevelopment potential for each parcel indentified for full redevelopment, it is assumed that this requirement will apply to 1,668 of the total 1,981 units, or approximately 84.2% of the residential units. Therefore, the VMT reduction applied to the project-generated VMT is adjusted downward to reflect 84.2% of the calculated VMT reduction in order to apply the reduction at the Specific Plan scale.

Measure T-24. Implement Market Price Public Parking (On-Street)	
Subsector	Parking or Road Pricing/Management
Measure Scale	Plan/Community
Maximum Reduction	30.0%

	Project VMT Reduction Due to Market Price Public Parking (On-Street)	
B	VMT in priced area without measure (VMT per day) [1]	[1]
C	VMT in plan/community without measure (VMT per day) [1]	[1]
D	Proposed parking price ($ per hour)	[2]
E	Initial parking price ($ per hour)	[2]
F	Default percentage of trips parking on street [3]	5.3%
G	Elasticity of parking demand with respect to price	-0.4
H	Ratio of VMT to vehicle trips	1
A	VMT Reduction = (B/C) * ([D - E]/E) * F * G * H	2.13%
	VMT Reduction	***2.13%***

[1] The measure applies to the full Specific Plan area. Therefore, a B/C ratio of 1.0 has been utilized in the equation in place of the (B/C) term.

[2] The travel demand model does not currently account for the presence of priced on-street parking. Therefore, the initial parking price is considered to be free under existing conditions. Pursuant to the CAPCOA 2021 Handbook, when parking is free, variable E should be set to half the value of variable D in order to produce a percentage increase in cost of 100%. A value of 100% has been utilized in the equation in place of the ([D - E]/E) term.

[3] Based on a review of aerial photography of the Specific Plan area (obtained from Google Earth, 2024), the Specific Plan area provides approximately 2,635 public parking spaces in support of the existing commercial and industrial land uses, including approximately 140 priced on-street parking spaces. Therefore, the priced on-street parking spaces represents approximately 5.3% of the parking supply.

ARTESIA DOWNTOWN SPECIFIC PLAN

PUBLIC REVIEW DRAFT - FEBRUARY 28, 2025

ACKNOWLEDGMENTS

City of Artesia
18747 Clarkdale Ave.
Artesia, CA 90701

City Council
Ali Taj, Mayor
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Zeel Ahir
Monica Manalo
Melissa Ramoso

Planning Commission
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Michele Diaz, Vice-Chair
Paul Barcelos
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Melissa Burke, Deputy City Manager
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Art Bashmakian, Sagecrest Planning + Environmental

Prepared by
PLACEWORKS

Funded by
Metro

Note: This document is intended to be viewed as a two page spread with a single cover and back page.

ADOPTING RESOLUTION

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NOW THEREFORE, be it resolved

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TABLE OF CONTENTS

The Artesia Downtown Specific Plan (ADSP) contains ten chapters and two appendices:

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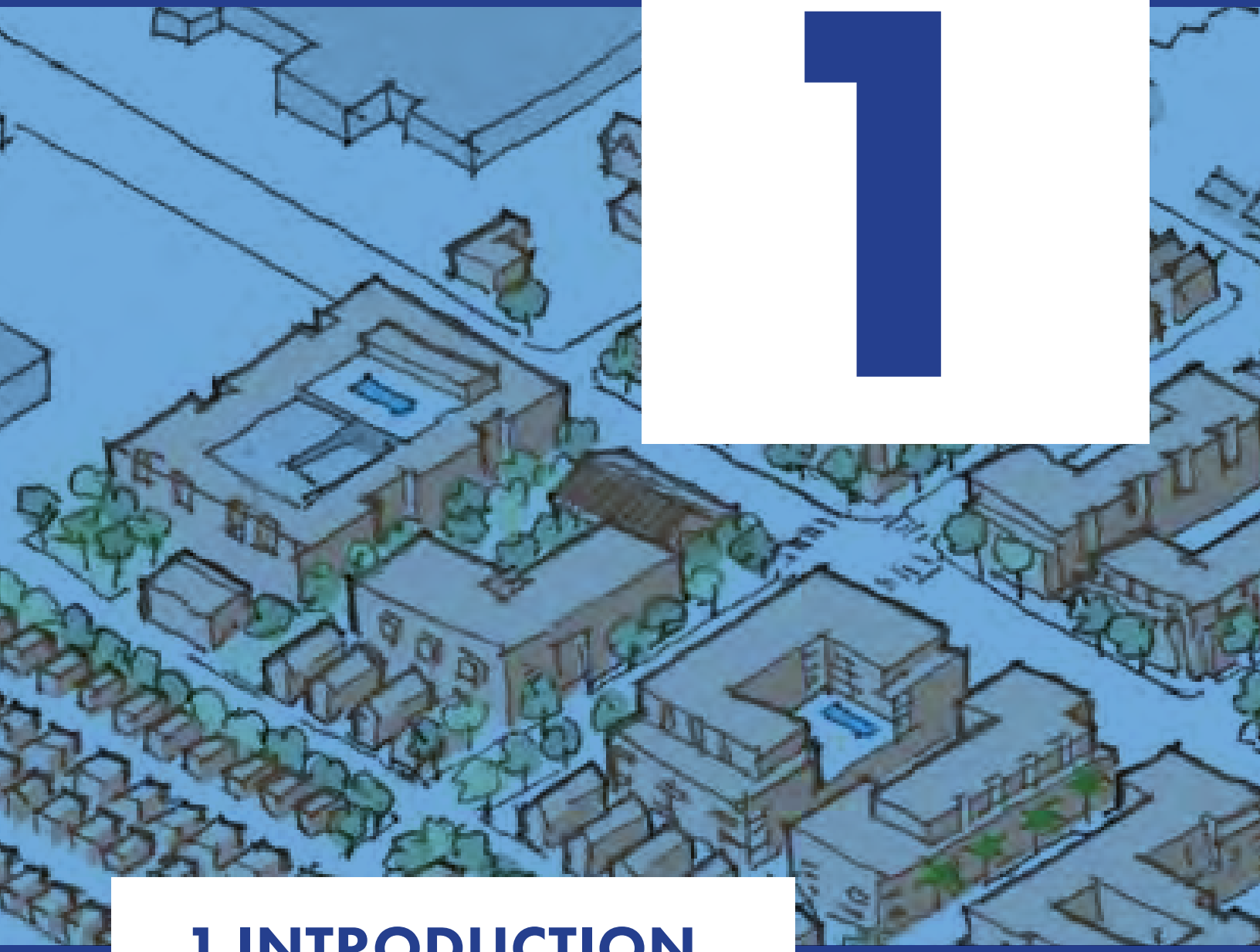

1 INTRODUCTION

1.1 SPECIFIC PLAN AREA

The Artesia Downtown Specific Plan (ADSP) area includes the blocks adjoining Pioneer Boulevard, beginning with the area around the future Pioneer Station to the south and ending just beyond 183rd Street to the north. To the east and west, the study area is bounded by Arline, Corby, and Alburtis Avenues. The study area further extends south along Pioneer Boulevard within the City of Artesia and includes the area between 188th Street and the Le Belle Chateau Estates Mobile Home Park, and Pioneer Boulevard to Jersey Avenue.

The study area hosts primarily commercial and residential apartment properties. South of the current railroad right-of-way are several light industrial properties and a number of single-family homes.

1.2 SPECIFIC PLAN PURPOSE

The Los Angeles County Metropolitan Transit Authority (Metro) plans to construct the Southeast Gateway Line (SGL), which includes a future station Pioneer Boulevard. Upon completion, the SGL will enhance Downtown Artesia's position as a gateway between Los Angeles and Orange Counties. To facilitate new transit-oriented development, the ADSP will implement new land use, zoning, and development standards, thereby creating incentives for new investment in the downtown. The ADSP encourages new opportunities for jobs, housing, recreation, entertainment, and retail as the City prepares for the Metro extension.

The ADSP will dictate the scale of future development growth in Artesia's Downtown district, enhance pedestrian and bicyclist experience, and curate community gathering spaces.

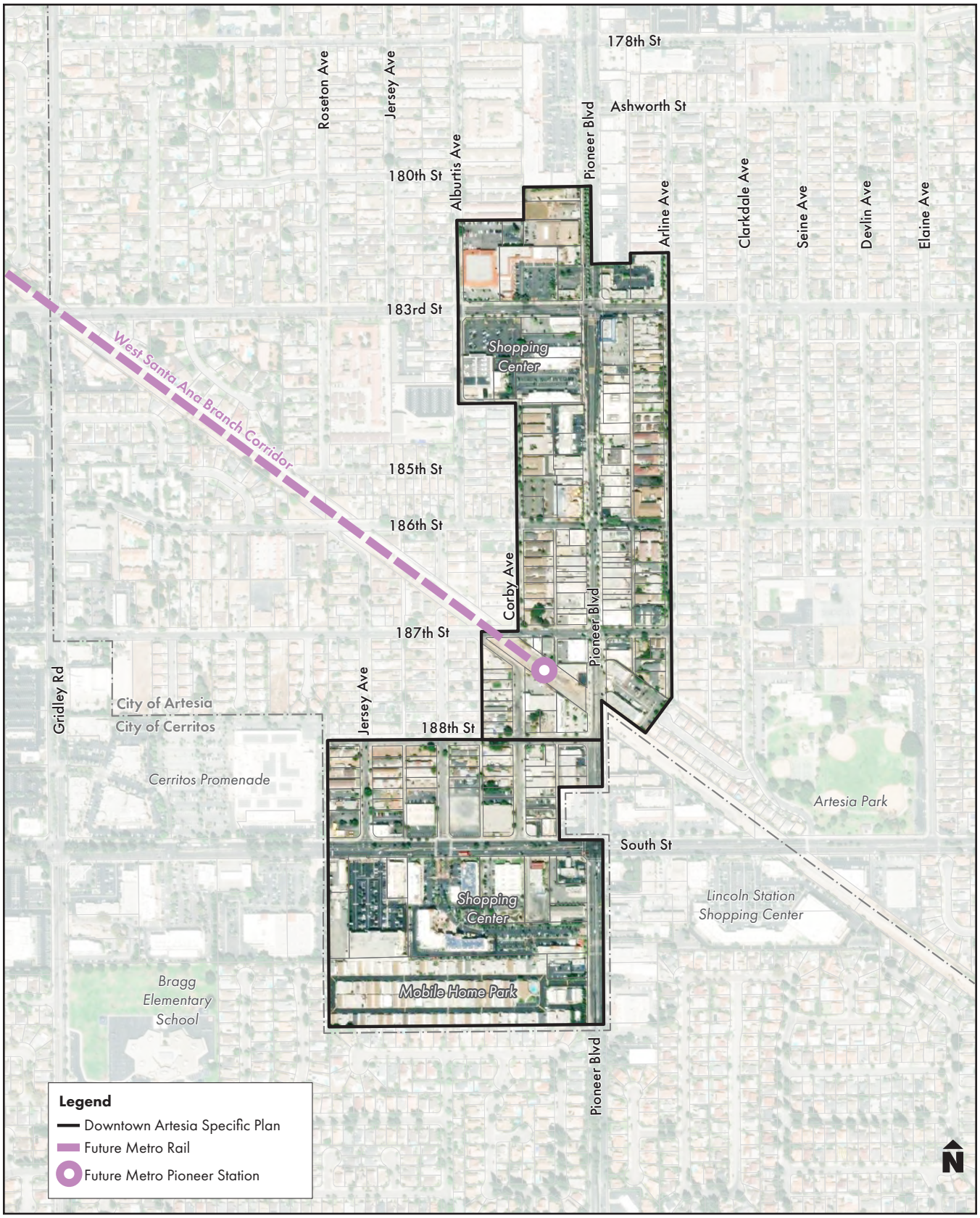

Figure 1.1: Artesia Downtown Specific Plan Project Area

1.3 WHAT IS A SPECIFIC PLAN?

A Specific Plan is a regulatory tool that local governments use to guide development in a focused area of the community. The General Plan is the primary guide for growth and development citywide, and a Specific Plan focuses on the unique characteristics of a special area by customizing the planning process and land use regulations to that area.

California Government Code, Title 7, Division 1, Chapter 3, Article 8, Sections 65450 through 65457, allows cities and counties to prepare Specific Plans to develop policies, programs, regulations, and guidelines to implement the jurisdiction's adopted General Plan. As prescribed by law, a Specific Plan includes text and diagrams that generally describe:

- The distribution, location, and extent of all land uses.
- The standards and criteria by which new development will proceed.
- The proposed distribution, location, extent, and intensity of major components of public infrastructure, such as transportation and utility systems.
- A program of implementation measures, such as financing measures, policies, regulations, and public works projects.

The Specific Plan will provide applicants, City staff, the public, and decision makers with information on the overall intent for Downtown, design standards to facilitate the project's implementation, and future changes thereto. It is intended that local public works projects, design review plans, detailed site plans, grading permits and building permits, or any other action requiring ministerial or discretionary approval applicable to this area be consistent with this Specific Plan.

The Artesia Downtown Specific Plan will be adopted by resolution and ordinance and establish the necessary plans, development standards, regulations, infrastructure requirements, and implementation programs on which subsequent project-related development activities within the Specific Plan are to be founded.

1.4 DOWNTOWN ARTESIA HISTORY

1.4.1 FOUNDING ARTESIA

Artesia was first settled in 1875 and remained an agrarian community for over 80 years, with influxes of Dutch and Portuguese immigrants in the early twentieth century. Its name comes from the naturally occurring artesian wells in the area. Artesia was incorporated as a city in 1959.

Downtown Artesia is known for its unique and diverse retail business community. This transformation to the Downtown district coincided with the immigration patterns of the 1980s and continued into the 1990s. The Pioneer Boulevard corridor from 183rd Street to South Street consists of an international mix of restaurants, boutiques, and specialty stores. As a result, Downtown Artesia has a diverse ethnic character, celebrated annually since 2013 on Pioneer Boulevard with the "International Street Fair & Diversity Festival." Today Artesia is a cosmopolitan city with a foundation built on the diverse cultural composition of its businesses and residents.

Figure 1.2: 2024 International Street Fair & Diversity Festival

1.4.2 THE PACIFIC ELECTRIC RAILWAY

The founding of Artesia is heavily indebted to the Pacific Electric Railway Company. The Pacific Electric, nicknamed the Red Cars, was a privately owned mass transit system in Southern California consisting of electrically powered streetcars, interurban cars, and buses. Henry E. Huntington, the owner of the Pacific Electric, was also a significant real estate investor who developed and sold land along the Red Car routes, opening up many town sites and cities across the region, including Artesia.

Figure 1.3: Historic Artesia Station; Source: Portuguese Historic Museum

Red Cars began service through Artesia in 1905, along a branch line that connected Downtown Los Angeles with Santa Ana in Orange County. The route was known as the West Santa Ana Branch (WSAB). According to Metro's WSAB Transit Corridor Rename the Project website:

> From 1901 to the early 1960s, before the car ruled in Southern California, Los Angeles had the most extensive rail car system in the country. Pacific Electric and other rail service providers connected cities throughout LA, Orange, Riverside and San Bernardino Counties.
>
> One of those rail corridors, named the Pacific Electric Right-of-Way (ROW)/West Santa Ana Branch Corridor, provided passenger service from downtown LA, along the alignment currently used by the Metro A Line (Blue), to Watts Station where the line turned southeast to travel along the ROW to a terminal station in the City of Santa Ana in Orange County. Passenger service to Santa Ana ceased in 1950 and to Bellflower in 1955. This ROW has been primarily unused since Pacific Electric service ended in 1961. The portion of this rail corridor within LA County limits is known as the "West Santa Ana Branch."
>
> This new rail line will travel from downtown LA to the City of Artesia and will provide service to Cerritos, Bellflower, Paramount, Downey, South Gate, Cudahy, Bell, Huntington Park, Vernon and unincorporated Florence-Firestone. The rail line will not travel to Santa Ana as it once did. Given this confusion about the project, Metro will rename the project to better reflect the service area, the communities' character, culture and experience of the people who live, work and play in the cities served by the new line. The new name will remain in place through completion of construction, at which time it will receive a newly designated line letter and line color as the project prepares for revenue service.

In January 2024, Metro renamed the rail corridor the "Southeast Gateway Line."

1 Artesia: From Portuguese Dairy Farms to Little India, Mike Sonksen. PBS, online. August 22, 2014. Metro. 2023. "The Story Behind the Name 'West Santa Ana

2. Branch'." WSAB Transit Corridor Rename the Project. Accessed January 18, 2024. https://www.renamewsab.com/.

1.4.3 METRO

In 2016, Los Angeles (LA) County voters passed Measure M. Measure M is a no-sunset, half-cent sales tax measure that funds various Metro transportation projects. Thanks to Measure M, Metro is undertaking one of the largest transportation infrastructure programs in United States history and will double the size of the rail network in the next 40 years. As a part of this expansion, a focus on Transit-Oriented Communities made various grant funds available to local jurisdictions within Metro project areas, Artesia included. In August 2016, the Artesia City Council approved a grant agreement of $375,000 between the City and Metro to fund the preparation of the Artesia Downtown Specific Plan.

In May 2023, the City of Artesia kicked off efforts to develop the ADSP in anticipation of the arrival of the Southeast Gateway Line (referred to at the time as the West Santa Ana Branch) Metro station at Pioneer Boulevard. After completion of the Southeast Gateway Line, Downtown Artesia will have a connection to the Metro E line at Slauson Station. Pioneer Station will connect Artesia via light rail with major destinations and employment centers in the region—Downtown Los Angeles, Union Station, and South Los Angeles. Transferring at Slauson Station to Union Station, passengers will be able to connect as far as Santa Monica, Pasadena, East Los Angeles, San Fernando Valley, and the Los Angeles International Airport (LAX).

Figure 1.4: Southeast Gateway Line Route

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2 METRO PLANNING CONTEXT

2.1 SOUTHEAST GATEWAY LINE

The Southeast Gateway project is a new light-rail transit line that will connect southeast Los Angeles County to South Los Angeles and beyond. The corridor is intended to include 14.5 miles of length and 9 proposed stations across 13 cities. As presently designed, Artesia will be the southern terminus of this transit line.

In 2021, Metro released the Transit-Oriented Development Strategic Implementation Plan (TOD SIP) as a resource to develop new corridor-wide governance strategies, with strategies and actions to adopt into local plans and programs and to provide grant funding.

In January 2022, the Metro Board of Directors approved the Locally Preferred Alternative (LPA) for the project from Slauson/A Line in unincorporated Florence-Firestone to Pioneer Station in Artesia, a 14.5-mile segment, and approved a Maintenance and Storage Facility (MSF) in the City of Bellflower.

2.2 METRO PLANNING PRINCIPLES

Through the expansion of Metro and new funding sources (Measure M), Metro launched a Transit-Oriented Communities Program. The program focused on finding and strengthening synergies between transit and the surrounding streets, public spaces, and developments to support an expanding transit network.

Metro supports local jurisdictions to develop and adopt transit-supportive policies and programs to leverage the value of transit investments and increase ridership. As a part of this program, funding was made available for jurisdictions to prepare for the expansion of Metro. Through grant funding, Metro has five primary goals:

- Increase transit ridership and choice
- Stabilize and strengthen communities around transit
- Engage communities in visioning
- Distribute transit benefits to all
- Capture value created by transit

Because the ADSP is funded by the Transit-Oriented Communities Program, Artesia aims to implement Metro's primary goals and incorporate the Key Characteristics of Transit-Supportive Communities.

Figure 2.1: Southeast Gateway Line Map - Locally Preferred Alternative

2.3 WSAB TOD SIP

The WSAB TOD SIP (or West Santa Ana Branch Transit Oriented Development Strategic Implementation Plan) was developed by Metro in anticipation of the expansion and development on the WSAB, now called the Southeast Gateway Line. The SIP analyzes the existing communities along the future line to better understand the community needs and how transit investment can be both effective and maximized in these communities and provides recommendations and best practices for plan implementation. The goal of the WSAB TOD SIP is to outline the vision for future changes in station areas and the types of development roles that each station will play in the overall corridor.

The WSAB TOD SIP outlines the process of evaluating the existing conditions of each city along the line, the development of vision and goals for each city and the county, and the creation and identification of the five development typologies. The development typologies are defined by the following characteristics: area of influence from local to regional, land use emphasis (employment-centric vs. residential-centric), mix of uses, street and block characteristics, and density and scale. The five typologies are:

- Main Street Adjacent
- Large Scale Redevelopment
- Residential Arterial Infill
- Industrial Hybrid Infill
- High Density Walkable Mixed-Use

The report identifies Artesia as Main Street Adjacent, meaning it acts as the center to local commercial districts and has potential areas for community-serving, mixed-use infill development. Because Pioneer Boulevard is anchored by Little India, a regionally recognized hub of South Asian restaurants and retail, the SIP identifies a future of high density mixed uses and a cultural destination surrounded by attractive residential neighborhoods. The SIP outlines the following priorities for Artesia:

- Artesia Downtown Specific Plan: Prioritize the development of a Specific Plan to incentive development.
- Business Preservation: Preserve the cultural heritage of legacy and family businesses within the station area.

- Joint Development of Mixed-Use TOD: Collaborate with Metro on joint development and explore innovative parking strategies for the downtown.
- Property Bases Improvement District (PBID): Explore the formation of a PBID to market, contribute, and maintain the operational capacity of Pioneer Boulevard.

The vision and priorities outlined in the WSAB TOD SIP have been evaluated and considered in the development of this Specific Plan.

2.3.1 PIONEER TRANSIT-ORIENTED COMMUNITY MASTER PLAN

Pioneer Transit-Oriented Community Master Plan was completed in 2019 by City Design Studio for Los Angeles Metro. The goal of the master plan was to intensify the station area and the Pioneer Boulevard Corridor and transform the station area into a destination that ensured better access for pedestrians and cyclists. The vision includes buildings that are four to seven stories tall with ground-level retail, commercial offices at the second level, and residential uses on upper floors.

Figure 2.2: TOD SIP - Pioneer Station Illustrative; Source: City Design Studio

2.4 PIONEER STATION

The future Pioneer Station will be located between Pioneer Boulevard and 187th Street, with pedestrian access from both streets. Metro has plans for a potential five-story parking structure south of the station, between Pioneer Boulevard and Corby Avenue. In the preferred design option, 187th Street will terminate at the rail right-of-way and direct vehicular circulation north and south along Corby Avenue, and 186th Street will remain as a continuous street. Figure 2.3 illustrates the Pioneer Station, and Figure 2.4 illustrates Pioneer Boulevard looking south toward the Pioneer Station and parking structure beyond. Figures 2.5 and 2.6 illustrate the preferred design option for station access.

Figure 2.3: Pioneer Station Illustrative; Source: Metro

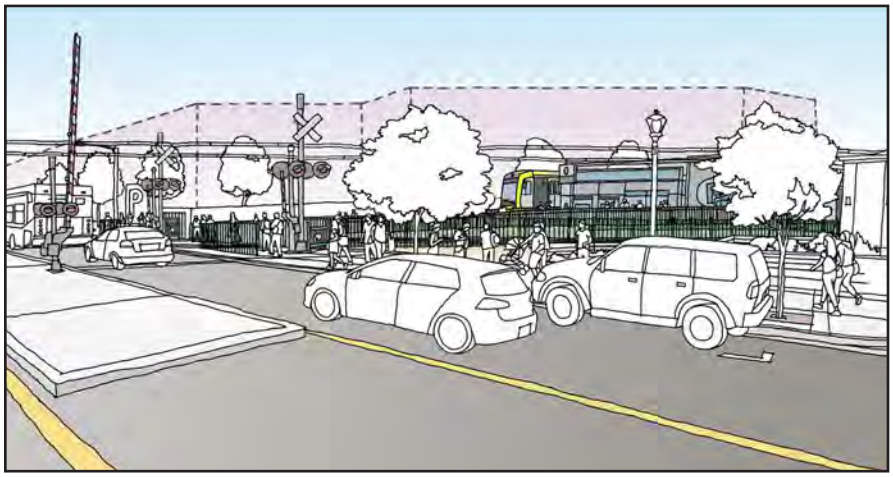

Figure 2.4: Pioneer Station Illustrative; Source: Metro

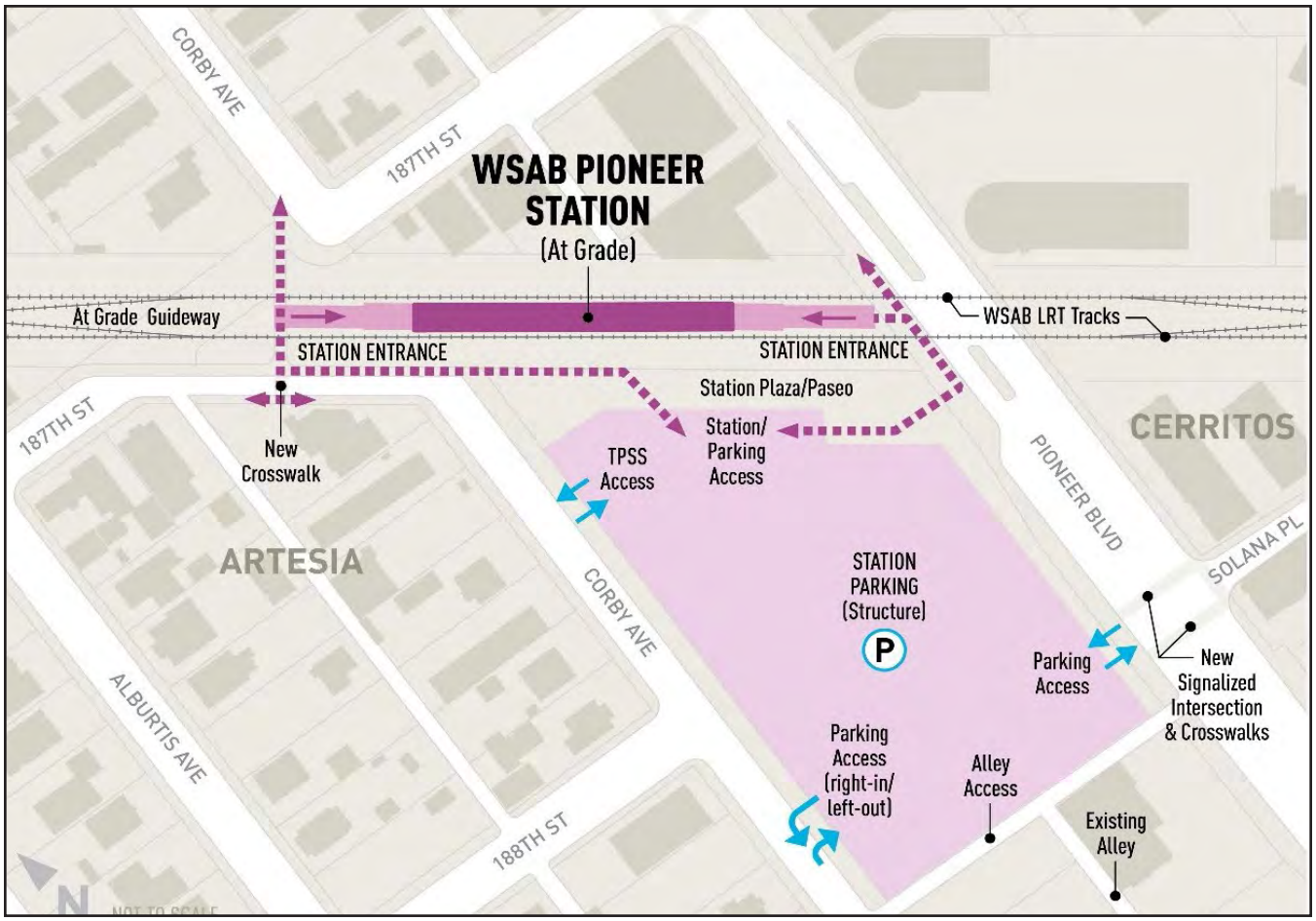

Figure 2.5: Pioneer Station Access; Source: Cityworks Design and WSP

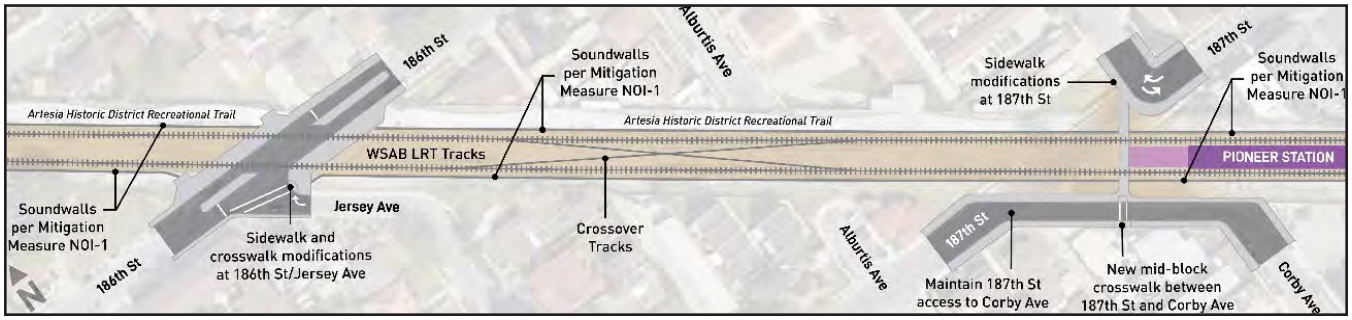

Figure 2.6: Pioneer Station - Proposed Access Alignments; Source: Cityworks Design and WSP

2.5 CASE STUDIES

Studying the benefit of transit in communities of similar size sets the stage for understanding future development opportunities in downtown Artesia. The case studies in this section provide context for retail, community character, housing, and open space in downtown areas where Metro has or plans to establish a stop.

Artesia's transit-oriented future will bring with it many opportunities that can be envisioned through the lens of other downtowns that experienced revitalization through the connection of a Metro station. Downtown Bellflower, Downtown South Pasadena, Downtown Azusa, and Downtown Mountain View in the Bay Area all gained new opportunities for housing, retail and commercial, and entertainment with the development of a Metro station and connection to the greater region. Figure 2.7 shows a cross-section of Pioneer Boulevard at its commercial core between 186th Street and 187th Street. This section of Pioneer Boulevard features generous sidewalks, promoting a safe and comfortable experience for pedestrians. Figure 2.8 displays Downtown Artesia and the existing community assets.

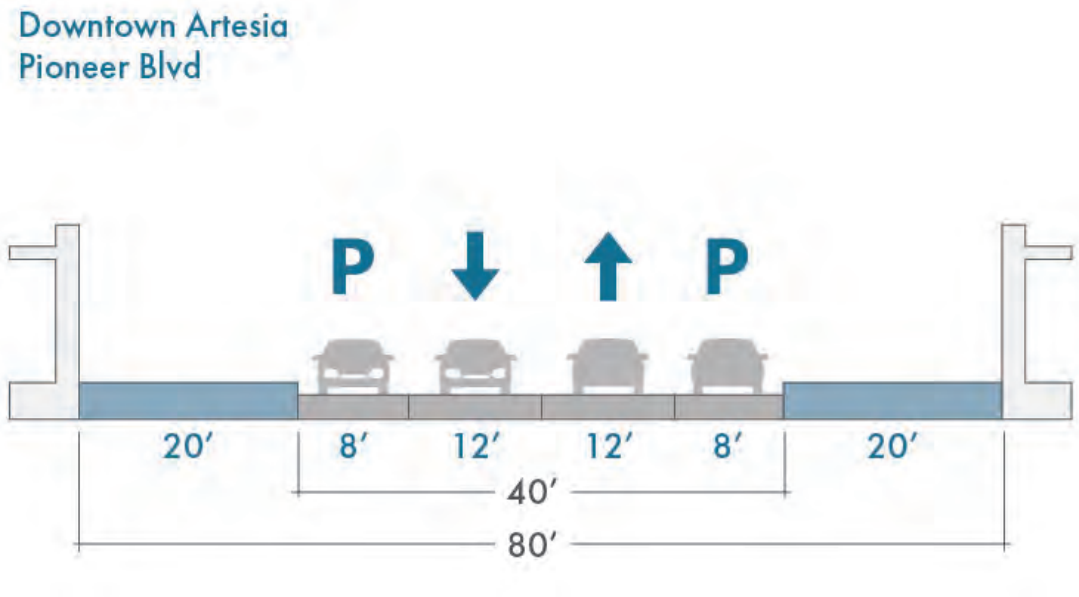

Figure 2.7: Pioneer Boulevard (186th to 187th) Existing Street Section

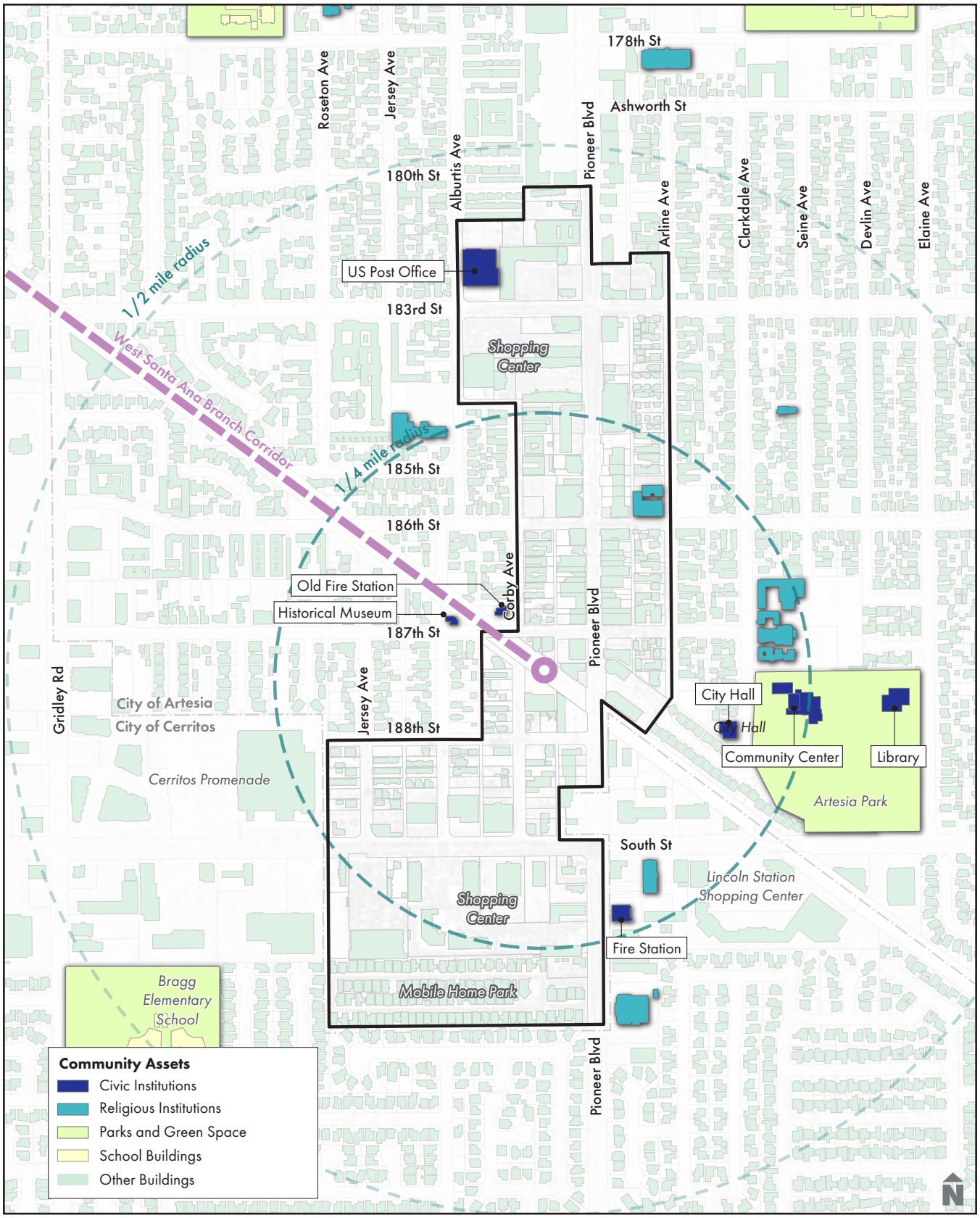

Figure 2.8: Downtown Artesia - Community Assets

2.5.1 DOWNTOWN BELLFLOWER

Just across town sits Downtown Bellflower. Like Artesia, Bellflower will also receive a Metro station along the Southeast Gateway Corridor. Downtown Bellflower has an emphasis on dining halls and entertainment, outdoor spaces for events and programming, and preservation of historic resources and sites. Key features are expressed in the photos to the right.

Figure 2.9 displays Downtown Bellflower and the existing community assets. The dark blue shows civic institutions such as city hall, the courthouse, and the library. Light blue denotes cultural and historic buildings such as the theater. The hot pink along Bellflower Boulevard denotes the primary commercial corridor, which has shopping, service businesses, restaurants, and community spaces. The future transit station is marked by the purple circle and dotted line. The green dotted line marks a quarter-mile walking radius from the station, and the teal dotted line marks a half-mile biking radius from the station.

Figure 2.10 shows a typical section of Bellflower Boulevard within the downtown commercial corridor. The total right-of-way width is the same as Pioneer Boulevard at 80', but Bellflower Boulevard sacrifices sidewalk width to accommodate additional travel lanes.

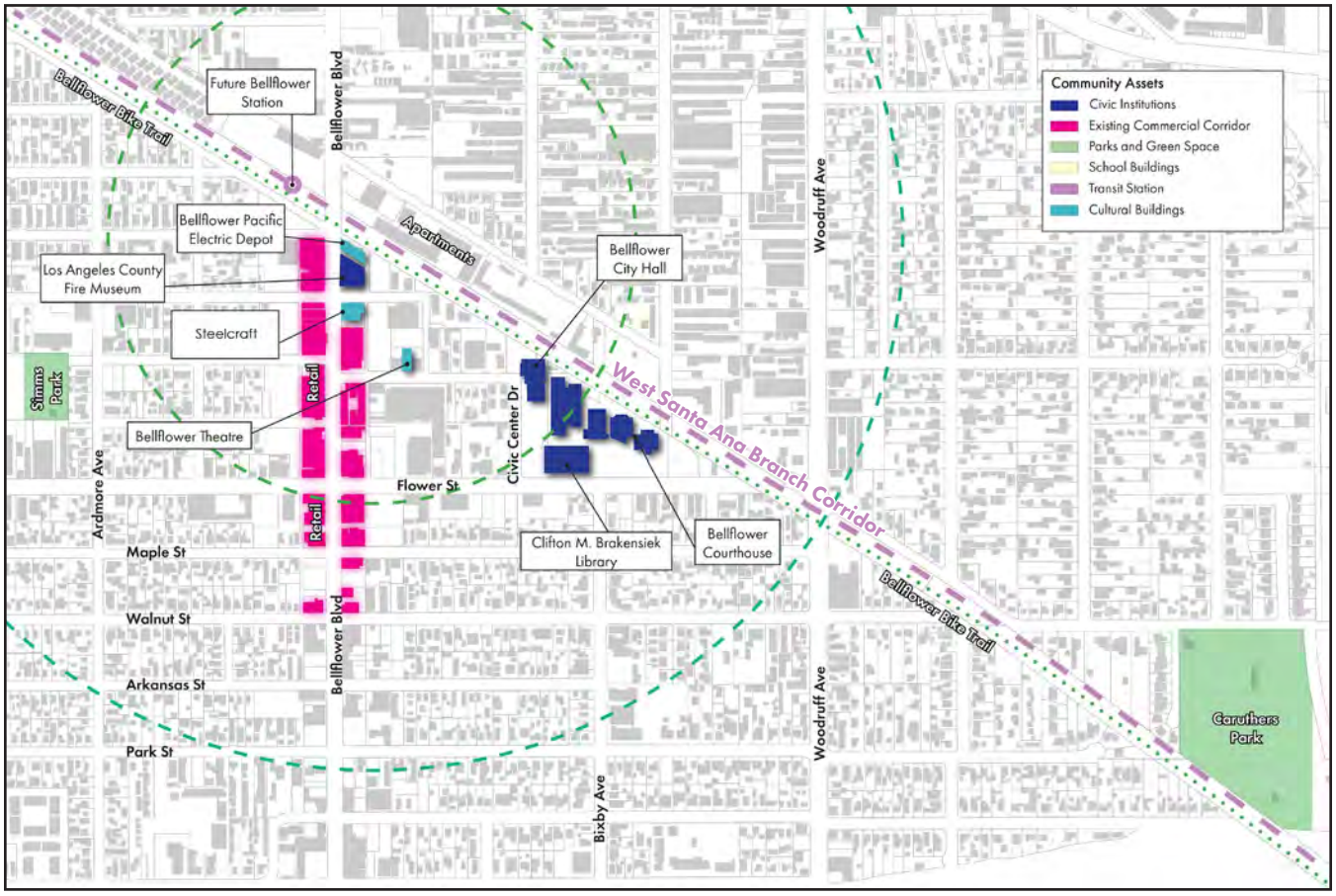

Figure 2.9: Downtown Bellflower

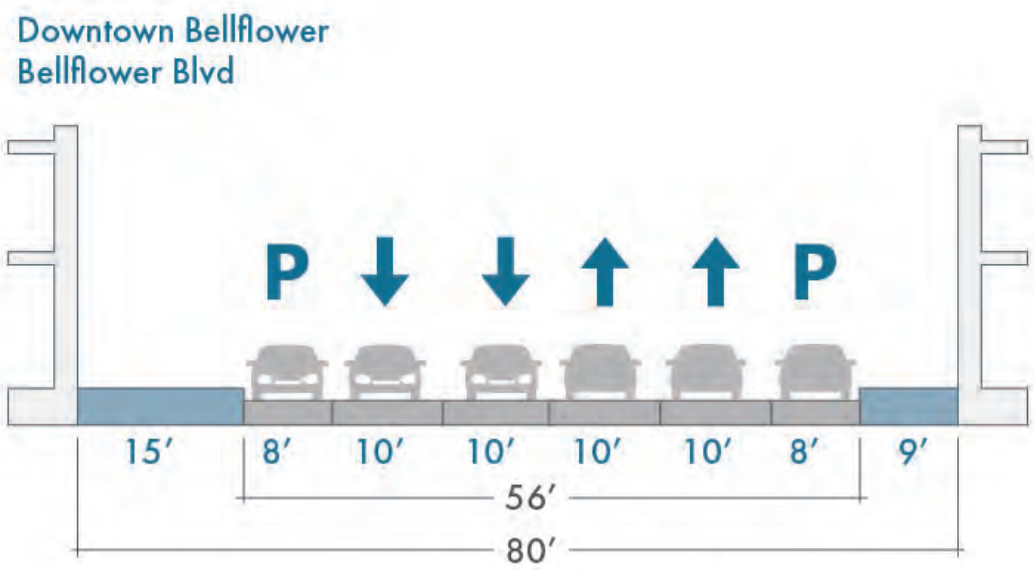

Figure 2.10: Bellflower Boulevard Existing Street Section

2.5.2 DOWNTOWN SOUTH PASADENA

In north Los Angeles County, South Pasadena is known for its quaint charm, local architecture, and walkability.

Downtown South Pasadena is a walkable area with access to the Metro A Line, which runs directly to downtown. Key features of South Pasadena are expressed in the photos to the right.

Figure 2.11 displays Downtown South Pasadena and the existing community assets. Dark blue shows civic institutions such as city hall and the fire department. Light blue denotes cultural and historic buildings such as the historical district. The hot pink along Mission Street and Fair Oaks Avenue denotes the primary commercial corridor, which has shopping, service businesses, restaurants, and community spaces. The transit station is marked by the purple circle and dotted line. The green dotted line marks a quarter-mile walking radius from the station, and the teal dotted line marks a half-mile biking radius from the station.

Mission Street in Downtown South Pasadena has a narrower total right-of-way and wider curb-to-curb width when compared to Pioneer Boulevard (Figure 2.12). Although commercial buildings front the sidewalk with minimal setbacks, the street configuration and scale presents a more auto-oriented experience.

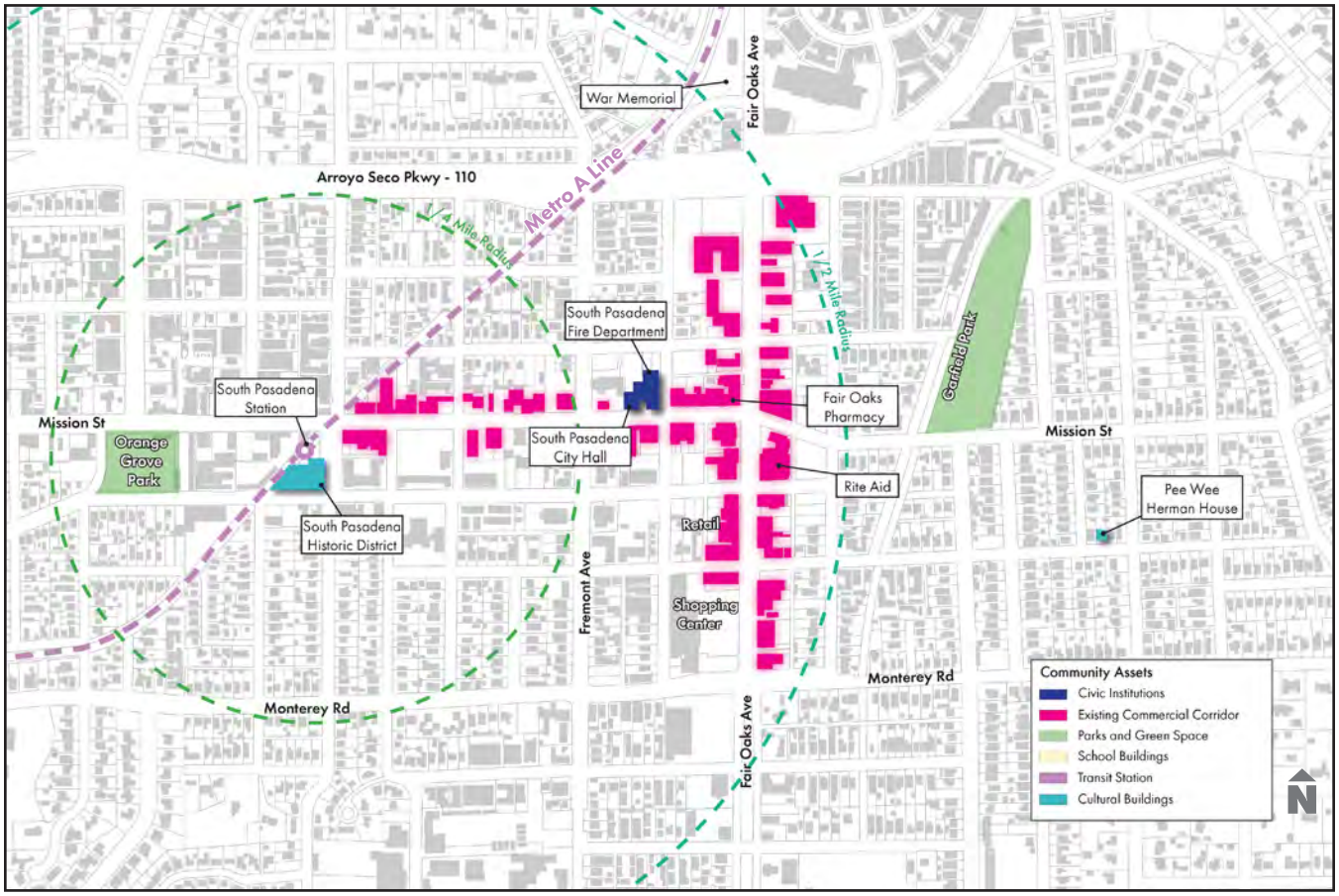

Figure 2.11: Downtown South Pasadena

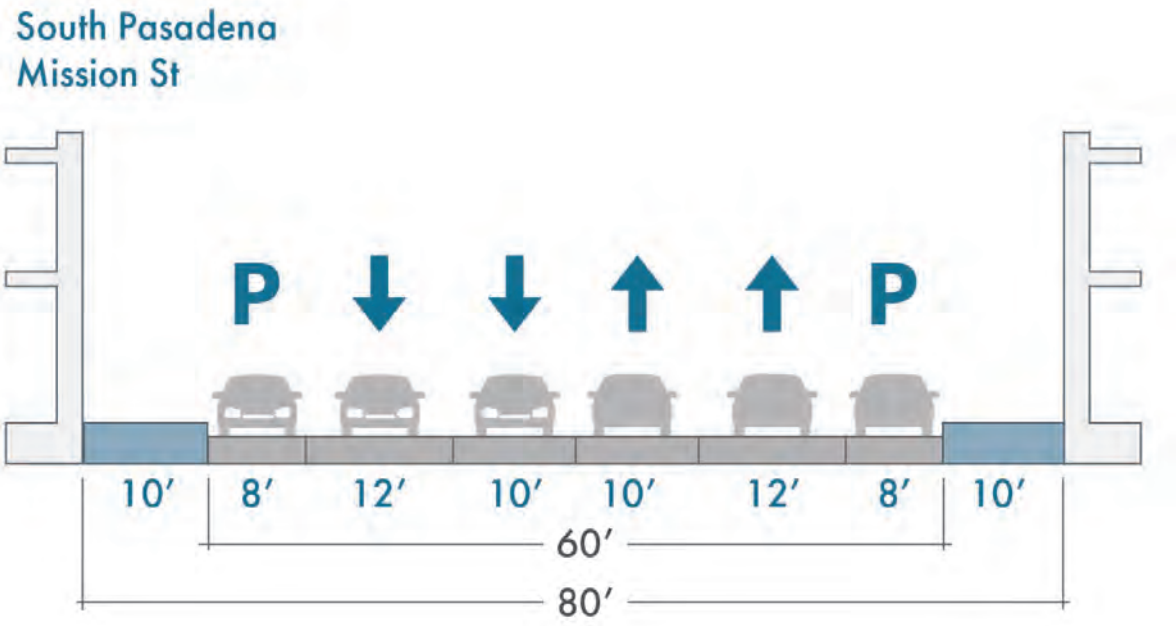

Figure 2.12: Mission Street Existing Street Section

2.5.3 DOWNTOWN AZUSA

In northeast Los Angeles County sits downtown Azusa, where the A Line extends from Azusa through Downtown LA to Long Beach. Downtown Azusa is near Azusa Pacific University, and various restaurants and stores in downtown cater to a wide demographic. Key features of the area are expressed in the photos to the right.

Figure 2.13 displays Downtown Azusa and the existing community assets. The dark blue shows civic institutions such as city hall, the police department, and the library. Light blue denotes cultural and historic buildings. The hot pink along Azusa Avenue denotes the primary commercial corridor, which includes shopping, service businesses, restaurants, and community spaces. The transit station is marked by the purple circle and dotted line. The green dotted line marks a quarter-mile walking radius from the station, and the teal dotted line marks a half-mile biking radius from the station.

Figure 2.14 shows a typical street section of Azusa Avenue in Downtown Azusa. Sidewalk widths are generous at 10 to 12 feet to provide for a comfortable pedestrian experience. The street configuration includes one travel lane in each direction, a parking lane, and an angled parking lane.

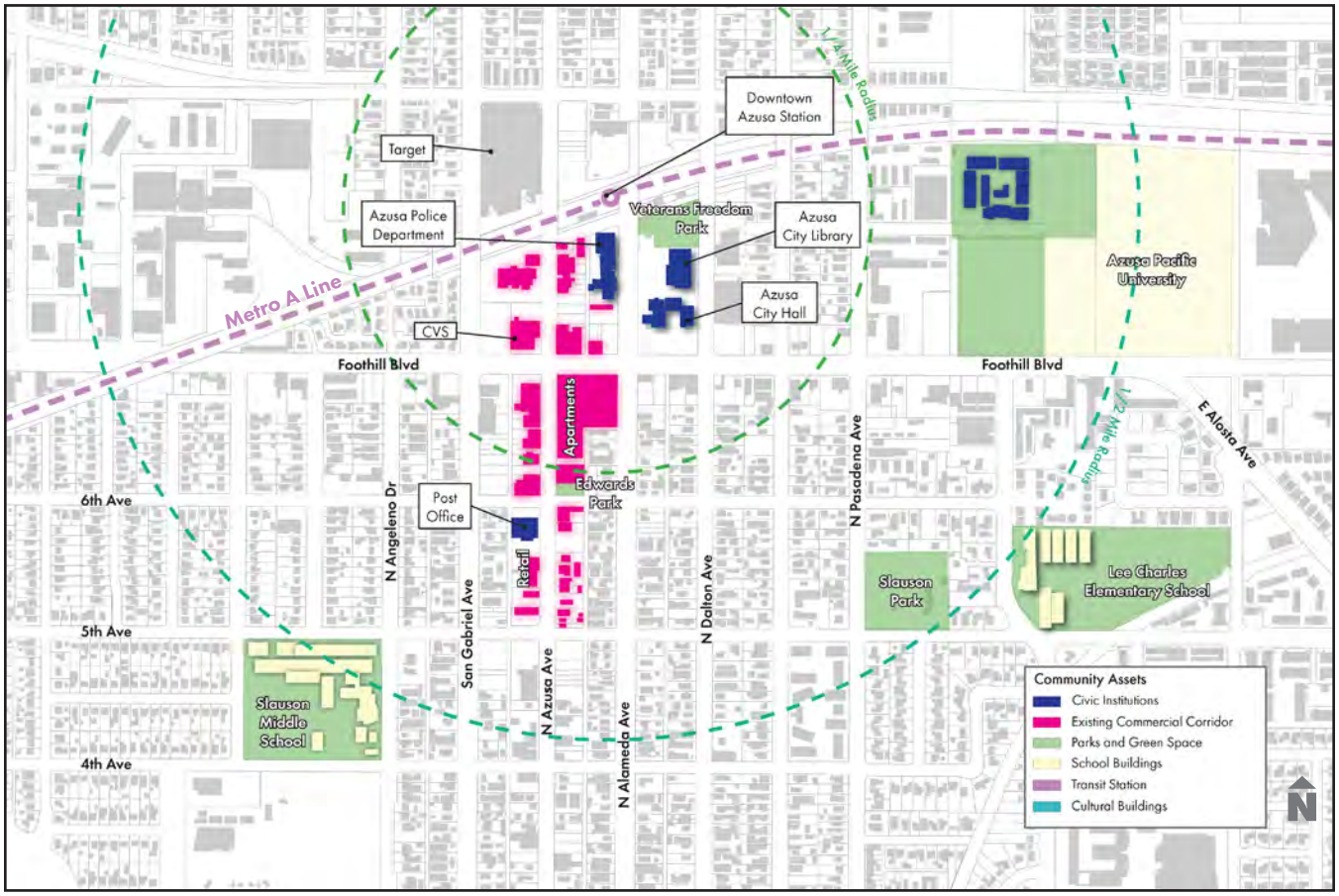

Figure 2.13: Downtown Azusa

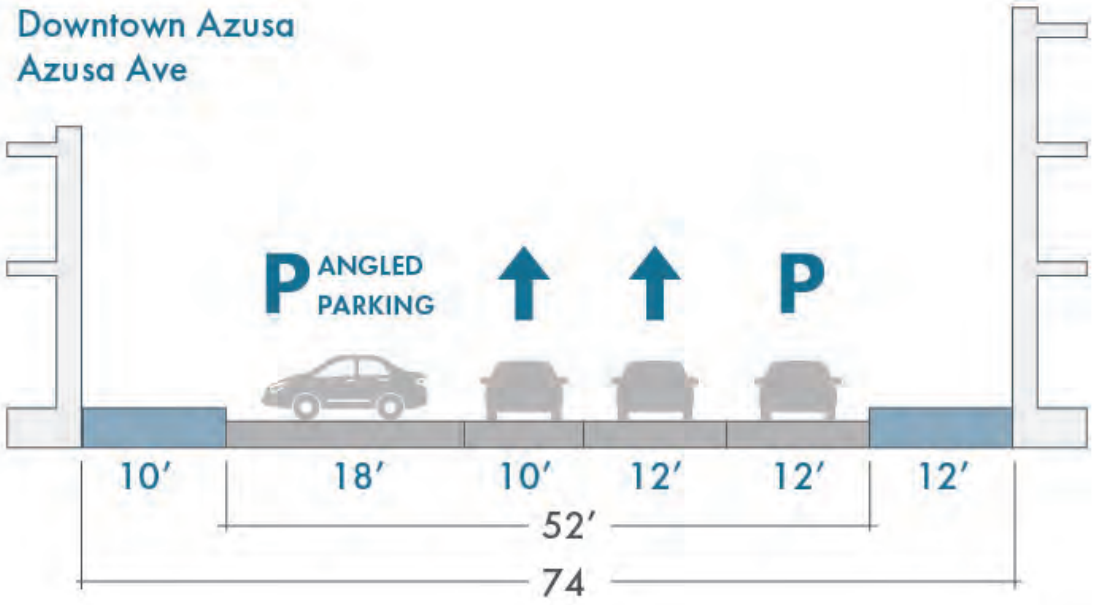

Figure 2.14: Azusa Avenue Existing Street Section

2.5.4 DOWNTOWN MOUNTAIN VIEW

Source: Aleh Haiko, CC BY-SA 3.0, https://commons.wikimedia.org

In Santa Clara County, Downtown Mountain View sits at the terminus of the Orange Line, part of the Santa Clara Valley Light Rail System. The Orange Line runs from Downtown Mountain View to Alum Rock. The Downtown Mountain View Transit Station connects to the regional Caltrain Line and other local transit connections.

Figure 2.14 displays Downtown Mountain View and the existing community assets. The dark blue shows civic institutions such as city hall, the police department, and the library. Light blue denotes cultural and historic buildings. The hot pink along Castro Street denotes the primary commercial corridor, which includes shopping, service businesses, restaurants, and community spaces. The transit station is marked by the purple circle and dotted line. The green dotted line marks a quarter-mile walking radius from the station, and the teal dotted line marks a half-mile biking radius from the station.

Figure 2.15 shows a typical street section of Castro Street in Downtown Mountain View. The street configuration includes 10' sidewalks, one parking and one travel lane in each direction, and a center turn lane. Street trees and low walls and planters integrated into the streetscape create buffers between vehicles and pedestrians.

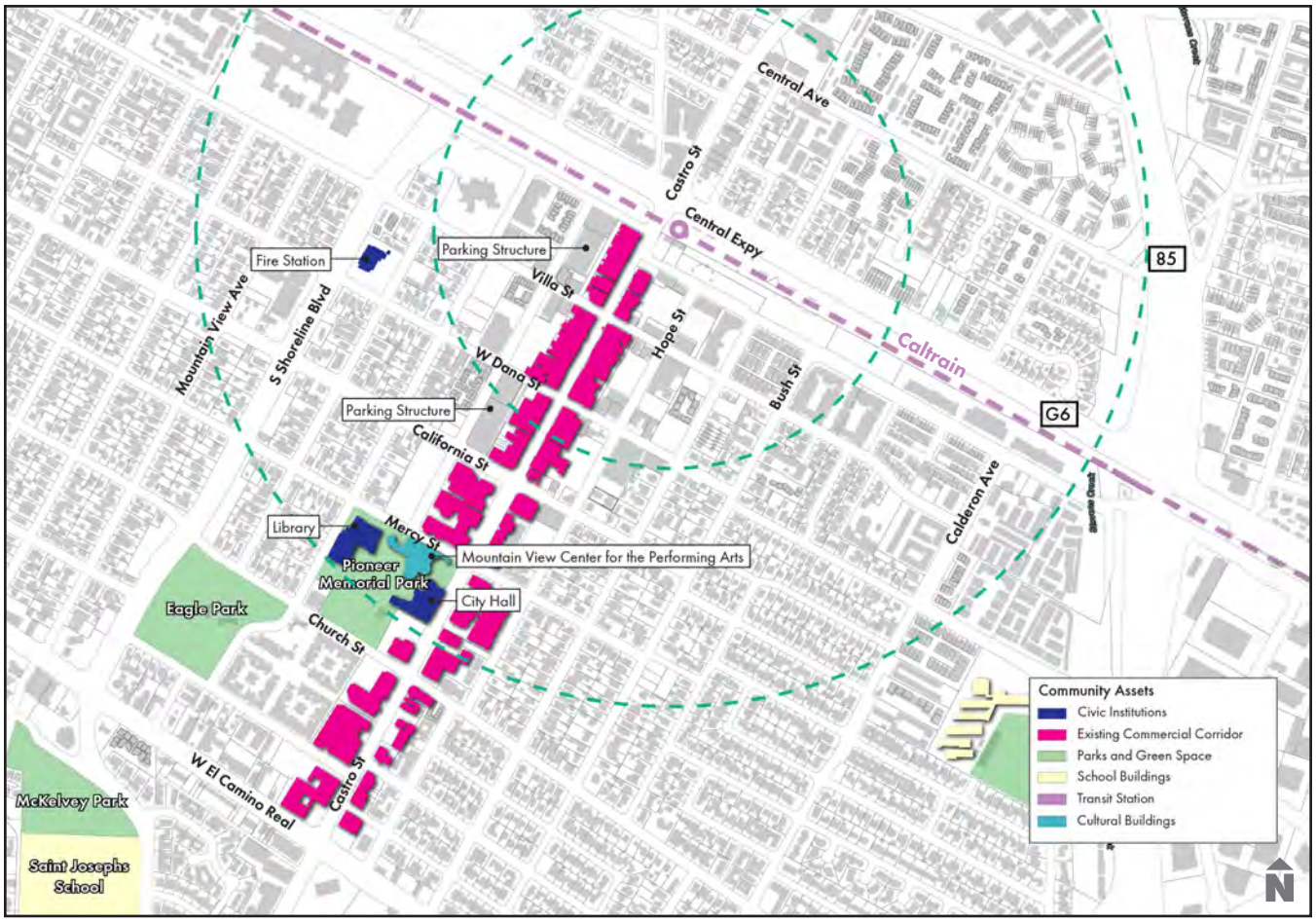

Figure 2.14: Downtown Mountain View

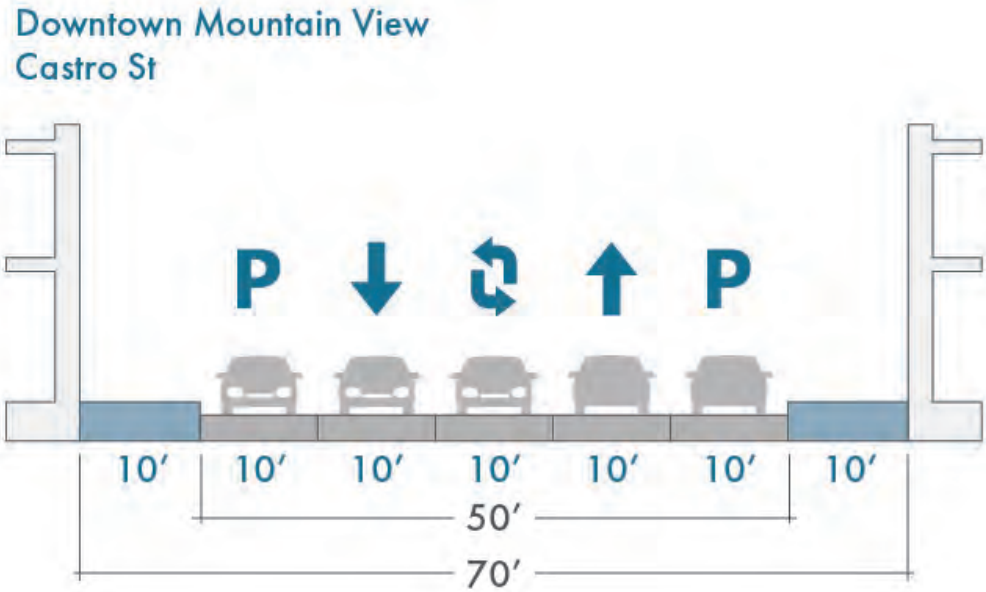

Figure 2.15: Castro Street Existing Street Section

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3 DOWNTOWN TODAY

3.1 EXISTING CONDITIONS

Understanding and analyzing the existing conditions of Downtown Artesia is an essential step to creating a plan that supports existing residents and businesses while increasing the opportunity in the area. This chapter provides an overview of existing conditions. A detailed existing conditions report is included in Appendix B.

3.1.1 COMMUNITY ASSETS

Community assets include civic institutions, religious institutions, parks and green spaces, and schools. Community assets provide key amenities and services that contribute to healthy and functional neighborhoods.

Civic institutions within a 1/2 mile of the future Pioneer Station include Artesia City Hall, Albert O. Little Community Center, Artesia Library, a fire station, historical museums, and a post office. The post office is at the northern end of the study area. Artesia Park is the only park within walking distance from the future Metro station. Refer to Figure 2.8.

3.1.2 LAND USE REGULATIONS

Under the General Plan and Zoning, the downtown currently allows a mix of uses. Commercial General zone designations are focused along Pioneer Boulevard, 183rd Street, and South Street. Light Manufacturing/ Industrial zone designations are located south of the future rail station along Corby Avenue. Multi-family Residential designations are found along Corby Avenue and Airline Avenue. The area south of South Street is designated Commercial Planned Development and South Street Specific Plan.

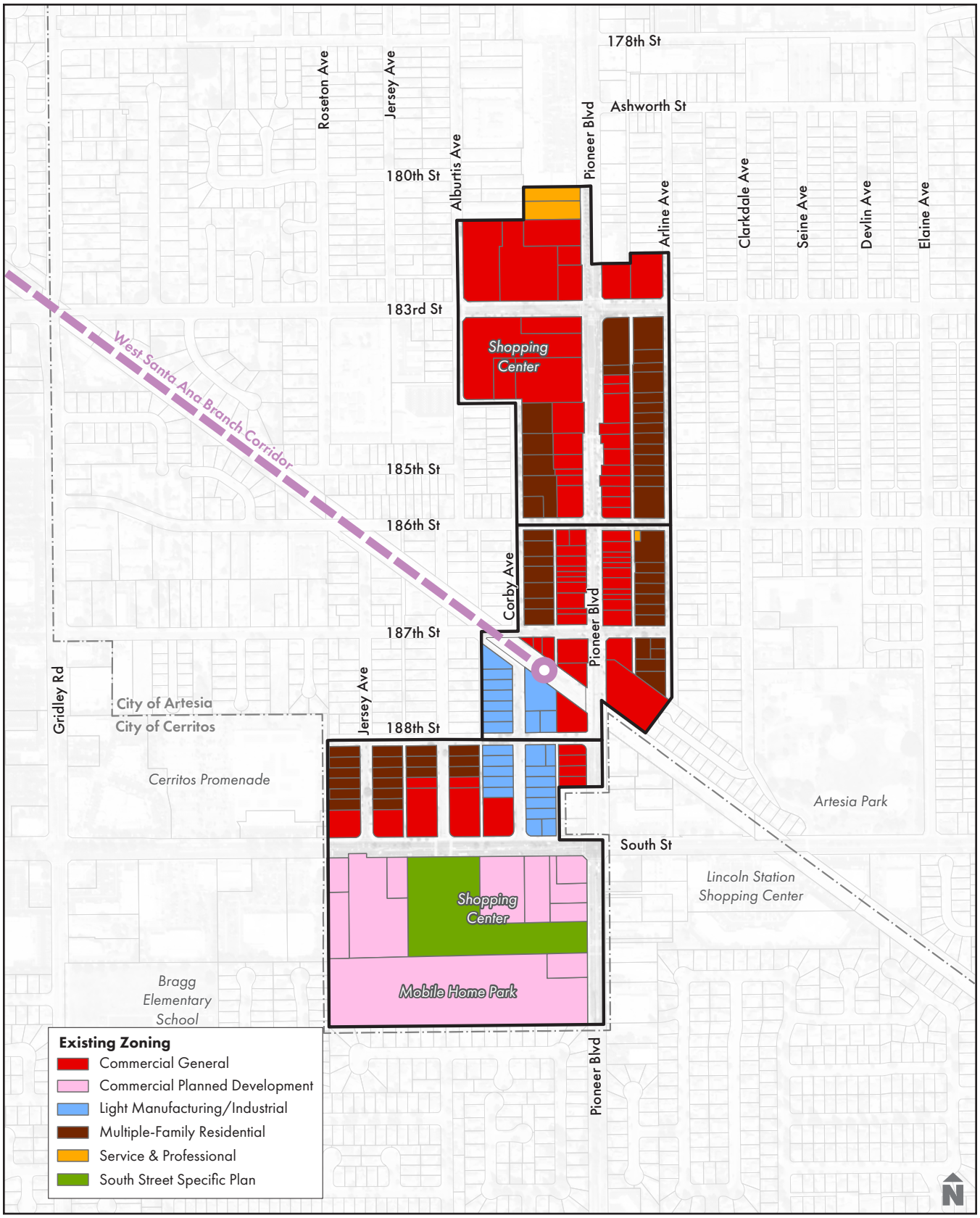

Figure 3.1: Existing Zoning

3.1.3 COMMUNITY CHARACTER

Various streetscape, building scale, and landscape features shape Downtown Artesia. The Existing Conditions Report in Appendix A takes a deep dive into the implications of these features.

38%

of all property lots are surface parking lots

Parking

A significant amount of land is dedicated to cars in Downtown Artesia; specifically, parking occupies 23 percent of the total plan area. In accordance with Assembly Bill 2097 (AB 2097), California law prohibits public agencies or cities from imposing a minimum automobile parking requirement on most development projects within a half-mile radius of a major transit stop. The entirety of the Specific Plan study area falls within a half-mile radius of the future Pioneer Boulevard station; therefore, any development in the study area would not have parking requirements once the Metro station is complete, consistent with the requirements of AB 2097.

The Scale of Downtown

Human scale refers to buildings and streets that relate to the scale of a person and is often an indicator of good design. Scale is generally determined by the size of lots, frontages, and buildings. In Artesia, over 30 percent of the lots in downtown are less than 20,000 square feet. While smaller lots lend themselves to smaller and more "human-scale" development, the larger lots with comparatively smaller building footprints create more redevelopment opportunities. In the specific plan boundary, the largest lots have lot coverages below 50 percent, largely a result of extensive surface parking lots. Figure 3.2 shows the distribution of lot sizes within the Specific Plan area.

In addition to scale, walkability is another important indicator of good design. Lot width, building frontage, and landscape are all features that can encourage a more walkable environment. In Downtown the average lot width is only 72 feet, reflective of a time when desirability of having a business on the main street and as many businesses as possible led to very narrow retail parcels.

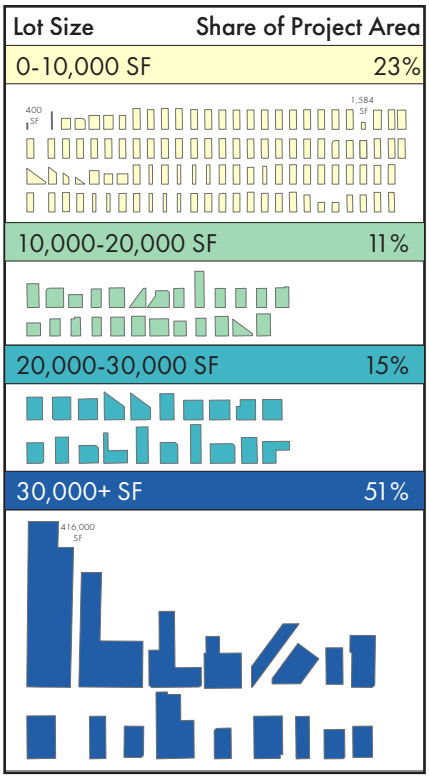

Figure 3.2: Lot Size

Figure 3.3: Street Width

Street Design

Street width influences the physical and perceived scale of the street. Narrower street widths help slow vehicular traffic and create a comfortable pedestrian environment. Wider street widths encourage higher traffic speeds, which can create uncomfortable conditions for pedestrians and bicyclists. The narrowest portion of Pioneer Boulevard sits between 186th Street and 187th Street—as the street extends both north and south it widens to accommodate more cars.

3.1.4 ACTIVATING DOWNTOWN

Features such as well-designed streetscape, connected and close building frontages, and walkability create an inviting and engaging downtown. Currently, portions of Downtown Artesia create a walkable environment, and others must be updated to achieve these features.

Ground-Floor Activation

Ground-floor activation refers to the frequency of sidewalk-fronting entrances. In downtown Artesia, the block between 186th and 187th Streets demonstrates high ground-floor activation, with 3.2 sidewalk entries per 100 ft. of street frontage. On average, there is a door to the sidewalk every 33 feet. Between 183rd and 186th Streets the number of sidewalk entries is halved to 1.4 per 100 feet of street frontage—a significant reduction. In general, the lower the ratio of entries to distance, the less activated and engaging the streetscape.

3.1.5 EXISTING HOUSING

While most of the uses fronting Pioneer are retail and commercial, there are larger portions of the specific plan boundary that include existing residential uses. There are five common residential typologies in the residential areas of the specific plan area.

- Townhomes
- Bungalow Apartments
- Courtyard Apartments
- Single Family Homes
- Mobile Homes

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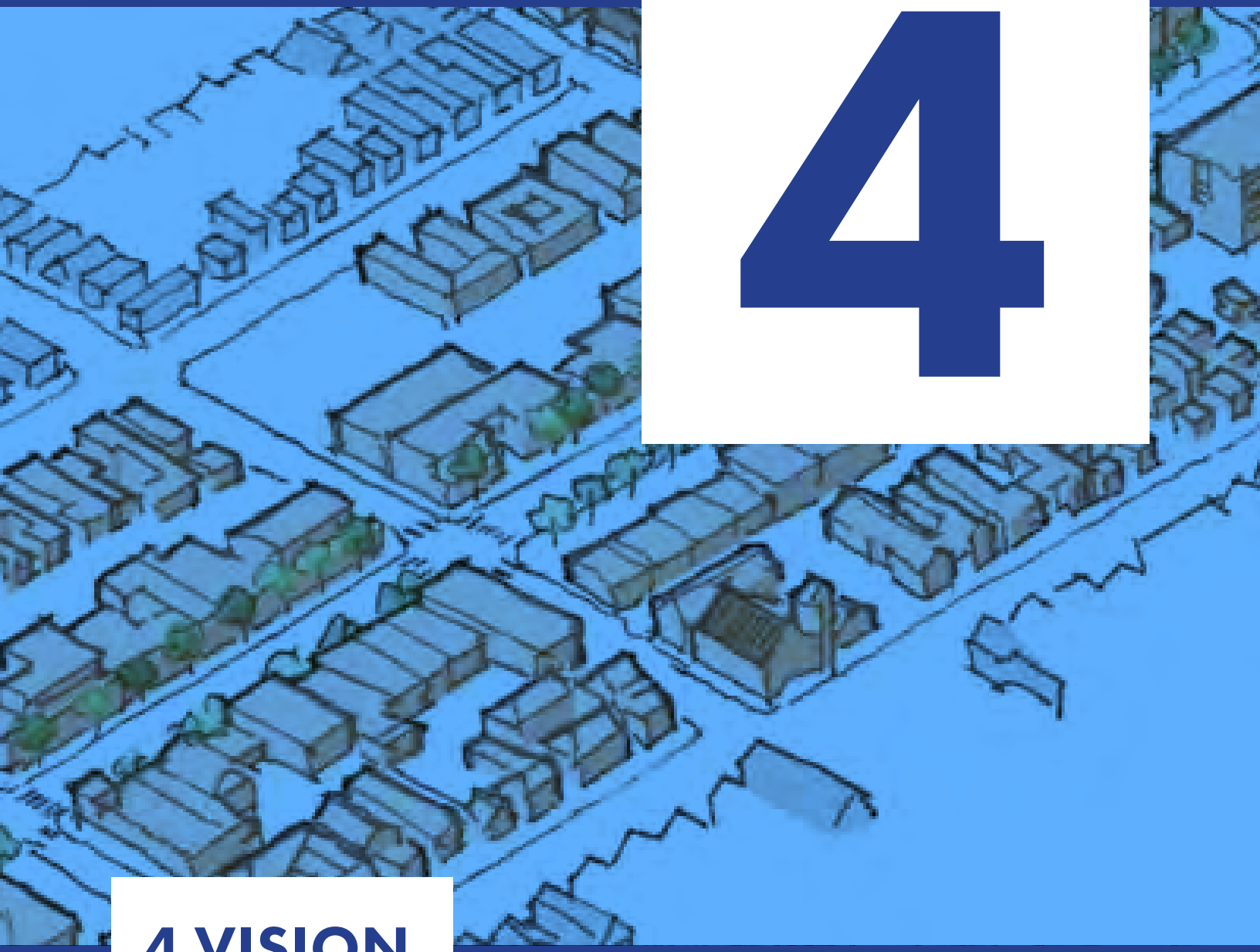


4 VISION

4.1 WHAT IS A VISION

The vision describes the goals for how growth and development will occur in Downtown Artesia over the next 20-plus years. The vision is aspirational as new developments and transportation services create opportunities to enhance Downtown's character and encourage business success. With the future Metro Line on the horizon—likely encouraging new investment, with entrepreneurs and property owners bringing buildings back to life, and economic trends that favor downtown settings—it is time to reset expectations for Artesia.

4.2 THE VISION

The vision for Downtown Artesia reflects community values and needs. Through engagement with the community, local business owners, and elected officials, the visions for Artesia's Downtown took shape.

The Artesia Downtown Specific Plan will establish strategic land use designations to connect the community to housing, jobs, and recreation; create a connected business district to facilitate new economic opportunities; build a vibrant and scenic downtown reflective of a diverse community; beautify downtown through building design, landscape, and art; and enhance streetscapes to increase multimodal accessibility and safety.

The vision for the Artesia Downtown Specific Plan includes five key components:

1. Growth, Land Use and Development
2. Economic Health
3. Community Character
4. Beauty and design
5. Mobility

2023 Trunk or Treat

2024 State of the City

4.3 DEVELOPING THE VISION

Community participation and engagement took many forms throughout the Specific Plan process, including workshops, pop-ups, and online communication.

Community Workshops and Pop-ups

On Saturday August 12, 2023, the City hosted a community open house at the Albert O. Little Community Center. The open house provided participants with the following:

- Project background information and tentative project timeline
- Information about the Vision and Visioning activities
- Case study data to show the impact of transit in downtown communities, including Bellflower, South Pasadena, and Azusa
- Land Use alternative graphics and information

Stakeholder Engagement

In addition to the public open house, the city invited local property owners and business owners to a stakeholder meeting. Hosted virtually on Wednesday, September 13, 2023, the stakeholder meeting provided an in-depth presentation on the project background and Metro grant, existing conditions analysis, and project alternatives. Stakeholders were given the opportunity to ask questions and provide feedback on the alternatives.

Study Sessions

The City provided project updates at study sessions with the Planning Commission and City Council. The Study Sessions included a presentation about the existing conditions, draft and preferred alternatives, and project approach.

Outreach Findings

Key findings from the outreach conducted include:

- Maintain the culture and small business within the downtown.
- Ensure all new development provides appropriate infrastructure and improvements.
- Improve and maintain safety of the downtown area.

4.4 GOALS AND OBJECTIVES

A set of goals is established with the Vision for the Artesia Downtown Specific Plan. Goals are the pathway for plan implementation and direct how the Vision for the plan will be realized. Goals guide development and administration of the plan. The goals are reflective of the five key components of the Vision: Growth, Land Use and Development, Economic Health, Community Character, Beauty and Design, and Mobility.

1. **Connect the community to housing, jobs, and recreation.**
    - New housing options for all household sizes, types, and income levels.
    - A place for community gathering, socializing, and rest.
    - Maintenance of existing local businesses, restaurants, and shopping.
    - Facilitation of housing near retail and shopping.
    - Opportunity for street markets, farmers markets, fairs, pop-ups, and other community-focused events.

2. **Create a connected business district to facilitate new economic opportunities.**
    - New opportunities for essential retail, such as grocery stores.
    - Focused preservation of local business ownership on Pioneer Boulevard.
    - Attract new restaurants, retail, and other commercial industries.
    - Allow for office and business park with a focus on companies that will provide technical jobs.
    - Expand the job market and job opportunities in Artesia.

3. **Encourage a vibrant and scenic downtown reflective of a diverse community.**
    - Downtown businesses that reflect the diverse and multi-cultural populations of Artesia.
    - Affirm community character and culture through restaurants, retail, and design.

- Restore and reuse buildings and places of historical or cultural significance.
- Support diverse businesses such as multicultural food options, nightlife, cafes, entertainment, and boutique shops.

4. **Beautify Downtown Artesia through building design, landscape, and art.**
   - Implement standards that encourage high quality design.
   - Encourage design that is reflective of the diverse community.
   - Improve community experience in public spaces through landscape design and greening practices.
   - Improve community experience in public spaces through public art.
   - Use murals, outdoor galleries, installations, and pop-ups to enhance the downtown environment.

5. **Enhance connectivity and streetscapes to increase multimodal accessibility and safety.**
   - A place where streets, paseos, and alleys offer safe and convenient ways to get around for people visiting, working, or living in the Downtown.
   - Walkable urban settings that encourage safe biking and walking.
   - New walking and biking paths to connect existing and new housing and retail to the future Metro station.
   - Strategic lighting to increase safety and encourage use of the downtown in the evenings and at night.

6. **Plan for and build a transit ready Downtown Artesia.**
   - Incentivize and encourage transit oriented development in key areas in Downtown.
   - Establish appropriate standards and requirements to ensure smooth and safe access to the new station.
   - Create a safe and equitable transit experience through quality sidewalk, roadway, and multi-modal design.

4.5 CASE STUDY TAKEAWAYS

The downtown districts in Bellflower, South Pasadena, Azusa, and Mountain View were selected and studied due to similarities with Artesia. The case studies provided a phased understanding of how a downtown district can transform with the a new station.

Azusa and South Pasadena exemplify the growth and development that occurs when community members are connected to a broader job market but able to remain in a current residence—providing a greater understanding of the potential for Downtown Artesia.

Bellflower, a nearby city with similar characteristics to Artesia, provides a window into another city preparing for a new station. Key opportunities in development, challenges in land use and regulation, and studies of future uses help to identify similar opportunities and challenges in the City.

The information analyzed and gathered from the Case Study Cities, in partnership with outreach, input form stakeholders, and community members, shaped the concept vision for the future of Downtown Artesia.

4.6 CONCEPT VISION

The conceptual vision for Downtown Artesia is illustrated in Figure 4.1. Residential uses are preserved along Corby Avenue, Airline Avenue, and at the mobile home park at the south end of Downtown. Large commercial parcels along 183rd Street and South Street present opportunities for new 4- to 5-story mixed-use development, creating gateway anchors at the north and south ends of Downtown. The Downtown core connects the north and south anchors with small-scale boutique shopping, dining, and entertainment, in a manner analogous to traditional shopping malls anchored by department stores. In addition to the existing on-street parking, additional parking is provided via parking structures adjacent to the transit station and at the north gateway to accommodate visitors arriving southbound along Pioneer Boulevard from the 91 freeway. The area south of 188th Street and west of Corby Avenue includes infill development with low-intensity residential and commercial office and retail uses that complement the residential character of the neighborhood.

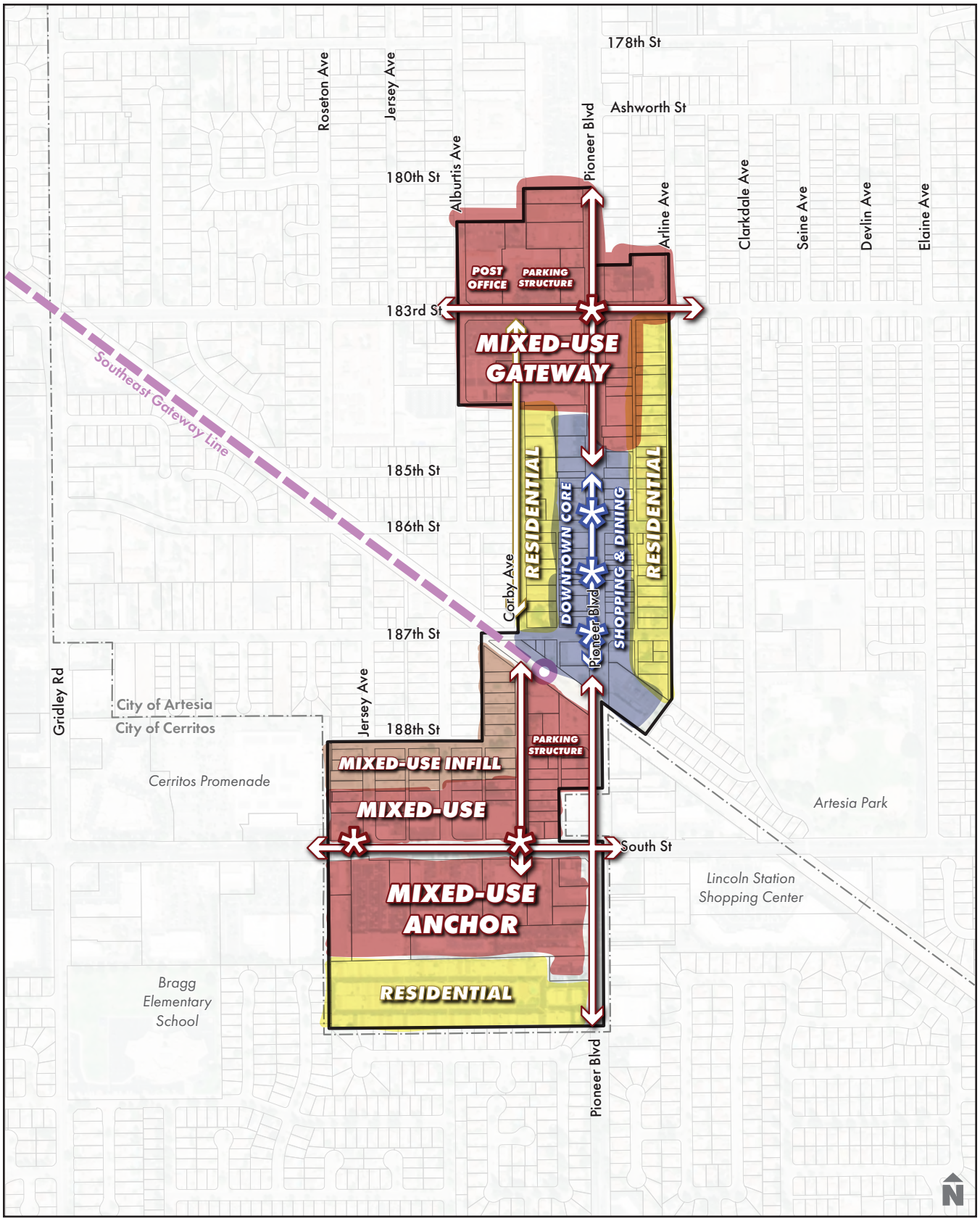


Figure 4.1: Concept Plan

4.7 FOCUS AREA DIAGRAMS

Two focus areas were selected to explore site alternative development concepts. These areas were selected based on parcels with high development opportunity potential (see Existing Conditions Assessment in Appendix B).

The North Focus Area includes the area west of Pioneer Boulevard and north of 184th Street in the Specific Plan Area. The area includes 12 acres and 11 parcels. The City of Artesia owns the Artesia Towne Center retail property adjacent to the US Post Office. A Jack in the Box drive-through restaurant sits at the northwest corner of the 183rd Street and Pioneer Boulevard intersection.

The South Focus Area includes the properties on the south of South Street, north of the mobile home park, in the Specific Plan boundary. The focus area is 24 acres and 12 individually owned parcels.

The concept alternatives that follow do not prescribe or presume specific development at this time. Rather, they illustrate the investment opportunities of Downtown Artesia and inform the creation of zoning regulations and standards in the future Artesia Downtown Specific Plan.

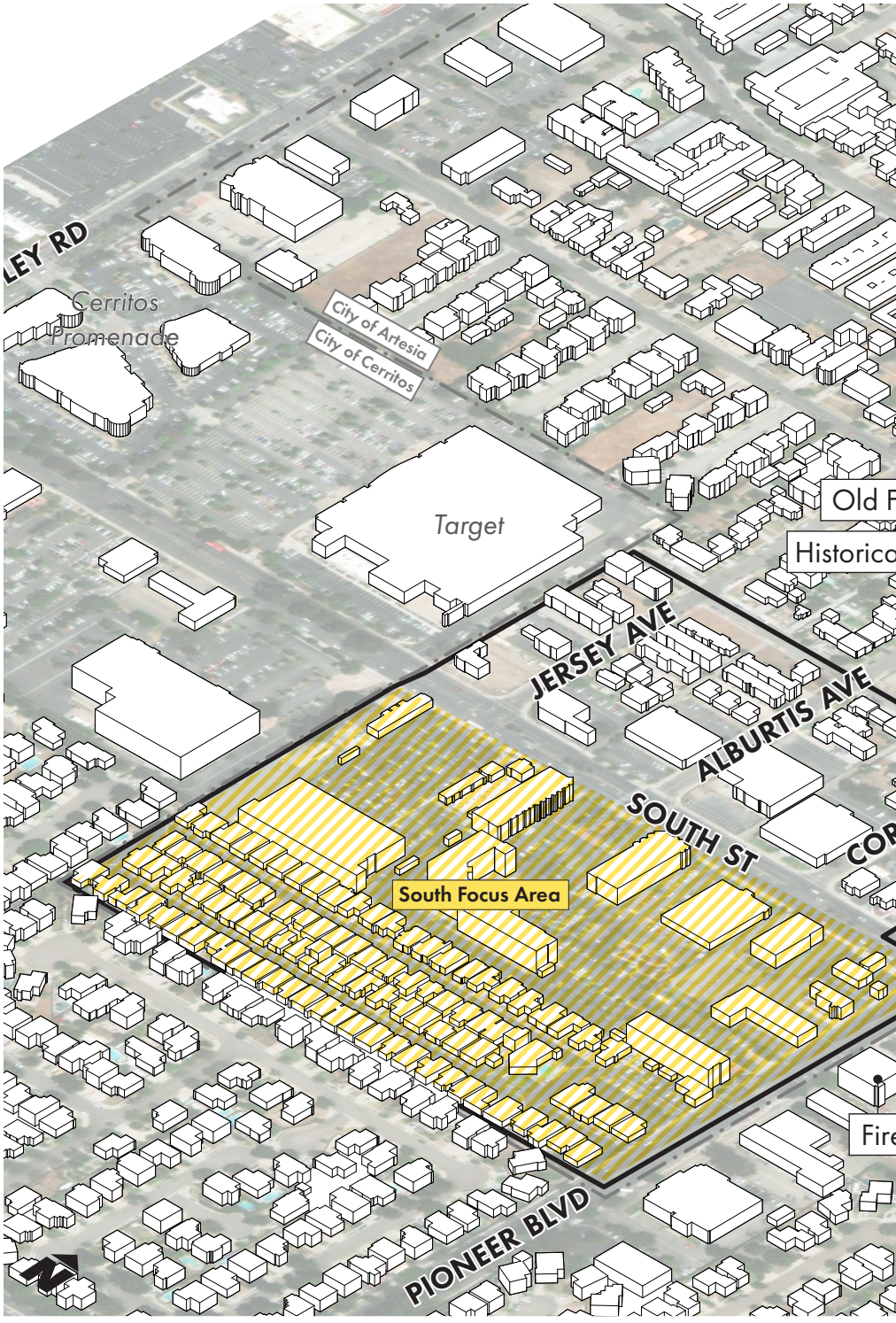
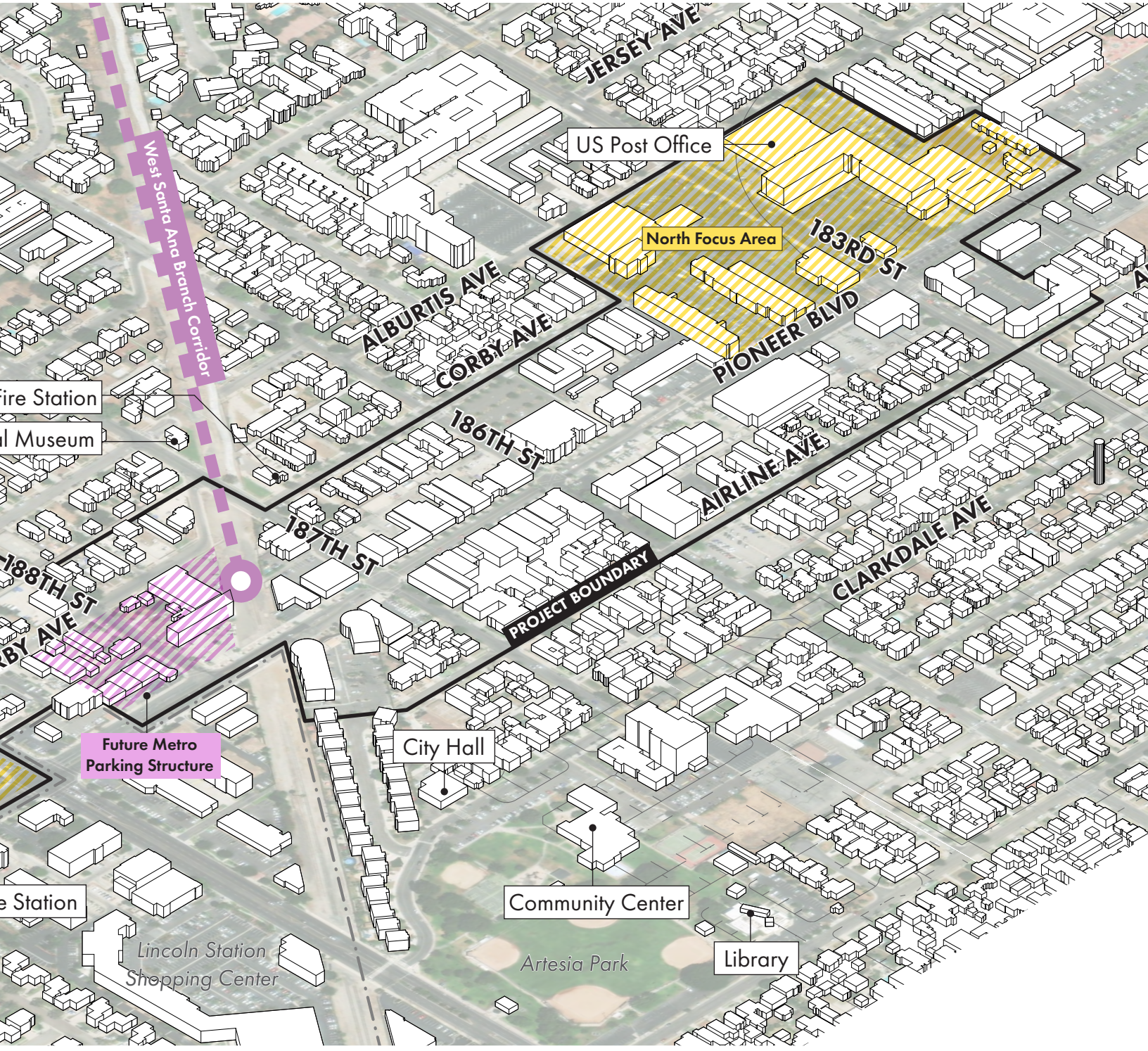


Figure 4.2: Focus Areas


JERSEY AVE
US Post Office
West Santa Ana Branch Corridor
North Focus Area
183RD ST
ALBURTIS AVE
CORBY AVE
PIONEER BLVD
Fire Station
l Museum
186TH ST
AIRLINE AVE
187TH ST
188TH ST
RBY AVE
PROJECT BOUNDARY
CLARKDALE AVE
Future Metro
Parking Structure
City Hall
e Station
Community Center
Lincoln Station
Shopping Center
Artesia Park
Library

4.7.1 SOUTH FOCUS AREA

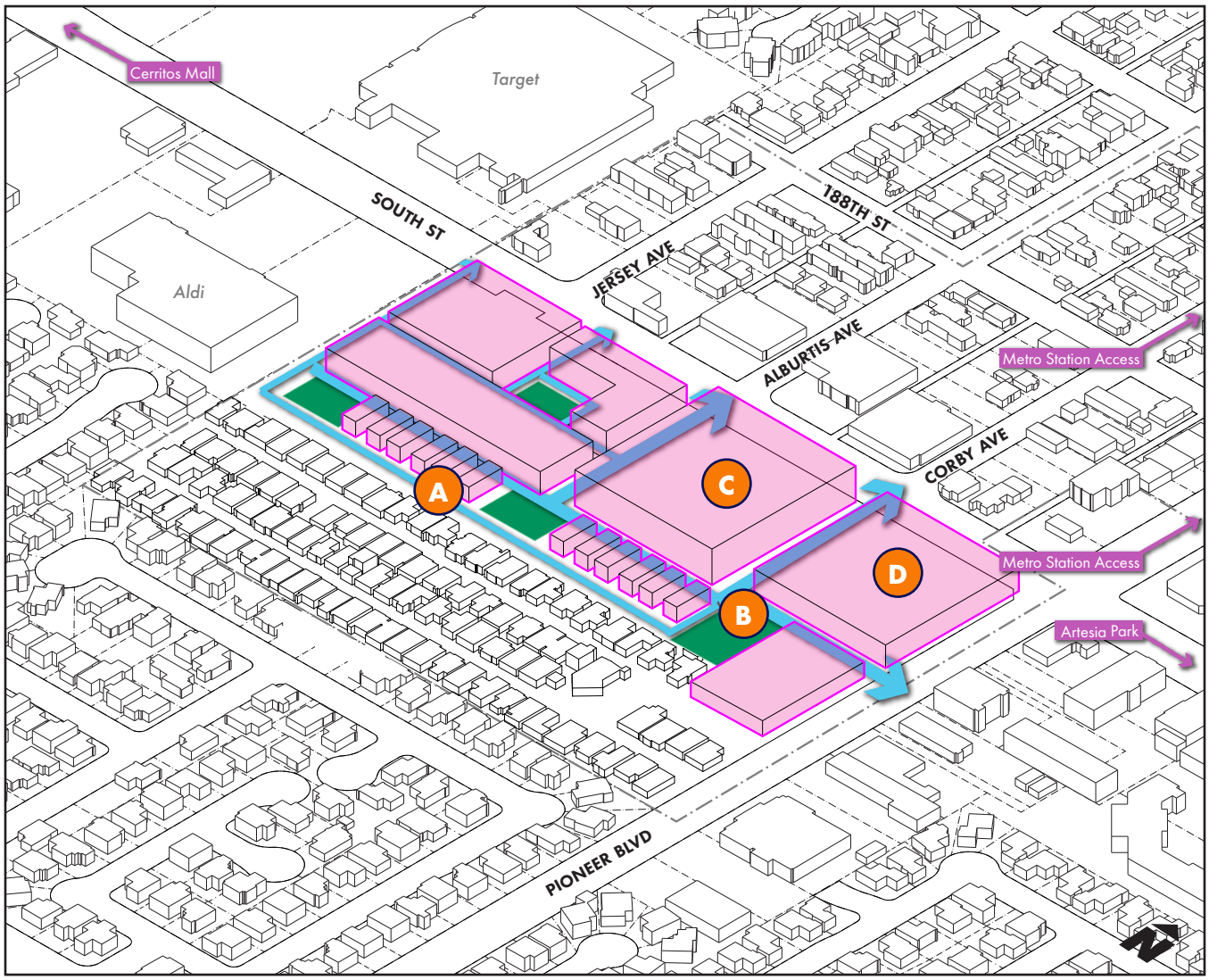


Figure 4.3: South Focus Area

Overview

A network of pedestrian paths fronted by mixed-use buildings with ground-level retail bring life and activity to the South Focus Area. A system of connected open spaces provides access to diverse recreational amenities for residents and neighbors. Three-story townhomes (Site A) provide a buffer and transition between the existing mobile home park and new 4- to 5-story mixed use and residential development (Sites C and D) facing South Street. Site D is a prime location for a Downtown hotel due to its proximity to the future Metro station and easy connections to the 605 freeway via South Street and the 91 freeway via Pioneer Boulevard.

Figure 4.4: Precedent Imagery

Figure 4.5: Precedent Imagery

Figure 4.6: Precedent Imagery

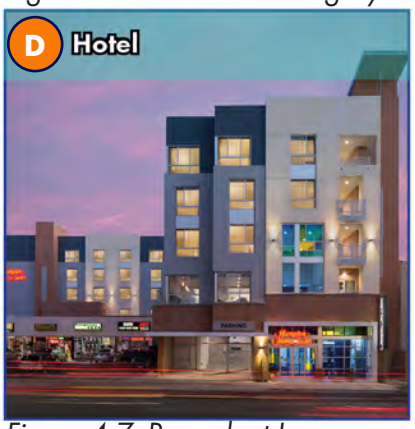


Figure 4.7: Precedent Imagery

Key Concepts

The following concepts outline development opportunities for the South Focus Area, as shown in Figure 4.3; each is conceptual and based on an urban design analysis of Downtown Artesia.

- Preserves existing mobile home park uses.
- Street grid system is flexible, and scale of blocks can be tailored to existing property lines, including potential lot consolidation.
- New streets connect to the future Metro station at Corby Avenue and Alburtis Avenue, enabling convenient pedestrian access.
- Configuration of open spaces is tailored to individual developments.
- Townhome development provides buffer and transition bet ween the existing mobile home park and new 4- to 5-story mixed use and residential development toward South Street.
- New townhomes provide ownership opportunities.
- New hotel provides tax revenue.

4.7.2 NORTH FOCUS AREA

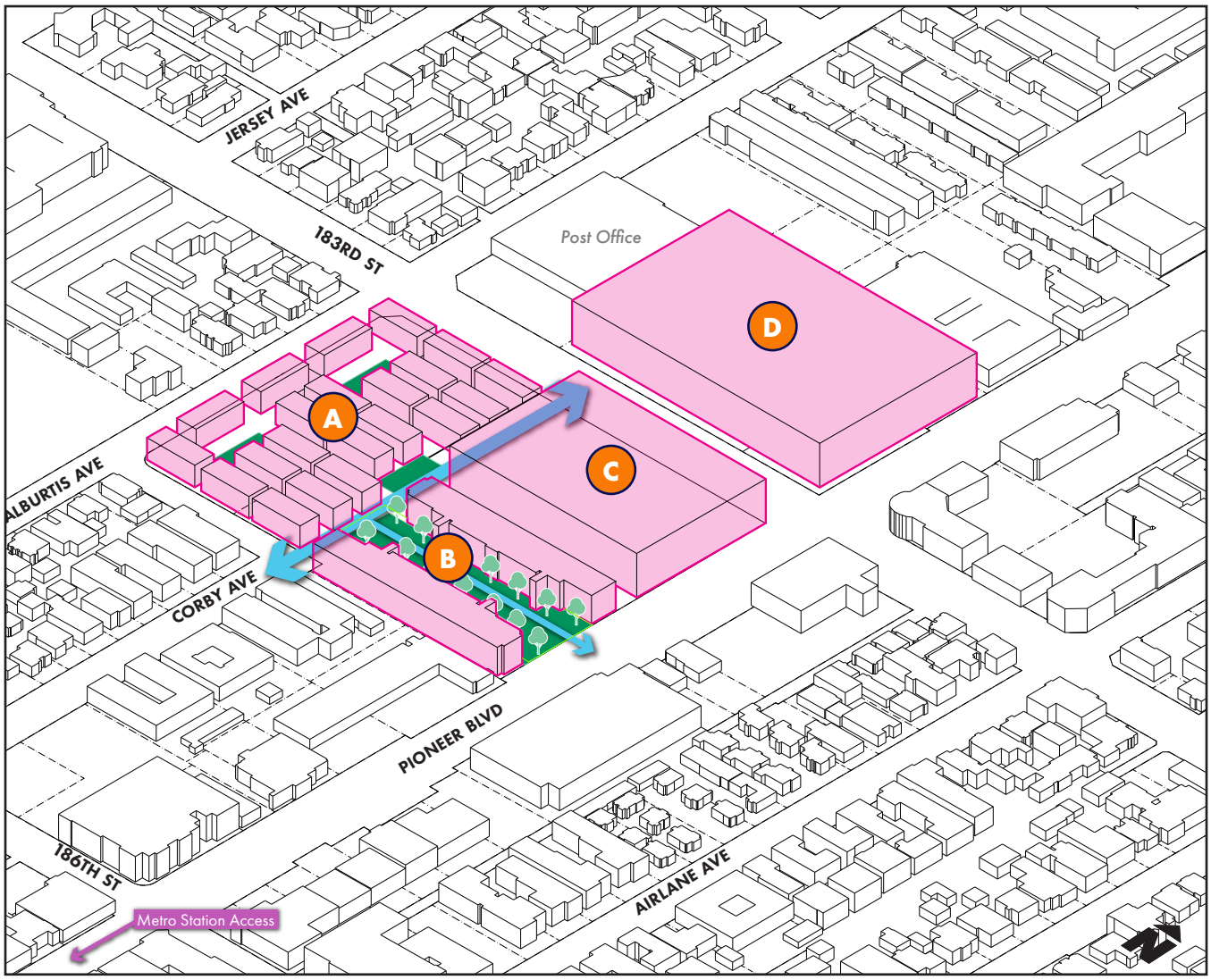


Figure 4.8: North Focus Area

Overview

As visitors drive into Downtown Artesia from the north via Pioneer Boulevard, they are greeted with a 5-story public parking structure with active retail facing Pioneer Boulevard and 183rd Street (Site D). This building also hosts conceptual City Hall offices adjacent to the existing Post Office. From the parking structure, visitors can walk down Pioneer Boulevard, passing by a retail/residential mixed-use building (Site C) and a retail court (Site B). Residents of the new townhomes (Site A) also enjoy connections to Downtown through the retail court.

Figure 4.9: Precedent Imagery

Figure 4.10: Precedent Imagery

Figure 4.11: Precedent Imagery

Figure 4.12: Precedent Imagery

Key Concepts

The following concepts outline development opportunities for the North Focus Area, as shown in Figure 4.8; each is conceptual and based on an urban design analysis of Downtown Artesia.

- Site D would remain in City control through a private-public partnership (P3). Ideally this development includes the acquisition of Jack in the Box and neighboring properties by P3 developer. P3 developer will build a public parking structure incorporating city hall offices as well as leasable space for retail/commercial facing Pioneer Boulevard and 183rd Street.
- Relocation of City Hall offices is compatible with existing Post Office and can create a small civic center.
- Parking structure at Site D will serve as a catalyst for downtown investment by generating pedestrian traffic to the south on Pioneer Boulevard, encouraging the development of Sites B and C.
- Site A is prime for new townhome development, creating ownership opportunities for new residents.

4.8 ILLUSTRATIVE PLAN

This rendering illustrates a possible pattern of future development in Downtown Artesia based on the standards presented in this Specific Plan. This illustration imagines new development at opportunity sites identified during the process of preparing the Plan. This drawing does not require that specific buildings be constructed on these opportunity sites, but rather suggests the possibilities the Plan creates for downtown property owners. Nor does this drawing dictate a schedule of construction or particular phases of development. Instead, it aims to inspire property owners to participate in creating the desired future for Downtown Artesia and to guide City leaders as they consider potential development proposals from the private sector.

This illustrative plan identifies six catalytic projects that will jump start the transformation of Downtown Artesia. Three of these projects will be initiated by either Metro or the City of Artesia, potentially in partnership with private investors. Another three of the identified catalytic projects are expected to be exclusively initiatives of the private sector responding to the possibilities presented by a transit-oriented downtown. Eventually, as these and other projects are implemented incrementally over a two-decade period, the final built result will change many of the specific details of this particular illustrative plan.

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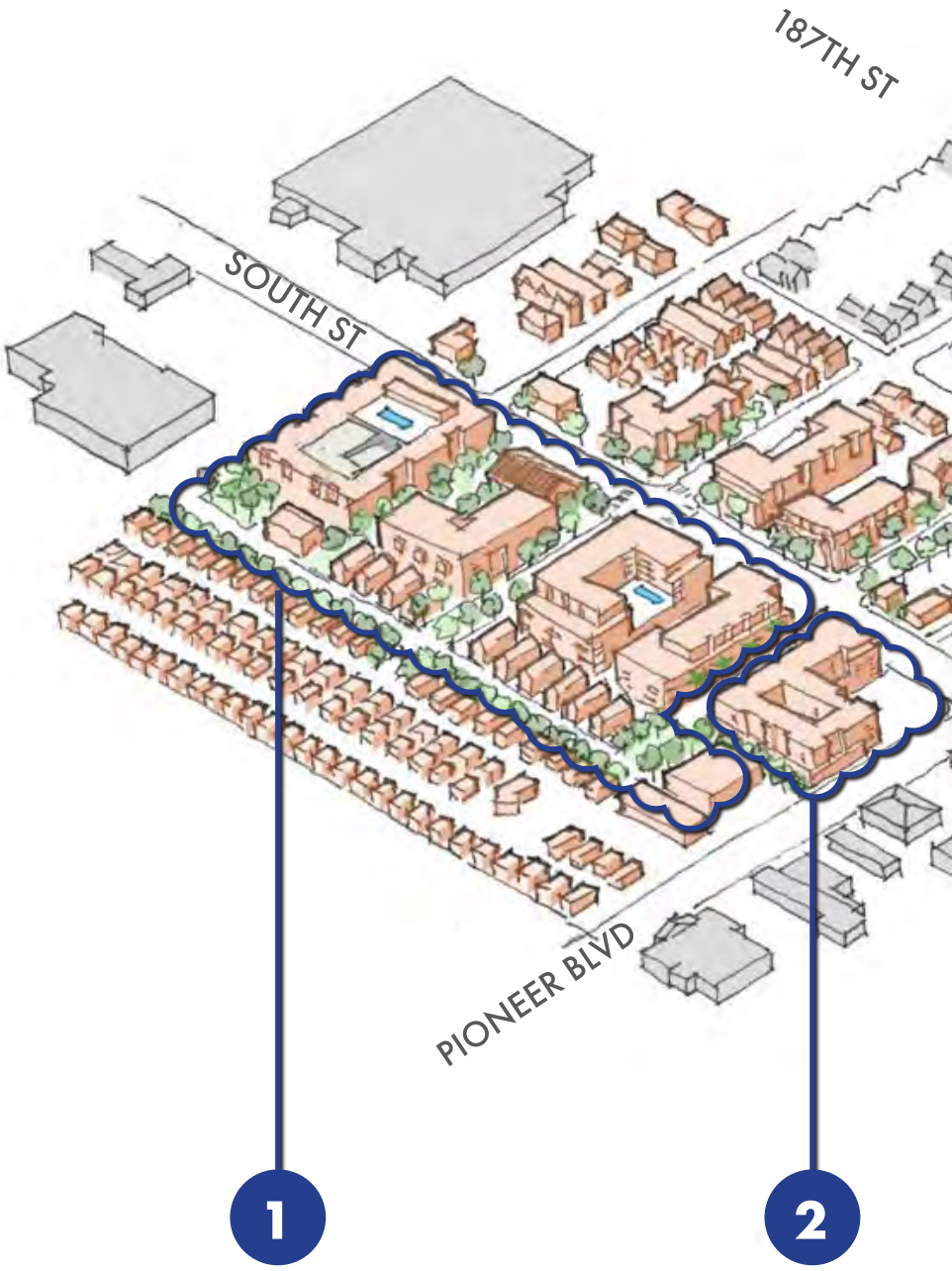


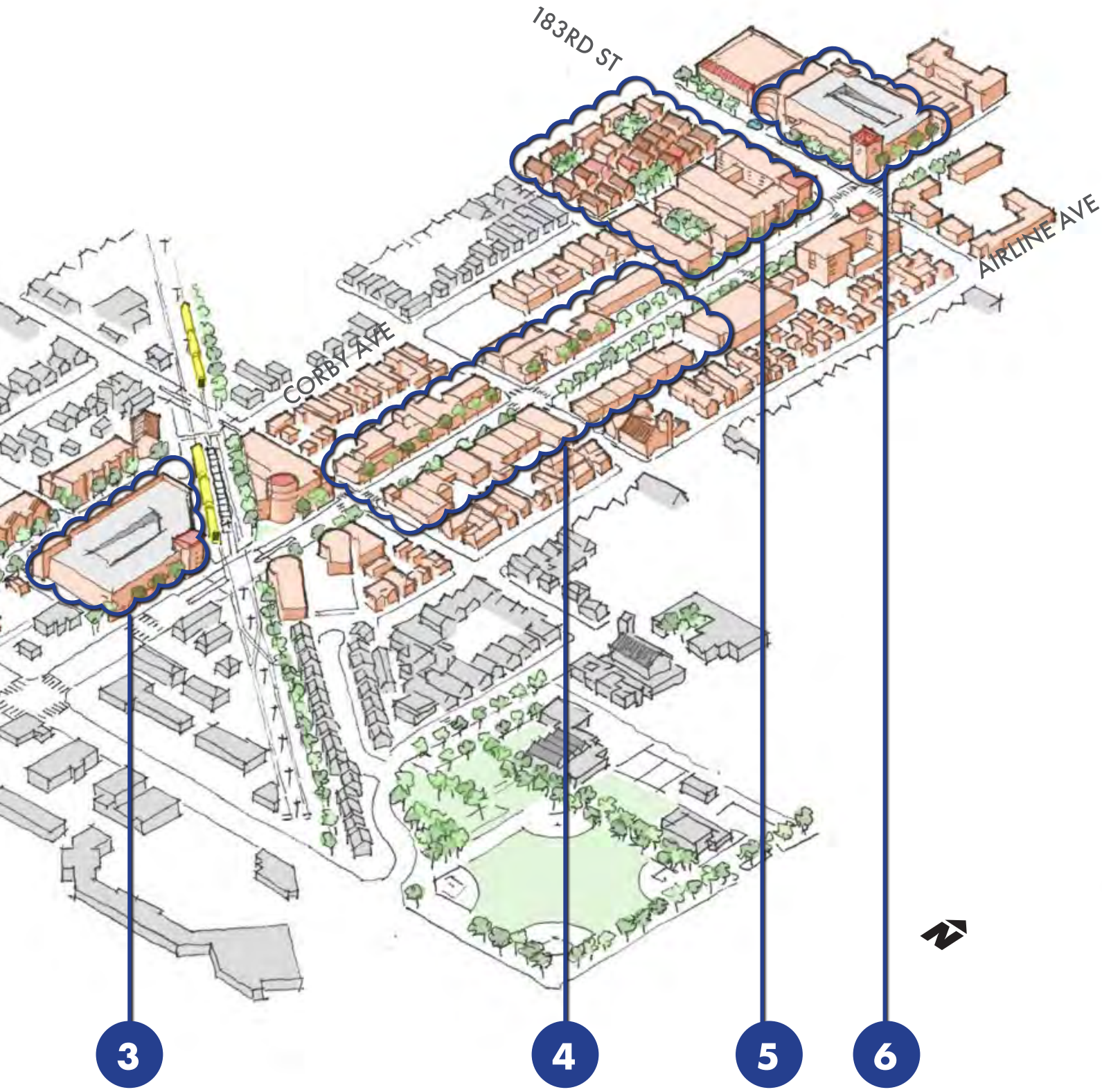
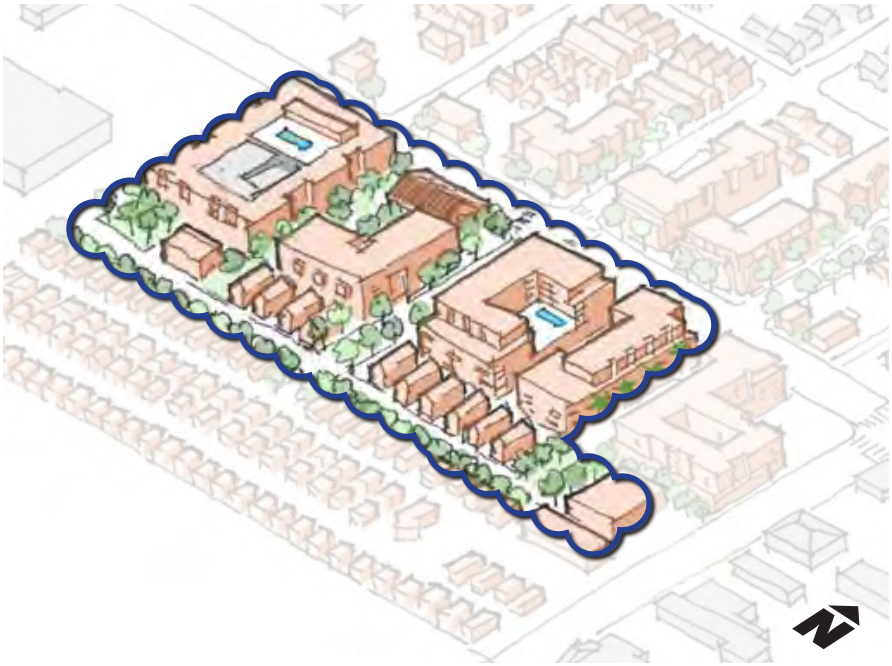


Figure 4.13: Illustrative Plan

4.8.1 SOUTH STREET DISTRICT

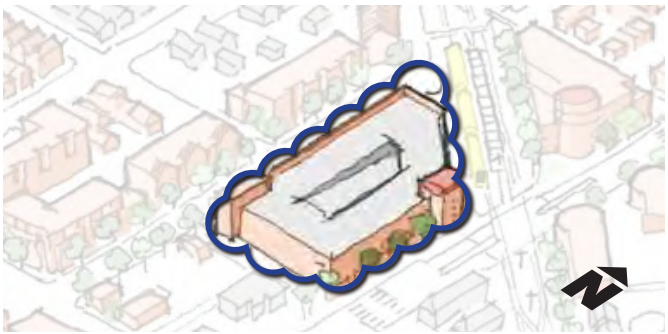


The various properties fronting South Street are some of the largest in the Specific Plan area but are presently occupied with single-story retail structures and surface parking lots. As these buildings age and retailers continue to contract, these properties will be primed for redevelopment into a new neighborhood of 4- to 6-story mixed-use and residential structures. Located just one block south of the future Metro station, a key focus of this district should be the creation of attractive pedestrian spaces, including mini-parks and plazas interlinked with passages and paseos. Though construction is likely to occur incrementally without the benefit of a master developer, the City should work with developers to ensure pedestrian passages connect seamlessly across properties.

4.8.2 ARTESIA SQUARE

The proposed Artesia Square development will be both an anchor to South Street District and an excellent illustration of the character other buildings in this area should embody. Features of the proposal that should be emulated in future development include: commercial space fronting South Street, live-work units accessible via a publicly accessible pedestrian passage, and a north-south street spur that could be continued further south or connected to similar streets/passages from the west. Architecturally, the proposal includes a mix of surface materials, various façade modulations, and stepbacks at the upper levels to help reduce the building's visual mass.

4.8.3 METRO PARKING GARAGE



The construction of a multi-level parking garage by Metro to support the rail station will likely be one of the first steps in the revitalization of Downtown Artesia. Anticipated to provided up to 1100 parking spaces, this garage will not only provide parking for transit riders, but should also offer overflow parking for visitors to Downtown. Because this structure will likely be one of the largest buildings in Downtown, the City and Metro should collaborate to ensure the design includes leasable commercial space on the ground floor fronting Pioneer Boulevard, an attractive pedestrian entrance/exit facing the rail station, and a façade clad in architectural finishes.

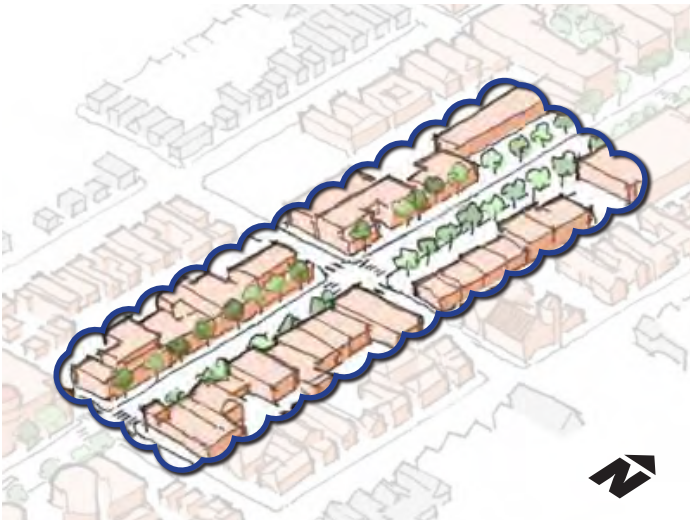
4.8.4 PIONEER BOULEVARD

In 2017 the City commissioned an urban design study to recommend economic development and placemaking strategies for the retail core of Pioneer Boulevard between 183rd and 187th Streets. Many of the recommendations from this study are sound and will support the Specific Plan. In particular, the study offers a number of thoughtful suggestions to improve the sidewalk experience between 183rd and 186th Streets, specifically:

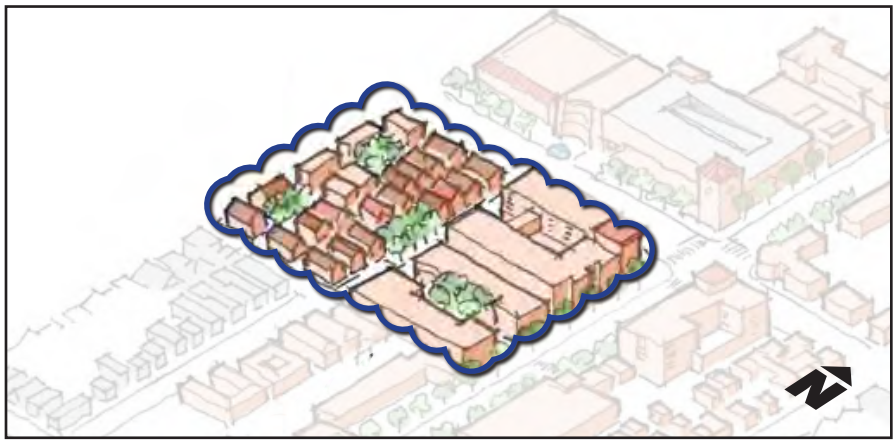
Gateway Plaza: Improvements include a widened sidewalk along the length of the Verizon building, painted mural, and relocated midblock crossing with a strong row of palms to mark arrival to Downtown.

Vitha Plaza: Improve pedestrian environment by screening parking lots with low walls and landscaping and adding canopy trees.

Gomes Center: Improved "street wall" and pedestrian environment by screening parking with pagodas, walls, landscaping, and canopy trees.

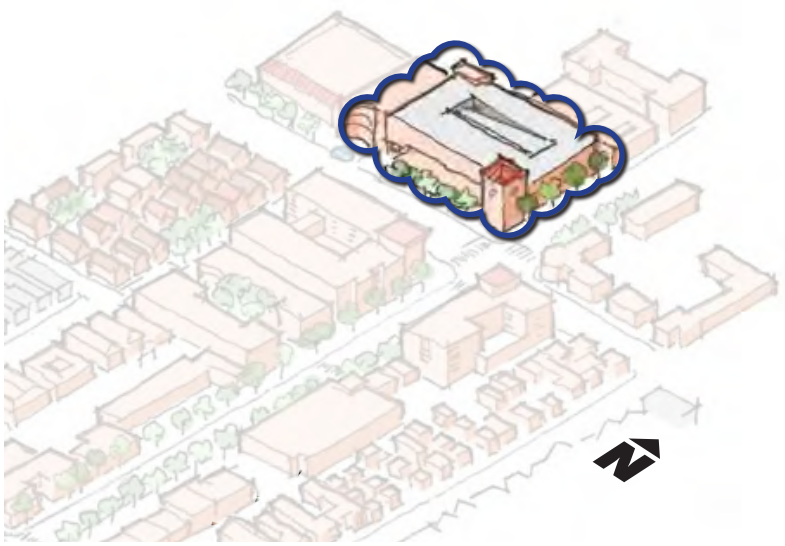


4.8.5 PIONEER BOULEVARD & 183RD STREET



The commercial properties at the southwest corner of Pioneer Boulevard and 183rd Street consist of older single-story retail structures and surface parking lots. Like similar properties along South Street, this site is well positioned to support new mixed-use development. The illustrative plan imagines a 4- to 5-story mixed-use structure fronting Pioneer Boulevard, featuring ground-level retail facing the sidewalk and a midblock pedestrian passage connecting Pioneer Boulevard to Corby Avenue. A new neighborhood of townhomes and/or walk-up apartments is foreseen on the west side of this site, on the site currently occupied by a grocery store. Though the extension of Corby Avenue to 183rd Street may not be desirable, pedestrian pathways should connect across the site both north-south and east-west. Parking space for residences is assumed to be accommodated on-site, whereas commercial parking may be waived in favor of off-site parking structures and/or lots managed by the City.

4.8.6 ARTESIA TOWNE CENTER



The Artesia Towne Center site, which is owned by the City, represents a unique opportunity to define the northern anchor of Downtown Artesia. The Specific Plan recommends that the City initiate a public-private partnership to explore the feasibility of constructing a civic facility at this property. By including the adjacent site on the northwest corner of Pioneer Boulevard and 183rd Street, this large site could be developed with a public parking structure to serve the north end of downtown. This parking structure should incorporate leasable, income-generating commercial/retail space at the ground level fronting the public sidewalks.

Additionally, the Specific Plan recommends that this development include a new City Hall adjacent to the existing Post Office with a commanding view south down the Corby Avenue alignment. If set back modestly from 183rd Street, a small plaza can be created in front of both the new City Hall and Post Office, creating a new public space in the downtown for civic events and celebrations. Meanwhile, the existing City Hall could be remodeled for additional civic offices/services or surplused to an affordable housing developer.

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5 LAND USE PLAN

5.1 LAND USE DISTRICTS

The Land Use Plan divides the Specific Plan area into six districts calibrated to implement the vision described in Chapter 4. These separate districts are based on range of intensity and land use, calibrated to local context and adjacencies. Most districts allow for a significant mixture of land uses within a defined building envelope. This approach differs from conventional zoning maps that typically divide cities into zones that rigidly segregate residential, commercial, industrial, and institutional uses into separate areas. Each district has its own permitted uses itemized in Table 5.1

The Districts, described in greater detail on the following pages, are:

- Downtown North
- Pioneer Boulevard
- Downtown South
- 188th Street / Corby Avenue
- Downtown Neighborhood
- Chateau Estates
- Metro Right-of-Way

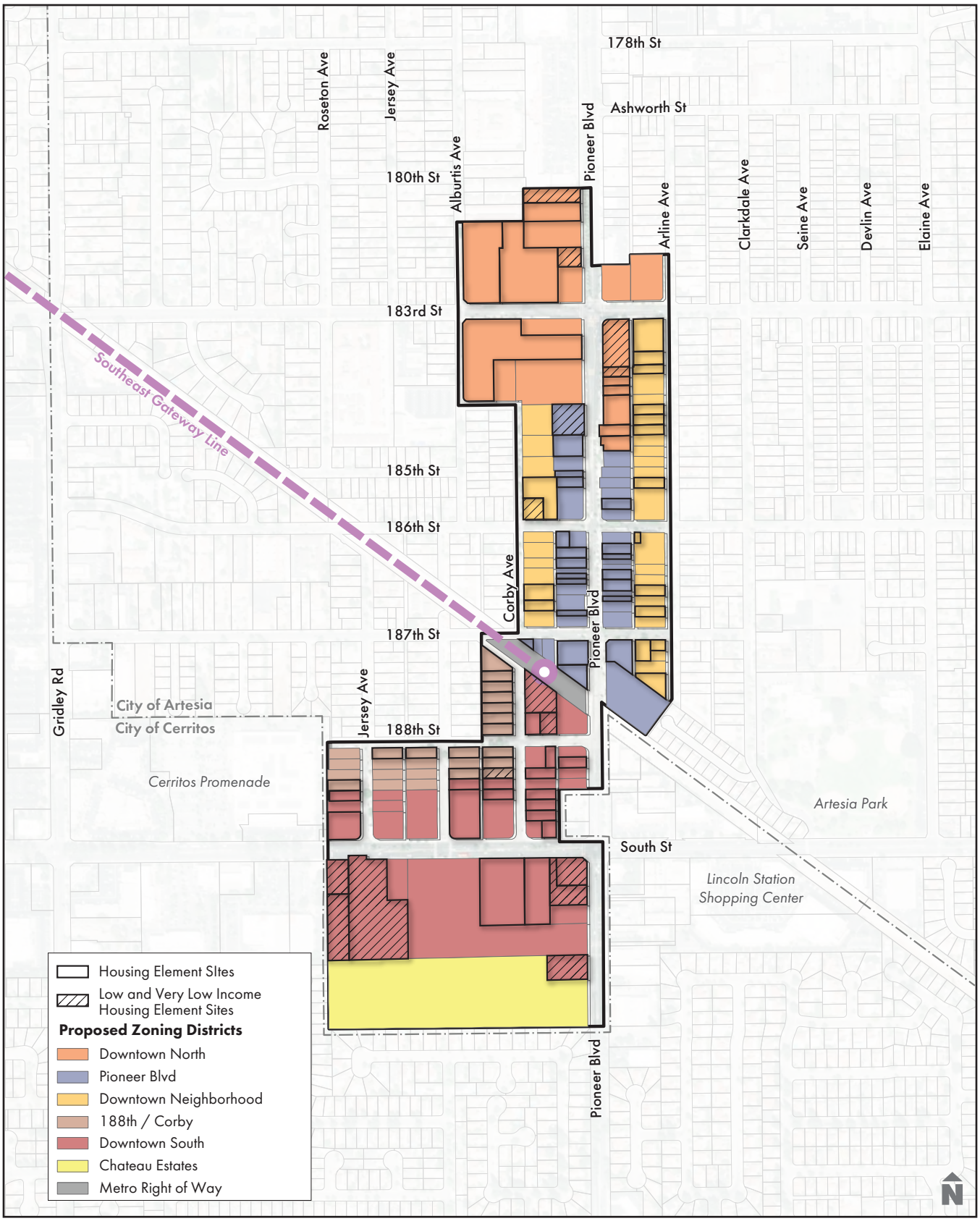

Figure 5.1: Proposed Zoning

5.1.1 DOWNTOWN NORTH

The Downtown North is the northern gateway and anchor to Downtown Artesia. The district would allow for higher density mixed use development at 65 du/ac. The southwest corner of the district encompasses approximately five and half acres and is envisioned with 4- to 5-story mixed-use development and 2- and 3-story townhomes. Where the City owns property at the northwest corner of 183rd Street and Pioneer Boulevard, a public-private partnership is encouraged to develop a parking structure with ground-floor retail uses. The parking structure would serve visitors, residents, and employees as they travel to and from Downtown Artesia and the 91 freeway to the north. The Post Office at 183rd Street and Alburtis Avenue is expected to remain.

5.1.2 PIONEER BOULEVARD

Pioneer Boulevard district fronts Pioneer Boulevard north of the future Metro transit station and is located in the center of downtown Artesia. TThis area is composed of narrow parcels with a continuous street frontage of one-story South Asian establishments such as restaurants, markets, and jewelry shops. Although new development is not expected in this district, the district would allow for 3-story buildings at 50 du/ac or 60 du/ac by utilizing the Specific Plan's density bonus provisions.

5.1.3 DOWNTOWN SOUTH

Downtown South District is the southern gateway to Downtown Artesia and the City of Artesia. The district is envisioned with 4- to 6-story mixed-use development incorporating ground-floor retail, a hotel, townhomes, and neighborhood parks for residents and visitors. A Metro Parking structure is planned within the South Street Mixed District just south of the transit station. The district would allow for densities up to 75 du/ac.

5.1.4 188TH STREET / CORBY AVENUE

The 188th/Corby District is located south of the future Metro station and is primarily composed of residential and light industrial uses. This district would allow for residential uses such as duplex, triplex, and townhomes at 40 du/ac and commercial office and retail in a horizontal mixed-use format.

5.1.5 DOWNTOWN NEIGHBORHOOD

The Downtown Neighborhood District is located in the residential west and east edges of the Downtown area along Corby Avenue and Airline Avenue. The downtown neighborhood would retain its residential character at 40 du/ac.

5.1.6 CHATEAU ESTATES

The Le Belle Chateau Estates Mobile Home Park district sits at the southern edge of the Downtown Area. The mobile home park use will be maintained in this district.

Table 5.1: Land Uses and Permit Requirements							
	Permitted Uses by Zoning District						
C - Conditionally Permitted P - Permitted Use NP - Use Not Permitted T - Temporary A - Accessory Use	Downtown North	Pioneer Blvd.	Downtown South	188th / Corby	Downtown Neighborhood	Chateau Estates	Additional Regulations
Accessory Uses							
Newsstands	A	A	A	A	NP	NP	
Eating and Drinking Establishments							
Catering Services	P	P	P	NP	NP	NP	
Full-Service Restaurants	P	P	P	C	NP	NP	Refer to section AMC: 3-2.209 for late night operations
Limited Service / Take-Out Restaurants	P	P	P	C	NP	NP	
Alcoholic Beverage Sales, On-site	P	P	P	C	NP	NP	
Educational Use							
Colleges and Continuing Education Facilities	P	C	P	NP	NP	NP	
Cultural Institutions	P	P	P	P	P	P	
Tutoring Facilities/Educational Activity Centers	P	P	P	P	P	P	
Entertainment Uses							
Bar/Night Club/Live Entertainment	P	P	P	NP	NP	NP	Refer to section AMC: 3-2.209 for late night operations
Cigar Lounge	P	P	P	NP	NP	NP	
Commercial Recreation Facilities	P	P	P	C	NP	NP	
Conference Facilities	C	C	C	NP	NP	NP	
Fitness Studio/Gymnasium	P	P	P	C	NP	NP	

Table 5.1: Land Uses and Permit Requirements							
	Permitted Uses by Zoning District						
C - Conditionally Permitted P - Permitted Use NP - Use Not Permitted T - Temporary A - Accessory Use	Downtown North	Pioneer Blvd.	Downtown South	188th / Corby	Downtown Neighborhood	Chateau Estates	Additional Regulations
Financial & Professional Office Uses							
Financial Services/Banks/Credit Unions	P	P	P	NP	NP	NP	
Office, Business and Professional	P	P	P	C	NP	NP	
Office, Medical and Dental	P	P	P	C	NP	NP	
Public/Institutional Use							
Open Space	P	P	P	P	P	P	
Parks and Recreational Facilities	P	P	P	P	P	P	
Transit Centers	P	P	P	C	NP	NP	
Residential Uses (Including Affordable Housing)							
Duplexes, Triplexes, and Fourplexes	P	NP	P	P	P	P	
Live-Work Units	P	P	P	P	P	P	ADSP 5.2
Manufactured Housing	N	N	N	N	N	P	
Multi-Family Residential (5+ Units)	P	P	P	P	P	P	
Single-Family Detached Residential	P	NP	P	P	P	P	
Home Occupations	P	P	P	P	P	P	
Employee Housing	P	P	P	P	P	P	
Low Barrier Navigation Center	P	P	P	P	P	P	
Transitional Housing	P	P	P	P	P	P	
Supportive Housing	P	P	P	P	P	P	
Residential Care Facilities Small (6 or less)	P	P	P	P	P	P	
Residential Care Facilities Large (7 or more)	P	P	P	P	P	P	
Daycare Homes	P	P	P	P	P	P	

Table 5.1: Land Uses and Permit Requirements							
	Permitted Uses by Zoning District						
C - Conditionally Permitted P - Permitted Use NP - Use Not Permitted T - Temporary A - Accessory Use	Downtown North	Pioneer Blvd.	Downtown South	188th / Corby	Downtown Neighborhood	Chateau Estates	Additional Regulations
Retail Commercial							
Alcoholic Beverage Sales, off-premises	C	C	C	NP	NP	NP	
Animal Sales/Feed and Supplies/Pet Stores	C	C	C	C	NP	NP	
Art Galleries	P	P	P	P	NP	NP	
Drug Stores/Pharmacies	P	P	P	C	NP	NP	
General Retail/Specialized Retail (Less than 5,000 sq.ft.)	P	P	P	P	NP	NP	
General Retail/Specialized Retail (More than 5,000 sq.ft.)	P	P	P	C	NP	NP	
Market/Grocery Stores (Less than 5,000 sq.ft.)	P	P	P	C	C	NP	
Market/Grocery Stores (More than 5,000 sq.ft.)	P	P	P	NP	NP	NP	
Service Commercial Use							
Animal Boarding Facilities	C	C	P	C	NP	NP	
Animal Grooming	P	P	P	C	NP	NP	
Day Care Centers (Adult and Child)	P	P	P	P	P	P	
Dry Cleaning and Laundry Services	P	P	P	C	NP	NP	
Hotels	P	P	P	C	NP	NP	
Household Good Repair and Maintenance	P	P	P	C	NP	NP	
Mail and Shipping Services/Post Box Rentals	P	P	P	C	NP	NP	
Massage Establishments	C	C	C	C	C	C	
Personal Care Services (Color Consulting, Day Spas, Hair Removal, Hair Replacement, Make-Up Salons, Tanning Salons, etc.)	P	P	P	P	NP	NP	
Printing and Photocopy Services	P	P	P	P	NP	NP	
Tailor Services/Shoe Repair Shops	P	P	P	P	NP	NP	
Travel Agencies	P	P	P	C	NP	NP	
Veterinary Offices	C	C	C	P	NP	NP	

Table 5.1: Land Uses and Permit Requirements							
	Permitted Uses by Zoning District						
C - Conditionally Permitted P - Permitted Use NP - Use Not Permitted T - Temporary A - Accessory Use	Downtown North	Pioneer Blvd.	Downtown South	188th / Corby	Downtown Neighborhood	Chateau Estates	Additional Regulations
Vehicle Rental and Sale Uses							
Vehicle, Equipment Rentals (Office and interior display only, no outdoor storage, unless approved at off-site location)	C	C	C	NP	NP	NP	
Vehicle Sales, General	C	C	C	NP	NP	NP	
Vehicle Sales	C	C	C	NP	NP	NP	
Temporary Uses							
Seasonal Markets, Pumpkin Patches, Christmas Tree Sales, etc.	T	T	T	T	T	NP	
Farmer's Market	T	T	T	T	T	NP	

5.2 LIVE-WORK STANDARDS

1. Uses permitted in live-work units:
    a. Art studios, graphic design studios, and galleries.
    b. Professional and administrative offices.
    c. Business services, such as, but not limited to accounting, bookkeeping, advertising and public relation agencies, commercial photography, word processing, website publishing, travel agencies, and party and event planning.
    d. Financial services, including credit reporting and collection services, escrow services, financial planning and investment services, mortgage brokers and similar uses, but excluding check cashing and payday loan businesses.
    e. Insurance agents and brokers, real estate agents and brokers, title services.
    f. Personal services, including individual and family counseling, group counseling, academic counseling, one-on-one tutoring or other similar services.
    g. Limited retail uses such as art galleries, interior design studios, specialty antiques or collectible dealers, tailor, dressmaker, specialty clothing, jewelry or millinery design studio, catering (preparation for off-site consumption only), and other similar services.
    h. Beauticians and barbers, limited to one chair.
    i. Other uses that are determined by the Planning/ Redevelopment Director to be similar to the uses listed above.

2. The following uses are prohibited in live-work units
    a. Secondary living quarters (designated ground floor work space shall not be converted into living quarters).
    b. Secondary work space (designated above-ground-floor living quarters shall not be converted into additional work space).
    c. Medical offices or practices.
    d. Food services for on-site consumption.

e. Child day care facilities.

f. Adult businesses.

g. Motor vehicle maintenance or repair.

h. Welding and/or machining.

i. Dry cleaning.

j. Other similar uses as determined by the Planning/ Redevelopment Director as prohibited, other than those identified as permitted

3. Standards for Live-Work Units

   a. Live-work units are intended to have a residential portion AND a commercial/retail portion.

   b. Each live-work unit shall be a minimum of 900 square feet in size.

   c. Live-work units shall have at least one entry/exit that opens to a public sidewalk or pathway accessible to the public between 6:00 am to 10:00 pm Sunday through Thursday and until 12:00 am (midnight) on Friday and Saturday nights.

   d. Client and customer visits are permitted.

   e. Internal connection between living and working portions of the unit is required.

   f. The residential component of each live-work unit shall meet the following standards:

      i. The residential portion shall be a minimum of 400 square feet in size.

      ii. No more than 40 percent of an individual live-work unit shall be used or arranged for residential purposes such as a sleeping area, kitchen, bathroom, and closet space.

      iii. Separate kitchen facilities, including a kitchen sink, cooking appliances and refrigerator shall be provided.

      iv. A separate bathroom/sanitation facilities, including a toilet, lavatory, shower, and/or bathtub shall be provided.

   g. The non-residential component of each live-work unit shall meet the following standards:

      i. A business permit/business license is required.

h. Live-work businesses are subject to limited hours of operation from 7:00 am to 9:00 pm Sunday through Thursday and until 11:00 pm on Friday and Saturday nights.

i. Disabled access shall be provided in compliance with Title 24 of the California Code of Regulations.

j. Noise regulations

   i. Residential units shall be constructed so that interior noise levels do not exceed forty-five (45) db(A) CNEL in any habitable room.

   ii. Commercial uses shall be designed and operated, and hours of operation limited where appropriate, so that neighboring residents are not exposed to offensive noise, especially from traffic or late night activity. No amplified music shall be audible to neighboring residents.

   iii. Common walls between residential and nonresidential uses shall be constructed to minimize the transmission of noise and vibration.

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6 DEVELOPMENT STANDARDS

6.1 INTRODUCTION

This chapter establishes the standards related to the physical form and design of both new and renovated buildings and properties in the Specific Plan area. Certain standards, such as maximum density and building heights, are regulated by the Downtown districts, and are detailed in Table 6.1. Other standards, such as those related to site design, building form, setbacks and frontages, are dictated by specific locations in the Downtown. Still other standards—like those related to open space, materials, and finishes—are applied universally to all parcels in the Specific Plan. All design standards are itemized in Section 6.2. Although all the standards apply equally, if considered sequentially, the standards in this chapter can be used by developers, property owners, and designers to sculpt the allowable building form for any parcel in the Specific Plan area.

In addition, a density bonus program has been included as part of the Specific Plan that allows for additional height or floor area for qualified projects within certain districts. Bonuses are granted to projects that provide additional public benefits, such as affordable housing, commercial/retail spaces, hotels, live-work uses, and public open space. The available bonuses are discussed in Section 9.3.

Table 6.1: District Standards						
	Pioneer Blvd	**Downtown South**	**Downtown North**	**188th / Corby**	**Downtown N'Hood**	**Chateau Estates**
Site Design & Building Form Standards by Right						
Maximum Building Height	3 stories / 45′	5 stories / 65′	4 stories / 55′	4 stories / 55′	3 stories / 45′	2 stories / 24′
Maximum Residential Density	50 du/ac	75 du/ac	65 du/ac	65 du/ac	40 du/ac	11 du/ac
Maximum Intensity of non-residential uses	1.5 FAR	3.0 FAR	2.5 FAR	2.0 FAR	1.25 FAR	0.75 FAR
Site Design & Building Form Standards with Community Benefits (see Section 9.3)						
Maximum Building Height	3 stories / 45′	6 stories / 80′	5 stories / 65′	Density Bonus Not Permitted		
Maximum Residential Density	60 du/ac	85 du/ac	75 du/ac			
Maximum Intensity	2.0 FAR	2.5 FAR	3.0 FAR			

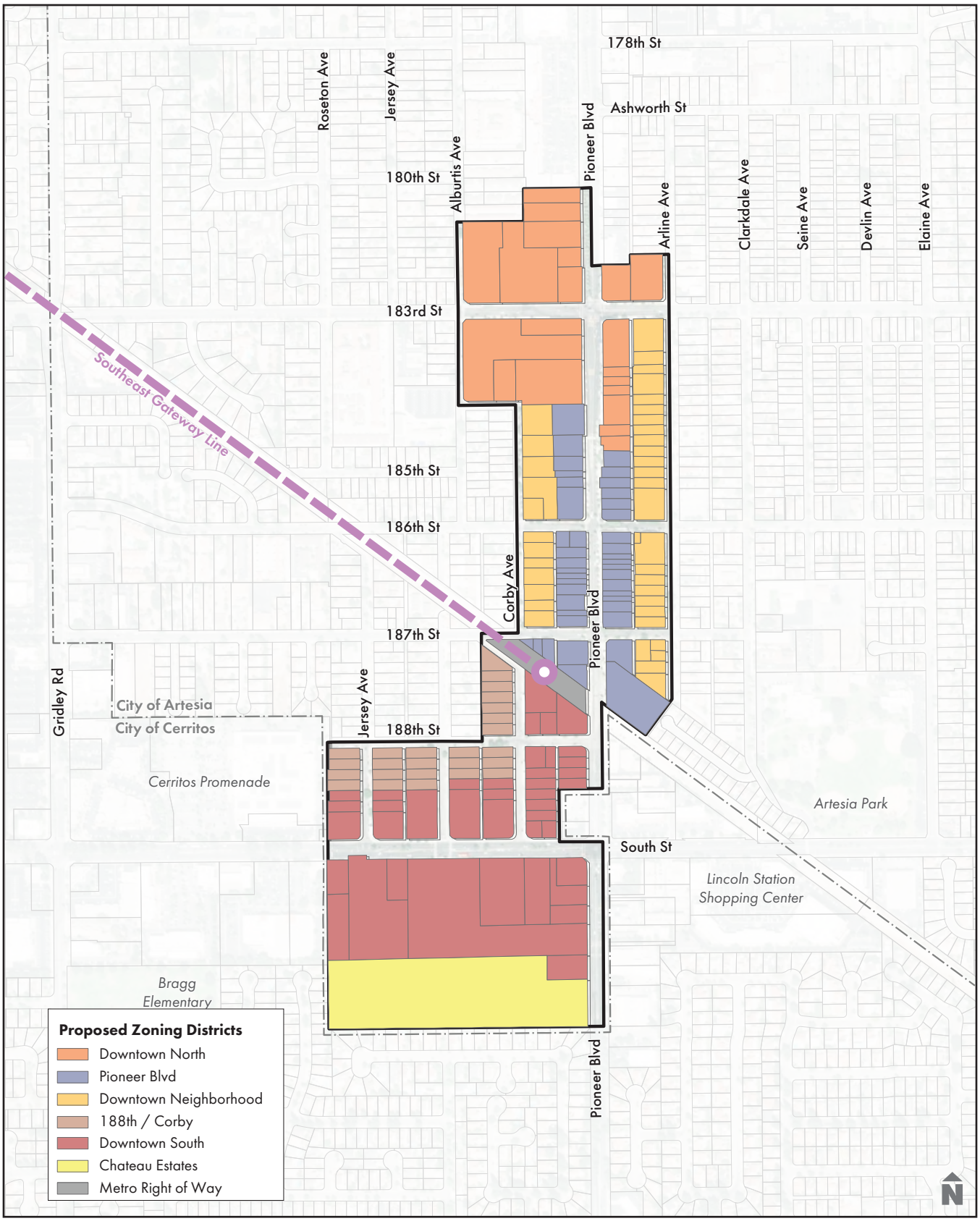


Figure 6.1: Proposed Zoning

6.2 SITE PLANNING

6.2.1 PARCEL SIZE

1. New development on parcels or aggregate sites larger than three (3) acres in size shall be divided into multiple building pads. Such a division may be achieved by one or more of the following methods:
    a. Legal subdivision of the property
    b. Division by a public street(s)
    c. Division by a private or public alley(s)
    d. Division by a private street(s)
    e. Division by common court(s)
    f. Division by auto court(s)
    g. Division by a private driveway(s)
    h. Division by pedestrian paseos in conformance with Section 6.2.5
2. Alignment of streets, driveways and/or pedestrian paseos shall, where applicable, extend existing street grid into the subject site.
3. Legal subdivision of property shall conform with Artesia Municipal Code, Title 9, Chapter 1.
4. All new public streets shall be improved with curbs, gutters, sidewalks, and street trees per City of Artesia Standard Plans & Details: Street Improvements.
5. All new private streets, common courts, auto courts, and alleys shall conform with Section 6.2.4.

6.2.2 SITE LAYOUT AND ORIENTATION

1. All buildings adjacent to a public street shall maintain a continuous "street wall," formed by the edge of the building, for a minimum of seventy (70) percent of the lot/parcel frontage adjacent to the street.
2. Primary ground-floor common entries and individual dwelling unit entries shall be oriented toward the primary street unless the primary street is South Street. Entrances at building corners may be used to satisfy this requirement.
3. Where an intersection of pedestrian and vehicle access exists, enhanced paving treatment using patterned and/or colored pavers, brick, or decorative colored and scored concrete shall be used. Pedestrian crossings bisecting vehicle access shall feature enhanced paving with a minimum width of six (6) feet and span the length of the intersecting drive area.
4. Through-lots located more than three hundred (300) feet from a street intersection, measured from the closest point of the lot, shall provide a publicly accessible sidewalk or walkway connecting the two streets.

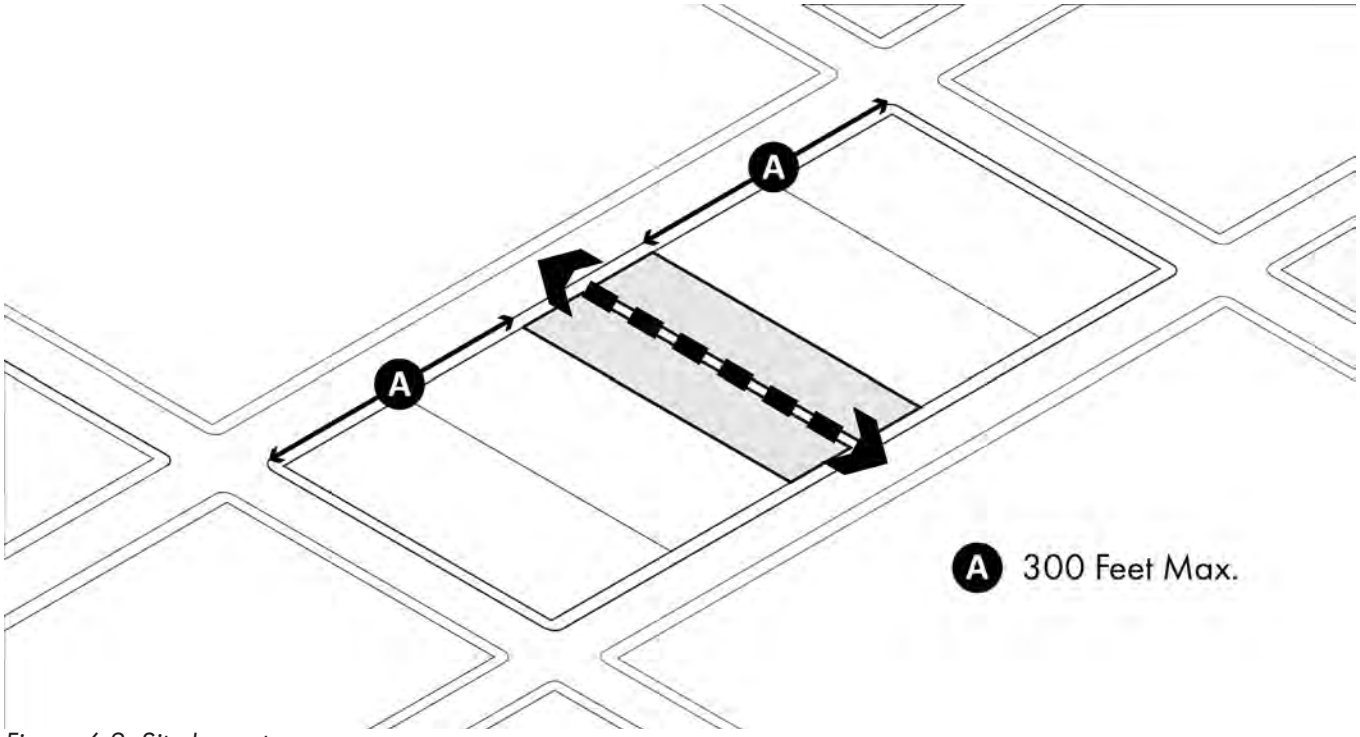


Figure 6.2: Site Layout

6.2.3 SETBACKS

New projects shall provide setbacks that comply with the following standards.

1. Setbacks, General.
    a. Setbacks are measured from the right-of-way to the ground floor face of the building wall.
    b. Setback requirements do not apply to façades that are directly adjacent to Publicly Accessible Open Space.
    c. Parking, loading, or storage areas are prohibited within the setback.
    d. Permanent screening walls or fences greater than three (3) feet in height are prohibited within the setback.
    e. Upper floors of residential buildings and residential portions of mixed-use buildings are permitted to project, cantilever, or extend into the setback up to a maximum of two (2) feet.
    f. Decorative paving or landscaping is permitted within the setback. All setback areas directly adjacent to at-grade residential units must be landscaped at-grade or include planters (less than two (2) feet in height) except for required walkways and building entrances.
    g. For residential units with a finished ground floor of at least thirty (30) inches above grade, steps, stoops, porches, terraces, balconies, or a combination of these elements are permitted within the setback.

2. Setbacks in the Downtown North, Pioneer Boulevard and Downtown South districts.
    a. There is no minimum street setback required from the property line. The maximum setback allowed is ten (10) feet.
    b. The no minimum interior lot line setback.

3. Setbacks in the 188th Street / Corby Avenue, Downtown Neighborhood, and Chateau Estates districts.
    a. The minimum street setback is ten (10) feet. There is no maximum setback.
    b. The minimum interior lot line setback is five (5) feet.

6.2.4 STREET STANDARDS

i A Sidewalk with a minimum width of 5 feet on both sides of the street

ii Pedestrian streetlights

iii Street trees

iv Curbs

v Parallel parking is permitted along private streets

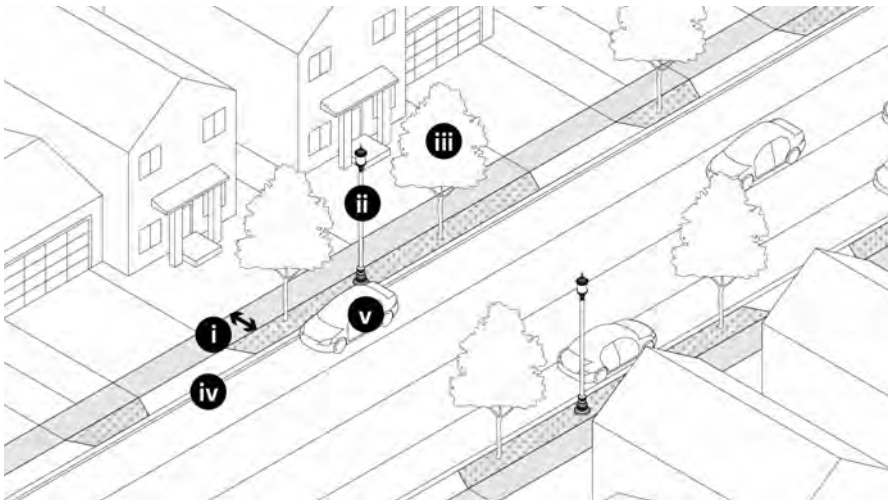
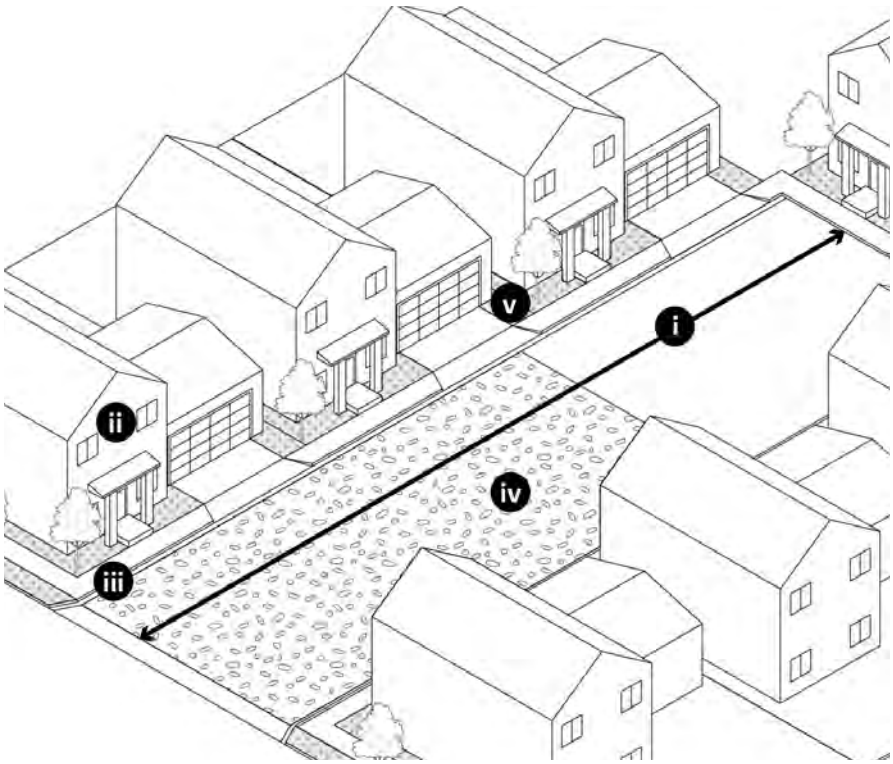


Figure 6.3: Private Streets

1. Private Streets. Private streets are internal streets with a pedestrian-oriented sidewalk condition with streetlights, street trees, and curbs.
    a. Private streets shall have a sidewalk with a minimum width of (4) four feet on at least one side of the street. The sidewalk must provide pedestrian streetlights, street trees, and curbs. Parallel parking is permitted along private streets.

2. Alleys.
    a. Alleys shall be 20 feet in width (10 feet on either side of the alley centerline).
    b. Alleys shall include a concrete ribbon gutter in the center of the alley. The concrete ribbon gutter shall be 4 feet wide (2 feet on either side of the alley centerline).
    c. Alleys shall drain toward the centerline. A maximum 2 percent grade shall be provided within the public alley to ensure proper drainage.
    d. Alleys shall include a 16-foot wide segment (8 feet on either side of the alley center line) constructed of asphalt concrete pavement (a.c. pavement). The a.c. pavement is to be installed on either side of the 4-foot -ide concrete ribbon gutter.
    e. There shall be no above-ground utilities permitted to be located within the 20-foot public alleyway.



i Common courts shall not exceed 150 feet in length, unless provided with a connecting pedestrian access way.

ii Common courts shall not serve more than eight individual residences, unless provided with a connecting pedestrian access way.

iii Common courts shall be elevated a minimum of six inches from street-level traffic.

iv A minimum of 60 percent of the paving shall be enhanced paving, such as patterned and/or colored pavers, brick, or permeable materials. Decorative colored concrete or stamped concrete are not applicable materials for this standard.

v A minimum of 20 percent of the common court shall be landscaped.

Figure 6.4: Common Courts

3. Common Courts. Common courts provide both vehicular and pedestrian access to multiple residences. Front doors to residences and garages open to common courts.
    a. Common courts shall not exceed one hundred-fifty (150) feet in length unless provided with a connecting pedestrian accessway.
    b. Common courts shall not serve more than eight (8) individual residences unless provided with a connecting pedestrian accessway.
    c. Common courts shall be elevated a minimum of six (6) inches from street-level traffic.
    d. A minimum of sixty (60) percent of the paving shall be enhanced paving, such as patterned and/or colored pavers, brick, decorative colored concrete, stamped concrete, or permeable materials.
    e. A minimum of twenty (20) percent of the common court shall be landscaped.

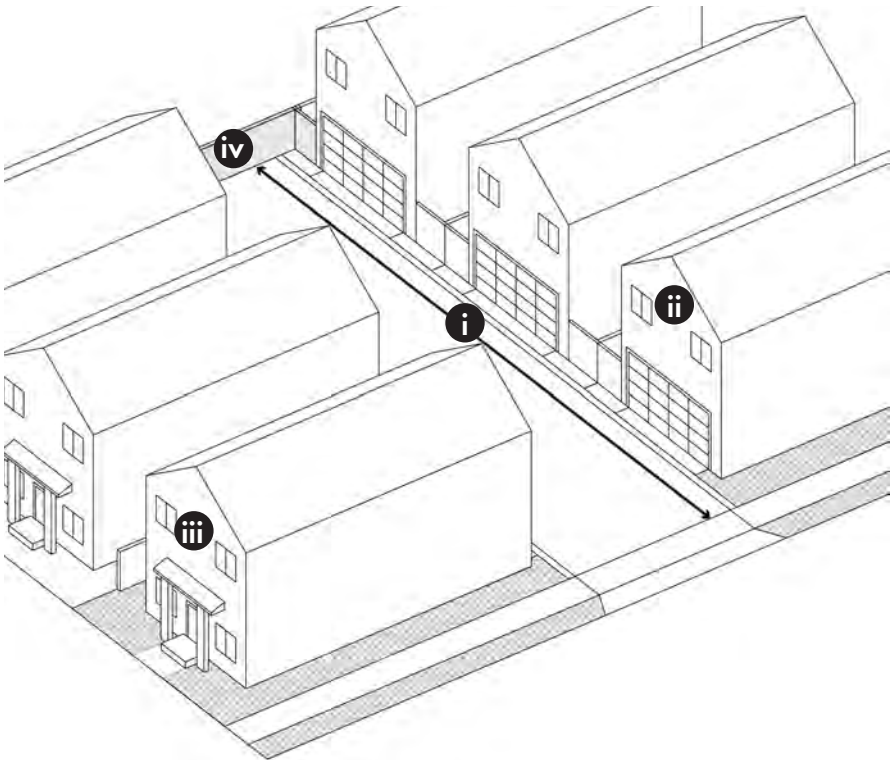


Figure 6.5: Auto Courts

i Auto courts shall not exceed 150 feet in length.

ii Auto courts shall not serve more than eight individual residences.

iii Primary pedestrian entrances are not permitted on auto courts.

iv Auto courts shall have no through-street access

4. Auto Courts. Auto Courts provide vehicular access to multiple residences via a common driveway fronted with garages. Front doors to residences are not permitted on auto courts.
    a. Auto courts shall not exceed one hundred-fifty (150) feet in length.
    b. Auto courts shall not serve more than eight (8) individual residences.
    c. Primary pedestrian entrances are not permitted on auto courts.
    d. Auto courts shall have no through-street access.
    e. Auto courts shall have a minimum unobstructed distance of twenty-five (25) feet for vehicle backout from garages as measured to a street or the opposite side of an alley.

6.2.5 PEDESTRIAN PASEOS

If pedestrian paseos are provided, they shall meet the following requirements:

1. Paseos shall be physically and visually accessible from the public sidewalk and must connect a public street with a different public street, alley, or adjacent paseo.
2. Paseos must be at the same elevation as the public sidewalk. Security fences, walls, or entry gates shall not block passage if the paseo is publicly accessible.
3. Paseos must be a minimum of fifteen (15) feet wide, measured from building face to building face.
4. Paseos must have a minimum eight (8) foot wide travel path.
5. Where paseos are covered by buildings, they must have at least twenty (20) feet of height clearance from ground to ceiling.
6. Trellises, decks, balconies, and sunshades extending from a building and projecting into a paseo may project a maximum of three (3) feet and must provide a minimum height clearance of ten (10) feet.
7. Vehicular access, loading, and parking uses shall be prohibited within the paseo.

6.3 OPEN SPACE

6.3.1 OPEN SPACE REQUIREMENTS

General. Open space shall be provided per the following standards:

1. A minimum of two hundred (200) square feet of open space per residential unit, with dimensions no less than ten (10) feet. The provided open space may be common, private, or a combination of both.
2. New non-residential development over twenty-thousand (20,000) square feet shall provide open space equal to five (5) percent of the overall development parcel(s), inclusive of any easements, but not including any dedications. This area does not need to be contiguous, but such open space shall have a minimum dimension no less than ten (10) feet.
3. Mixed-use projects shall provide open space based on the combined requirements of both residential units and non-residential as described above in (1) and (2).
4. New projects over twenty-five (25) units and/or forty-thousand (40,000) square feet are required to provide publicly accessible open space in addition to the standards above. Publicly accessible open space shall be equal to ten (10) percent of the overall development parcel(s), inclusive of any easements, but not including any dedications.

6.3.2 PUBLICLY ACCESSIBLE OPEN SPACE

Publicly accessible open spaces are outdoor rooms designed for public use and are defined by surrounding buildings and/or streets. The primary function of such open space is to provide an opportunity for people to engage in diverse social interactions and activities, establish spaces for relief and relaxation, expand and reinforce the public realm, and contribute to the livability of the Downtown. If required, publicly accessible open space shall meet the following standards:

1. Dimensions. A minimum area of four hundred (400) square feet with a minimum dimension of twenty (20) feet in each direction is required to qualify as publicly accessible open space.
2. Use. A maximum of twenty (20) percent of the publicly accessible open space may be used as outdoor dining.
3. ADA. All required publicly accessible open space shall be at the same elevation as the adjacent street level sidewalks and ADA/ universal access compliant.
4. Open to Sky. At least seventy (70) percent of the open space must be open to the sky.
5. Hardscape. A maximum of twenty-five (25) percent of common open space may be paved in standard concrete. Remaining areas shall use one of the following enhanced paving techniques: brick, natural stone, unit concrete pavers, textured and colored concrete, concrete with exposed or special aggregate.
6. Seating. Seating shall be provided at a minimum of one (1) seat per four hundred (400) square feet of required publicly accessible open space.
7. Landscape. A minimum of twenty-five (25) percent of publicly accessible open space shall be planted area with a minimum dimension of thirty (30) inches in length and width as measured horizontally, and thirty (30) inches of depth in soil material.
8. Trees. A minimum of one twenty-four (24)-inch box tree shall be planted per project or for every seven hundred fifty (800) square feet of publicly accessible open space.

6.3.3 PRIVATE COMMON OPEN SPACE

If private common open space is provided, it shall conform with the following standards:

1. Distribution. A minimum of seventy (70) percent of common open space shall be outdoors and open to the sky.
2. Landscape. A minimum of twenty-five (25) percent of the total common open space shall be planted area with a minimum dimension of thirty (30) inches.
3. Softscape. A maximum of fifty (50) percent of the total common open space may be finished with decomposed granite, gravel, natural stone, brick or concrete unit pavers, and/or similar permeable ground surfacing.
4. Hardscape. A maximum of twenty-five (25) percent of the total common open space may be paved in standard concrete, textured and colored concrete, and/or concrete with exposed or special aggregate.
5. Up to thirty (30) percent of the required open space may be indoors up to a maximum of three thousand (3,000) square feet. Indoor common space may be provided by gymnasiums, libraries, common rooms, or other interior amenities. Indoor common space shall conform to the following standards:
    a. Area. Indoor common space shall not include spaces used primarily for circulation.
    b. Dimensions. A minimum area of four hundred (400) square feet with a minimum dimension of twenty (20) feet in each direction is required to qualify as indoor common space.
    c. Floor to Ceiling height. Indoor common spaces shall have a minimum floor to ceiling height of twelve (12) feet.
    d. Glazing. At least one wall of the indoor common space shall be a glazed building exterior.

6.3.4 PRIVATE OPEN SPACE

Private open spaces for residential units may include, but are not limited to, balconies, terraces, patios, porches, and stoops, and may overlook the street, side yards, and internal courtyards.

1. Dimensions. Private open space located at the ground level shall have a minimum area of one hundred fifty (150) square feet with a minimum dimension of ten (10) feet in each direction. Private open space provided on a balcony or roof deck shall have a minimum area of sixty (60) square feet with a minimum dimension of five (5) feet in each direction. This dimension excludes areas for permanent equipment and storage.
2. Arrangement. Private open spaces shall be contiguous to the units they serve and screened to a minimum height of four (4) feet by use of walls and/or fences.
3. Location. All private open space shall be outdoors.

6.3.5 LANDSCAPING

All landscaping shall conform to the City of Artesia Urban Forestry Manual and the following standards:

1. Landscaped areas shall use a three-tiered planting system consisting of ground cover, shrubs and vines, and trees. Grass shall not exceed twenty-five (25) percent of the landscaped area unless it is used primarily for active recreation areas. The plant material shall be of drought-tolerant species and permanently maintained.
2. A minimum of one (1) twenty-four (24) inch box tree per project or for every five hundred (500) square feet of outdoor common open space, whichever is greater, shall be planted in the common open space. For projects with two or more trees, a minimum of fifty (50) percent of trees planted shall be shade trees.
3. All land not covered by structures, walkways, driveways, parking, other hardscape and/or softscape shall be landscaped and irrigated with an automatic irrigation system installed in accordance with the Uniform Plumbing Code.
4. Berms, walls and/or hedges shall be used in the required setbacks to separate parking facilities from abutting streets.

6.4 MASS AND SCALE

6.4.1 HEIGHT MODULATION

Buildings greater than forty (40) feet in height shall incorporate at least one of the following:

1. Stepback. Minimum depth of six (6) feet for at least seventy-five (75) percent of the façade of all upper floors above forty (40) feet in height, measured from the primary façade plane; or
2. Roofline Variation. Variation in roof height of at least five (5) feet for every eighty (80) linear feet; or
3. Height Averaging. Up to thirty (30) percent of the building footprint area may be twelve (12) feet taller than the maximum height allowed, provided an equal amount of building footprint area is twelve (12) feet shorter than the maximum allowed height.

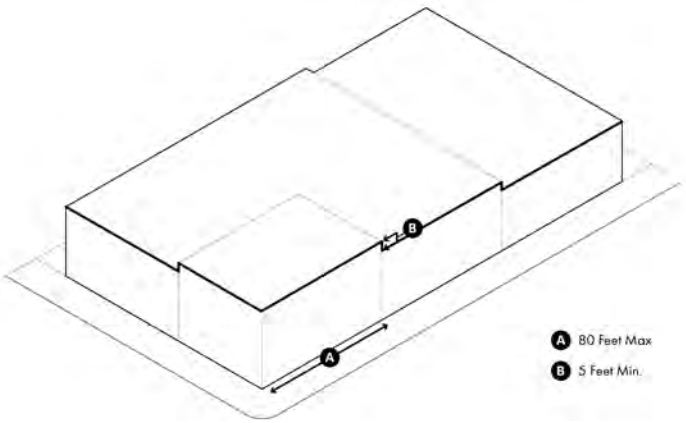


Figure 6.6: Rooftop Variation

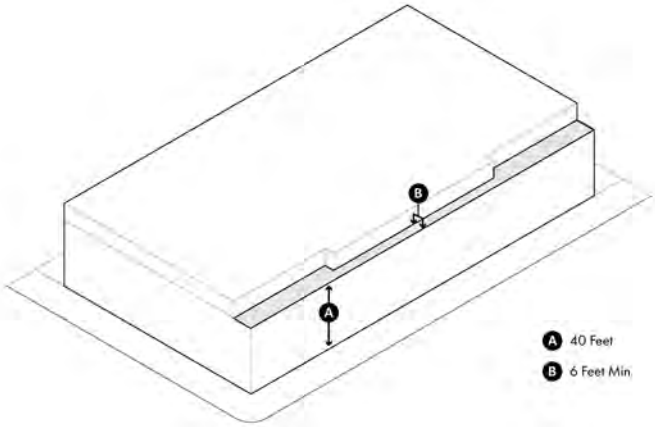


Figure 6.7: Stepback

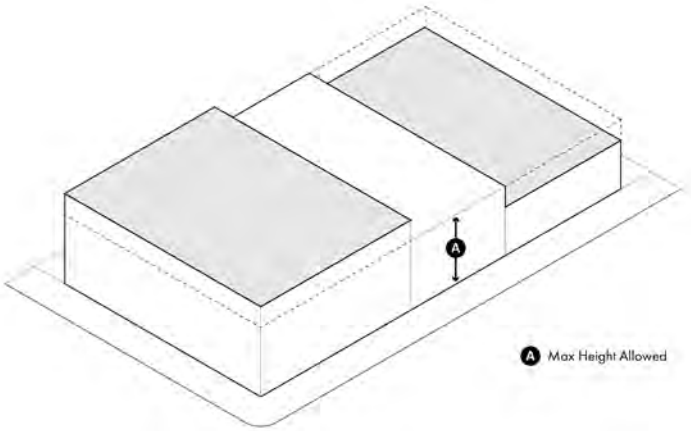


Figure 6.8: Height Averaging

6.4.2 FACADE MODULATION

1. Projects shall comply with the following horizontal modulation standards:
    a. Minor Modulation. Each street-facing façade greater than sixty (60) feet in length shall include a minimum modulation of thirty (30) percent of the façade length that is a minimum of three (3) feet in depth from the primary façade plane. Façade area used to meet this standard may be recessed behind, or project out from, the primary façade plane and may be in one continuous section or a combination of sections across the façade.
    b. Major Modulation. For every two hundred forty (240) feet of street-facing facade, a minimum of one building separation shall be provided, in addition to the horizontal modulation required above (Section 6.5.2.1.a). The separation shall be at least six (6) feet in depth and twenty (20) feet in length and extend from grade to the highest story.

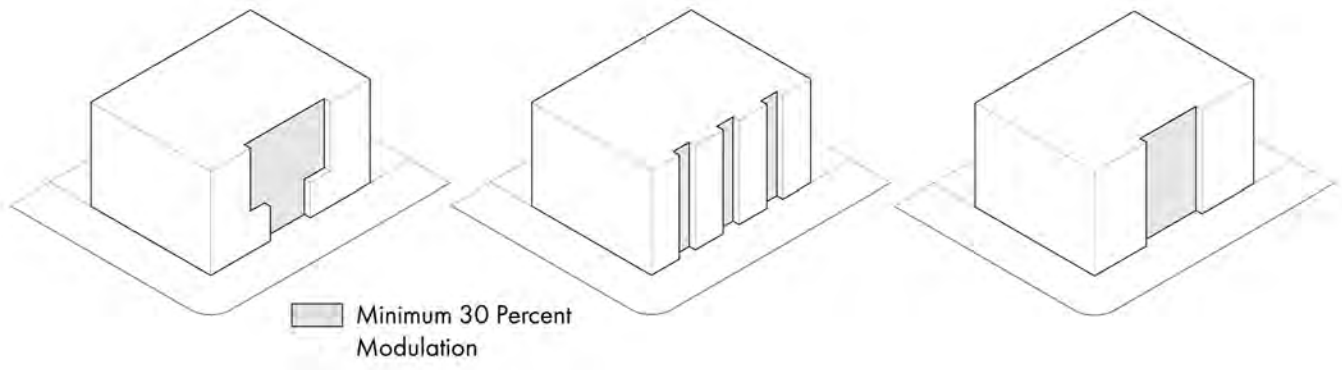


Figure 6.9: Facade Minor Modulation

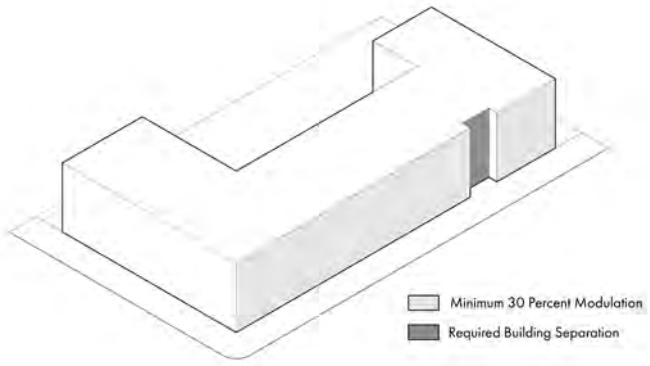


Figure 6.10: Facade Major Modulation

6.4.3 GATEWAY ELEMENTS

1. Gateway Elements are required on sites if:
    a. Located on a corner lot where both intersecting streets have a right-of-way one hundred (100) feet or more; or
    b. Located at the visual termination of a street.

2. Gateway Elements shall incorporate at least two of the following features at the building corner or centered on the axial conclusion of a terminated vista:
    a. Massing element with a greater height than adjacent building facades by a minimum of ten (10) feet, but not exceeding the base height limit by more than ten (10) feet, for a minimum of twenty (20) feet linear feet; or
    b. Massing element with a minimum of six (6) feet recess or projection from the primary façade with a minimum of twenty (20) linear feet and extend from grade to the building height; or
    c. Corner feature with diagonal or curved walls; or
    d. Corner feature with primary building entry and enhanced canopies or awnings oriented diagonal to the intersection; or
    e. Color and material variation from the primary façade with a minimum of twenty (20) linear feet and extend from grade to the building height; or
    f. Open space or gathering areas with distinct paving or landscaping, consistent with standards outlined in Publicly Accessible Open Space (Section 6.4.2); or
    g. Public art installations (upon Director approval).

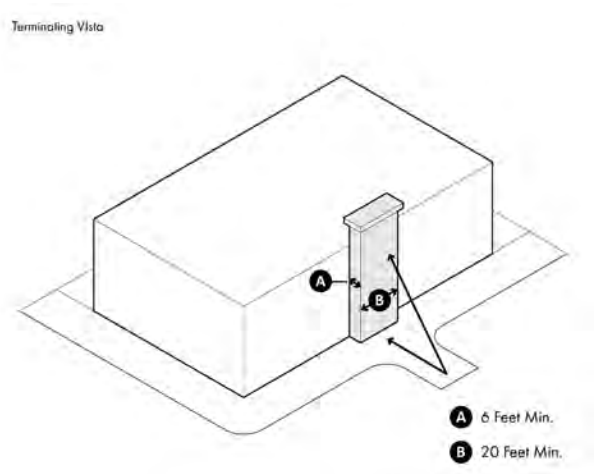


Figure 6.11: Terminated Vistas

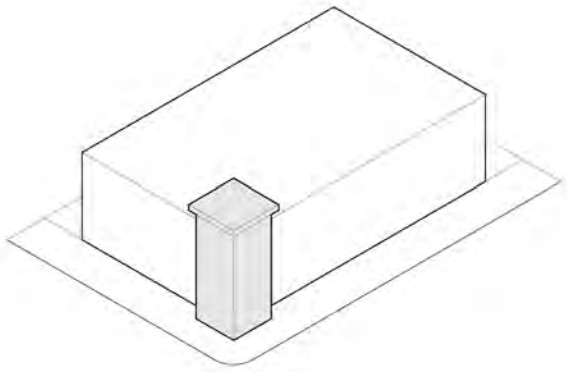


Figure 6.12: Corner Element

6.5 MATERIALS AND FINISHES

6.5.1 FACADE DETAILS

All new development and facade remodels shall comply with the following design standards:

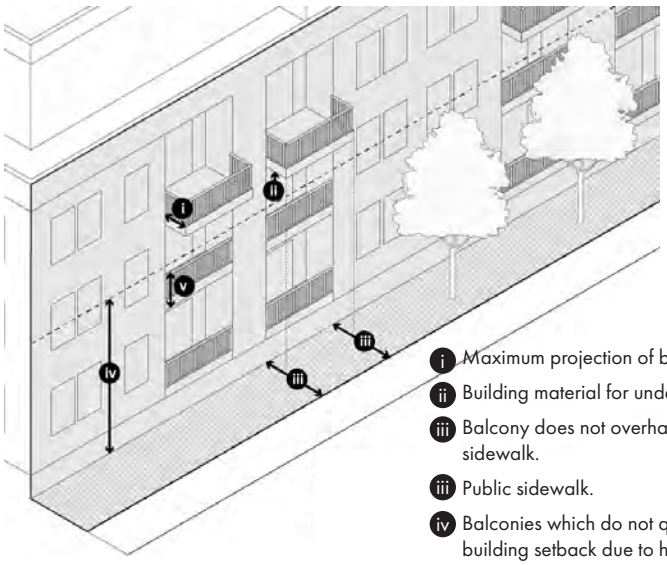
1. All building façades facing a street or public open space shall be articulated for at least eighty (80) percent of each façade length. All other building façades shall be articulated for at least sixty (60) percent of each façade length. Façade articulation shall be achieved through at least four of the following architectural elements:
    a. Minimum of three material and/or color variations, including contrasting accent colors for doors, awnings, etc.; or
    b. Minimum of two fenestration type and/or size variation; or
    c. Window details such as shutters, awnings, trims, and/or sills; or
    d. Balconies and/or porches; or
    e. Decorative light fixtures; or
    f. Decorative attic/gable vent; or
    g. Decorative moldings and/or cornices; or
    h. Trellis and/or arbor structures.

2. Blank Facades. A blank facade is a portion of a facade without a window, balcony, ground floor windows, and/or doorways for thirty (30) feet in any direction. Where a blank facade is unavoidable, at least one of the following design treatments shall be used to create visual interest and increase pedestrian safety, comfort, and interest:
    a. Mural at least one hundred (100) square feet and ten (10) linear feet.
    b. Architectural treatments (such as trellises, screens, or changes in materials) that cover at least fifty (50) percent of the blank facade surface.
    c. Vertical landscaping treatments that cover at least fifty (50) percent of the blank façade surface.

6.5.2 BALCONIES

All new balconies shall conform to the following standards:

1. All balconies shall be recessed into the building façade. The maximum projection shall be fifty (50) percent of the balcony's full depth or five (5) feet, whichever is less.
2. The underside of projecting balconies shall be finished with building material that matches or is otherwise compatible with the building.
3. No balconies shall overhang into the public right-of-way or sidewalk, not including the portion of the building setback behind the existing property line.
4. Balconies within the first twenty (20) feet in height of the building elevation shall not overhang into the building setback.
5. The lower thirty (30) percent portion of balcony rails shall be finished with a permanent, solid building material that matches or is otherwise compatible with the building.
6. All private patios for ground-floor units shall be a minimum of one hundred (100) square feet in area, with a minimum length and width of eight (8) feet.
7. Private balconies for dwelling units located entirely above the ground floor shall be a minimum of seventy (70) square feet in area, with a minimum dimension of seven (7) feet.



i Maximum projection of balconies recessed into the façade.
ii Building material for underside of projecting balconies
iii Balcony does not overhang into the public right-of-way or sidewalk.
iii Public sidewalk.
iv Balconies which do not qualify for the overhang into the building setback due to height limit.
v The lower portion of the balcony rails.

Figure 6.13: Balconies

6.5.3 WINDOWS

All window patterns shall conform to the following standards:

1. All windows shall be offset at least twelve (12) inches from any windows in adjacent buildings within twenty (20) linear feet to avoid direct line-of-sight.
2. All windows between the ground floor and fifty (50) feet above grade shall either be recessed at least three (3) inches from the plane of the surrounding exterior wall or shall have a trim or windowsill at least one (1) inch in depth.
    a. When trim is used, a minimum of one (1) inch by four (4) inch trim is required.
    b. With stucco walls, a minimum of one (1) inch deep, raised relief around the window is required.
    c. With brick, a minimum two (2) inch wide brickmold is required around windows.
3. All windows facing a public street shall feature at least two of the following:
    a. Variation in window types and/or sizes; or
    b. Decorative architectural brackets; or
    c. Trim; or
    d. Shutters; or
    e. Awnings and/or trellises.
4. Non-residential. A minimum of fifty (50) percent of the street-facing façade between three (3) feet and seven (7) feet above ground level shall be transparent.

6.5.4 MATERIALS

All materials for new projects and facade remodels shall conform to the following standards:

1. All building facades, including alley-facing elevations, shall be treated equally with high-quality and human-scaled materials.
2. All building facades shall incorporate a minimum of two (2) materials.
3. All building facades shall be constructed with durable materials, such as natural stone, brick, siding, precast concrete, and factory-finished metal panels (heavy gauge only) that can withstand significant deterioration, decay, or discoloring due to wear or weathering. Materials that are short lived or insubstantial, such as unfinished wood for exterior use, shall not be permitted.
4. Materials such as EIFS (exterior insulation finishing systems, or synthetic stucco), stucco, or monolithic concrete panels shall not be used within the first twenty (20) feet in height of a building elevation.
5. Above the ground floor (minimum twenty [20] feet), no more than sixty (60) percent of the building elevation shall be clad with EIFS or stucco.
6. Materials and texture variations at building base, middle, and/or top, or with horizontal massing modulation shall be emphasized, consistent with Section 6.5.2.1. Heavier materials such as brick, stone, and wood shall be used at the base of the building, corner elements, and special features. Lighter materials such as siding and smooth stucco shall be used on the middle and top of the building.
7. Changes in material or color shall occur at inside corners of intersecting walls or at architectural features that break up the wall plane, such as columns.

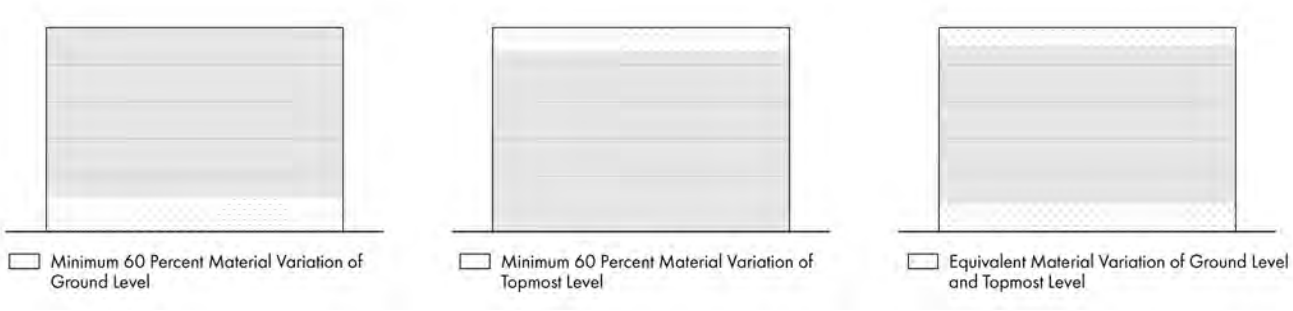


Figure 6.14: Material Variations

8. Material Variation. The street-facing façade(s) of buildings over three stories in height shall feature a contrasting material finish applied to at least sixty (60) percent of either the ground level or the topmost level façade surface (for example stone veneer vs stucco). This requirement may also be met with an equivalent numerical balance applied to both ground level and uppermost level facades (for example, half the ground floor and half the upper floor). For the purposes of this requirement, window glazing is considered a contrasting material.
9. Expansion Joints. If employed on stucco facades, expansion joints shall reinforce the grid pattern created by fenestration openings by aligning with:
    a. Window and/or door jambs, sills, and/or headers,
    b. The centerlines of windows and/or doors, and/or
    c. Wall breaks such as recesses and/or soffits created by

balcony openings.

6.5.5 TRASH ENCLOSURES

Trash enclosures shall comply with the size requirements detailed in Tables 6.2, 6.3, and 6.4 as well as the following standards:

1. The location of storage areas shall be accessible for trash removal by standard refuse disposal vehicles.
2. Trash storage areas that are visible from the upper stories of adjacent structures shall have an opaque or semi-opaque horizontal cover/screen to mitigate unsightly views.
3. Provide a concrete pad within the fenced or walled area(s) and a concrete apron which facilitates the handling of the individual bins or containers.
4. All recycling areas in multifamily residential developments shall be located within two hundred fifty (250) feet of any residential unit.
5. Storage areas shall not be closer than twenty (20) feet from individual unit entries or operable windows of adjacent structures. For individual units, a minimum of three (3) cubic feet shall be provided for the storage of refuse, and a minimum of three (3) cubic feet shall be provided for the storage of recyclable material.

Table 6.2: Minimum Space for Containers		
Multi-family Residential	Each 10 Units	Space for one 3-yard bin
Office/ Commercial	First 20,000 sf	Space for two 3-yard bins
	Each Add'l 20,000 sf	Space for one additional 3-yard bin
Retail	First 8,000 sf	Space for two 3-yard bins
	Each Add'l 8,000 sf	Space for one additional 3-yard bin
Restaurants	First l ,500 sf	Space for two 3-yard bins
	Each Additional 1,500 sf	Space for one additional 3-yard bin
Industrial	First 20,000 sf	Space for two 3-yard bins
	Each Additional 10,000 sf	Space for one additional 3-yard bin
Institutional	Trash and recycling needs will depend on use	
Commercial Business	All developments must provide space for trash and recycling	

Table 6.3: Bins & Clearances		
Bin Size	**Approx. Bin Dimensions**	**Min. Interior Clearances**
3-yard	4'H x 7'W x 4'D	1' between bin and enclosure walls 4' user aisle between bins
4-yard	5'H x 7'W x 5'6"D	
Recycling Carts (96 gallon)	43.25"H x 29.75"W x 32.25"'D	1' between each cart and enclosure walls

Table 6.4: Truck Access	
Outside Turning Radius: 29'	Travel way vertical clearance: 15' (h) Travel way minimum width: 12'
Outside turning Radius: 41'	
For safety reasons, a truck turnaround is required for any street, driveway, or travel way if the collection truck has to back up more than 25 feet.	

6.5.6 UTILITIES

All utility installations shall comply with the following standards:

1. All mechanical equipment, including electrical and gas meters, shall be screened through at least one of the following standards:
    a. Landscaping; or
    b. Minimum three (3)-foot tall architectural features that:
        i. Belong to the same architectural idea and style of the development and utilize the same materials, colors, and lighting fixtures; or
        ii. Are covered with landscaping or public art for a minimum percentage of the total length along public open spaces and public streets; or
        iii. Fences that use durable and weather-resistant material, such as block and vinyl, are four (4) to five (5) feet in height, and do not interrupt the line-of-sight of drivers entering or exiting the site. Chain link and slats are not allowed.
2. No utilities shall protrude into the public right-of-way, including the portion dedicated as sidewalk and located behind the property line.
3. All utilities shall be integrated into the building facade and not freestanding.
4. Electrical transformers shall be located so that access is achieved from the alley, where feasible. If located adjacent to a public sidewalk, they shall be screened and incorporated into the building to provide the visual appearance of a storefront.
5. Electrical transformers, mechanical equipment, and other utility-oriented equipment shall not be located within fifty (50) feet of any building corner or located within a designated publicly accessible open space.

6.5.7 OUTDOOR LIGHTING

All new lighting shall comply with the following standards:

1. Individual exterior luminaires shall be shielded to direct light downward and shall not exceed one thousand two hundred sixty (1,260) lumens. Exterior light fixtures shall utilize light sources with a color temperature that does not exceed three thousand (3000) Kelvin.
    a. A luminaire is considered to be fully shielded if it is constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part.
2. All lighting shall be directed, oriented, and shielded to prevent light trespassing or glaring onto adjacent properties. The light level at property lines shall not exceed 0.3 foot-candles.
3. Outdoor lights shall not blink, flash, flicker, or change intensity (excluding motion detecting lights).
4. Parking lots, pedestrian paths, outdoor gathering spaces, building entries, and any other pedestrian-accessible areas shall be illuminated with a minimum of one (1) foot-candle to ensure safe nighttime conditions.
5. Lighting of outdoor service, loading, and storage areas shall not be visible from the street or adjacent properties.
6. Rooftop lighting shall be set back at least twelve (12) feet from the edge of any building face that is oriented towards any residential zone.
7. Freestanding outdoor light fixtures shall not exceed fifteen (15) feet in height.
8. Building faces shall be illuminated such that surfaces located at least ten (10) horizontal feet away from building entries shall have at least sixty-six (66) percent less luminance than surfaces within ten (10) horizontal feet of building entries. Compliance shall be demonstrated with a lighting plan.

6.5.8 ROOFTOP EQUIPMENT

All rooftop equipment shall comply with the following standards:

1. Rooftop elements including roof access, mechanical equipment, and other features needed for the function of the building shall be located to minimize visual impact by meeting the following requirements. Mechanical equipment less than two (2) feet in height, solar panels, wind generators, or green roof features are exempt from these requirements.
    a. Roof-mounted equipment and screening of roof-mounted equipment shall be stepped back from top of parapet a minimum of ten (10) feet from the parapet or roof edge.
    b. Roof-mounted equipment greater in height than the parapet wall shall be screened to a height equal to the height of the equipment.

6.5.9 PUBLIC ART AND MURALS

Developers should contact the City as early as possible during the design process to obtain information regarding inclusion of artwork within a development proposal and to develop a project Public Art Plan, selecting and working with artists and art consultants. A project Public Art Plan should be prepared by the project proponent to address the following:

1. Describe the qualifying artwork, including artist concept and drawings, if available.
2. Indicate the intended site(s), media, and materials of the artwork(s).
3. Detail the schedule for the selection, fabrication(s) and installation of the artwork.
4. Describe plans for maintenance of the artwork(s).

6.5.10 STREETSCAPES

1. New development shall be required to:
    a. Grind and overlay or at a minimum slurry seal the full width of the road the development is fronting.
    b. Apron driveways shall be updated with a maximum slope of 12 percent and 4' minimum width sidewalk at 2 percent maximum cross-slope.
    c. Curbs, curbs and gutters, and curb ramps shall be per SPPWC latest edition.
    d. Asphalt rehabilitation shall be per City of Artesia std. plan.
    e. Have infrastructure ready to support future broadband.
    f. Install light posts consistent with existing style at every 50'.
    g. Sidewalk improvements shall be consistent with the existing Downtown sidewalk.

2. Projects fronting Pioneer Boulevard within the Specific Plan boundaries and north of South Street shall improve the public right-of-way in a manner consistent with the public right of way as constructed between 186th Street and 187th Street, including but not limited to lighting standards, street trees, sidewalk, and paving embellishments.

6.6 FRONTAGE DESIGN STANDARDS

6.6.1 FRONTAGE TYPE REQUIREMENTS

Frontage requirements apply to new development in the Downtown North, Pioneer Boulevard, and Downtown South districts only. Within these districts, at least sixty (60) percent of the total ground-floor frontage along all street facades shall be consistent with one or more of the following frontage standards.

6.6.2 PATIO

This frontage type is only permitted for projects located along a street with six lanes or more of through traffic (not including parking or turn lane) and over 100 feet of right-of-way. This frontage type is primarily associated with multifamily projects and is recommended for providing a buffer between residential ground floor patios and high-traffic street conditions. Porches may encroach into setbacks.

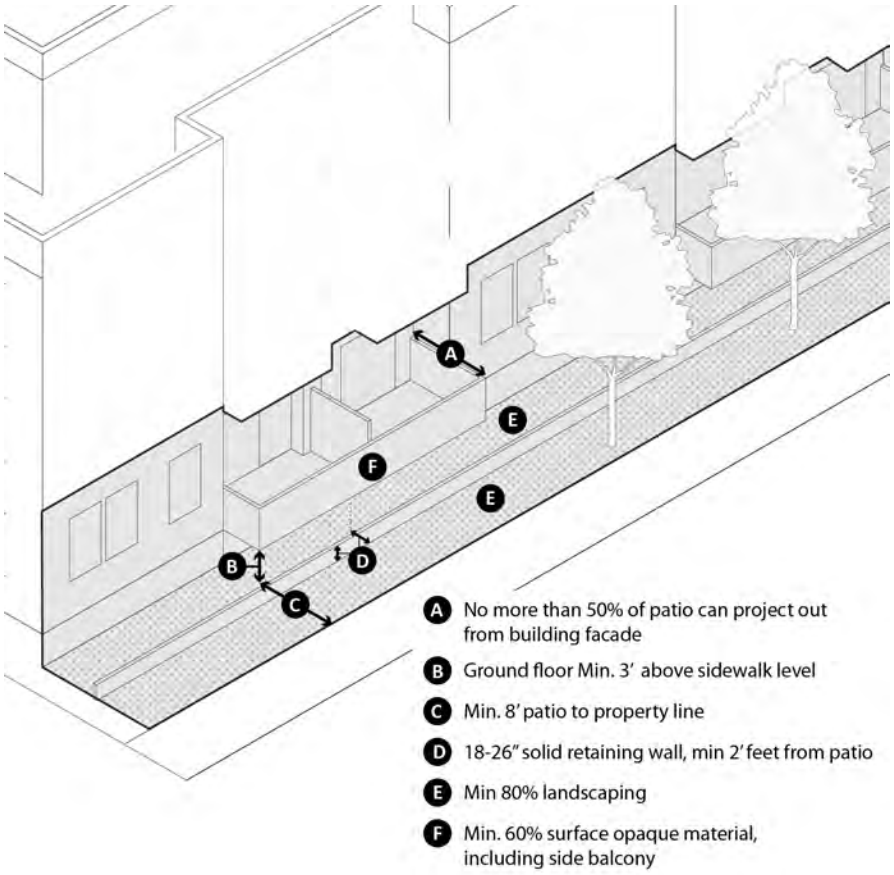


Figure 6.15: Patio

Table 6.5: Patio Dimensions	
A. Patio Projection from Building Facade	50% max.
B. Patio Finish Level Above Sidewalk	3' min
C. Setback from Patio to Property Line	8' min
D. Retaining Wall	18-26" height, 2 min, setback from patio
E. Landscaping	80% min.
F. Balcony Material	60% min, opaque material

6.6.3 STOOP

A stoop is a frontage wherein the building façade is separated from the street, paseo, or open space by an entrance to the elevated ground floor of the building. The entrance is usually an exterior stair and landing and may be covered. This frontage type is recommended for ground-floor residential uses to facilitate a transition and to provide separation between an active public street and a private residence.

All stoop entries shall be covered or recessed.

1. Stairs may be perpendicular or parallel to the building façade.
2. Walls and/or fences shall be compatible with the architectural style of the building in their design, materials, and finishes.
3. Stoop entrances, as defined in Figure 6.16 and Table 6.3, shall occur no less than thirty (30) feet of façade length, provided there is no change in the frontage type.

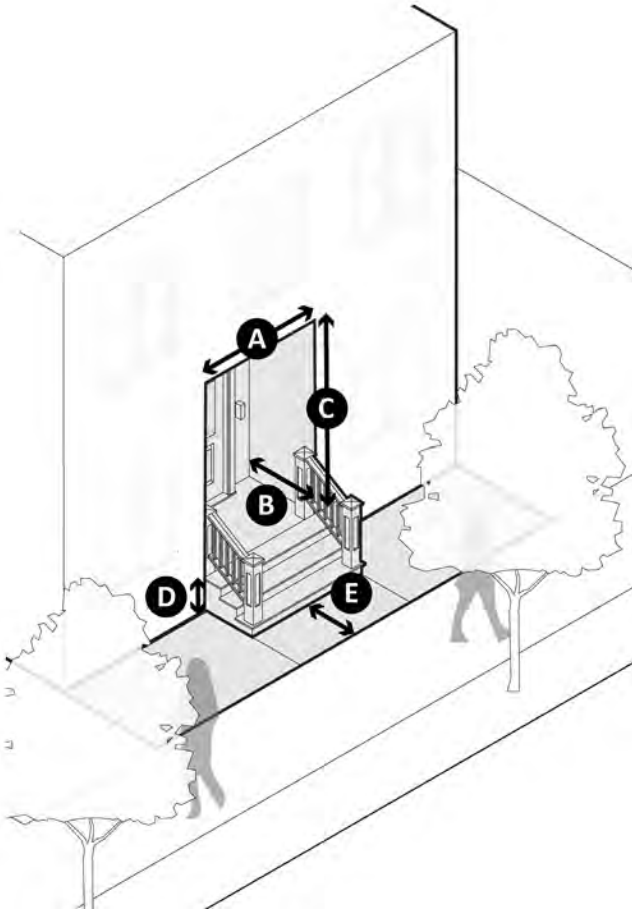


Figure 6.16: Stoop

Table 6.6: Stoop Dimensions	
A. Width	5′ min
B. Depth	4′ min
C. Height	8′ min
D. Finish Level Above Sidewalk	1′ min
E. Distance between Stoop and Sidewalk	3′ min

6.6.4 SHOPFRONT

A shopfront is a frontage wherein the building façade and entrance are at sidewalk grade and close to the pedestrian zone. Shopfronts include large areas of transparent openings and doors and are commonly equipped with cantilevered roofs or awnings. Shopfronts typically provide access directly from sidewalks and are oriented to display ground-level commercial uses. This frontage type is typically used for commercial use. This frontage type can be used in conjunction with terrace, and/or forecourt to create a more engaging street. All stoop entries shall be covered or recessed.

1. All storefront facades shall include at least two of the following architectural features:
    a. Awning, canopy, or marquee above an entry no higher than twelve (12) feet above finished grade; or
    b. Crown molding; or
    c. Columns; or
    d. Cornices; or
    e. Transom windows; or
    f. Ornamental light fixtures
2. All storefront facades shall include transparent windows and doors for at least fifty (50) percent of the building wall area located between three (3) and seven (7) feet above the elevation of the sidewalk.

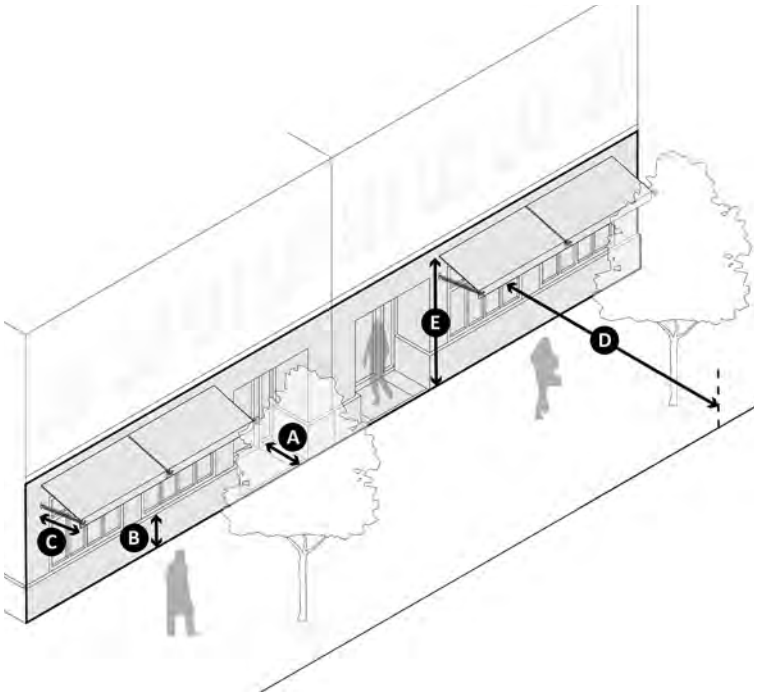


Figure 6.17: Shopfront

Table 6.7: Shopfront Dimensions	
A. Depth of Recessed Entries	5′ max
B. Storefront Base	2.5′ max
Awning Dimensions	
C. Depth	5′ min
D. Setback to Curb line	2′ min
E. Height	8′ min

6.6.5 LOBBIES AND ENTRIES

Lobbies and entries provide visual clues to building entrances and create landmarks for pedestrians. They offer a unique means to create visual interest and modulation in a building facade. Lobby entrances shall be carefully designed to create landmark visual reference points. Lobbies and entries may also be aligned with terminated vistas and corner features.

1. Exterior building lobbies shall incorporate at least two of the following aesthetic features:
    a. Design element such as a canopy, awning, or building identification sign; or
    b. Material, texture, and/or color variation; or
    c. A recess or projection; or
    d. Decorative paving materials to delineate the primary entrance pathway.

2. Building entrances for commercial uses shall be located on a public street or on a usable public open space that is visible and connected to a public street.

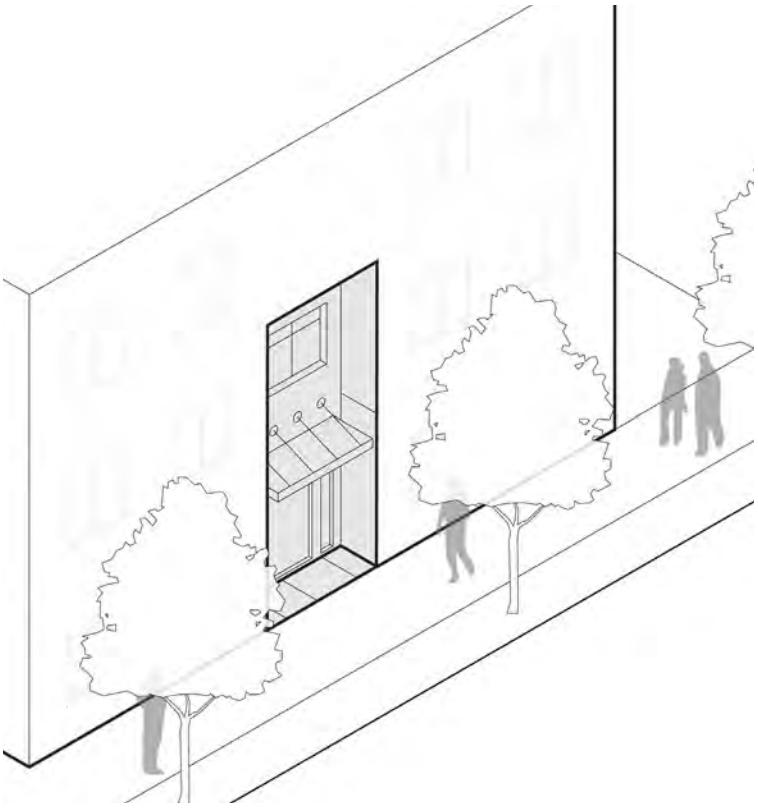


Figure 6.18: Lobbies and Entries

6.6.6 LIVE-WORK

The main facade of the building is at or near the front lot line with an at-grade or elevated entrance from the sidewalk. This type is only allowed on side streets from the adjacent main street and is intended for industrial artisan businesses to show their activity to people passing by on the sidewalk, as well as for retail sales of products made on-site. Live-work frontage may include a decorative roll-down or sliding door, including glazing ,and an awning that overlaps the sidewalk.

All live-work facades shall include transparent windows and doors for at least twenty (20) percent of the building wall area located between three (3) and seven (7) feet above the elevation of the sidewalk.

1. Rounded and hooped awnings are not allowed.
2. Decorative accordion-style doors/ windows or other operable windows that allow the space to open to the street require Director approval.

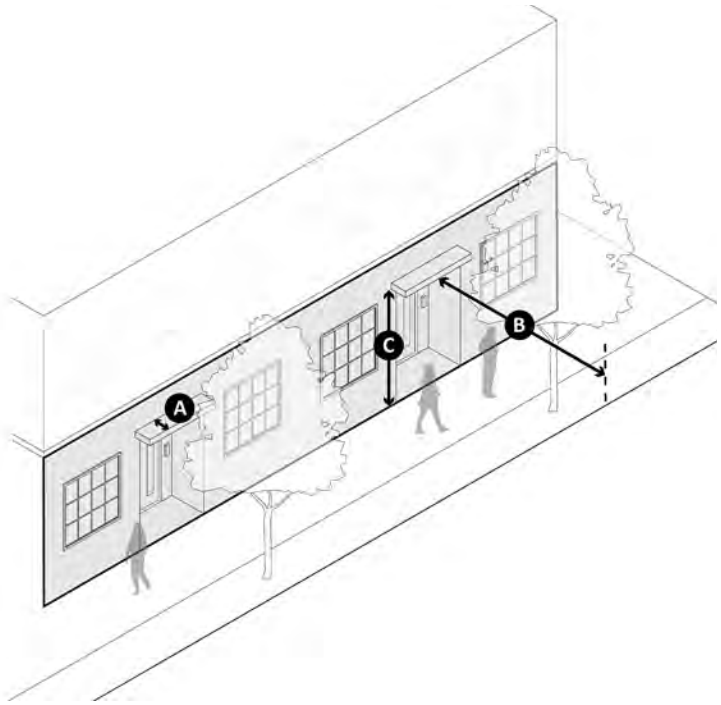


Figure 6.19: Live-Work

Table 6.8: Live-Work Dimensions	
A. Depth	5′ min
B. Setback	2′ min
E. Height	8′ min

6.7 PARKING AND LOADING

6.7.1 PARKING REQUIREMENTS

1. Parking shall be provided at ratios defined by Table 6.9.
2. Tandem parking shall comply with the standards in Municipal Code Chapter 2, Article 11.
3. Specific exceptions for parking in the Old Downtown Area shall apply consistent with Artesia Municipal Code, Title 9, Section 2.1103(b)(8)(D).

Table 6.9: Parking Requirements by Use Type

Use Type	Parking Requirement
Residential - 1 bedroom	1/Dwelling Unit
Residential - 2 bedrooms	2/Dwelling Unit
Residential - Guest	0.15/Dwelling Unit
Commercial and Office	1 /600 SF
Commercial on Pioneer	1/400 SF
Restaurant*	1/250 SF
Night clubs, bars, cocktail lounges**	1/60 SF
Hotel	0.75/room
Institutional	3/1,000 SF

Notes:
* Including Take-out Restaurants, not limited to, coffee, ice cream, yogurt, juice, beverage and doughnut shops, bakeries, deli, sandwich and specialty food shops
**Including areas in which live entertainment is provided, and similar uses, including areas in which any such use occurs in a restaurant

6.7.2 OFF-STREET LOADING SPACE REQUIREMENTS

1. One loading space is required in any parking lot with fifteen (15) or more spaces serving any nonresidential or mixed use.
2. Loading docks and service areas are prohibited on Pioneer Boulevard.

6.7.3 SURFACE PARKING

1. Parking shall be located to the rear or side of the primary building and away from the street or street intersections. There shall be no vehicular parking between primary building fronts and the public right-of-way.
2. If an applicant deviates from the parking requirements found in Table 6.9, they may do so only by submitting a parking study demonstrating that the proposed amount of parking would satisfy the parking demand of the proposed uses. A shared parking agreement may be utilized to achieve compliance with this standard.
3. Access drives shall be located at least two hundred (200) feet apart and at least one hundred (100) feet from property lines and street intersections unless an approved shared drive is provided, or the driveway location does not create a traffic hazard to adjacent property.
4. Maximum number of driveways:
    a. One driveway for lot frontage up to one hundred fifty (150) feet
    b. Two driveways for lot frontage one hundred fifty (150) feet to two hundred ninety-nine (299) feet
    c. One driveway for each additional three hundred (300) feet
5. Open parking areas shall be screened from view from adjacent properties and streets using fencing, walls, berms, and/or evergreen landscaping.
6. Parking lot landscaping shall be located to ensure pedestrians don't need to cross any landscaped areas to reach building entrances from parked cars.
7. Parking areas adjacent to public rights-of-way shall provide a minimum of four (4)-foot high landscaped screen across the entire parking frontage except for driveways. The minimum width of a landscaped area required for screening shall be four (4) feet.
8. Private streets and common courts on residential projects shall include a minimum five (5)-foot-wide parkway including landscaping, curbs, color/textured paving, and other "gateway" elements (e.g., lights, bollards, entry walls, etc.).

9. Each parking space adjoining a wall, fence, column, or other obstruction higher than 0.5 feet shall be increased by two (2) feet on each obstructed side.
10. The minimum size of a standard parking space stall shall be 9 feet wide and eighteen (18) feet long. The minimum size of a compact parking space shall be eight (8) feet wide and sixteen (16) feet long.
11. The minimum dimensions for a single-car carport are ten (10) feet by twenty (20) feet. The minimum dimension for a double carport is twenty (20) feet by twenty (20) feet.
12. The minimum dimension for one-way driveway is twelve (12) feet and two-way traffic is twenty-four (24) feet.

6.7.4 RESIDENTIAL GARAGES

1. Garage doors may occupy no more than forty (40) percent of a building's street frontage and shall be recessed a minimum of eighteen (18) inches from a street-facing wall plane.
2. Street-facing garage doors serving individual units that are attached to the structure must incorporate one or more of the following so that the garage doors are visually subservient and complementary to other building elements:
    a. Garage door windows or architectural detailing consistent with the main dwelling.
    b. Arbor or other similar projecting feature above the garage doors.
    c. Landscaping occupying fifty (50) percent or more of driveway area serving the garage (e.g., "ribbon" driveway with landscaping between two parallel strips of pavement for vehicle tires)
3. Minimum Dimensions.
    a. A single-car garage shall be at least ten (10) feet wide and twenty (20) feet long.
    b. A standard double-car garage shall be at least twenty (20) feet wide and twenty (20) feet long.
    c. Each garage space shall be equipped with an automatic door opener and a roll-up sectional or similar garage door which does not extend onto the apron. On multifamily

dwellings, a security gate on a multi-space garage is permitted.

d. For attached private garage, the design shall include room for waste/solid storage and a water heater unit.

6.7.5 PARKING STRUCTURES

1. Any driveway providing access to a parking structure shall have a minimum width of twenty-four (24) feet.
2. Parked vehicles at each level within the structure shall be shielded from view from adjoining streets.
3. The exterior elevations of parking structures shall be designed to minimize the use of blank concrete facades. This can be accomplished with textured concrete, planters or trellises, or other architectural treatments.
4. If a toll or fee booth is located in the driveway area, the driveways on either side of the booth shall have a minimum width of fourteen (14) feet.
5. The parking aisle shall be a maximum of three hundred (300) feet without being intersected by another parking aisle or driveway.
6. The parking areas of sloped floor parking structures shall not exceed a grade of five (5) percent as measured across the width of a ninety (90) degree parking stall. The grade of a straight internal ramp shall not exceed twenty-five (25) percent. The grade of a circular ramp shall not exceed twelve (12) percent as measured at the outside ramp wall.
7. A straight one-way ramp shall be at least fourteen (14) feet in width. A two-way ramp shall be at least twenty-four (24) feet in width. The minimum outside wall radius of a circular ramp shall be thirty-six (36) feet.
8. All ramps shall be provided with transition zones at the top and bottom of the ramp. Ramps with a grade of ten (10) percent or less shall have a transition zone at least eight (8) feet in length. Ramps with a grade of greater than ten (10) percent shall have transition zones at least twelve (12) feet in length. The grade of a transition zone shall not exceed one-half (1/2) the grade of the ramp it serves.
9. The minimum lighting requirement at entrances and exits is fifty (50) foot-candles. The minimum lighting requirement for parking

areas is five (5) foot-candles.

10. Entries/exits into and from the parking structure shall be a minimum of one hundred fifty (150) feet from any intersection, measured from the edge of the driveway to the edge of the curb.
11. Parking structure entrance signs shall conform with Municipal Code, Chapter 2, Article 12,, and shall be visible from any primary street frontage and feature architectural details, such as an arch and canopy to emphasize the facility entry and attract patrons.
12. Parking Structure Entries. Parking structure entries provide necessary access to parking for developments. However, garage entries can create conflicts with pedestrians while being aesthetically incompatible with the streetscape and building design. Integrating the location and design of driveways into the overall building design plays an important role in minimizing disruption of the public realm and building character. Parking structure entries should support the overall building design while not detracting from the sidewalk experience.
    a. Visibility. No ground-level parking, except for the parking entry, shall be visible from any primary street frontage. Ground-level parking shall be screened by active retail, residential entry, or other habitable ground-floor uses facing the sidewalk.
    b. Alley Access. Where alleys are adequate, per Public Works standards and approval regarding width and capacity, new developments shall locate all parking garage entries on the alley.
    c. Street Access. Where parking garage entries are located on the street, all entries shall conform to the following:
    d. For sites that are one hundred (100) feet wide or greater, driveways shall be less than twenty-five (25) percent of the street frontage. For sites that are less than one hundred (100) feet wide, driveways shall be less than twenty (25) feet.
    e. When multiple driveways are provided on a street frontage, they must be at least fifty (50) feet apart, measured between the internal edges of the driveways.
    f. Garage entrances shall be recessed at least two (2) feet from the street facing the property line.

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7 MOBILITY

7.1 INTRODUCTION

The positive impacts of multimodal transportation include equity, environmental, and economic benefits. By providing a variety of viable transportation options, such as public transit or active transportation, people can opt for low-to-no-cost and sustainable modes without substantial sacrifices in time, comfort, or efficiency. With more affordable and accessible transportation options available, people may be more likely to secure employment, run errands, or enjoy leisure activities in an area that was previously difficult to travel to.

As Downtown Artesia grows and evolves through the implementation of the ADSP, it will attract more residents, employees, and visitors to the area. With more people anticipated to frequent Downtown Artesia, it is essential to provide convenient, enjoyable, and environmentally friendly ways to get around for people visiting, working, or living in the Downtown. The new Southeast Gateway Line (SGL) light-rail station planned for Downtown Artesia presents an exciting opportunity to capitalize on a new regional connection and create a well-integrated multimodal system. Where applicable, relevant components of the Artesia Active Transportation Plan (ATP), adopted by the City of Artesia in 2022, the Southeast Gateway Line First/Last Mile Plan (SGL FLM Plan), released by Metro in 2024, and the First/Last Mile Strategic Plan (FLM Strategic Plan), released by Metro in 2014, were incorporated into this chapter to facilitate consistency with previous planning efforts and advance safe multimodal travel through Downtown Artesia.

Artesia aims to implement the key characteristics of transit-supportive communities, as determined by Metro, including increasing ridership and strengthening communities around transit. This can be done through building on the existing mobility network to enhance the Downtown urban fabric for pedestrians, cyclists, and transit users. These enhancements to Downtown Artesia encourage physical activity, increase retail exposure, and reduce the number of cars, all of which contribute to a walkable commercial core. The ADSP includes guidelines to increase connectivity to and from the SGL Pioneer Station and reduce vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions through the introduction of low-cost, clean transportation options. Through the implementation of mobility standards and guidelines, Downtown Artesia can transform into a transit-oriented community in preparation for the Southeast Gateway Line extension.

7.2 FUTURE MOBILITY NETWORK

The mobility network of Downtown Artesia should evolve to further enhance streetscapes and connectivity and to foster multimodal accessibility and safety to improve mobility options for people visiting, working, or living in Downtown. The ADSP is centered around the development of a transit-oriented community, enhancing first/last mile and complete street elements that dedicate space and amenities for people walking, bicycling, and accessing transit. The future mobility network aims to complete the gaps in the bicycle network, enhance the pedestrian network, boost transportation options by adding micro-mobility, and adjust the parking network to manage the curb space for continuously changing needs and to construct parking structures at the edges of Downtown.

The ADSP encourages policy action from the Circulation Element such as the following:

- Continue to implement the provisions of the Transportation Demand Management Ordinance.
- Encourage alternate modes of transportation, including but not limited to light rail, vanpooling, carpooling, pedestrian walkways, and bicycling.
- Coordinate with neighboring jurisdictions to create an integrated system of bike routes through such improvements as signage, additional bicycle lanes and paths, and additional bicycle racks.
- Coordinate efforts to increase pedestrian activity through improvements that make walking more safe, convenient, and enjoyable, including sidewalks, accessibility ramps, benches, traffic-calming measures, landscaping, and convenient and safe transit stops.
- Promote a balance of residential, commercial, institutional, and recreational uses with adjacencies that reduce VMT.
- Prioritize transit-oriented development within the city in accordance with SB375 and other planning initiatives from the State and Federal governments.

7.3 MOBILITY PATHWAY NETWORK

Metro proposed a "pathway network" within Downtown Artesia. Pathway networks are a hierarchy of routes radiating from the transit station based on the existing street network, key destinations, bus routes, the existing and planned bike network, pedestrian/bike access volumes, and surrounding land use. The network is structured into main branches (primary pathways) and feeder routes (secondary pathways). Primary pathways are main routes, or direct connections to Metro stations that support maximized throughput and efficiency of all users. In Downtown Artesia, the primary pathways are Pioneer Boulevard, 187th Street, and the SGL right-of-way. Secondary pathways avoid high-speed or highly traveled routes and feed into the primary pathways. The secondary pathways in Downtown Artesia are South Street and 183rd Street. Clarkdale Avenue is also a secondary pathway located one block east of the specific plan boundary. Signal and crossing improvements, wayfinding, and micro-mobility integration are important considerations in the design of pathway networks. Figure 7.1 illustrates the pathway network from Pioneer Station, recommended mobility hub locations, and traffic-calming corridors.

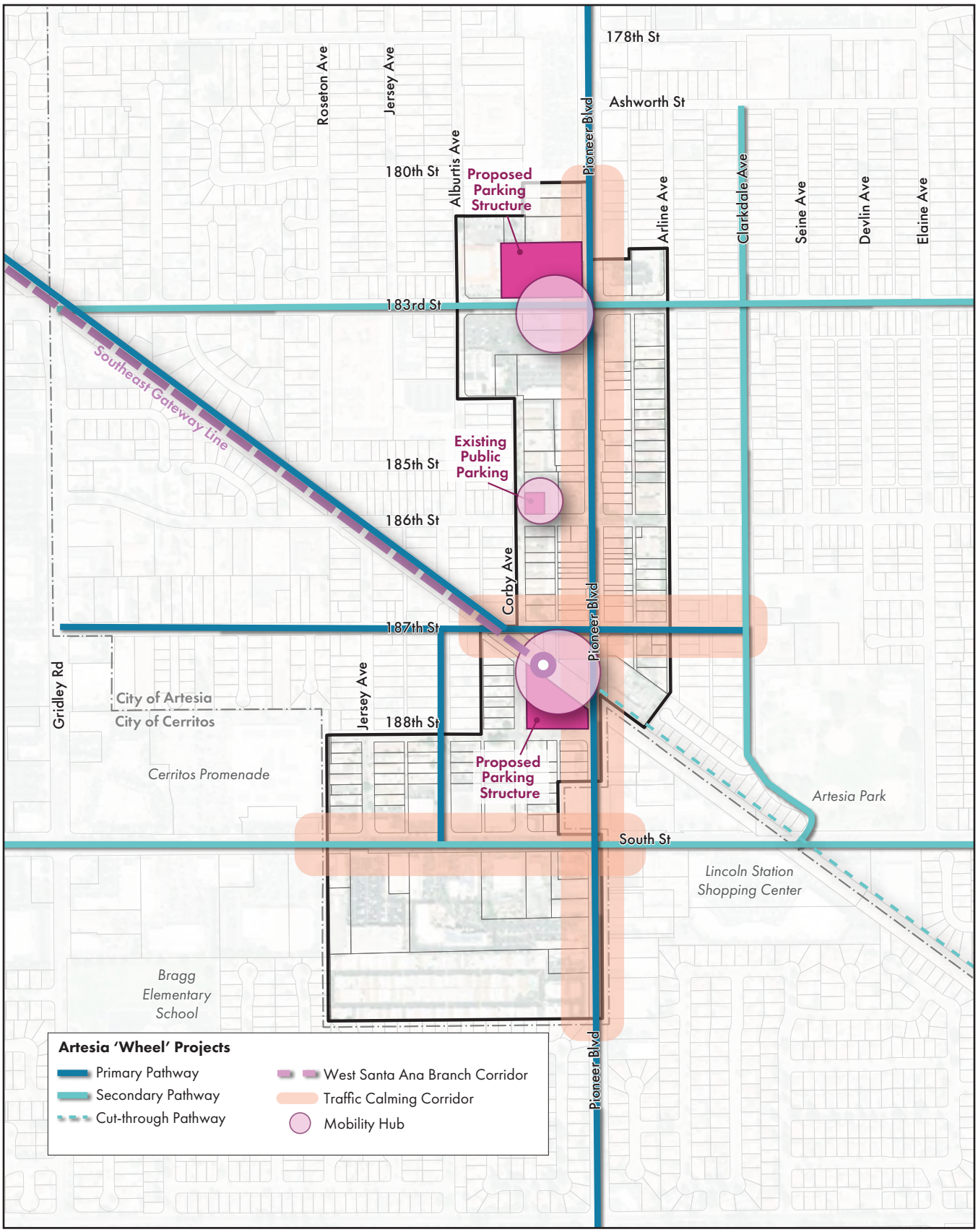

Figure 7.1: Downtown Artesia Pathway Network

7.3.1 FUTURE BICYCLE NETWORK

The proposed bicycle network includes a mix of Class I multi-use paths, Class II bicycle lanes, Class III bicycle routes, and Class IV separated bikeways. Park Avenue extends the existing multi-use path from its current edge at Corby Avenue eastward along the City boundary. Class III bicycle routes are planned along Pioneer Boulevard from Park Avenue north to 184th Street, on 187th Street, and on Alburtis Avenue. Class IV separated bikeways are planned on South Street and on Pioneer Boulevard through the entirety of Downtown Artesia, except for a Class III bicycle route segment along a narrow section from 184th Street to Park Avenue. There is a proposed advisory bike lane running east to west along 186th Street. Figure 7.2 displays the proposed bicycle network for Downtown Artesia. The following highlight general improvements when implementing future bicycle facilities.

- Green conflict striping is recommended at all Downtown intersections and across bus stop areas where a bicycle facility exists. (ATP, adopted 2022).
- Installing bicycle lane buffers by reducing travel lane widths. (SGL FLM Plan, released 2024; ATP, adopted 2022)
- Class III bicycle routes shall have both sharrow markings and signage.
- All bicycle facilities shall have wayfinding signage at key points.
- Install bicycle and scooter parking on streets with SGL FLM Plan prioritized wheel projects, such as along Pioneer Boulevard, 183rd Street, 187th Street, Alburtis Avenue. (SGL FLM Plan, released 2024).
- Pursue Signal Timing Optimization for bicycles on streets with SGL FLM Plan prioritized wheel projects, such as along Pioneer Boulevard, 183rd Street, 187th Street, and Alburtis Avenue. (SGL FLM Plan, released 2024).
- Implement an advisory bicycle lane on 186th Street and the proposed Class III bicycle routes on 187th Street and Alburtis Avenue to facilitate "Bike Friendly Streets" as identified in the SGL FLM Plan. The advisory bike lane should include speed humps, stop signs, and signage. (ATP, adopted 2022; SGL FLM Plan, released 2024).

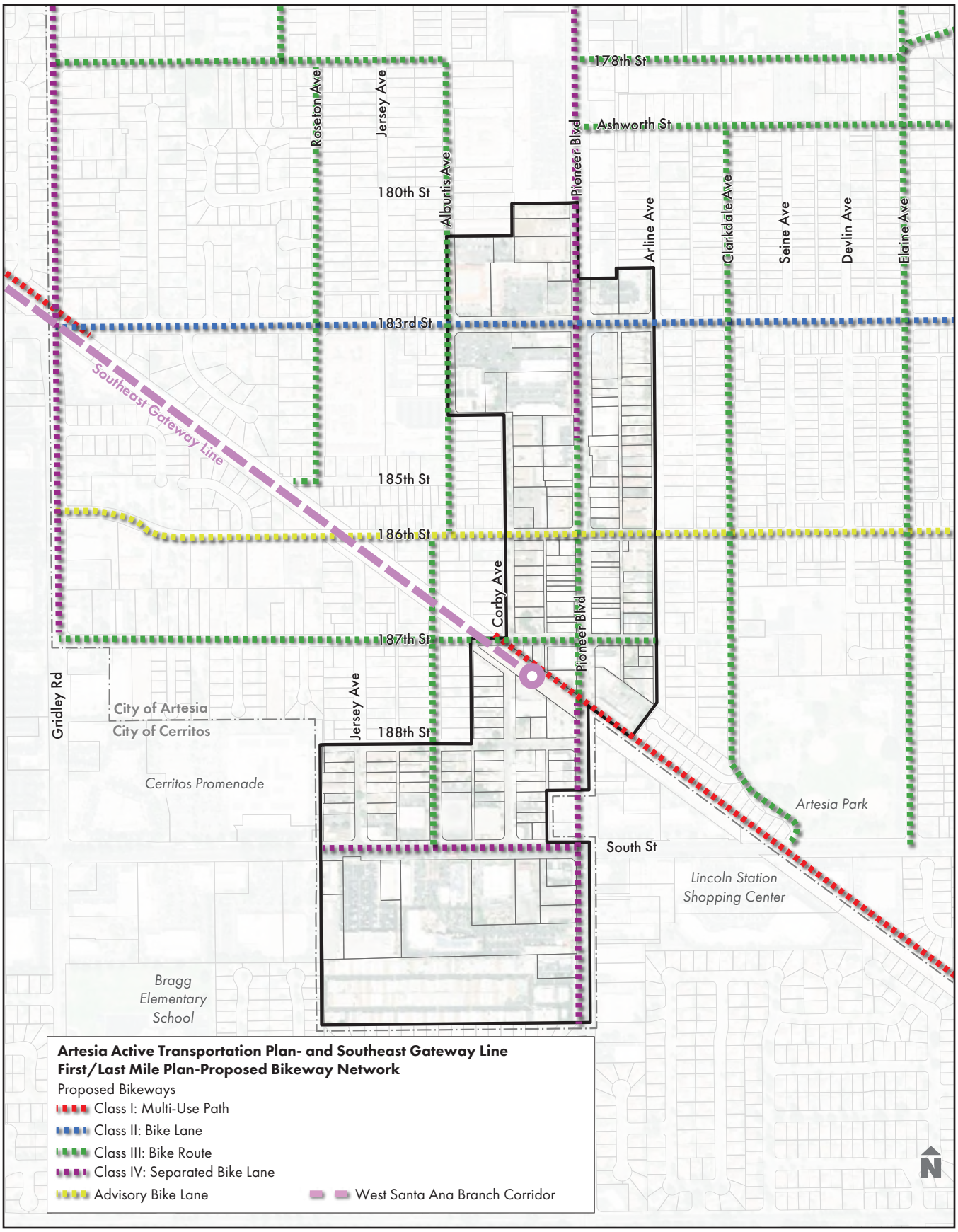

Figure 7.2: Proposed Bicycle Network

7.3.2 FUTURE PEDESTRIAN NETWORK

The proposed pedestrian network accounts for improved connections for people walking and rolling via sidewalks, paseos, and safe crossings. Elements of a complete pedestrian network consistent with the ATP shall include continuous sidewalks, enhanced street lighting, safe crossings, urban greening, and adequate wayfinding signage. While Artesia has a complete sidewalk network with curb ramps, most are not ADA compliant due to missing the detectable warning surfaces. In addition, crossings should have marked crosswalks where warranted. Where crosswalks exist, high-visibility crosswalks are recommended for enhanced visibility. The following highlight general improvements when implementing future pedestrian amenities.

- Each intersection on primary arterials and collector roads should have high-visibility crosswalks, curb ramps, and ADA-detectable warning surfaces.
- When the intersection of Pioneer Boulevard and 183rd Street is to be redeveloped, explore a raised intersection with decorative crosswalks. (ATP, adopted 2022).
- Curb extensions are proposed on all legs of 183rd Street and 186th Street in Downtown. (ATP, adopted 2022).
- Collaborate with business owners and artists to create placemaking opportunities such as parklets, murals, asphalt art, street furniture, and activations.
- Coordinate leading pedestrian intervals (LPIs) and LED pedestrian countdown indicators and Accessible Pedestrian Signals (APS) push buttons with voice message at all traffic signals along Pioneer Boulevard, South Street, and 183rd Street. (SGL FLM Plan, released 2024).
- Add dual-access curb ramps along Pioneer Boulevard at 183rd Street and South Street, and upgrade to uni-directional curb access at Fire Station 30. (SGL FLM Plan, released 2024).
- Add pedestrian and bicyclist lighting along Pioneer Boulevard from 188th Street to the south City Limit. (SGL FLM Plan, released 2024).
- Repair sidewalk holes and major cracks or install new sidewalk along the east side of Pioneer Boulevard from 180th Street to the south City Limit, at Alburtis Avenue and 188th Street, on the north side of South Street from Alburtis Avenue to Pioneer Boulevard, and on 183rd Street from Alburtis Avenue to Arline Avenue. (SGL FLM Plan, released 2024).
- Install high-visibility crosswalks on Pioneer Boulevard at 183rd Street, the 186th Street scramble, 187th Street, 188th Street, and South Street; on 187th Street at Corby Avenue; on South Street at Park Place Center and Alburtis Avenue; and on 183rd Street at Alburtis Avenue. (SGL FLM Plan, released 2024).
- Infill shade trees approximately 30’ on center along the entire Pioneer Boulevard corridor through Downtown Artesia, along 18th Street from Corby Avenue to Arline Avenue, along Alburtis Avenue from 188th Street to South Street, along South Street from Park Place Center to Pioneer Boulevard, and along 183rd Street from Alburtis Avenue to Arline Avenue. (SGL FLM Plan, released 2024).

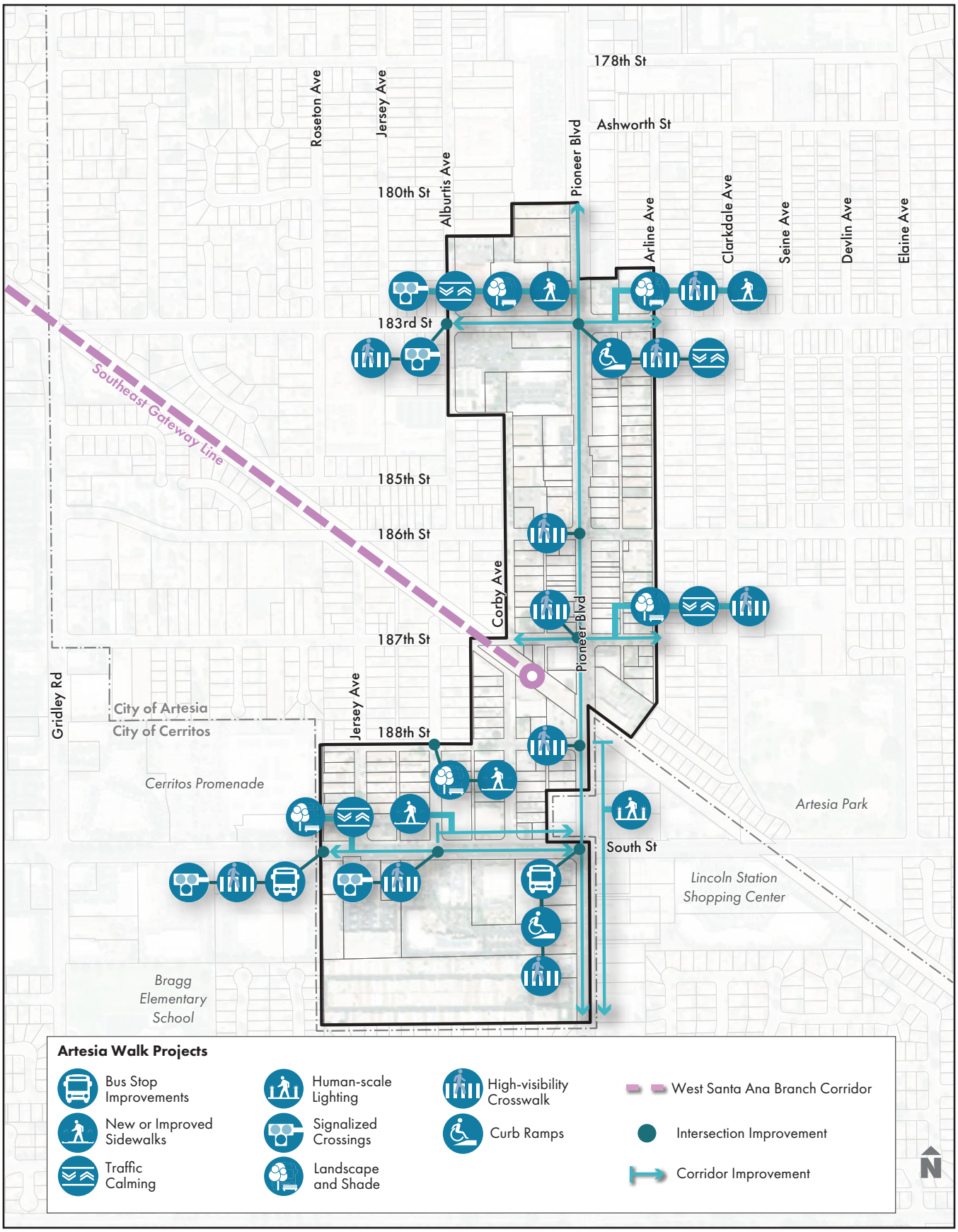

Figure 7.3: Downtown Artesia Walk Projects

7.3.3 TRANSIT-ORIENTED FUTURE

Through implementing the guidelines of the ADSP and developing the Metro extension for the Southeast Gateway Line, Downtown Artesia can build upon and prepare for an enhanced transit-oriented future through land use, zoning, and development standards. First/last-mile infrastructure and programs should be implemented to support the existing and future transit network Downtown. This is especially important within a half mile of the future Metro station on Pioneer Boulevard.

- The City should coordinate with Metro to recommend shifting the #62 bus stop from southbound Pioneer Boulevard to westbound 183rd Street. (ATP, adopted 2022).
- Ensure all Downtown transit stops have a bus shelter with seating, shade, lighting, and trash receptacles.
- Install real-time bus information LED displays at all Downtown transit stops along primary arterials.
- Support transit expansion and supporting programming for Rapid Bus, Busways, and Light Rail, especially near new developments and to existing key destinations. (ATP, adopted 2022).
- Increase bicycle, pedestrian, and micro-mobility amenities at and near transit stops to encourage first/last-mile connections.
- Install bus shelter and upgrade other bus stop amenities at the southbound stop at Pioneer Boulevard and South Street and the eastbound and westbound stops on South Street at Jersey Avenue and Pioneer Boulevard. (SGL FLM Plan, released 2024).
- Add wayfinding signage at Pioneer Boulevard from 180th Street to the south city limit. (SGL FLM Plan, released 2024).
- Explore the opportunity to enhance the alleyway from South Street to Pioneer Station between Alburtis Avenue and Corby Avenue as a cut-through path with lighting and placemaking improvements such as public art, street furniture, and urban greening. (SGL FLM Plan, released 2024).

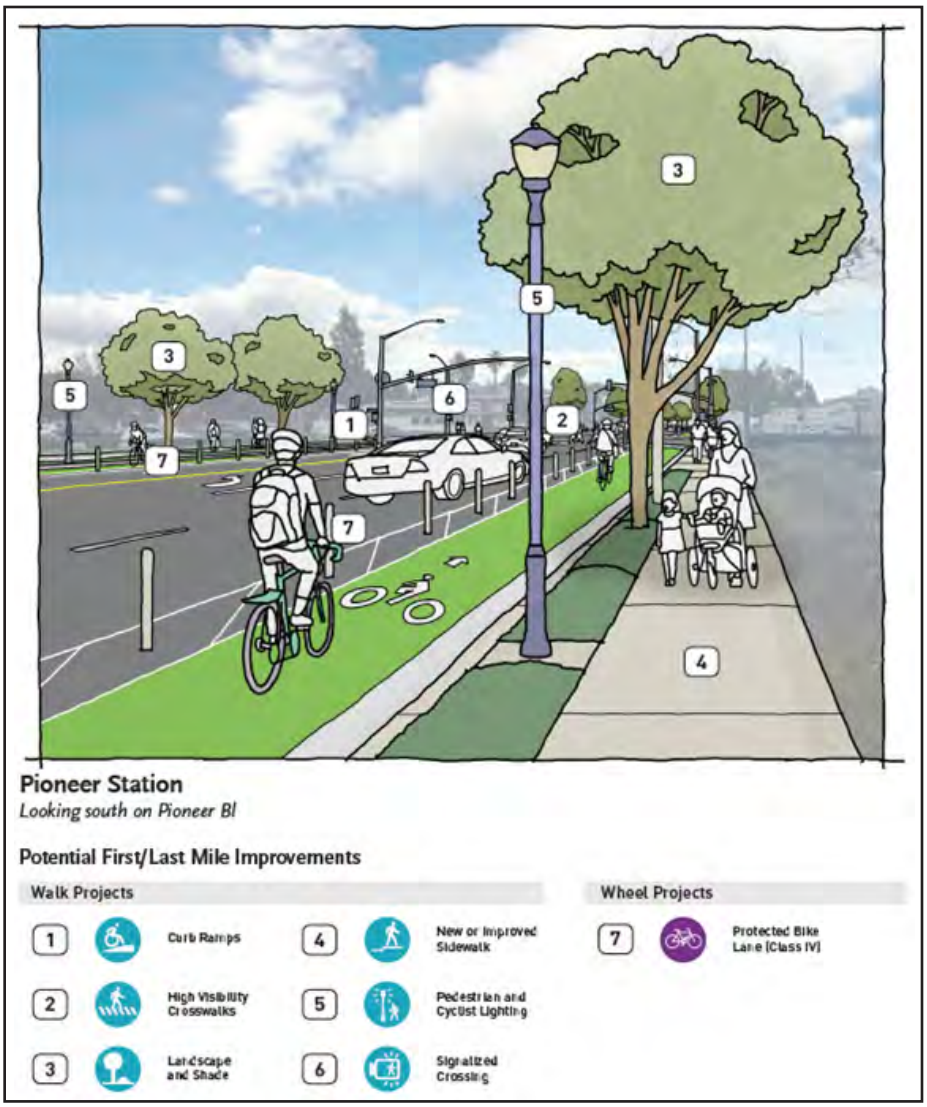

Figure 7.4: Pioneer Station First and Last Mile Improvements (SGL FLM Plan, released 2024, page 106)

7.3.4 FUTURE RAIL NETWORK

There is a draft proposal for the Southeast Gateway Line Metro station at Pioneer Boulevard between 187th and 188th Streets to connect Downtown Artesia to Downtown Los Angeles and increasing access to higher paying jobs, widespread healthcare and educational opportunities, and connections to key destinations like the Los Angeles Airport (LAX). The incoming rail line also gives Downtown Artesia an opportunity to become a transit-oriented destination and enhance the existing mobility and land use network by providing first/last-mile connectivity.

Figure 7.5 samples a typical Metro extended station area typology. Figure 7.6 illustrates the multimodal future conditions of the Pioneer Station area. The rendering portrays complete streets with urban greening, pedestrian-scale lighting, bicycle facilities, and enhanced pedestrian crossings while maintaining existing vehicle lanes. Figure 7.7 demonstrates a future cross-section along Pioneer Boulevard to sample the opportunity of improved connectivity for people walking, bicycling, and accessing transit.

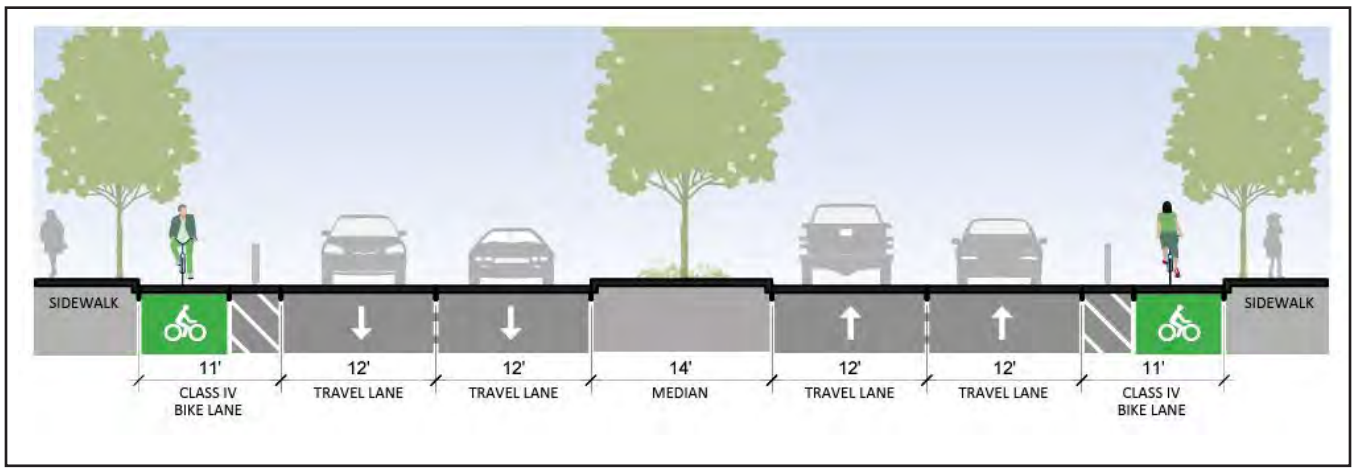

Figure 7.5: Pioneer Boulevard Cross-Section from 180th Street to 500' of 183rd Street
Source: SGL FLM Plan, released 2024, page 250.

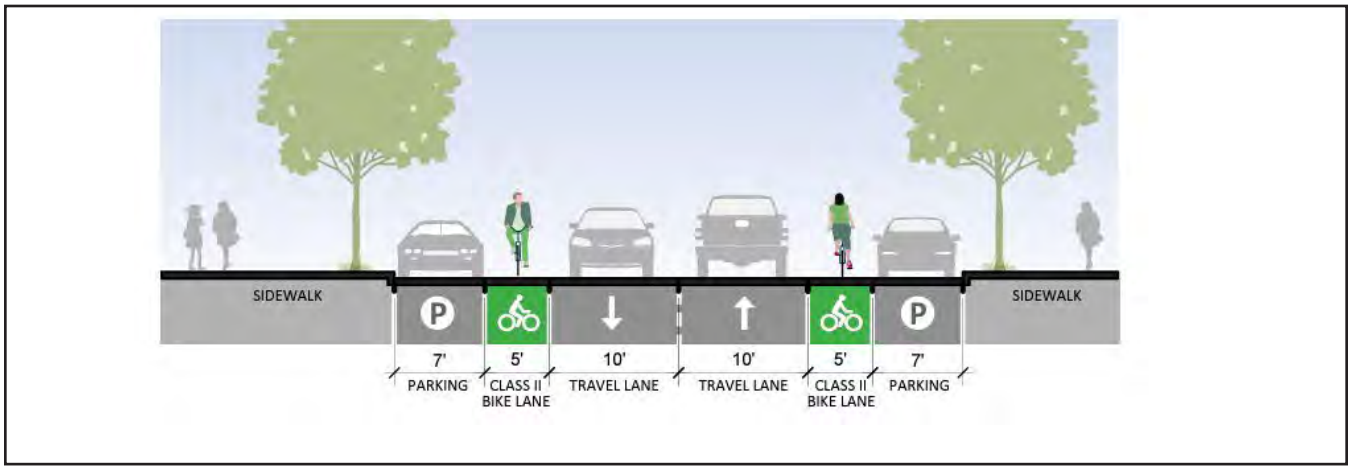

Figure 7.6: Pioneer Boulevard Cross-Section from SGL ROW to 500' of 183rd Street
Source: SGL FLM Plan, released 2024, page 251.

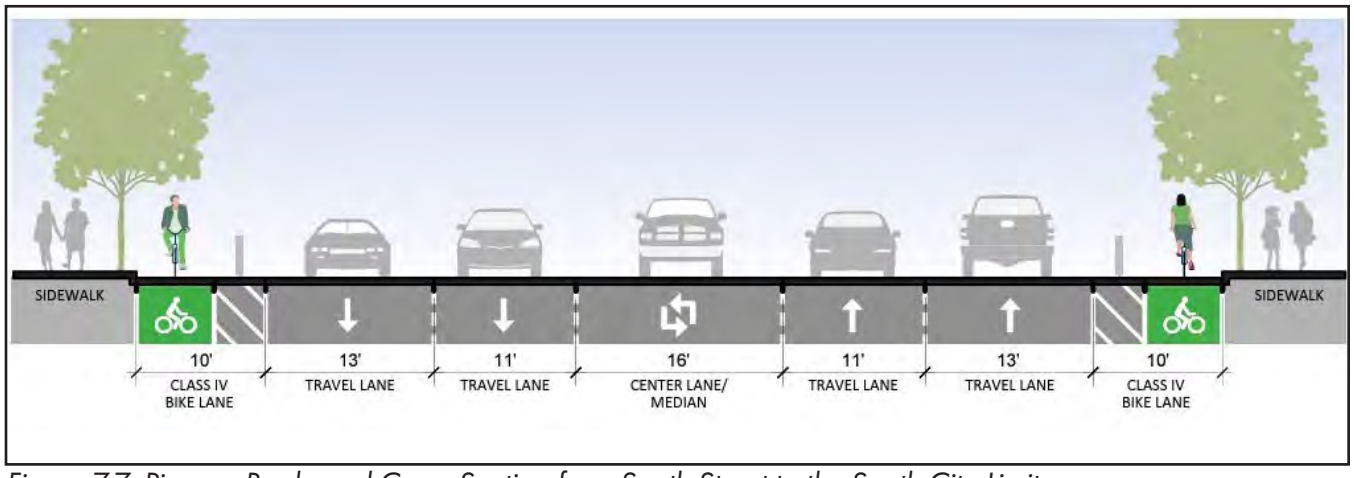

Figure 7.7: Pioneer Boulevard Cross-Section from South Street to the South City Limit
Source: SGL FLM Plan, released 2024, page 252.

7.3.5 FUTURE MOBILITY HUBS

Mobility hubs are places of connectivity where people can make seamless connections between various travel options. They allow for a combination of transportation options to gather in one space to encourage people to use a non-motorized form of travel to access Downtown destinations. Multimodal elements can include bikeshare, scootershare, a bus stop, wayfinding, ridesharing pickup/drop-off zones, pedestrian amenities such as curb extensions, street furniture, and lighting, and are typically located along a bicycle facility and a transit stop.

Mobility hubs provide first/last-mile connectivity and are strategically located near public parking or transit. This allows people to choose an alternate mode of travel at these multimodal nodes. They can be paired with a Green Zone, which is an approximately 100-foot zone within the parking lane, parking area, or outside travel lane adjacent to a Metro station and is marked with paint and signage. Green Zones promote clean transportation uses such as bus stops, pick-up/drop-off for shared rides, electric vehicle parking, and car shares.

In alignment with the Concept Vision (Section 4.5), two parking structures will be developed adjacent to the Pioneer Transit Station to encourage first/last-mile connections. One parking structure in Downtown North will be operated by the City in a public-private partnership, and a Metro parking structure is planned within the South Street Mixed District. The following highlight general improvements and guidelines when introducing mobility hubs (see also Figures 7.8 and 7.9).

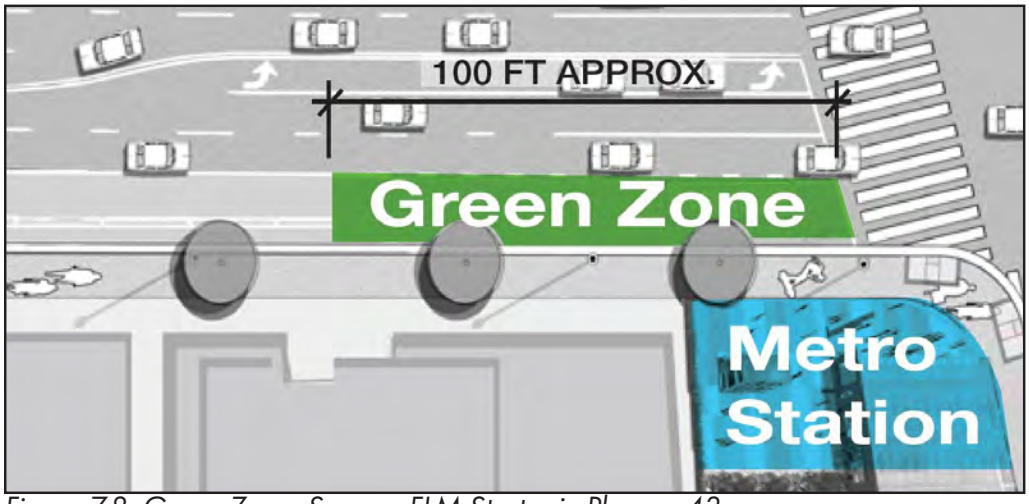

Figure 7.8: Green Zone; Source: FLM Strategic Plan, p. 43

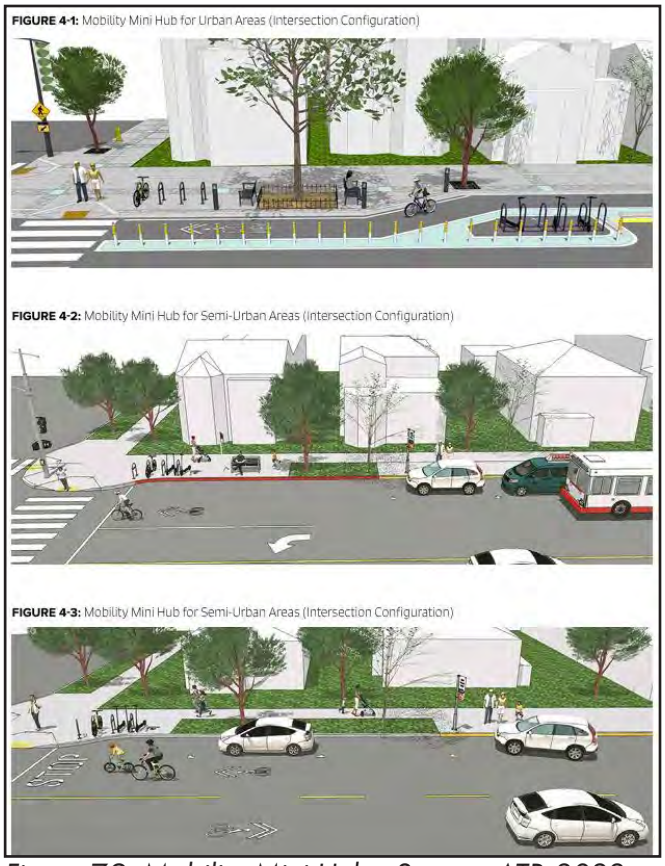

Figure 7.9: Mobility Mini Hubs; Source: ATP, 2022

- Bikeshares, electric scooters, or carshares should be located at or near future parking structures and the existing public parking lot at 186th Street and Corby Avenue.
- Implement pedestrian amenities at mobility hubs to facilitate safe crossings and promote a walkable Downtown, such as human-scale lighting, high-visibility crosswalks, curb ramps, and shade. (ATP, adopted 2022; SGL FLM Plan, released 2024)
- Introduce a Green Zone adjacent to Pioneer Station to accommodate clean transportation options (FLM Strategic Plan, released 2014).
- Adopt a Neighborhood Electric Vehicle (NEV) program and locate charging stations in Green Zones or mobility hubs (FLM Strategic Plan, released 2014).
- Wayfinding signage should be located at or near parking structures, as well as throughout Downtown, to guide visitors to key destinations.
- Explore alternative uses for on-street parking after the completion of each parking structure through the development of a curb space management plan for ridesharing services, loading zones, micro-mobility, or activations.
- Update Public Parking Program. (ATP, adopted 2022)
- New mixed-use developments should be encouraged to enter into shared parking agreements with complementary uses (office and retail, residential and office, etc.) to maximize developable areas and avoid constructing more parking than necessary to serve the development.

7.4 MOBILITY STANDARDS

7.4.1 BICYCLE FACILITY STANDARDS

Class I Multi-use Paths

Multi-use paths are two-way facilities physically separated from motor vehicle routes and grant exclusive right-of-way to non-motorized users, like pedestrians and bicyclists.

- Heavily used paths should be 14′ minimum and moderately used paths should be no less than 10′ minimum.
- Required 8′ minimum paved width and 2′ clear zone on each side which can be decomposed granite.
- Incorporate signage for wayfinding and intersection approaches.
- Traffic crossings should be paired with a Pedestrian Hybrid Beacon, bicycle signal or in-ground bicycle detection, where warranted.
- Add green conflict striping at all driveways and intersections.

Class II Bicycle Lanes

Class II bicycle lanes are one-way facilities that dedicate right-of-way to bicyclists within the same direction of roadway adjacent to motor vehicles. These facilities include buffer space whenever possible to reduce the risk of collision between bicyclists and motor vehicles.

- Ideal Class II width is 6′ with a minimum width of 5′
- If space is allowed, install a 2-3′ buffer.
- If the bicycle lane is outside of a parking lane, there shall be a 2-3′ buffer adjacent to prevent dooring collisions, or an 18″ minimum.
- If the width is 9′ or greater, consider upgrading the bicycle facility to a Class IV separated bikeway.
- Add green conflict striping at all driveways and intersections.

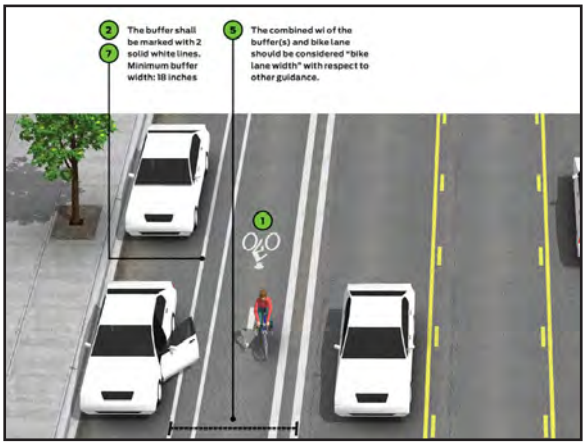

Figure 7.10: Buffered Bicycle Lane

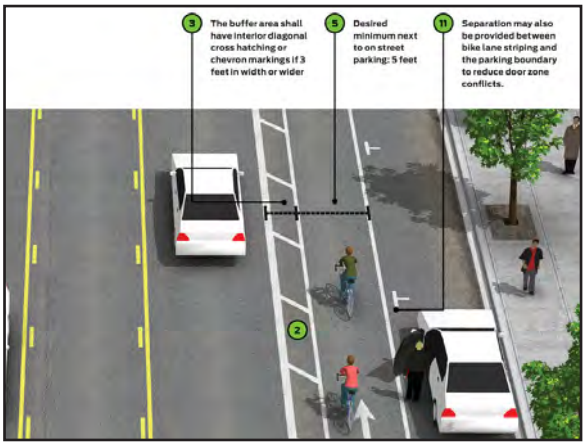

Figure 7.11: Buffered Bicycle Lane

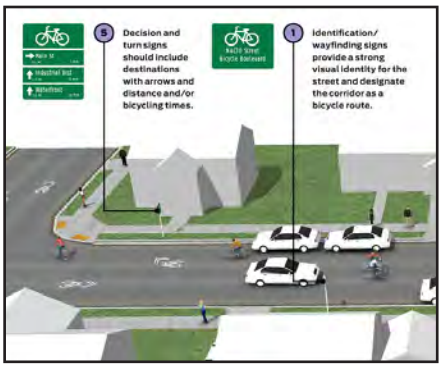

Figure 7.12: Class III Bicycle Route

Class III Bicycle Routes

Class III bicycle routes are one-way shared facilities typically on low speed and low volume roadways where bicyclists and motorists are expected to share the road. These roadways typically include signage and share the road pavement markings or sharrows.

- Sharrow markings shall be 112" by 40" and spaced roughly every 250'.
- The City should explore removing center line striping to encourage drivers to move over more when passing bicyclists, except near the intersection.
- Signage should be placed near intersections reading "BICYCLES MAY USE FULL LANE."

Class IV Separated Bikeways

Class IV separated bikeways can be either one-way or two-way on-street bike facilities that include horizontal and vertical buffer separation from vehicles for increased bicyclist safety.

- The minimum desired width of a one-way separated bikeway is 7' with a minimum of 5' bicycle lane and an additional 3' desired buffer, or 2' minimum.
- The minimum desired width of a two-way separated bikeway is 12' with a minimum of 8' for bicycle lanes and an additional 3' desired buffer, or 2' minimum.
- Add green conflict striping at all driveways and intersections.

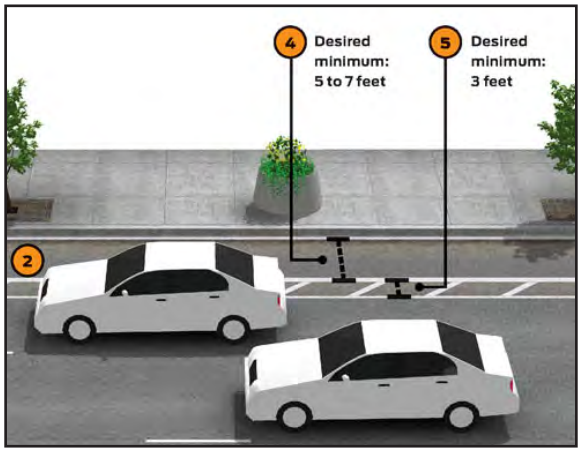

Figure 7.13: One-way Class IV Separated Bikeway

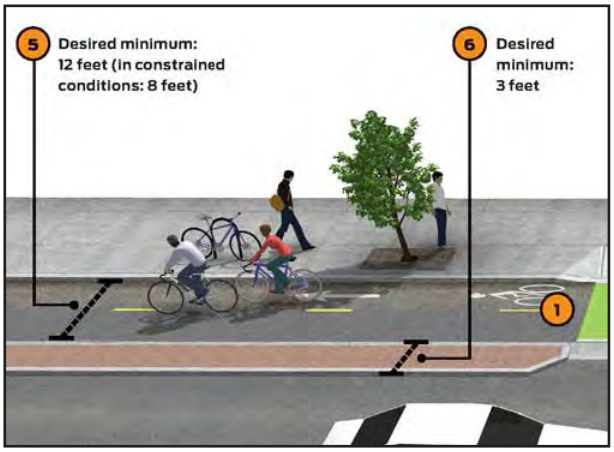

Figure 7.14: Two-way Class IV Separated Bikeway

Vertical separation may entail planters, bollards, curbs or a combination of these. Class IV Separated Bikeways

Class IV separated bikeways can be either one-way or two-way on-street bike facilities that include horizontal and vertical buffer separation from vehicles for increased bicyclist safety.

- The minimum desired width of a one-way separated bikeway is 7′ with a minimum of 5′ bicycle lane and an additional 3′ desired buffer, or 2′ minimum.
- The minimum desired width of a two-way separated bikeway is 12′ with a minimum of 8′ for bicycle lanes and an additional 3′ desired buffer, or 2′ minimum.
- Add green conflict striping at all driveways and intersections.
- Vertical separation may entail planters, bollards, curbs or a combination of these.

Figure 7.16: Types of Physical Separation

Advisory Bike Lanes

Advisory bike lanes (ABLs), also known as edge lane roads, prioritize space for bicyclists on low to moderate volumes of two-lane roads. It maintains any existing parking and adjusts two-way vehicle traffic to operate within a single lane, typically wider than the minimums. When two-way vehicle traffic approaches, drivers must encroach into the bicycle lane, yielding to bicyclists to pass one another.

- The MUTCD recommends ABLs are best applied on streets with 6,000 ADT or less and a speed limit of 35 mph or less. Bike signals are used at signalized intersections to indicate an additional phase for bicyclists to navigate through the intersection without conflicting with vehicular movements.

Figure 7.15: Advisory Bike Lanes

7.4.2 BICYCLE SIGNALS

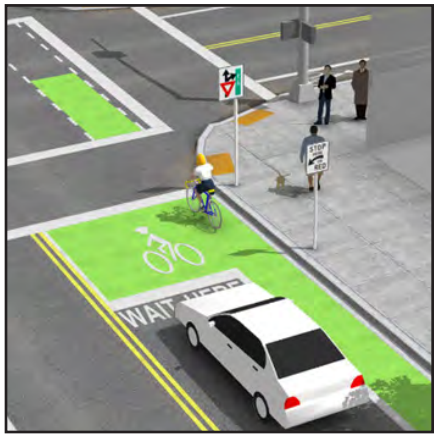

Figure 7.17: Bike Signal

Bicycle signal heads are typically smaller than vehicular signal heads, and contain the same red, yellow and green indicators with bicycle shaped plates in front of the lenses.

- Bicycle detection should be installed with bike signals.
- Bicycle signals should be used in tandem with lead pedestrian intervals to give priority crossing time ahead of vehicles.

Bike Boxes

A bike box is a designated area at the head of a traffic lane at a signalized intersection that provides bicyclists a safe and visible way to wait ahead of queuing traffic during the red signal phase. This positioning helps encourage bicyclists traveling through the intersection not to wait against the curb for the signal change.

Figure 7.18: Bike Boxes

- Bike boxes should be the width of the travel lane they lead and can be combined with the width of the bicycle lane.
- They should be ideally 16' deep, minimum of 10'.
- There should be a stop line to indicate where drivers should stop at a red signal.
- They should be painted green for high visibility.

Conflict Striping

Conflict striping, also commonly referred to as "crossbikes," is a green painted bicycle lane that is dashed and only occurs at intersections, driveways, or wherever drivers may be crossing the path of a bicyclist. They warn drivers that they are crossing the intended path of bicyclists and to be extra cautious.

Figure 7.19: Conflict Striping

7.4.3 PROTECTED INTERSECTION

A protected intersection is a specific intersection treatment that limits the conflict zone by separating motor vehicles, pedestrians, and bicyclists. They are commonly found on streets with buffered or separated bike facilities and use a curb refuge island to reduce the turning radius for vehicles while adding a protected zone for both bicycles and pedestrians.

- The bicycle queue area should be at a minimum of 6.5′ depth, with an ideal depth of 10′.
- The setback from the bicycle lane to the far end of the corner island should be a minimum of 10′ with an ideal width of 20′.
- The corner island should have vertical protection and a truck apron may be desirable.
- There should be a "Turning Vehicles Yield to Bikes and Pedestrians" sign.

Figure 7.20: Protected Intersection

7.4.4 PEDESTRIAN STANDARDS

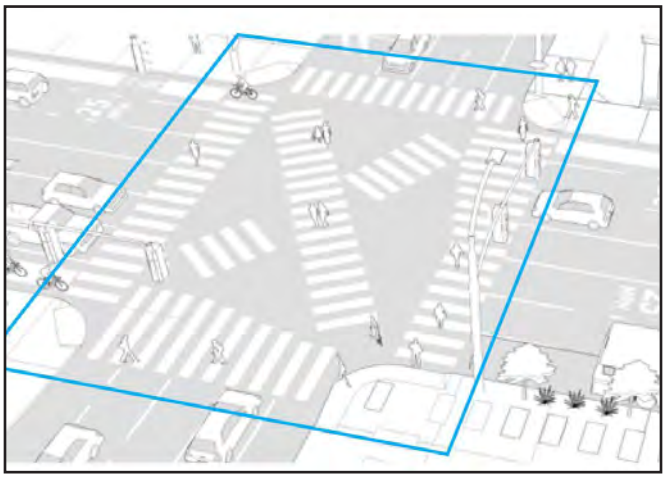

Figure 7.21: Pedestrian Scramble; Source: FML Strategic Plan, p. 33

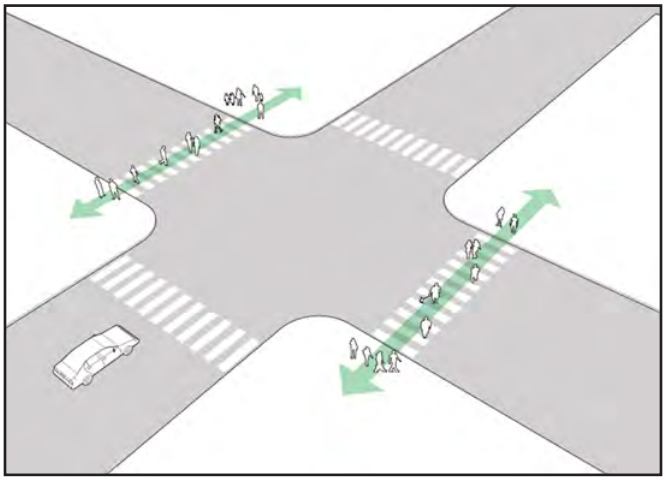

Figure 7.22: Leading Pedestrian Interval

Leading Pedestrian Intervals

A Leading Pedestrian Interval (LPI) is a treatment used to give pedestrians priority to vehicular traffic with a head start ahead of vehicles. The additional time increases pedestrian visibility by allowing pedestrians to establish their position in the crosswalk ahead of vehicle traffic.

- Pedestrian-only signal phase should be 3-7 seconds.
- LPIs can be paired with bicycle lead intervals where a bicycle facility exists.

Pedestrian Scrambles

Pedestrian scrambles designate a "pedestrian-only" phase where vehicles are completely stopped at a red phase. Pedestrians can simultaneously cross all legs of the intersection, including diagonally. These are best used in areas of high foot traffic, such as a downtown commercial corridor.

- Signal timing should have a "pedestrian-only" phase.
- High-visibility, continental, or decorative pavement should be used on all legs, including diagonally.
- Curb ramps and detectable warning markings should be provided on corners.

Pedestrian Hybrid Beacons and Rectangular Rapid Flashing Beacons

Pedestrian Hybrid Beacons (PHBs) and Rectangular Rapid Flashing Beacons (RRFBs) are special signals that alert drivers to stop or yield to pedestrians in crossing a street. PHBs look and act like a standard traffic signal and include a "red phase" requiring vehicles to come to a full stop when a pedestrian presses the push button, and otherwise drivers always have the right-of-way. RRFBs are flashing lights with signage to alert drivers to yield to crossing pedestrians. Either of these devices should be installed at locations that have pedestrian desire lines and that connect people to popular destinations such as schools, parks, and retail.

- Stop bars should be 20'-50' in advance of the crosswalk for a PHB.
- Yield lines should be 20'-50' in advance of the crosswalk for a RRFB.
- The City should use solar-power panels to eliminate the need for a power source for RRFBs.
- Parking should be prohibited 100' in advance of a PHB to prevent sight obstructions.

Figure 7.23: RRFB

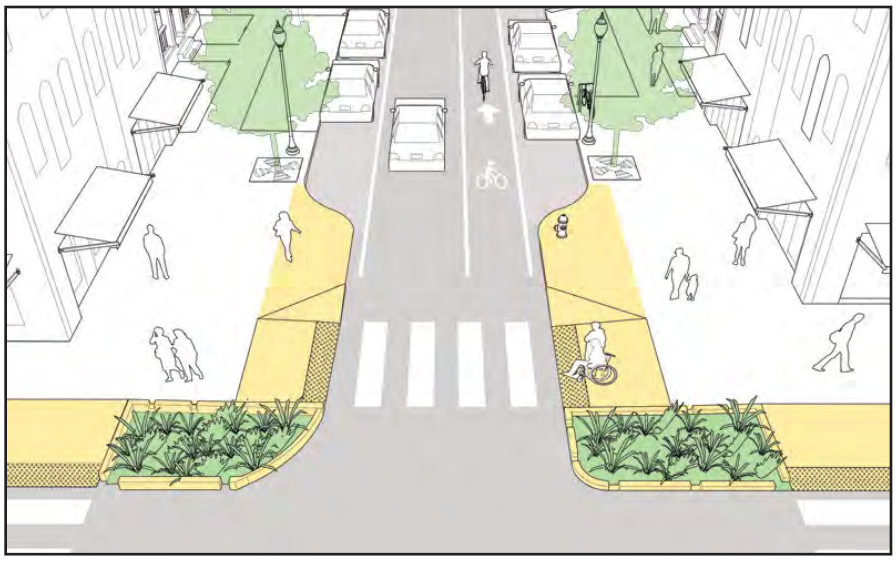

Figure 7.24: Curb Extensions

Curb Extensions

Curb extensions, also known as "bulb outs," widen the corner curb area at an intersection or midblock crossing to reduce the pedestrian crossing distance, make pedestrians more visible, and slow turning vehicles by reducing the curb radius.

- Curb extensions should extend a minimum of 6' from the curb, or ideally one parking lane width.
- The crosswalks should have a straight edge.

Curbside Management

The curb space can be reimagined to optimize mobility and access for the current demand of the roadway. Where there is on-street parking, this can be managed to be flex zones by setting different time-of-day restrictions, such as delivery/loading zones, rideshare pickup and drop-off zones, short term parking maximums. For longer term curbside management, the City can consider replacing parking with mobility minihub uses, add a parklet, pedestrian amenities such as street furniture, or placemaking activations.

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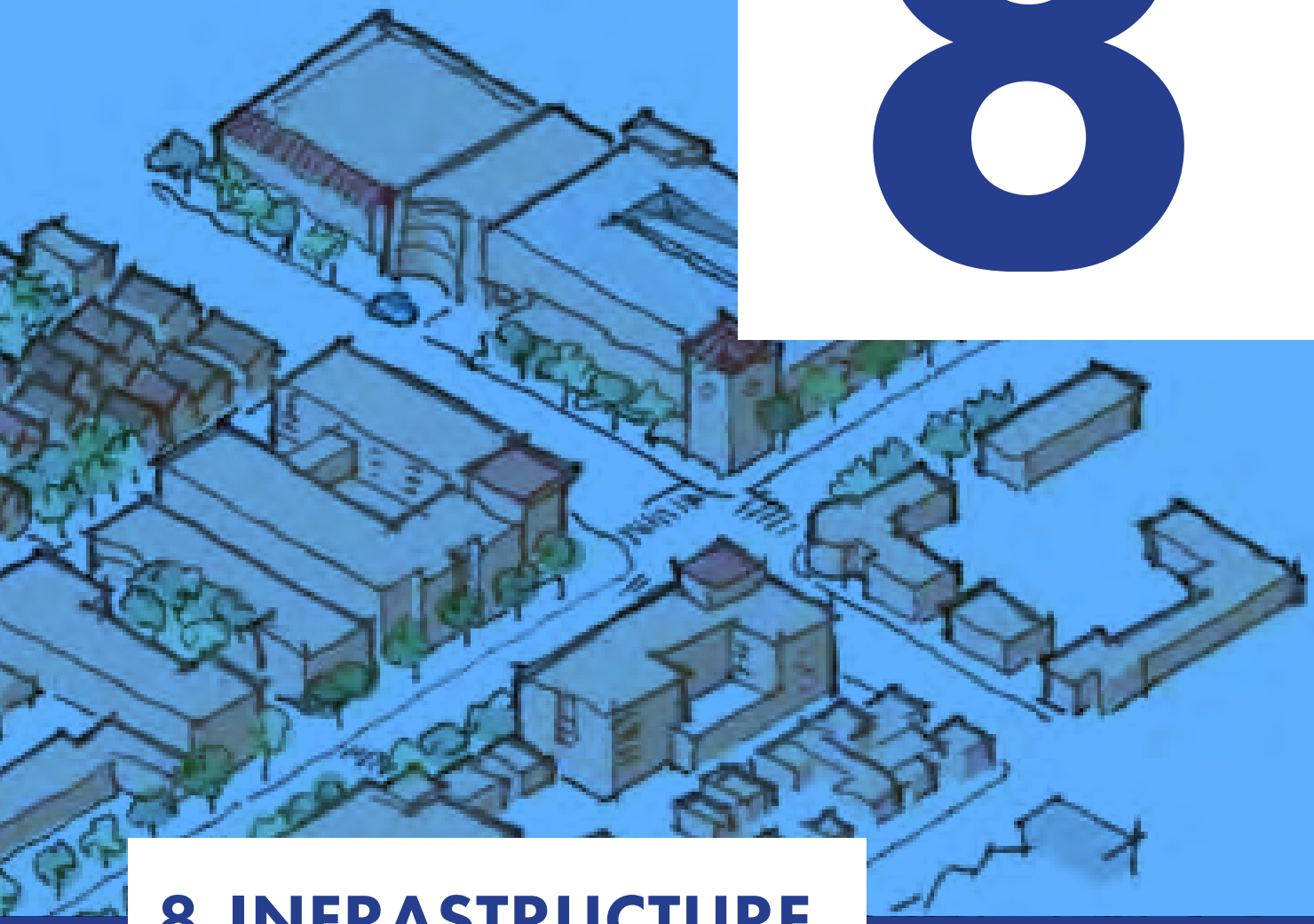

8 INFRASTRUCTURE

8.1 WATER

The Golden State Water Company Artesia (GSWC Artesia) currently manages and maintains the water system within the specific plan (SP) area. GSWC Artesia serves approximately 87 percent of the City of Artesia. GSWC Artesia is a wholly owned subsidiary of the American States Water Company and regulated by the California Public Utilities Commission. GSWC Artesia water system receives water from the Metropolitan Water District and the Central Subbasin (Basin 4-11.04) through three active wells, two of which are located within Artesia.

Water demands for existing conditions and SP area are estimated by assuming 110% of sewer generation totals per land use. A water loss percentage of 6.3% is applied to water demands to remain consistent with the GSWC Artesia Service Area 2020 Urban Water Management Plan's (UWMP) water loss for planning projection purposes. See Table 8.1 for water demand totals for existing conditions and SP buildout. The existing conditions water demand is estimated to be 86,155 gallons per day (GPD). The Specific Plan's full buildout water demand is estimated to be 510,065 GPD. The net change between the SP's full buildout and existing conditions is 423,910 GPD. Refer to the DEIR for a more details on water demand calculations.

Table 8.1: Water Demand Totals

	Flow (GPD)	Flow (MGD)
Existing Conditions Water Demand	86,155	0.08
Artesia DTSP Buildout Water Demand	510,065	0.50
Net Change	+423,910	0.40

GSWC Artesia System derives its water supplies from: (1) groundwater extraction tied to the Central Basin Adjudication, including extractions derived from leased and stored water assets; (2) contract supplies with City of Cerritos that provides both Central Basin Adjudicated supplies and Central Basin Municipal Water District (CBMWD) supplies derived from water supplies developed by Metropolitan Water District; and (3) recycled water supplies provided by CBMWD derived from water supplies developed by Los Angeles County Sanitation District (LACSD). Considering these sources of water supplies, GSWC Artesia has a projected water supply of 5,109-5,284 acre-feet per year (AFY) (4.5M – 4.7M GPD) from 2025-2045 . This projected water supply is sufficient to serve the net water demand increase associated with the SP buildout.

The additional water demand within the SP area would potentially requires the construction of new water facilities and/or expansion of existing water facilities. GSWC Artesia has specific procedures within their New Business Narrative that outlines the management, design, and construction of water source, storage, and distribution facilities for applicant-funded water system improvements. These procedures have been designed to promote efficient completion of Specific Plan's at the lowest possible costs and maintain compliance with California Public Utilities Commissions (CPUC) rules and regulations. The New Business Narrative discusses the initial application and cost, fire flow requirements, design and construction phase, as well as facility agreements and SP closeout. The document also states that applications for water service outside of GSWC Artesia's currently approved service area will be reviewed on a case-by-case basis and may or may not be approved by GSWC. Approval depends on an analysis of the SP impact to GSWC Artesia's existing water system and existing customers.

8.2 SEWER

The local collector sewer lines within the City are owned by the City and maintained by Los Angeles County Department of Public Works (LACDPW). The City entered a Consolidated Sewer Maintenance District (CSMD) agreement that granted LACDPW consent and jurisdiction for the inclusion of the entirety of the City within a CSMD. The City's local collector sewer lines connect to main sewer trunks owned and maintained by the LACSD that lead to the Long Beach Water Reclamation Plant. Refer to Figure 8.1 for the existing sewer system within the SP area.

Sewer demands for existing conditions and SP buildout are estimated by using sewer demand factors based on LACSD flows for classes of land use in District No. 2. See Table 8.2 for sewer demand totals for existing conditions and SP buildout. The existing conditions sewer demand is estimated to be 73,681 GPD. The SP's full buildout sewer demand is estimated to be 476,437 GPD. The net change between the SP's full buildout and existing conditions is 402,756 GPD. Refer to the DEIR for a more details on sewer demand calculations.

Table 8.2: Sewer Demand Totals

	Flow (GPD)	Flow (MGD)
Existing Conditions Sewer Demand	73,681	0.07
Artesia DTSP Buildout Sewer Demand	476,437	0.47
Net Change	+402,756	0.40

To determine available wastewater flow capacities, as-built plans and capacity diagrams of LACSD main sewer trunk lines located within the SP area were provided by LACSD and reviewed to confirm sewer size, slope, pipe capacities, and measured peak flows at various monitoring stations. Table 8.3 lists the sewer lines evaluated:

Table 8.3: Existing Sewer Lines

Drawing No.	Sewer Name	Diameter (in)
J.O. P-67	Joint Outfall "C" Trunk Sewer, Unit 6F & 6G	15
J.O. P-422	JOA-1A Gridley Rd Interceptor	20
J.O. P-150	Joint Outfall "C" Trunk Sewer, Unit 6F & 6G, Unit 8E	18
Source: Sanitation District of Los Angeles County.		

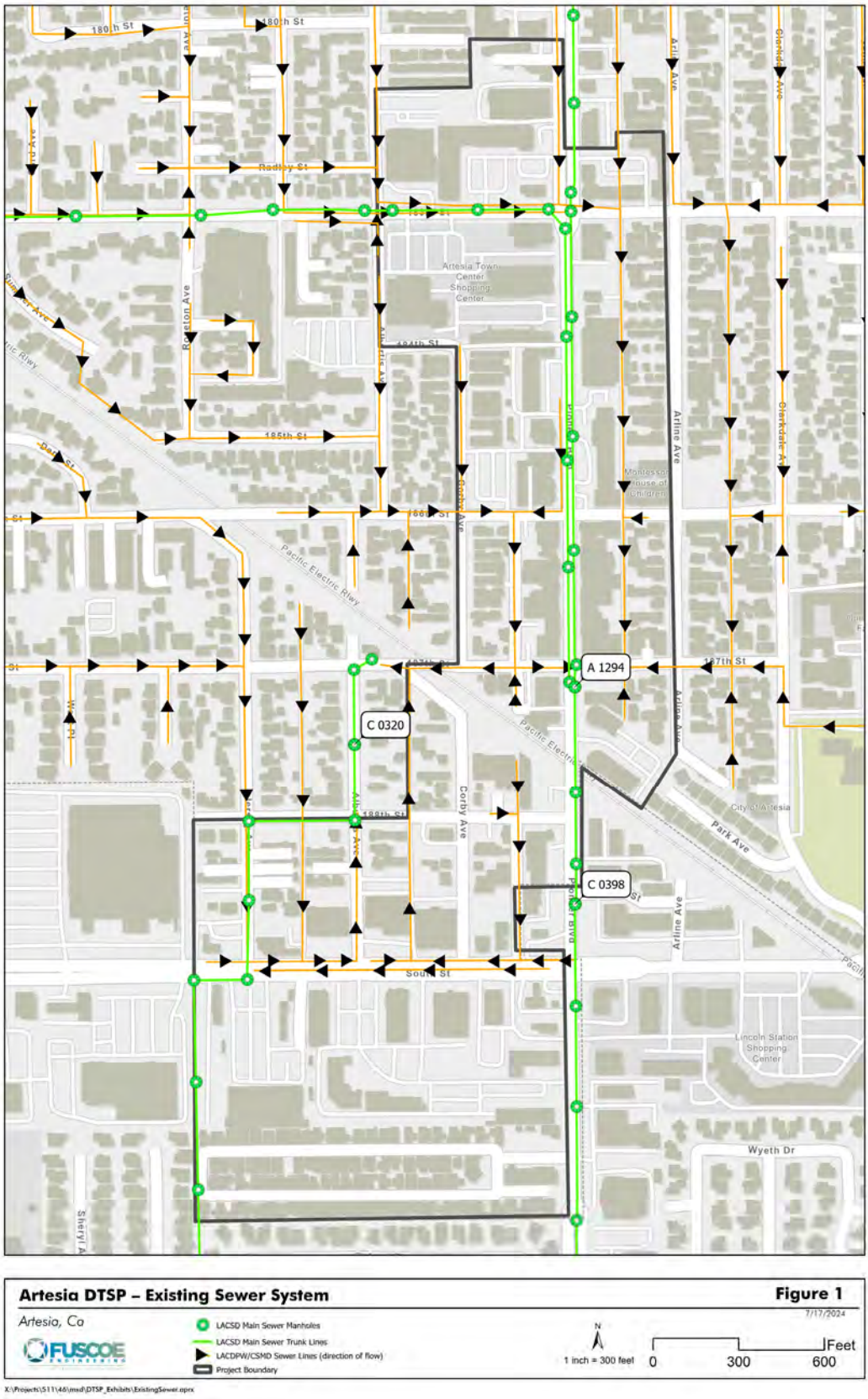

Figure 8.1: Existing Sewer Systems

The available flow capacities were estimated within each respective sewer line at various stations and the lowest of the calculated capacities were used to evaluate the available capacities and compared to the SP's net sewer demand increase found in Table 8.2. The available flow capacities and net sewer capacities are broken down in Table 8.4.

Table 8.4: LACSD Trunk Line Available Capacity

Drawing No.	Station	Manhole	Available Capacity	Net Sewer Capacity**
J.O. P-67	42+72.65	C320	0.58	0.18
J.O. P-422	0+00.00	A1294	1.94	1.54
J.O. P-150	123+97.63	C398	1.03	0.63

*All Units in Million Gallons per Day (MGD)

** Net sewer capacity is found by subtracting the net change in sewer demand from the available capacity.

Based on the results in Table 8.4, the existing sewer infrastructure has sufficient capacity for the estimated SP buildout sewer demands. Considering the net sewer demand increase of 0.40 MGD, available capacities are sufficient to support the change in demand. Refer to Figure 1 for the locations on the manholes analyzed.

The Long Beach Water Reclamation Plant currently provides primary, secondary, and tertiary treatment for a design capacity of 25 million gallons of wastewater per day (MGD). The Long Beach Water Reclamation Plant treats on average 15 MGD under standard operation conditions. The net change between SP buildout and existing conditions is 0.34 MGD. The Long Beach Water Reclamation Plant has sufficient treatment capacity to support SP buildout.

New development will be required to undertake a site-specific sewer evaluation prior to issuance of grading permits or otherwise determined as necessary by the City. These future sewer evaluations will assess the adequacy of the city's local sewer system and may require sewer flow monitoring at the local sewer manholes requested by the City.

8.3 STORM DRAINAGE AND WATER QUALITY

Storm drains within the City are owned and maintained by the Los Angeles County Flood Control District (LACFCD). The system is designed to control the movement of rainwater to a safe location where it can re-charge the natural and man-made water supplies. The SP limits are located in an urbanized area with an existing storm drainage system in place. As such, stormwater drainage facilities are anticipated to be sufficient to accommodate SP buildout. New developments are required to coordinate with LACFCD to ensure development specific and citywide drainage systems have adequate capacity to accommodate new development. Refer to Figure 8.2 for the existing storm drain system within the SP area.

The City's Municipal Separate Storm Sewer System (MS4) is classified as a traditional MS4 system and is regulated by the Los Angeles Regional Water Quality Control Board's (LARWQCB) Regional MS4 Permit (Order No. R4-2021-0105; NPDES Permit No. CAS004004). This permit contains information regarding effluent limitations, receiving water limitations (RWLs), minimum control measures (MCMs), and Total Maximum Daily Load (TMDL) provisions (if applicable). Future projects that meet priority project thresholds within the SP area must follow development requirements of the City's MS4 Permit which includes incorporating Low Impact Development (LID) Best Management Practices (BMP) into individual projects to further help protect water quality in receiving waters. Future development will also be required to implement hydromodification management practices if susceptible to hydrologic conditions of concern as required by the City's MS4 Permit. LID BMPs and hydromodification management practices must follow design standards outlined in the County of Los Angeles Department of Public Works LID Standards Manual .

As a method to comply with the LARWQCB's Regional MS4 Permit, the City participates in the Lower San Gabriel River Watershed Management Group (LSGR WMG). The LSGR WMG have developed a Watershed Management Program (WMP) that sets forth a path to achieve reductions in the pollutants in the waterbodies of the Lower San Gabriel River and its tributaries. This WMP is a long-term planning document that takes a comprehensive look at the LSGR Watershed, including its land uses, MS4 system, existing and planned control

measures (both structural and nonstructural), existing storm water treatment systems, historical monitoring data and the various segments of the San Gabriel River and its tributaries that have been identified as impaired by various pollutants. Using that data, the Watershed Management Modeling System, one of the three modeling system authorized by the MS4 Permit, is used to generate a Reasonable Assurance Analysis (RAA) which predicts an optimal combination of structural treatment systems and construction timelines to achieve the goals of the MS4 Permit. There are no regional structural treatment systems proposed within the SP area.

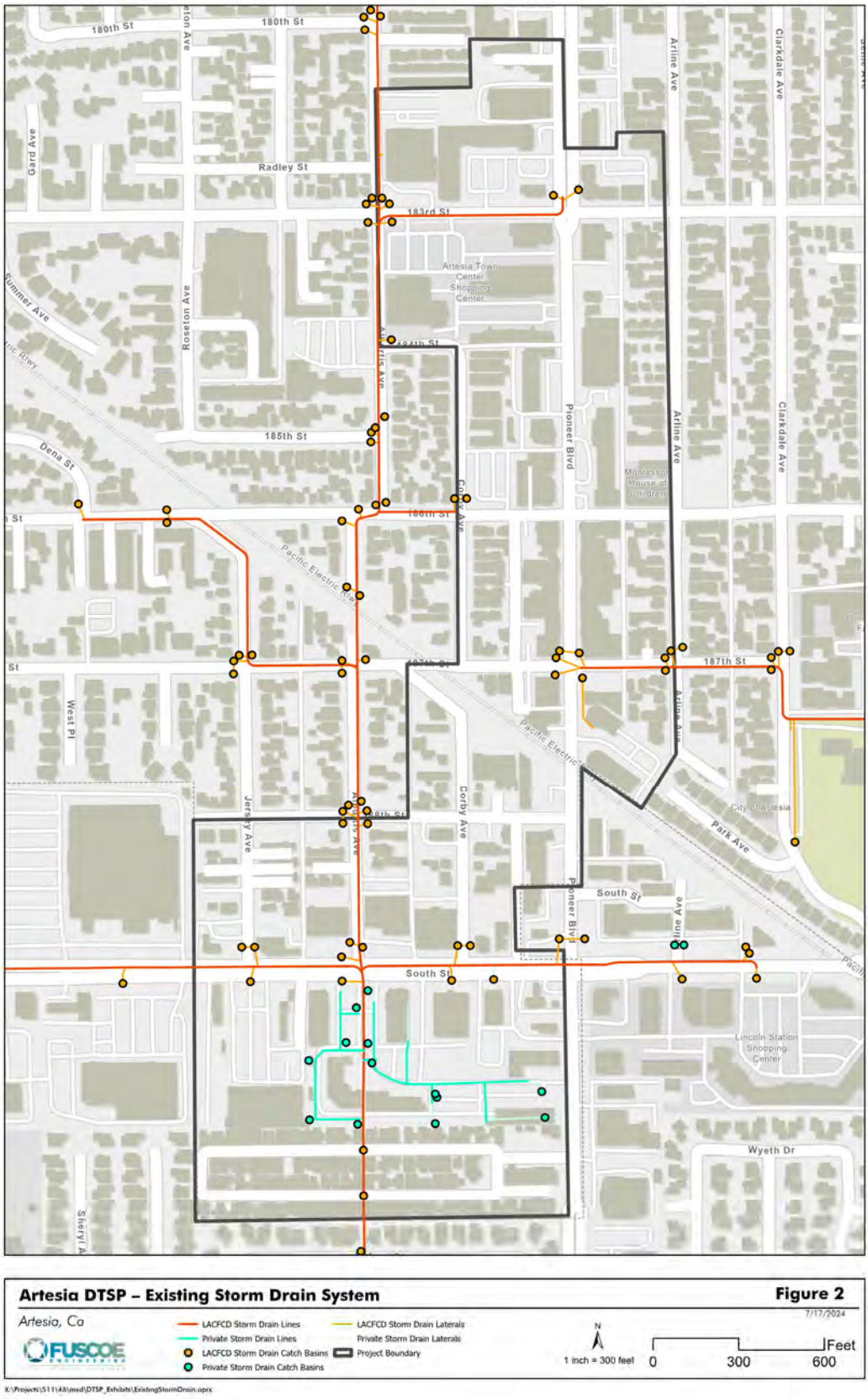

Figure 8.2: Existing Storm Drain Systems

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9 ADMINISTRATION AND IMPLEMENTATION

9.1 ADMINISTRATION

The Artesia Downtown Specific Plan (ADSP) serves as the implementation tool for the Artesia General Plan and establishes the zoning regulations for the Specific Plan area. Specific plans act as a bridge between the general plan and individual development proposals. They combine development standards and guidelines, capital improvement programs, and financing methods into a single document that is tailored to meet the needs of a specific area. The Specific Plan is the regulatory document guiding land use and development within the boundaries of the Specific Plan area.

9.1.1 AUTHORITY

The ADSP was prepared in conformity with Government Code Section 65450, et seq., the City of Artesia General Plan, and the City of Artesia Municipal Code (AMC).

Upon adoption by ordinance, this Specific Plan will serve as zoning for the properties within the Specific Plan. It establishes the necessary plans, development standards, regulations, infrastructure requirements, design guidelines, and implementation programs on which subsequent project related development activities are to be based. It is intended that local public works projects, design review plans, detailed site plans, grading and building permits, or any other action requiring ministerial or discretionary approval applicable to this area be consistent with this Specific Plan.

9.1.2 RESPONSIBILITY AND ENFORCEMENT

The City of Artesia Community Development Department shall be responsible for administering the ADSP in accordance with the provisions of this document, all governing and applicable State and federal laws, the City of Artesia General Plan, and the AMC.

9.1.3 APPLICABILITY AND REVIEW PROCESS

Proposed development plans, tentative tract or parcel maps, and any other development approval, pertaining to land or property governed by this Specific Plan, must be consistent with the Specific Plan. All projects proposed within the Specific Plan area shall conform with the provisions of this Specific Plan. Article 9 of the Artesia Municipal Code sets forth development review requirements and processes for approval of projects.

9.1.4 INTERPRETATION

The Community Development Director (Director) or his/her designee shall have the authority to interpret Specific Plan requirements if ambiguity occurs about the meaning or appropriate application of provisions within the Specific Plan. In so doing, the Director shall consider the following:

a. Continuity and consistency with previous interpretations of this Specific Plan;

b. The interpretation responds satisfactorily to the Specific Plan vision, intent, and purpose; and

c. The resultant project is consistent with the Artesia General Plan

The interpretations remain the final determination of the Director but may be appealed to the Planning Commission.

The Director may, at the Director's discretion, refer the request for an interpretation to the Planning Commission as a scheduled matter not requiring public hearing, and the findings and interpretations of the Planning Commission shall be set forth in the recorded minutes. Thereafter, such interpretations shall govern. The Director shall maintain a permanent record of all interpretations of this Specific Plan.

9.1.5 CONFLICT

In the event of a conflict between the provisions of the Specific Plan and the provisions identified in the Artesia Municipal Code, the Specific Plan shall prevail. Wherever the provisions and development standards contained in the Specific Plan conflict with those contained in the AMC, the provisions of the Specific Plan shall take precedence. For any other topical issue, development standard or design guideline, and/or regulation not addressed or otherwise specified in the Specific Plan, regulation and approval shall be carried out in accordance with the provisions of the AMC.

9.1.6 SEVERABILITY

If any section, subsection, sentence, clause, phrase, or portion of this Specific Plan, or any future amendments or additions, is for any reason held to be invalid or unconstitutional by the decision of any court or competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Specific Plan, or any future amendments or additions.

9.1.7 ADMINSITRATIVE EXECEPTIONS

1. **Purpose**.The purpose of the administrative exception procedure is to provide a simplified means of considering applications for minor deviations from the standards of the Specific Plan.
2. **Applicability**. The provisions of this chapter shall apply to the following minor deviations from standards of the code:
    a. Projection of incidental architectural embellishments or structural appurtenances into required setback areas by not more than 24 inches and no less than three (3) feet to a property line, and provided, that such does not violate fire, housing or building codes.
    b. Increase in the allowable height of a building up to a maximum of three (3) additional feet in an for the purpose of permitting cupolas, spires, turrets or other design features consistent with the architectural style of the building.
    c. A maximum 10% deviation from one or more numeric standards in this title. This deviation shall not apply to density (as measured in units/acre or floor area ratio) or height, except as defined above in (a) and (b)
    d. Extension into a setback area to permit the continuation of an existing building line for minor additions or building modifications.
    e. A maximum three space or 10% reduction, whichever is greater, in the number of total parking spaces required in conjunction with a change of a commercial or industrial use in an existing building.
    f. Rooftop equipment, except solar energy equipment, only for location of the equipment on the portion of a building that has a flat roof with a pitch not exceeding one in twelve (1:12)

3. **Authority**. The Community Development Director (Director)may consider and render decisions on administrative exceptions. In granting any administrative exception, the Director may impose conditions to safeguard and protect the public health, safety and promote the general welfare, to insure that the development so authorized is in accordance with approved plans and is consistent with the objectives of the ordinance.
4. **Findings of fact** An administrative exception shall be granted only if the Director first finds in writing that:
    a. The granting of the exception will result in design improvements, or there are space restrictions on the site which preclude full compliance with Specific Plan requirements without hardship;
    b. The granting of the exception, with any conditions imposed, will not be materially detrimental to the public welfare or injurious to the property or improvements in such Specific Plan district in which the property is located; and
    c. The granting of the exception will not be contrary to the objectives of the applicable regulations.
5. **Burden of proof.** The burden of proof to establish that findings of fact can be made is on the applicant.
6. **Authorization** for initiation, application filing and filing fees. For application filing and filing fees, see AMC Title 9, Article 22.
7. **Decision of the Community Development Director** The Director shall consider the proposal and make findings of fact and determinations in writing. A copy of the determination shall be mailed to the applicant within 60 days from the date the application is deemed complete. With approval of the applicant, the Director may extend the time within which the determination shall be made, not to exceed an additional 120 days.
8. **Appeal procedure.** For appeals procedure, see AMC Title 9, Chapter 2, Article 19

9.2 IMPLEMENTATION

The Artesia Downtown Specific Plan is implemented through a number of documents, policies and programs. Additional programs or modifications to the timing of implementations are anticipated to occur through identification of mitigation measures in the Environmental Impact Report (EIR) and are not included herein. To enact the ADSP, the City of Artesia will initiate and/or adopt the following polices or programs:

9.2.1 CONCURRENT WITH ADOPTION OF THE SPECIFIC PLAN

1. Adopt a resolution amending the General Plan to create the Downtown Specific Plan. This includes text and land use map amendments to add new or modified General Plan land use designations including:
    a. Downtown Specific Plan area; and
    b. Repeal of the South Street Specific Plan.
2. Adopt a Zoning Code text amendment ordinance to create the Downtown Specific Plan.
3. Adopt a Zoning Code Map amendment ordinance to create the Downtown Specific Plan.

9.2.2 LAND USE PROGRAMS

1. Initiate a process to explore a public-private partnership to develop the Artesia Town Center property.

9.2.3 MOBILITY PROGRAMS

1. Update Public Parking Program
2. Build upon existing directional signage to create an integrated way-finding system that addresses pedestrian and vehicular orientation to particular locations within the Downtown, as well as to/from the Downtown. Pursue Metro grant funding for this project.
3. Create a downtown streetscape plan, consistent with the Active Transportation Plan, to guide improvements such as enhanced lighting, street landscaping, crosswalks and signage Establish a specialized funding mechanism (such as a Downtown

Improvement or Business District) to implement a streetscape and signage plan.

4. Through implementing the guidelines of the ADSP and developing the Metro extension for the Southeast Gateway Line, Downtown Artesia can build upon and prepare for an enhanced transit-oriented future through land use, zoning, and development standards. First and last mile infrastructure and programs, as outlined in Chapter 7 Section 3.3 should be implemented to support the existing and future transit network Downtown. This is especially important within a half-mile of the future Metro station on Pioneer Boulevard.

9.2.4 ECONOMIC DEVELOPMENT PROGRAMS

1. In partnership with Downtown businesses and property owners, intiate an assesment and feasbility study for establishing a Downtown Business Improvement Distric (BID) focused on Pioneer Boulevard between 183rd Street and 187th Street. The purpose and role of the BID should be on marketing, events, public safety and beautification.

9.3 INCENTIVES AND BONUSES

The following community benefits have been identified as priorities to the City of Artesia and create the Downtown Density Bonus program. This section describes the intent of each benefit, the associated requirements and standards, and the corresponding development potential.

9.3.1 REVIEW AUTHORITY

According to standards outlined by the Artesia Downtown Specific Plan, additional development potential in exchange for community benefits will be granted to applicants by the City Council, following policies and procedures adopted by the City of Artesia. Applicants utilizing the Community Benefit program will require a statutory development agreement with the City or a covenant between the City and developer.

9.3.2 DEVELOPMENT POTENTIAL

Affordable housing, hotels, commercial uses, live/work uses and public open space are recognized as priority uses and are permitted additional development potential. If an applicant chooses to participate in the Community Benefit program, the project shall be eligible for additional height as measured in stories/feet and density as measured in Floor Area Ratio (FAR) or units/acre. Under no circumstances except in the application of Government Code Section 65915, et seq. ("SB1818 Affordable Housing Density Bonus Law") shall any project exceed the maximum allowable height or floor.

Proposals that utilize the SB1818 bonus may not additionally apply the hotel, commercial use and/or public open space community benefit as described herein. Proposals utilizing the live/work community benefit described herein may additionally apply the SB1818 bonus.

9.3.3 PRIORITY USES

The following describes community benefit and development potential relationship for the following four priority uses.

1. **Affordable Housing (SB1818)**
    a. COMMUNITY BENEFIT The State of California has a desire and need to increase affordable housing statewide, and incentivizes its construction through California Government Code Section 65915 et seq. The law significantly modified

by and commonly referred to as SB 1818 Affordable Housing Density Bonus Law, allows for a maximum density bonus of 35 percent based on the mix and number of affordable units provided.

b. ALLOWABLE BONUS The maximum allowable height and/or density bonus and concessions available for this priority use are as defined in California Government Code Section 65915 et seq. and Artesia Municipal Code

c. STANDARDS Applicable standards relative to use of the SB 1818 Affordable Housing Density Bonus Law bonuses and incentives or concessions are defined in California Government Code Section 65915 et seq. and Artesia Municipal Code

2. Commercial Uses

a. COMMUNITY BENEFIT The City relies upon commercial taxes to sustain City services. Therefore encouraging a robust business and retail environment is in the City's interest.

b. ALLOWABLE BONUS

i. Projects incorporating a minimum of 7,500 square feet of leasable retail and/or restaurant area are allowed the maximum height allowed by district as defined in Table 6-A.

ii. Projects incorporating a minimum of 10,000 square feet of leasable retail and/or restaurant area are allowed the maximum height and density allowed by district as defined in Table 6-A.

c. STANDARDS Mixed-use developments shall incorporate a minimum of 7,500 square feet of leasable retail and/or restaurant area to be eligible for this benefit.

3. Hotel

a. COMMUNITY BENEFIT Hotels are an important component of a thriving business district, contribute to the City's revenue income through transient occupancy tax, and often provide amenities which are available to the general public, including entertainment, restaurants, and meeting rooms.

b. ALLOWABLE BONUS Projects incorporating hotels are eligible for the maximum height and density allowed by district as defined in Table 6-A.

c. STANDARDS

   i. Hotels shall be operated at a three-star standard or higher.
   ii. The ground floor of hotels shall be designed to enhance the use, mix and level of pedestrian activity in the area for which they are proposed. This can be accomplished with cafes and retail space along the street frontage, as well as public art and open space.

4. Live/Work

a. COMMUNITY BENEFIT The Artesia Downtown Specific Plan encourages live/work units to integrate commercial and residential uses. Live/work units are a modern version of the traditional downtown living arrangement in which shopkeepers operated their businesses on the lower levels of a building while living in apartments above. As the cost of commuting increases, both monetarily and environmentally, more residents may consider a live/work unit a viable option allowing them to work and live in the same location. Live/work units vary from traditional home occupations, in which someone works out of their house or apartment, in that a live/work unit has a portion of the unit allocated for living and a separate portion in which to operate a business such as an office, gallery or studio that is accessible to the public like a commercial use. A typical example of a live/work unit includes an office or studio space on the ground floor with a small living space in an upstairs or back portion of the unit. Live/Work units within the Downtown will promote pedestrian activity by creating additional downtown destinations, establish additional local tax base by promoting entrepreneurial businesses in the downtown, and create a day-time population to patronize downtown businesses such as restaurants.

b. ALLOWABLE BONUS Projects incorporating live/work units are allowed for the maximum height and density allowed by district as defined in Table 6-A, provided live/work units are designed per the following standards.

c. STANDARDS Live/Work Units shall meet the standards established by Section 5.2 and the following standards:

   i. Number of Live/Work Units: The total number of live/work units shall be at least seven (7) percent of the total number of residential units (inclusive of the live/work units)

provided in the development, or five (5) live/work units, whichever number is greater. When provided in a non-residential development, the total square footage of the live/work units shall equal ten (10) percent of the total gross square footage of the development, or five (5) live/work units, whichever number is greater.

5. Public Open Space

a. COMMUNITY BENEFIT Open space provides the significant public benefit of a place to rest, relax, and congregate in an urban environment. A well-designed plaza, courtyard, or other outdoor space provides a counterpoint to the built environment of streets and buildings and adds enhancements to the public experience of Downtown.

b. ALLOWABLE BONUS Projects incorporating publicly accessible open space equal to fifteen (15) percent of the overall development parcel(s), inclusive of any easements, but not including any dedications, are allowed for the maximum height and density allowed by district as defined in Table 6-A.

c. STANDARDS

i. Publicly accessible open space shall meet the requirements and the design standards of Section 6.3.

ii. Publicly accessible open space shall be located at sidewalk level and shall be open with no fences or other means of enclosure prohibiting physical or visual access and use of the space during open hours.

iii. A unique design element, consisting of a specimen tree, fountain, or public art element shall be provided. Any unique design elements proposed to meet this standard, other than those specified in this standard, shall be subject to approval by the design review authority.

iv. Seating is to be provided through the use of portable or fixed site furniture, such as cafe tables, benches, movable chairs, or edges along planters and/or fountains.

v. Publicly Accessible Open Space shall be "open to-public" at a minimum from 7am-10pm; public access hours shall be indicated on signage required.

vi. Signage shall indicate the open space is "Open to the Public." Signage shall be visible from the public right-of-way and sidewalk.

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10 POLICY CONTEXT

10.1 GENERAL PLAN

To ensure consistency between the Artesia Downtown Specific Plan and the city of Artesia General Plan, the General Plan will be amended concurrent with the adoption of this Plan to include a Downtown Specific Plan Land Use Designation to replace the General Plan designations for the area.

10.2 2021-2029 HOUSING ELEMENT

The Housing Element supports and plans for current and future housing needs in each jurisdiction in California. The Department of Housing and Community Development (HCD) identifies a Regional Housing Needs Assessment (RHNA), in the form of housing units, to represent the state's current and future housing needs for an eight-year period. The RHNA is divided among all California jurisdictions, based on various indicators such as transit access, population, and income. For the 2021-2028, 6th Cycle Housing Element, the City of Artesia was allocated 1,069 units. Using a mixed-use overlay zone that encompasses the Downtown Specific Plan Boundary, the City plans to accommodate an estimated 1,783 units at density ranges from 40 to 50 dwelling units per acre. To ensure the ADSP does not conflict with the City's Housing Element goals and policies, the Specific Plan establishes densities above what is permitted in the overlay. Thus, an individual parcel shall not accommodate, in any scenario, fewer units than assumed by the Housing Element, reducing the risk of shortfall and the need to identify new sites.

Figure 10.1 displays the Housing Element sites designated within the Downtown Specific Plan Boundary. There are 89 sites total designated in the Downtown Specific Plan Boundary, all of which are considered appropriate for moderate and above-moderate housing. Of the 89 sites 15 have been evaluated for very low- and low-income housing, these sites are symbolized on the map with black hatching. The ADSP does not designate specific sites for affordable housing, instead it relies on the analysis and recommendations of the City's Housing Plan as well as the incentive afforded by the state and city to produce affordable housing.

10.3 ZONING ORDINANCE CONSISTENCY

To ensure consistency between the Artesia Downtown Specific Plan and the Artesia Zoning Code and Map, the Zoning Code and Map will be amended concurrent with the adoption of this Plan to include a Downtown

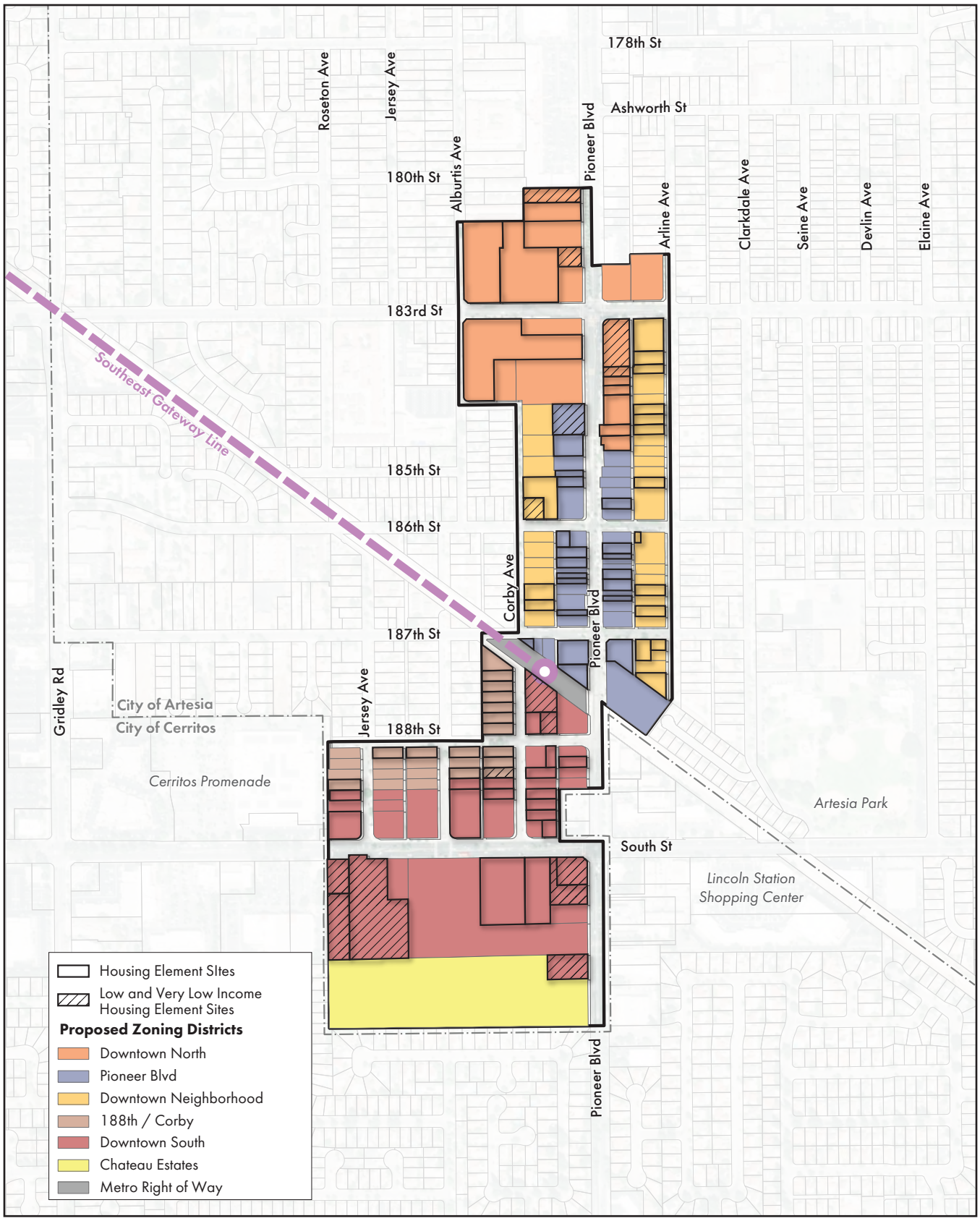

Figure 10.1: Housing Element Sites

Specific Plan zone to replace the zoning for that area. Where land use regulations and/or development standards of the Artesia Zoning Code are inconsistent with this Specific Plan, the standards and regulations of the Specific Plan shall prevail. Any issue not specifically covered in the Specific Plan shall be subject to the regulations in the Zoning Code and/or Municipal Code. Interpretations may be made by the Community Development Director if not specifically covered in the City's existing regulations.

10.4 METRO SOUTHEAST GATEWAY LINE FIRST LAST MILE PLAN

Metro released the Southeast Gateway Line First/Last Mile Plan (SGL FLM Plan) in 2024 to improve the public transit experience by enhancing first/last mile connections to and from nine stations along the Southeast Gateway Line (SGL), including Pioneer Station in Downtown Artesia. The concept of first/last mile connectivity to transit is illustrated in Figure 10.2. The SGL FLM Plan provides an existing conditions analysis and recommends "walk" and "wheel" improvement projects within a half-mile and 3-mile radius of each station, respectively. The projects identified in the SGL FLM Plan aim to improve the safety, access, and comfort of public streets and sidewalks for people walking, biking, and rolling to stations.

10.5 METRO FIRST LAST MILE STRATEGIC PLAN (2014)

The First/Last Mile Strategic Plan (FLM Strategic Plan) was released by Metro to set best practices for first/last mile planning within LA Metro jurisdiction. The document provided instructions to determine a pathway network within a 15-minute walkshed, or half-mile radius. The pathway network is made up of pathway arterials, direct routes to and from a Metro station, and pathway collectors, that feed into pathway arterials on lower-volume streets. These pathways provide direction for where first/last mile improvements are most appropriate. A pathway toolbox is included to compile a list of such improvements with goals, guidelines, and resources for each first/last mile element as well as how it integrates with the transit network.

In Downtown Artesia, the primary pathways are Pioneer Boulevard, 187th Street, and the SGL right-of-way, and the secondary are South Street and 183rd Street. These corridors are where most first/last mile improvements are proposed.

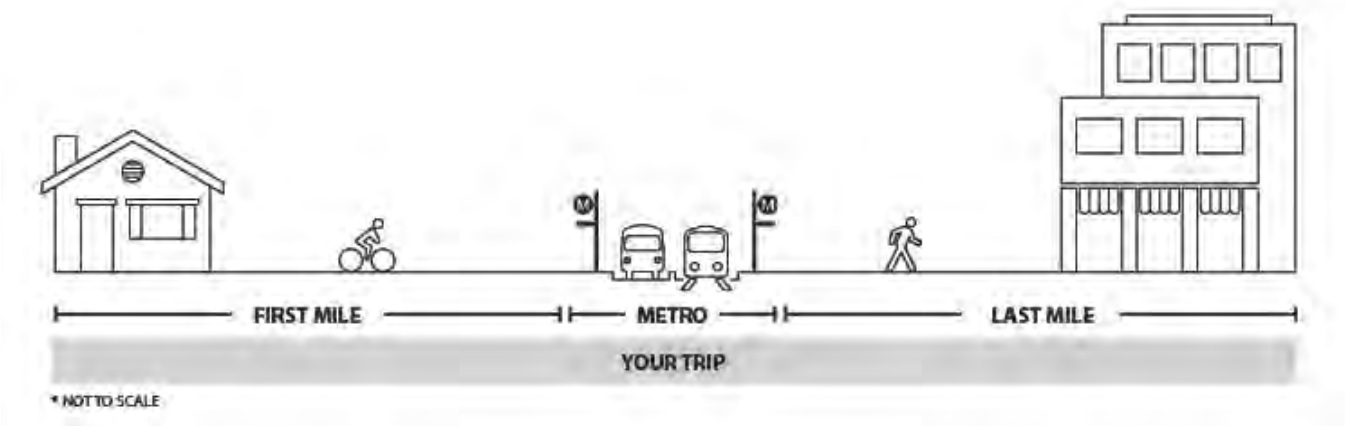

Figure 10.2: First/Last Mile Diagram; Source: Metro

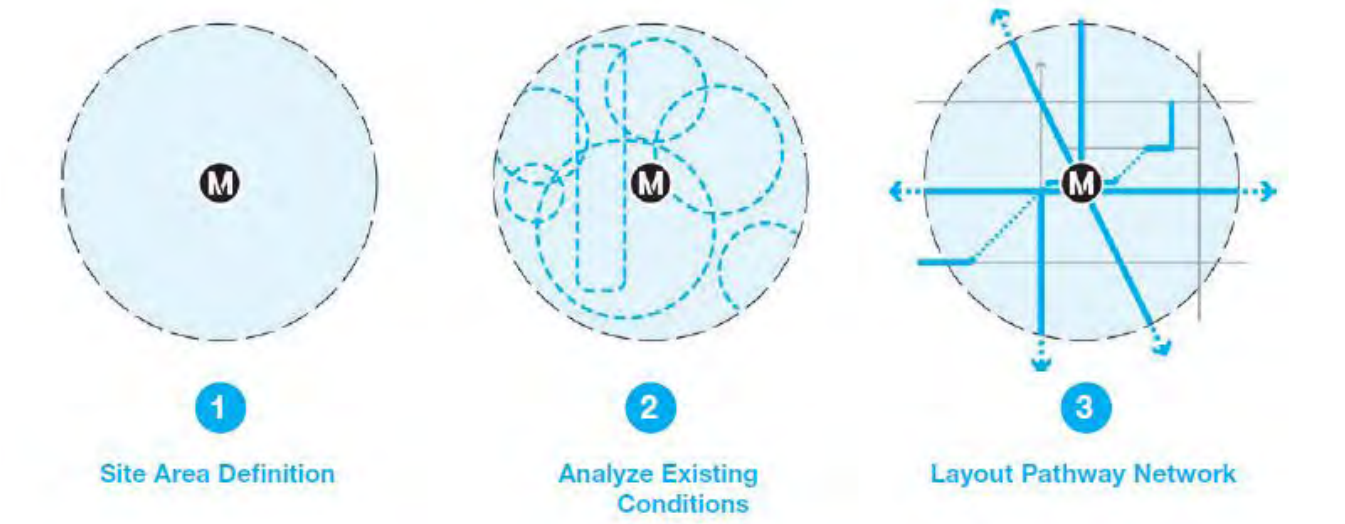

Figure 10.3: Pathway Network Identification Model; Source: FLM Strategic Plan, pg. 17

10.6 ACTIVE TRANSPORTATION PLAN

The Artesia Active Transportation Plan (ATP) was adopted by the City of Artesia in 2022. The ATP includes recommended projects, programs, and actions to support Artesia's short-, mid-, and long-term goals as they relate to transportation, land use, and population growth. The recommendations included in the ATP are designed to provide safer and more enjoyable streets for all Artesia residents and visitors. While the ATP is a citywide planning document, it included several proposed improvements to the physical infrastructure within Downtown Artesia, including:

- Bicycle Facilities: The ATP proposed 1.44 miles of new bikeway projects in Downtown Artesia, including a Class I multi-use path along the railroad tracks; Class II bicycle lanes along 183rd Street; Class III bicycle routes along Alburtis Avenue and 187th Street; a combination of Class III and IV bicycle facilities along Pioneer Boulevard; and advisory bicycle lanes along 186th Street.
- Pedestrian Facilities: The ATP proposed ten priority projects that received corridor-specific, planning-level infrastructure recommendations. Three of the ten priority projects identified in the ATP have segments in Downtown Artesia, including Pioneer Boulevard, 183rd Street, and 186th Street. Proposed improvements varied by corridor and recommended pedestrian treatments such as high-visibility crosswalks, curb extensions, raised intersections and Leading Pedestrian Interval (LPI). Additionally, detailed design concepts were developed for Pioneer Boulevard between 183rd Street and 184th Street.
- Curb Management: The ATP included tools to support new and emerging forms of mobility, such as docked bikeshare, electric scooters, and electric shuttles, carpool, and car sharing services. As mobility continues to evolve at a rapid pace, it is critical to remain flexible and adapt to trends that have taken hold over the transportation landscape. To help facilitate the integration of new and old forms of mobility, the ATP created conceptual visualizations for "mobility mini hubs" in urban and semi-urban areas to demonstrate potential intersection configurations that could accommodate multiple modes of transportation. The mobility mini hub visualizations provided examples of what well-integrated multimodal corridors might look in different settings to

guide future street design.

- The proposed recommendations from the ATP have been reviewed and incorporated into Chapter 7 of the ADSP, where feasible.

10.7 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)

In the State of California, all new projects must adhere to the California Green Building Standards Code. CALGreen, Part 11 of Title 24, was developed and implemented to meet State's climate initiative goals. The standards and requirements of the CALGreen Code implement the following goals:

- Reducing greenhouse gas emissions from buildings
- Promoting environmentally responsible, cost-effective, healthier places to live and work
- Reducing energy and water consumption
- Responding to the environmental directives of the administration

Artesia encourages All new developments, both residential and non-residential, will adhere to the current Green Building Code standards as they are updated and implemented.

10.8 DOWNTOWN SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT

The DSP-EIR evaluates the implications of the Artesia Downtown Specific Plan through a series of technical analyses, as required by the California Environmental Quality Act. As necessary, the DSP-EIR also proposes mitigations of undesirable impacts of the ADSP.

Within Downtown Artesia, the SGL FLM Plan identified 21 prioritized and six non-prioritized "walk projects" to support walking to and from Pioneer Station. These walk projects include improvements like infilling shade trees, improving bus stops and pedestrian crossings at nearby intersections, implementing traffic calming projects, and more. The SGL FLM Plan also identified 11 prioritized and one non-prioritized "wheel projects" within Downtown Artesia to facilitate safe bicycling to and from Pioneer Station. These wheel projects include improvements, such as implementing traffic calming projects, installing new bicycle facilities, and more.

The walk and wheel projects proposed for Pioneer Station in Downtown Artesia have been reviewed and incorporated into Chapter 7 of the ADSP, where feasible.

10.8.1 POTENTIAL BUILDOUT

The vision for Downtown Artesia—described in the preceding chapters—represents a potential development of just under 2,000 new residential units and approximately 503,000 new non-residential square feet (Refer to *Section 3.0 Project Description* of the Draft EIR).

The Specific Plan does not mandate new development nor set particular targets. Rather, the Specific Plan anticipates a range of new investment or change that varies per Downtown district. This range of new investment, paired with the development standards of the Specific Plan, establish the projected development potential described in *Table 3.3 Buildout of Units on Opportunity Sites (2045)* of the Draft EIR.

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ARTESIA DOWNTOWN SPECIFIC PLAN

APPENDIX B
EXISTING CONDITIONS

The existing conditions analysis builds on the work and effort completed in 2018 by Gwynne Pugh Urban Studio. Previous analyses have been supplemented to include an expanded study area.

1 INTRODUCTION

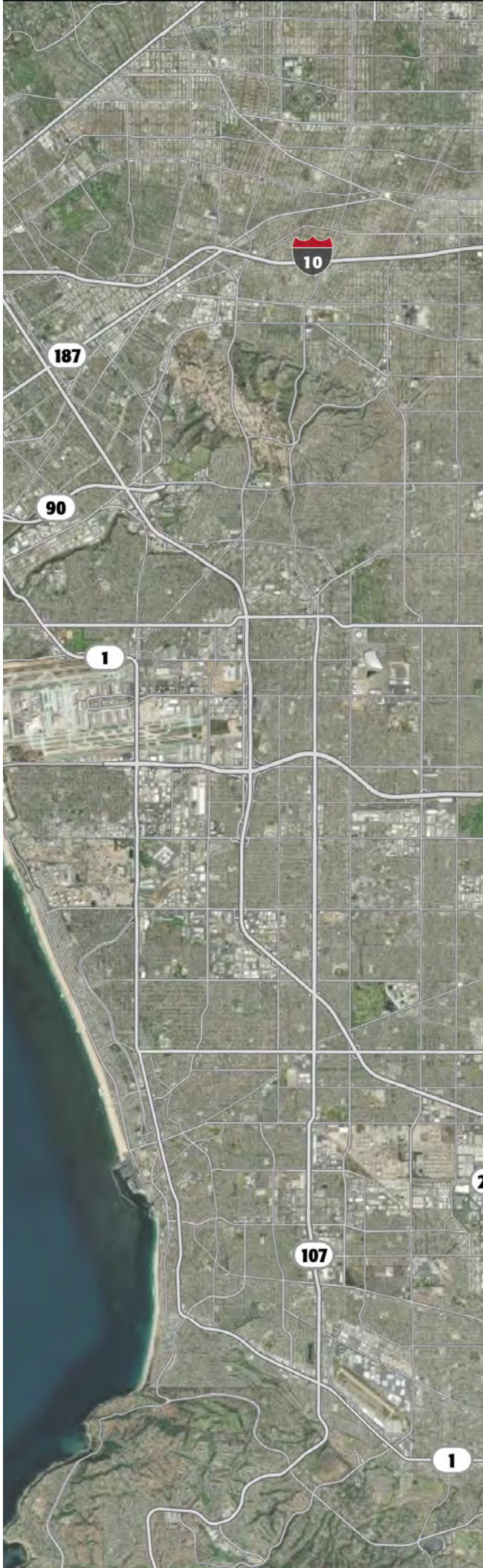
INTRODUCTION

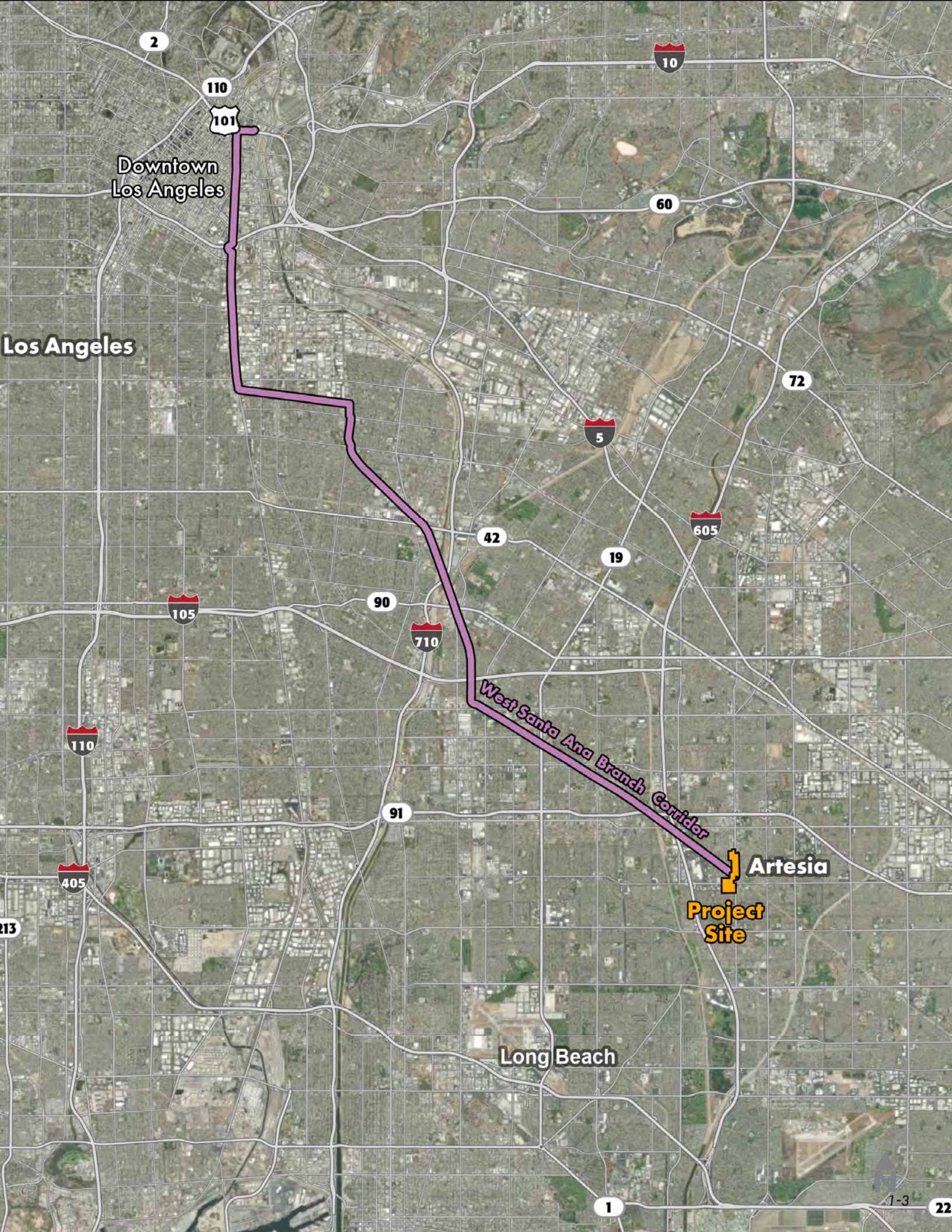
The Artesia Downtown Specific Plan will dictate the scale of future development growth and opportunity in Artesia's Downtown district, as well as curate community gathering spaces, enhance pedestrian and bicyclist experience, and create new housing opportunities.

In 2016 LA County voters passed Measure M. The Measure is a no-sunset, half-cent sales tax measure that funds various projects and partially funds many Metro projects. Thanks to Measure M, Metro is undertaking one of the largest transportation infrastructure programs in US history and will double the size of the rail network in the next 40 years. As a part of this expansion, a focus on Transit Oriented Communities made various grant funds available to local jurisdictions within Metro project areas, Artesia included. In August of 2016, the City Council approved a grant agreement of $375,000 between the City and Metro to fund the preparation of the Artesia Downtown Specific Plan. In addition, the City also received $180,000 from the West Santa Ana Branch Transit Oriented Development Strategic Implementation Program (TOD SIP) program to fund the project.

In May of 2023, the City of Artesia kicked off efforts to develop the Artesia Downtown Specific Plan, referred to as ADSP, in anticipation of the arrival of the West Santa Ana Branch Line Metro station at Pioneer Boulevard. Upon the completion of the West Santa Ana Branch Line, Downtown Artesia will have a single-seat connection to Downtown Los Angeles. Pioneer Station will directly connect Artesia with major destinations and employment centers in the region—Downtown Los Angeles, Union Station, and South Los Angeles. Transferring at Union Station, passengers will be able to connect as far as Santa Monica, Pasadena, East Los Angeles, San Fernando Valley, and LAX.

Artesia's transit-oriented future will bring with it many opportunities that can be envisioned through the lens of other downtowns that experienced revitalization through the connection of a Metro station. Downtown Bellflower, Downtown South Pasadena, and Downtown Azusa all gained new opportunities for housing, retail and commercial, and entertainment with the development of a Metro station and connection to the greater LA region.




2
110
101
Downtown
Los Angeles
10
60
Los Angeles
72
5
605
42
19
105
90
710
West Santa Ana Branch Corridor
110
91
405
213
Artesia
Project
Site
Long Beach
1
22

2 EXISTING CONDITIONS: LAND USE AND URBAN DESIGN

A UNIQUE DOWNTOWN

Downtown Artesia is a microcosm of Southern California urbanism: on the one hand, there is a walkable main street core that developed around the historic Artesia Station; on the other, there are strip malls developed around the convenience of the automobile. Beyond the commercial Pioneer Blvd corridor, small apartment complexes share street fronts with single-family homes. All the traditional components of a Southern California city (though not the industrial warehouse complexes) can be found on the blocks that constitute Downtown Artesia.

As we look to the arrival of the West Santa Ana Branch Corridor Metro Line in the mid-2030s, Downtown already has much to offer by the way of transit-ready urbanism. Its history as a railroad town imprinted walkability in its DNA. The main street block between 186th and 187th Streets boasts an urban structure that rivals some of the best commercial streets in the region. Recent sidewalk improvements on Pioneer Boulevard put the streetscape on par with nationally recognized best practices.

Clustered around 183rd Street and South Street, Downtown's strip mall properties serve those getting around by car. While their large parking lots, wide curb cuts, and removed commercial spaces do not conform to the transit-oriented paradigm, it is easy to imagine that these large parcels with low development intensities could make way for walkable mixed-use urban developments.

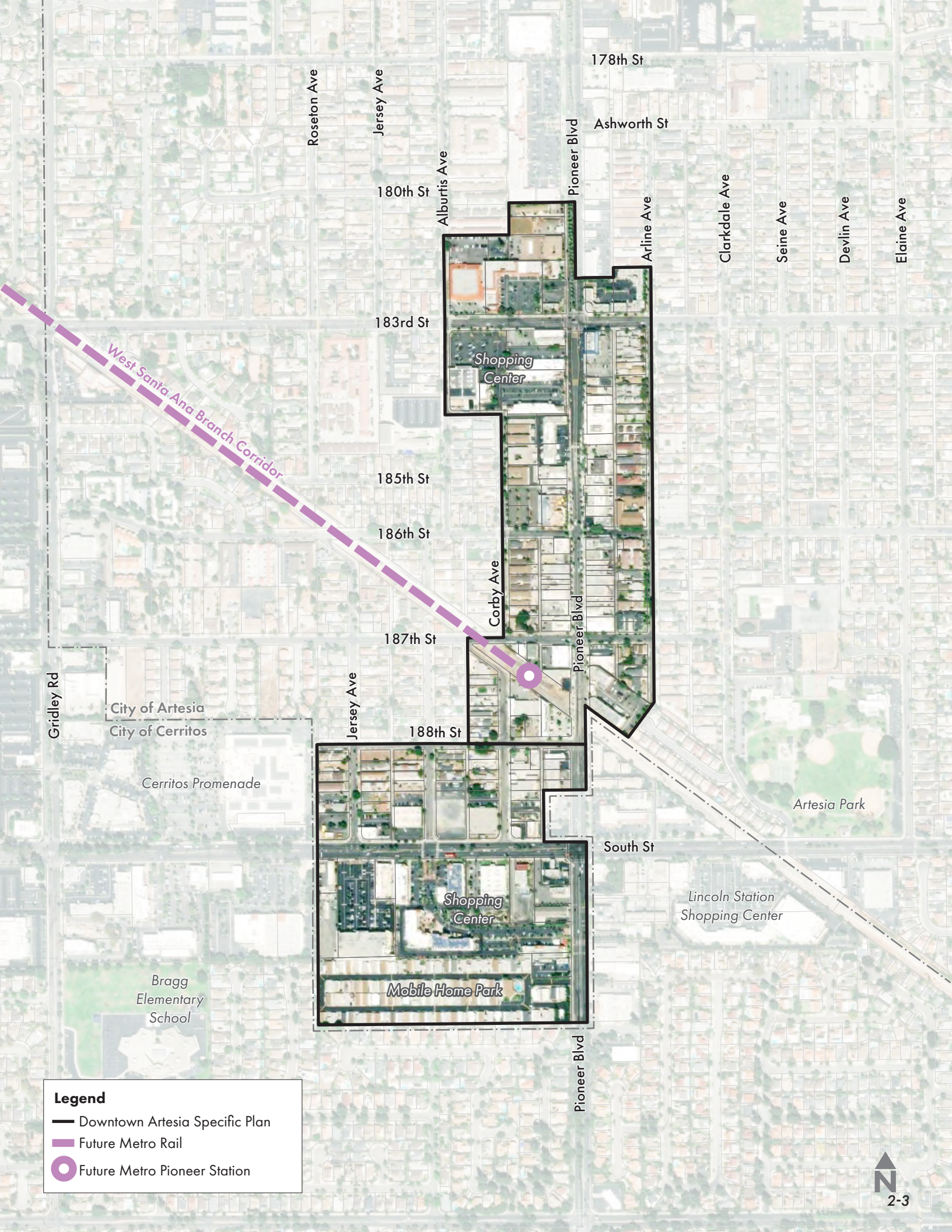
THE STUDY AREA

The Specific Plan study area focuses on the blocks adjoining Pioneer Boulevard, beginning with the area around the future Pioneer Blvd Station to the south and ending just beyond 183rd St to the north. To the east and west, the study area is bounded by Arline, Corby, and Alburtis Avenues. The study area further extends south of the Future Pioneer Boulevard Station, within the City of Artesia, and includes the area between 188th Street and the Mobile Home Park, and Pioneer Boulevard to Jersey Avenue.

The study area hosts primarily commercial and residential apartment properties. South of the railroad right-of-way, there are several light industrial properties along with a number of single-family homes. The single family homes likely predate the current land use designation.

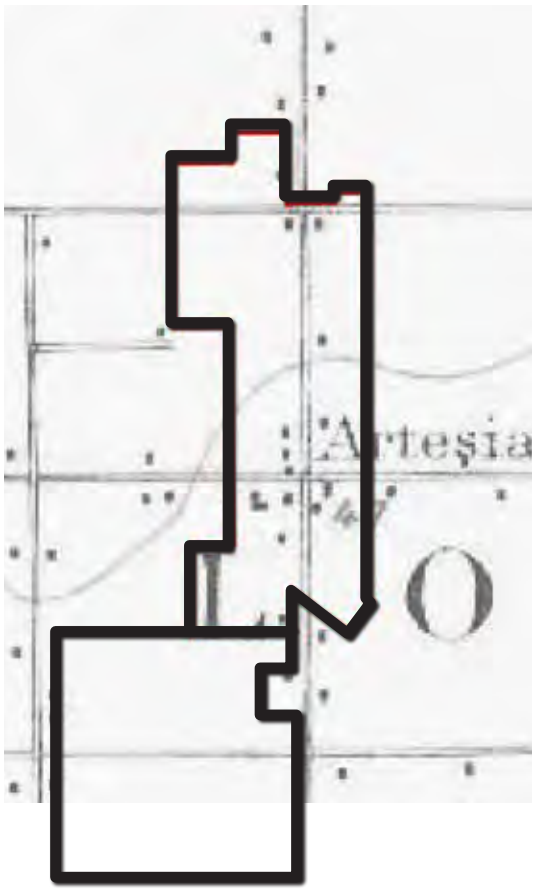
IDENTIFYING METRICS THAT CHARACTERIZE THE DOWNTOWN

Wherever possible, this report identifies metrics that correlate with high-quality transit-oriented urbanism. These metrics will help identify the development standards of the future Artesia Downtown Specific Plan.


178th St
Roseton Ave
Jersey Ave
Ashworth St
Alburtis Ave
Pioneer Blvd
180th St
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
183rd St
Shopping Center
West Santa Ana Branch Corridor
185th St
186th St
Corby Ave
Pioneer Blvd
187th St
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
Cerritos Promenade
Artesia Park
South St
Shopping Center
Lincoln Station Shopping Center
Bragg Elementary School
Mobile Home Park
Pioneer Blvd
Legend
Downtown Artesia Specific Plan
Future Metro Rail
Future Metro Pioneer Station
N

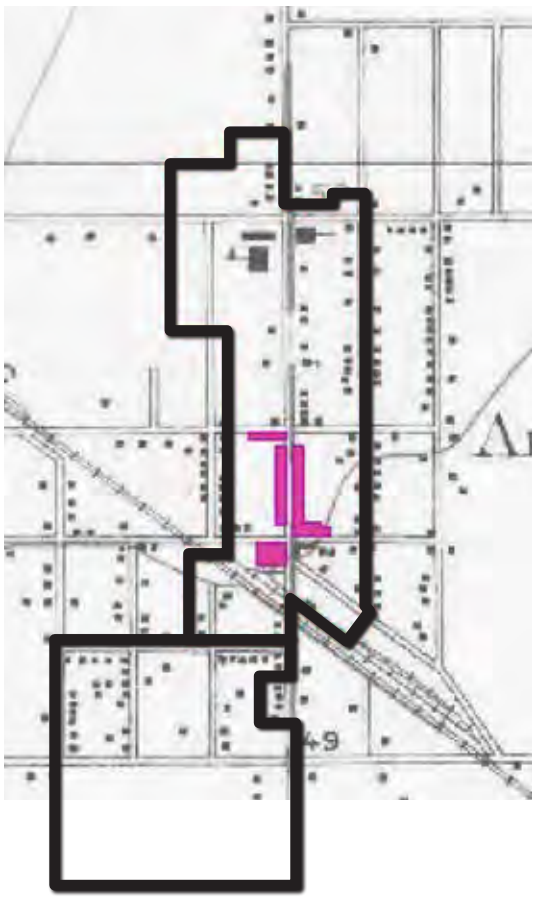
HISTORIC DEVELOPMENT OF DOWNTOWN

1902



A map from 1902 shows a number of buildings clustering around the intersection of Pioneer and 186th.

1925

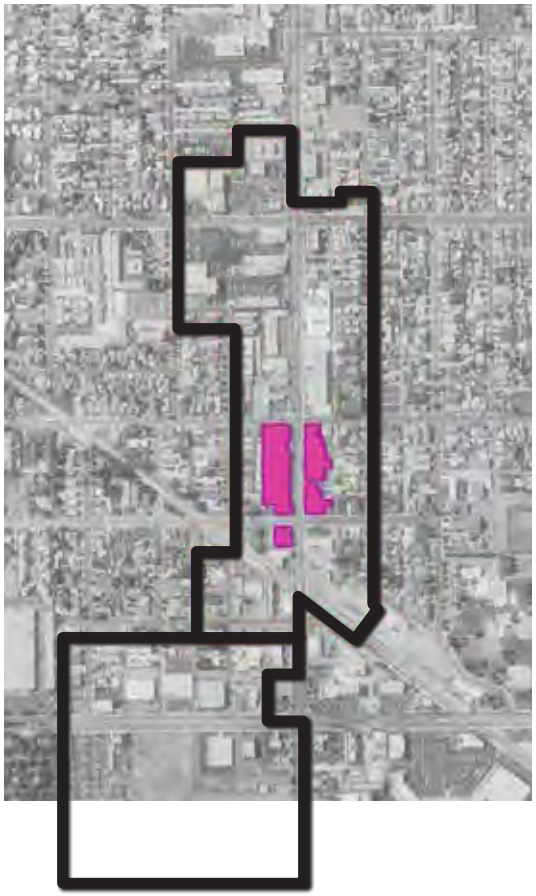


By 1925 the Pacific Electric Red Car had a station on Pioneer Blvd. Distinctively, street-fronting main street buildings line Pioneer between 186th and 187th streets.

1945

This 1945 map shows more detailed building footprints with denser infill development on Arline Ave.

1994



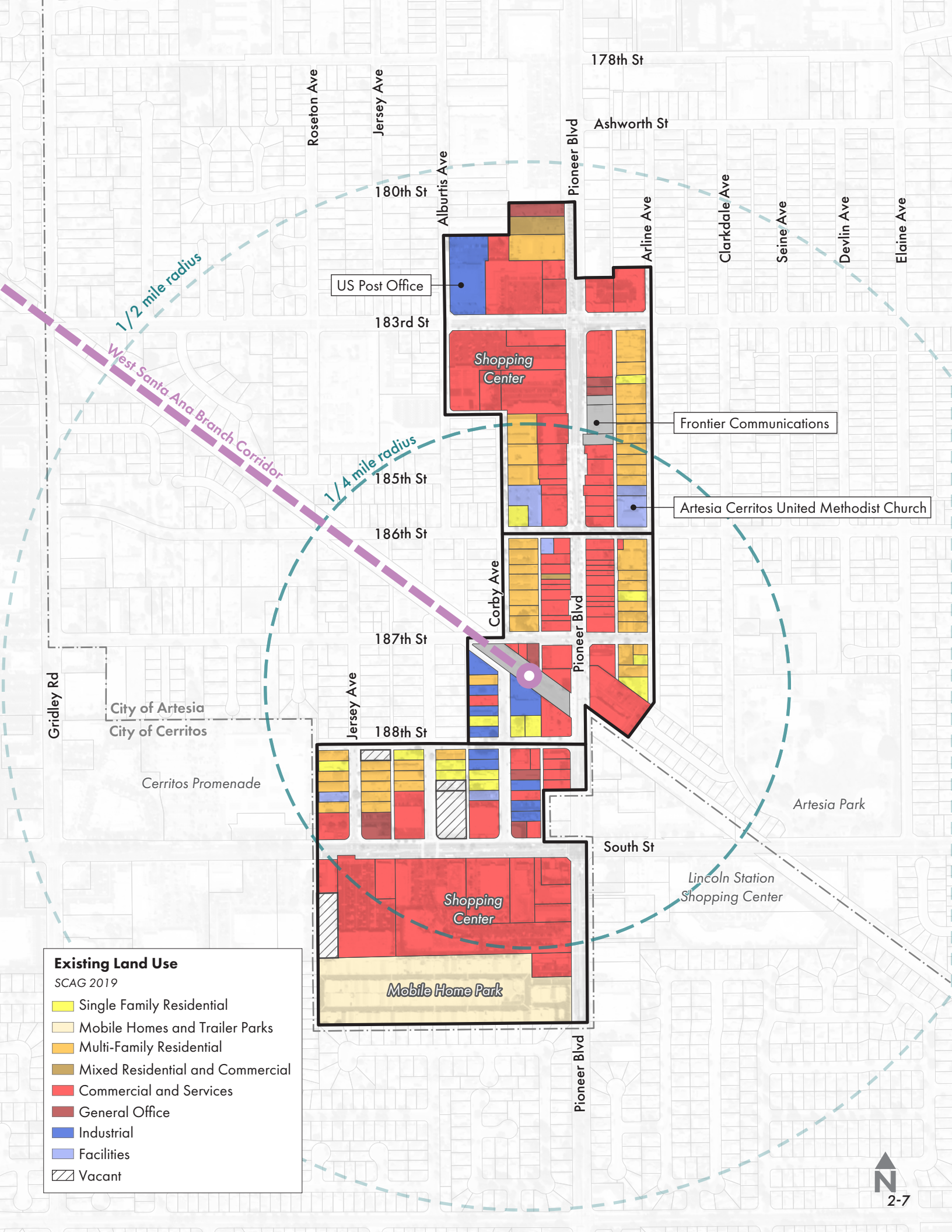
By 1994 the area north of 186th has completely transformed. The school and many other buildings have been replaced with strip malls. The main street remains.

A MIXED-USE DOWNTOWN

Downtown's land use pattern is straightforward and similar to many communities throughout Southern California: commercial uses line main thoroughfares (Pioneer Blvd ,183rd St and South St) with residential uses beyond. In the residential neighborhoods comparatively small scale multi-family residential buildings create a transition from commercial uses to single-family homes. This cross-section provides a logical progression from more active and denser uses to less dense uses.

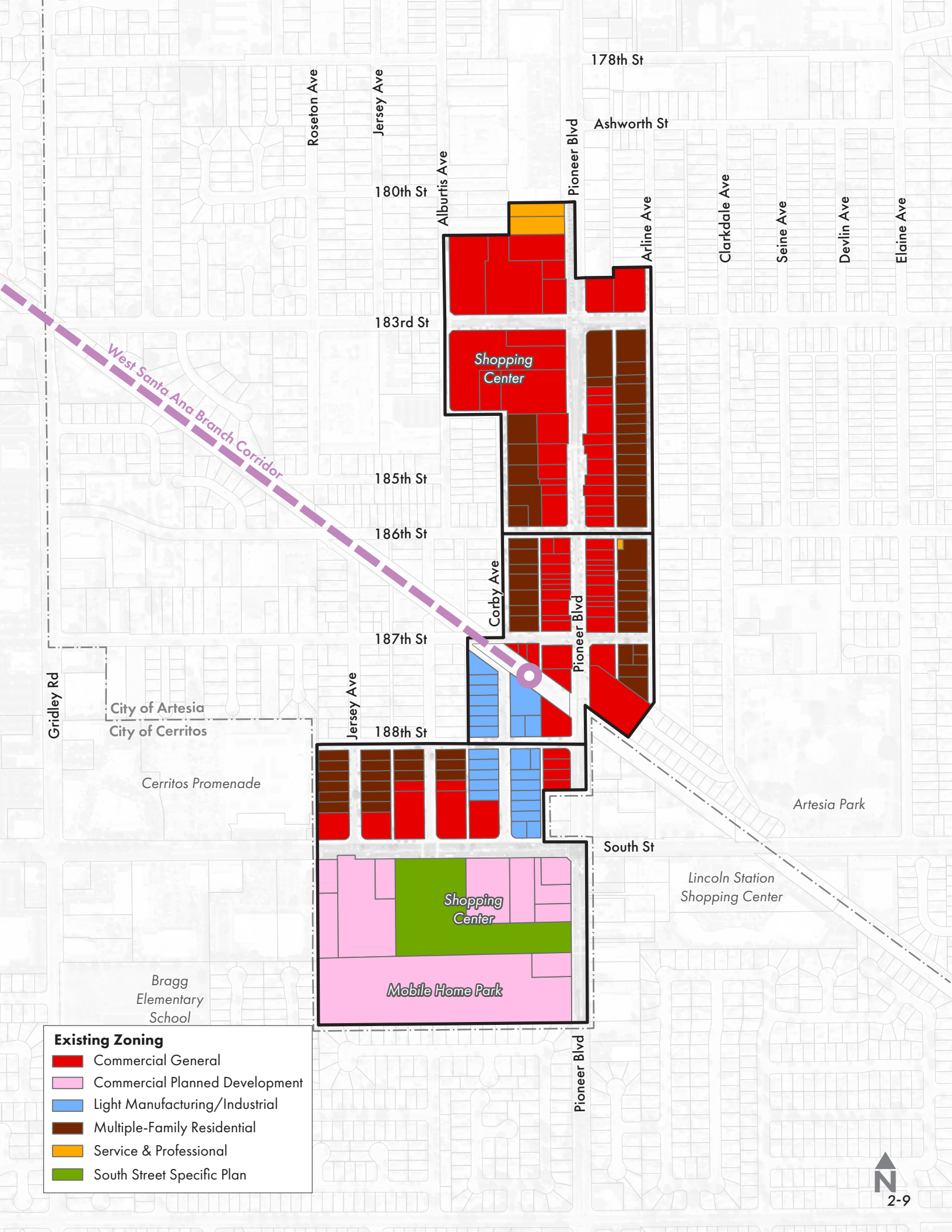
73 **retail and commercial buildings located within a half mile from Pioneer Station**

The study area has a mix of uses, a landuse pattern that can provide synergies between multiple uses and reduce automobile trips. This mix of commercial, residential, industrial, and civic uses largely takes place horizontally, meaning the different uses occupy different buildings on separate sites. Mixed-use buildings (buildings that integrate multiple uses) are limited to a handful of office over retail buildings.


178th St
Roseton Ave
Jersey Ave
Ashworth St
Pioneer Blvd
180th St
Alburtis Ave
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
US Post Office
1/2 mile radius
West Santa Ana Branch Corridor
183rd St
Shopping Center
Frontier Communications
1/4 mile radius
185th St
Artesia Cerritos United Methodist Church
186th St
Corby Ave
Pioneer Blvd
187th St
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
Mobile Home Park
Pioneer Blvd
Existing Land Use
SCAG 2019
Single Family Residential
Mobile Homes and Trailer Parks
Multi-Family Residential
Mixed Residential and Commercial
Commercial and Services
General Office
Industrial
Facilities
Vacant
N

EXISTING ZONING

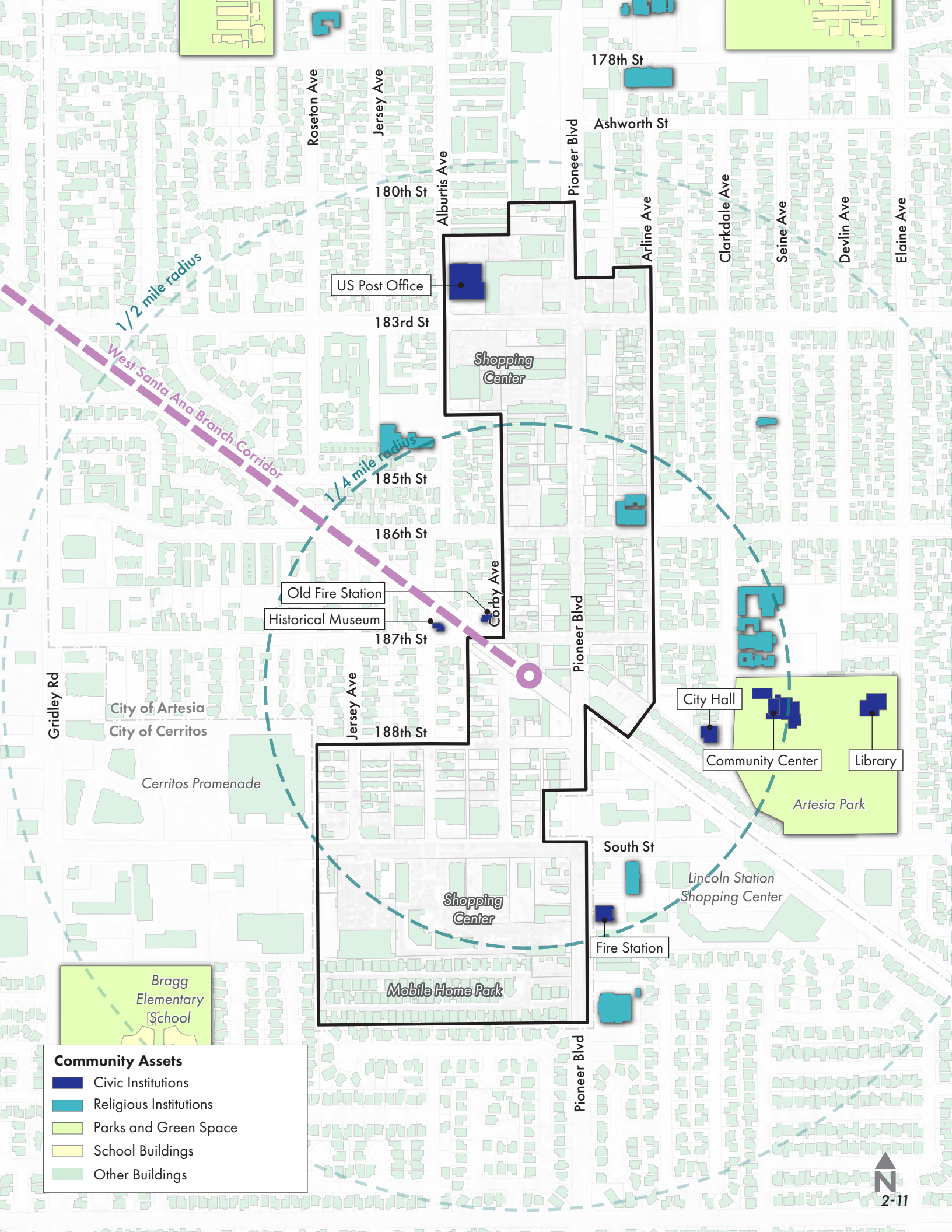
The map on the following page shows existing zoning designations within the specific plan study area. Commercial General zone designations are focused along Pioneer Boulevard, 183rd Street, and South Street. Light Manufacturing/Industrial zone designations are located south of the future rail station along Corby Avenue. Multi-family Residential designations are found along Corby Avenue and Airline Avenue. The area south of South Street is designated as Commercial Planned Development and South Street Specific Plan.


178th St
Roseton Ave
Jersey Ave
Ashworth St
Pioneer Blvd
180th St
Alburtis Ave
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
183rd St
Shopping Center
West Santa Ana Branch Corridor
185th St
186th St
Corby Ave
Pioneer Blvd
187th St
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
Mobile Home Park
Bragg Elementary School
Pioneer Blvd
Existing Zoning
Commercial General
Commercial Planned Development
Light Manufacturing/Industrial
Multiple-Family Residential
Service & Professional
South Street Specific Plan
N

COMMUNITY ASSETS

Community assets include civic institutions, religous institutions, parks and green spaces, and schools. Community assets provide key amenities and services that contribute to healthy and functional neighborhoods.

Civic institutions within a 1/2 mile from the future Pioneer Station include Artesia City Hall, Albert O. Little Community Center, Artesia Library, a fire station, and a post office. The post office is located at the northern end of the study area. All other civic institutions are located outside just outside the southeast boundary of the study area. Artesia Park is the only park within walking distance (1/2 mile radius) from the future Metro station. Artesia Park is across the street from City Hall and is integrated with the community center and library. Other green spaces include open space on school properties. Three schools are located a few blocks away from the study area, at the northeast, northwest, and southwest corners.


178th St
Roseton Ave
Jersey Ave
Ashworth St
Pioneer Blvd
Alburtis Ave
180th St
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
1/2 mile radius
West Santa Ana Branch Corridor
US Post Office
183rd St
Shopping Center
1/4 mile radius
185th St
186th St
Old Fire Station
Historical Museum
Corby Ave
187th St
Pioneer Blvd
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
City Hall
Community Center
Library
Artesia Park
Cerritos Promenade
South St
Lincoln Station Shopping Center
Shopping Center
Fire Station
Bragg Elementary School
Mobile Home Park
Pioneer Blvd
Community Assets
Civic Institutions
Religious Institutions
Parks and Green Space
School Buildings
Other Buildings
N

ACCOMMODATING CARS IN DOWNTOWN

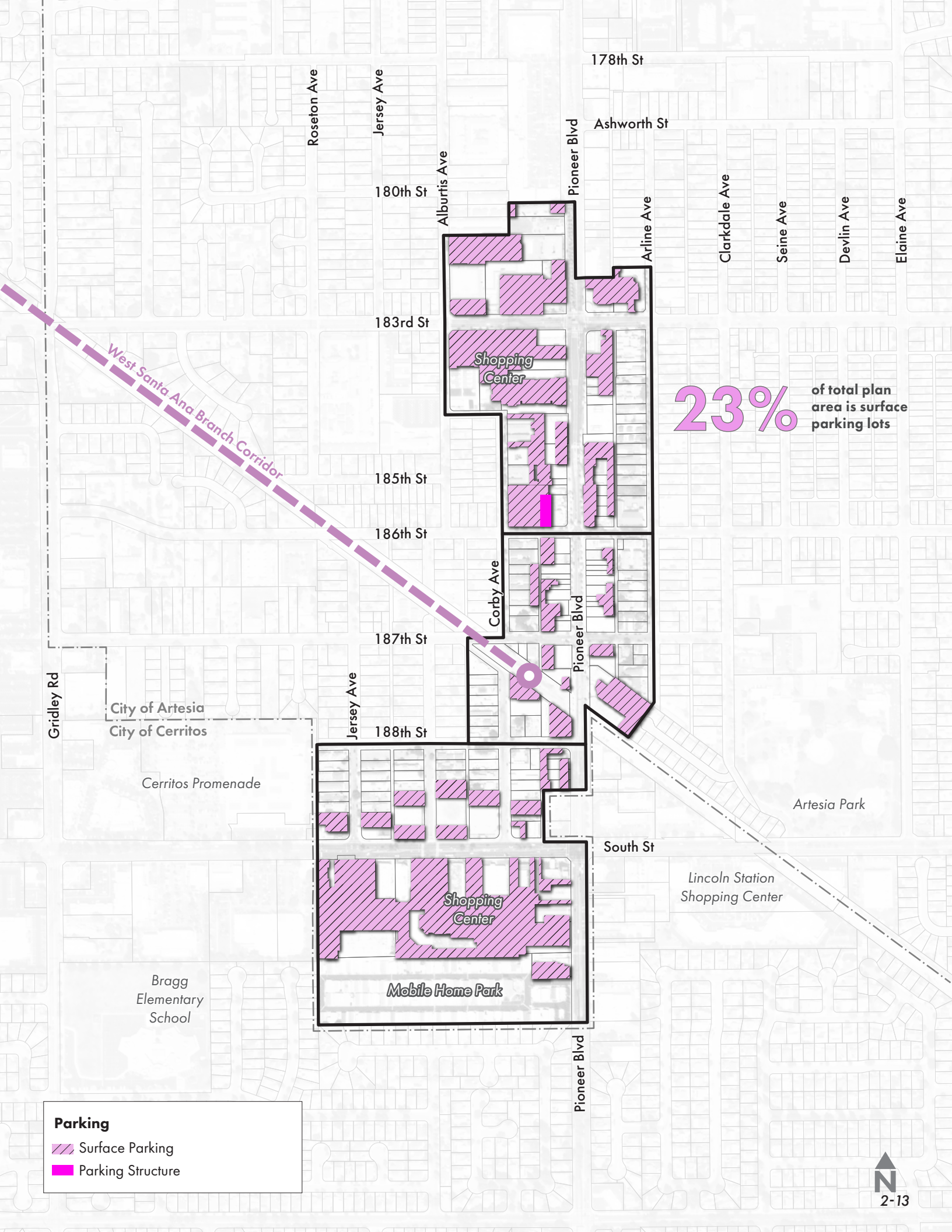
Similar to many cities, a significant amount of land is dedicated to parking. In Artesia, parking is primarily accommodated in surface parking lots. Surface lots consume a considerable amount of land per parked automobile when compared to structured parking. Currently, parking occupies 23% of the total plan area. Excluding the public right of way, surface parking occupies 38% of all property lots.

38%

of all property lots are surface parking lots

The high use of land for parking is a result of code-mandated parking minimums and real-estate economics. Strip malls and similar low-intensity but high-parking need development types are a typical result of cheap commercial land and high parking requirements. This reality is rapidly changing as scarce transit-adjacent land is becoming more valuable and a declining parking demand. Throughout Southern California, both parking code changes and real estate economics are resulting in fewer parking spaces in new development.

In accordance to Assembly Bill 2097 (AB 2097), California law prohibits public agencies or cities from imposing a minimum automobile parking requirement on most development projects located within a half-mile radius of a major transit stop. The entirety of the Specific Plan study area falls within a half mile radius of the future Pioneer Boulevard station, therefore, any development within the study area would not have parking requirements once the Metro station is complete, consistent with the requirements of AB 2097. Parking standards should be reviewed in anticipation of the future Metro station.


178th St
Ashworth St
Roseton Ave
Jersey Ave
Alburtis Ave
Pioneer Blvd
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
180th St
183rd St
185th St
186th St
187th St
188th St
West Santa Ana Branch Corridor
Shopping Center
23%
of total plan area is surface parking lots
Corby Ave
Pioneer Blvd
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
Mobile Home Park
Bragg Elementary School
Pioneer Blvd
Parking
Surface Parking
Parking Structure
N

THE SCALE OF DOWNTOWN

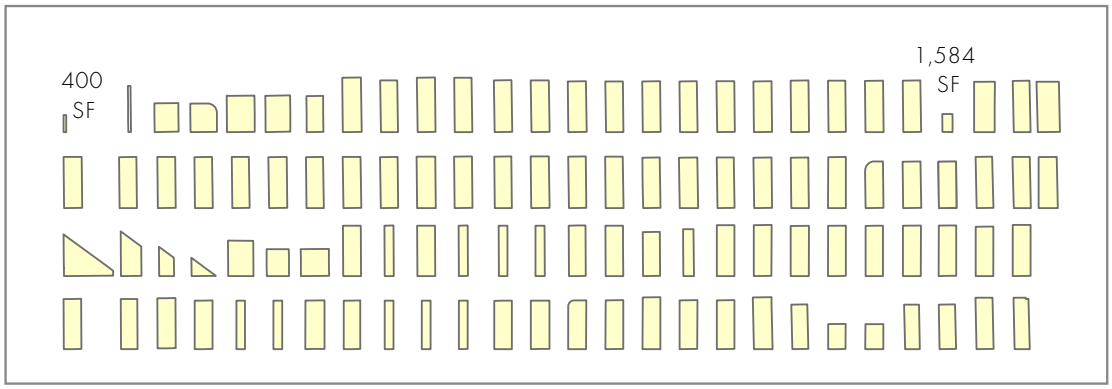
One principle of good transit-oriented design is the so-called human scale. Human-scale design refers to buildings and streets that relate to the scale of a person. That includes the aforementioned distance someone can easily walk, or walkshed. It also refers to the height and length of building components, the elements of buildings visible from the sidewalk, the frequency of entries, the presence of windows – all elements of an environment that is engaging to most people.

The scale of a neighborhood is primarily determined by the scale of its lots, frontages, and buildings. When the lots and buildings are very large, the environment can seem out of scale – the neighborhood components are far apart and it is more tedious to walk. When buildings are large, have few entrances, and blank walls they make a block feel less safe. Neighborhoods with smaller lots, frontages, and buildings are often more interesting and feel safe, largely as a result of their inherent human scale.

The following series of maps explores the existing scale of Downtown Artesia

SHARE OF PROJECT AREA

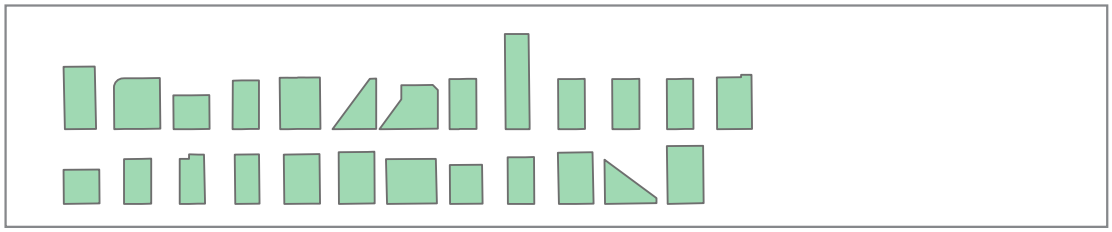
LOT SIZE: 0 - 10,000 SF



107 LOTS OCCUPY

23%

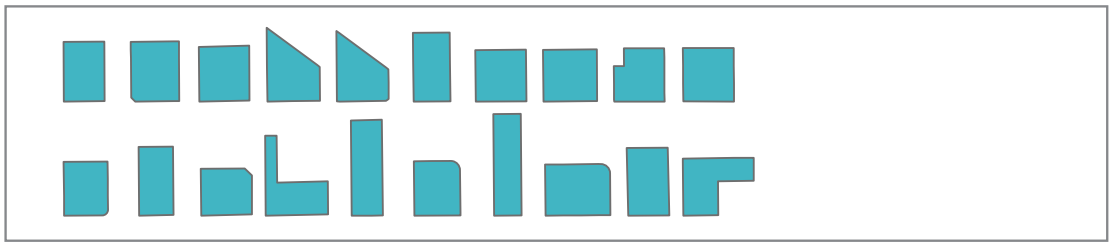
LOT SIZE: 10,000 - 20,000 SF



25 LOTS OCCUPY

11%

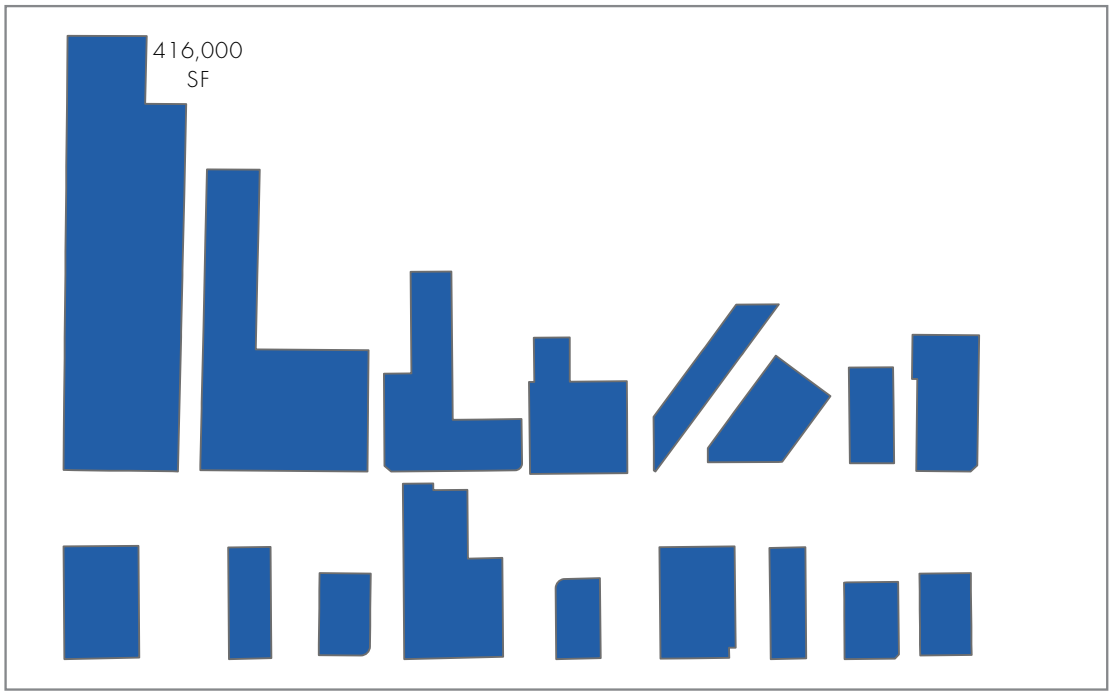
LOT SIZE: 20,000 - 30,000 SF



20 LOTS OCCUPY

15%

LOT SIZE: GREATER THAN 30,000 SF



17 LOTS OCCUPY

51%

LOT SIZE

Lot size is a good indicator of the scale of development that occurs on it. Downtown Artesia has a significant spectrum of lot sizes. The smallest lot size without any existing building is 400 square feet. Of the lots that contain existing buildings, the smallest lot size is 1,583 square feet. The largest lot size is over 416,000 square feet. Interestingly, 107 of the smallest lots (lots less than or equal to 10,000 sf) occupy only 23 percent of the developable land area. The next tier of lot sizes range from 10,000 sf - 20,000 sf with 25 lots occupying 11 percent of developable area. 20 lots range from 20,000 sf - 30,000 sf occupying only 15 percent of developable land area, while 17 of the largest lots (greater than 30,000 sf) occupy 51 percent of developable land area.

When comparing lot sizes, we find that lots north of 186th Street within the study area have an average lot size of approximately 18,000 sf. Lot sizes in this area range from 6,000 sf commercial and residential lots to large 70,000 sf commercial lots. Between 186th and 188th Streets, the average lot size is less than 10,000 sf. Lots south of 188th Street. have an average lot size that is less than 27,000 sf.

This significant difference in average lot size is the result of changing commercial development patterns. Historically, commercial development clustered around a short length of a main street, usually no more than two or three blocks. Land values at the main street core were high and resulted in very small lots.

With the advent of the automobile, the distance between stores became less important and visibility at busy street intersections more important. Around the intersections of Pioneer Boulevard at 183rd Street and South Street, we find Downtown's largest sites with high visibility and extensive parking lots.

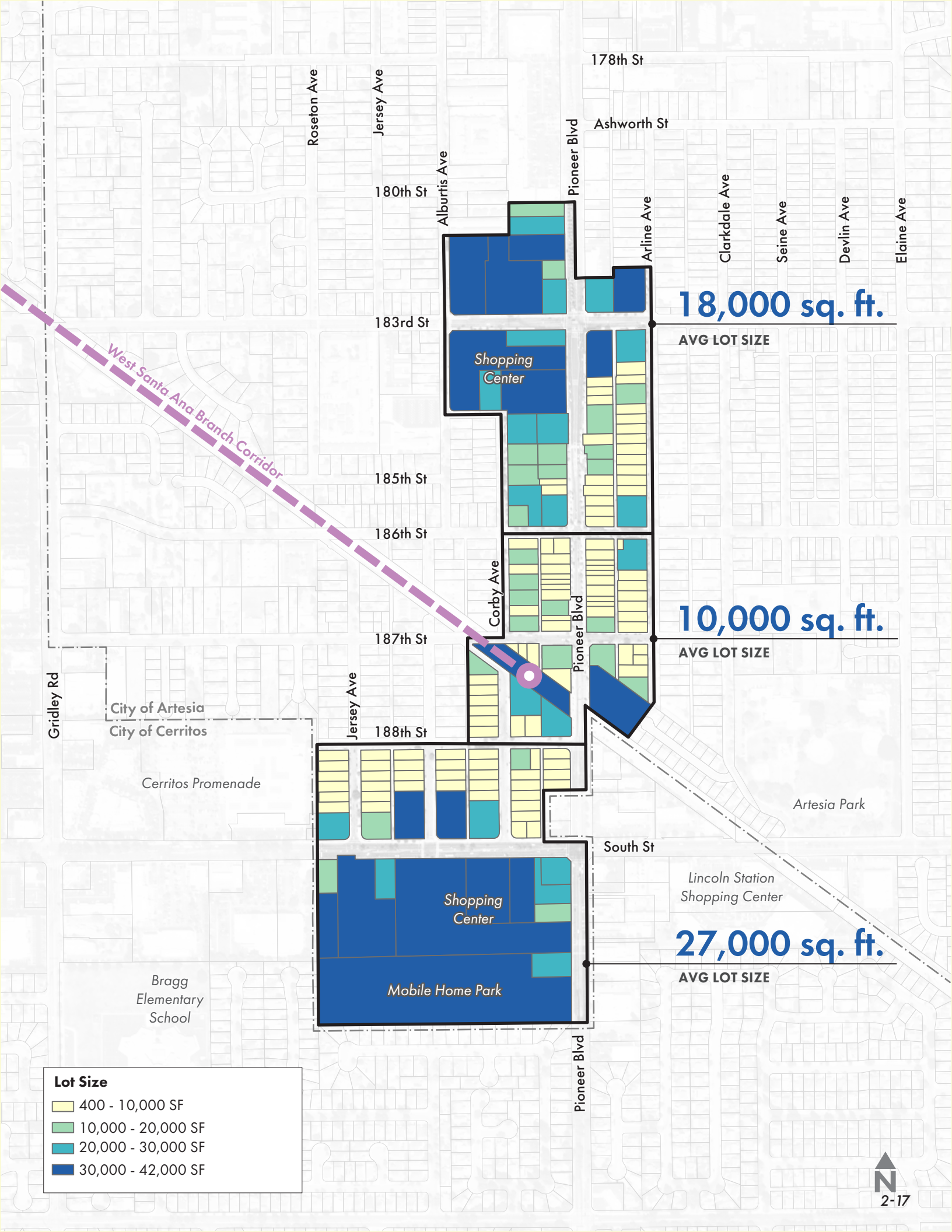
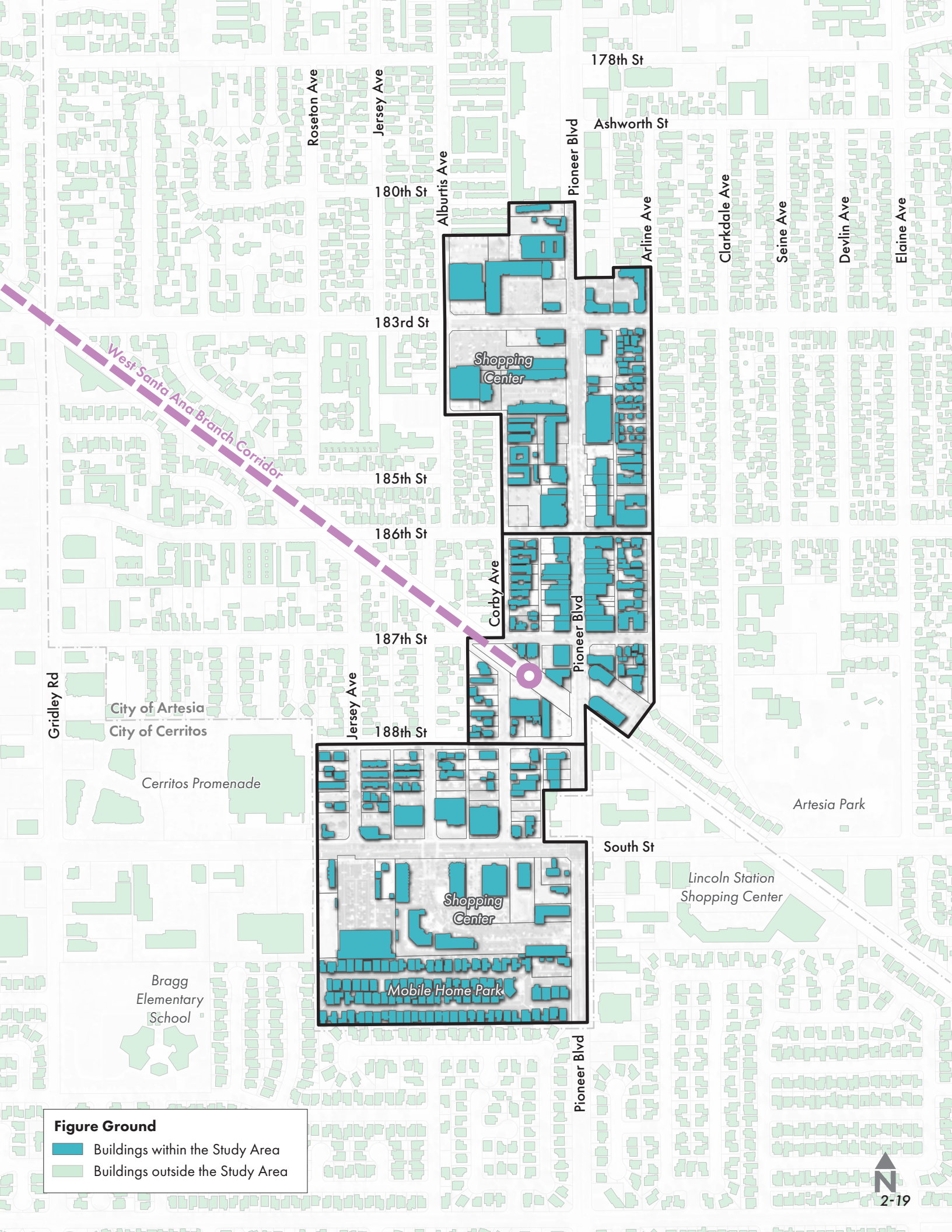

178th St
Roseton Ave
Jersey Ave
Ashworth St
Alburtis Ave
Pioneer Blvd
180th St
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
18,000 sq. ft.
AVG LOT SIZE
183rd St
Shopping Center
West Santa Ana Branch Corridor
185th St
186th St
Corby Ave
Pioneer Blvd
10,000 sq. ft.
AVG LOT SIZE
187th St
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
27,000 sq. ft.
AVG LOT SIZE
Mobile Home Park
Bragg Elementary School
Pioneer Blvd
Lot Size
400 - 10,000 SF
10,000 - 20,000 SF
20,000 - 30,000 SF
30,000 - 42,000 SF
N

FIGURE GROUND

The map to the right illustrates the building footprints for all structures within and around the study area. Understanding the ways the existing structures articulate block form and frame the connective tissue of the public realm helps identify the degree to which corridors are defined.

Along Pioneer Blvd, between 186th and 187th Street, the plan area is marked by a continuous building frontage. The building frontage is continuous north on the east side of Pioneer Boulevard, but is set back from the sidewalk. As you move north along Pioneer Boulevard, larger disconnected building footprints are found. Shopping centers and commercial uses on 183rd Street and South Street are composed of larger building footprints surrounded by surface parking.

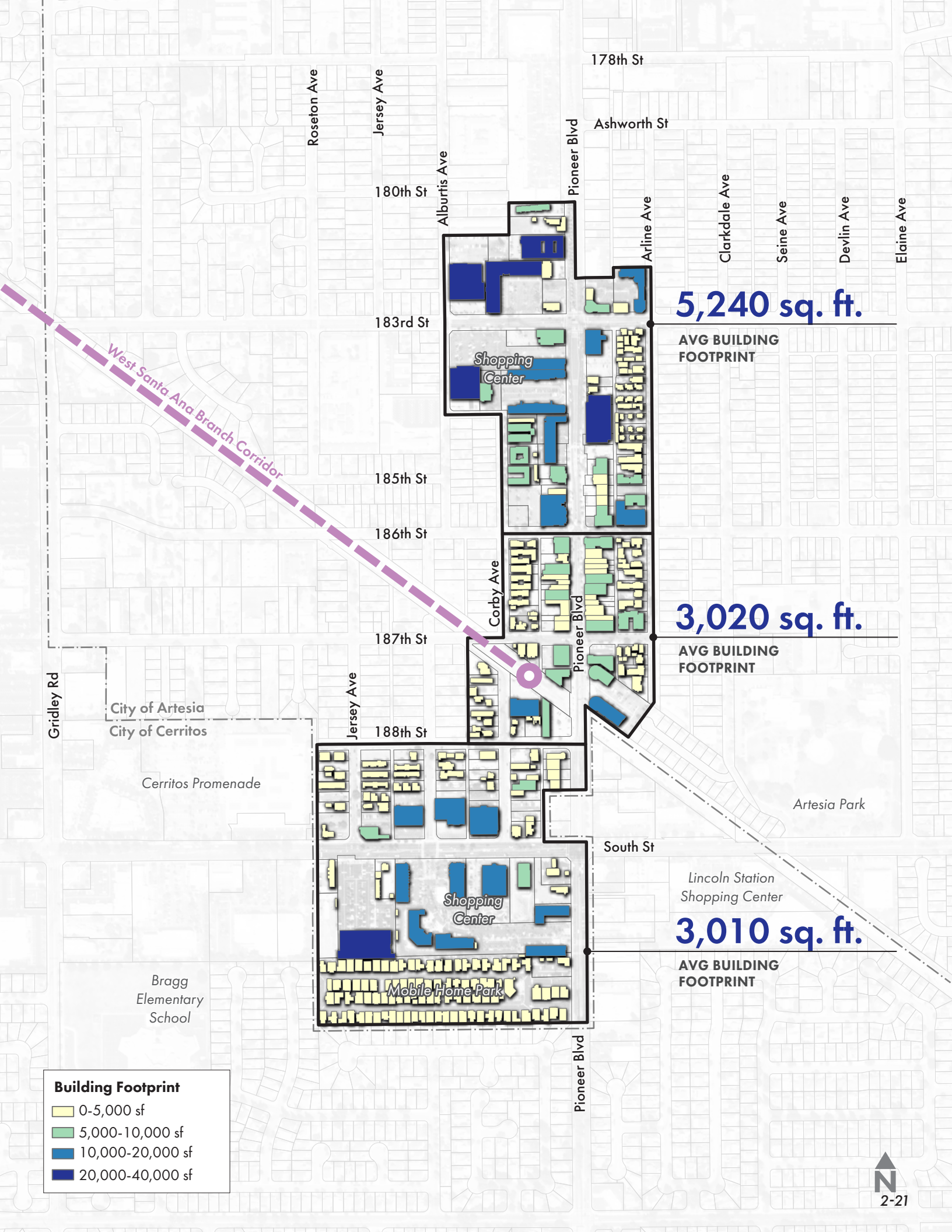
Corby Ave and Airline Ave, within the study area, is composed of somewhat densely configured multi-family residential buildings. The mobile home park at the southern end of the study area includes a higher density configuration of small manufactured homes with little to no side setback.


178th St
Roseton Ave
Jersey Ave
Ashworth St
Pioneer Blvd
Alburtis Ave
180th St
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
183rd St
Shopping Center
West Santa Ana Branch Corridor
185th St
186th St
Corby Ave
Pioneer Blvd
187th St
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
Mobile Home Park
Bragg Elementary School
Pioneer Blvd
Figure Ground
Buildings within the Study Area
Buildings outside the Study Area
N

BUILDING FOOTPRINT

Building footprint, by scale and size, are closely linked and dictated by lot size. Small lots only accommodate small buildings while larger lots accommodate both small and large buildings.

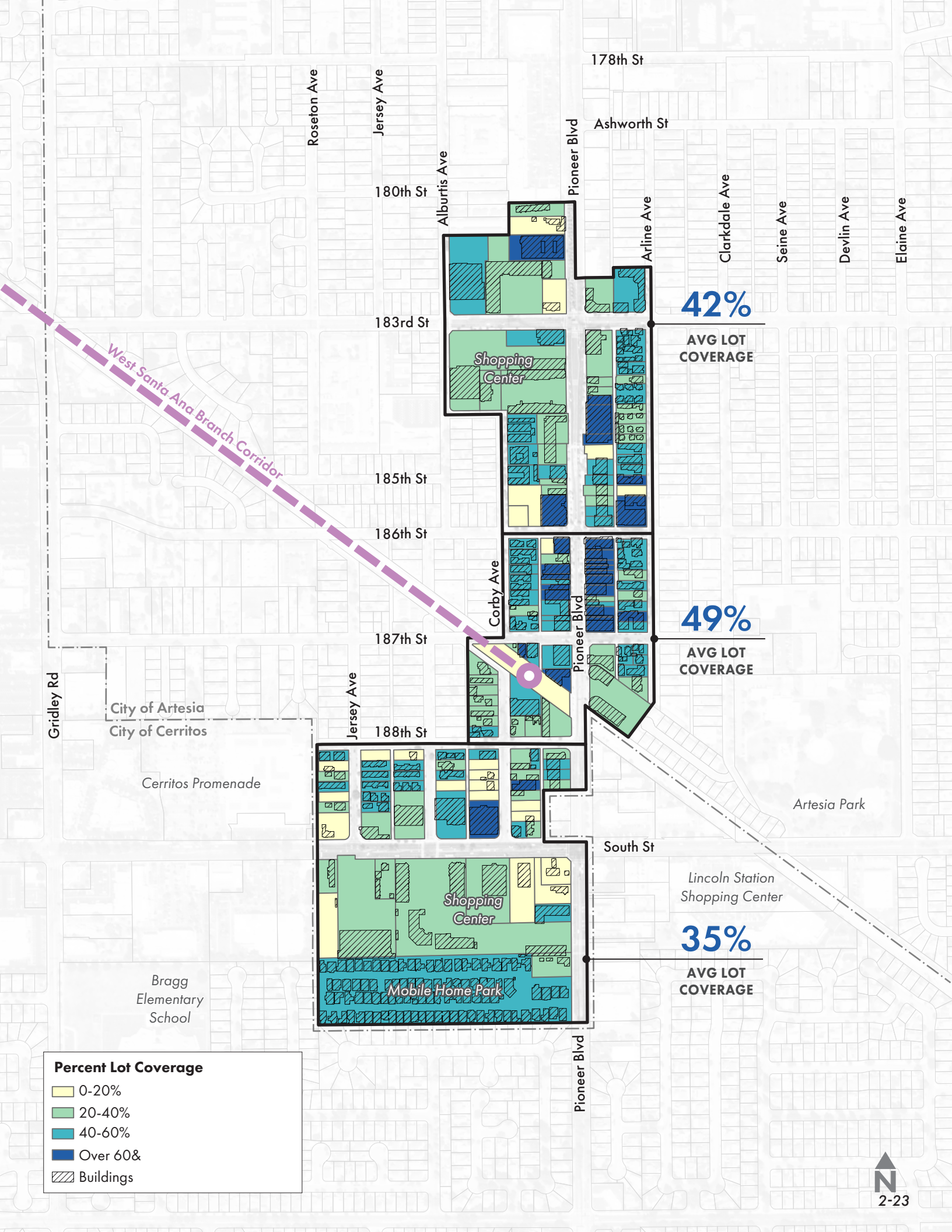
The area between 186th and 188th Streets have no buildings greater than 20,000 sf, with an average building footprint of 3,020 sf. The result is a series of commercial buildings that line the street and provide significant activation of the sidewalk. The average building footprint north of 186th Street is 5,240 sf. This area includes larger commercial strip malls and multi-family buildings. The area south of 188th Street has an average building footprint of 3,010 sf and includes large commercial strip malls, and a mobile home park with a concentration of smaller residential footprints. In comparison to the commercial uses, residential buildings have smaller footprints as they are divided into smaller areas.


178th St
Roseton Ave
Jersey Ave
Ashworth St
Alburtis Ave
Pioneer Blvd
180th St
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
5,240 sq. ft.
AVG BUILDING FOOTPRINT
183rd St
Shopping Center
West Santa Ana Branch Corridor
185th St
186th St
Corby Ave
Pioneer Blvd
3,020 sq. ft.
AVG BUILDING FOOTPRINT
187th St
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
3,010 sq. ft.
AVG BUILDING FOOTPRINT
Mobile Home Park
Bragg Elementary School
Pioneer Blvd
Building Footprint
0-5,000 sf
5,000-10,000 sf
10,000-20,000 sf
20,000-40,000 sf
N

LOT COVERAGE

The extent to which a lot is occupied by buildings can help predict the urban quality of the resulting development. Higher lot coverages correlate with a denser and more urban experience. At the same time, a high lot coverage by itself will not guarantee high quality development.

The lots north of 186th Street have an average lot coverage of 42 percent. Lots between 186th Street and 188th Street have an average lot coverage of 49 percent. South of 188th Street, the average lot coverage is 35 percent. The largest lots have lot coverages below 50%, largely a result of extensive surface parking lots.

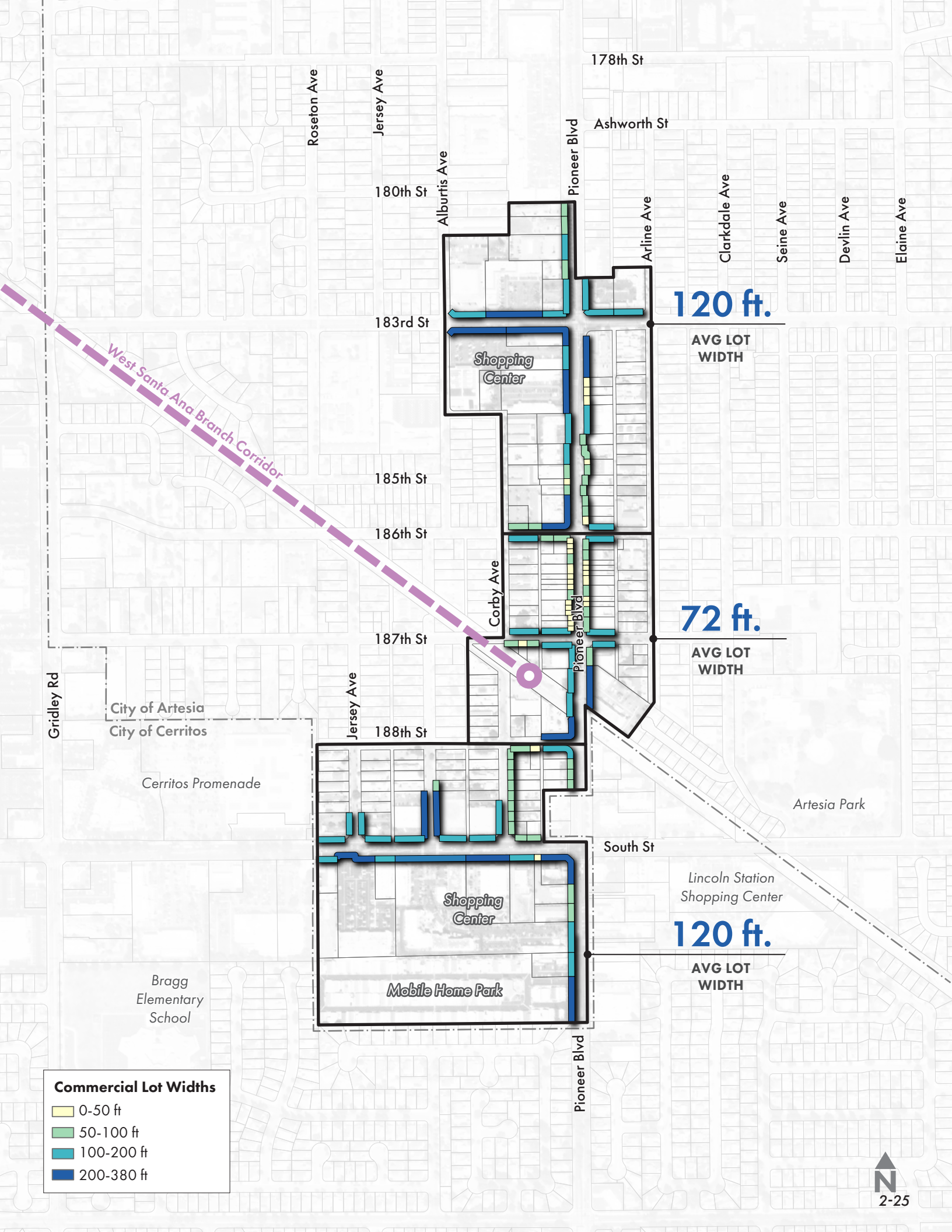

178th St
Roseton Ave
Jersey Ave
Ashworth St
Pioneer Blvd
180th St
Alburtis Ave
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
42%
AVG LOT COVERAGE
183rd St
Shopping Center
West Santa Ana Branch Corridor
185th St
186th St
Corby Ave
Pioneer Blvd
49%
AVG LOT COVERAGE
187th St
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
35%
AVG LOT COVERAGE
Bragg Elementary School
Mobile Home Park
Pioneer Blvd
Percent Lot Coverage
0-20%
20-40%
40-60%
Over 60&
Buildings
N

FRONTAGE LOT WIDTH

The lot width influences the perceived scale of a lot at the street frontage. The narrower the lot width is, the more buildings, stores, or entrances a pedestrian will pass on a given length of block. A commercial block with several narrower lots will be more interesting than the same block with fewer wide lots.

Historically, the desirability of having a business on main street and the desire to accommodate as many businesses as possible, led to very narrow retail parcels. This pattern is evident on the block of Pioneer between 186th and 188th Streets. The average lot width is only 72 feet.

With the wide adoption of the car, the logic of commercial development changed. Distances were no longer as important since the car easily overcame them. Main street frontage became less important as less people walked. Instead, parking and visibility became primary concerns leading to wider lots. Lots north of 186th Street and south of 188th Street have a higher average frontage lot width at 120 feet.


178th St
Roseton Ave
Jersey Ave
Ashworth St
Alburtis Ave
Pioneer Blvd
180th St
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
120 ft.
AVG LOT WIDTH
183rd St
Shopping Center
West Santa Ana Branch Corridor
185th St
186th St
Corby Ave
Pioneer Blvd
72 ft.
AVG LOT WIDTH
187th St
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
120 ft.
AVG LOT WIDTH
Mobile Home Park
Bragg Elementary School
Pioneer Blvd
Commercial Lot Widths
0-50 ft
50-100 ft
100-200 ft
200-380 ft
N

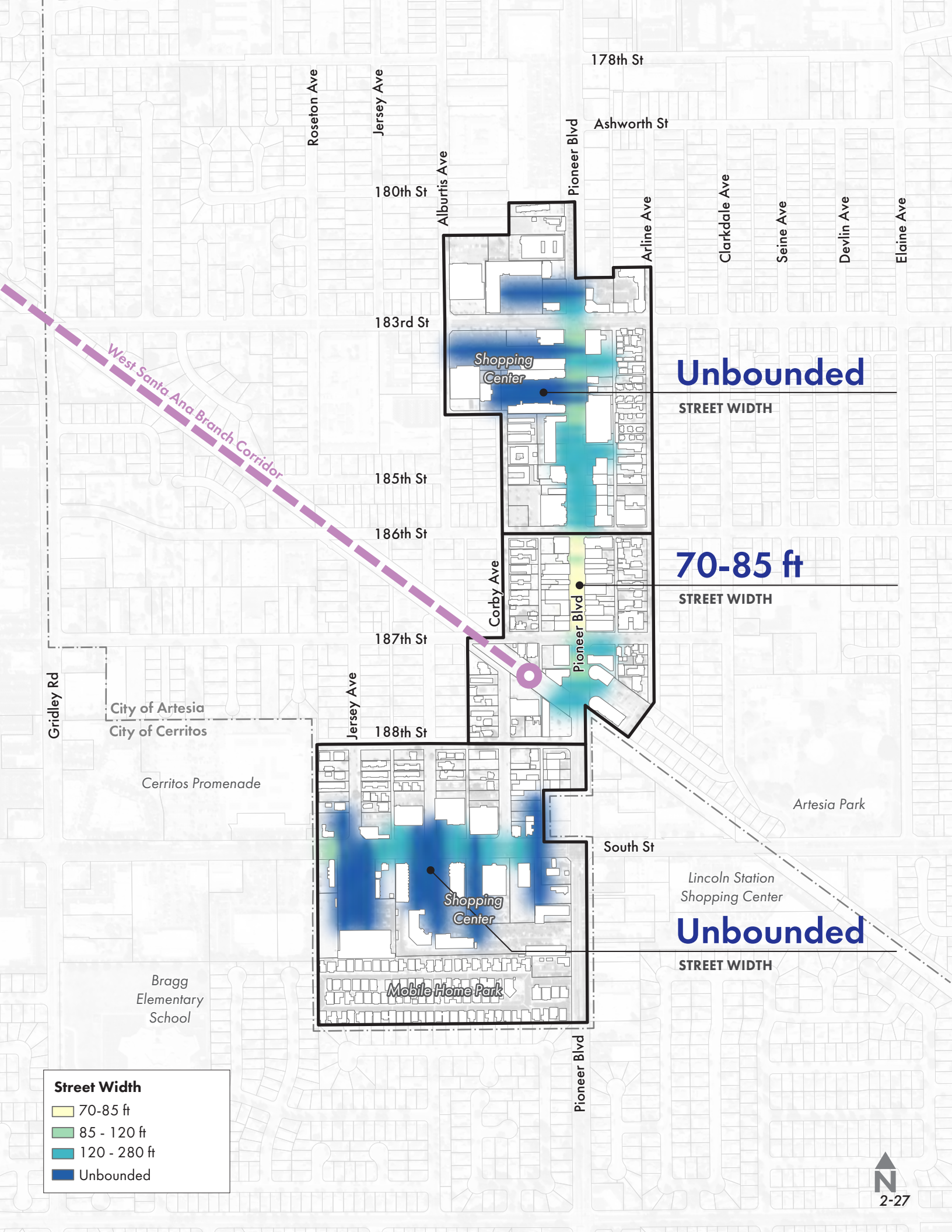
PERCIEVED STREET WIDTH

Street Width is generally defined as the distance of a roadway from curb to curb. However, for this analysis, street width is considered as the perceived area of vehicle roadway by a pedestrian. The analysis evaluates how the perception of street scale and size influence the pedestrian experience in Downtown Artesia.

Streets, driveways, parking ltos and other roadways influence the physical and perceived scale of the street. Narrower street widths can help slow vehicular traffic, and create a sense of enclosure that makes a comfortable pedestrian environment. Wider street widths encourage higher traffic speeds, creating uncomfortable conditions for pedestrians and bicyclists. In both of these conditions, the urban realm is generally divided into the amount of space dedicated to vehicles and space dedicated for pedestrians and bicyclists.

The diagram to the right shows street widths measured from building frontages on Pioneer Boulevard and South Street. On Pioneer Boulevard, the area between 186th and 187th Streets have the narrowest street widths in the study area, measuring between 70-85 ft. This section has one travel lane and one parking lane in each direction, wide sidewalks, and a consistent building frontage adjacent to the sidewalk.

North of 186th Street, buildings are setback 60 feet with parking lots fronting the sidewalk, resulting in building to building streetwidths of up to 280 feet and an urban realm catered to the automobile. The shopping centers on 183rd Street and South Street front the sidewalk with expansive surface lots and building to building frontage widths of over 280 feet, exemplifying a car dependent culture. These areas present opportunities to reconsider street scape, parking and mobility in anticipation of the future Metro station.

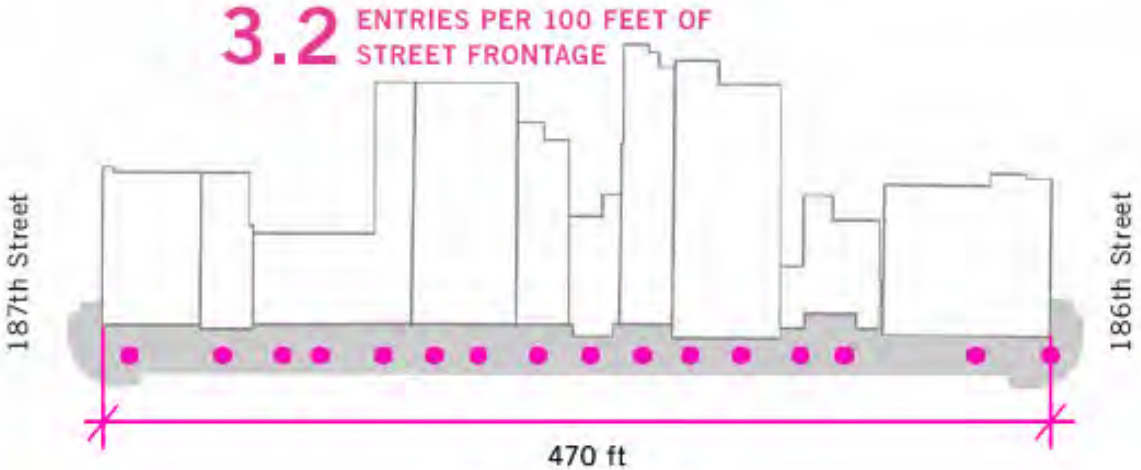

178th St
Ashworth St
Roseton Ave
Jersey Ave
Alburtis Ave
Pioneer Blvd
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
180th St
183rd St
185th St
186th St
187th St
188th St
West Santa Ana Branch Corridor
Shopping Center
Unbounded
STREET WIDTH
70-85 ft
STREET WIDTH
Corby Ave
Pioneer Blvd
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
Unbounded
STREET WIDTH
Mobile Home Park
Bragg Elementary School
Pioneer Blvd
Street Width
70-85 ft
85 - 120 ft
120 - 280 ft
Unbounded
N

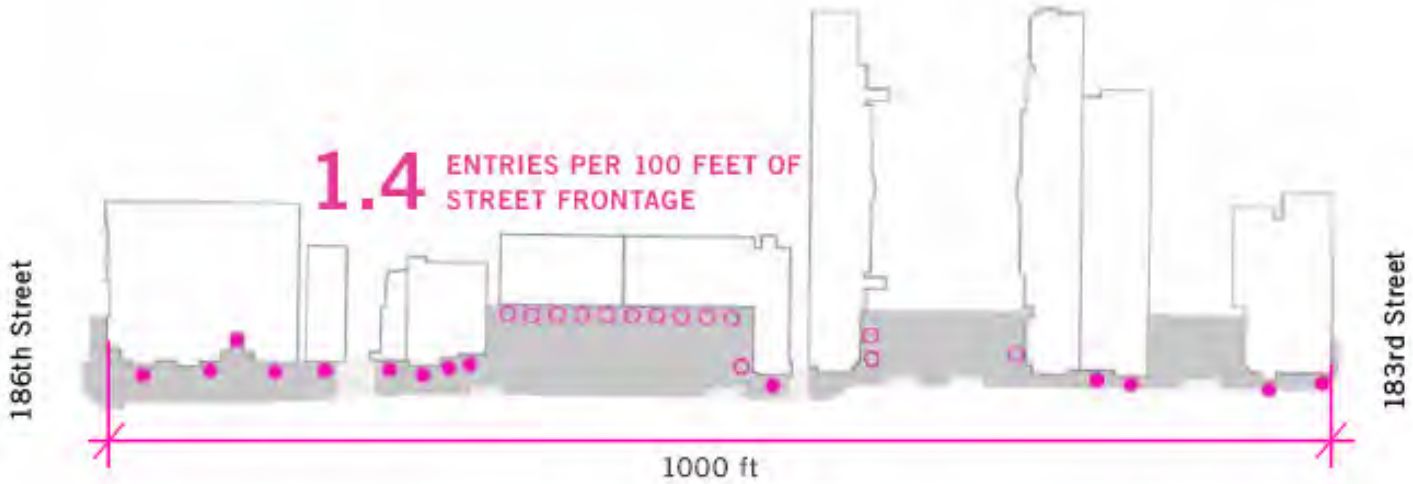
GROUND FLOOR ACTIVATION

A successful streetscape experience begins with an active ground floor. An indicator for ground-floor activation is the frequency of sidewalk-fronting entrances. Entrances connect the sidewalk with activities and programs at the street level. For reference, consider the high number of entries in successful shopping destinations such as 3rd Street Promenade or even Disneyland's Main Street.

Similar to previous analyses, the block between 186th and 187th Streets demonstrates a high ground-floor activation with 3.2 sidewalk entries per 100 ft. of street frontage. On average, there is a door to the sidewalk every 33 feet. Between 183rd and 186th Streets the number of sidewalk entries is halved to 1.4 per 100 ft. of street frontage – a significant reduction. The lower the rate of entires to distance, generally the less activated and engaging the street scape is.


Postma Furniture
186TH STREET


3.2 ENTRIES PER 100 FEET OF STREET FRONTAGE
187th Street
186th Street
470 ft

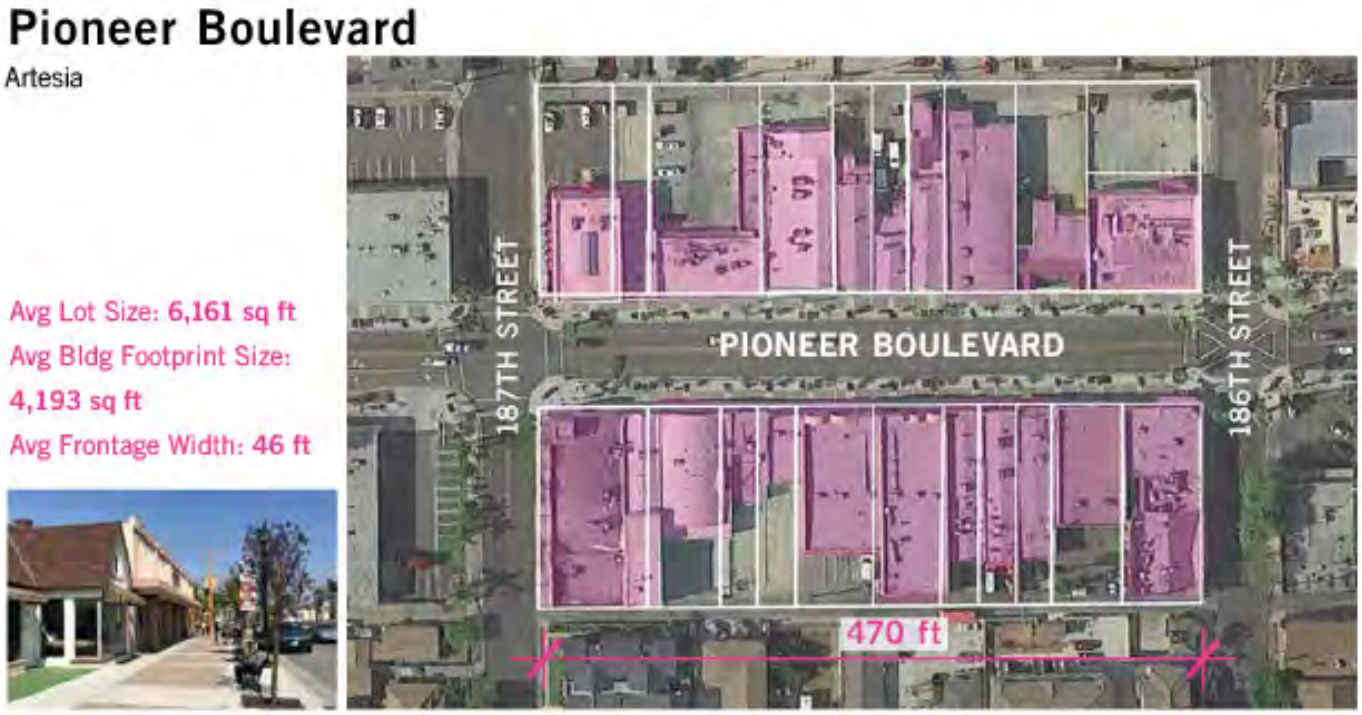

1.4 ENTRIES PER 100 FEET OF STREET FRONTAGE
186th Street
183rd Street
1000 ft

RETAIL CORRIDOR COMPARISON

Between 186th and 187th Streets, Pioneer Boulevard already has a built structure that is very similar to some of the most successful retail corridors in Los Angeles. For example, Pasadena and Santa Monica are home to some of the most successful retail corridors in the greater Los Angeles area. Colorado Boulevard, in Pasadena, and 3rd Street Promenade, in Santa Monica. offer a diverse mix of uses, frequent building entrances, and pedestrian-oriented design. When these corridors are compared to the existing retail block on Pioneer Boulevard, all three locations present very similar features relative to lot size, building size, and building frontage width.

Pioneer Boulevard average building and lot sizes are slightly larger than those found on Colorado Boulevard, but smaller than buildings found on 3rd Street Promenade. Pioneer Boulevard is only 70 ft longer than the Colorado Boulevard block between Fair Oaks Avenue and Raymond Avenue and promotes a similar pedestrian experience with wide sidewalks, amenity areas, and scramble crossings.

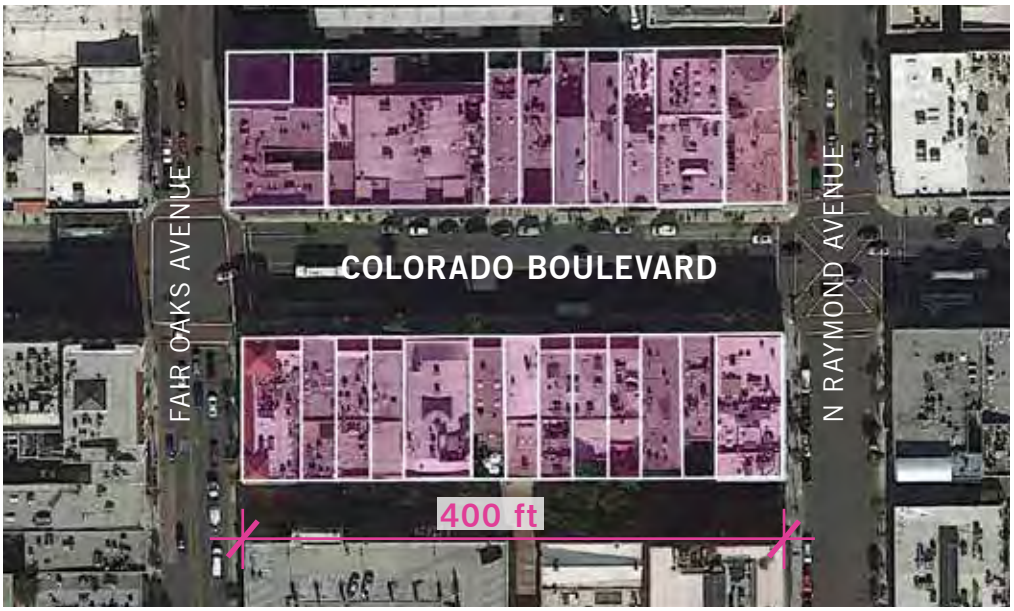
Overall, the three compared retail blocks are strikingly similar in their structure and point to the potential in the existing built form of Artesia's main street block.



Colorado Boulevard

Pasadena

Avg Lot Size: **3,851 sq ft**
Avg Bldg Footprint Size:
3,298 sq ft
Avg Frontage Width: 37 **ft**



3rd Street Promenade

Santa Monica

Avg Lot Size: **7,952 sq ft**
Avg Bldg Footprint Size:
7,765 sq ft
Avg Frontage Width: **57 ft**

RESIDENTIAL BUILDING TYPOLOGIES

There are five common residential typologies that exist in the residential areas of the specific plan area.

Building Type #1 - Townhouse
There are not many townhouses in the project area, but when found they can be characterized by sidewalk walk-up entrances, tucked garages, and multiple stories. Majority of the townhouse developments within the specific plan area were built in the past 10 years.

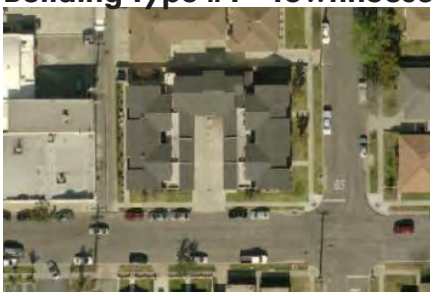
Building Type #2 - Bungalow Apartments
The bungalow apartments within the specific plan area can be characterized as a dwelling unit that stands as an individual building, with a shared communal driveway between neighbors. Bungalow Apartments are concentrated along Airline Ave

Building Type #3 - Courtyard Apartments
The courtyard apartment typology blends public and private spaces, sharing green space and interaction between residents. Built in the 1960s, these courtyard apartments are still a popular living option for Southern California residents. Courtyard apartments are located along Corby Ave within the Specific Plan Area.

Building Type #4 - Single Family Residential
Single family residential dwelling units are found in the residential areas south of 187th Street and west of Pioneer Boulevard. This typology represents typical suburban homes, with a one to two story main unit, a front yard with driveway, and backyard. Typical lots are about 7,500 square feet.

Building Type #5 - Mobile Homes
La Belle Chateau Mobile Home Park is located at the southern end of the Specific Plan area. Mobile homes, or manufactured homes are prefabricated structures that are transported to a site. Mobile home units in this area are approximately 2,400 square feet, have little to no side setback, and share a private road within the mobile home park for access.

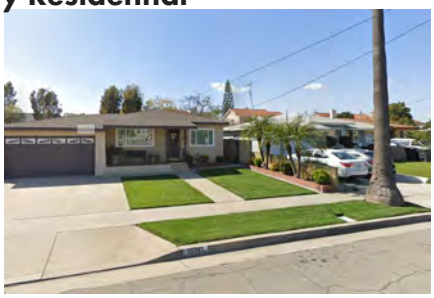
Building Type #1 - Townhouse



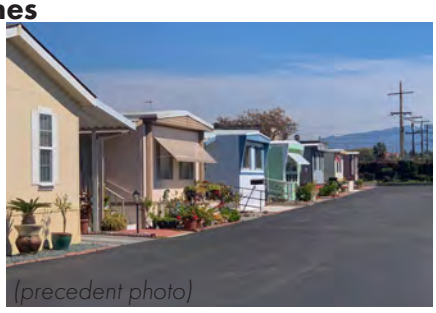
Building Type #2 - Bungalow Apartments

Building Type #3 - Courtyard Apartments

Building Type #4 - Single Family Residential



Building Type #5 - Mobile Homes

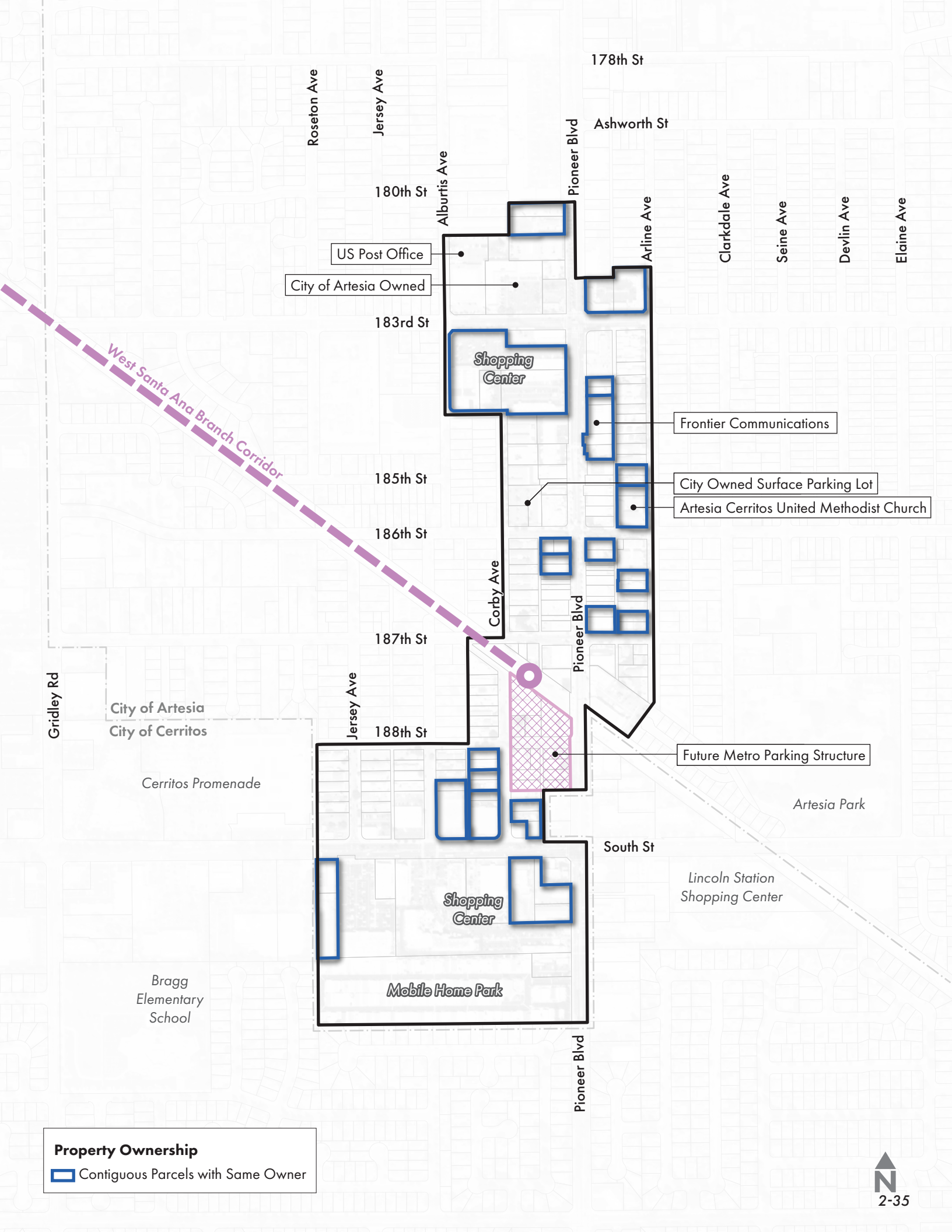


(precedent photo)

PROPERTY OWNERSHIP

Contiguous parcels with the same owner increases the amount of potential developable land, providing more options for development. Contiguous parcels with the same owner are shown to the right. These parcels should be considered when determining development options.

Two parcels north of 183rd Street are owned by the City of Artesia and the US Post Office.


178th St
Roseton Ave
Jersey Ave
Ashworth St
Pioneer Blvd
180th St
Alburtis Ave
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
US Post Office
City of Artesia Owned
183rd St
West Santa Ana Branch Corridor
Shopping Center
Frontier Communications
185th St
City Owned Surface Parking Lot
Artesia Cerritos United Methodist Church
186th St
Corby Ave
Pioneer Blvd
187th St
Gridley Rd
Jersey Ave
City of Artesia
City of Cerritos
188th St
Future Metro Parking Structure
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
Bragg Elementary School
Mobile Home Park
Pioneer Blvd
Property Ownership
Contiguous Parcels with Same Owner
N

3 EXISTING CONDITIONS: MOBILITY

EXISTING MOBILITY NETWORK

This section provides an overview of existing roadways, pedestrian infrastructure, bicycle facilities, and public transit in Downtown Artesia. Understanding the existing mobility network in Downtown Artesia helps to identify areas in need of improvement and opportunities for multimodal integration as the area changes over time. The City of Artesia has already made strides to create a positive pedestrian experience in Downtown Artesia through wide sidewalks, pedestrian-scale lighting, decorative pavement and crosswalks, landscaped medians, street trees and furnishings, and more along Pioneer Boulevard. While these streetscape elements exist only along Pioneer Boulevard, they lay the foundation for a distinct and walkable downtown environment.

ROADWAY NETWORK

The roadway network in Downtown Artesia is comprised of the following street types:

- Primary Arterial: Primary arterial roadways provide access to important local destinations and are multi-lane, high-volume, car-oriented corridors with left-turn-only lanes or medians. The Circulation Element defines primary arterials to have an Average Daily Traffic (ADT) capacity of 25,000. Artesia's primary arterials are characterized as mostly divided four-lane roads, 80-foot right-of-way, with intersections at grade and partial control of access.
- Secondary Arterial: Secondary arterial roadways connect primary arterial roadways to collector streets and local roads. Primary arterials tend to be multi-lane, moderate-to-high volume, and car-oriented, with a capacity of 20,000 ADT. Artesia's secondary arterials are defined as undivided, four-lane roads with intersections at grade and partial control of access with a 20,000 ADT.
- Collector Road: Collector roads are local roadways that connect neighborhoods to arterials and can sometimes serve as alternative routes to arterial roadways. Collector roads tend to have lower volumes, speeds, and numbers of lanes than arterial roadways, with a capacity of 5,000 ADT.
- Local Road: Local roads provide direct access to individual properties within residential areas and tend to be two-lane, low-speed, and low-volume corridors.

Figure 3.1 depicts the street classifications of the roadway network in Downtown Artesia based on the following categories: primary arterial, secondary arterial, collector, and local streets. Local access to Downtown Artesia is provided by the primary arterial roadways, Pioneer Boulevard and South Street. The remaining roads help provide connections to primary arterials and access to smaller destinations.

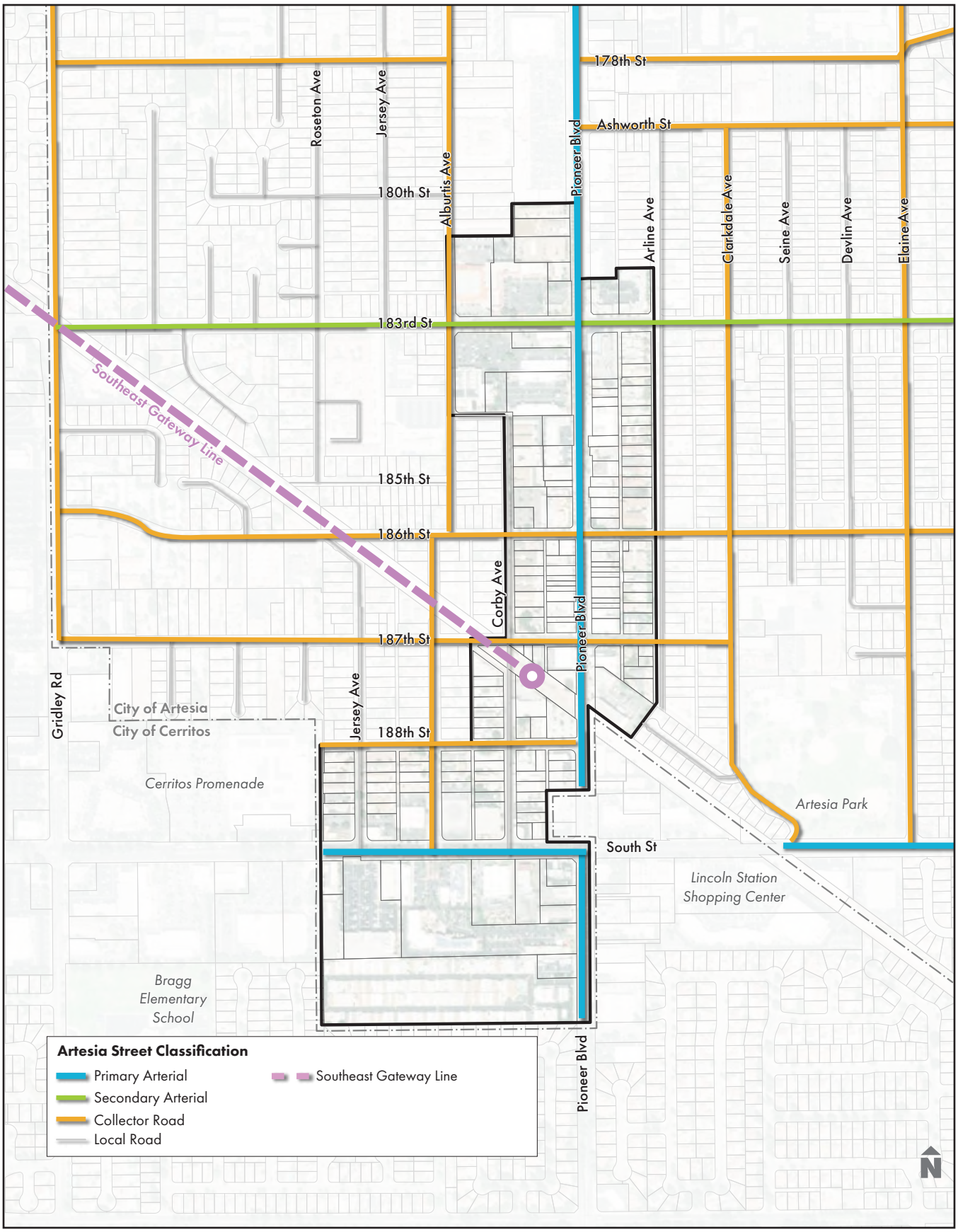


Figure 3.1: Street Classifications

POSTED SPEED LIMIT

Downtown Artesia's high-volume corridors include Pioneer Boulevard, 183rd Street, 186th Street, and South Street, as shown in Figure 3.2. None of the surface streets in Downtown Artesia have posted speeds of 50 mph or above and all the collector and local streets have posted speed limits of 25 mph. The relatively low posted speed limits in Downtown Artesia create promising conditions for a walkable and bikeable environment.

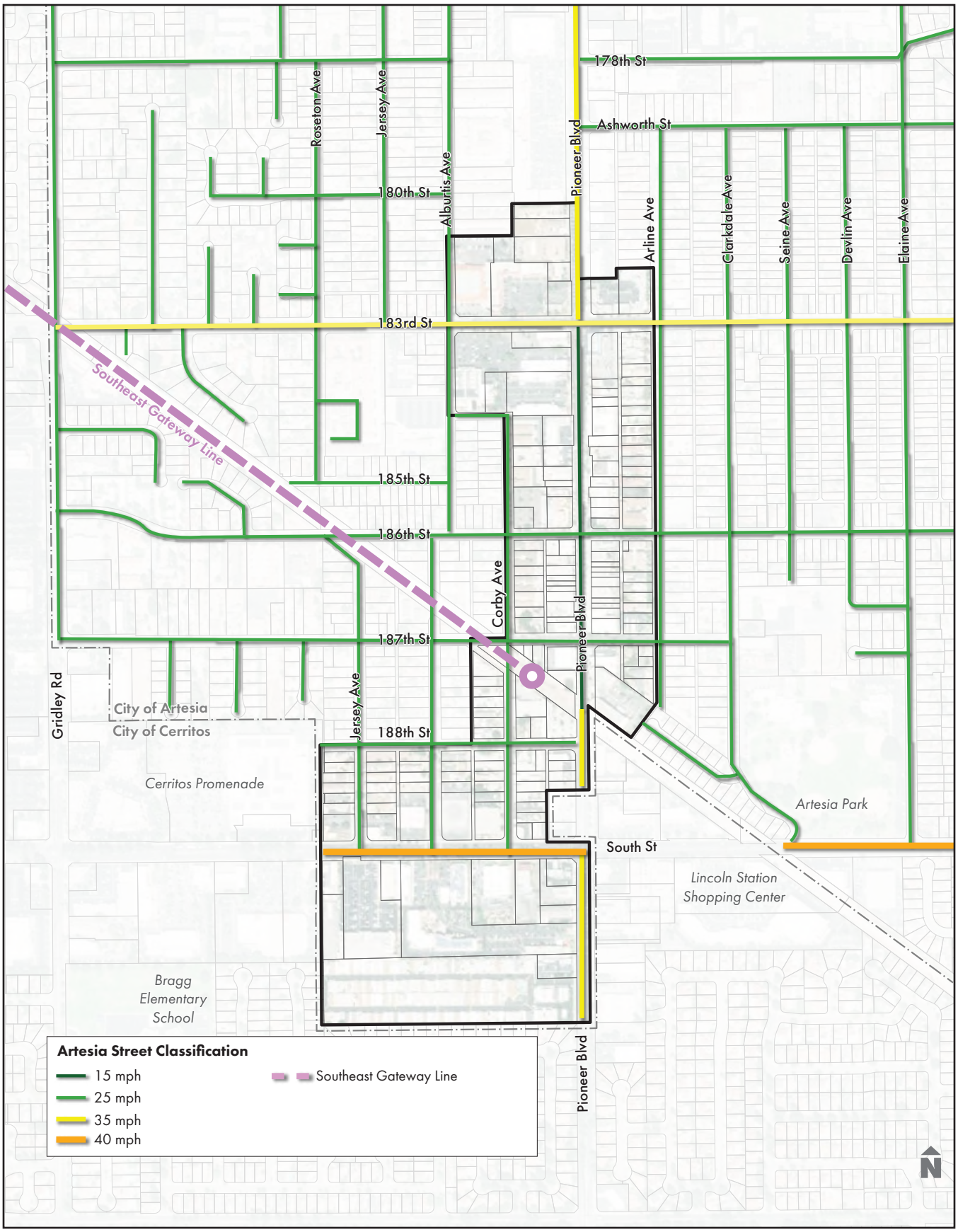


Figure 3.2: Posted Speed Limit

PEDESTRIAN INFRASTRUCTURE

Sidewalk Network

Downtown Artesia consists of a traditional grid of streets with a complete network of sidewalks and curb ramps, though many do not have ADA-detectable warning surfaces. Sidewalk widths range from four feet on calm, residential streets to 20 feet along the Downtown core and vary in design elements. With a complete sidewalk network, Downtown Artesia has the fundamental infrastructure needed to facilitate safe off-street pedestrian connectivity. From here, standard sidewalks can be enhanced with streetscape elements to support accessibility and walkability. For example, many sidewalks in Downtown Artesia, particularly along Pioneer Boulevard, are already enhanced with meandering sidewalks, landscaping, street trees, street furnishings, and other decorative elements.

Curb Ramps

The Americans with Disabilities Act (ADA) requires state and local governments to provide curb ramps with detectable warnings at pedestrian crossings and at public transportation stops where walkways intersect with a curb. A curb ramp is a short ramp that cuts through or is built up to a curb to facilitate access between a sidewalk and a roadway for people using wheelchairs, walkers, strollers, skateboards, scooters, mobility devices, or health-related mobility limitations. Detectable warnings consist of a series of small domes, also known as truncated domes, that contrast in color with the surrounding sidewalk or street to alert pedestrians with vision impairments of an upcoming hazard. Curb ramps are provided throughout Downtown Artesia; however, several are missing detectable warnings, which presents an opportunity to improve accessibility as intersections are redeveloped.

Streetscape Enhancements

Streetscape enhancements refer to design features that make the pedestrian experience more comfortable and enjoyable. Streetscape enhancements include street trees, public art, seating, pedestrian-scale lighting, decorative pavement, and more. Some streets, such as portions of Pioneer Boulevard, have enhanced sidewalks with greater widths, pedestrian-scale lighting, decorative pavement, seating, trash receptacles, and street trees. Other sidewalks, such as the northeast corner of Pioneer Boulevard and 183rd Street, have meandering sidewalks with landscaping, which provide shade and natural scenery. These existing design elements help to distinguish Downtown Artesia from other neighborhoods.

Figure 3.3: Standard Sidewalk

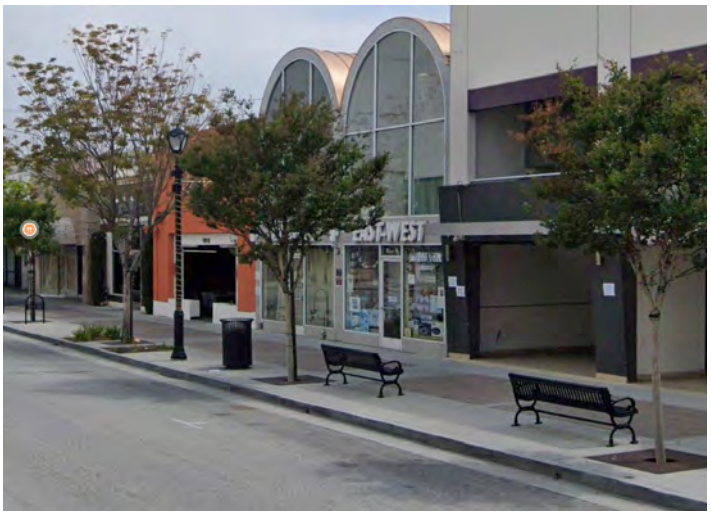


Figure 3.4: Decorative Sidewalks with Streetscape Enhancements

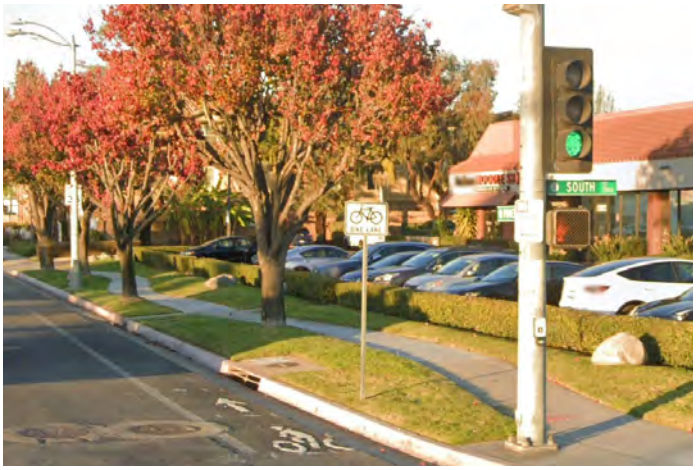


Figure 3.5: Meandering Sidewalks with Landscaping and Street Trees

BICYCLE FACILITIES

Providing an interconnected network of bicycle facilities is the first step to cultivating a bicycle-friendly Downtown. Bicycle facilities are defined as:

- **Class I (Multi-use Path):** Class I multi-use paths (frequently referred to as "bicycle paths") are physically separated from motor vehicle travel routes, with exclusive rights-of-way for non-motorized users like bicyclists and pedestrians.
- **Class II (Bicycle Lane):** Class II bicycle lanes are one-way facilities that carry bicycle traffic in the same direction as the adjacent motor vehicle traffic. They are typically located along the right side of the street between the adjacent travel lane and the curb, road edge, or parking lane.
- **Class III (Bicycle Route):** Class III bicycle routes are suggested bicycle corridors marked by signs designating a preferred street between destinations. They are recommended where traffic volumes and roadway speeds are low (35 mph or less) since bicyclists and motor vehicles share the road.
- **Class IV (Separated Bikeway):** Class IV separated bikeways, also known as cycle tracks, are physically separated from motor vehicle traffic, and are designed to be distinct from any adjoining sidewalk.

As shown in Figure 3.6, the existing bicycle facility network in Downtown Artesia is minimal and consists of 0.3 miles of Class II bicycle lanes. Class II bicycle lanes currently exist along South Street (from the western and eastern boundary of Downtown Artesia) and along Pioneer Boulevard (from 188th Street to the southern boundary of Downtown Artesia).

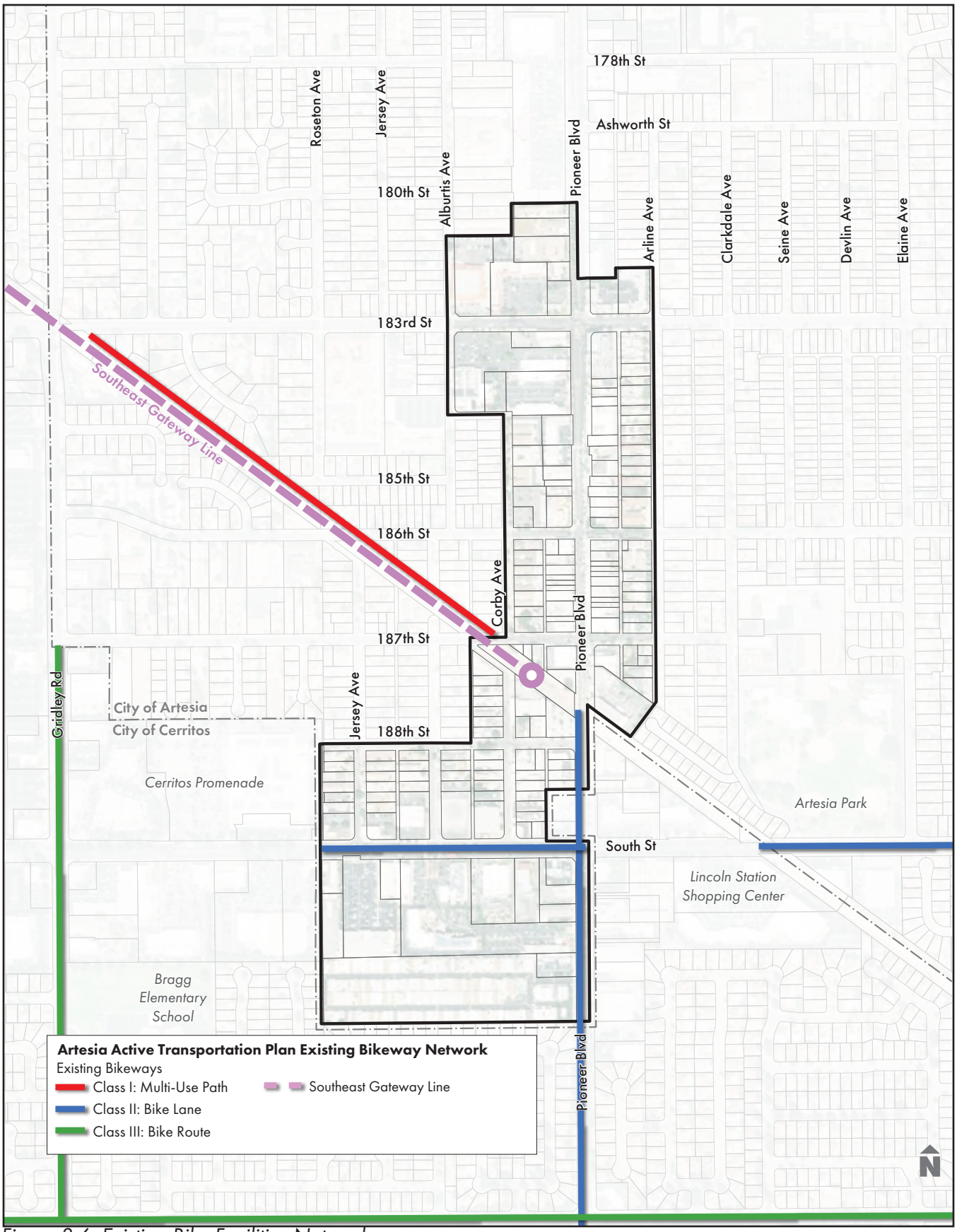


Figure 3.6: Existing Bike Facilities Network

PUBLIC TRANSIT

Bus Stops and Routes

Artesia City Transit, Long Beach Transit, Metro, Norwalk Transit System, and Orange County Transit provide public transit service in Downtown Artesia. Local bus routes, displayed in Figure 3.7, provide service along Pioneer Boulevard, 183rd Street, and South Street. There are no existing passenger rail lines through Downtown Artesia. However, as previously mentioned, the planned Southeast Gateway Line by Metro will bisect Downtown Artesia and add a new light-rail station between Pioneer Boulevard and 187th Street. The addition of the Southeast Gateway Line and station to Downtown Artesia will expand multimodal transportation options for community members and support the use of public transit as a viable option for traveling to and from Downtown Artesia.

Bus Stops Amenities

Table 3.1 displays an inventory of existing amenities at bus stops in Downtown Artesia. This table can be used to identify opportunities for improving the transit rider experience through the installation of additional bus stop amenities, such as shelters, seating, trash receptacles, public art, and more for an improved rider experience. Most bus stops in Downtown Artesia provide essential amenities like a bus pole and signage, seating, shelter, and trash receptacles. However, the bus stop at Pioneer Boulevard and 183rd Street only has a bus pole and signage, which presents an opportunity to consider installing additional amenities.

Table 3.1: Bus Stop Amenity Inventory

Bus Stop	Direction	Amenities
Pioneer Boulevard & 183rd Street	Southbound	Bus Pole and Signage
183rd Street & Alburtis	Westbound	Bus Pole and Signage and shelter with seating and shade
183rd Street & Alburtis	Eastbound	Bus Pole and Signage, shelter with seating and shade, and trash receptacle
South Street & Pioneer Boulevard	Westbound	Bus Pole and Signage, trash receptacle
South Street & Jersey Avenue	Westbound	Bus Pole and Signage, shelter with seating and shade, and trash receptacle
South Street & Jersey Avenue	Eastbound	Bus Pole and Signage, shelter with seating and shade, and trash receptacle

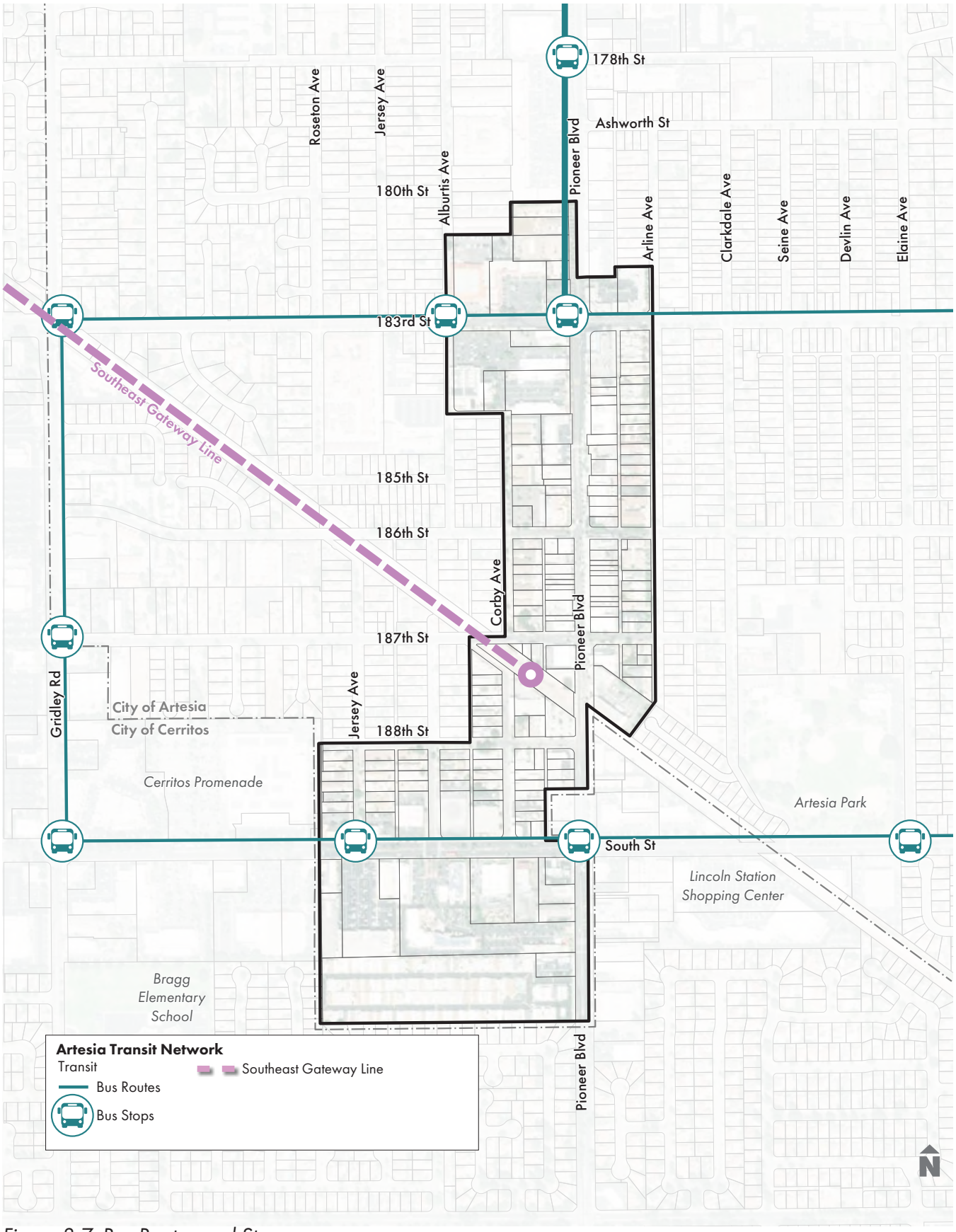


Figure 3.7: Bus Routes and Stops

SUMMARY OF MULTIMODAL FACILITIES

Table 3.2 summarizes the key characteristics of streets in Downtown Artesia. The foundational information displayed in Table 3.2 was used to inform the context-specific recommendations proposed in the Downtown Specific Plan.

Table 3.2: Key Characteristics of Existing Roadway Network

Street	Direction	Street Class	Speed Limit (mph)	# of Lanes	Taffic Control	Bicycle Facilities (Y/N)	Bus Stop (Y/N)	Parking (Y/N)	Land Use
183rd Street	E-W	Secondary	35	4	Signal	N	Y	N (except for a small segment)	Commercial General, Multiple-Family Residential
184th Street	E-W	Local	25	2	Stop Sign	N	N	Y	Commercial General, Multiple-Family Residential
186th Street	E-W	Collector	25	2	Signal/ Stop Sign	N	N	Y	Commercial General, Multiple-Family Residential
187th Street	E-W	Collector	25	2	Signal/ Stop Sign	N	N	Y	Commercial General, Multiple-Family Residential, Light Manufacturing/ Industrial
188th Street	E-W	Local	25	2	Stop Sign	N	N	Y	Commercial General, Multiple-Family Residential, Light Manufacturing/ Industrial
Alburtis Avenue	N-S	Collector	25	2	Signal/ Stop Sign	N	N	Y	Commercial General, Multiple-Family Residential
Arline Avenue	N-S	Local	25	2	Stop Sign	N	N	Y	Commercial General, Multiple-Family Residential
Corby Avenue	N-S	Local	25	2	Signal/ Stop Sign	N	N	Y (most of corridor)	Commercial General, Multiple-Family Residential, Light Manufacturing/ Industrial
Jersey Avenue	N-S	Local	25	2	Signal/ Stop Sign	N	N	Y	Commercial General, Multiple-Family Residential
Pioneer Boulevard	N-S	Primary	15-35	4-Feb	Signal	Y	Y	Y (most of corridor)	Professional, Commercial General, Multiple-Family Residential
South Street	E-W	Primary	40	4	Signal	Y	Y	N	Commercial Planned Development, South Street Specific Plan

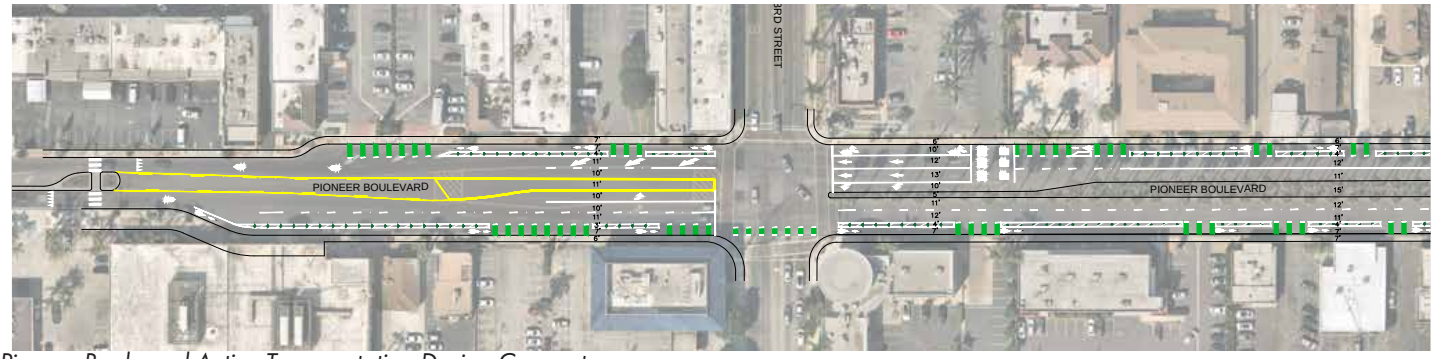
ARTESIA ACTIVE TRANSPORTATION PLAN

The Artesia Active Transportation Plan (ATP) was adopted by the City of Artesia in 2022. The ATP includes recommended projects, programs and actions to support Artesia's short, mid, and long-term goals as they relate to transportation, land use, and population growth.

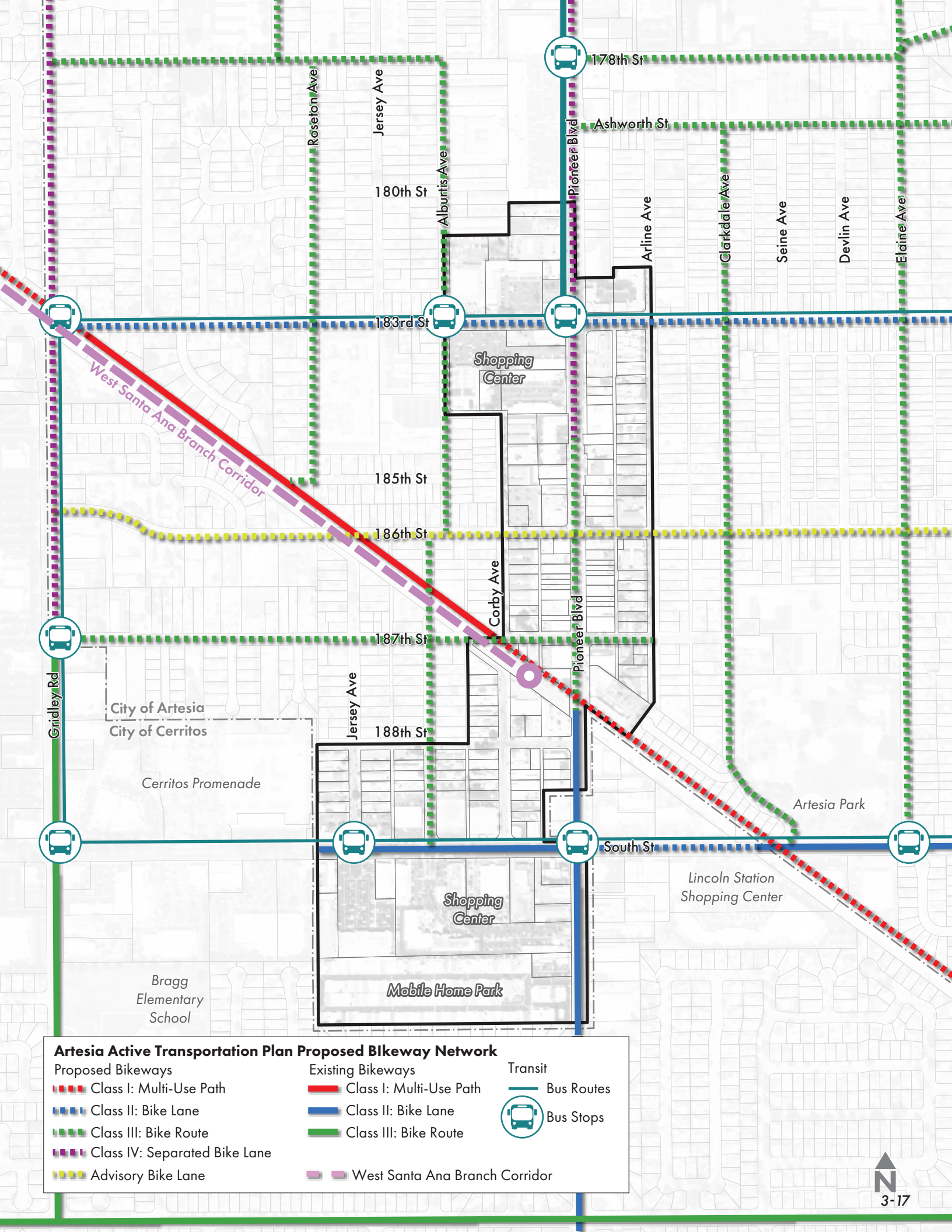
The diagram on the facing page shows the proposed ATP bikeway network in relation to the Downtown Speciific Plan study area. There are existing bike lanes on South Street and on Pioneer Boulevard south of the future Metro station. An existing multi-use path is located along the future Metro Rail line from 183rd Street to 187th Streets. The ATP proposes a comprehensive bike network thorughout the Specific Plan study area, providing connections to Artesia Park, the future Metro station, transit stops, commercial uses along Pioneer Boulevard, shopping centers, and other commercial and residential uses. The proposed extension of the existing multi-use path along the future Metro line will provide the safest connection to the future Pioneer station. The ATP proposed bikeway network will be critical to support bicycle connections to and from Downtown Artesia.

The ATP also includes design concepts for Pioneer Boulevard, shown to the right and below. The concept proposes intersection enhancements for pedestrian safety, bike route signage, and roadway design for the separated bike lane north of 183rd Street.

Pioneer Boulevard Active Transportation Design Concept



Pioneer Boulevard Active Transportation Design Concept


178th St
Ashworth St
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183rd St
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186th St
187th St
188th St
South St
Roseton Ave
Jersey Ave
Alburtis Ave
Pioneer Blvd
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
Corby Ave
Gridley Rd
West Santa Ana Branch Corridor
Shopping Center
Shopping Center
Mobile Home Park
City of Artesia
City of Cerritos
Cerritos Promenade
Artesia Park
Lincoln Station Shopping Center
Bragg Elementary School
Artesia Active Transportation Plan Proposed BIkeway Network
Proposed Bikeways
Class I: Multi-Use Path
Class II: Bike Lane
Class III: Bike Route
Class IV: Separated Bike Lane
Advisory Bike Lane
Existing Bikeways
Class I: Multi-Use Path
Class II: Bike Lane
Class III: Bike Route
Transit
Bus Routes
Bus Stops
West Santa Ana Branch Corridor
N

FIRST/LAST MILE

First/Last Mile considers the experience of getting to and from transit station within a half or quarter mile radius. This includes getting to a transit station and getting off the transit station to your destination. A first/last mile network recommends key routes for first/last mile improvements to enhance the experience for all users getting to and from transit. The diagram to the right shows a first/last mile network within a quarter mile from the future Metro station. The first/last mile network aligns with Artesia's Active Transportation Plan.

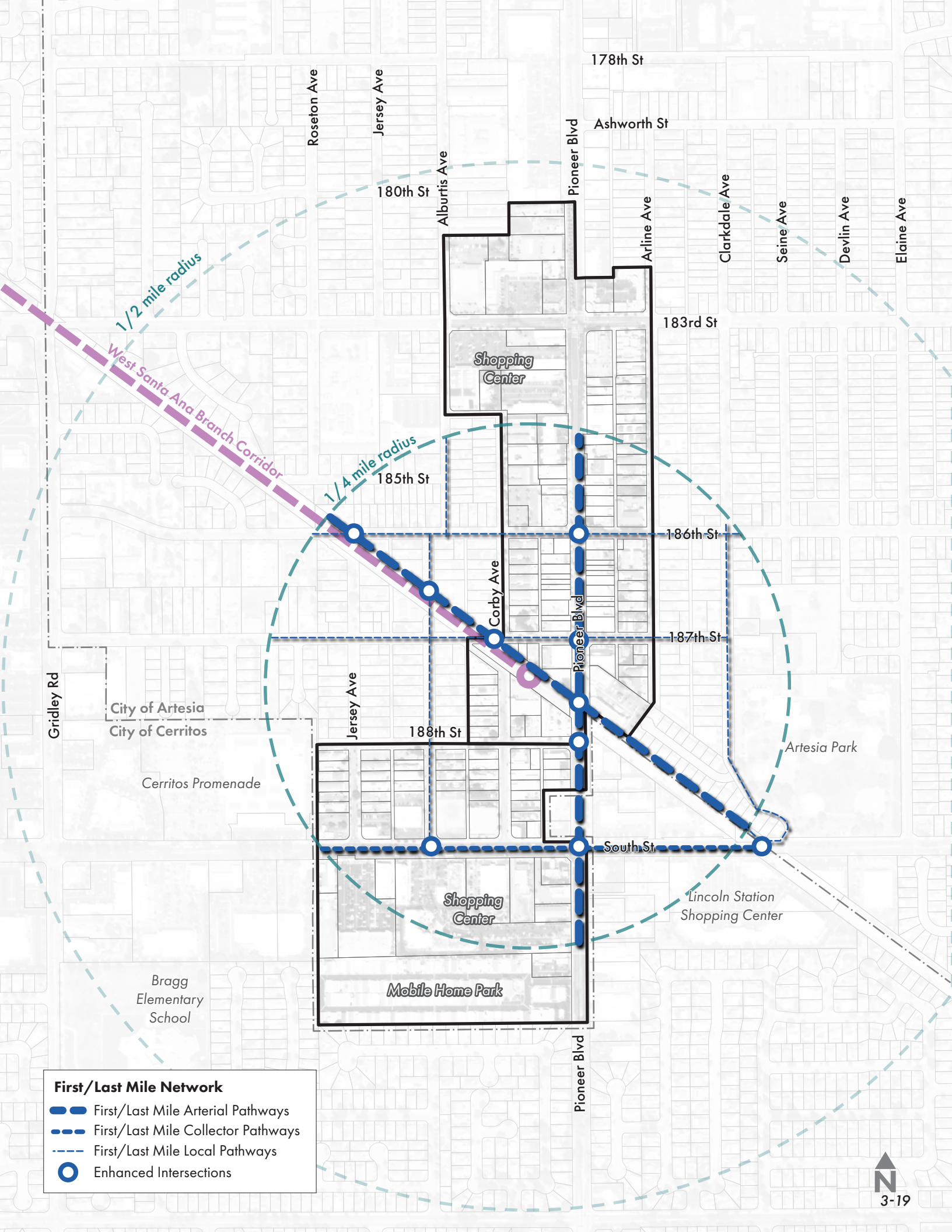
The first/last mile network is composed of three tiers: arterial, collector, and local pathways.

Arterial pathways are routes that connect directly to the station. These pathways include Pioneer Boulevard and the railroad right of way along the future Metro Line. Arterial pathways should have the full suite of first/last mile enhancements, including enhanced bike facilities, enhanced pedestrian crossings, wide sidewalks, street trees, pedestrian scaled lighting, street furniture, and wayfinding signage. ATP recommendations on Pioneer Boulevard and the multi-use path along the Metro Rail line should be prioritized to ensure safe connections to the future station. Pioneer Boulevard currently has adequate pedestrian amenities such as lighting, wide sidewalks and street trees. Wayfinding signage is recommended on Pioneer Boulevard to guide visitors to destinations and transit connections. Arterial first/last mile improvements should accompany the multi-use path to ensure a safe and comfortable experience.

Collector pathways are key secondary routes that connect to Arterial pathways. South Street is a major thoroughfare that connects to Pioneer Boulevard and is identified as a collector pathway. South Street also provides connections to key destinations such shopping centers, Artesia Park, and bus connections, and would benefit from the full suite of first/last mile improvements. Bus stop enhancements such as seating, bus shelters, and real-time information signage would help enhance the experience for transit users. First/last mile improvements support the ATP proposed bike lane on South Street.

Local pathways are typically low-stress residential streets that would provide connections to the future Metro station. Bike facilities such as bike routes or sharrows are recommended for these pathways. Street tree infill, pedestrian scaled lighting, and wayfinding signage can improve the cyclist and pedestrian experience along these routes.

Enhanced intersections include improvements such as high visibility crosswalks, leading pedestrian interval signals, bike boxes, and wayfinding signage. Enhanced intersections are identified in the first/last mile network to ensure a continuous and safe pedestrian experience for all users getting to and from the future Metro station. Enhanced intersections along Pioneer Boulevard, along the proposed multi-use path, and along South Street are critical to support first/last mile connections.


178th St
Roseton Ave
Jersey Ave
Ashworth St
Pioneer Blvd
180th St
Alburtis Ave
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
1/2 mile radius
West Santa Ana Branch Corridor
183rd St
Shopping Center
1/4 mile radius
185th St
186th St
Corby Ave
Pioneer Blvd
187th St
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
Artesia Park
Cerritos Promenade
South St
Shopping Center
Lincoln Station Shopping Center
Bragg Elementary School
Mobile Home Park
Pioneer Blvd
First/Last Mile Network
First/Last Mile Arterial Pathways
First/Last Mile Collector Pathways
First/Last Mile Local Pathways
Enhanced Intersections
N

4 ASSESSMENT

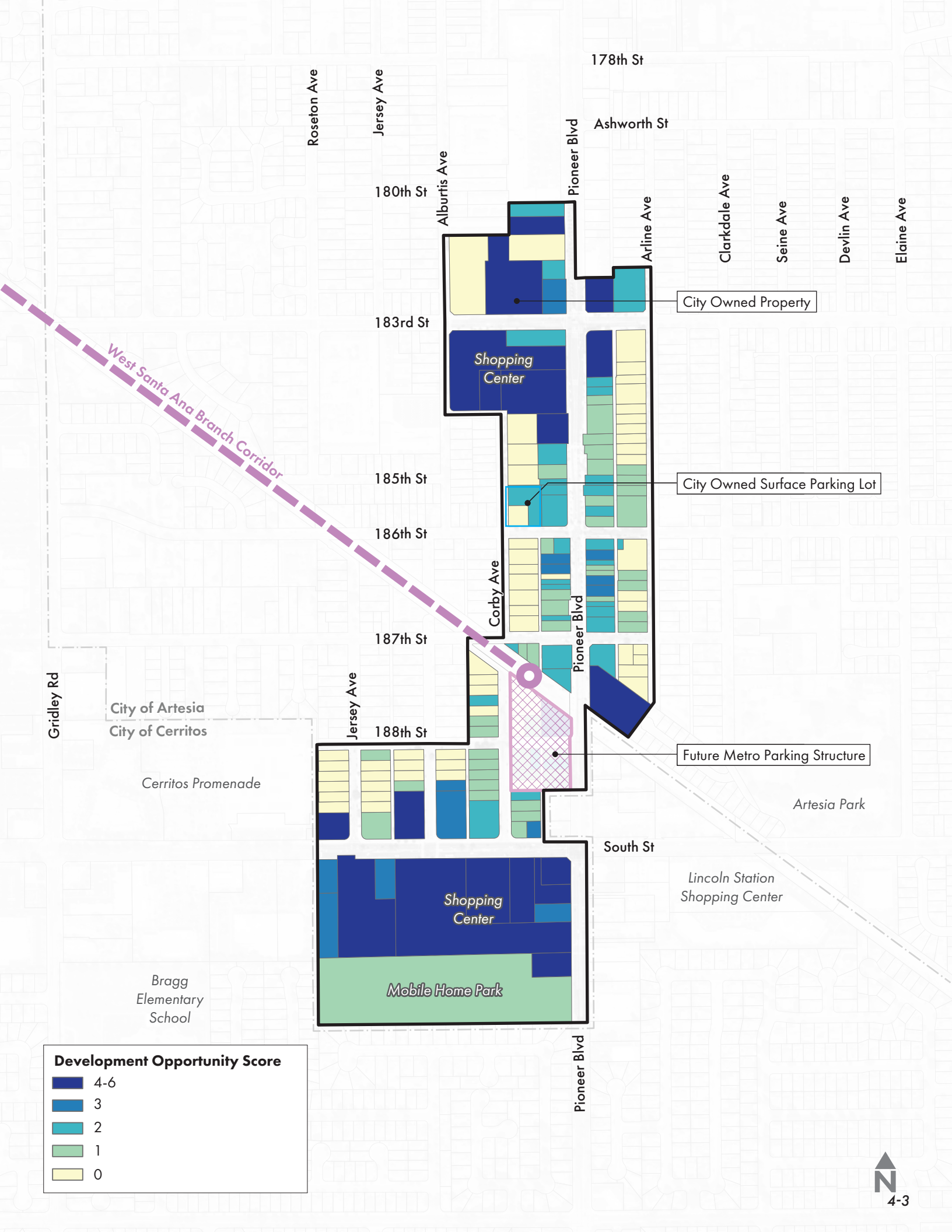
DEVELOPMENT OPPORTUNITY

To determine parcels that are most suited for development, each parcel was given a development opportunity score. Development opportunity scores were determined by attributing points to each parcel, outlined in the table to the right.

Each parcel received points if it met the development opportunity criteria. The development opportunity score is the sum of all development opportunity criteria points the parcel received. The maximum development opportunity score is 6. A parcel with a score of 6 means it met all of the development opportunity criteria and has high development opportunity. A total score of 0 or 1 means very little development opportunity.

Parcels near the intersection of 183rd Street and Pioneer Boulevard, and south of South Street have the highest development opportunity. These parcels received at least four points, generally have larger lot sizes with low lot coverage, and have commercial uses. Residential areas are likely to retain their uses and have very low development opportunity.

Development Opportunity Criteria	**Points**
Includes existing office, commercial, or vacant uses	1
Is a contiguous parcel with the same owner	1
Has lot width greater than 200 ft	1
Ratio of assessed value of improvements to assessed value of land is less than 1	1
Has a lot size greater than 20,000 sf and lot coverage below 40%	2
Max Development Opportunity Score *(Sum of Development Opportunity Criteria Points)*	**6**


178th St
Roseton Ave
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Ashworth St
Pioneer Blvd
180th St
Alburtis Ave
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
City Owned Property
183rd St
Shopping Center
West Santa Ana Branch Corridor
185th St
City Owned Surface Parking Lot
186th St
Corby Ave
Pioneer Blvd
187th St
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
Future Metro Parking Structure
Cerritos Promenade
Artesia Park
South St
Lincoln Station Shopping Center
Shopping Center
Mobile Home Park
Bragg Elementary School
Pioneer Blvd
Development Opportunity Score
4-6
3
2
1
0
N

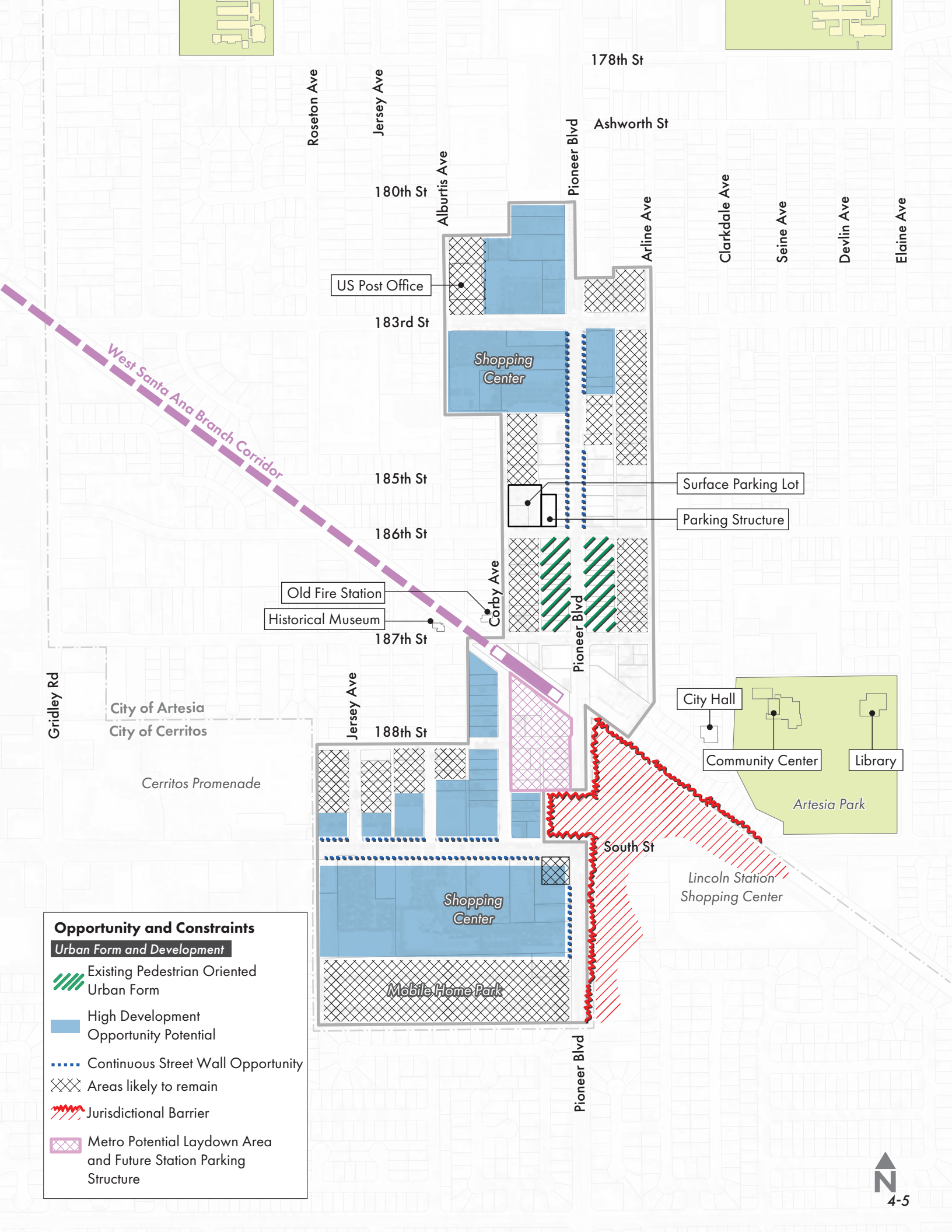
OPPORTUNITY AND CONSTRAINTS

A analysis of urban form and development for Downtown Artesia is highlighted on the facing page. An existing high quality pedestrian urban form is present on Pioneer Boulevard between 186th Street and 187th Street. A continuous active street frontage of commercial buildings with wide sidewalks, street trees, pedestrian-scaled lighting, and street furniture contribute to a comfortable and safe pedestrian experience.

In the downtown study area, areas that are likely to remain include residential areas, recent commercial development, and the US Post Office. Areas that have high development opportunity potential include areas adjacent to the future Metro Station, along South Street, and commercial areas at the 183rd Street and Pioneer Boulevard intersection. Additionally, the future Metro Parking structure will provide opportunity for ground floor retail directly across from the station. High development opportunity areas were guided by a development opportunity analysis, detailed on the following pages.

Lots facing South Street and Pioneer Boulevard north of 186th Street have large setbacks with frontages typically dominated by parking. New development in these areas has an opportunity to create a continuous street wall to create interest and enhance the pedestrian scale and environment in the public right-of-way.

The city boundary at the southeast edge of downtown poses a constraint. Coordination with the City of Cerritos is required to develop a cohesive and planned urban environment along Pioneer Boulevard along the city boundary.


178th St
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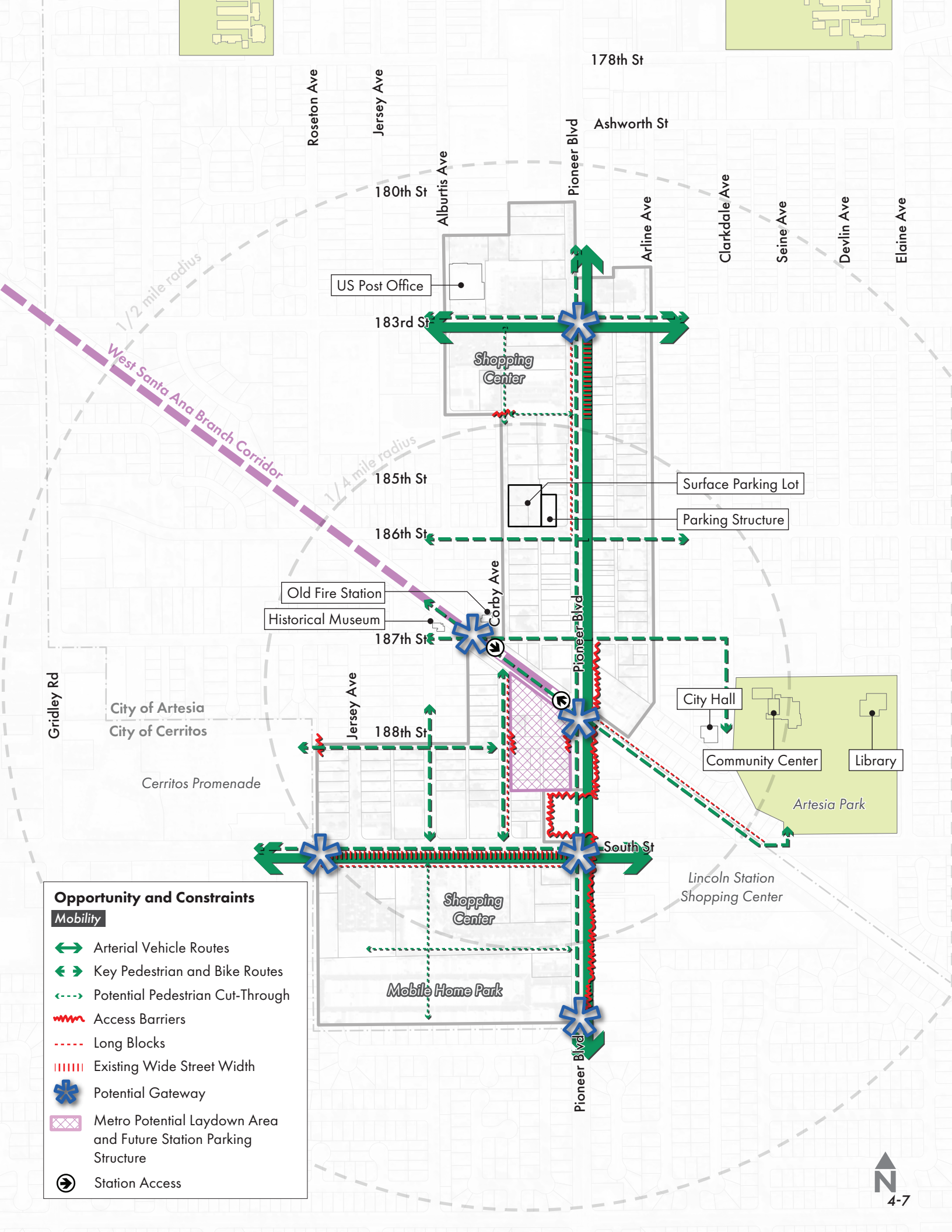
180th St
Alburtis Ave
Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
US Post Office
183rd St
Shopping Center
West Santa Ana Branch Corridor
185th St
Surface Parking Lot
Parking Structure
186th St
Old Fire Station
Historical Museum
Corby Ave
187th St
Pioneer Blvd
Gridley Rd
City of Artesia
City of Cerritos
Jersey Ave
188th St
City Hall
Community Center
Library
Artesia Park
Cerritos Promenade
South St
Lincoln Station Shopping Center
Shopping Center
Mobile Home Park
Pioneer Blvd
Opportunity and Constraints
Urban Form and Development
Existing Pedestrian Oriented Urban Form
High Development Opportunity Potential
Continuous Street Wall Opportunity
Areas likely to remain
Jurisdictional Barrier
Metro Potential Laydown Area and Future Station Parking Structure
N

OPPORTUNITY AND CONSTRAINTS

The map on the facing page shows opportunity and constraints in the project area related to mobility. The major arterial vehicle routes in Downtown Artesia are 183rd Street, South Street, and Pioneer Boulevard. Streets highlighted as key pedestrian and bike routes are streets that provide connections to key destinations throughout the study area and would benefit from streetscape improvements to provide a safe and comfortable experience for pedestrians and bicyclists. Potential pedestrian cut-throughs are pedestrian-only paths that would break up long blocks and enhance connectivity for pedestrians.

Access barriers include areas that limit or block continuous access, such as where Corby Avenue dead ends into a closed gate at 184th Street. The future Metro station parking lot will close 188th Street between Corby Avenue and Pioneer Boulevard. Any streetscape improvements on Pioneer Boulevard south of 187th Street will require coordination with the City of Cerritos.

Potential gateways are opportunities to signify entrances to downtown Artesia. Potential gateways are identified at key intersections and adjacent to the future Metro station.


178th St
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Arline Ave
Clarkdale Ave
Seine Ave
Devlin Ave
Elaine Ave
US Post Office
183rd St
1/2 mile radius
West Santa Ana Branch Corridor
Shopping Center
1/4 mile radius
185th St
Surface Parking Lot
Parking Structure
186th St
Old Fire Station
Historical Museum
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City Hall
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South St
Lincoln Station
Shopping Center
Shopping Center
Mobile Home Park
Pioneer Blvd
Opportunity and Constraints
Mobility
Arterial Vehicle Routes
Key Pedestrian and Bike Routes
Potential Pedestrian Cut-Through
Access Barriers
Long Blocks
Existing Wide Street Width
Potential Gateway
Metro Potential Laydown Area and Future Station Parking Structure
Station Access
N