



RON GALPERIN  
CONTROLLER

January 24, 2018

Honorable Eric Garcetti, Mayor  
Honorable Michael Feuer, City Attorney  
Honorable Members of the Los Angeles City Council  
All Angelenos

**Re: Audit of the L.A. Dept. of Building & Safety Elevator Inspection Program**

Los Angeles residents and visitors ride some 23,000 elevators, escalators and other types of people-moving conveyances on a daily basis. Riders understandably expect that public and private facilities ensure the elevators within their properties are safe and secure -- and that these conveyances are being inspected regularly and in compliance with safety rules and regulations.

Today, my office is issuing the attached audit examining the City's Department of Building and Safety (LADBS) elevator inspection. The audit reviews the inspection process to assess the efficiency of the City's inspection program -- with the aim of ensuring that the City is properly doing its part to ensure safety.

Accidents involving conveyances are, thankfully, modest in number given the number of conveyances upon which people ride daily. LADBS logged 311 accidents reported in 2015 and 2016. Of those reported accidents, 295 (95%) were determined to not be caused by an equipment malfunction or code violation. The largest portion of accidents and injuries involved escalator passengers losing their balance and/or falling. Notwithstanding, progress can be made to improve the City's inspection program and to, hopefully, reduce injuries.

The City of Los Angeles is unique in that no other local jurisdiction within the State has its own elevator and conveyance inspection program. All of the other cities and counties in California

rely on the State's Department of Industrial Relations for elevator inspections. The City's building code requires that each conveyance have a valid permit, which requires an annual inspection by LADBS -- which annually inspects more than 23,000 conveyances. Our auditors found high level of satisfaction with LADBS' elevator inspectors' industry expertise, professionalism and responsiveness.

Although the vast majority of elevators in the City were deemed to be safe and in compliance of City law, the audit identified several areas where the program's effectiveness and efficiency could be enhanced:

**Procedures should be updated to reduce the risk of error and enhance safety -- especially at Los Angeles International Airport (LAX)**

The re-inspection forms used by staff should be expanded to delineate each major area inspected. Such enhancements would help ensure thoroughness. We also encourage LADBS to promote a rotation of "elevator" inspectors in different geographic areas, and to require more frequent automated check-in systems.

For 2015-16, we found that 56% of all reported escalator accidents Citywide occurred at LAX. LADBS investigations found the equipment to be in accordance with City law and deemed safe in 98% of accidents, as most of escalator injuries were deemed to be caused by passengers -- typically not holding onto the handrail and/or losing their balance. We urge LAX management to benchmark the frequency and types of injuries in Los Angeles against other airports and to identify additional safety measures that might be employed. The audit further recommends that LAX management submit a report to the Board of Airport Commissioners and/or the City Council on the safety of its elevators, escalators and people movers.

**Data collection and analysis should be strengthened by focusing on opportunities to modernizing and focusing on efficiencies**

LADBS reportedly uses the Plan Check and Inspection System (PCIS) to track elevator permits and inspection. PCIS requires the use of hard copy forms and supplemental excel spreadsheets, which create extra steps and extra work. In addition, critical information pertaining to Orders to Comply (OTCs) and accidents are not captured electronically, inhibiting LADBS' ability to monitor trends and ensure consistent resolution.

Since the inception of my office's audit work, LADBS has been working on developing a new system that will address many of the concerns noted in my audit. I commend LADBS for its



commitment to replacing the PCIS system, and should ensure that the new system should capture OTC and accident details in a single, electronic system.

### **Fiscal oversight should be enhanced -- and collections improved**

The City is required to set inspection fees to support the full cost of operations for which the fees are charged. The City has not completed an elevator and conveyance inspection fee study since 2008 -- which would better ensure that the City accurately capture and pass on costs to building owners and managers. In addition, LADBS inspectors are performing some 20% of inspections on overtime to manage a backlog of annual re-inspections.

LADBS should consider implementing practices aimed at reducing the re-inspection backlog and overtime costs, such as:

- Using administrative staff to schedule inspections that require advance notice to property owners;
- Coordinating an inspection schedule based on geographic proximity to reduce inspector drive time; and
- Adopting the State's program that offers two-year permits when an elevator or conveyance is subject to a full-service maintenance contract.

Under the State Labor Code and the City's municipal code, the failure to post a valid permit is cause to prohibit elevator operation. However, LADBS management indicated it does not enforce these laws because sealing an elevator for non-payment could inconvenience users. According to a July 2017 LADBS report, invoices totaling \$748,000 remained outstanding for at least 120 days. That same month, LADBS requested and received approval to write off as "uncollectible" 486 invoices, totaling \$134,000 for unpaid elevator inspection fees outstanding more than four years.

### **Reporting safety concerns**

Our audit recommends the City consider how posted inspection certificates and other signage upon elevators and escalators might better convey to passengers how they can report any safety concerns and injuries.

### **Conclusion**

Our City's inspection and oversight of more than 23,000 elevators, escalators and other people-movers is largely safe thanks to diligent testing and well-trained inspectors. However, the



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City can do more to reduce accidents, improve available information for the public and reduce overtime costs. We want to make sure that Los Angeles residents and visitors have a safe journey every time they ride an elevator, escalator or other people-mover.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ron Galperin". The signature is fluid and cursive, with a long horizontal stroke at the end.

RON GALPERIN  
CITY CONTROLLER





# *Elevating Safety*

**Audit of the Department of  
Building and Safety's Elevator  
Inspection Program**



**RON  ALPERIN**  
LA CONTROLLER

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## EXECUTIVE SUMMARY

The City of Los Angeles (City) began inspecting elevators in 1898, becoming the first (and still only) local government entity within California to have its own Elevator Inspection Program separate from the State of California’s Department of Industrial Relations’ Elevator Unit Certification Section.

Every year, the City’s Department of Building & Safety (LADBS) inspects more than 23,000 permitted conveyances (e.g., elevators, escalators, moving sidewalks, wheelchair lifts, etc.), referred to generically in this report as “elevators.” These conveyances are located at 12,155 unique addresses throughout the City.<sup>1</sup> With each new multi-storied building constructed, this figure continues to grow. City-mandated inspections help to ensure that property owners and operators comply with regulations intended to promote the safety of Angelenos.

While elevator accidents are rare, they can cause serious injury or even death. The U.S. Bureau of Labor Statistics estimated that approximately 27 people are killed annually in the U.S. in elevator and escalator accidents. However, the type of accident envisioned by the public, an elevator plunge, rarely occurs since modern elevators have fail-safes built into their design. Of the 311 accidents reported with injuries that had been reported to LADBS over our two-year audit period,<sup>2</sup> LADBS’ investigation found that 95% (295) of the accidents were not caused by an equipment malfunction or code violation.<sup>3</sup> Rather, the conveyance was found to be safe, and the injury occurred due to rider/passenger error. Most of the accidents (71% or 221) involved escalators, with the most common contributing cause being a rider losing his/her balance, and falling.

Notably, 41% of all reported conveyance accidents occurred at the Los Angeles International Airport (LAX), and all but two involved escalators. Investigations by LADBS found the equipment to be safe in 98% of the incidents, with most injuries caused by people losing their balance and not holding onto the handrail. Regardless of the causes, LAX management should explore strategies to better address safety issues of its patrons.

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<sup>1</sup> Approximately 4,000 address locations have more than one conveyance.

<sup>2</sup> One death was reported during this period; however, as it involved an elevator mechanic who was electrocuted during the conveyance’s servicing, it was considered “worker related” and investigated by Cal/OSHA rather than LADBS.

<sup>3</sup> For the remaining 5% (16) accidents that were found to be related to an equipment malfunction, causes included: elevators not stopping level with the landing; having a door gap, broken button, or requiring a cable replacement; and escalators with broken comb plates, damaged step, or handrails requiring repair.

### Objective

The primary objective of this audit was to evaluate LADBS' Elevator Inspection Program by examining the effectiveness and efficiency of Departmental processes. Such processes include scheduling and conducting inspections aimed at ensuring compliance with local and California State (State) elevator codes, and industry standards established in the interest of public safety.

### Favorable Conditions Noted

With approximately 24 elevator inspectors on staff during our audit period of 2015 to 2016, LADBS conducted approximately 53,000 site visits related to elevator inspections during a two-year period.<sup>4</sup> Representatives of the elevator companies we contacted during this audit spoke highly of the expertise, professionalism, and responsiveness of LADBS' elevator inspectors.

We found that all LADBS elevator inspectors had appropriate State certifications on file and adhere to continuing education requirements to maintain their certifications. In addition, LADBS has a training program that allows for frequent information sharing among elevator inspectors based at three different locations in the City, keeping them informed of issues and difficulties they encountered and the problems that were addressed while completing elevator inspections.

### Conditions Requiring Attention

The audit identified certain areas in which LADBS could improve the effectiveness and efficiency of its internal processes. These include:

- **Replacing an antiquated information system [Plan Check and Inspection System (PCIS)] used to track elevator inspections.** LADBS reported that PCIS does not allow its elevator inspectors to directly input their inspection results. As a result, portions of inspection data are input into PCIS or supplementary spreadsheets from hardcopy forms. Further, PCIS does not have the capability to upload pictures of inspected elevators and any associated violations identified. Along with the duplication of effort and inability to memorialize the condition of elevators, the inability to enter

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<sup>4</sup> The official City job classification titles for elevator inspectors are Safety Engineer Elevators and Senior Safety Engineer Elevators.



inspection results directly into a single, comprehensive information system has resulted in certain input errors.

*LADBS management acknowledged these concerns and indicated that they developed PCIS many years ago primarily as a system to track building permits and related inspections, but not specifically elevator inspection activities. LADBS management indicated that their Information Technology Division has been working toward developing a new system intended to address many of the concerns identified by this audit, and anticipates implementing a new system for use by elevator inspectors and others in 2018.*

- **Critical information pertaining to Orders to Comply (OTCs) and accidents are not captured electronically, inhibiting LADBS' ability to monitor trends and ensure the proper resolution of OTCs.** Although LADBS reported issuing 10,994 OTCs between 2012 and 2016, it is unable to generate reports to identify why the OTCs were issued or the number of OTCs that remained outstanding, since neither the reason for, nor the resolution(s) of OTCs are input into PCIS, or any separate electronic system. Instead, LADBS needs to review each hardcopy OTC written for elevator issues. Likewise, although LADBS reported it had completed 1,442 elevator accident investigation reports between 2007 and 2016 (averaging 144 reports per year during the ten year period), details about the accidents involving injuries are not input into PCIS, nor into the separate electronic log used to track the completion of the investigation reports.<sup>5</sup>

*LADBS management indicated that the new system, scheduled to be implemented during 2018, would capture OTC and accident details electronically, enabling management to produce monitoring reports and to ensure the proper resolution of all OTCs.*

- **Updating policies and procedures to reduce the risk of errors and enhance elevator inspector safety.** We found that the elevator re-inspection forms do not provide enough checks to ensure elevator inspectors complete a thorough re-inspection of all required major areas. For example, the forms do not delineate the major areas inspected during an elevator re-inspection, such as the hoistway, cabin, cartop, pit, machine room, and checks for test tags (including the associated testing dates). The

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<sup>5</sup> We reviewed all the hardcopy Accident Investigation Reports within our audit period, to determine the percentage of reported accidents with injuries that were not caused by an equipment malfunction or code violation.

re-inspection forms only require elevator inspectors to document exceptions identified during the re-inspection, not the major areas inspected.

In addition, some elevator inspectors have been completing inspections of the same elevators located within the same geographic area for many years, with six elevator inspectors inspecting the same elevators for five to 17 years. While experience and familiarity is important, it can potentially lead to less rigorous inspections.

Finally, we noted that LADBS' policies and procedures required its elevator inspectors in the field to check-in at 2pm each day to verify their safety, a good practice since there could be significant dangers associated with completing elevator inspections. However, LADBS should consider a more frequent and automated check-in system, including a required end of work shift check-in.

- **Enhancing fiscal oversight of the Elevator Inspection Program by completing an inspection fee study and reducing the use of overtime to complete annual re-inspections.** LADBS had not completed an elevator inspection fee study since 2008, and did not retain the documentation supporting that prior study. The City is required to set inspection fees to support the full cost of operations for which the fees are charged.

Further, LADBS reports a consistent backlog of annual re-inspections, and management allows its elevator inspectors to work overtime on a voluntary basis during weekends to reduce the backlog. As of October 30, 2017, there were 4,637 elevators overdue for the annual re-inspection, which represents 19% of LADBS' total permitted conveyances that are required to receive a re-inspection. LADBS management indicated that this backlog is consistent with a 14-month cycle, rather than the 12-month (annual) inspection cycle required by the Los Angeles Municipal Code (LAMC).<sup>6</sup> For new inspections, the elevator company schedules the inspections in advance and pays an associated premium amount to the City. However, for annual re-inspections, LADBS charges property owners the associated re-inspection fee set by the LAMC, which does not include an overtime premium.

LADBS should consider implementing alternative practices aimed at reducing the re-inspection backlog and eliminating the re-inspection overtime costs, such as:

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<sup>6</sup> It should be noted that LADBS is still more timely than the State's program in completing inspections. State representatives indicated that for conveyances requiring an annual inspection (i.e., not part of the two-year permit program) inspectors operate from a backlog consistent with an 18-month cycle on average, with certain areas within the State experiencing longer inspection cycle times.

1. Adopting the State program that offers property owners the option of a two-year elevator permit if the elevator is subject to a full maintenance service contract and after investigation and inspection it is found to be in safe condition for operation;
  2. Developing a re-inspection schedule based upon elevator geographic proximity (e.g., nearby neighborhoods) to reduce time spent by inspectors driving to and from inspections; and,
  3. Using administrative staff to help schedule inspections that require advance notice to a property owner.
- **Exploring other avenues to assist in the collection of unpaid elevator inspection fees.** LADBS is not using certain available enforcement tools to encourage property owners and elevator companies to pay overdue inspection fees. LADBS refrains from issuing a new permit to an elevator company or property owner with unpaid inspection fees. Under the State Labor Code and the City's LAMC the failure to post a valid permit is cause to prohibit elevator operation. However, LADBS management indicated it does not enforce these rules because sealing an elevator for non-payment could inconvenience users, or result in revocation of the building's Certificate of Occupancy (if the building has only one elevator). According to a July 2017 LADBS report, invoices totaling \$748,000 remained outstanding for at least 120 days. That same month, LADBS requested and received approval to write off as "uncollectible" 486 invoices, totaling \$134,000 for unpaid elevator inspection fees outstanding more than 4 years. We urge LADBS to explore the City's Administrative Citation Enforcement (ACE) Program, which provides an alternative method to encourage code compliance using administrative fees, while minimizing government costs, as an option to collect unpaid elevator inspection fees.

In addition, **Management at the Los Angeles International Airport should use the information related to conveyance accidents as noted by this report, and identify strategies to better address safety for airport patrons.** In 2015 and 2016, 41% of all conveyance accidents involving injuries reported to LADBS citywide, and 56% of all reported escalator accidents, occurred at the Los Angeles International Airport (LAX). Investigations by LADBS found the equipment to be safe in 98% of the accidents, with most of the escalator injuries caused by people not holding onto the handrail and losing their balance.

While reviewing the accident investigation reports we noted that certain escalators at LAX had more than one reported accident. Regardless of the causes of injury, LAX could use this observation as an opportunity to explore strategies to better address the safety of its patrons. We urge LAX management to reach out to representatives of other airports to compare the frequency of conveyance accidents, and identify safety measures to prevent conveyance accidents. Thereafter, LAX management should submit a report to the Board of Airport Commissioners and/or the City Council on efforts taken to reduce conveyance accidents for its patrons.

### **Conclusion**

LADBS' elevator inspectors appropriately prioritize their work and adhere to continuous education certification requirements. They complete a high volume of inspections, and based on the elevator company representatives we spoke with, are highly regarded in the industry. However, enhancements to the Program's inspection tracking systems, policies and procedures, and fiscal oversight would help to optimize the Program's effectiveness and efficiency.

One issue beyond the scope of this audit was an in-depth review of how LADBS' Elevator Inspection Program specifically compares with the State's Program, for example as it relates to collection of inspection fees, percentage of elevators found to be in full compliance with regulations, timeliness of property owners addressing violations, etc. Policymakers could use this audit to direct LADBS management to report on the performance of the Elevator Inspection Program in comparison to the State's Program. Such a comparison would allow the Department to benchmark themselves against the State, which can lead to greater collaboration between the agencies and may ultimately result in greater conveyance safety for the residents of Los Angeles.

### **Department Response and Action Plan**

On December 11, 2017, a draft of this report was provided to LADBS management. On December 21, 2017, LADBS management provided a response indicating their concurrence with the overall findings and recommendations contained in the draft, and provided some additional clarifying information. We considered those comments in finalizing this report. LADBS management also submitted a formal Action Plan describing how they intend to implement the recommendations, provided as Appendix II.

Based on our evaluation of management's comments noted in LADBS' Action Plan, we now consider one recommendation Implemented (No. 1.3); while six recommendations

are Partially Implemented (Nos. 1.1, 2.1, 5.1, 5.2, 6.1 and 7.1); and four recommendations are Not Yet Implemented (Nos. 1.2, 1.4, 3.1, and 4.2). We also acknowledge that LADBS disagrees with two recommendations (Nos. 2.2 and 4.1) and assumes any related risks relative to those issues.

We also shared relevant information related to reported accidents with LAX management, including recommendation 1.5, for consideration.

We would like to thank LADBS staff and management for their time and cooperation during this audit.

## BACKGROUND

LADBS' mission is to protect the lives and safety of City residents and visitors, while enhancing housing, economic prosperity, job creation, and the quality of life of all Angelenos. To meet this mission, LADBS helps to ensure buildings and structures adhere to requirements set forth in the City's Building Regulations, found in Chapter IX of the Los Angeles Municipal Code (LAMC). As stated in the LAMC, the purpose of those regulations is *"to safeguard life, limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures erected or to be erected within the city."*

Three LADBS bureaus engage directly with the public, primarily at three stages of a building's existence: 1) Permit and Engineering Bureau (before construction); 2) Inspection Bureau (during and after construction); and, 3) Code Enforcement Bureau (after construction).

One important role LADBS fills is to ensure elevators and related conveyances comply with local and State elevator codes; regulations that are in place to address issues of rider safety. The City began inspecting elevators in 1898, becoming the first government entity within the State to have a formal Elevator Inspection Program. In 1919, the State also began to regulate and conduct elevator inspections in California. Currently, State elevator inspectors, LADBS elevator inspectors, and a small number of insurance inspectors are the only inspectors authorized to conduct elevator inspections in California.

Elevators and related conveyances (e.g., escalators, moving walks, dumbwaiters; collectively referred to as "elevators" in this report), are inspected as part of LADBS' Elevator Inspection Program. The Elevator Inspection Program is organizationally within the Inspection Bureau; however, it also has code enforcement responsibilities. LADBS' 24 elevator inspectors conduct inspections to ensure compliance with the City's LAMC "Elevator Code" (Chapter IX, Article 2) as well as the State's Code of Regulations, the State's Labor Code, and standards established by the American Society of Mechanical Engineers (ASME).

LADBS issues a Certificate of Inspection and Permit to Operate an Elevator, which is valid for one year; thus, with few exceptions, elevators within the City require an annual re-inspection.<sup>7</sup> LADBS also inspects new elevator installations and modernizations of existing elevators, and investigates elevator safety complaints and all reported accidents

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<sup>7</sup> Per LAMC Chapter IX, Article 2, Section 92.0126 (a), LADBS "shall cause to be inspected and tested once every year all elevator equipment or related devices governed by this Code." LADBS inspects all public elevators located in the City except those located in a Los Angeles County, State, or federal facility. For private residences, inspections are only required for elevator installations and modernizations.

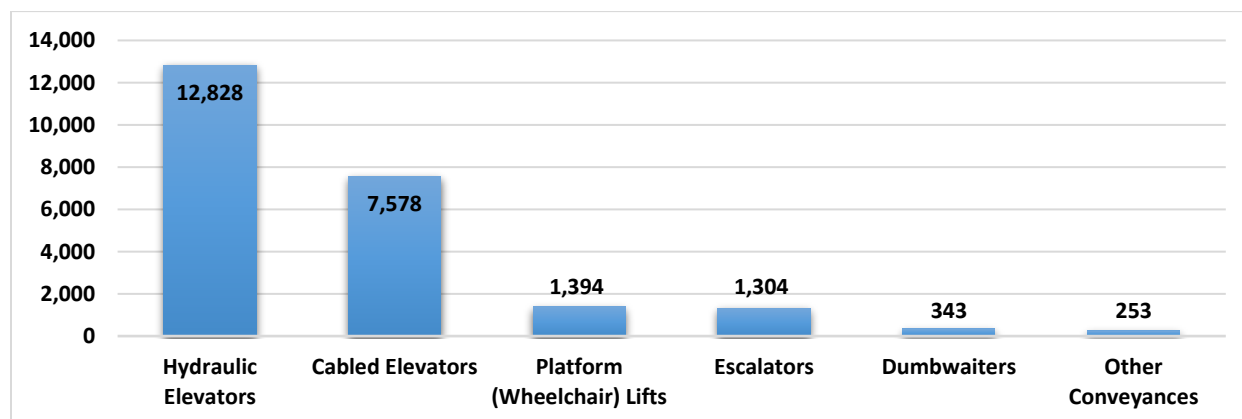


with injuries.<sup>8</sup>

Fees for elevator inspections help to recover the costs of the Elevator Inspection Program. Elevator installation and modernization inspection fee invoices are sent to elevator companies who obtained the related permit for the work. Annual re-inspection fee invoices are sent to property owners or property management companies. During a three-year period ended June 30, 2017, LADBS collected \$13.4 million in elevator inspection fees.

**Elevator Inspection Workload**

LADBS has three Regional Offices serving the City of Los Angeles. A senior elevator inspector manages each Regional Office and reports to a principal and chief elevator inspector. LADBS' 24 elevator inspectors (including senior elevator inspectors) oversee 23,700 permitted conveyances, with 20,406 (86%) being either hydraulic or cabled elevators.<sup>9</sup> The following chart includes a breakdown of the 23,700 "elevators" by type of conveyance.



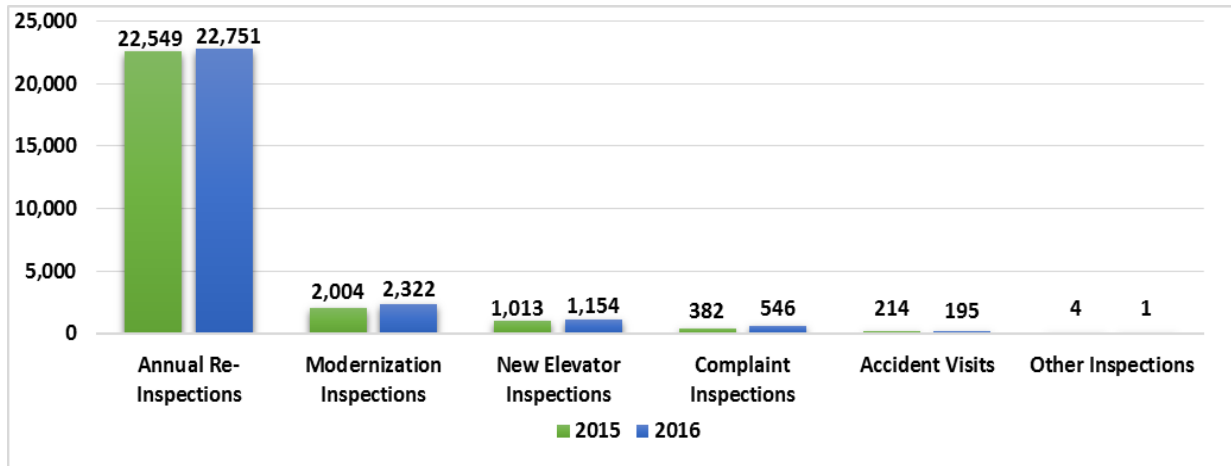
Source: LADBS generated report from PCIS as of June 23, 2017.

LADBS elevator inspectors' primary workload involves completing annual re-inspections; however, as previously stated, they must also inspect newly installed elevators, modernizations, and respond to elevator safety complaints received by LADBS. Further, when an elevator accident with injuries occurs, inspectors conduct an accident investigation.

<sup>8</sup> Elevator accidents involving the death of an organization's employee are also required to be reported to Cal/OSHA. Cal/OSHA completes those investigations.

<sup>9</sup> As of June 23, 2017, of the 23,700 elevators, 21,578 (91%) elevators were "active," 797 (3%) were "unknown," 713 (3%) were "out of service," 311 (2%) were "sealed," and 301 (1%) were "landed." Regardless of the classification, LADBS continues to inspect these elevators annually.

During 2015 and 2016, LADBS elevator inspectors conducted more than 53,000 site visits related to elevator inspections. The figures below include instances of multiple returns to complete an inspection.



For accident visits, inspectors complete an accident investigation report if injuries are involved. Based upon LADBS' records, there were 1,442 elevator accident investigation reports completed by its inspectors from 2007 through 2016 (averaging 144 reports per year during the 10-year timeframe).

**Prior Audits**

The Controller's Performance Audit of LADBS' Inspection and Code Enforcement Activities (issued July 10, 2006) noted a backlog of approximately 4,400 (21%) out of 21,000 required re-inspections of elevators, escalators, and other moving conveyances. This meant that the re-inspection cycle had stretched to 15 months.

The Controller's Office subsequently conducted a Follow-Up Audit (issued January 7, 2010) and noted that LADBS had reduced the backlog down to 445 overdue re-inspections as of 2009. At that time, the re-inspection cycle fell to just over the 12 months required by the State and the LAMC.<sup>10</sup>

Both the original and follow-up audits also indicated that LADBS did not have adequate processes to ensure property owners resolved OTCs in a timely manner.

<sup>10</sup> As of October 2017, the re-inspection cycle time has increased to 14 months. See the Fiscal Oversight Section.

## INSPECTION TRACKING SYTEM

**Finding #1: LADBS tracks elevator inspections through their Plan Check and Inspection System (PCIS), an inherited information system that lacks functionality to properly monitor elevator inspections, Orders to Comply (OTCs), accidents, and complaints, and to generate Elevator Inspection Program performance reports.**

*LADBS designed PCIS to track building permits and certain types of inspection activities, but not specifically to track elevator inspection activities. While the Elevator Inspection Program uses PCIS, it has significant limitations, as follows:*

- Elevator Inspection Information is Manually Input into PCIS. Currently, elevator inspectors document inspection results on paper (hardcopy) forms. A senior elevator inspector reviews the completed forms, and upon approval, forwards the hardcopy forms to administrative staff who input the handwritten information into PCIS.<sup>11</sup> Further, PCIS does not have the capability of uploading pictures of inspected elevators and any associated violations identified.<sup>12</sup> Along with the duplication of effort and inability to memorialize the condition of elevators, the inability to directly enter inspection results into an information system has resulted in certain input errors, described further below.
- OTCs are not Adequately Tracked. To help elevator inspectors consistently distinguish between major and minor elevator violations, LADBS management classified the elevator codes into major and minor violations and both included this information in PCIS and distributed the hardcopy classification listing to its elevator inspectors.<sup>13</sup> After identifying a major violation, the elevator inspector will issue an OTC.<sup>14</sup> The OTC lists the violation(s) and the timeframe within which a property owner must address the issue. Failure to comply with the OTC can result in a citation, requiring the responsible party to appear in court.

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<sup>11</sup> For legibility, we were informed that certain elevator inspectors hand write the hardcopy inspection forms in the field, and later type up the form for the administrative staff to accurately input the information into PCIS. Data input into PCIS interfaces with LADBS' Fiscal Services System (FSS), which processes invoices.

<sup>12</sup> The City's Housing & Community Investment Department (HCID) uploads recent photos of all properties it inspects and any associated violations. This provides a permanent record of the inspections and assists with answering any questions raised later by a property owner.

<sup>13</sup> The listing has 390 violation codes; with 219 (56%) classified as major, and 171 (44%) classified as minor.

<sup>14</sup> An elevator inspector can issue an OTC for any violation, minor or major. OTCs are also issued to have mechanics present for escalator annual inspections, accident investigations, and when witness testing is required.

Inspectors document the OTC number in PCIS and each inspector uses their own numbering sequence and can independently decide whether to input OTC details in a comment field. Except for the comment field, PCIS does not store OTC details, related violations, compliance due date(s), or subsequent compliance status. A senior elevator inspector reviews a hardcopy of the issued OTC and files it in a cabinet drawer for pending OTCs. The senior elevator inspector relies upon the elevator inspectors to follow up on OTCs since PCIS lacks the capability to track OTCs and their resolutions. Once an elevator inspector verifies appropriate resolution of a violation, he or she re-files the OTC in a cabinet drawer for completed OTCs.

LADBS reported issuing 10,994 OTCs from 2012 and 2016, but was unable to easily identify why the OTCs were issued, or the number of OTCs that remained outstanding, since PCIS does not track the associated violation details or the OTC resolution. According to LADBS management, the OTCs may have been issued for minor or major violations and orders to have mechanics present for escalator annual inspections, accident investigations, or when witness testing is required.

When non-repetitive minor violations are identified that do not result in an OTC, LADBS documents the violations in PCIS, and a Re-inspection Report listing the minor violation(s) is sent to the property owner (along with the inspection invoice) notifying him or her that correction is needed. During the next regularly scheduled re-inspection, the elevator inspector will confirm that the minor violation(s) were corrected. We reviewed the 2015 and 2016 violations input into the PCIS without an associated OTC being issued to confirm the violations were indeed minor per LADBS' classification. Our analysis identified 66 violations that, based on the code cited and input into PCIS, should have been considered major; however, an OTC was not issued. LADBS management researched this concern and reported that it appeared the violation codes had been transposed when the administrative staff input the inspection results into PCIS; therefore, management asserted they were not actually "major" violations and thus, no OTC was required. LADBS management indicated that the issue was discussed with all of its elevator inspectors, and administrative staff will begin flagging any major violations listed on the inspection forms that do not have an associated OTC.

- Repeated Minor Violations May Not Be Adequately Addressed. Generally, if an elevator inspector finds the minor violation is uncorrected during the next re-inspection, the elevator inspector will issue an OTC. The elevator inspector's Inspection Dispatch List will include any minor violation(s) identified during the previous re-inspection. However, if there was a complaint-based inspection or an

accident investigation of the elevator between the annual re-inspections, the minor violation identified in the previous re-inspection will not be listed. Since not all elevator inspectors have access to PCIS while in the field, an elevator inspector may not be aware of the prior minor violations, resulting in minor violations continuing to remain unaddressed. We identified one elevator that had the same repetitive violation identified for five years (2012 to 2016). LADBS classified the violation type as minor, and no OTC had been issued. However, a system to flag repetitive minor violations would help ensure that an OTC is issued, requiring compliance by a certain date, so that all problems are corrected timely.

- Details from Accident Investigations are Not Adequately Tracked. Elevator accidents involving injuries to a person are required, per the LAMC, to be promptly reported to LADBS by a responsible party, and in no case later than noon of the first day LADBS is open for public business following such accident.<sup>15</sup> The responsible party must immediately remove the elevator from service upon knowledge of any injury. The LAMC further prohibits any person from adjusting, repairing, or replacing any part of the elevator equipment on which the injury occurred until LADBS completes its accident investigation, which is to occur within 18 hours of their receipt of a report.

LADBS is to perform an investigation of the equipment involved and determine whether the equipment was a contributing factor to the incident, in which case it will issue an OTC and seal the equipment to prevent further injuries. From 2007 through 2016, LADBS records noted an average of 144 accidents with injuries were reported annually, from a low of 112 in 2008 to a high of 189 in 2014.

While Elevator Inspectors use a hardcopy form to record the details of the accident investigation, only minimal identifying data (location, inspector, and key dates) are recorded on a separate log, and limited accident investigation information is recorded in PCIS. To identify details regarding the severity, cause, and outcome of an accident investigation, management must refer back to the hardcopy form. Information that could be useful for monitoring, such as inspector responsiveness and outcomes, could be better analyzed if it was appropriately captured in a single system. We also noted inconsistencies, omissions, and duplication of data entry for incidents recorded in PCIS and the log, indicating a need for greater control over tracking information about accident investigations.

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<sup>15</sup> Per LAMC Chapter IX, Article 2, Section 92.0116: A responsible party is defined as any person having possession or custody of or authority of control over any premises whereon the elevator is installed. However, the LAMC does not define what constitutes an injury, and LADBS has not provided a definition to property owners.

Since LADBS does not electronically track accident details, we reviewed 311 investigation reports that were completed during 2015 (163) and 2016 (148). Based upon information contained in the reports, we found that for the vast majority (95% or 295 accidents) the elevator or escalator was found to be safe, and not a contributing factor to the accident or injury. The majority of reported accidents with injuries (71%, or 221 of the total 311) involved escalators, with most being caused by people losing their balance and falling.

We also noted that 126 (41%) of the 311 conveyance accidents with injuries that had been reported to LADBS occurred at the Los Angeles International Airport (LAX), with 124 of those involving escalators. Investigations by LADBS found the equipment to be safe in 123 (98%) of these incidents.<sup>16</sup> While reviewing the accident investigation reports, we noted that certain escalators at LAX had been involved in more than one reported accident involving injuries. According to LADBS management and as confirmed by our review of the accident investigation reports, people caused most of the escalator injuries at LAX by not holding onto the handrail and losing their balance, in addition to carrying too much luggage. Therefore, equipment safety concerns at LAX were not a significant factor.

We further noted that LADBS has not sent reminders to property owners regarding their duty to report all accidents involving injuries, and to remove the elevator from service and ensure the equipment is not adjusted, repaired, or replaced until LADBS completes its investigation. To help ensure owners are aware of and comply with this LAMC requirement, LADBS could include a reminder message with its invoice after each annual re-inspection.

- Complaints Regarding Elevators May Not be Addressed. When LADBS receives a complaint of elevator safety, either via phone, walk-in, or online, an inspector working LADBS' Code Desk will complete a hardcopy Complaint Card and forward it to a senior elevator inspector, who assigns it to an elevator inspector to determine the presence of any safety violations. The Complaint Card is provided to the elevator inspector, but it is not serially numbered or logged into a tracking system to ensure it is addressed. Elevator inspectors keep the Complaint Card until they complete their inspection, then file it. While the results of the complaint inspection are input in PCIS, the reasons for the complaint and the date it was received are not.

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<sup>16</sup> For the three accidents in which the equipment was deemed to be a contributing factor: one escalator required a step replacement; another escalator required its handrail to be cleaned of oil; and the remaining escalator required a comb plate to be replaced.



By not entering data from the Complaint Card into a tracking system, LADBS cannot generate reports that categorize the reasons for or severity of safety complaints. In addition, management cannot easily monitor inspector responsiveness, by identifying the timeframe from complaint report to resolution. To identify this information, LADBS management indicated that the individual hardcopy Complaint Card details would need to be pulled for review.

Further, we noted that while LADBS offers a mobile app, LADBS Go, that allows users to report potential violations of City building codes, it is not tailored to initiating elevator complaints, does not take advantage of barcode technology, and does not interface with PCIS.

- Program Performance Reporting Should be Enhanced. Due to limitations with LADBS' tracking systems, data regarding Elevator Inspection Program performance are not available. Specifically, LADBS cannot easily monitor the number of days it takes to respond to elevator safety complaints, review re-inspection backlogs at different points in time, or track the aging of OTCs.

LADBS management acknowledged each of these concerns, further indicating that LADBS developed PCIS years ago to track building permits and related inspections, but not specifically elevator inspection activities; as such, PCIS lacks key functionality staff need to document elevator inspections.

LADBS management indicated that their Technology Services Bureau is developing a new system to address many of the concerns identified in this audit. This new system will replace PCIS and is planned for deployment in 2018. Management should ensure the new system incorporates newer bar code technology (such as *QR codes* on elevator permits), and can interface with an enhanced version of LADBS' mobile app, LADBS Go.

During our audit fieldwork, we compared the functionality of the information system used by inspectors at the Housing and Community Investment Department (HCID), noting their ability to directly input inspection results in the field, upload photos, automatically generate OTCs, document complaints, etc. We are encouraged to note that LADBS has considered and incorporated much of the functionality of HCID's system into the new system being developed for use by the Elevator Inspection Program.

## **Recommendations**

**LADBS management should:**

- 1.1 Prioritize implementing a new information technology system that allows for:**
  - a. Direct input of inspection and investigation results by elevator inspectors.**
  - b. Automatic generation of and monitoring of compliance with OTCs.**
  - c. Tracking of complaints regarding elevator safety.**
  - d. Tracking of the severity of reported injuries (e.g., fatalities, serious injuries, other visible injuries, complained of pain) sustained in elevator accidents, the cause of accidents (if determined), and corrective actions taken (if any). In addition, when applicable, an explanation of why the investigation was not completed within the required timeframe.**
  - e. The generation of crucial reports to monitor the Elevator Inspection Program's performance.**
  - f. The tracking of inspector time and the generation of invoices.**
  - g. The use of bar code technology, such as QR codes on elevator permits, to interface with an enhanced version of LADBS' mobile app LADBS Go.**
- 1.2 *Until a replacement information system for elevator inspections is fully implemented*, develop an electronic tracking system(s) to record pertinent information regarding OTCs, accidents, and all incoming complaints regarding elevator safety to help ensure they are appropriately addressed.**
- 1.3 Ensure all elevator inspectors have access to PCIS in the field until the new information system is deployed. The new information system should also be accessible to elevator inspectors while in the field.**
- 1.4 Include a reminder message on annual re-inspection invoices reminding property owners of their duty, per LAMC Chapter IX, Article 2, Section 92.0116, to report accidents involving injuries, to remove the elevator from service, and to ensure the elevator equipment is not adjusted, repaired, or replaced until LADBS completes its investigation.**

**LAX management should:**

- 1.5 Contact representatives of other airports throughout the nation to compare the frequency of conveyance accidents with injuries and safety measures taken to prevent conveyance accidents. Thereafter, LAX should submit a report to the**

**Board of Airport Commissioners and/or the City Council on efforts to reduce conveyance accidents.**

## POLICIES & PROCEDURES

**Finding #2: Elevator Inspection Program policies and procedures should be enhanced to reduce the risk of errors.**

The Elevator Inspection Program written policies and procedures state the following:

Inspectors are required to perform complete, accurate and thorough inspections. Documentation that is complete, accurate and thorough aids the constituent, contractor, developer and the inspector who may be assigned to make an inspection during the absence of the district inspector. In addition, the supervisor can have readily available and clear information if he or she must respond to requests for information during or after the construction.

Notwithstanding the guidance above, we found that the forms used to document annual re-inspections of elevators do not provide enough assurance that the inspections were thorough. For example, the form does not delineate the major areas inspected such as the hoistway, cabin, cartop, pit, machine room, and checks for test tags and associated testing dates. Thus, the forms do not provide positive confirmation that the required areas were inspected. In comparison, the system used by HCID inspectors lists the required areas to inspect, as well as the most common violations identified with each inspected area.

Additionally, we noted that LADBS' written policy require its elevator inspectors in the field to call into their Regional Office at 2 pm each day to verify their safety.<sup>17</sup> While this is a good practice, as there can be significant dangers (e.g., falls from elevator cartops, falls into an elevator shaft, electrocution, being struck by the elevator or counterweight, getting caught in an elevator door or other moving parts, etc.) associated with completing an elevator inspection, a more frequent and automated check-in system should be considered by LADBS, including a required end of work shift check-in.<sup>18</sup> We found that elevator inspectors employed by the State and mechanics employed by certain elevator companies are required to check-in at the end of their work shift, confirming their safety, which is a leading practice.

Further, LADBS assigns work to inspectors by assigning them a "district" of zip codes, but there is no requirement for periodic rotations. In fact, one inspector has been assigned to the same "district" of zip codes for 17 years. LADBS management indicated that

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<sup>17</sup> The State's policy requires elevator inspectors to confirm their status at the end of their work shift.

<sup>18</sup> Although LADBS' written policy provided during the audit indicated elevator inspectors are required to verify their safety at 2pm, LADBS management indicated elevator inspectors are actually required to check in anytime between 2pm and 3pm.

elevator companies and property owners often make written requests for LADBS to assign specific inspectors to their building(s); however, rotating inspector responsibilities among areas is advisable for cross-training purposes and to reduce risk.

### **Recommendations**

**LADBS management should:**

**2.1 Enhance the Elevator Inspection Program's policies and procedures by requiring inspectors to:**

- a. Positively affirm inspection of major areas of each elevator type, including the documentation of tag dates.**
- b. Check in from the field at the end of their work shift.**
- c. Be periodically rotated (e.g., every three years) from inspecting the same elevators. This could be accomplished by rotating their assigned "district" zip codes.**

**2.2 Determine whether the practices recommended in 2.1 should be implemented by other LADBS inspection and code enforcement programs.**

**Finding #3: LADBS' Elevator Accident Investigation Report does not collect certain pertinent information collected by the State's accident investigation reports.**

In reviewing the Elevator Accident Investigation Report used by LADBS, we noted it lacks some of the detail included in the State's Elevator Accident Notification Report. For example, the State's report includes sections for inspectors to document other law enforcement agencies present at the accident site, unsafe acts or conditions involved in the accident, code violations, steps taken to eliminate the hazards, and available evidence, such as photographs.

The State report also prompts inspectors for an explanation of any altered equipment at the accident site, contact information for someone at the accident site, the name of the person receiving the report or to whom the report was referred, whether an investigation will occur and under whose authority, and invites documentation of additional information—such as witnesses or other persons not interviewed. The LADBS' Elevator

Accident Investigation Report does not contain sections to collect this information, which would also help to ensure consistency and comprehensiveness of investigations.

**Recommendation**

**LADBS management should:**

**3.1 Expand the Elevator Accident Investigation Report to include additional information collected by the State's Elevator Accident Notification Report.**

**Finding No. 4: LADBS does not sufficiently advertise how to report complaints regarding conveyance safety, and it does not always notify complaining parties about the results of their complaints.**

According to PCIS, during 2015 and 2016, LADBS completed 928 elevator inspections in response to elevator safety complaints. But there may be more safety concerns that have gone unreported, and safety complaints that did not result in an inspector response. The elevator permits issued by LADBS are required to be posted in or near the elevators, and include the elevator identification (permit) number. However, they do not contain information on how to report elevator safety concerns. We also noted that the City Services Directory, accessed through MyLA 311, also does not adequately explain how to report an elevator safety issue or provide for uploading photos and location information.

Further, LADBS will only inform the reporting party of the inspection results if a call back is specifically requested, even if the complainant provides a phone number to LADBS for any follow-up questions. We contacted HCID to determine how their inspectors deal with complaints, and found that all reporting parties who provide a phone number will receive a call back from an HCID inspector to report their results. Further, if a reporting party prefers to remain anonymous, he or she can review HCID's website to obtain information on the results of the complaint inspection.



**Recommendations**

**LADBS management should:**

- 4.1 Include on permits for all conveyances information that describes how to report non-emergency safety concerns (e.g., an email address, a phone number, and website to report safety concerns).**
  
- 4.2 In developing the new information system to be used for elevator inspections, consider adding the ability for a reporting party to view the results of their complaint. In the short-term, consider implementing a standard process to notify reporting parties of the results of the investigation of their elevator safety complaint.**

## FISCAL OVERSIGHT

Fees for elevator inspections support the Elevator Inspection Program. After each inspection, LADBS sends invoices either to elevator companies, property owners, or property management companies. New construction, modernization, and repair inspection fee invoices are sent to elevator companies who obtained a permit for the work. Annual re-inspection fee invoices are sent to property owners or property management companies.

LADBS manually inputs inspection data provided on hardcopy forms into PCIS, which interfaces with LADBS' financial system (FSS). FSS generates batches of invoices over the weekend. LADBS prints the invoices and provides them to an outside contractor for mailing.

Each year, LADBS sends thousands of elevator inspection invoices to management companies and property owners and issues a permit for elevator operation after inspection fees are paid (and cleared). Per the City's Financial Management System, LADBS collected \$13.4 million in elevator inspection fees over three-year period noted below:

Fiscal Year (FY)	Elevator Inspection Fees Collected
FY 2015	\$3,967,038
FY 2016	\$4,699,992
FY 2017	\$4,757,561
<b>Total</b>	<b>\$13,424,591</b>

Inspection fees are set by ordinance, as noted in the LAMC. Appendix I lists some of the current elevator inspection fees.

Invoices also include a 3% surcharge for development services centers and a 6% surcharge for system development.<sup>19</sup>

**Finding No. 5: LADBS has not completed a fee study or updated its elevator inspection fees since 2008.**

According to the Chief Administrative Officer's (CAO) Financial Policies for the City, "inspection fees should be set to support the full costs of operations for which the fees are charged, including all operating (direct and indirect) and capital costs. All inspection

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<sup>19</sup> The development services centers surcharge fees are deposited into the Development Services Trust Fund (Fund No. 438) and the system development surcharge fees are deposited into the Building and Safety Building Permit Enterprise Fund (Fund No. 48R, Schedule 40).

fees for the City shall be monitored annually to determine that the rates are adequate and each source is maximized. If fees are not set at 100 percent full cost recovery, the Mayor and Council will specifically recognize the subsidy and shall take specific action to appropriate the necessary funds to subsidize the fee for service.”

LADBS had not revised its elevator inspection fees since 2008, and management could not locate documentation to support the 2008 inspection fee calculations. We also learned that State inspection fees are higher than comparable City fees for a majority of inspection types.<sup>20</sup>

*LADBS initiated a fee study during the course of our audit.*<sup>21</sup> An additional area LADBS should consider in their fee study is the lack of fees charged for complaint inspections. If a complaint prompts an inspection that identifies a related safety violation, LADBS should consider charging a related inspection fee to recover its operating costs.

### **Recommendations**

**In the interest of revenue enhancement and cost recovery, LADBS management should:**

- 5.1 Complete the elevator inspection fee study and periodically monitor inspection fees to ensure they support the full costs of operations.**
- 5.2 Evaluate the prospect of charging a fee for inspections prompted by an elevator safety complaint, when the related inspection(s) identify a related safety violation. The results of this evaluation should be documented.**

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<sup>20</sup> We compared City inspection fees to State inspection fees and found 20 (80%) of 25 inspection fees were lower than those imposed by the State (see Appendix I).

<sup>21</sup> The City's escalator and moving walkway inspection fee (\$162/unit) was significantly lower than the State's inspection fees (\$506/unit), a difference of \$312 per unit. LADBS management indicated it generally takes a half day to complete those types of inspections. As such, the City fee does not appear to cover the inspection costs. The fiscal impact of this lower inspection fee could be as high as \$447,000 in revenues LADBS is not receiving (based upon the difference between the State (\$506) and City (\$162) fee and there being approximately 1,300 escalators receiving an annual re-inspection). This concern was brought to the management's attention during the audit; LADBS management indicated it would address this issue during their fee study.

**Finding No. 6: LADBS does not adequately enforce payment of elevator inspection fees, and has written off more than \$362,000 of such fees between 2011 and 2014.**

If an inspection fee is not paid, LADBS assesses a 50% penalty when payments are 60 days overdue; invoices 105 days overdue are sent to a collection agency. Collection agencies return unpaid invoices to LADBS after a year and a half. When unpaid invoices become four years overdue, LADBS considers them uncollectible, and submits a request to the City's Board of Review<sup>22</sup> to write off the invoice amount.

Auditors reviewed correspondence submitted to or received from the Board of Review, which includes members from the Controller's Office and the Office of Finance/City Treasurer. Between 2011 and 2014, LADBS requested and received authorization to write-off \$362,000 in unpaid elevator inspection fees. Auditors noted that correspondence sent to the Board of Review by LADBS management indicated "all reasonable collection efforts had been exhausted"; however, we learned that LADBS is not using other available enforcement powers to collect unpaid fees due the City; in fact, it declines to use those powers. While unpaid fees will result in LADBS refraining from issuing a new permit to an elevator company or property owner, under State and City rules, the failure to post a valid permit is cause to prohibit elevator operation.

State Labor Code §7301 reads:

*No conveyance shall be operated in this state unless a permit for its operation is issued by or in behalf of the division, and unless the permit remains in effect and is kept posted conspicuously on the conveyance. Operation of a conveyance without a permit or failure to post the permit conspicuously shall constitute cause for the division to prohibit use of the conveyance, unless it can be shown that a request for issuance or renewal of a permit has been made and the request has not been acted upon by the division.*

The City's LAMC Chapter IX, Article 2, Section 92.0107 reads:

*Failure to obtain proper permits and to pay permit fees and inspection fees within 60 days after notification shall constitute cause for the Department to prohibit the use of the elevator.*

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<sup>22</sup>or to the City Council, depending on the invoice amount.

However, LADBS management indicated it does not enforce this specific State law or LAMC section because sealing an elevator for non-payment could inconvenience its users, or result in revocation of the building's Certificate of Occupancy, if the building has only one elevator.

Based on our interviews with a State elevator inspector, the State does not conduct inspections for elevator companies that have unpaid invoices and will seal an elevator from service for lack of payment and posting of a valid permit, resulting in virtually no write-offs of unpaid fees.

In reviewing LADBS information on unpaid invoices, we found that certain elevator companies are the worst offenders. For example, one elevator company has had more than 50 unpaid or partially paid invoices since 2010, totaling \$89,000 – with no significant consequence.

We learned that the LADBS Financial Section staff do not provide unpaid invoice information to the elevator inspectors, so they are not aware when elevator companies and property owners have unpaid bills. This communication gap should be resolved to enable appropriate action to be taken by elevator inspectors, such as issuing an OTC for failing to post valid operating permits.<sup>23</sup>

According to a July 2017 LADBS aging invoice report, invoices totaling \$748,000 remained outstanding for at least 120 days. That same month, LADBS requested and received approval to write off as “uncollectible” 486 invoices, totaling \$134,000 for unpaid elevator inspection fees outstanding for more than 4 years.

If LADBS chooses not to shut down elevators for unpaid inspection fees, and continues to complete inspections for elevator companies and owners that do not pay their fees, at a minimum it should explore other methods to encourage payment. For example, the City's Administrative Citation Enforcement (ACE) Program could be an option for LADBS to use. ACE citations provide an alternative method to encourage compliance, using administrative fines while minimizing government costs.<sup>24</sup> As noted in a prior Controller audit, when the Police Commission began using ACE citations to target police permit scofflaws, compliance improved dramatically.<sup>25</sup>

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<sup>23</sup> As previously mentioned, an operating permit will not be issued until the inspection fee is paid.

<sup>24</sup> The ACE Program is overseen by the Office of the City Attorney.

<sup>25</sup> Audit of Business Permits Issued by the Police Commission (April 12, 2017).

**Recommendation**

**To enhance revenue, LADBS management should:**

- 6.1 Explore and implement other options to enhance collection of unpaid invoices including enforcing stricter consequences for non-payment of inspection fees, and using the City's ACE Program.**

**Finding No. 7: LADBS staff incurs significant overtime hours to reduce its backlog of annual re-inspections, but other options should be explored to reduce the inspection backlog and overtime costs.**

LADBS reports it has a consistent backlog of annual re-inspections, and management allows its elevator inspectors to work overtime on a voluntary basis on the weekend to help reduce the backlog. As of October 30, 2017, there were 4,637 overdue for re-inspection, accounting for approximately 19% of the total conveyances permitted by LADBS that are required to receive an annual re-inspection. LADBS management indicated they are currently completing re-inspections on a 14-month cycle, rather than the 12-month cycle, required by the LAMC.

We found that over three FYs (2015, 2016, and 2017), 23 elevator inspectors worked 25,325 overtime hours, for both new inspections (4,630 overtime hours) and annual re-inspections (20,695 overtime hours), at a cost of nearly \$1.8 million in overtime.<sup>26</sup>

For new inspections, the elevator company schedules the inspections in advance and pays an associated overtime premium amount to the City. However, for annual re-inspections, owners are invoiced the associated re-inspection fee set by the LAMC, which does not consider an overtime premium.

LADBS management indicated they have not requested additional elevator inspector authorities as the workload for an elevator inspector can be cyclical, with a heavier workload during times of high construction activity. Based upon the significant amounts of overtime hours being worked, additional inspectors may be warranted; however, LADBS should explore other alternative practices beforehand, as noted below.

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<sup>26</sup> Further, four inspectors received 38% of this paid overtime (\$690,129) by working 9,478 overtime hours (1,543 overtime hours for new inspections and 7,934 overtime hours for annual re-inspections). These four inspectors increased their annual wages by more than 50% by working overtime, which is paid at a premium rate.



### Two-Year Operating Permits

LADBS, via the LAMC, requires annual re-inspection of all elevators. In contrast, the State's Elevator Inspection Program offers owners the option of a two-year permit if the elevator is subject to a full maintenance service contract and after investigation and inspection it is found to be in safe condition for operation.<sup>27</sup>

The State of California provided a list of nearly 500 California elevators whose elevator permits and related re-inspections last for two years. For example, two major California universities have 100+ elevators with two-year permits; and several hospitals, major corporate facilities, and larger residential complexes similarly operate their elevators under two-year permits.

LADBS management stated it does not offer a two-year permit option, citing an assumption that owners likely do not maintain full service maintenance contracts, and it would increase LADBS' administrative workload to verify the existence of such contracts. However, given the significant number of elevators and professionally-managed large building facilities in the City of Los Angeles, offering a two-year permit could be an appropriate way to maximize LADBS' inspection coverage by reducing the ongoing backlog of annual re-inspections, while reducing costs.

### Inspection Scheduling

HCID conducts inspections of rental units by grouping inspection locations by geographic neighborhood, to reduce time spent driving to and from inspection locations. In addition, HCID uses administrative staff to schedule inspections that require advance notice.

Currently, LADBS schedules its elevator re-inspections based upon the timing of the permit expiration; and inspectors are scheduling escalator re-inspections by serving owners with a notice that is hand-delivered. These processes could be streamlined, reducing LADBS' need for overtime to conduct annual re-inspections.

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<sup>27</sup> According to the State's Labor Code, Division 5, Part 3, Chapter 2, 7300.1 (p), "Full maintenance service contract" means an agreement by a certified competent conveyance company and the person owning or having the custody, management, or control of the operation of the conveyance, if the agreement provides that the certified competent conveyance company is responsible for effecting repairs necessary to the safe operation of the equipment and will provide services as frequently as is necessary, but no less often than monthly.

**Recommendation**

**LADBS management should:**

- 7.1 Consider implementing alternative practices for annual elevator re-inspections aimed at eliminating associated backlogs and overtime costs, such as:**
- a) Offering a two-year elevator permit program similar to the State of California.**
  - b) Using administrative staff to schedule inspections requiring advance notice.<sup>28</sup>**
  - c) Re-evaluating the location of all elevators and begin conducting inspections within neighborhoods (or geographic proximity) to reduce inspector travel times.**
  - d) After implementing other recommendations to improve efficiencies, hire additional elevator inspectors, if needed.**

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<sup>28</sup> If a two-year elevator permit program is implemented, LADBS should evaluate information contained on the elevator permits to ensure information does not become outdated during the during the two-year period (e.g., Mayor information).

## SCOPE AND METHODOLOGY

The primary objective of this audit was to evaluate the LADBS Elevator Inspection Program, examining the effectiveness and efficiency of internal processes, including scheduling and conducting inspections aimed at ensuring compliance with local and State elevator codes, and with industry standards. These codes and standards have been established to help ensure public safety.

We planned and performed the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. Audit fieldwork was primarily conducted from June through August 2017 and generally covered activities over a two-year period ending December 31, 2016.

In accordance with auditing standards and best practices, we conducted interviews and walkthroughs of processes, reviewed documents and performed data analysis and benchmarking, as noted below:

**Interviews and Walk-Throughs.** We conducted multiple interviews of LADBS management, accounting staff, and senior elevator inspectors. Further, we observed elevator inspectors while they completed a new elevator inspection, an annual elevator re-inspection, and an escalator re-inspection.

**Data Analysis and Documents Reviewed.** We completed a detailed analysis of both inspection and financial data related to elevator inspections to assist in identifying judgmental samples and to develop charts included in this report. We reviewed LADBS' tracking system used to ensure elevator inspectors maintain compliance with certifications by adhering to training requirements. Finally, we reviewed elevator complaint intake forms, elevator inspection policies, procedures, and forms, and existing monitoring or performance reports used by LADBS.

**Benchmarking.** We conducted multiple interviews of State inspectors and contacted representatives of elevator companies to identify leading practices. Further, we met with HCID inspectors to gain an understanding of their inspection process and tracking system.

# APPENDIX I: ELEVATOR INSPECTION FEES

Inspection Type	City Fees	State Fees	Unit/Hr.	Variance	Variance %
<b>Periodic Inspection Fees (Note 1):</b>					
Dumbwaiter	\$71	\$94	unit	(\$23)	(24%)
(with automatic transfer)	\$123	\$169	unit	(\$46)	(27%)
Sidewalk Elevator	\$162	\$169	unit	(\$7)	(4%)
Hand Elevator	\$58	\$94	unit	(\$36)	(38%)
Escalator and Moving Walk	\$162	\$506	unit	(\$344)	(68%)
Inclined Elevator	\$162	\$262	unit	(\$100)	(38%)
Hydraulic Elevator - Direct Plunger and Cabled	\$162	\$169	unit	(\$7)	(4%)
<b>Cabled Elevator:</b>					
3 landings or under	\$214	\$169	unit	\$45	27%
4 – 10 landings	\$214	\$262	unit	(\$48)	(18%)
11 – 20 landings	\$286	\$337	unit	(\$51)	(15%)
21 landings and over	\$357	\$413	unit	(\$56)	(14%)
Manlift	\$156	\$169	unit	(\$13)	(8%)
Vertical Platform (Wheelchair) Lift	\$71	\$94	unit	(\$23)	(24%)
Inclined Platform (Wheelchair) Lift	\$71	\$94	unit	(\$23)	(24%)
Stairway Chair Lift	\$71	\$94	unit	(\$23)	(24%)
Material Lift with Automatic Transfer Device	\$214	\$169	unit	\$45	27%
Vertical and Inclined Reciprocating Conveyor	\$214	\$169	unit	\$45	27%
Rack and Pinion Elevator	\$214	\$169	unit	\$45	27%
Special Purpose Personnel Elevator	\$214	\$169	unit	\$45	27%
Conveyance used for Construction	\$143	\$169	hr.	(\$26)	(15%)
<b>Other Inspection Fees:</b>					
Inspection of New Installation	\$143	\$169	hr.	(\$26)	(15%)
Inspection of any Alteration	\$143	\$169	hr.	(\$26)	(15%)
Replacement Inspections	\$143	\$169	hr.	(\$26)	(15%)
Field Consultation	\$143	\$337	hr.	(\$194)	(58%)
Order Prohibiting Use (Note 2)	\$0	\$506	unit	(\$506)	(100%)

Source: For City inspection fees, see LAMC Chapter IX, Article 2, Section 92.0126. For State inspection fees, see California Code of Regulations, Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 8 - Elevator Inspection Fee Schedule.

**Additional Notes:**

1. Each periodic inspection includes a maximum of two return inspection trips per Ordinance No. 171,185, effective July 22, 1996.
2. The State charges a \$506 per unit for orders prohibiting use. The City does not charge this type of fee.
3. Per LAMC Chapter IX, Article 8, Section 98.0406, LADBS, at its discretion can conduct inspections at other than normal working hours upon request by a permittee. An additional fee of \$100 per hour is charged for such inspections, which includes the time it takes to travel to and from the place of inspection, with a minimum of 3 hours being charged even if it takes less time to complete the inspection

## APPENDIX II: LADBS' SUBMITTED ACTION PLAN

As part of our audit protocol, we requested a formal response and action plan from LADBS prior to issuance of this report. Department management indicated their general concurrence with the findings and recommendations, and provided some clarifying comments that we considered as we finalized the report.

The Action Plan submitted by LADBS management is included on the following pages.

**STATUS OF DRAFT AUDIT RECOMMENDATIONS**

Audit Title  
 Draft Report Issuance Date:  
 Department responsible for Implementation:  
 Reported Status Date:

Elevator Inspection Program  
 12/11/2017  
 Building and Safety  
 12/21/2017

Finding Number	Summary Description of Finding	Rec. No.	Recommendation	DEPARTMENT REPORTED INFORMATION			
				Current Status	Basis for Status	% of Implementation	Target Date for Implementation
			LADBS management should:				
1	LADBS tracks elevator inspections through their Plan Check and Inspection System (PCIS), an inherited information system that lacks functionality to properly monitor elevator inspections, Orders to Comply (OTCs), accidents, and complaints, and to generate Elevator Inspection Program performance reports.	1.2	<i>Until a replacement information system for elevator inspections is fully implemented</i> , develop an electronic tracking system(s) to record pertinent information regarding OTCs, accidents, and all incoming complaints regarding elevator safety to help ensure they are appropriately addressed.	NYI	Temporarily develop and implement 3 excel forms. 1) For tracking all OTC's; 2) For tracking all accidents; and, 3) For tracking all complaints. Forms will be uploaded to a shared drive. Digital copies of the OTC, complaints, and completed accident reports will be uploaded into each folder.	0%	3/30/2018
		1.3	Ensure all elevator inspectors have access to PCIS in the field until the new information system is deployed. The new information system should also be accessible to elevator inspectors while in the field.	I	Currently, elevator inspectors have access to PCIS in the field and office just like all other LADBS inspection staff.	100%	N/A
		1.1	Prioritize implementing a new information technology system that allows for:				
		a.	Direct input of inspection and investigation results by elevator inspectors.	NYI	LADBS is currently working on the new Inspection and Code Enforcement systems to build the foundation for this new system.	0%	Mar 2019
		b.	Automatic generation of and monitoring of compliance with OTCs.	NYI	LADBS is currently working on the new Inspection and Code Enforcement systems to build the foundation for this new system. Elevator OTC will be the next phase.	0%	Mar 2019
		c.	Tracking of complaints regarding elevator safety.	NYI	LADBS is currently working on the new Inspection and Code Enforcement systems to build the foundation for this new system.	0%	Mar 2019
		d.	Tracking of the severity of reported injuries (e.g., fatalities, serious injuries, other visible injuries, complained of pain) sustained in elevator accidents, the cause of accidents (if determined), and corrective actions taken (if any). In addition, when applicable, an explanation of why the investigation was not completed within the required timeframe.	D	The nature and extent of injury/ies (when provided) are documented in the LADBS accident investigation report. The report is filled in by hand, re-typed in the office, reviewed by a supervisor, signed by both the inspector and the supervisor, and a hard copy is filed away by LADBS for records. LADBS does not validate the seriousness of injuries.	-	-
		e.	The generation of crucial reports to monitor the Elevator Inspection Program's performance.	PI	Requires a new PCIS program or similar, or modification to current.	50%	6/30/2018
		f.	The tracking of inspector time and the generation of invoices.	NYI	LADBS is currently working on the new Inspection and Code Enforcement systems to build the foundation for this new system.	0%	Mar 2019
g.	The use of bar code technology, such as QR codes on elevator permits, to interface with an enhanced version of LADBS' mobile app LADBS Go.	D	LADBS will be unable to maintain the integrity of bar codes on elevator permits posted in elevators as LADBS visits the property only once per year, and does not repair or maintain elevators. Bar codes will be subject to the daily wear and tear of operation including, but not limited to, theft, damage, and defacing.	-	-		

**STATUS OF DRAFT AUDIT RECOMMENDATIONS**

Audit Title  
 Draft Report Issuance Date:  
 Department responsible for Implementation:  
 Reported Status Date:

Elevator Inspection Program  
 12/11/2017  
 Building and Safety  
 12/21/2017

Finding Number	Summary Description of Finding	Rec. No.	Recommendation	DEPARTMENT REPORTED INFORMATION			
				Current Status	Basis for Status	% of Implementation	Target Date for Implementation
		1.4	Include a reminder message on annual re-inspection invoices reminding property owners of their duty, per LAMC Chapter IX, Article 2, Section 92.0116, to report accidents involving injuries, to remove the elevator from service, and to ensure the elevator equipment is not adjusted, repaired, or replaced until LADBS completes its investigation.	NYI	The Department will add a new letter for accident criteria to be included with all invoices. The letter will contain an excerpt from the LAMC Sec. 92.0116 informing property owners of their responsibilities which include reporting elevator accidents to LADBS.	0%	3/30/2018
2	Elevator Inspection Program policies and procedures should be enhanced to reduce the risk of errors.	2.1	Enhance the Elevator Inspection Program's policies and procedures by requiring inspectors to:				
		a.	positively affirm inspection of major areas of each elevator type, including the documentation of tag dates.	D	Safety Engineers are trained and certified to inspect all major areas of conveyances under the codes they were originally approved, or modified under. This practice is consistent with the State of California Elevator unit, which certifies the City of Los Angeles.	-	-
		b.	check in from the field at the end of their work shift.	NYI	LADBS Inspectors will call in each day at end of their shift; between 2:00 - 3:00 pm.	0%	3/30/2018
		c.	be periodically rotated (e.g., every three years) from inspecting the same elevators. This could be accomplished by rotating their assigned "district" zip codes.	PI	Elevator inspection staff are routinely rotated based on the operational demands and needs of the Department.	25%	12/1/2018
		2.2	Determine whether the practices recommended in 2.1 should be implemented by other LADBS inspection and code enforcement programs.	D	LADBS inspection staff are routinely rotated based on the operational demands and needs of the Department.	0%	12/1/2018



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Finding Number	Summary Description of Finding	Rec. No.	Recommendation	DEPARTMENT REPORTED INFORMATION			
				Current Status	Basis for Status	% of Implementation	Target Date for Implementation
3	LADBS' Elevator Accident Investigation Report does not collect certain pertinent information collected by the State's accident investigation reports.	3.1	Expand the Elevator Accident Investigation Report to include additional information collected by the State's Elevator Accident Notification Report.	NYI	LADBS will create a new digital accident report to include the items that the State of California uses that are not currently on City of Los Angeles accident reports.	0%	6/30/2018
4	LADBS does not sufficiently advertise how to report complaints regarding elevator safety, and it does not always notify complaining parties about the results of their complaints.	4.1	Include on elevator permits information that describes how to report elevator safety concerns.	D	This may cause confusion with the public during an actual emergency. They may attempt to contact the number posted on permit to report safety concerns, when they should be using the 24 hour communication devices present in the elevator as required by code.	-	-
		4.2	In developing the new information system to be used for elevator inspections, consider adding the ability for a reporting party to view the results of their complaint. In the short-term, consider implementing a standard process to notify reporting parties of the results of the investigation of their elevator safety complaint.	NYI	The Department is currently working on the new Inspection and Code Enforcement systems that will include an added feature for the reporting party to view the results of their complaint. Implementing a standard process to notify reporting parties of the results of the Department's investigation of their elevator safety complaint in the short-term is not feasible at this time.	0%	Mar 2019
5	LADBS has not completed a fee study or updated its elevator inspection fees since 2008.	5.1a	Complete the elevator inspection fee study.	I	The fee study has been completed and is currently pending review and approval by management.	95%	12/31/2017
		5.1b	Draft ordinance to update fees and periodically monitor inspection fees to ensure they support the full costs of operations.	PI	The ordinance has been drafted and is pending review and approval by management. Periodic monitoring of the fees will be done on an annual basis.	85%	1/31/2018
		5.2	Evaluate the prospect of charging a fee for inspections prompted by an elevator safety complaint, when the related inspection(s) identify a related safety violation. The results of this evaluation should be documented.	PI	The fee study is currently in process and being finalized. The study has not yet been submitted to management for review and approval.	70%	3/31/2018
6	LADBS does not adequately enforce payment of elevator inspection fees, and has written off more than \$373,000 of such fees between 2011 and 2014.	6.1	Explore and implement other options to enhance collection of unpaid invoices including enforcing stricter consequences for non-payment of inspection fees, and using the City's ACE Program.	PI	The Department has previously explored using different methods to enhance the collection of unpaid invoices, including ACE. The Department has determined that none of these methods were feasible. The Department has drafted an ordinance that will enforce stricter consequences for non-payment of inspection fees. The ordinance is currently pending review and approval by management.	85%	1/31/2018

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7	LADBS staff incurs significant overtime hours to reduce its backlog of annual re-inspections, but other options should be explored to reduce the inspection backlog and overtime costs.	7.1	Consider implementing alternative practices for annual elevator re-inspections aimed at eliminating associated backlogs and overtime costs, such as:				
			a. offering a two-year elevator permit program similar to the State of California.	D	The LAMC for Elevators Sec 92.0203 does not adopt the California Code of Regulations Title 8, Division 1, Chapter 4, Subchapter 6 Code 3001(b)(4). The LAMC provides for greater safety and effectiveness with its annual inspection program.	-	-
			b. using administrative staff to schedule inspections requiring advance notice.	NYI	Clerical Staff in the Elevator Inspection Division will be trained to schedule inspections requiring advance notice.	0%	3/30/2018
			c. re-evaluating the location of all elevators and begin conducting inspections within neighborhoods (or geographic proximity) to reduce inspector travel times.	PI	The current thirteen (13) elevator inspection districts are in concise areas. The Department plans on expanding to sixteen (16) or seventeen (17) districts.	50%	6/30/2018
			d. after implementing other recommendations to improve efficiencies, hire additional elevator inspectors, if needed.	PI	LADBS will start by filling all Safety Engineer vacancies. The Department believes that overtime is the most cost effective option available by avoiding additional full-time positions that would incur additional related pension and overhead costs. The City Administrative Office (CAO) and City Council have also urged LADBS to use overtime funding whenever feasible to eliminate the need to pay for costly pensions and related costs.	50%	12/1/2018

I - Implemented  
 PI - Partially Implemented or In Progress  
 NYI - Not Yet Implemented  
 D - Disagree