

THOMAS P. DINAPOLI  
COMPTROLLER



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STATE OF NEW YORK  
OFFICE OF THE STATE COMPTROLLER

April 12, 2018

Mr. Joseph Lhota  
Chairman  
Metropolitan Transportation Authority  
2 Broadway  
New York, NY 10004

Re: Selected Safety and Security Equipment  
at Train Stations  
Report 2017-S-84

Dear Mr. Lhota:

Pursuant to the State Comptroller's authority as set forth in Article X, Section 5 of the State Constitution and Section 2803 of the Public Authorities Law, we examined selected safety and security equipment at train stations at the Staten Island Railway, a unit of the Metropolitan Transportation Authority, for the period January 1, 2014 to September 12, 2017. The objective of our audit was to determine whether the Staten Island Railway has taken appropriate action to ensure that equipment, such as cameras and Customer Assistance Intercoms, are working, tested, maintained, and monitored.

**Background**

Staten Island Railway (SIR) is a subsidiary of the Metropolitan Transportation Authority (MTA). Administratively, SIR is a separate operating unit, reporting to New York City Transit's (Transit) Department of Subways. SIR operates a single rapid transit line that runs the length of Staten Island (about 14 miles) from St. George Terminal to the southern terminal at Tottenville.

SIR's management oversees capital projects at its 21 train stations, maintains the stations' structural components, and ensures that security equipment installed at the stations is working, monitored, and tested.

As of June 8, 2017, SIR had 199 Closed Circuit Television (CCTV) cameras, 42 stand-alone cameras, and 43 Customer Assistance Intercoms (CAI) – intended for customer use in emergencies – at an estimated cost of approximately \$21 million for the new system, excluding the stand-alone cameras.

SIR's Electronic and Electrical Maintenance Division (EEMD) technicians perform preventive maintenance and repairs on safety and security equipment such as CCTV cameras, CAIs, monitors, and Digital Video Recorders (DVR). The CCTV system is not publicly broadcasted, but is monitored, primarily for surveillance and security purposes. CCTV relies on strategic placement of cameras and the off-site observation of the cameras' footage.

The SolarWinds system continuously monitors the CAIs and is supposed to issue an alert in the case of an operational defect. When an alert lasts 15 minutes or more, the IT manager sends EEMD an email and a technician will address the condition. The CAIs were activated on June 29, 2017.

SIR's CCTV cameras are split into two systems, the old stand-alone system (old system) and the new security system (new system), as described below:

- The old system is operated and maintained by EEMD. These camera systems are located inside the station houses (shelter on station platform) and in the eastbound and westbound porticos (egress-entrance/exit areas). There are usually between two and four CCTV cameras in the station house and two in each portico, or about six to eight per location. CCTV video from these cameras is recorded on a local DVR. We were advised that these cameras were installed on a staggered basis beginning in September 2014.
- The new system includes cameras and CAIs located in the off-hour waiting areas of each side of the station platform. At St. George and Tompkinsville, they are near the turnstiles – Automated Fare Collection pay areas.

## **Results of Audit**

Transit has installed a number of safety and security systems at SIR train stations. Preventive maintenance and timely repair of these systems are essential to deterring break-ins and theft and ensuring continuous surveillance, passenger safety, and the overall security of the area(s) being monitored. However, we found that SIR has not always performed the inspection and maintenance of security equipment (i.e., CCTV cameras and DVRs) on a timely basis. In September 2017, SIR officials developed a new maintenance procedure for security equipment. However, it is unclear if the new procedure includes CAIs.

### ***Preventive Maintenance***

From January 1, 2014 through September 12, 2017, SIR did not have written preventive maintenance procedures for security equipment (i.e., CCTV cameras and DVRs) installed at stations. A SIR official told us that maintenance of the "old" CCTV equipment is not required; however, to ensure it is working, SIR inspects and tests the equipment for the old system monthly. Staff-identified defects were noted on paper and given to the Maintenance Foreman to address in a timely manner. However, there was no definition of "timely." On April 19, 2017, when asked about maintenance of the new system, the official stated that the CCTV section of the system was operational, but not the CAIs. He added that maintenance for the new CCTV system was not required, but was done every 90 days. The new cameras self-report equipment failures or

defects. Since May 17, 2017, the IT Manager checks the equipment failures on a daily basis to note items that require repair and then notifies EEMD via email.

We requested inspection records for the period October 1, 2014 to May 31, 2017 to determine if the aforementioned inspection and preventive maintenance were performed in accordance with the schedule provided by SIR. As cameras were installed at the following stations on a staggered basis beginning in September 2014, different stations had different numbers of scheduled inspections, as cameras were present for varying lengths of time. A review of the inspection records received shows the following:

- Eltingville had 14 of 15 inspections;
- Annadale and Huguenot had 17 of 19 inspections;
- Grant City and New Dorp had 19 of 20 inspections; and
- Oakwood Heights, Great Kills, and Tottenville had 26 of 32 inspections.

The St. George station, which has the most cameras installed (91), had only 5 of 32 scheduled inspections. SIR did not provide records for December of 2014, or for February, August, and September of 2015. Failure to perform maintenance activities can shorten the operating life of the equipment and decrease equipment reliability.

#### ***Customer Assistance Intercoms***

On October 18, 2007, Transit's Capital Program Management (CPM) started a project to improve customer security with the new CAI system, which would link CCTV cameras with CAIs. The Camera/CAI system obtained "substantial completion" in December 2015, which allowed SIR workers to test the system and gain an understanding of how it should be operated. However, there were significant delays that prevented the CAIs from becoming fully operational. In total, it has taken almost ten years to install and begin operating the CAIs.

Transit CPM officials indicated the delay was due to the subcontractor's failure to provide the required software to operate the devices, thus delaying completion of the CAI project. Additional delays were also caused by the addition of backup storage cabinets, a redesign of the cable expansion pad, and structural repairs to Tower A at St. George station, which houses CAI equipment.

The major software defects as well as the network and server issues have since been resolved. According to SIR, as of June 29, 2017, the 43 CAIs installed at 20 of the 21 stations were operational. Transit CPM officials indicated that the CCTV component of the CAI system, which is monitored and maintained by SIR, now has the capacity to detect and report defects.

In September 2017, SIR developed new inspection and preventive maintenance procedures for security equipment. However, it is unclear if the new procedures include CAIs.

## **Recommendations**

1. Develop a repair frequency standard and ensure compliance with preventive maintenance and repair frequency standards.
2. Clarify whether the newly developed inspection and preventive maintenance procedures include CAIs.

## **Audit Scope, Objective, and Methodology**

To determine if the Metropolitan Transportation Authority's (MTA) Staten Island Railway (SIR) ensures that safety and security equipment, such as cameras and Customer Assistance Intercoms, are working, tested, maintained, and monitored. This audit covered the period January 1, 2014 to September 12, 2017.

To accomplish our objective, we reviewed policies, procedures, and guidelines related to the processes for addressing safety and security equipment at the train stations. We interviewed SIR officials and employees to evaluate the internal controls related to our objective. We also reviewed inspection reports provided by SIR management for the period October 1, 2014 to May 31, 2017.

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.

In addition to being the State Auditor, the Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds, and other payments. In addition, the Comptroller appoints members to certain boards, commissions, and public authorities, some of whom have minority voting rights. These duties may be considered management functions for purposes of evaluating organizational independence under generally accepted government auditing standards. In our opinion, these functions do not affect our ability to conduct independent audits of program performance.

## **Reporting Requirements**

We provided a draft copy of this report to MTA – SIR officials for their review and formal comment. Their comments were considered in preparing this final report and are attached in their entirety to this report. The MTA replied that it disagrees with the recommendation for a formal preventive maintenance frequency standard, because it developed a procedure for its new system of cameras. However, that procedure does not address the “old system,” which is still in operation. Thus, not all of SIR's equipment is covered by a formal standard for preventive

maintenance and repairs. Our rejoinders to certain comments in MTA's response are included in the report's State Comptroller's Comments.

Within 90 days after the final release of this report, as required by Section 170 of the Executive Law, the Chairman of the Metropolitan Transportation Authority shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees advising what steps were taken to implement the recommendations contained herein, and where the recommendations were not implemented, the reasons why.

Major Contributors to this report were Robert C. Mehrhoff, Myron Goldmeer, Robert Tabi, Susan Gordon, Nareen Jarrett, and Steven Saleeby.

We wish to thank the management of the Metropolitan Transportation Authority – Staten Island Railway for the courtesies and cooperation extended to our auditors during this audit.

Very truly yours,

Carmen Maldonado  
Audit Director

cc: M. Fucilli, MTA, Auditor General  
D. Jurgens, MTA, Audit Director  
NYS Division of the Budget

# Agency Comments

2 Broadway  
New York, NY 10004  
212 878-7000 Tel

**Joseph J. Lhota**  
Chairman



## Metropolitan Transportation Authority

State of New York

February 13, 2018

Ms. Carmen Maldonado  
Audit Director  
The Office of the State Comptroller  
Division of State Government Accountability  
59 Maiden Lane, 21<sup>st</sup> Floor  
New York, NY 10038

**Re: Draft Report #2017-S-84 (State Island Railway: Selected Safety and Security Equipment at Train Stations)**

Dear Ms. Maldonado:

This is in reply to your letter requesting a response to the above-referenced draft report.

I have attached for your information the comments of Andy Byford, President, MTA New York City Transit, which address this report.

Sincerely,

A handwritten signature in blue ink that reads "Joseph J. Lhota".

Joseph J. Lhota

c: Veronique Hakim, MTA Managing Director  
Michael J. Fucilli, Auditor General, MTA Audit Services

Attachments

*The agencies of the MTA*

MTA New York City Transit  
MTA Long Island Rail Road

MTA Metro-North Railroad  
MTA Bridges and Tunnels

MTA Capital Construction  
MTA Bus Company

# Memorandum



**Date** February 12, 2018  
**To** Joseph Lhota, Chairman, MTA  
**From** Andy Byford, President, NYC Transit   
**Re** **New York State Comptroller Report #2016-S-84: Selected Safety and Security Equipment at Train Stations**

This information is being provided in response to the New York State Comptroller's above-referenced audit report. The stated purpose of the audit was to determine whether the Staten Island Railway (SIR) has taken appropriate action to ensure equipment, such as cameras and Customer Assistance Intercoms (CAIs), are working, tested, maintained, and monitored.

*Comptroller Recommendation #1: Develop a repair frequency standard and ensure compliance with preventive maintenance and repair frequency standards.*

NYCT Response: We disagree with this recommendation, as it implies that SIR failed to develop formal preventive maintenance standards once it was appropriate to do so. Throughout the audit, SIR communicated to the auditors that the security equipment project was still in the construction phase. Now that the project has achieved beneficial use (as of August 2017), SIR has developed formal preventive maintenance standards, consisting of daily diagnostics of the networked system (and a visual inspection every 60 days), in addition to visual inspections/maintenance of the local system on a 30-day cycle.

\*  
Comment  
1

*Comptroller Recommendation #2: Clarify whether the newly developed inspection and preventive maintenance procedures includes CAIs.*

NYCT Response: The preventive maintenance procedures include CAIs.

\*  
Comment  
2

\*See State Comptroller's Comments, page 8.

## State Comptroller's Comments

1. The recommendation covers all of SIR's equipment used for safety and security. However, the new procedure is limited to the new system. This excludes the pre-existing system that is still in operation, including the 13 cameras at the Clifton station rail yard/facility.
2. To avoid any confusion, the procedure should be revised to explicitly state that the preventive maintenance procedures include CAIs.