Follow-Up:

L.A. Tree Trimming & Maintenance Audit

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LA CITY CONTROLLER

SUMMARY

Trees are essential infrastructure that provide Angelenos with significant environmental, public health, and economic benefits. Trees located in the public right-of-way ("street trees") are especially important because they enrich public spaces and make neighborhoods more livable. Proper care and maintenance is essential to protecting tree health and ensuring that trees do not injure pedestrians, damage property, or obstruct signage. The City has previously estimated that there are approximately 700,000 street trees in Los Angeles, consisting of more than 700 different species. The Public Works Bureau of Street Services (StreetsLA) is responsible for caring for street trees, and ensuring the public right-of-way is clear of tree-related hazards.

In 2019, our Office completed a comprehensive review of StreetsLA's street tree management program. **We found that the department had fallen seriously behind on street tree maintenance and care due to resource constraints and a lack of modern information management tools and data.** StreetsLA was trimming street trees on an 18-year cycle in fiscal year (FY) 2018, far slower than the five-year trim cycle recognized as an industry best practice. The estimated per-tree cost to proactively trim a street tree (i.e., not responding to tree-related emergencies) was $215 in FY2018.

The purpose of this follow-up report is to review the overall status of the program and measure StreetsLA's progress in implementing the recommendations from our 2019 review. It is not a new review of the program, and does not make additional recommendations.

Follow-Up Results

Overall, we found that StreetsLA has made progress in addressing issues identified in our 2019 report. StreetsLA has implemented four recommendations, and one recommendation is in progress. They will not be implementing one recommendation. StreetsLA has modernized its maintenance and information management systems, and is developing a new street tree inventory which should be completed by the end of 2023. However, the department still faces challenges, and our Office remains concerned about StreetsLA's ability to maintain the City's large street tree population.

Tree maintenance costs are increasing, and StreetsLA has been trimming fewer trees annually. StreetsLA's proactive trim cycle for FY2022 slowed to 21 years, and the estimated per-tree cost to proactively trim a tree is over $400. We continue to encourage policymakers

and StreetsLA to consider alternative staffing and contract management models in the future.

There are other issues related to helping the City develop and maintain a healthy, vibrant urban forest. **In 2019, the City's Sustainable City pLAn (commonly referred to as "Los Angeles Green New Deal") set a citywide goal of planting 90,000 additional trees by the end of 2021** as a first step toward "increasing the tree canopy in areas of greatest need by at least 50% by 2028 to grow a more equitable urban forest that provides cooling, public health, habitat, energy savings, and other benefits." **A year after the 2021 target date, the City's tree planting efforts are still 20,000 short, jeopardizing the ambitious 2028 goal.**[1]

BACKGROUND

A vibrant and well-maintained urban forest provides significant environmental, social, and economic benefits that improve quality-of-life for residents. An estimated ten million trees make up the urban forest within the City of Los Angeles. This number includes trees and vegetation on both public and private land, which covers approximately 25% of land in the City.

Depending on where they are located, trees are classified as either street trees, park trees, or private trees. Street trees are located in medians and parkways (i.e., the area between the curb and sidewalk). They are a highly visible part of the City's urban forest infrastructure given their location in the public right-of-way. The City's street tree population is vast and diverse. Previous assessments of the City's street tree population indicated that there are approximately 700,000 street trees along the City's 6,500 centerline street miles, and more than 700 different tree species.[2]

[1] The City's 90,000 tree goal includes trees in public spaces and on private property. This initiative includes multiple City departments and private organizations.
[2] Based on data collected by the City in 1996 during a comprehensive inventory assessment.



As part of the City's portfolio of public infrastructure assets, street trees are a vital source of community benefits. These benefits include promoting healthier communities, energy savings, improved air quality, as well as creating economic value for residential communities and commercial areas. The City is responsible for caring for street trees, and ensuring the public right-of-way is clear of tree-related hazards. The Public Works Bureau of Street Services' (StreetsLA) Urban Forestry Division (UFD) provides street tree maintenance services within the City, in addition to other tree-related responsibilities.

The two primary components of UFD's street tree maintenance services are proactive tree trimming and emergency response. Proactive street tree trimming consists of a zone-based model where crews trim all or most of the trees within a designated geographic area. An advantage of proactive zone trimming is that the work is pre-planned, and equipment and staff are mobilized to trim entire blocks. This allows for increased productivity compared to an emergency response, where crews must respond to individual incidents and hazards dispersed throughout the City.

StreetsLA is also responsible for dead tree and stump removal, and oversees the planting of new trees within the public right-of-way. The bureau's tree maintenance services ultimately work toward ensuring street tree assets are healthy and safe, and trees meet the sidewalk and street clearance requirements outlined in the Los Angeles Municipal Code.

In February 2019, our Office completed a comprehensive review of StreetsLA's street tree management program (*Turning Over a New Leaf: L.A.'s Tree Trimming and Maintenance Program*). **Overall, we found the department was unable to adhere to urban forestry**

management best practices, and did not have the tools and resources necessary to effectively maintain the street tree population.

Our prior report made several recommendations focused on modernizing the program's information management tools, tree inventory data, and reducing costs associated with contract tree trimming services. Given the importance of the urban forest and the need to improve the health and sustainability of the City's street trees, the Controller's Office initiated a follow-up review to examine the City's implementation of our prior recommendations.

KEY ISSUES FROM THE 2019 REVIEW

The findings of our 2019 report highlighted the need for a more effective street tree care program in order to promote the development of a healthier urban forest. **StreetsLA faced several program management challenges, and caring for street trees had become more difficult given the drought conditions, tree diseases, and invasive pests impacting the region.**

- In 2015, the City rated the health of the street tree population with a "D" letter grade.
- Approximately 30% of the trees in the region were at risk of dying due to factors such as drought, disease, and pests.
- Street trees in the City were proactively trimmed on a 14- to 18-year cycle in FY2018, far slower than the 5-year cycle recognized as industry best practice.
- The City had not conducted a citywide inventory of street trees in more than 20 years, resulting in a lack of basic location, species, and condition data for City street trees.
- StreetsLA had an inefficient work order management program for street trees that relied on multiple systems and paper-based processes.

In FY2018, StreetsLA reported spending more than $20 million on its street tree maintenance program. At the time, the department was rebuilding its capacity following drastic cutbacks made during the Great Recession. StreetsLA's tree care program also plays an important risk management role, as a healthy urban forest and efficient maintenance program also helps to reduce risks posed by street tree hazards. On average, the City paid approximately $2.5 million per year in tree-related settlements for property damage and personal injury claims during the three-year period ending June 30, 2018.

The Citywide Inventory of Street Trees Was Outdated

The U.S. Forest Service and American Public Works Association recommend that local jurisdictions maintain a current inventory of their street tree population. Street trees are an essential element of the City's public works infrastructure. Similar to roadways, sidewalks, and other infrastructure assets, effective street tree management requires planning and maintenance on an ongoing basis. A detailed inventory of street trees helps program managers as they make urban forestry management decisions, and develop long term strategies.

At the time of our 2019 review, the last citywide inventory of the street tree population had been completed in 1996 and StreetsLA was no longer updating the existing inventory. The department had gradually stopped maintaining inventory data due to staffing constraints, concerns about data reliability, and the onerous process of manually inputting information from paper records into an obsolete management system.

To ensure that Public Works has the tools to develop appropriate maintenance plans and priorities, the report highlighted the urgent need for up-to-date information about its street tree population. Specifically, we determined StreetsLA should develop an inventory that includes critical information necessary for effective program management and resource planning, which at a minimum includes tree location, species, diameter and height, condition and health, maintenance needs, and proximity to other infrastructure.

StreetsLA Relied on Obsolete and Inefficient Systems

Until approximately 2011, StreetsLA staff used an older system that was designed in-house for inventory and work order management. However, the system was obsolete because it did not integrate with mobile devices and did not allow crews to update inventory and maintenance records while working in the field. As a result, tree maintenance staff used a combination of paper logs and decentralized tracking systems to track and manage street tree maintenance work. This made it harder for StreetsLA to efficiently deploy crews and track maintenance activities, as well as collect, aggregate, and analyze street tree trends.

StreetsLA's Contracting Strategy Needed Reconsideration

At the time of our 2019 review, StreetsLA relied heavily on contractors for proactive tree trimming services, while City crews primarily responded to emergencies and hazards. Under each contract, the City paid contractors a flat rate, per-tree fee for street tree trimming services. The rate would be developed prior to the initiation of tree maintenance work, and

was based on tree conditions in the geographic area covered by the contract. The City then paid contractors the same per-tree fee regardless of the type or size of tree being trimmed, the type of pruning, or how long the contractor took to trim the tree.

A benchmarking study of contracting practices at other municipalities showed that the City could have benefited from alternative pricing models. Other cities used pricing models that are more reflective of work performed at each tree site. Those pricing models used tiered or variable pricing schedules that aligned unit prices with the type of trim requested, type of tree, and tree size. We recommended that StreetsLA consider implementing a tiered pricing model based on the type or level of service provided and determine whether the approach would reduce per-tree costs.

CURRENT OPERATIONS AND CHALLENGES

StreetsLA has made several major programmatic and operational changes since our 2019 review. **The bureau has implemented new information and work management systems, and is developing a new street tree inventory. However, costs are increasing, and StreetsLA trims fewer trees today than in previous years.**

Major Program Changes Since 2019

Perhaps the most significant change is the department's development of a new, comprehensive street tree inventory. StreetsLA partnered with an urban forestry management consultant to develop the inventory, and plans to complete the project before the end of 2023. StreetsLA has also overhauled its information management and maintenance planning system, and implemented new, web-based tools that facilitate the streamlining of operations and strategic planning. Additional information about the inventory and new information systems can be found in the Recommendation Follow-Up section of this report.

Another major operational change was phasing out tree trimming contracts in FY2019. In the past, StreetsLA used contracted tree maintenance services to complete most of the department's proactive tree trimming, while City crews primarily responded to emergencies and addressed hazardous trees. Now, in-house City crews are responsible for all tree maintenance services, including proactive trimming, emergency and hazardous tree response, dead tree removal, and stump removal.

In addition to operational changes within StreetsLA, the City has taken steps to improve strategic planning and coordination. In August 2019, the Mayor appointed the City's first ever City Forest Officer. The City Forest Officer reports to the Department of Public Works Board, and is tasked with expanding the City's urban forest—with an emphasis on equity—across Los Angeles communities, and serving as a subject matter expert and a lead coordinator for urban forestry projects.

Difficult Conditions for the City's Street Trees

The City Forest Officer, in coordination with StreetsLA and other departments, is leading the City's effort to develop a comprehensive urban forest management plan which will address needs and resource requirements, and establish long-term strategic and operational plans. As drought conditions, tree diseases, and pests continue to impact the region, developing and caring for an urban forest that is resilient and continues to provide environmental and public health benefits will be difficult.

From FY2019 through FY2022, StreetsLA removed approximately 10,000 dead, dying, or structurally unsound street trees. StreetsLA's dead tree removal backlog has also worsened since our previous review. The number of dead street trees pending removal was 7,145 as of July 2022, compared to 5,200 pending cases in July 2018. In addition, StreetsLA's inventory project has identified over 200,000 vacant tree sites as of October 2022, highlighting the need for urban forest renewal initiatives.

According to information provided by the City Forest Officer, between January 2019 and December 2022, the City planted a total of 19,851 new street trees through City-sponsored programs, and provided 47,966 trees to residents and community groups for planting on private property.[3] However, the number of trees planted does not necessarily reflect their actual survival rate. Forest managers indicate that many trees die if they are not watered properly the first three to five years. The Department of Recreation and Parks also planted 2,323 trees on park properties between January 2019 and December 2022.

While the City has planted approximately 70,000 trees since 2019, it did not meet the 2019 Sustainable City pLAn goal of planting 90,000 trees by the end of 2021. According to the City Forest Officer, the City's progress was slower than expected in 2022 due to the temporary suspension of tree planting and distribution operations at City Plants, which is the City's

[3] These figures include street trees planted by StreetsLA, and tree planning programs that are supported by the Board of Public Works, LA Sanitation and Environment, and the Los Angeles Department of Water and Power.

nonprofit partner.[4] The nonprofit suspended operations from May 2022 until December 2022 while it updated its memorandum of understanding with the City. The City Forest Officer believes the City can reach its 90,000-tree goal in 2023.

Continued investment will be necessary to ensure the long-term success of the street tree population. In a soon-to-be-released study, urban forestry consultants engaged by the City to complete an urban forest needs assessment are expected to recommend a substantial funding increase for City managed trees, which will be necessary in order to make significant improvements to Los Angeles' urban forest.

Increasing Costs and Longer Tree Trimming Cycles

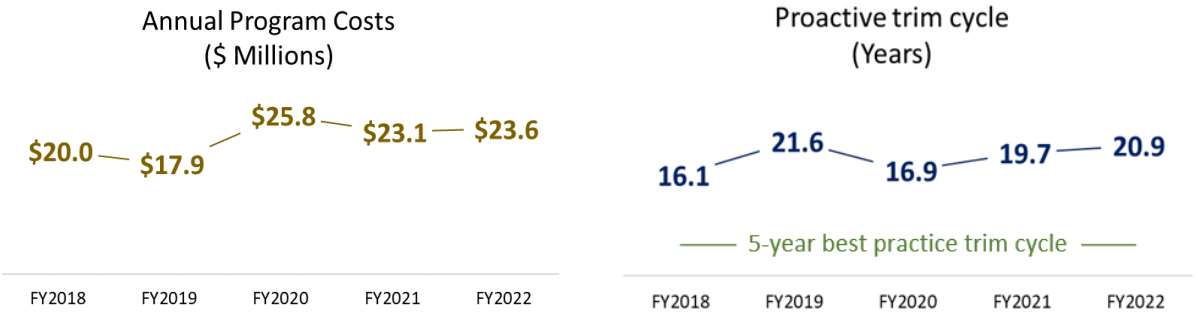
Data provided by StreetsLA shows the City has increased its overall spending on street tree maintenance since FY2018. Total spending for maintenance was $23.6 million in FY2022, compared to $20 million in FY2018. However, the department is trimming fewer trees annually than in past years. Between FY2019 and FY2022, StreetsLA trimmed an average of 36,000 trees annually using City crews exclusively, compared to approximately 43,400 trees it trimmed in FY2018 using both City and contract crews.

According to the department, certain operational and staffing issues may have been a factor in the decrease in annual tree trimming rates. Specifically, COVID-19 protocols temporarily impacted crews' tree trimming activities, and the City's Separation Incentive Program resulted in an increase in position vacancies within the unit.[5]

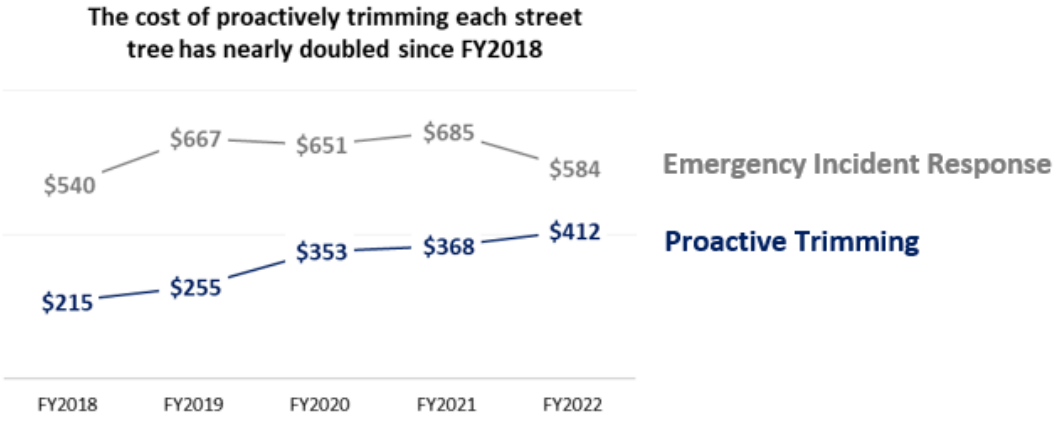
While optimal trimming frequency varies based on tree species and age, a best management practice is to trim street trees on a 5-year cycle. In FY2022, the trim cycle was approximately 21 years, an increase of five years compared to the 16-year cycle reported for FY2018.[6] The average trim cycle for FY2019 through FY2022 was 20 years, an indication that the department continues to struggle with efforts to reduce trim cycles.

[4] City Plants is a nonprofit organization funded by the City of Los Angeles and other private organizations that is dedicated to planting and distributing trees in Los Angeles.
[5] In response to budget concerns brought on by the COVID-19 pandemic, the Separation Incentive Program offered eligible employees cash incentives to retire in 2020. The program supported City efforts to reduce staffing levels.
[6] These calculations were performed based on an estimated population of 700,000 street trees. The City's current street tree population is currently being inventoried.

Despite additional funding, the proactive trim cycle remains significantly slower than established best practice



While the ability to achieve an optimal trim cycle is contingent on the availability of funding and resources, the City must continue to focus on efficiency, as the City's per unit tree maintenance costs have increased. The average proactive trimming cost per tree has nearly doubled since our last review, rising from $215 in FY2018, to $412 in FY2022. The annual average for FY2019 through FY2022 was $347.[7] The costs associated with responding to tree emergencies and hazards has remained relatively stable. In FY2022, the average emergency incident response cost per tree was $584, compared to $540 in FY2018.



[7] Per-tree cost estimates in this report include labor, overtime, equipment, and contractual services. Labor costs are assumed to include compensated time off (CTO), and are adjusted to include fringe benefits, central services costs, and administration and support costs. Removing the CTO assumption and central services costs (central services include StreetsLA's share of the tree-related liability claim costs) results in an estimated per-tree trimming cost of $375 for FY2022.

According to City forest managers, costs associated with tree maintenance have increased industry-wide. While we did not conduct a detailed analysis of crew costs and the current in-house tree trimming staffing model as part of this follow-up review, data provided by StreetsLA indicates that it previously achieved a shorter trim cycle and lower per-tree maintenance costs while managing a hybrid deployment model (i.e., a combination of in-house crews and contract crews).

Impacts of Deferred Street Tree Maintenance

Similar to other types of infrastructure, deferred street tree maintenance ultimately results in increased costs over the long-term. Not only is trimming trees easier when they are maintained on a regular basis, but prolonged periods of deferred maintenance increase the likelihood of tree failure or other conditions that require emergency response, which is often more expensive. It can also result in the deterioration of the street tree population, which can contribute to negative fiscal and quality-of-life impacts.

Street tree maintenance also plays an important City risk management role, as structurally unsound trees can create conditions in the public right-of-way that result in injuries and property damage. StreetsLA received 11,729 reports of tree emergencies in FY2022, similar to the 11,392 notifications it received in FY2018. From FY2019 through FY2022, the bureau received an annual average of approximately 12,800 tree emergency notifications, which was a relatively small increase of 12% compared to FY2018.

StreetsLA must continue its efforts to mitigate tree hazards through its proactive and emergency trimming operations. According to data provided by the City Attorney, the City paid approximately $2.8 million during FY2022 in tree-related settlements for personal injury claims and property damage, which was similar to the $2.7 million paid during FY2018. However, the annual average for tree-related settlements from FY2019 through FY2022 was $4.1 million—which is nearly double the average cost during the previous four-year period.

The City should continue its efforts to reduce the street tree trim cycle and address years of deferred tree maintenance. Subject matter experts also emphasize the importance of proactively pruning and caring for young trees. The pruning of young trees takes less time than the pruning of larger, mature trees. Maintenance early on in a tree's lifecycle can promote healthy development and tree structure over the long term.

RECOMMENDATION FOLLOW-UP

The City has made progress in improving several aspects of the street tree maintenance program, but increasing costs and slower trimming cycles need to be addressed.

- Four recommendations have been implemented;
- One recommendation is in-progress; and
- One recommendation will not be implemented.

Overall, we found that StreetsLA has modernized the City's street tree management systems, and is developing a new citywide street tree inventory. These changes should improve the department's operational efficiency, and help with long term strategic planning and decision making.

However, StreetsLA's current proactive trim cycle of 21 years and the significant increases in per-tree trimming costs show significant challenges lie ahead. Though we did not perform a detailed review of StreetsLA operations and efficiency, tree trimming cycle and cost trends may require the City to revisit its service delivery strategy, and consider returning to a hybrid model where StreetsLA manages a combination of City crews and contract crews. As management of urban street trees becomes more difficult, reducing costs and maximizing the number of trees maintained annually will be increasingly important.

1. Develop a plan to implement a comprehensive street tree inventory system that will support future tree maintenance, planting, removal, and pest and disease mitigation activities. a. Consider using existing software packages that can provide a cost-effective solution for the necessary data platform, and can leverage mobile technology to support field-based input; and updates and support time/labor input and activity tracking to help	**Status: Implemented**

identify resources spent on various maintenance activities. b. Present the implementation plan, recommended platform, and anticipated costs to policymakers and stakeholders to help garner support for its success.	

In 2020, StreetsLA contracted with an urban forestry management consulting firm to integrate its proprietary tree inventory management system with MyLA311, the City's public-facing service request and notification system, and perform an updated inventory count of the City's population of street trees. The City is implementing a proprietary urban forestry management system called TreeKeeper. As part of the initiative, StreetsLA partnered with the City's Department of Recreation and Parks to create a unified inventory of street trees and park trees using the TreeKeeper system. While the inventory count is still ongoing, the total payments to the vendor reached $2 million as of the end of FY2022. StreetsLA managers expect total costs for the updated inventory to reach $3.8 million.

2. Assess the feasibility of: a. Implementing technology-based strategies (i.e., hyperspectral imaging and LiDAR) to collect street tree inventory data; b. Partnering with volunteers/other stakeholders and using mobile technology to develop a street inventory program; and, c. Improving coordination with DWP to share street tree data.	**Status: Implemented**

StreetsLA reported that it assessed the feasibility of these inventory strategies and found that they could provide some useful data. However, not all of the strategies were determined to be the best approach for updating the City's inventory.

- Aerial imaging provides useful data relative to tree location, canopy cover, and other scientific based information, but it does not provide the level of detail needed for tree maintenance staff. Additional detailed information, such as specific tree species, condition, and overall tree health, was necessary for StreetsLA.

- The use of community volunteers to collect tree data would create data reliability concerns. Given the extent of the information gaps in the City's old inventory data,

UFD managers said that ensuring the accuracy of tree data collection was a top priority. UFD managers report that working with professional arborists was necessary to ensure data quality, and the success of future modernization and planning efforts.

- The Department of Water and Power (LADWP) will have access to StreetsLA's updated street tree inventory and related metadata, and can use the information for its own research and planning. LADWP, which trims trees and vegetation near power lines, is also considering TreeKeeper for its tree trimming program.

While StreetsLA ultimately chose not to work with volunteers and community organizations to develop the new inventory, the bureau is in the process of developing data sharing partnerships with community-based organizations to help those organizations identify vacant tree wells, and streamline the permitting process for planting street trees. As more data related to tree planting and young tree survival rates becomes available, the City Forest Officer and StreetsLA should evaluate the success rate of tree planting partners, and work with them to encourage practices that ensure the highest possible tree survival rates.

The City should continue to develop and expand community-focused partnerships to both promote strong levels of engagement with the public, and leverage community resources that can help the City build a healthier, more resilient urban forest.

3. Conduct an updated inventory of street trees to account for changes that have occurred since the last citywide inventory was performed in 1996.	**Status: In-Progress**

As noted above, StreetsLA has contracted with an urban forestry management consultant to provide inventory data collection and system integration services to integrate the proprietary tree inventory management system with MyLA311. According to StreetsLA management, data collection for the updated street tree inventory started in October 2019. As of March 2023, a total of 823,111 tree sites were inventoried, of which 583,999 were occupied by live trees. While a substantial portion of the City's population of street trees has been inventoried, StreetsLA expects the full count to be completed by December 2023.

4. Improve processes related to the ongoing collection, monitoring, and management of street tree data to ensure the comprehensive inventory system remains a dynamic,	**Status: Implemented**

up-to-date resource for Public Works to make informed decisions.	

Our prior report found that StreetsLA did not have a dedicated work order management system, instead relying on a combination of decentralized systems and paper records. StreetsLA has made significant progress with the implementation of TreeKeeper, and the development of an updated street tree inventory. TreeKeeper integrates workflow and inventory management functions, which allows StreetsLA to consolidate key functions and improve reporting and analysis capabilities. With the new system, maintenance and staff observations are automatically captured and reflected in the inventory.

These enhancements will allow StreetsLA to work more efficiently, maintain up-to-date inventory information, and make it easier to evaluate and monitor urban forestry management efforts. The data will improve the ability of the City's urban forest managers and other subject matter experts to study tree mortality and growth rates, the performance of planting programs, changes in species composition, and the durability of tree species.

5. Develop and implement a centralized system to manage street tree maintenance operations. At minimum, the system should perform the following functions. a. Integrate work order and inventory management functions in order to streamline tree maintenance and inventory data collection. b. Provide dynamic inventory and maintenance reporting capabilities, so that managers can use tree data to prioritize maintenance and other urban forestry improvement projects.	**Status: Implemented**

As noted in our analysis of recommendation four, StreetsLA has implemented TreeKeeper, an urban forestry management system with integrated maintenance and inventory management capabilities. As part of this follow-up review, we performed a system walk-through with UFD staff to determine whether the work order management system was fully implemented, and review the system's capabilities.

Based on our assessment, we consider this recommendation implemented. We found that TreeKeeper serves as a fully functional, dedicated urban forestry management system, and is an integral facilitator of UFD's core operational workflow. The integrated information

management system allows for several efficiency improvements, including but not limited to:

- Allowing field crews to update information related to tree maintenance work while in the field using GIS-enabled mobile or tablet devices;

- Integration with MyLA311, allowing StreetsLA crews to work centrally from within the TreeKeeper system while still updating MyLA311;

- Development of a single, comprehensive tree attribute and maintenance history for each tree site; and

- Robust inventory and workflow analysis capabilities, which allows StreetsLA to deploy crews strategically, while minimizing the need to perform in-person inspections.

As with the implementation of any new system, StreetsLA should ensure it has sufficient training and staffing capabilities to maintain program management continuity, and the long-term success of the TreeKeeper project.

6. Consider different contracting strategies if City crews need to be supplemented by outside contractors in the future. a. Develop a pool of pre-qualified contractors that can supplement City crews for on-demand services with stipulated pricing for specific types of trimming services. b. Determine whether a service-specific, multi-tiered pricing structure would be more beneficial to its overall strategy to maximize proactive trimming services citywide.	**Status: Will not implement**

Since our prior report, StreetsLA has migrated to a fully in-house service model, performing all street tree maintenance work using City crews. According to StreetsLA, one reason policymakers did not continue funding for contract tree trimming services was because the community generally preferred the tree trimming performed by City staff. According to urban forestry managers, one of the main criticisms of contracted tree trimming services was that those crews over-trimmed trees (i.e., cut back too much of the tree crown). According to International Society of Arboriculture guidelines, no more than 25% of a tree's

living branches and foliage should be eliminated. No more than 10% should be eliminated for slow-growing species.

As noted in our prior report, StreetsLA contracts used to pay contractors a flat fee per tree, regardless of the size of a tree, type of tree, or how much of the tree is trimmed. For each contract, the service provider proposed a rate based on their assessment of the amount of work that would be required for the geographic area specified under the contract. However, the combination of long trim-cycle years and the flat fee payment structure may have led to conditions that incentivized contractors to trim trees too quickly, and sometimes over-trim.

It is important to note that the City could achieve comparable trimming quality if certain practices that prioritize high quality pruning are in place. Examples of strategies that can promote effective partnerships with contractors include ensuring contract specifications clearly articulate pruning criteria, ensuring the pricing schedules promote the appropriate type of pruning for each tree, and ensuring adequate funding and staffing for contract monitoring functions.

Given StreetsLA's transition to an in-house service model, it currently does not have plans to develop new contracts, and will not implement this recommendation. **However, based on the recent increase in tree trimming cost and the trim cycle, we strongly encourage policymakers and StreetsLA to consider a hybrid model in the future, where contractors would supplement the work of City crews.** Contractors may also add value for non-pruning services where aesthetics and tree health are less important, such as dead tree removal and stump removal. StreetsLA should consider this recommendation if it returns to a hybrid service model. According to StreetsLA, the department may consider the use of contractors in the future.