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STATE OF NEW YORK
OFFICE OF THE STATE COMPTROLLER

April 11, 2024

Ydanis Rodríguez
Commissioner
New York City Department of Transportation
55 Water Street
New York, NY 10041

Re: Oversight of Selected Aspects of
Traffic Controls
Report 2023-F-22

Dear Commissioner Rodríguez:

Pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article III of the General Municipal Law, we have followed up on the actions taken by officials of the New York City Department of Transportation to implement the recommendations contained in our initial audit report, *Oversight of Selected Aspects of Traffic Controls* (Report [2018-N-6](#)).

Background, Scope, and Objective

The New York City Department of Transportation's (DOT/Department) mission is to provide "the safe, efficient, and environmentally responsible movement of people and goods in the City of New York and to maintain and enhance the transportation infrastructure crucial to the economic vitality and quality of life of our primary customers, City residents." DOT is responsible for the operation and condition of approximately 6,300 miles of streets and highways, over 12,000 miles of sidewalks, over 13,250 signalized intersections, and over 315,000 street lights.

The Traffic Operations Division (Division) is responsible for conducting traffic control studies at intersections, approving traffic controls (including traffic signals and multi-way stops), and overseeing the design, construction, timing, and maintenance of traffic control devices. The Signals & Street Lighting Unit is part of the Division and includes the Intersection Control Unit (ICU), which is responsible for conducting traffic control studies at intersections without traffic signals, and the Signal Timing Unit, which is responsible for conducting studies at intersections with signals. DOT receives intersection study requests from various sources, including the City's 311 system, its website, letters from the public, elected officials, and DOT employees. In addition, Research, Implementation and Safety, a unit within the Division of Transportation Planning and Management, develops data-driven lists of non-signalized intersections to be studied by the ICU as a proactive initiative.

The Division's Traffic Management Center (TMC) is a 24/7 operation responsible for citywide traffic management, incident response, traffic signal operation and maintenance, and information dissemination. To monitor traffic conditions and detect incidents, TMC staff use video surveillance cameras and media broadcasts. DOT is also part of the Joint Transportation

Management Center, which coordinates incident response with its Office of Emergency Response, the New York City Police Department, and the New York State Department of Transportation.

In 2011, the TMC began using the Midtown in Motion (MiM) system to improve traffic conditions in midtown Manhattan by identifying traffic issues and automatically adjusting signal patterns to smooth traffic flow. The TMC operator can override the MiM proposed changes. According to DOT officials, MiM manages over 500 signalized intersections utilizing 160 microwave sensors, 50 traffic video cameras, and 100 E-ZPass readers.

The objectives of our initial audit, issued on September 30, 2020, were to determine whether DOT monitors and evaluates traffic flow at intersections and whether DOT took action to improve safe traffic and pedestrian flow at intersections. The audit covered the period from January 1, 2016 to March 13, 2020. The audit found that DOT monitored traffic flow at intersections but did not address the concerns of its customers in a timely manner. Among the issues we found:

- Our review of 78 intersection studies determined it took the ICU an average of 10 months (41 weeks) to complete a study—well beyond the 4-month time frame specified in DOT’s Resource Guide. In fact, 34 studies took more than 1 year to complete.
- We visited 17 intersections where the ICU recommended improvements and found six improvements that were not implemented and no evidence of the decisions made by DOT regarding the recommended improvements.
- The TMC did not always monitor traffic conditions due to traffic cameras that were pending repair for significant amounts of time, including 35 traffic cameras that were out of service for over 180 days, with two traffic cameras out of service for over 5 years.

The objective of our follow-up was to assess the extent of implementation, as of March 7, 2024, of the 11 recommendations included in our initial audit report.

Summary Conclusions and Status of Audit Recommendations

DOT officials made progress in addressing the issues we identified in the initial report. Of the initial report’s 11 recommendations, five were implemented, four were partially implemented, and two were not implemented.

Follow-Up Observations

Recommendation 1

Revise the Department’s Resource Guide to make meeting the time frames a requirement and to ensure that corrective action is taken when needed.

Status – Partially Implemented

Agency Action – DOT officials provided us with an updated Resource Guide, with the latest revision made as of April 2023. However, according to several DOT officials, time frames are still a guideline and not a requirement, but they have strengthened their monitoring when studies are not completed timely.

Recommendation 2

Revise the SWOTS database as follows:

- *Automatically add cases sent via ARTS;*
- *Maintain the original dates when dates are modified;*
- *Permit only designated managers to edit dates; and*
- *Maintain a log to document who made changes and when.*

Status – Partially Implemented

Agency Action – We reviewed 17 files from the Signal Work Order Tracking System (SWOTS), 12 closed and five denied. Based on the information obtained, we concluded that DOT has not revised the database to automatically add cases sent via the Agency Response Tracking System (ARTS) and does not maintain the original date when dates are modified. However, we also found that only designated managers are given permission to make edits in SWOTS, and SWOTS does log when and who made changes.

Recommendation 3

Develop a process for the ICU to ensure that improvements recommended by its inspectors are implemented promptly. Document the reasons recommendations were not implemented or were modified.

Status – Not Implemented

Agency Action – DOT officials stated that the ICU does not have the resources and staff to implement the recommendation.

Recommendation 4

Ensure that intersection study files contain all required documentation including, but not limited to, information supporting the conclusions in accordance with MUTCD guidelines.

Status – Partially Implemented

Agency Action – We sampled 17 intersection studies to determine if the intersection study files contained all required documentation to support the conclusion in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Two intersection studies were excluded from our review (one study was placed on hold and another was rerouted to another unit). Of the remaining 15 cases, the files for the 10 approved cases had the required information. However, the files for the five denied cases did not contain sufficient documentation to determine the basis for the rejection.

Recommendation 5

Monitor contractors' construction and installation of traffic signals to ensure work orders are completed within 45 days, as required by the contracts.

Status – Partially Implemented

Agency Action – We selected five closed case studies to determine if the signals and sign work

orders were completed within 45 days. None of the five were completed within 45 days of being released to the contractor for installation. However, DOT officials claimed that the recommendation was implemented because, while the contractors did not meet the required time frame due to a variety of factors, DOT monitored them. However, DOT did not provide documentation to support its efforts.

Recommendation 6

Ensure the EIU reviews cases from the ICU and documents the results regarding any safety improvements that can be made to an intersection.

Status – Not Implemented

Agency Action – During the opening conference, DOT officials reiterated the Enhanced Intersection Unit (EIU) didn't exist, stating that the auditors may have been referring to the Enhanced Crossing Unit, which is suspended. However, DOT officials later noted that the EIU had existed and shut down 5–6 years ago, but did not provide documentation to support their statement.

Recommendation 7

Develop procedures regarding the camera repair process and update the Electrical Shop SOPs.

Status – Implemented

Agency Action – The TMC has created a Camera Repair Protocol and updated the Electrical Shop Standard Operating Procedures (SOPs).

Recommendation 8

Revise and update TMC SOPs, including, but not limited to:

- *Current procedures for incident management;*
- *Requirements for TMC operators to enter all required information into the incident log database, including any actions taken based on verbal communication with other agencies;*
- *Instructions for staff to follow regarding broken traffic cameras, including communication and time frames; and*
- *Procedures for the MiM system, including criteria for accepting or rejecting the system's recommendation, and documenting the reason for rejecting a recommendation.*

Status – Implemented

Agency Action – The TMC SOPs were revised in June 2021. The revisions include changes to the incident response and reporting procedures as well as instructions for staff to follow regarding broken traffic cameras. Procedures for the MiM system were also added to the TMC SOPs, including criteria for rejecting the system's recommendation.

Recommendation 9

Document changes made to the hours that MiM monitors traffic, including the reason.

Status – Implemented

Agency Action – The TMC conducted a time study of MiM operations in June 2019. The study compared the travel time inside and outside of the Midtown zone over two separate weeks. The study showed that there was not a significant amount of traffic occurring inside the Midtown zone compared to outside the zone between 8 a.m. and 11 a.m. DOT officials stated that there has not been a change to the operating hours since the initial audit. Officials advised us that future changes would be documented in the MiM manual.

Recommendation 10

Develop a training program for the operators of the MiM system.

Status – Implemented

Agency Action – DOT provided a training on NYC’s Adaptive Control System on October 10, 2023. The training included an overview of the MiM system.

Recommendation 11

Require unique sign-on credentials for all MiM users.

Status – Implemented

Agency Action – The password policy for MiM users follows the NYC Information Technology & Telecommunications’ Citywide Information Security Policy. MiM user passwords have a minimum of eight characters containing alphabetic, numeric, and special characters; must be changed every 45 days; and the last three passwords can’t be reused.

Major contributors to this report were Abe Fish, Marsha Millington, and Kyle Yuen.

DOT officials are requested, but not required, to provide information about any actions planned to address the unresolved issues discussed in this follow-up within 30 days of the report’s issuance. We thank the management and staff of the New York City Department of Transportation for the courtesies and cooperation extended to our auditors during this follow-up.

Very truly yours,

Carmen Maldonado
Audit Director

cc: R. Livermon, Department of Transportation