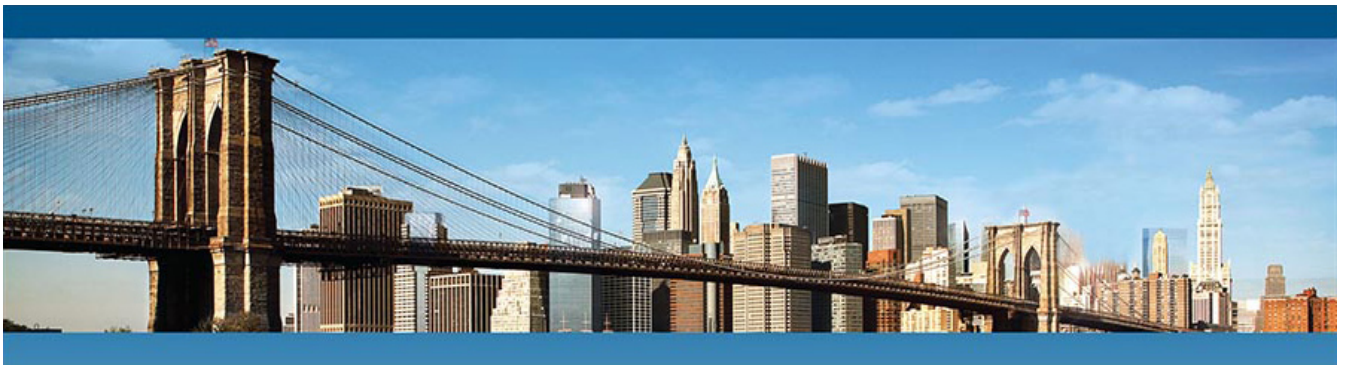


City of New York

OFFICE OF THE COMPTROLLER

Scott M. Stringer
COMPTROLLER



MANAGEMENT AUDIT

Marjorie Landa

Deputy Comptroller for Audit

Follow-up Audit Report on the
Department of Transportation's
Installation and Maintenance of Street
Name Signs

MD19-082F

August 13, 2020

<http://comptroller.nyc.gov>



THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
SCOTT M. STRINGER

August 13, 2020

To the Residents of the City of New York:

My office has audited the New York City Department of Transportation (DOT) to determine whether it implemented the six recommendations made in the prior audit report relating to the installation and maintenance of street name signs. We conduct follow-up audits such as this as a means to increase accountability and to ensure that agencies take appropriate actions to address identified program weaknesses.

Of the six prior audit recommendations, the audit determined that DOT implemented one recommendation to ensure that work orders are approved and partially implemented a second recommendation that it continue its efforts to develop a methodology for tracking and documenting intersections where street name sign surveys have been conducted. However, DOT did not implement the four remaining recommendations that it: (1) document its full inventory of standard street name signs; (2) develop a comprehensive plan for identifying street name signs needing repair or replacement; (3) ensure that all complaints received through 311 are investigated and addressed; and (4) establish time standards for addressing street name sign repairs/replacements. Further, this follow-up audit identified additional weaknesses in DOT's controls over street name sign installations, including that 311 complaints were not consistently recorded and mapped in its GIS database and that some complaints were recorded in the GIS database without the requisite service request numbers.

The audit made nine recommendations, including that DOT document its complete inventory of standard street name signs; develop a comprehensive plan for identifying street name signs needing repair or replacement; investigate and address street name sign-related 311 complaints in a reasonable time frame; establish time standards for addressing street name sign repairs and replacements; strengthen its controls over the complaint mapping process; and ensure that service request numbers are appropriately exported to the GIS map.

The results of the audit have been discussed with DOT officials, and their comments have been considered in preparing this report. Their complete written response is attached to this report.

If you have any questions concerning this report, please e-mail my Audit Bureau at audit@comptroller.nyc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott M. Stringer".

Scott M. Stringer

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CITY OF NEW YORK OFFICE OF THE COMPTROLLER MANAGEMENT AUDIT

Follow-up Audit on the Department of Transportation's Installation and Maintenance of Street Name Signs

MD19-082F

EXECUTIVE SUMMARY

The objective of this audit was to determine whether the Department of Transportation (DOT) implemented the six recommendations made in the prior audit report relating to the installation and maintenance of street name signs.

DOT's mission is to provide for the safe, efficient, and environmentally responsible movement of people and goods in the City of New York, particularly on its streets, highways, bridges, and waterways. DOT installs both large overhead and standard street name signs. Large overhead street name signs are located at the intersections of major, high-capacity, arterial roads and in commercial districts, while standard street name signs are located at every street corner. This audit focused on DOT's maintenance of standard street name signs, only. DOT estimates there are approximately 250,000 standard street name signs in New York City.

DOT identifies issues involving street name signs mainly through complaints. Complaints from the public, elected officials, and City agencies regarding the condition and absence of both standard and overhead street name signs are received by DOT directly (through email, United States Postal Service mail, and phone calls) and through New York City's 311 service. Typical complaints involve missing, dangling, damaged, blocked, or faded street name signs. Repairs generally involve replacing the signs.

A prior New York City Comptroller's Office audit was conducted to determine whether DOT adequately tracks its maintenance efforts with respect to street name signs in compliance with its own internal guidelines. That audit found significant deficiencies in DOT's maintenance efforts and tracking of street name signs; see *Audit Report on the Department of Transportation's Installation and Maintenance of Street Name Signs* (Audit # MD17-063A), issued on June 30, 2017. The 2017 audit report included six recommendations to address the weaknesses found. In this report, we discuss the implementation status of each of those six recommendations, as well as some additional issues identified during our audit testing.

Audit Findings and Conclusion

Of the six prior audit recommendations, we determined that DOT implemented one recommendation, partially implemented a second recommendation, and did not implement four

others. Specifically, DOT implemented the recommendation that it ensure that work orders are approved before being sent to the contractor and partially implemented the recommendation that it continue its efforts to develop a methodology for tracking and documenting intersections where street name sign surveys have been conducted. However, DOT did not implement the four remaining recommendations: that it (1) take steps to identify and document its full inventory of standard street name signs throughout the City; (2) develop a comprehensive plan for conducting surveys to identify street name signs that need to be repaired and replaced throughout the City; (3) establish protocols to ensure that 311 complaints are investigated and addressed in a reasonable time frame; and (4) establish time standards for addressing street name sign repairs/replacements once the need has been identified and regularly monitor how well it is meeting those standards.

While examining the implementation status of the previous recommendations, we identified additional weaknesses in DOT's controls over street name sign installations. Specifically, we found that the complaints DOT received through the 311 service were not consistently recorded and mapped in its GIS database. We also found that 35 of 50 sampled complaints were recorded in the GIS database without service request numbers.

Audit Recommendations

Based on the audit, we make nine recommendations, including:

- DOT should take steps to (1) identify and document its complete inventory of standard street name signs throughout the City and (2) develop protocols to periodically update its records to reflect changes in a timely manner.
- DOT should develop a comprehensive plan for conducting surveys to identify street name signs that need to be repaired or replaced throughout the City, and regularly monitor its implementation of that plan.
- DOT should establish procedures to ensure that 311 complaints regarding street name signs are investigated and addressed in a reasonable time frame.
- DOT should develop a system to track intersections that it surveys using its web-based system where it finds that no work is needed.
- DOT should establish time standards for addressing street name sign repairs and replacements once the need for them has been identified, and regularly monitor how well it is meeting those standards.
- DOT should strengthen its controls over the mapping process to ensure that the GIS database is regularly updated to include all complaints the agency receives through the 311 system and ensure that the GIS database is regularly reviewed for completeness and accuracy in reflecting the status of all such complaints and the corresponding surveys and work orders.
- DOT should ensure that service request numbers are appropriately exported to the GIS map so that it can track and report complaint dispositions.

Agency Response

DOT disagreed with our assessment of the implementation status of the previous audit's recommendations pertaining to issues that we found still exist. Accordingly, DOT also appears to disagree with the need for the five recommendations in this audit that pertain to those issues.

With regard to the four new recommendations made in this report, DOT agreed with one recommendation and partially agreed with two recommendations. DOT disagreed with the remaining recommendation that it ensure that service request numbers are exported to the GIS map so that the agency can track the disposition of complaints.

INTRODUCTION

Background

DOT's mission is to provide for the safe, efficient, and environmentally responsible movement of people and goods in the City of New York, particularly on its streets, highways, bridges, and waterways. DOT installs both large overhead and standard street name signs. Large overhead street name signs are located at the intersections of major, high-capacity, arterial roads and in commercial districts, while standard street name signs are located at every street corner. This audit focused on DOT's maintenance of standard street name signs, only. DOT estimates there are approximately 250,000 standard street name signs in New York City.

DOT prioritizes repairs to signs that have a direct impact on safety, such as Stop, One Way, Do Not Enter and Yield signs. Priority repairs also include street name signs that are missing, where their absence causes confusion for drivers and pedestrians, and street name signs in a condition that represents an emergency condition, such as those that are dangling. DOT identifies issues involving street name signs mainly through complaints and surveys of geographical locations. Complaints from the public, elected officials, and City agencies regarding the condition and absence of both standard and overhead street name signs are received by DOT directly (through email, United States Postal Service mail, and phone calls) and through New York City's 311 service. Typical complaints involve missing, dangling, damaged, blocked, or faded street name signs. Repairs generally involve replacing the signs.

DOT follows two different protocols to address complaints regarding street name signs, one for complaints it receives directly, and the other for complaints it receives from the City's 311 service (311 complaints). DOT uses its Agency Response Tracking System (ARTS) to enter and track the complaints it receives directly (identified as ARTS complaints). DOT prioritizes these complaints, addresses each such complaint individually, conducts a survey, and responds by letter to each complainant within 14 days after the complaint is received. By contrast, for complaints made through 311, under DOT's internal procedures, there is no time frame for conducting a survey, and written responses are not required. DOT maps 311 complaints in a Geographic Information System (GIS) database in an effort to identify geographical areas of the City that likely need replacement or maintenance of street name signs—based on the number of complaints received—and will survey the intersections in such areas. However, when receiving 311 complaints regarding street name signs, DOT's Transportation Planning and Management (TPM) divisions identify and prioritize public health hazards (e.g., dangling signs, and instances where all signs at the intersection are missing or faded). DOT does not map ARTS complaints.

For this audit we obtained the numbers of complaints involving street name signs that DOT received, both directly and through the 311 service, in a period of approximately 20 months. Specifically, DOT received 5,187 complaints concerning street name signs through the 311 system from July 1, 2017 through February 12, 2019, and 387 ARTS complaints for the period of July 13, 2017 through February 12, 2019.

In addition to ARTS, DOT uses several computer systems for processing complaints and the corresponding work orders regarding street name signs. To process work orders, the agency uses both an Access database and a new web-based system, the Street Name Signs (SNS) Management System. To map and track all 311 complaints, DOT uses the GIS asset management system. To prevent the creation of duplicate work orders, DOT uses the EZ Node Check system.

The 311 service categorizes complaints concerning street name signs as either urgent (emergency) or normal (non-emergency) complaints.¹ Non-emergency complaints are sent directly from the 311 service to DOT's Street Name Sign unit. Emergency complaints involving street name signs are sent directly from the 311 service to DOT's Transportation Control and Engineering (TCE) unit.

DOT's TCE in-house maintenance staff handles emergency 311 complaints directly. DOT's Street Name Sign unit manages non-emergency 311 complaints through a combination of surveys by DOT staff and, where those surveys identify intersections with missing or damaged street name signs, an outside vendor performs the necessary installation or repair. DOT issues work orders to the contractor and tracks them through the Access database for street name signs referred to above.

DOT currently uses two different processes for recording street name sign surveys: a paper-based process in which inspectors record survey results on hardcopy work orders that are subsequently entered into the Access database for street name signs; and the new web-based SNS Management System, in which inspectors record their survey results directly into the system using DOT-issued cellphones. Our audit focuses on the paper-based system, because the web-based system has not been fully implemented and so DOT still relies on the paper-based system.²

Under the paper-based system, the survey process starts with a DOT inspector conducting a survey of the street name signs in the location referenced in the complaint to assess whether work needs to be done. DOT also refers to this type of survey as a "pre-inspection," meaning that it determines whether a work order should be issued to the contractor to repair or install a street name sign. If the pre-inspection shows that work is needed, the inspector checks the EZ Node Check system to determine whether a work order for the location and condition the inspection identified was already issued to avoid creating duplicate work orders. If no work order exists, the inspector prepares a work order, which is then reviewed and approved by the Director or the Director's designee. The approved work orders, which are picked up by the contractor, direct the contractor to proceed with the manufacturing and installation or maintenance and repair of the designated signs.

After completing the necessary installations or maintenance of the signs, the contractor sends the completed work orders to the DOT Street Name Sign Director via email and drops off the completed hardcopies. DOT inspectors then conduct post-installation inspections, also called field checks, and record the relevant information on the hardcopy work orders. The contractor then picks up the completed work orders and prepares an invoice to submit to DOT for payment, with the completed work orders covered by the invoice. Subsequent to June 30, 2017, DOT also implemented a data-entry form it calls the "Completion Date and Post Inspection Update Form" that its inspectors are supposed to use to record required information concerning the contractor's completion and DOT's inspection of the work required for each work order, which is then entered into the Access database. (DOT officials were not able to provide the exact date when this form was implemented.)

A prior New York City Comptroller's Office audit was conducted to determine whether DOT adequately tracks its maintenance efforts with respect to street name signs in compliance with its own internal guidelines. That audit found significant deficiencies in DOT's maintenance efforts

¹ A complaint is considered an emergency if: (1) an intersection has no street name signs; (2) an intersection lacks at least one complete set of signs (one sign for each street); or (3) the intersection has a dangling sign.

² The New York City Department of Information and Telecommunications (DoITT), in consultation with DOT's TPM division, is in the process of implementing the web-based system to replace the Access database.

and tracking of street name signs; see *Audit Report on the Department of Transportation's Installation and Maintenance of Street Name Signs* (Audit # MD17-063A), issued on June 30, 2017. The 2017 audit report included six recommendations to address the weaknesses found. In this report, we discuss the implementation status of each of those six recommendations, as well as some additional issues identified during our audit testing.

Objective

To determine whether DOT implemented the six recommendations made in the prior audit report relating to the installation and maintenance of street name signs.

Scope and Methodology Statement

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

The primary scope of this audit was July 1, 2017 through June 30, 2019. Our street name sign observations were conducted between September 25, 2019 and October 4, 2019.

Discussion of Audit Results with DOT

The matters covered in this report were discussed with DOT officials during and at the conclusion of this audit. A preliminary draft report was sent to DOT and discussed at an exit conference held on April 8, 2020. On June 16, 2020, we submitted a draft report to DOT with a request for comments. We received a written response from DOT on July 10, 2020.

DOT disagreed with our assessment of the implementation status of the previous audit's recommendations pertaining to issues that we found still exist. Accordingly, DOT also appears to disagree with the need for the five recommendations in this audit that pertain to those issues. Specifically, DOT appears to disagree that it still needs to (1) identify its full inventory of standard street name signs; (2) develop a comprehensive plan for identifying street name signs needing repair or replacement; (3) ensure that 311 complaints are investigated and addressed in a reasonable time frame; (4) use its web-based system to track intersections where no work is needed; and (5) establish time standards for repairing or replacing street name signs once the need has been identified.

With regard to the four new recommendations made in this report, DOT agreed with one (#9—enter all critical street name sign information in the Access database) and partially agreed with two (#6—ensure that the GIS database is regularly updated and reviewed for accuracy, and #8—ensure that critical information is recorded on hardcopy work orders and in all relevant databases). DOT disagreed with the remaining recommendation (#7—ensure that service request numbers are exported to the GIS map so that complaint dispositions can be tracked).

DOT stated in its response,

We disagree with the results of the report findings and conclusions in several respects. Although DOT repeatedly advised the auditors of our disagreement and provided clarifying documentation for their review to address discrepancies contained within the Draft Audit Report, the findings and conclusions reached remain largely unchanged.

However, to the extent that DOT provided documentation that sufficiently clarified a finding, we modified that finding accordingly. For example, we removed a finding regarding an intersection that had no signs present after DOT provided sufficient evidence that this intersection was a private street and not under its jurisdiction. Unfortunately, in most instances, the documentation provided by DOT did not warrant any modifications of our findings. For example, DOT provided repair orders in an attempt to rebut our finding that only 4 of 50 sampled complaints were addressed by the agency. However, the repair orders that DOT provided did not indicate the specific work completed so we were unable to verify that the complaints in question were in fact addressed. After carefully reviewing DOT's arguments, we find no basis to alter any of the report's findings or conclusions.

The full text of DOT's response is included as an addendum to this report.

RESULTS OF FOLLOW-UP AUDIT

Of the six prior audit recommendations, we determined that DOT implemented one recommendation, partially implemented one recommendation, and did not implement four recommendations.

Previous Finding: “DOT is Unable to Identify Its Full Inventory of Street Name Signs Located throughout the City”

The 2017 audit found that DOT did not have a full inventory of standard street name signs located throughout the City. DOT officials stated that the agency did not maintain a database with such an inventory prior to 2013. Moreover, the 2017 audit found the then-current database included only a list of the installations and replacements of street name signs since 2013. DOT estimated the number of standard street name signs in all five boroughs to be approximately 250,000, stating that it was “based on what standards call for and the number of streets and intersections.” During the prior audit, DOT could provide a complete list of street name signs for only Staten Island and was unable to do the same for the other four boroughs.

Previous Recommendation #1: “DOT should take steps to (1) identify and document its complete inventory of standard street name signs throughout the City and (2) develop protocols to periodically update changes to its records in a timely manner.”

Previous DOT Response: “DOT disagrees with this recommendation because steps are underway to identify and document a complete inventory of SNSs. We do not believe it is practical, realistic, or cost effective to conduct a complete survey of all 250,000 signs throughout the City outside of our normal operations. Currently, DOT is able to identify all street name sign locations within intersections throughout the City and will continue this process to obtain a more complete listing of signs while conducting installation and maintenance efforts.

DOT disagrees with this recommendation because TPM's system automatically updates all changes to records as the installation and maintenance process is completed. As our system develops we will consider the need to establish additional protocols.”

Current Status: NOT IMPLEMENTED

Based on our walkthroughs and observations in this follow-up audit, we concluded that DOT has not established new protocols and has not taken any steps to identify and compile a comprehensive citywide inventory of all street name signs. According to DOT officials, the agency does not track its complete inventory of street name signs but does track its inventory of signs that meet the requirements, effective January 15, 2010, of the Federal Highway Administration’s Manual on Uniform Traffic Control Devices (MUTCD) for upper and lower case letters. (As of January 2019, that category of DOT’s street name signs numbered approximately 75,000.) No protocols have been developed to periodically update changes to DOT’s records of street name signs in a timely manner. Consequently, without a complete inventory of existing signs, DOT cannot accurately track the status of its hundreds of thousands of signs, including those in a state of good repair and those needing replacement. As stated by the U.S. Department of Transportation’s Federal Highway Administration (FHWA) in its January 2010 publication, *Maintenance of Signs and Sign Supports*, “knowing what signs are on [the] roads allows [an] agency to develop a systematic sign maintenance program.”

Previous Finding: “DOT Does Not Have a Comprehensive Plan for Identifying All Street Name Signs Needing Replacement”

The 2017 audit found that DOT had no written guidelines for the replacement of street name signs. As a result, DOT’s daily work plan was generally based on the Director’s personal judgment, which effectively determines the prioritization of complaints. While DOT did and continues to map complaints for its use as a resource in identifying areas of the City having a high likelihood of street name sign replacement needs, some areas with low numbers of complaints may never be surveyed in the absence of a comprehensive plan. Consequently, neighborhoods needing street name sign replacements but lacking high numbers of complaints will inevitably be underserved.

Previous Recommendation #2: “DOT should develop a comprehensive plan for conducting surveys to identify street name signs that need to be repaired/replaced throughout the City, and regularly monitor its implementation of that plan.”

Previous DOT Response: “Disagree.”

DOT has a plan for conducting surveys to identify SNSs that need to be repaired and replaced throughout the City.”

Current Status: NOT IMPLEMENTED

DOT has not developed a written comprehensive plan for conducting surveys that identifies all street name signs in need of replacement. Instead, DOT continues to rely on the judgment of the Director of the Street Name Sign unit in determining where to conduct surveys based largely on clusters of 311 complaints. With the exception of ARTS complaints—a relatively small proportion of the complaints DOT receives, each of which is addressed individually—DOT’s daily work plan, as of June 30, 2019, was still based principally on the Director’s individual judgment, which effectively determines how complaints are prioritized. The shortcomings of this method of assigning resources include the possibility that areas with comparatively low numbers of complaints may never be surveyed and that neighborhoods in those areas that need sign replacements, notwithstanding the low numbers of complaints, will inevitably be underserved.

Subsequent to the exit conference, DOT stated that it has implemented multiple measures for developing a comprehensive plan for conducting surveys. Such measures include immediately addressing urgent street name sign conditions and developing procedures for managing street name sign contractors. However, the audit showed that complaints that concern urgent conditions are not always correctly categorized as such, which may hinder their timely mitigation. Additionally, the measures DOT refers to do not include a comprehensive plan for conducting surveys.

DOT also indicated that it plans to replace all street name signs in the City with MUTCD-compliant signs, but DOT has not yet provided evidence that it has developed a written comprehensive plan to ensure that it replaces all of them, especially since it does not maintain a complete inventory of street name signs.

Previous Finding: “DOT Does Not Have Adequate Procedures to Ensure That All 311 Complaints Are Addressed”

The 2017 audit found that while DOT established a procedure to address all ARTS complaints, it did not establish a similar procedure for complaints received through 311. It is DOT’s policy that

the location referenced in each ARTS complaint must be surveyed and that the Department will thereafter send a letter to the complainant within 14 days of DOT's receipt of the complaint. In contrast, however, DOT did not require that the areas referenced in 311 complaints be surveyed, nor did the agency send letters to the complainants. Rather, DOT conducted surveys of only those areas, and surrounding areas, for which it had received clusters of 311 complaints.

In the previous audit it was noted that DOT focused its surveys in areas with large clusters of 311 complaints. When 311 complaints were received, the agency batch-closed them and entered their locations into DOT's mapping system to identify areas referenced in a large number of complaints.³ Those were the areas in which DOT conducted surveys. However, under that protocol, persons who called 311 to complain about a defective street name sign were unaware that DOT would generally take no action to determine whether the complaint was valid unless the sign was located in an area in which the agency had received a number of other complaints concerning street name signs.

According to the prior audit, even when 311 complaints were surveyed, DOT did not have a system for tracking whether the signs needing replacement were replaced. DOT acknowledged that once the complaints were batch-closed, the agency did not track the resolution of specific complaints. In response to the previous auditors' request for a list of the 311 complaints open at any point during the previous audit's scope period (July 1, 2015 through September 30, 2016), DOT stated that determining whether an individual 311 complaint was responded to would require "going through each 311 from that period and determining if it is a match with work performed — a very time consuming process." The previous audit team selected a sample of 75 complaints that DOT received through 311 during Fiscal Years 2014 through 2016 and asked DOT how they were resolved. Of the 75 complaints, new street name signs were installed in connection with 22 (29 percent) of them. For the remaining 53 complaints that DOT received through 311 and that had no installations of new street name signs, DOT was unable to determine whether (1) surveys were done and revealed that no signs were needed or (2) surveys were never done.

Previous Recommendation #3: "DOT should establish procedures to ensure that 311 complaints regarding street name signs are investigated and addressed in a reasonable time frame."

Previous DOT Response: "Disagree."

DOT uses 311 complaints to inform, not direct workflow. Based on our experiences with the inefficiencies of the 311 system, DOT addresses the substance of each valid complaint. DOT investigates and assigns a high priority to any 311 complaint which involves public safety. TPM enters complaints into their mapping system as a tool to plan future surveys in an efficient manner."

Current Status: NOT IMPLEMENTED

DOT has not developed procedures to ensure that 311 complaints regarding street name signs are investigated and addressed in a reasonable time frame. According to DOT officials, they have not established time frames to address 311 complaints due to a lack of contract capacity and resources. However, dangerous SNS conditions are addressed in nine business days according to TCE officials. (DOT's goal is to repair all safety-related signs within nine business days.)

³ Batch closing results in numerous complaints being closed at the same time in 311 prior to being investigated and, if needed, addressed.

A review of 50 sampled 311 street name sign complaints—25 received by DOT in July 2017 and 25 received in January 2018—found evidence based on DOT work orders that only 4 had been surveyed by DOT as of September 27, 2019.

DOT provided insufficient evidence that it addressed the remaining 46 complaints—over 26 months for the July 2017 complaints and 20 months for the January 2018 complaints. We observed the street name sign conditions for all 50 sampled complaints. Based on our observations, we identified conditions relating to street name signs that needed correction at 30 (60 percent) of the 50 intersections. Conditions found included missing and damaged street name signs.

According to DOT officials, there is an estimated backlog of 5,000 work orders to be processed and none of the 98 districts in the City have been completely surveyed.⁴

In addition, as of June 30, 2019, DOT still did not have a process for tracking whether the signs needing replacement were replaced. DOT was still batch-closing 311 complaints and did not track the resolution of specific complaints. When we brought this issue to the attention of DOT officials, we were informed that as of July 1, 2019, TCE has implemented procedures for tracking the resolutions of 311 complaints and that complaints received after that date will be individually tracked and addressed. We asked DOT officials how and where the resolutions of 311 complaints are being tracked, but DOT did not provide a response.

Though requested, DOT provided no evidence during the course of the audit that it had satisfactorily addressed 46 of the 50 sampled complaints. Subsequent to the exit conference, however, DOT agreed that 16 of the 46 were still not addressed and claimed that 30 were either addressed or required no action on the agency's part. According to DOT:

- 18 complaints were reportedly resolved by Borough Engineering—however, DOT did not provide repair orders for 2 of them. In addition, the repair orders DOT provided as support for 16 of the complaints that it contended were resolved did not indicate the specific work that was completed. Instead, generally, the repair orders simply noted that a street name sign at the intersection was dangling with no indication that any particular street name sign was repaired or replaced. Further, of the 16 repair orders DOT provided, two were for intersections that were different from the ones cited in the complaints, three repair orders had different service request numbers than the ones in the sampled complaints, and two repair orders did not include a service request number with which to identify the complaint.
- Eight complaints were reportedly addressed by the contractor—the contractor reportedly conducted the fieldwork for all of them, including one installation—prior to the complaint dates. However, in the instance where the contractor performed an installation prior to the date that the complaint was received, DOT should have resurveyed the intersection identified in that complaint. We identified issues at the intersections relating to two of these eight complaints when we conducted our observations.
- One other complaint was also addressed by the contractor—however, DOT did not provide a fieldwork date or work/repair order for this complaint.
- Two complaints required no repair-related efforts—one complaint was not sign-related but instead concerned Verizon equipment, and one sign was for a “local law” street name sign (an unofficial ceremonial street name sign co-naming the street), and DOT claimed that

⁴ According to DOT, there are 98 districts in the City.

all “local law” signs have since been removed from this location. However, DOT provided no evidence (e.g., repair orders or repair notes) to support these assertions.

- One complaint regarded a missing sign on a private street for which DOT has no jurisdiction.⁵

Regarding the last above-mentioned complaint, DOT closed it out without informing the complainant that it was not responsible for installing or replacing street name signs at that intersection. In fact, DOT instead closed out this service request in the City’s 311 system with an indication that it “plans to add this location into a future work schedule for street name sign replacement.” Had DOT properly notified the complainant that it was not responsible for replacing the street name sign, the complainant would have known that it would be necessary to pursue other remedies to have the missing sign replaced.

Previous Finding: “DOT Does Not Have a System in Place to Track Areas That Have Not Been Surveyed”

The prior audit found DOT did not have a database that tracks intersections and areas of the City where street name sign surveys had already been conducted. The agency’s GIS mapping software only highlighted intersections where street name signs needed replacement. When the prior auditors asked, DOT was unable to provide a list of areas and intersections where surveys had been conducted. While the agency could identify specific intersections where signs needed to be replaced, it could not identify intersections and areas that had previously been surveyed.

Previous Recommendation #4: “DOT should continue its efforts to develop a methodology for tracking and documenting the intersections and areas of the City where street name sign surveys have been conducted.”

Previous DOT Response: “Agree.

The implementation of new systems has allowed DOT to track and document the intersections and areas of the City where it has conducted street name sign surveys. We will continue to make adjustments to our process as the need arises.”

Current Status: PARTIALLY IMPLEMENTED

DOT uses the GIS system to track and document intersections that have been surveyed by the use of a system of seven different colored symbols. Stages of the street name sign process are tracked for intersections throughout the City. (The different symbols are discussed on page 19 of this report.) Under the paper-based system, if an inspector determines after surveying the intersection that the signs are in good condition, a symbol is placed on the GIS map to indicate that no work is needed. However, no such symbol is entered if similar conditions are observed during surveys conducted under the web-based system. Consequently, intersections that were surveyed under the web-based system and found in good condition would not be identified on the map, making it difficult for map users to distinguish between intersections that were surveyed and determined not to need repair work and intersections that were never surveyed. In addition, we identified issues with the reliability of DOT’s mapping, which are discussed in more detail later in the report.

⁵ DOT provided an email from the Queens Topographical Bureau which stated that Samantha Drive from Mott Avenue to Bay 24th Street is not mapped and therefore not incorporated on the Official City Map and that the City does not have title to this street.

Previous Finding: “DOT Has No Time Frames for Repairing Street Name Signs Once Surveys Are Conducted”

The 2017 audit found that the majority (85 percent) of the sampled work orders were entered in DOT’s database within 30 days; however, in 42 instances DOT took over 200 days to enter work order information in the database after the surveys were completed. In addition, in 23 instances, DOT took over 100 days to approve work orders after they were entered in the database. DOT did not appear to consider the age of the work orders to be a determining factor in approving them. The previous audit report stated that as of January 26, 2017, some work orders prepared in 2015 still had not been approved, while work orders prepared in 2016 had been approved.

The prior audit also found that 143 (44 percent) of the 325 work orders delivered to the contractor were sent before being approved.

Previous Recommendation #5: “DOT should establish time standards for addressing street name sign repairs/replacements once the need for repairs/replacements has been identified, and regularly monitor how well it is meeting those standards.”

Previous DOT Response: “Partially Agree.

Although the FHWA and MUTCD have established best practices, they do not mandate time standards for addressing SNSs repairs and replacements. Once DOT brings its entire inventory up to standard, DOT will evolve to a fully data-driven model for cyclic replacement of the inventory. DOT will evaluate the need to establish time standards based upon industry best practices.”

Current Status: NOT IMPLEMENTED

With the exception of the complaints DOT receives directly and tracks through ARTS—a relatively low proportion of the complaints DOT receives concerning street name signs—DOT has still not established time frames for repairing street name signs once surveys are conducted. Without time standards, DOT is hindered in monitoring its timeliness in completing the various phases in the repair and replacement process. This, in turn, may lead to an avoidable increase in the number of backlogged work orders and may pose an increased safety risk relating to those instances where replacements are considered an emergency.

Our review of 309 hardcopy work orders revealed that an average of 125 business days (ranging from 70 to 765 business days) elapsed between a DOT inspector’s preparation of those work orders and their approval by the Director of DOT’s Street Name Sign unit—two internal steps that are supposed to be taken before the work order is assigned to the contractor for the repair or replacement of a street name sign. We also found that it took DOT an average of 213 days (ranging from 116 to 1,063 days) to process work orders from the survey date to the date of DOT’s post-installation inspection to verify that the contractor completed the required work.

In addition, a review of 29 work orders associated with 29 intersections associated with our 50 sampled complaints found that one took over two calendar years, and another took over three calendar years, to be approved. DOT’s records contained no justification for the delays.

Our review of DOT’s Six Month Flag Report generated on March 27, 2019, indicated that 348 work orders had been outstanding for 275 business days or longer, including 23 work orders that

were outstanding for over 15 months.⁶ According to DOT, in 2019, a backlog of approximately 5,000 work orders remained in the system at year's end.

Previous Recommendation #6: "DOT should ensure that all work orders are approved prior to sending them to the contractor for sign installation."

Previous DOT Response: "Partially Agree."

DOT agrees that all work orders need to be approved by an authorized signatory. In fact, despite the finding, DOT ensures approval of all work orders prior to sending them to the contractor for sign installation. The audit conducted a paper review of the work order form without considering the transmittal of the work order to the contractor, which is done by email with the proper instruction to the contractor to install the signs by the authorized signatory. The email documents the authorization and constitutes a compensating control which demonstrates that TPM authorizes all work orders."

Current Status: IMPLEMENTED

A review of 309 work orders sent to the contractor indicated that all were approved prior to being sent for sign installation and repairs.

Recommendations

To address the issues that still exist, we recommend the following:

1. DOT should take steps to (1) identify and document its complete inventory of standard street name signs throughout the City and (2) develop protocols to periodically update its records to reflect changes in a timely manner.

DOT Response: In its response, DOT explicitly disagrees with our assessment that the previous audit's identical recommendation was not implemented and asserts instead that it was "partially implemented." While the agency does not explicitly state whether it agrees or disagrees with the current recommendation, its response implies that it disagrees with the need for it. DOT states, "NYCDOT disagrees with the implementation status assigned to this recommendation. The following actions and protocols towards documenting a complete inventory of street name signs have been taken:

- 1) Over 93,000 street name signs have been installed since January 2010. The location, type of sign and installation date of these installations are all on file. These are the signs that meet the MUTCD requirements for upper and lower case letters and this represents more than 37% of the approximate 250,000 street name signs installed citywide."

Auditor Comment: We acknowledged in the report that DOT tracks signs that meet the MUTCD standards. However, that is not a new protocol; it is something DOT was already doing prior to our 2017 audit. In fact, the MUTCD requirement to update signs went into effect in 2010 and, as DOT indicates, it accounts for only approximately 37 percent of DOT's street name signs. DOT has failed to provide evidence that it has established new

⁶ The Six Month Flag Report identifies work orders that have not yet been sent to the contractor for installation and have been outstanding for six months or longer.

protocols and has taken any steps to identify and compile a comprehensive citywide inventory of all street name signs.

DOT Response: “2) It should be noted that the Street Name Signs (‘SNS’) Unit installed over 73% more signs in the last five fiscal years as compared to the five fiscal years prior (FY16-FY20, 52,671 signs as of April 2020 vs FY11-FY15, 30,359 signs). Currently, all street name sign installations are recorded in the Sign Information Management System (SIMS) system via a street name sign order (ST Order). ST Orders identify the location, sign support, and installation date of street name signage at an intersection. Additionally, all contractor sign installations, including installation date, are recorded in the SIMS system. This is a recently implemented initiative that is being carried out. Over 50% of all intersections now have ST Orders.”

Auditor Comment: While DOT states that it now records all new street name sign installations in SIMS and that over 50 percent of all intersections have ST Orders, the agency provided no evidence—such as an inventory report of such intersections—as support for its assertions, so we have no basis by which to confirm the agency’s claims. Without a complete inventory of existing signs, DOT cannot accurately track the status of its hundreds of thousands of signs, including those in a state of good repair and those needing replacement. Accordingly, we urge DOT to fully implement this recommendation.

2. DOT should develop a comprehensive plan for conducting surveys to identify street name signs that need to be repaired or replaced throughout the City, and regularly monitor its implementation of that plan.

DOT Response: In its response, DOT explicitly disagrees with our assessment that the previous audit’s functionally-identical recommendation was not implemented and asserts instead that it was “partially implemented.” While the agency does not explicitly state whether it agrees or disagrees with the current recommendation, its response implies that it disagrees with the need for it. DOT states, “NYCDOT disagrees with the implementation status assigned to this recommendation. The SNS Unit has implemented multiple measures for developing a comprehensive plan for conducting surveys to identify street name signs that need to be repaired or replaced throughout the City, and regularly monitor its implementation of that plan. Urgent street name sign-related conditions (e.g., hanging, dangling, all missing or all faded) are immediately addressed. Additionally, procedures for the work of Street Name Signs Contractor Management Unit (SNS-CM) work in guiding the contracted installation of street name signs was issued and effective February 14, 2017. This procedure was provided during the audit however, the audit report does not include this information.”

Auditor Comment: The Street Name Signs Contractor Management (SNS-CM) procedure that DOT refers to, while important, only identifies the steps in the street name sign repair/replacement process (pre-installation inspection, post-installation inspection, etc.). It does not outline a comprehensive plan for conducting surveys.

DOT Response: "Over time, NYCDOT plans to replace all street name signs citywide with MUTCD compliant signs. This is a major undertaking that is being implemented with limited resources. The amount of resources needed to produce a condition report of all street name signs would not be cost effective. Those resources would be better applied to actually replacing all street name signs that do not currently meet current MUTCD

standards. Therefore, it is the opinion of the Agency that the City will be better served by having street name signs replaced by targeting entire areas, such as by Community Board. This will allow our contractors and/or in-house forces to work more quickly and efficiently. Installing street name signs solely based on requests and complaints from the public, in the form of 311's and ARTS cases is not practical or efficient. Placing an emphasis on closing out complaints, especially when a considerable amount of resources is required to do so, should be secondary to our application of resources to actually working toward bringing our NYC street name plant to a state of good repair. The Agency believes that targeting full sign replacements by Community Board and only physically responding to requests that identify a dangerous condition will be the most effective way to meet our goal of having all NYC street name signs in a state of good repair.”

Auditor Comment: DOT states that the City would be better served by having street name signs replaced by targeting discrete areas, such as by Community Board; however, DOT provided no evidence of its plan for doing so. In fact, when we asked DOT whether any of the City’s districts had been completely surveyed, DOT acknowledged that none had. Accordingly, we urge DOT to fully implement this recommendation.

3. DOT should establish procedures to ensure that 311 complaints regarding street name signs are investigated and addressed in a reasonable time frame.

DOT Response: In its response, DOT explicitly disagrees with our assessment that the previous audit’s recommendation relating to this issue was not implemented, asserting instead that it was partially implemented and implying in effect that it disagrees with the need for this recommendation in this current audit. DOT states, “NYCDOT disagrees with the implementation status assigned to this recommendation. The SNS Unit has implemented procedures to confirm that 311 complaints are investigated, tracked and addressed in a reasonable time frame. Considering that the useful life cycle of street name signs are over 10 years and that it is more efficient to repair and maintain street name signs in corridors, it would not be practical to establish timeframes for addressing individual non-urgent street name sign complaints. As mentioned in this response, time standards have been established for conditions which threaten public safety.”

Auditor Comment: In December 2019, DOT confirmed in writing that it has not established time frames to address 311 complaints, citing a lack of contract capacity and resources, so we do not know the basis upon which it is determining that 311 complaints are addressed in a reasonable time frame. In fact, as mentioned previously, DOT was unable to provide sufficient evidence to refute our audit finding that 46 of 50 sampled complaints remained unaddressed for 20 months or longer.

DOT Response: “DOT previously presented the following supporting information to the auditor, however, this information was not presented in the audit report: 1) As of July 1, 2019, the SNS unit logs all 311 complaints in an Excel tracking system and each 311 is addressed individually.”

Auditor Comment: DOT does not provide any details regarding its claim that “each 311 is addressed individually.” Additionally, DOT states that it implemented this procedure in July 2019, after we raised this issue with DOT, and after the Fiscal Year 2019 scope period of this audit. In short, DOT has not provided evidence to show what its new practice entails, and we have not audited its reported use of the new Excel tracking system.

DOT Response: “2) If a 311 complaint is for an emergency condition (e.g., hanging, dangling, all missing or all faded), the Traffic Control & Engineering (TC&E) unit addresses the issue as quickly as possible. It is current policy for the TC&E that hanging and dangling conditions are addressed within nine days. All missing sign conditions are addressed as soon as signs can be manufactured for replacement.”

Auditor Comment: As discussed later in this report, we were unable to determine whether 311 complaints for emergency conditions (e.g., hanging, dangling, all missing or all faded) were addressed within nine days. For example, DOT provided us with repair orders for some complaints noting that dangling or missing signs were observed but no indication that the signs were repaired or replaced. Furthermore, it is important that DOT survey every 311 complaint to determine whether complaints are for emergency conditions since complainants may incorrectly classify the complaints. We found one such instance during this audit in which a sampled complaint was initially not correctly categorized as an emergency complaint and remained unaddressed for several months.

DOT Response: “3) We disagree with the auditors’ findings that of the 50 sampled 311 street name sign complaints, only four had been surveyed as of September 27, 2019. It should be reported that 17 complaints were addressed by TC&E as they were dangling signs and eight were completed by the SNS unit, thus, 50% of the audit sample of 311 complaints were actually surveyed and completed. In regards to the remaining 25 complaints, 18 were not surveyed and the remaining seven were resolved as per evidence provided to the audit team on May 1, 2020.”

Auditor Comment: As indicated in this report, DOT did not provide any documentation for two complaints and provided insufficient documentation for 16 others. For example, the repair orders for the complaints DOT claims were repaired by TCE did not indicate the specific work completed. In addition, some repair orders were for different intersections or had different service request numbers than the sampled complaints. In fact, DOT acknowledges in its response and states, “We agree that during the audit period, a SNS repair order may not indicate the specific sign that was replaced/repair for in-house work.”

DOT Response: “4) We also call into question the audit observation that 60% of the 50 intersections sampled, where work had previously been performed, needed corrective measures relating to a 311 complaint previously received. The audit is incorrectly assuming that current sign conditions are related to 311 complaints that had been received over a year prior. It is incorrect to conclude that a location with a current defect, which had a previous 311 complaint at that location, was not previously addressed by NYCDOT. A sign could potentially become missing even within hours of when it was repaired or installed.”

Auditor Comment: As indicated, DOT did not provide sufficient evidence that complaints were addressed at all. In many instances, the repair orders provided by DOT failed to indicate the work completed. In one-third of the instances where a sign was reported as dangling, we found a sign to be missing when we conducted our observations and found no evidence that a sign at that location had ever been reported to the Street Name Sign unit or replaced by the contractor. DOT provided no evidence of complaints forwarded from TCE to the Street Name Sign unit. In addition, we obtained photos from Google maps for the 30 sampled intersections for which we observed street name sign issues needing correction. These photos were taken anywhere from 3 to 24 months prior to our

observations. We found that in all 30 instances, the conditions we observed were either practically identical to or worse than the conditions present in the Google pictures.

DOT Response: “5) The SNS unit uses 311 complaints to inform, not direct workflow where a complaint is not an emergency condition. The SNS unit addresses the matters identified of each complaint to determine the validity and actions required. DOT investigates and assigns a high priority to any 311 complaint which involves public safety. The SNS Unit enters complaints into their mapping system as a tool to plan future surveys in an efficient manner. We agree that during the audit period, a SNS repair order may not indicate the specific sign that was replaced/repair for in-house work, however, SNS repair orders now include information to properly identify the signs that have been replaced and or repaired.”

Auditor Comment: As acknowledged by DOT, an SNS repair order prepared during the audit period may not indicate the specific sign that was replaced/repared for in-house work. Consequently, for such repair orders, we have no basis to confirm that the corresponding complaints were addressed. In addition, DOT provided no evidence to show that repair orders now include information to properly identify the signs that have been replaced or repaired.

DOT Response: “6) On page ten, the audit refers to a 311 complaint regarding a missing sign on a private street for which DOT has no jurisdiction. It should be noted that the 311 system does not allow for updated responses to notify a complainant during these rare instances.”

Auditor Comment: Notwithstanding any limitations that may exist in the 311 system, DOT was unable to provide any evidence that it attempted to inform the complainant, by any means, that DOT was not responsible for installing or replacing street name signs at that intersection. If these instances are rare, DOT should consider contacting the complainants individually to inform them that they need to pursue other remedies.

As stated in the Federal Highway Administration’s publication, *Maintenance of Signs and Sign Supports*, “Timely detection of and response to maintenance needs are critical elements of a sign management system.” Accordingly, we urge DOT to implement this recommendation.

4. DOT should develop a system to track intersections that it surveys using its web-based system where it finds that no work is needed.

DOT Response: In its response, DOT explicitly disagrees with our assessment that the previous audit’s recommendation relating to this issue was partially implemented. As in its responses to the three preceding recommendations, DOT never directly states whether it agrees with our current recommendation. Nevertheless, DOT implies that it disagrees with the need for it. DOT states, “It should be noted that the SNS Unit is working to identify a tracking system to note signs in good condition surveyed under the web-based system. Additionally, the SNS Unit is currently working on ways to utilize our SIMS system through ST Orders to track and document the survey and findings of street name signs at intersections. This process is still in development.”

Auditor Comment: DOT’s response is self-contradicting. DOT states that it disagrees with the “partial” implementation status we assigned to the previous audit’s recommendation, although DOT itself assigns the same “Partially Implemented” status to that recommendation in this response. Moreover, as to the need for our current recommendation, DOT’s response states that the agency “is currently working on ways . . . to track and document” its survey findings concerning the status of street name signs at various intersections, a process that “is still in development.” Accordingly, we urge DOT to implement this recommendation.

5. DOT should establish time standards for addressing street name sign repairs and replacements once the need for them has been identified, and regularly monitor how well it is meeting those standards.

DOT Response: In its response, DOT explicitly disagrees with our assessment that the previous audit’s recommendation relating to this issue was not implemented. DOT asserts that the recommendation instead was “partially implemented.” As in its responses to the four preceding recommendations, DOT never directly states whether it agrees with our current recommendation. Instead, DOT implies that it disagrees with the need for it. DOT states, “NYCDOT disagrees with the implementation status assigned to this recommendation. The SNS Unit projects that the remaining work orders will be completed within a year given existing production rates, staff resources and contract capacity. As noted within this response, there are time standards for emergency conditions addressed by in-house staff.”

Auditor Comment: The establishment of time standards is an integral aspect of monitoring performance. Consequently, DOT needs to establish time standards for addressing all complaints relating to street name sign repairs, not just for the backlogged complaints, once the need for them has been identified. Accordingly, we urge DOT to fully implement this recommendation.

New Issues

While examining the implementation status of the previous recommendations, we found other areas where DOT’s controls over street name sign installations need to be strengthened.

Unreliable GIS Mapping Process

As stated previously, DOT uses the GIS database to map the complaints involving street name signs that the agency receives via 311. According to DOT officials, the process for handling 311 complaints that come to the agency after it has completed a survey for the intersection the new complaint references is to (1) map the location in the GIS database and (2) resurvey it to determine whether additional work is necessary. However, as detailed more fully below, the GIS database contained *no* record of three-quarters of our 50 sampled complaints, and the information it contained for the remaining one-quarter had inaccuracies.

DOT informed us that it uses a system of seven symbols positioned on a GIS-generated map to show—at that point in time—the locations identified in the complaints DOT receives from the 311 system concerning street name signs and the status of its response to the conditions reported in those complaints. According to DOT officials, the symbols and what they represent are as follows:

- red triangle – A 311 complaint was made for the intersecting streets that DOT has not yet addressed.
- orange dot – The intersection identified in the complaint has been surveyed, and it was determined that work is needed. The results of the survey have been documented in DOT's new web-based system.
- light blue dot – The intersection identified in the complaint was found to need work, but the work order has not yet been sent to the contractor. The results of the survey have been documented in DOT's Access database.
- yellow dot – The work order was sent to the contractor.
- green dot – The work was completed and invoiced.
- red dot – The intersection was surveyed using the paper-based system, and it was determined that no work was needed.
- red cross – A street name sign was installed at the location under a previous contract, which ended in February 2015.

We found, however, that the complaints DOT received through the 311 service were not consistently recorded and mapped in the GIS database. Specifically, contrary to DOT's requirements, 38 (76 percent) of the 50 sampled complaints were not recorded in the GIS database. For 6 of these 38 complaints there was no symbol at the relevant intersections on the GIS map. Four of those six complaints alleged that a street name sign was dangling—for two of the four, the signs were found to be missing when we conducted our observations.

On November 19, 2019, we provided DOT with three sampled complaints for dangling street name signs that were not mapped in the GIS database and we asked for an explanation. DOT responded on December 13, 2019 and stated that “these instances were a result of human error.”

After the exit conference, however, DOT provided other explanations for the absence of 38 sampled complaints from the GIS database. For example, according to DOT officials, only non-emergency complaints are mapped in that database. The officials now state that emergency complaints are addressed immediately and are therefore not mapped in the database. Specifically, according to DOT, 19 of the 38 complaints that were not in the GIS database were emergency complaints that the agency would not be required to enter in that database.

However, based on our review of the full sample of 50 complaints, we found that this reported delineation—emergency complaints are not entered in the GIS database, while non-emergency complaints are—was not always followed. Specifically, 7 (33 percent) of the 21 complaints categorized as emergencies *were* recorded in the GIS database. Those 7 include 5 complaints that we originally categorized as not mapped because although the complaint date indicates that the complaint was received after the survey date, the service request number on the work order and repair order matched the complaint. Furthermore, DOT was unable to provide sufficient evidence that the emergency complaints that were missing from the GIS database were in fact immediately addressed. For example, DOT provided us with repair orders for some complaints noting that dangling or missing signs were observed but no indication that the signs were repaired or replaced. (Conversely, repair orders concerning missing or damaged Stop and One Way signs *do* indicate whether the signs were repaired or replaced.)

For the 29 non-emergency complaints in our sample of 50, DOT provided screen shots indicating that 19 of these complaints—including one discussed earlier that concerned a private street for which DOT has no jurisdiction—were mapped in the GIS database. However, these screen shots were not provided until April 15, 2020, after our exit conference of April 8, 2020, and more than five to seven months after our initial reviews of the GIS database, which took place on August 28, 2019 and October 18, 2019. According to DOT, the DOT employee who assisted us and initially printed out the GIS screenshots for our 50 sampled complaints may have used the wrong version of the GIS map. However, DOT provided no explanation for why officials did not share that information with us when we first presented this issue to officials more than three months earlier. Additionally, the new screenshots that DOT officials provided contain no evidence (e.g., the date that the GIS coordinates were entered) that would enable us to verify that these complaints had been mapped at the time of our initial review.

Further, our initial review of the GIS database revealed that although work order and repair information concerning intersections relating to eight of the sampled non-emergency sign complaints was recorded in the system, the dates of those work orders and some of the repairs were prior to the dates of the sampled complaints, indicating that the information was related to prior complaints or surveys and not to the complaints in our sample. For example, one of the complaints in our sample concerned a missing sign at the intersection of 12th Road and 162nd Street in Queens. Our review of the GIS database indicated that a work order was prepared on December 20, 2016 to remove and replace four signs at that intersection, and the installation was reportedly performed on March 21, 2017. However, DOT received the sampled complaint on July 3, 2017—four months after the recorded installation—indicating that the work recorded in the database was related to a previous deficiency. The GIS system contained no evidence that DOT resurveyed the location after receiving the sampled complaint as its policy required.

Based on our observations of the locations referenced in the 19 sampled non-emergency complaints that were not mapped in DOT’s GIS database, we found the following:

- The street name sign conditions at the intersections relating to 10 complaints (including the one complaint for the private street) matched those reported in the complaint.
- The street name sign conditions at the intersections relating to two complaints were worse than those reported in the sampled complaint (e.g., signs that complainants reported as damaged were missing at the time of our observation).
- The street name signs observed at the intersections relating to 7 complaints were in good condition. Of those 7 instances, we found no evidence that DOT took any action after two of the complaints were made, although DOT’s documentation indicates that signs were reportedly installed at the intersection associated with one of these two complaints *before* the complaints were made. For the remaining five complaints, DOT’s hardcopy documentation indicates that signs were installed at the intersections, apparently in connection with work orders that were in process prior to the dates of the complaints.⁷ We asked DOT for an explanation regarding all 7 complaints, and DOT stated that these locations were noted independent of any complaints received as part of the agency’s regular field surveys.

Of the remaining 10 sampled non-emergency complaints that *were* recorded in the GIS database, we observed that in two instances the signs were missing, and the GIS map indicated that signs were installed under a previous contract that had ended in 2015. However, because both

⁷ For these five complaints, the number of days between the survey and installation averaged 495 days and ranged from 147 to 783; at three intersections, the number of days between survey and installation exceeded 650.

complaints were received after that contract ended, the reference to the previous contract does not indicate whether the signs in question needed to be repaired or replaced at the time the sampled complaints were received in 2018.

DOT has not developed a process or assigned new staff responsibility for monitoring and regularly updating the GIS database to ensure that it accurately reflects the receipt and the current status of complaints and the agency's responsive actions, such as survey results and the issuance and current status of any resulting work orders. In the absence of a standard updating and monitoring process, information in the GIS database is updated sporadically, with information from different systems at different times. For example, we obtained information from the GIS database as it existed on August 28, 2019. At that time, the database had last been updated for 311 complaints as of May 23, 2019—three months earlier, for work orders issued as of June 24, 2019—two months earlier, and for invoiced work orders as of August 27, 2019—the day prior to when we obtained the records. According to the Director of the Street Name Sign unit, as of February 2019, the individual who previously had been responsible for updating the GIS database is no longer assigned to the Street Name Sign unit, and this task had not been assigned to another individual as of August 2019.

When complaints are not promptly mapped, DOT has unreliable information with regard to the reported conditions of its street name signs and has incomplete information when making decisions on areas to survey, increasing the risk that complaints that require action will not be addressed. In addition, when survey and work order information relating to the condition of street name signs is not appropriately updated in the GIS mapping database, DOT has incomplete and therefore inaccurate information on the existence and status of actions taken to investigate and address the reported conditions, which could increase the risks (1) that duplicative work may be performed and (2) that street name signs needing repair or replacement will remain unfixed, posing an increased safety risk to the public.

Missing Service Request Numbers

After filing a complaint by calling 311 or using 311 online, complainants are given a service request number that they can use to check the status of the complaint. A DOT official confirmed that the unique service request number is the reference link between the GIS map and the 311 system.

We found that 35 of 50 sampled complaints did not have their service request numbers recorded in the GIS database. The service request numbers are not being exported from the 311 complaints data or are not appropriately uploading into the GIS map. As a result, the service request numbers are not being properly tracked. Missing service request numbers will hinder DOT in tracking and reporting complaint dispositions and will also hinder complainants' ability to ascertain the status of complaints.

Work Orders and Database Missing Critical Information

As stated in DOT's *Contractor Management SOP*, an inspector is required to enter data collected from the pre-inspection survey and recorded on the hardcopy "Highway Design Street Name Sign Order" (work order) into the Access database that DOT continues to use to record actions taken in response to complaints involving street name signs. Such information includes the name of the inspector who conducted the pre-inspection survey and the date of that work; the name of the inspector who prepared the work order; the date the work order was prepared; a sketch of the intersection with details concerning the work being ordered; the category of work, which may

denote the origin of the order, for example, a regular survey or an emergency, or the categories DOT assigns to the requestors, for example, an elected official, a historic district, or a Commissioner; and the ARTS or 311 reference number, if applicable.

In addition, according to DOT officials, the field-check date, the field-check staff member's name, the prepared-by name and date, the completed date, the complaint reference, and the complaint category are all critical fields for DOT's process of maintaining street name signs.

Further, inspectors are required to use the "Completion Date and Post Inspection Update Form" to record the date the work was completed, the identity of the inspector who performed the post-installation inspection, and the date of that inspection in the Access database that DOT uses both to record work orders and to update the GIS database.

However, we found that inspectors are not consistently documenting the required information on the "Completion Date and Post Inspection Update Form." Our review of 309 work orders billed on the invoice dated December 6, 2018 revealed that certain critical information was not recorded on the hardcopy work orders or entered into the Access database:

- 308 of 309 hardcopy work orders did not have information in the Complaint Reference Number field—which should contain either a 311 service request number or an ARTS ID.
- The database record for 308 of the 309 work orders was missing the work order preparation date and the installation-completion date.
- The database record for all 309 work orders was missing the initials of the inspector who conducted the post-installation inspection and the date of that inspection.

These omissions occurred because DOT has inadequate written procedures and controls over the supervisory review of the work orders and the data entry process. According to DOT officials, staffing of the street name sign inspection unit was reduced significantly. Consequently, the unit's ability to provide adequate supervisory oversight has been hampered, and management has not developed a mechanism to help ensure that inspectors consistently complete the update form.

Without required dates entered into the Access database, DOT is hindered in tracking the timeliness of the street name sign inspection and installation process. In addition, missing information in the database hinders DOT from determining (1) whether work orders have been completed, (2) where work orders are in the process at any given point in time, and (3) what work orders remain outstanding. These deficiencies could seriously impact the effectiveness of DOT's efforts to replace street name signs when necessary and result in street name sign deficiencies remaining unresolved, which could impact public safety.

Recommendations

6. DOT should strengthen its controls over the mapping process to ensure that the GIS database is regularly updated to include all complaints the agency receives through the 311 system and ensure that the GIS database is regularly reviewed for completeness and accuracy in reflecting the status of all such complaints and the corresponding surveys and work orders.

DOT Response: "NYCDOT partially agrees with this recommendation. The SNS Unit reviewed the information presented in this finding and performed additional research in order to clarify some issues noted in the report:

1) We agree with the statement on page 14 that seven of the 21 complaints categorized as emergencies were incorrectly recorded in the GIS database. We will continue to limit the mapping of complaints to non-emergency conditions.

2) We disagree with the second bullet on page 14: ‘The street name sign conditions at the intersections relating to two complaints were worse than those reported in the sampled complaint (e.g., signs that complainants reported as damaged were missing at the time of our observation).’ The audit is incorrectly assuming that current sign conditions are related to 311 complaints that had been received over a year prior. It is incorrect to conclude that a location with a current defect, which had a previous 311 complaint at that location, was not previously addressed by NYCDOT. A sign could potentially become missing even within hours of when it was repaired or installed.”

Auditor Comment: Our analysis revealed that it is not uncommon for street name signs that are damaged to remain unrepaired in excess of one year: we identified instances where it took DOT more than a year to approve work orders that its staff had already prepared and instances where DOT took more than a year to process work orders from survey to post installation inspection. The photos we obtained from Google maps were dated anywhere from 3 to 24 months before our observations. In many cases, the conditions in those photos were the same as the conditions we observed, and in some instances, the conditions had worsened between the photo and observation dates. As stated previously, DOT has not provided sufficient evidence to show that it had addressed these complaints or the conditions they report prior to our observations. In the absence of such evidence, we have no basis to conclude that DOT undertook any repair efforts for these locations.

It is important for DOT to ensure that the GIS database is regularly updated and that complaints are reviewed for completeness and accuracy so that DOT has complete information for decision making purposes. Accordingly, we urge DOT to reconsider and fully implement this recommendation.

7. DOT should ensure that service request numbers are appropriately exported to the GIS map so that it can track and report complaint dispositions.

DOT Response: “NYCDOT disagrees with this recommendation. The SNS Unit reviewed the information presented in this finding and performed additional research in order to clarify some issues noted in the report. Of the 35 sampled complaints recorded in the GIS system where there was no service request number, 16 were Complaint Type – Dangling and therefore did not need to be tracked in this system since they were addressed by TC&E as dangerous conditions and completed as quickly as possible. (No dangling sign observed by auditors during their field visits). Of the remaining 19 sampled complaints, all were mapped and evidence provided as acknowledged by the auditor on page 14.”

Auditor Comment: As stated previously in this report, we received contradictory information from DOT on this issue so it is unclear whether the 16 dangling complaints should have been recorded in the GIS database. In addition, at the time of our review, the remaining complaints with corresponding service request numbers were not recorded in

the GIS database, hindering the tracking of their dispositions. Accordingly, we urge DOT to fully implement this recommendation.

8. DOT should develop written procedures and ensure that all critical information for the maintenance and installation of the street name signs are recorded on the hardcopy work orders and all relevant databases.

DOT Response: “NYCDOT partially agrees with this recommendation. All information that the SNS Unit deems critical for the maintenance and installation of street name signs are recorded on the hardcopy of the work orders. However, the SNS Unit agrees that they should develop written procedures. In addition, the SNS Unit is currently in the process of updating the Access database to include all completion date and post inspection dates.”

Auditor Response: DOT’s statement that all critical information is recorded is incorrect. Of the 309 hardcopy work orders we reviewed, 308 did not have either a 311 service request number or an ARTS ID in the Complaint Reference Number field as required. DOT has indicated that it considers the complaint reference field critical. Consequently, DOT should ensure that this field is completed on all hardcopy work orders.

9. DOT should ensure that inspectors use the “Completion Date and Post Inspection Update Form” as required by the SNS procedures to enter all critical street name sign information in the Access database.

DOT Response: “Agreed. The SNS Unit is currently in the process of updating the Access database to include all completion date and post inspection dates.”

DETAILED SCOPE AND METHODOLOGY

We conducted this follow-up performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. This audit was conducted in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter.

The primary audit scope was July 1, 2017 through June 30, 2019. Our street name sign observations were conducted between September 25, 2019 and October 4, 2019.

To assess the implementation status of the previous audit report's recommendations we reviewed the previous New York City Comptroller's report issued on June 30, 2017. In order to gain an understanding of the information received from DOT and the capabilities of the computer systems used in recording, tracking, processing, and reporting of information related to the maintenance and installation of street name signs, such as the Access database, the web-based system, and the EZ Check Node system, we requested for review lists and descriptions of the computer systems used in the process, the user manuals, and the systems documentation, including specifications and any other relevant information.

To obtain an understanding of DOT's management of the process in place for the maintenance and installation of street name signs, we obtained and reviewed the organization chart of units in charge of managing street name signs inspections, installation, and processing of the contractor's work orders. To obtain an overview of the street name sign maintenance process, we interviewed officials of the Street Name Sign unit, the TCE unit, and the TPM unit.

In addition, to gain an understanding of DOT's street name sign operation and its oversight over the maintenance process, as well as to evaluate controls in place, we conducted walkthrough meetings and observations and interviewed relevant DOT officials who play a role in the process, including the Director of the Street Name Sign unit, the Street Name Sign unit Administrator, the DOT 311 Street Name Sign complaints representative, and the DOT Assistant Highway Transportation Specialist.

Furthermore, to gain an understanding of relevant policies, procedures, and regulations related to street name sign maintenance, to assess controls in place, and to further determine whether the DOT Street Name Signs unit is complying with related policies and procedures and contract provisions, we reviewed and used as criteria: (1) DOT's *SOP_TPMDC_DC-SNS-001 00_StreetNameSignsContractorManagement_2017-02-13*; (2) street name sign contracts numbers 84117MBTR120 and 84114MBTR802; (3) the prior audit report issued by the Office of the New York City Comptroller, titled *Audit Report on the Department of Transportation's Installation and Maintenance of Street Name Signs*, MD17-063A, issued on June 30, 2017; (4) *Maintenance of Signs and Sign Supports, A Guide for Local Highway and Street Maintenance Personnel*; (5) the Comptroller's Directive #1, *Principles of Internal Control*; (6) the *Manual on Uniform Traffic Control Devices for Streets and Highways*; (7) DOT's *Audit Implementation Plan* for the Comptroller Office's audit # MD17-063A; and other relevant documentation printed from websites or provided by the units or staff we interviewed, and any memoranda on the management of street name signs.

To determine whether the deficiencies previously identified were addressed, we reviewed DOT's implementation plans for the six recommendations from the Office of the New York City Comptroller's *Audit Report on the Department of Transportation's Installation and Maintenance of Street Name Signs* issued on June 30, 2017, and conducted observations of the street name sign Access database and any other relevant computer systems and walkthrough meetings with relevant DOT officials.

In addition, to evaluate DOT's controls over the processing of work orders and to determine whether DOT implemented recommendations related to the processing of work orders, we randomly selected one payment, totaling \$135,450, from the listing of three payments made to the current contractor in Fiscal Year 2019 for review. Since the sampled payment was related to Batch 24, we obtained the listing of all 648 work orders associated with Batch 24. We stratified the work orders by category of complaint type; there were: 22 ARTS, 11 311, and 612 Regular Survey work orders. We randomly selected two ARTS, one 311, and 47 Regular Survey work orders for a total of 50 work orders. We then requested the Batch 24 invoice and work orders to determine whether they were properly approved, included important dates of required steps and appropriate staff initials, and all relevant installation information from the contractor, as well as to determine the timeliness of the processing. Upon receipt of the invoice and associated work orders, we discovered that the invoice only included 309 work orders. As a result, the payment only included 20 of the 50 sampled work orders. When we questioned a DOT official, he explained that the invoice was a partial payment for Batch 24 and that the remaining 339 work orders had not been billed yet.

We also determined the accuracy of data entry for the related sampled 311 street name sign complaints and work orders. Since we identified discrepancies for the 20 sampled work orders, we decided to review the entire population of the 309 hardcopy work orders related to our sampled payment of \$135,450. We specifically determined the time frames for resolution of 311 complaints; the time frames of DOT's completion of each step in the work order process; and DOT's tracking of 311 street name sign complaints. We also determined whether DOT was in compliance with its own standard operating procedures and practices. In addition, we obtained a six-month aging report, all work orders remaining in the computer system for more than six months, generated on March 27, 2019, for review to determine the time frame in which these work orders had been waiting to be sent to the contractor after they were created.

In order to assess the reliability of the computer-processed work order data received from DOT, we examined a report generated from the Access database in Excel format that included 19,383 work orders processed by DOT from September 2014 to March 2019. Using Excel Filtering formulas, the Excel ACL Add-In feature, and the Audit Command Language (ACL) audit program, we determined whether complaints were handled by the appropriate units, whether the information was complete, and whether fields contained any unusual information. We also reviewed fields that recorded the name of the inspector who prepared the work order, the date the work order was prepared, the name of the individual who approved the work order, the initials of the inspector who conducted the post-installation inspection, the date of the inspection, and the installation-completion date to determine whether information was recorded and to determine the extent of the SNS maintenance work for each borough and district.

In addition, we determined whether DOT was in compliance with its own standard operating procedures and practices in processing non-emergency and emergency 311 complaints. To determine whether DOT's non-emergency 311 street name sign complaints were closed timely in

the 311 system and assigned to the appropriate units, we reviewed a list of 4,281 normal 311 complaints from a population of 5,187 311 street name sign complaints for the period of July 2017 to February 2019 and analyzed the exceptions. As for the emergency street name signs complaints, we reviewed the 906 311 complaints categorized as “urgent” from the population of 5,187 311 complaints and determined whether they were closed timely in the 311 system.

In addition, to determine the reliability of the databases, such as the Geographic Online Address Translator (GOAT) system, the ARC GIS system, and the EZ Node Check system, used in street name sign maintenance, we generated two lists of 311 complaints from the NYC Open Data database—one for July 2017 and one for January 2018—and selected 25 311 street name sign complaints from each list for review. We observed these databases and obtained screenshots of information related to the 50 sampled 311 complaints. We obtained hardcopy work orders related to the sampled intersections for the sampled complaints and conducted field observations of the intersections for each of these 50 sampled 311 SNS complaints to determine the condition of the street name signs.

The results of the above tests, while not projected to their respective populations, provide a reasonable basis for us to assess the adequacy of DOT’s street name sign maintenance efforts and its compliance with its own internal guidelines and practices for street name signs.



July 10, 2020

Marjorie Landa
Deputy Comptroller for Audit
Office of the Comptroller
1 Centre Street
New York, NY 10007

Re: Response to the Draft Follow-Up Audit Report on the Department of Transportation's Installation and Maintenance of Street Name Signs (Audit Number MD19-082-F – Dated June 16, 2020)

Dear Ms. Landa,

This letter is in response to the recommendations reflected in the referenced Draft Audit Report. We disagree with the results of the report findings and conclusions in several respects. Although DOT repeatedly advised the auditors of our disagreement and provided clarifying documentation for their review to address discrepancies contained within the Draft Audit Report, the findings and conclusions reached remain largely unchanged. Please accept the following as the Agency's written response to the Draft Audit Report:

Audit Recommendation 1:

DOT should take steps to (1) identify and document its complete inventory of standard street name signs throughout the City and (2) develop protocols to periodically update its records to reflect changes in a timely manner.

NYCDOT's Response: **Implementation Status: Partially Implemented**

NYCDOT disagrees with the implementation status assigned to this recommendation. The following actions and protocols towards documenting a complete inventory of street name signs have been taken:

- 1) Over 93,000 street name signs have been installed since January 2010. The location, type of sign and installation date of these installations are all on file. These are the signs that meet the MUTCD requirements for upper and lower case letters and this represents more than 37% of the approximate 250,000 street name signs installed citywide.
- 2) It should be noted that the Street Name Signs ("SNS") Unit installed over 73% more signs in the last five fiscal years as compared to the five fiscal years prior (FY16-FY20, 52,671 signs as of April 2020 vs FY11-FY15, 30,359 signs). Currently, all street name sign installations are recorded in the Sign Information Management System (SIMS) system via a street name sign order (ST Order). ST Orders identify the location, sign support, and installation date of street



name signage at an intersection. Additionally, all contractor sign installations, including installation date, are recorded in the SIMS system. This is a recently implemented initiative that is being carried out. Over 50% of all intersections now have ST Orders.

The usage of ST Orders will help to streamline, generate, track and retain a history of all street name sign installations. This process will bring the Agency to having a full inventory of street name signs and have the ability to forecast the need for future maintenance requirements. Prior to this audit, all emergency work was already tracked in SIMS.

Audit Recommendation 2:

DOT should develop a comprehensive plan for conducting surveys to identify street name signs that need to be repaired or replaced throughout the City, and regularly monitor its implementation of that plan.

NYCDOT's Response: **Implementation Status: Partially Implemented**

NYCDOT disagrees with the implementation status assigned to this recommendation. The SNS Unit has implemented multiple measures for developing a comprehensive plan for conducting surveys to identify street name signs that need to be repaired or replaced throughout the City, and regularly monitor its implementation of that plan. Urgent street name sign-related conditions (e.g., hanging, dangling, all missing or all faded) are immediately addressed. Additionally, procedures for the work of Street Name Signs Contractor Management Unit (SNS-CM) work in guiding the contracted installation of street name signs was issued and effective February 14, 2017. This procedure was provided during the audit however, the audit report does not include this information.

Over time, NYCDOT plans to replace all street name signs citywide with MUTCD compliant signs. This is a major undertaking that is being implemented with limited resources. The amount of resources needed to produce a condition report of all street name signs would not be cost effective. Those resources would be better applied to actually replacing all street name signs that do not currently meet current MUTCD standards. Therefore, it is the opinion of the Agency that the City will be better served by having street name signs replaced by targeting entire areas, such as by Community Board. This will allow our contractors and/or in-house forces to work more quickly and efficiently. Installing street name signs solely based on requests and complaints from the public, in the form of 311's and ARTS cases is not practical or efficient. Placing an emphasis on closing out complaints, especially when a considerable amount of resources is required to do so, should be secondary to our application of resources to actually working toward bringing our NYC street name plant to a state of good repair. The Agency believes that targeting full sign replacements by Community Board and only physically responding to requests that identify a dangerous condition will be the most effective way to meet our goal of having all NYC street name signs in a state of good repair.



It should be noted that due to the SNS Unit’s efforts, 311 complaints received from the public have decreased dramatically as shown in the table below:

Calendar Year	2016	2017	2018	2019	2020 (As of 4/3/20)
Street Name Sign Service Requests Received by Public	5,053	4,521	3,098	2,157	409

Due to the reduced number in 311 requests, we are now able to track all 311’s and as of July 1, 2019, all 311 complaints are tracked and addressed.

Audit Recommendation 3:

DOT should establish procedures to ensure that 311 complaints regarding street name signs are investigated and addressed in a reasonable time frame.

NYCDOT’s Response: **Implementation Status: Partially Implemented**

NYCDOT disagrees with the implementation status assigned to this recommendation. The SNS Unit has implemented procedures to confirm that 311 complaints are investigated, tracked and addressed in a reasonable time frame. Considering that the useful life cycle of street name signs are over 10 years and that it is more efficient to repair and maintain street name signs in corridors, it would not be practical to establish timeframes for addressing individual non-urgent street name sign complaints. As mentioned in this response, time standards have been established for conditions which threaten public safety. The background of the audit report indicates that DOT prioritizes repairs includes street name signs that are missing. We have previously communicated to the audit team that priority repairs include a scenario where all street name signs are missing, if only one pair of street name signs are missing, this is not considered a priority. The result of fewer 311 complaints and a reduced backlog of complaints is a direct result of the methodology employed by the SNS Unit to address complaints for non-urgent conditions in large corridors and continuing with the objective that all signs within the City are in a state of good repair. DOT previously presented the following supporting information to the auditor, however, this information was not presented in the audit report:

- 1) As of July 1, 2019, the SNS unit logs all 311 complaints in an Excel tracking system and each 311 is addressed individually.
- 2) If a 311 complaint is for an emergency condition (e.g., hanging, dangling, all missing or all faded), the Traffic Control & Engineering (TC&E) unit addresses the issue as quickly as possible. It is current policy for the TC&E that hanging and dangling conditions are addressed



within nine days. All missing sign conditions are addressed as soon as signs can be manufactured for replacement.

- 3) We disagree with the auditors' findings that of the 50 sampled 311 street name sign complaints, only four had been surveyed as of September 27, 2019. It should be reported that 17 complaints were addressed by TC&E as they were dangling signs and eight were completed by the SNS unit, thus, 50% of the audit sample of 311 complaints were actually surveyed and completed. In regards to the remaining 25 complaints, 18 were not surveyed and the remaining seven were resolved as per evidence provided to the audit team on May 1, 2020.
- 4) We also call into question the audit observation that 60% of the 50 intersections sampled, where work had previously been performed, needed corrective measures relating to a 311 complaint previously received. The audit is incorrectly assuming that current sign conditions are related to 311 complaints that had been received over a year prior. It is incorrect to conclude that a location with a current defect, which had a previous 311 complaint at that location, was not previously addressed by NYCDOT. A sign could potentially become missing even within hours of when it was repaired or installed.
- 5) The SNS unit uses 311 complaints to inform, not direct workflow where a complaint is not an emergency condition. The SNS unit addresses the matters identified of each complaint to determine the validity and actions required. DOT investigates and assigns a high priority to any 311 complaint which involves public safety. The SNS Unit enters complaints into their mapping system as a tool to plan future surveys in an efficient manner. We agree that during the audit period, a SNS repair order may not indicate the specific sign that was replaced/repair for in-house work, however, SNS repair orders now include information to properly identify the signs that have been replaced and or repaired.
- 6) On page ten, the audit refers to a 311 complaint regarding a missing sign on a private street for which DOT has no jurisdiction. It should be noted that the 311 system does not allow for updated responses to notify a complainant during these rare instances.

Audit Recommendation 4:

DOT should continue its efforts to develop a methodology for tracking and documenting the intersections and areas of the City where street name sign surveys have been conducted.

NYCDOT's Response: **Implementation Status: Partially Implemented**

NYCDOT disagrees with the implementation status assigned to this recommendation. It should be noted that the SNS Unit is working to identify a tracking system to note signs in good condition surveyed under the web-based system. Additionally, the SNS Unit is currently working on ways



to utilize our SIMS system through ST Orders to track and document the survey and findings of street name signs at intersections. This process is still in development.

Audit Recommendation 5:

DOT should establish time standards for addressing street name sign repairs and replacements once the need for them has been identified, and regularly monitor how well it is meeting those standards.

NYCDOT's Response: **Implementation Status: Partially Implemented**

NYCDOT disagrees with the implementation status assigned to this recommendation. The SNS Unit projects that the remaining work orders will be completed within a year given existing production rates, staff resources and contract capacity. As noted within this response, there are time standards for emergency conditions addressed by in-house staff.

Audit Recommendation 6:

DOT should strengthen its controls over the mapping process to ensure that the GIS database is regularly updated to include all complaints the agency receives through the 311 system and ensure that the GIS database is regularly reviewed for completeness and accuracy in reflecting the status of all such complaints and the corresponding surveys and work orders.

NYCDOT's Response:

NYCDOT partially agrees with this recommendation. The SNS Unit reviewed the information presented in this finding and performed additional research in order to clarify some issues noted in the report:

- 1) We agree with the statement on page 14 that seven of the 21 complaints categorized as emergencies were incorrectly recorded in the GIS database. We will continue to limit the mapping of complaints to non-emergency conditions.
- 2) We disagree with the second bullet on page 14: "The street name sign conditions at the intersections relating to two complaints were worse than those reported in the sampled complaint (e.g., signs that complainants reported as damaged were missing at the time of our observation)." The audit is incorrectly assuming that current sign conditions are related to 311 complaints that had been received over a year prior. It is incorrect to conclude that a location with a current defect, which had a previous 311 complaint at that location, was not previously addressed by NYCDOT. A sign could potentially become missing even within hours of when it was repaired or installed.



- 3) DOT work orders were prepared before NYCDOT received the complaints because field work was done prior under regular survey. Once the SNS unit confirmed field condition were the same, the existing work orders were processed.
- 4) The SNS Unit is operating at limited capacity due to staff shortage and therefore can't update the GIS database as often as preferred. Once operating at full capacity, staff can be assigned accordingly. Additionally, the SNS Unit is working toward getting away from this process with the emerging street name sign management capabilities of our SIMS system.

Audit Recommendation 7:

DOT should ensure that service request numbers are appropriately exported to the GIS map so that it can track and report complaint dispositions.

NYCDOT's Response:

NYCDOT disagrees with this recommendation. The SNS Unit reviewed the information presented in this finding and performed additional research in order to clarify some issues noted in the report. Of the 35 sampled complaints recorded in the GIS system where there was no service request number, 16 were Complaint Type – Dangling and therefore did not need to be tracked in this system since they were addressed by TC&E as dangerous conditions and completed as quickly as possible. (No dangling sign observed by auditors during their field visits). Of the remaining 19 sampled complaints, all were mapped and evidence provided as acknowledged by the auditor on page 14.

Recommendation 8:

DOT should develop written procedures and ensure that all critical information for the maintenance and installation of the street name signs are recorded on the hardcopy work orders and all relevant databases.

NYCDOT's Response:

NYCDOT partially agrees with this recommendation. All information that the SNS Unit deems critical for the maintenance and installation of street name signs are recorded on the hardcopy of the work orders. However, the SNS Unit agrees that they should develop written procedures. In addition, the SNS Unit is currently in the process of updating the Access database to include all completion date and post inspection dates.



Audit Recommendation 9:

DOT should ensure that inspectors use the "Completion Date and Post Inspection Update Form" as required by the SNS procedures to enter all critical street name sign information in the Access database.

NYCDOT's Response:

Agreed. The SNS Unit is currently in the process of updating the Access database to include all completion date and post inspection dates.

Thank you for your prompt attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Beaton".

Eric Beaton
Deputy Commissioner

Cc: Commissioner Trottenberg; J. Jarrin, Exec. D/C, DOT; M. Forgione, COO, DOT; S. Pondish, General Counsel DOT; R. Livermon, Director DOT; J. Economos, Dep. Director, DOT; J. Thamkittikasem, Director, Mayor's Office of Ops; F. Ardolli Assoc. Dep. Director, Mayor's Office of Ops; B. Hamed, Chief of Staff, Mayor's Office of Ops