



Progress Report: The MTA Capital Security Program

Thomas P. DiNapoli
New York State Comptroller

Kenneth B. Bleiwas
Deputy Comptroller

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This report is the ninth in a series by the Office of the State Comptroller on the progress of the capital security program of the Metropolitan Transportation Authority (MTA). Over the past eight years, our reports have chronicled the MTA's progress as well as the problems it has encountered in completing the program's projects. These problems include projects that were more complicated than initially envisioned, permit delays, unexpected site conditions, and a variety of issues related to the electronic security program. To maintain security, this report does not reveal the details of individual projects.

The MTA created its capital security program in response to the terrorist attacks on September 11, 2001. The MTA developed a multifaceted strategy to harden and control access to its facilities, which included operational initiatives and security-related projects to be funded mostly through the capital program.

The MTA's 2000-2004 capital program allocated \$591 million to fund the 16 highest-priority projects (i.e., Phase 1) of the security program. The Phase 1 projects targeted the most vulnerable and most heavily used assets, such as stations, transit hubs, bridges and tunnels. Each project involved security improvements at one or more facilities. Over the years, the overall cost of Phase 1 has grown by 49 percent, to \$883 million.¹

As of February 2012, the MTA had completed 14 projects in Phase 1. Each of these projects experienced significant delays and cost overruns, with six projects taking more than three years longer than the MTA's initial baseline estimate. Now, more than two years later, the 2 remaining projects, which involve the electronic security program, are still not finished. The cost of the electronic security program, which has been the most difficult part of Phase 1, has nearly doubled (to \$520 million) as its scope has expanded, and the program has encountered numerous setbacks.

¹ This estimate includes one project that was originally part of Phase 1 but was deferred to Phase 2 by the MTA due to a lack of funding.

The electronic security program had already encountered major delays before Superstorm Sandy, but the storm caused significant damage costing an additional \$28 million and delaying completion by almost three more years. While important components have been completed, the entire electronic security program is not expected to be finished until the fourth quarter of 2017. That target date is more than nine years later than planned at the time the original construction contract was awarded, more than three years later than the MTA estimated at the time of our 2012 progress report, and 16 years after the terrorist attacks in 2001.

To complete the next tier of needed security enhancements, the MTA expanded the capital security program into two additional phases (i.e., Phase 2 and Phase 3), with an estimated total cost of \$435 million for 24 additional projects. Of these, 6 have been completed and 10 are in construction. A number of these projects have also experienced significant delays and some have encountered funding problems.

The MTA completed design work for 5 projects in Phase 2 involving fire, life and safety improvements, with the expectation that construction would be federally funded. Since then, however, federal priorities have shifted, resulting in no further funding for this type of security improvement. (Over the past five years, federal funding nationwide for transit security projects has fallen by 74 percent.) The MTA will now have to allocate \$120 million of its own resources to complete work on these important projects, but it has not yet done so.

Moreover, even when federal funds are available, the MTA has encountered problems. The authority lost the use of almost \$46 million in federal grants for its capital security program when delays to three Phase 2 projects pushed expected completion dates past the deadline for spending the grants. While the federal government has agreed in this instance to allow the MTA to use these funds for other purposes, the MTA will have to allocate additional funds of its own to complete these 3

capital security projects. These MTA resources could have been used instead to pay for high-priority fire, life and safety improvements.

The MTA has budgeted more than \$1.3 billion in capital resources for security projects, and has indicated that it will need to invest another \$500 million over the next 20 years. Given the limited availability of federal funds and the MTA’s history of delays in completing its capital security projects, it is likely that the authority will have to devote more of its own resources than currently planned to complete the remaining work.

Despite the problems the MTA has encountered with the capital security program, its system is much safer today than it was in 2001. So far, the MTA has hardened 19 critical infrastructure facilities (e.g., bridges, tunnels and stations) to make them better able to withstand the impact of explosive devices; installed perimeter protection around 8 major facilities; and improved fire, life and safety systems at 16 facilities, including tunnels and stations, to accelerate response times and expedite evacuation in the event of an emergency. Although the electronic security program is far behind schedule, the MTA and the New York City Police Department (NYPD) are receiving significant benefits (e.g., video surveillance) from the portions of the program that have been completed.

Phase 1

Phase 1 of the MTA’s security program encompasses 16 projects, 14 of which have been completed: 5 hardening projects; 4 perimeter protection projects; 3 fire, life and safety projects; and 2 electronic security projects. Each of the completed projects took longer to finish than the MTA had initially expected. Six exceeded the baseline schedules set by the MTA in late 2003 and early 2004 by more than three years. The remaining 8 were each delayed between 8 and 36 months.

Phase 1 has also taken longer than was anticipated at the time the construction contracts were awarded. The 16 projects in Phase 1 were divided by the MTA into 38 separate construction tasks. Of the 38 construction tasks, 15 tasks (40 percent) were completed on or ahead of schedule, and 23 (60 percent) were late (see Figure 1), including 10 that were more than one year behind, with 4 others more than four years behind schedule.

The MTA continues to struggle with the completion of the remaining two projects (both

involving electronic security), which has delayed the full completion of Phase 1. The original construction contract called for these projects to be completed in August 2008; one is nearly seven years behind schedule and the other is now more than nine years behind schedule.

Figure 1
Phase 1: Progress of Construction Tasks

On or Ahead of Schedule	1 to 6 Months Behind Schedule	7 to 11 Months Behind Schedule	1 to 2 Years Behind Schedule	More Than 2 Years Behind Schedule
15 Tasks	10 Tasks	3 Tasks	3 Tasks	7 Tasks

Sources: Metropolitan Transportation Authority; OSC analysis

The electronic security program is complex, and entails the installation of more than 3,000 cameras and 1,400 access-control devices in stations and tunnels, to be integrated and monitored at six local and regional command centers and one central command center. Two of the MTA’s four operating agencies (i.e., Bridges and Tunnels, Long Island Rail Road, Metro-North Railroad and New York City Transit) now have full operational electronic security capability. (Since our last review in April 2012, the MTA has achieved operational capability at a second operating agency, almost four years later than the completion date in the original construction contract.)

At the time of our last review, work at a third operating agency was nearing completion. The MTA expected work there to be finished by June 2012, but continued delays in gaining access to four facilities had prevented the completion of the work. (These facilities are used by the MTA but owned by another entity.) By September 2012, more than 94 percent of the devices were functional, but the project remained unfinished.

In October 2012, corrosive saltwater from Superstorm Sandy caused significant damage to the electronic security infrastructure at this operating agency. More than 50 cameras, 72 access-control devices and 5 miles of fiber-optic cable and power supply panels were damaged, at an estimated cost of \$23 million.

In response, the MTA (with the federal government’s approval) reduced the scope of the project and completed work in January 2014. Even though 40 percent of the cameras and sensors at these facilities are not functioning because of storm damage, the MTA deems this project “fully

operational.” (The MTA maintains that, while the completed project has fewer security capabilities than originally planned, all critical points are protected.) The authority expects to award a construction contract in November 2014 to repair the devices damaged by Superstorm Sandy, with the expectation that work will be completed in November 2017. The three-year estimate reflects the difficulty the MTA has had in gaining access to this facility, which has also impacted the MTA’s ability to maintain previously installed devices.

Work at the fourth operating agency, which involves perhaps the most complicated aspects of the electronic security program, is far behind schedule. The project was in trouble even before 2009, when the MTA and Lockheed Martin (the primary contractor for the electronic security program) accused each other of violating the terms of the contract.

The MTA and Lockheed are in litigation to determine fault for various problems. Lockheed is claiming damages of at least \$149 million for wrongful termination or \$93 million for breach of contract. The MTA is claiming damages of at least \$206 million. A trial is scheduled to begin July 7, 2014.

Although the MTA has hired other contractors to continue the work, the electronic security program at the fourth operating agency continues to experience setbacks. The MTA is installing electronic security devices at 13 facilities under two separate construction contracts. The first contract was scheduled to be completed in August 2012, but work was already seven months behind schedule when Superstorm Sandy damaged 8 facilities under construction, requiring repairs estimated at \$5 million. Construction is now scheduled to be completed by the end of September 2014, more than two years later than the completion date established at the time the construction contract was awarded.

In July 2012, after a six-month delay in the receipt of federal funding, the MTA reassessed the work needed for the second contract, and determined that it had underestimated its in-house labor costs and needed an additional \$17 million. This delayed the award until March 2013; construction is now expected to be finished in March 2015.

The overall cost of the Phase 1 electronic security program has nearly doubled, from \$265 million to \$520 million (excluding storm repair costs of

\$28 million). About half of the increase (\$132 million) is due to the inclusion of additional facilities, with most of the remainder due to unplanned costs associated with facilities to house the command and control centers (\$51 million) and the upgrade and repair of computer networks (\$33 million).

In spite of delays and unplanned costs, the MTA’s four operating agencies, the MTA Police Department and the NYPD are receiving significant benefits from the electronic security program. For example, video feeds from nearly 1,000 cameras in the subway system route to the NYPD’s security command center, where they are run through situational awareness software.

Phases 2 and 3

The MTA has expanded the security program into two more phases to better protect the public and the authority’s assets. As of March 2014, Phase 2 and Phase 3 included 24 construction projects.²

Phase 2 includes 17 construction projects with an estimated cost of \$364 million. In Phase 2, each project entails a separate construction task. So far, 6 construction tasks have been completed and another 6 are in progress. As shown in Figure 2, many of the projects begun in Phase 2 are falling behind the schedules established at the time the construction contracts were awarded.

Figure 2
Phase 2: Progress of Construction Tasks

On or Ahead of Schedule	1 to 3 Months Behind Schedule	4 to 6 Months Behind Schedule	More than Six Months Behind Schedule
3 Tasks	3 Tasks	2 Tasks	4 Tasks

Sources: Metropolitan Transportation Authority; OSC analysis

The MTA has completed 2 hardening projects, 2 perimeter protection projects and 2 electronic security projects. One project was completed five months ahead of the agreed-upon completion date and another was completed on schedule. Three projects were completed within three months of scheduled completion dates, but another project was completed one year later than planned. Of the 6 Phase 2 projects still in construction, only one is expected to be completed on schedule.

² The MTA has completed design work for an additional project, but no longer intends to complete the project because it could not justify the return on the investment.

Two projects are expected to be completed between four and six months later than the completion dates established when the contracts were awarded, 2 are expected to be completed eight months later than planned, and the remaining project is expected to be completed 11 months later than planned.

The MTA had planned to complete 5 fire, life and safety projects at an estimated cost of \$120 million as part of Phase 2. The work includes improvements to lighting, ventilation and communication equipment, which are critically important to accelerate emergency response times and expedite evacuations.

In 2011, construction funding for 2 of these projects was disapproved by the U.S. Department of Homeland Security (DHS), even though funding for design on the projects had already been granted and design work performed. The DHS has advised the MTA that this type of mitigation will no longer receive federal funding, as it is now a low federal priority given current funding constraints. This change in federal policy also affects 3 other fire, life and safety projects for which design work has been completed. Construction will not begin on these projects until the MTA allocates an additional \$120 million of its own funds or identifies alternative resources.

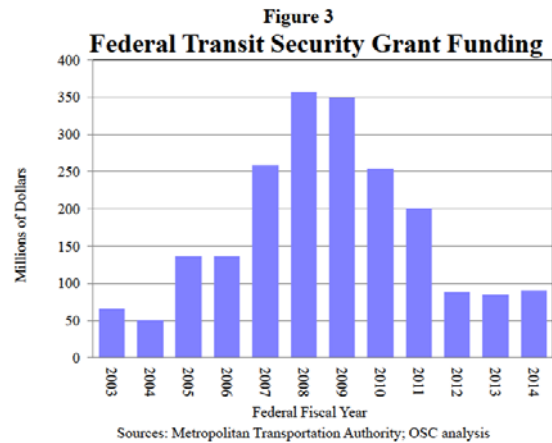
Phase 3 consists of 7 projects (3 in electronic security, 2 in perimeter protection and 2 hardening projects), with a current budget of \$71 million. Four projects are in construction and are on schedule. Two other projects are scheduled to begin construction in May 2014. Design for the last project is already underway, with construction expected to begin in the first quarter of 2015.

Federal Funding

The DHS has been providing security grants to states, cities, ports and transit agencies since its inception in 2002. Nationwide, federal funding for security measures peaked at \$3.1 billion in federal fiscal year (FFY) 2009 (excluding \$300 million in stimulus funding provided under the American Reinvestment and Recovery Act of 2009). By FFY 2014, however, funding had been cut nearly in half, to \$1.6 billion, as a result of deficit reduction efforts.

Federal security grants dedicated to transit declined from \$348.6 million in FFY 2009 to

\$87.5 million in FFY 2012, a reduction of nearly 75 percent (see Figure 3). Although the federal allocation for homeland security is 17 percent higher in FFY 2014 than the allocation in FFY 2012, the amount devoted to transit security has increased by less than 3 percent.



In May 2009, the MTA was awarded \$99 million in federal funding for 9 security projects, and was given three years to complete them. The authority received the funding about a year later, leaving only two years to complete the work. Even with two one-year extensions, the MTA expects to miss the May 2014 deadline for 3 of the projects, resulting in a loss to the capital security program of \$45.6 million in federal grants.

The federal government is now allowing grant recipients only 24 months to complete projects using its grant money or risk the loss of those funds. Although in this instance the federal government has agreed to allow the MTA to use the grant money to accelerate purchases of other security equipment, including 1,000 Help Point intercoms, this experience suggests that delays in completing capital projects in the future could result in the loss of federal funds.

The MTA's 20-year capital needs assessment estimates that the authority will need to invest \$125 million in each of the next four capital plans (each lasting five years) to address needed security work. Given the limited availability of federal funds and the MTA's history of encountering delays on its capital security projects, it is likely that the authority may have to devote more of its own resources to complete the remaining critical work in a timely manner, which may come at the expense of other capital projects.