

**BASELINE REPORT ON THE  
LOWER MANHATTAN  
RECOVERY PROJECTS**

*Federal Transit Administration*

*Report Number: MH-2008-086*

*Date Issued: September 26, 2008*



# Memorandum

U.S. Department of  
Transportation  
Office of the Secretary  
of Transportation  
Office of Inspector General

Subject: **ACTION:** Baseline Report on the  
Lower Manhattan Recovery Projects  
Federal Transit Administration  
Report Number MH-2008-086

Date: September 26, 2008

From: Joseph W. Comé   
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for Highway and Transit Audits

Reply to  
Attn. of: JA-40

To: Federal Transit Administrator

This report provides the results of the Office of Inspector General (OIG) review of the Federal Transit Administration's (FTA) oversight of the Lower Manhattan Recovery Projects. In response to the extensive devastation caused by the September 11, 2001, terrorist attacks, the Federal Government dedicated \$4.55 billion to fund projects to reconstruct and enhance Lower Manhattan's transportation infrastructure. Completing the five Lower Manhattan Recovery Projects will be challenging because they are massive in scale, technically complex, and intended to be constructed on expedited time frames and within a Federal funding cap. In addition, the projects require oversight of numerous stakeholders who must coordinate the projects with contractors in a small geographic area.

FTA has lead responsibility for distributing and overseeing the \$4.55 billion in funding. In 2002, FTA established the Lower Manhattan Recovery Office (Recovery Office)—separate from its New York Regional Office<sup>1</sup>—whose mission is to provide a streamlined project delivery system and strong stewardship of Federal transportation funding dedicated to Lower Manhattan recovery. According to FTA, in order to carry out this mission, the Recovery Office adopted one of FTA's innovative approaches to project development and oversight to ensure that these projects are built on-time and on-budget. This innovative

<sup>1</sup> In January 2007, the Recovery Office Director began reporting to the FTA Region 2 Administrator.

approach was to develop a risk management process customized to the level and kind of oversight required for each project.

In a July 13, 2006, congressional testimony before the House Homeland Security Subcommittee on Management, Integration, and Oversight, we testified that effective day-to-day oversight of the Lower Manhattan Recovery Projects was critical to ensuring that they were completed on time, within budget, and devoid of fraud, waste, or abuse.<sup>2</sup> At the request of the subcommittee, we performed this audit to provide an independent perspective on the projects over time.

Our primary objectives were to assess: (1) the status of each project, including costs, funding, schedules, and grantees' oversight and (2) any risks that may adversely impact completion of each project. We also evaluated FTA's oversight of the Lower Manhattan Recovery Projects and the activities of the project management oversight contractors that FTA has assigned to each project.

## **RESULTS IN BRIEF**

This report highlights key challenges facing FTA and its grantees on the Lower Manhattan Recovery Projects, and actions FTA has taken, and should continue to take, to address them. The challenges include mitigating risks posed by estimated cost increases and schedule delays, ensuring grantees provide timely status information and address project management issues that FTA has identified, assessing ways to improve the use of FTA's oversight tools, and identifying reliable funding sources to cover probable cost estimate overruns.

Particular project challenges have been the significant estimated cost increases and schedule delays. For example, the risk assessments<sup>3</sup> that FTA contractors conducted for the Permanent Port Authority Trans-Hudson (PATH) Terminal project and the Fulton Street Transit Center project indicated that project costs may now exceed the Federal and local funds committed. For the overall Lower Manhattan Recovery Projects, estimated costs have increased over the Federal funds committed in amounts ranging from \$76 million on the South Ferry Terminal Station project to \$800 million on the PATH Terminal project. In addition, the Lower Manhattan Recovery Projects may experience significant schedule delays for completion, ranging in duration from 11 months to 41 months.

External factors that were not under the control of FTA and its grantees contributed to estimated cost increases and schedule delays. These factors

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<sup>2</sup> OIG Testimony CC-2006-056, "Lower Manhattan Reconstruction: Lessons Learned from Large Transportation Projects," July 13, 2006. OIG testimonies and reports can be accessed on our website at [www.oig.dot.gov](http://www.oig.dot.gov).

<sup>3</sup> FTA conducts risk assessments to analyze project development and management and to develop potential costs and schedule estimates as a snapshot in time, based on known project conditions and risks. The latest risk assessment information represents a 90-percent probability forecast for costs and schedules.

included unpredictable cost growth due to rising construction material and fuel prices and intense competition with other major projects in the New York City area, including two FTA New Starts projects. However, factors under their control, such as stronger FTA oversight in the early stages of project development and better management practices on the part of grantees, could have reduced the impact of the external factors.

To address project management challenges, including those contributing to estimated cost increases and schedule delays, FTA has recommended actions that the Port Authority of New York & New Jersey (Port Authority) and the Metropolitan Transportation Authority (MTA), the grantees receiving the greatest amount of recovery funding must take. For example, in response to a risk identified through the risk management process, FTA recommended that the Port Authority conclude critical contract price negotiations with its construction manager/general contractor on the PATH Terminal project. Because the Port Authority did not do this, FTA reiterated this recommendation in a March 2008 report. Additionally, FTA requested that the Port Authority provide more timely cost and schedule information. Further, in its March 2008 report, FTA reported that the Port Authority needed to make significant changes in its management approach to completely demonstrate its technical capacity and capability to effectively manage its two Lower Manhattan Recovery Projects—the Permanent World Trade Center PATH Terminal and the World Trade Center Vehicle Security Center.

The previous Port Authority management disagreed with the March 2008 report, but new Port Authority management issued its own report in June 2008 acknowledging the magnitude of the challenges it faces, a situation that presents an opportunity for the Port Authority and FTA to work fully through project management issues and take the necessary corrective actions. We recognize that FTA and the Port Authority have been working diligently to resolve their differences; but a successful resolution will require a sustained focus by both parties.

Estimated cost increases and schedule delays underscore the need for FTA to assess additional actions it could take to maximize the Federal Government's large investment in Lower Manhattan, such as making better use of recovery plans. We concluded that FTA's recovery plans, which are required by construction agreements, have not achieved their goal of maintaining baseline cost estimates and required completion dates. A recovery plan should identify actions a grantee can take to "recover" the baseline cost and schedule estimates contained in the construction agreements, to the maximum extent possible. However our review of recovery plans concluded that while in some instances the recovery plans included actions to reduce the impact of the identified risks, they were largely prepared to

document why estimated cost increases or schedule delays had occurred and to establish new estimates.

Due to significant estimated cost increases and schedule completion delays, tough choices lie ahead. While the initial goal was to keep the projects as close to 100 percent Federal funding as possible and within an overall Federal funding cap, current cost estimates now indicate that this is not an achievable goal. As a result, project grantees will likely have to provide their own funding to complete the projects as designed, or propose to significantly reduce the scope of one or more of the projects, potentially diminishing the benefits that the projects will provide to travelers in New York City. While both of these options are potential solutions, they introduce additional risks to completing the projects, such as the reliability of the additional funds committed and the need for scope reductions to be designed and negotiated between the parties. In addition, FTA would need to review the local funding sources identified for reliability or concur with any of the proposed reductions in scope.

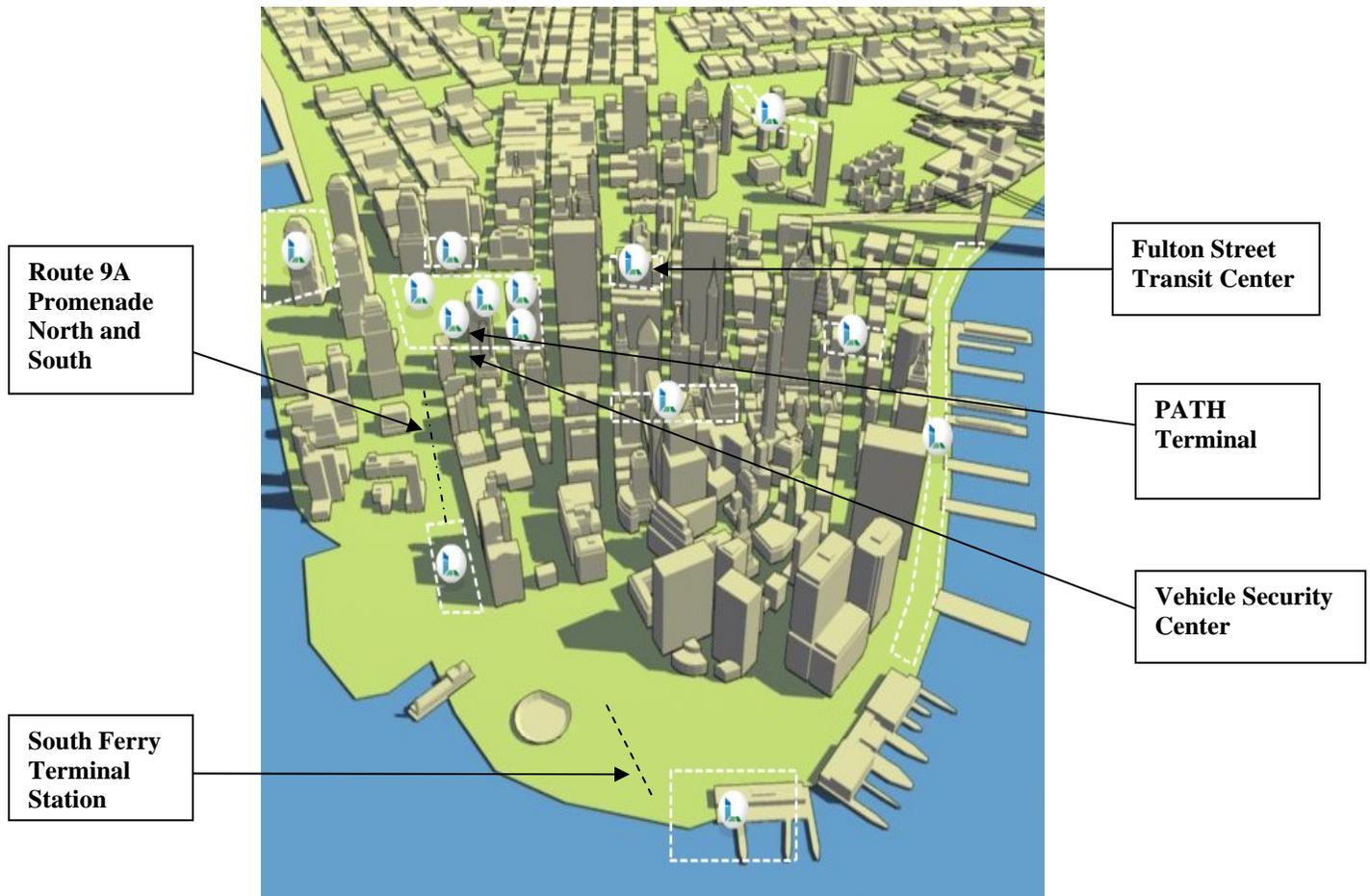
To its credit, in the past year, FTA stepped up its oversight and identified actions that grantees must take to put the projects on a sound footing. This increased oversight is appropriate considering the significant amount of Federal funding provided for the Lower Manhattan Recovery Projects and FTA's oversight requirements are stipulated in the construction agreements that grantees agreed to when they accepted Federal funding. These agreements make it clear that FTA is to provide oversight of each project with the intention of keeping them on budget and on schedule. We recognize that FTA must carefully balance its stewardship responsibility for protecting the \$4.55 billion with the limitations of its oversight authority, and that it faces difficult decisions in determining whether any problem is serious enough to warrant a temporary suspension of a grantee's ability to draw down Federal funds. Accordingly, we are making a series of recommendations designed to enhance FTA's oversight of the projects. A complete list of our recommendations is on page 22.

We provided a draft of this report to FTA and FHWA on August 7, 2008, for review and comment. FTA provided us its formal comments with technical clarifications on September 5, 2008. We incorporated into this report FTA's suggested technical clarifications and comments, as appropriate. For example, FTA commented that the draft report did not clearly recognize that the external factors impacting the Lower Manhattan Recovery Projects were beyond FTA and the grantees' control. We agreed with that distinction and made clarifications in the report. FTA generally concurred with our recommendations. A summary of its comments and our responses are on pages 23 through 26. FTA's complete comments are included as the appendix to this report. FHWA provided informal comments, which we also incorporated into this report, as appropriate.

## BACKGROUND

To date, five Lower Manhattan Recovery Projects have been funded from the \$4.55 billion—the Permanent World Trade Center PATH Terminal, the Fulton Street Transit Center, the South Ferry Terminal Station, the World Trade Center Vehicle Security Center, and the Route 9A/West Street Promenade highway project (North and South). The projects are indicated in figure 1 below.

**Figure 1. Map of the Lower Manhattan Recovery Projects**



Source: FTA Lower Manhattan Recovery Office.

Note: The "L" markings on the map indicate other major construction projects in the area.

A summary of project descriptions are provided in table 1 on the next page.

**Table 1. Project Descriptions and Committed Federal Funding for the Lower Manhattan Recovery Projects**

Project and Grantee	Project Description	Committed Federal Funding
<b>Permanent World Trade Center PATH Terminal</b> <b>Grantee:</b> <b>Port Authority of New York &amp; New Jersey</b>	Intermodal transportation facility that will provide pedestrian connections to adjacent subway, ferry, and bus systems and facilities and the World Trade Center Memorial and cultural facilities.	\$2.2 billion
<b>World Trade Center Vehicle Security Center</b> <b>Grantee:</b> <b>Port Authority of New York &amp; New Jersey</b>	Security center for the screening of vehicles to support operations of the World Trade Center Transportation Hub and Memorial and other facilities. Will also provide for a bus parking area.	\$478 million
<b>Fulton Street Transit Center</b> <b>Grantee:</b> <b>Metropolitan Transportation Authority</b>	Above-ground transit center with a special dome and circular opening, underground concourse linking the transit center to the subway and World Trade Center site, and expanded mezzanines and passageways.	\$847 million
<b>South Ferry Terminal Station</b> <b>Grantee:</b> <b>Metropolitan Transportation Authority</b>	Includes a subway tunnel, a rebuilt station, and new terminal with additional egress points and Americans with Disabilities Act accessibility. Additional project components include construction of underground support walls, Battery Park improvements, and public art.	\$420 million
<b>Route 9A Promenade South</b> <b>Grantee:</b> <b>New York State Department of Transportation</b>	Landscaped promenade in the southern portion of Route 9A, repairing two westbound Battery Place roadways.	\$88 million
<b>Route 9A Promenade North</b> <b>Grantee:</b> <b>New York State Department of Transportation</b>	Restore the Route 9A roadway to its pre-September 11 configuration, widen the frontage sidewalk adjacent to the World Trade Center Memorial and Freedom Tower, and raise the grade of the Route 9A surface.	\$296 million

Source: FTA.

Note 1: The Route 9A project was split into two projects—North and South.

Note 2: The scope of the Vehicle Security Center project is under discussion and may change.

In accordance with an August 2002 memorandum of agreement between the Federal Emergency Management Agency (FEMA) and the U.S. Department of Transportation (with FTA as the lead agency), FEMA provided \$2.75 billion “to cover expenses incurred in repairing or rebuilding public transportation facilities and systems damaged by the September 11, 2001 attacks.” In addition, Congress appropriated \$1.8 billion to FTA to fund transit projects in the area with the intent that these projects would be 100-percent federally funded. The memorandum of

agreement allows FTA to determine which projects are eligible to receive Federal funding. Accordingly, FTA (through the Recovery Office) has the ultimate responsibility for overseeing the total \$4.55 billion in Lower Manhattan transportation recovery funding. From the \$4.55 billion, nearly \$87 million has been dedicated for the Recovery Office's oversight activities.<sup>4</sup> As of September 2008, approximately \$47 million from the \$4.55 billion was not allocated to a project.

We conducted our work from August 2006 through August 2008, in accordance with Generally Accepted Government Auditing Standards as prescribed by the Comptroller General of the United States. Our objectives, scope, and methodology are discussed in exhibit A.

## **FINDINGS**

### **Lower Manhattan Recovery Projects Have Experienced Significant Estimated Cost Increases and Schedule Delays**

According to FTA and the grantees, estimated cost increases and schedule delays resulted from several external factors, such as the Federal Government commitment to fund the projects before final design occurred, a rise in real estate values, the escalation of material and fuel costs, a shortage of contractors and subcontractors, and the nonavailability of equipment. These factors are an indication that the projects are being constructed in a challenging environment, and underscore the need for strong oversight and sound management practices.

#### *Cost Estimates Have Increased Significantly*

MTA's Fulton Street Transit Center project illustrates the cost-related challenges that the Lower Manhattan Recovery Projects have experienced. Specifically, the initial cost estimate for the Fulton Street Transit Center project, which was released in February 2003, was \$750 million. The cost estimate as of February 2008 was \$888 million, an 18 percent increase. Also, the project had already undergone several design revisions to mitigate rising cost estimates, such as changes to the design of the project's glass roof opening. Further, in the fall of 2007, the project management oversight contractor<sup>5</sup> retained by FTA conducted a risk assessment and estimated that costs for the Fulton Street Transit Center project could rise to approximately \$1 billion. In an effort to stem the increasing

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<sup>4</sup> The \$87 million is comprised of \$18 million from Public Law 107-206, which states that the Secretary of Transportation could use up to 1 percent of the \$1.8 billion in FTA funding for oversight activities and \$69 million provided through the FTA-FEMA memorandum of agreement. The memorandum states that FEMA would fund FTA's project oversight expenses, up to 2.5 percent of its \$2.75 billion contribution.

<sup>5</sup> A project management oversight contractor is retained by FTA to evaluate a grantee's technical capacity to build, operate, and maintain a project, and to monitor the grantee's implementation of a project. They are contractors who review FTA-funded projects in accordance with FTA guidance.

costs of the project, at the time of this report, MTA was in the process of revising its procurement strategy and design of the project's above-ground structure, which could result in a significantly modified version of the original design.

Table 2 provides more details on the upward trend in cost estimates that we have observed on the projects. In summary, cost estimates have increased in amounts ranging from \$76 million on the South Ferry Terminal Station project to \$800 million on the PATH Terminal project, based on a comparison of the construction agreement's baseline cost estimate and FTA's latest risk assessment estimate.

**Table 2. Upward Cost Estimates for the Projects**

<b>Projects</b>	<b>Initial Cost Estimate (Date of Estimate)</b>	<b>Construction Agreement-Baseline Cost Estimate<sup>(1)</sup></b>	<b>Grantee's Official Cost Estimate<sup>(2)</sup></b>	<b>Latest FTA Risk Assessment Cost Estimate (Date Risk Assessment Conducted)</b>
<b>Permanent World Trade Center PATH Terminal</b>	\$1.7 billion to \$2 billion (Feb. 2003)	\$2.2 billion	\$2.4 billion	\$3 billion (Dec. 2007)
<b>World Trade Center Vehicle Security Center</b>	\$500 million (Feb. 2003)	Pending <sup>(3)</sup>	\$566 million	\$763 million (Dec. 2007)
<b>Fulton Street Transit Center</b>	\$750 million (Feb. 2003)	\$847 million	\$888 million	\$1.1 billion (Sep. 2007)
<b>South Ferry Terminal Station</b>	\$400 million (Feb. 2003)	\$420 million	\$453 million	\$496 million (May 2008)
<b>Route 9A Promenade South<sup>(4)</sup></b>	\$88 million (Dec. 2003)	Not Applicable <sup>(5)</sup>	\$88 million	Not Applicable <sup>(5)</sup>
<b>Route 9A Promenade North<sup>(4)</sup></b>	\$293 million (Dec. 2003 and June 2005)	\$296 million	\$284 million	\$401 million (Jan. 2008)

Source: FTA.

<sup>(1)</sup> A baseline cost estimate reflects the total anticipated cost of the project at the time FTA and a grantee sign a construction agreement. The baseline is used by FTA to monitor a grantee's construction of a project and its compliance with the terms of the construction agreement.

<sup>(2)</sup> Data as of February 2008, based on grantees' official estimates.

<sup>(3)</sup> Execution of a construction agreement is anticipated in the fall of 2008.

<sup>(4)</sup> The Route 9A project was split into two projects—North and South.

<sup>(5)</sup> A construction agreement and a risk assessment were not used on this project.

### *External Factors Have Presented Significant Cost Challenges to the Projects*

The Lower Manhattan Recovery Projects are being constructed in a challenging environment, where external factors are contributing to significant cost increases. Specifically, the projects are facing the prospect of additional and unpredictable

cost growth due to intense competition with other major projects in the New York City area for labor and materials. For example, the projects must compete for labor and materials with FTA's New Starts projects, such as the large-scale Second Avenue Subway and East Side Access projects. To minimize the impact of external factors on the Lower Manhattan Recovery Projects, FTA and its grantees must continue their aggressive pursuit of effective oversight and good management practices—factors that are under their control.

In addition to competition with New Starts projects, the Lower Manhattan Recovery Projects are also in competition with general construction in the area. For example, several construction teams were expected to bid on the last construction package of MTA's Fulton Street Transit Center project; but because the construction teams were already committed to other construction work in New York City, they decided not to do so. Consequently, MTA extended the solicitation due date several times between July and December 2007 in order to pre-qualify additional potential contractors. Ultimately, those efforts were unsuccessful because, of the two firms that were pre-qualified, only one submitted a formal bid. Based on the project documents we reviewed, the bid submitted was significantly higher than anticipated; consequently, MTA is vetting other construction alternatives in an implementation plan, which must be approved by the MTA Board. FTA must continue to monitor the status of MTA's implementation plan, to determine its impact on the construction agreement between FTA and MTA.

MTA and OIG have also reported on the challenge that higher material costs places on transit and highway construction projects. Specifically, in its recent study of factors affecting its 5-year capital construction program, MTA concluded that one of the factors was the escalating cost of construction materials. For example, since 2003, it has experienced price increases of 91 percent for steel, 25 percent for cement, and 85 percent for asphalt.

Further, our September 2007 report on highway construction and maintenance costs<sup>6</sup> reported on similar trends for cost increases on highway project commodities, such as steel and asphalt. We concluded that nationwide highway construction and maintenance costs grew approximately three times faster from 2003 through 2006 than their fastest rate during any 3-year period between 1990 and 2003. The most recent growth trend substantially reduced the purchasing power of highway funds. In our opinion, many of the same factors would affect transit projects.

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<sup>6</sup> OIG Report Number CR-2007-079, "Growth in Highway Construction and Maintenance Costs," September 26, 2007.

### *Estimated Project Schedules Have Shown Significant Completion Delays*

The estimated completion dates for the Lower Manhattan Recovery Projects showed significant schedule delays, of several years in some cases. Both the Port Authority and MTA were unable to estimate realistic completion dates for the PATH Terminal, Vehicle Security Center, and Fulton Street Transit Center projects. Carefully managing project schedules is especially important in Lower Manhattan because of the pressure to have these projects up and running as quickly as possible to stimulate economic recovery in the area. In addition to completing the projects on expedited schedules, coordination of many contractors, subcontractors, and other stakeholders is required.

Additionally, on the PATH Terminal project, key schedule milestones have been missed, although the Port Authority and FTA's project management oversight contractor disagreed on the extent of the delays. The Port Authority's February 2008 schedule showed a completion date of July 2012, whereas the project management oversight contractor has determined that completion will not occur before November 2013. However, in June 2008, a Port Authority assessment concluded that a realistic project schedule could not be developed at that time.

Further, because the design phase for the Port Authority's Vehicle Security Center is on hold, it is also experiencing schedule delays. The timely completion of this project is vital because it affects the completion of Route 9A North. Additionally, many of the planned benefits of the World Trade Center site cannot be achieved until the Vehicle Security Center is fully operational.<sup>7</sup> However, the Port Authority, as of this writing, was in the process of developing project completion dates.

In order to perform its project oversight role, FTA should continue to focus on resolving schedule discrepancies. This will allow all parties to manage to realistic schedule milestones, factoring in the issue of shared resources among the various projects under construction in Lower Manhattan, particularly at the World Trade Center site.

Table 3 on the next page provides more details on estimated schedule slippages we observed on the Lower Manhattan Recovery Projects. As shown in the table, completion schedule projections have slipped, ranging from 11 months on the South Ferry Terminal Station project to 41 months on the Route 9A North project (when comparing the construction agreement's required completion date to FTA's latest risk assessment date).

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<sup>7</sup> The scope of the Vehicle Security Center project is under discussion.

**Table 3. Estimated Schedule Slippages for the Projects**

<b>Project</b>	<b>Initial Estimated Completion Date (Date of Estimate)</b>	<b>Construction Agreement–Required Completion Date<sup>(1)</sup></b>	<b>Grantee’s Official Estimated Completion Date<sup>(2)</sup></b>	<b>Latest FTA Risk Assessment Estimated Completion Date (Date Risk Assessment Conducted)</b>
<b>Permanent World Trade Center PATH Terminal</b>	2007 (Feb. 2003)	April 2012	July 2012	Nov. 2013 (Dec. 2007)
<b>World Trade Center Vehicle Security Center</b>	2007 (Feb. 2003)	Pending <sup>(3)</sup>	Apr. 2011	Jan. 2013 (Dec. 2007)
<b>Fulton Street Transit Center</b>	2007 (Feb. 2003)	July 2010	Nov. 2009	Apr. 2012 (Sep. 2007)
<b>South Ferry Terminal Station</b>	2007 (Feb. 2003)	May 2008	Feb. 2009	Apr. 2009 (May 2008)
<b>Route 9A Promenade South</b>	May 2006	Not Applicable <sup>(4)</sup>	Completed	Not Applicable <sup>(4)</sup>
<b>Route 9A Promenade North</b>	June 2009 (April 2006)	Jan. 2011	Mar. 2010	Jun. 2014 (Jan. 2008)

Source: FTA.

<sup>(1)</sup>The required completion date is stipulated in the construction agreement as the date certain the grantee agrees to accomplish the activities and tasks outlined in the project scope and description.

<sup>(2)</sup>Data as of February 2008, based on grantees’ official estimates.

<sup>(3)</sup>Execution of a construction agreement is anticipated in the fall of 2008.

<sup>(4)</sup>A construction agreement and a risk assessment were not used on this project.

### **FTA Has Identified Actions that Grantees Must Take, but All Parties Must Work to Resolve Outstanding Issues**

FTA has identified actions that grantees must take to address project management issues, including those issues that have contributed to cost increases and schedule delays. However, the Port Authority, in particular, disagreed with some of FTA’s recommended actions to address these issues, such as the need to strengthen its project management controls and develop a fully integrated milestone schedule. To achieve its mission of providing strong stewardship of the Federal investment in these projects, FTA must fully exercise its oversight by continuing to work with the Port Authority and MTA to resolve these issues as soon as possible. This includes ensuring that the grantees address recommendations to mitigate key project risks that were identified by FTA’s project management oversight contractors. If costs increase at projected levels, grantees will need to identify additional local funding sources, including their own limited resources, to make up for cost overruns. The need to identify local funding is particularly important for the Port Authority’s PATH Terminal and MTA’s Fulton Street Transit Center

projects because FTA's risk assessments indicated project costs may now exceed the Federal and local funding committed.

Further, if cost estimates are not reduced and other funding sources are not available, grantees may need to reduce the scope of one or more of the projects from what was originally designed, thereby potentially diminishing the benefits that the projects may provide to those who use the New York City transit system. For example, to address the rising cost estimates for the PATH Terminal, in June 2008, the Port Authority announced its plans to make unspecified changes to the project's original design. Accordingly, FTA would need to review and concur with any local funding identified or scope changes that the Port Authority plans to make to the design specified in the project's construction agreement.

While both of these options are potential solutions, they introduce additional risks to completing the projects, such as the reliability of the additional funds committed and the need for scope reductions to be designed and negotiated between the parties. To address these issues and limit any additional risks, FTA must sustain its focus in working with its grantees to: (1) provide information on costs and schedules in a timely manner; (2) resolve project management issues that have been identified; (3) address recommendations made by project management oversight contractors; and (4) identify reliable and sufficient funding sources to complete a project, if costs exceed the Federal funding allocated to each one.

#### *Grantees Have Not Consistently Provided Critical Project Cost and Schedule Information to FTA in a Timely Manner*

The grantees have not consistently provided FTA with critical cost and schedule data in a timely manner, which affected FTA's ability to effectively oversee the Lower Manhattan Recovery Projects. According to FTA, this problem was more persistent with the Port Authority than its other grantees.

In February 2008, FTA informed the Port Authority that its quarterly report was missing critical cost and status information necessary to assess the health of the PATH Terminal project and stated that the reluctance of the Port Authority to provide the information to FTA was "disturbing." Because of the Port Authority's inaction, FTA stated it could not perform its fiduciary responsibilities and considered suspending the Port Authority's ability to draw down from the Federal funds provided for its two recovery projects.

According to FTA's project management oversight contractor, at the end of March 2008, the Port Authority began providing monthly reports with more explanatory and specific forecasts for the PATH Terminal's progress. However, the reports did not include the data needed to meet FTA requirements.

It is critical for FTA's grantees to provide updated cost and schedule data in a timely manner and to understand that FTA's fiduciary responsibility for the \$4.55 billion in Lower Manhattan recovery funding requires their compliance. Without reliable and timely information, FTA cannot fully carry out its stewardship responsibilities to protect the Federal Government's substantial investment in Lower Manhattan.

### *FTA Has Identified Management Issues with Its Grantees that Must Be Resolved*

FTA has identified significant staffing and technical issues at the Port Authority and actions that the Port Authority must take to improve project management. The Port Authority's project management challenges were first identified several years ago, and FTA and the Port Authority still disagree over their severity and how to address them. Earlier this year, FTA commissioned a report that concluded that unless the Port Authority made the changes recommended it would lack the technical capacity and capability to effectively manage its projects. While the previous Port Authority management disagreed with the overall message of FTA's March 2008 report, in June 2008, the new Port Authority management issued its own report acknowledging the magnitude of the challenges faced and recognizing that a number of significant issues needed to be resolved.

FTA and the Port Authority should use this as an opportunity to finalize the action plans developed to address the problems identified in these reports and take the necessary corrective actions to get the projects on a sound footing. Specifically:

- As early as August 2005, the Recovery Office's general engineer raised concerns regarding the Port Authority's lack of staffing on the PATH Terminal project. In December 2006, the Recovery Office Director sent a letter to the Port Authority documenting concerns regarding the Port Authority's insufficient staff strength and project control resources, and requested that the Port Authority address those concerns. In March 2007, FTA's project management oversight contractor reported that the Port Authority had insufficient staff strength and project controls to oversee its construction manager/general contractor team. Further, the FTA oversight contractor determined that the Port Authority's inadequate oversight resulted in delays in construction award dates, the non-award of several packages on the project's "critical path,"<sup>8</sup> increased bid prices that exceeded preliminary engineering estimates, and increased estimated project cost. In our opinion, FTA

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<sup>8</sup> Critical path analyzes what activities have the least amount of scheduling flexibility (that is, they are the most mission-critical) and predicts a project duration schedule based on the activities that fall along the "critical path." Activities that lie along the critical path cannot be delayed without delaying the finish time for the entire project.

should have required more immediate action of the Port Authority in its 2006 letter.

- According to a March 2008 report commissioned by FTA, the Port Authority was not in compliance with FTA requirements because it failed 9 of 11 elements of management controls it was measured on. For example, under the project integration management element, the Port Authority had not proactively monitored and tracked an integrated schedule and had been reluctant to collaborate with stakeholders to derive a schedule that reflected actual delays. As a result, the project management oversight contractor concluded that the Port Authority needed to make significant changes to its management approach in order to completely demonstrate the technical capacity and capability to effectively manage its Lower Manhattan Recovery Projects.

Port Authority officials disagreed with the overall message of FTA's March 2008 report, contending that their management had been sufficient overall. In response to FTA's assessment that the Port Authority had not mitigated risks contributing to cost growth or schedule delays, the Port Authority stated that it had developed its own cost estimates and they were done professionally and independently, based upon 50 percent design and the project scope known at that time. In addition, the Port Authority claimed that its construction schedule, although aggressive, reflected timeframes that were realistic. The Port Authority's disagreement with FTA, however, does not change the fact that its projects have experienced significant estimated cost increases and schedule delays. In a May 2008 meeting, Port Authority officials acknowledged to us that the PATH Terminal costs were likely to increase above their previous \$2.5 billion estimate.

- On June 11, 2008, the Governor of New York requested that the Port Authority's new Executive Director address the budget and schedule problems facing construction projects at the World Trade Center site, including the FTA-funded PATH Terminal and Vehicle Security Center, and to develop, by June 30, 2008, schedules and cost estimates that were reliable and achievable. As requested, on June 30, the Port Authority released the results of its assessment in a report to the Governor. The report concluded that no realistic cost or schedule could be developed at that time due to fundamental issues that needed to be resolved first. The Port Authority stated that it plans to complete the second phase of this assessment by the end of September 2008.

The Port Authority's recent acknowledgment of the magnitude of the challenges it faces presents a key opportunity for FTA and the Port Authority to work through

project management issues, develop realistic cost and schedule estimates, and get the projects back on track. On July 31, 2008, and August 29, 2008, FTA accepted the Port Authority's proposed action plans to address the recommendations from the March 2008 technical capacity and capability report. However, some of the planned actions can not be fully addressed until the Port Authority completes its next assessment by the end of September 2008. Accordingly, we are recommending that FTA and the Port Authority, after release of the second assessment, expeditiously finalize remaining open items in the action plans. We are further recommending that FTA carefully track the Port Authority's progress in carrying out the plan. Going forward, this will require sustained management focus.

Project management issues have also been identified at MTA. For example, MTA did not provide strong enough project management on the South Ferry project, creating problems that could have been avoided had MTA exercised greater oversight of its contractors. In February 2007, following the completion of the majority of the concrete work, water leaks were discovered throughout the contract work area. MTA later concluded that the design-build contractor did not aggressively tend to such leaks. Initially, the contractor was verbally attributing the leaks to design issues beyond its responsibility, although this same contractor is the designer of record.

Further, rail elevations on the South Ferry project's existing subway tracks did not match the actual elevation for new tracks installed by the finishes/systems contractor. According to FTA, project owners typically are responsible for quality assurance, which means checking the contractors work through daily inspections and observing significant tests. However, MTA did not exercise these oversight measures until much later in the construction process.

### *FTA's Oversight Contractors Made Recommendations that Grantees Have Not Sufficiently Addressed*

Grantees had not sufficiently addressed some of the recommendations made by FTA's oversight contractors. Historically, FTA assigned one project management oversight contractor to each grantee (it has used other specialized contractors on an as-needed basis),<sup>9</sup> to conduct risk assessments, review cost and schedules, and assess the assigned grantee's plans for the project. This essentially is a sound approach that can provide early warnings of cost, schedule, and quality problems; but to be fully successful, FTA must encourage grantees to address identified risks or provide alternatives, and then mitigate the agreed-upon risks in a timely manner, before they affect the project costs or schedule. According to FTA, in the risk management process used by the Recovery Office, grantees are ultimately

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<sup>9</sup> FTA retained the services of various oversight contractors specializing in financial, environmental, security, and procurement to evaluate a grantee's operations in each of these specific areas.

responsible for selecting and implementing risk mitigation strategies that minimize a risk's probability of occurrence and/or potential impact. The project management oversight contractors then document the selected risk mitigation strategies and monitor risk mitigation activities as part of the ongoing project management oversight process.

In the case of the Lower Manhattan Recovery Projects, grantees had not taken sufficient action to address major risks that FTA's oversight contractors identified. For example, an April 2006 FTA risk assessment for the Port Authority's PATH Terminal project concluded that there was a 90-percent probability that the total project cost could be as much as \$2.5 billion. Despite the identification of risks that could contribute to cost increases and the development of a plan to address them, by December 2007 another risk assessment determined that there was a 90-percent probability that total project costs could rise to as much as \$3 billion.

The top five cost risks for the PATH Terminal project—based on risk assessments conducted in April 2006 and September 2007—are presented in table 4 below.

**Table 4. Comparison of Top Five PATH Terminal Project Cost Risks Identified in 2006 and 2007**

April 2006 Cost Risks	September 2007 Cost Risks
Allocation of shared infrastructure costs with other World Trade Center site projects is uncertain.	Cost contributions for shared infrastructure costs from third parties to project may be less than currently anticipated.
Estimated costs may continue to increase during final design due to design changes and scope creep.	Estimated costs may continue to increase during final design due to interdisciplinary design integration, design/concept changes, additional work done for others, and specific technical concerns.
Construction manager/general contractor's guaranteed maximum price contract procurement format may result in a cost premium.	Construction manager/general contractor's guaranteed maximum price contract procurement format, in which the grantee entered into negotiations with a single entity, may result in a cost premium.
Schedule delays result in a direct cost impact to project in the form of extended overheads.	Schedule delays result in a direct cost impact to project (in addition to escalation) in the form of extended contractor overheads, including force account and cost-reimbursable contracts.
Cost escalation rate uncertainty due to economic factors in the construction industry and delays to midpoint of construction budget.	Only one or two bids were received on several of early action contract packages (resulting in a cost premium), and the construction manager/general contractor is not self-performing to the degree that was anticipated.

Source: FTA documents.

As shown, similar project cost risks were identified in the project management oversight contractor's 2006 and 2007 risk assessments. However, based on our review of key documents and discussions with FTA officials, it is our opinion that the Port Authority had not taken sufficient actions to address risks that the project management oversight contractors identified as early as April 2006, thereby increasing the potential for more cost increases and schedule delays.

Regarding other Lower Manhattan Recovery Projects, we observed problems in the past that were identified early during project development but were not addressed in a timely manner. For example, FTA Recovery Office officials, in conjunction with the project management oversight contractor, conducted a risk assessment that identified a real estate acquisition cost risk for the Fulton Street Transit Center project. Specifically, FTA lacked confidence in MTA's real estate estimates and the methodology used to develop them, and continually expressed these concerns to the MTA, both verbally and in writing, for more than a year. Our review determined that, despite early identification of this risk and recommended mitigation actions to increase the appraisal values of the properties, MTA did not proactively address the risk to avoid an impact on project costs. In reviewing the project's budget, we concluded that MTA's inaction in addressing this risk resulted in a cost increase from \$123 million to \$157 million.

#### *FTA Does Not Have Sufficient Assurances that Grantees Have Reliable Funding Sources To Cover Cost Overruns*

FTA does not have sufficient assurances from grantees that reliable local funding sources existed to cover significant project cost overruns, which based on our review of cost estimates, will likely occur on several projects. Our analysis of MTA and Port Authority financial documents indicated that the lack of local funding may be a challenge because both grantees could be faced with fiscally constrained resources. FTA recently identified MTA's 2008 through 2013 capital plan as one of its focus issues on the South Ferry and Fulton Street Transit Center projects. Further, FTA identified the need for the Port Authority Board to identify additional funding for the PATH Terminal project as a key action item. Specifically,

- MTA faces the challenge of covering cost overruns on the Fulton Street Transit Center project. In an April 24, 2007 letter to FTA, MTA's Executive Director and Chief Executive Officer identified up to \$56 million in expected surplus resources from the MTA operating budget to cover the project's cost overruns. During a December 2007 MTA Board meeting, the \$56 million was approved. With a number of major capital construction projects on the horizon for MTA—and in light of its projected constrained fiscal resources—the potential for a

future shortfall in local funding exists beyond the \$56 million, particularly if costs escalate further.<sup>10</sup>

- In December 2006, the baseline cost estimate for the PATH Terminal project was identified at \$2.2 billion, but costs are anticipated to increase to as much as \$3 billion, based on the results of FTA's most recent risk assessment. Federal funding is capped at \$2.2 billion and the Port Authority has already committed an additional \$300 million of its own money. If project costs exceed the \$2.5 billion in total committed funding and approach the \$3 billion risk assessment estimate, the Port Authority would need to identify up to an additional \$500 million in other funding to construct the PATH Terminal as originally designed.
- The Port Authority's Vehicle Security Center may also exceed its Federal funding. The grantee held the project's forecasted cost at \$478 million until recently, when it increased to \$566 million. However, FTA's project management oversight contractor has concluded that the forecasted cost for the Vehicle Security Center will be no less than \$699 million and could increase to \$763 million.
- FTA's March 2008 technical capacity and capability report recommended that the Port Authority secure a commitment from its Board for additional funding to make the PATH Terminal and Vehicle Security Center viable.

FTA's initial plan was to keep project costs within the Federal funds committed to each recovery project. This now appears unlikely as FTA will need to look to grantees to commit their own funding to complete several of the projects, unless it approves a project's scope reduction. In our opinion, FTA should request that grantees prepare a financial plan, as is done for projects funded under the New Starts program. The financial plans should identify reliable and sufficient funding sources to cover any increased costs associated with the completion of the projects as originally designed. Moreover, a precedent has been established for one of the Lower Manhattan Recovery Projects—the grantee for the Route 9A North project (the New York State Department of Transportation) developed a financial plan.

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<sup>10</sup> On June 9, 2008, the Governor of New York State announced the creation of a commission to recommend strategies to fund MTA's capital projects and operating needs. The commission was charged with proposing a series of actions that may include new funding sources, toll and fare adjustments, congestion pricing, and initiatives to maximize MTA efficiencies. The commission was also directed to consider the role of the Port Authority in funding regional mega-projects, as well as the Federal, state, and local government's responsibility for financing MTA.

## **FTA Has Not Been Fully Successful in Using Its Risk Management Process and Recovery Plans To Minimize Estimated Cost Increases and Schedule Delays**

We commend FTA for its initial efforts in establishing an independent office dedicated to the management and oversight of the Lower Manhattan Recovery Projects and its commitment to establishing a process to identify and mitigate risks. FTA's Recovery Office developed two major tools—a risk-based approach to oversight and construction agreements and recovery plans designed to provide a streamlined approach to overseeing each project. However, FTA has not been fully successful in getting its grantees to use the risk process as a tool to manage their projects and keep them, to the extent possible, on schedule and within the Federal funding cap. Further, we concluded that the recovery plans, required by the construction agreements, have not been used in the way they were originally envisioned. For example, recovery plans were developed to identify actions that could enable grantees to “recover” the baseline cost and schedule estimates contained in the construction agreements. Our review showed that recovery plans were treated largely as a way to document the reasons for increases or delays.

### *FTA Has Not Been Fully Successful in Getting Grantees to Employ Its Risk Management Process as a Management Tool*

FTA's use of a risk management process to identify and monitor grantee performance has not precluded the Lower Manhattan Recovery Projects from facing significant cost estimate increases and schedule delays. According to the Recovery Office's Risk Management Process document, FTA's risk management tool is intended to continually identify and monitor risks and develop risk mitigation plans to address reducing the likelihood and impact of risks on the projects' scopes, budgets, and schedules. Once risks are identified, FTA tries to work with the project grantee to develop a plan to mitigate the risks before they significantly affect project costs and schedules. The project management oversight contractor assigned to each project monitors the grantee's actions to follow any agreed-to mitigation plans.

Based on our review, FTA has not been fully successful in working with its grantees to consistently use the risk process as a management tool. According to FTA, MTA and the Port Authority have accepted the risk management process to varying degrees, which has affected its usefulness as a method of helping to minimize cost and schedule risks. FTA officials reported to us that the Port Authority, in particular, had not taken sufficient action to address risks that were identified over the course of nearly 2 years and had resisted incorporating the risk management process into its overall management of the project. In our discussions with members of the Port Authority staff, they stated that while FTA's risk process is a good tool overall, the Port Authority and FTA have often been at

odds on the degrees of risk assigned to certain areas of the project. According to the Port Authority, FTA's risk management tool would be a better product if the grantees could be more involved with the risk assessment process.

The continuing trend of escalating estimated project costs and schedule delays underscores the need for FTA officials to make the risk management process as effective as possible. This means that FTA must continue to focus on carefully evaluating the risk assessments of project management oversight contractors, as well as alternatives provided by the grantees, and it must then follow through to ensure that grantees, such as the Port Authority, do everything they can to mitigate the agreed-upon risks in a timely manner. Also, the Port Authority, in particular, must understand that it is subject to strong Federal oversight because it accepted a significant amount of Federal funding for the PATH Terminal project and agreed to the requirements in the construction agreement it signed with FTA. According to the construction agreement, the Port Authority "pledges its utmost cooperation in enabling FTA and its consulting contractors both to critique (the Port Authority's) risk analyses and perform any separate risk analyses that FTA may deem appropriate during the course of the [p]roject."

#### *FTA's Recovery Plans Have Not Achieved the Goal of Maintaining the Baseline Cost Estimates and Required Completion Dates of Most Projects*

FTA enters into a construction agreement with each grantee so the grantee can access the Federal funds allocated to the grantee's project and begin construction. The construction agreement affirms the grantee's commitment to the project as planned and allows FTA to reevaluate the project before releasing any funds for construction. A construction agreement requires a project recovery plan in the event of cost increases or schedule delays or both.

As defined in the construction agreement, the fundamental objectives of a recovery plan are to maintain the required completion date of the project and to keep the total project costs within the baseline cost estimate—essentially, to "recover" the baseline estimates to the maximum extent possible. Based on our review, we concluded that these recovery plans, while in some situations proposed successful solutions to mitigate immediate problems, in most cases they provided reasons for cost increases and schedule delays instead of serving as tools to bring projects back in line with previously agreed-to costs and schedules.

For the Lower Manhattan Recovery Projects, FTA's construction agreement requirement for preparing recovery plans, have not fully achieved their expected results of mitigating cost and schedule impacts. The South Ferry project is an example of how recovery plans have actually been used as a management tool. Since FTA issued the construction agreement for the South Ferry project in February 2005, it has approved five recovery plans. Those plans documented cost

increases and schedule delays due to continuing problems, including delays in the completion of the subway tunnel and signal equipment contracts and higher-than-expected bids on key contracts, such as the finishes/systems contract. Therefore, it is our opinion that the recovery plans have not met their intended purpose of “recovering” baseline cost and schedule estimates. Instead, they have provided a rationale for a grantee exceeding the baselines.

While in the past they have not fully met their defined purpose, recovery plans are critical for the Lower Manhattan Recovery Projects because they are to be used as a tool to manage risk and to ensure that grantees take action on the issues contained in these plans to reduce the likelihood of additional cost increases and schedule delays.

### **FTA and FHWA Have Not Consistently Promoted Interagency Coordination on the Route 9A North Highway Project**

The Route 9A North project is unique among the Lower Manhattan Recovery Projects in that it is a highway project instead of a transit-related project, and its completion requires close coordination between FTA and the Federal Highway Administration (FHWA). In the initial stages of the project, FTA and FHWA did not coordinate as they should have to fully implement the requirements of an April 2006 memorandum of agreement between the two agencies.

Close interagency coordination—as outlined in the memorandum of agreement between FTA and FHWA—is required to ensure that the project is completed in a timely and efficient manner. Describing each agency’s roles and responsibilities, the memorandum of agreement states that FTA will rely on FHWA to provide oversight of the project and stipulates that both agencies will cooperate to provide oversight. While FTA stated that it would rely on FHWA to provide oversight, FTA has assigned a project management oversight contractor to monitor this project and to produce a monthly status report. Although using a project management oversight contractor is not an oversight tool that FHWA employs, the use of a project management oversight contractor is typical for FTA.

We found that, at the outset, FHWA was not fully engaged with FTA and its project management oversight contractors. Not only is FHWA’s approach different from FTA’s, it is also in keeping with roles and responsibilities established under its Federal-aid program and its agreement with New York State Department of Transportation (NYSDOT, the project’s grantee) in which it defined roles and responsibilities for overseeing the project. According to FHWA, it raised its level of oversight from that stated in the NYSDOT agreement for the Route 9A North project. We confirmed that in recent months, FHWA’s area engineer has been attending monthly status meetings and receiving the monthly

status report from the project management oversight contractor, even though FHWA did not fully participate in oversight previously.

In order for interagency coordination to be achieved on this unique, high-profile project, FTA and FHWA must continue to closely coordinate on the Route 9A North project until it is completed. This is especially important now because recent significant conflicts between the Port Authority and NYSDOT over the design and scope of the project have become critical.

## **RECOMMENDATIONS**

Considering the large Federal transportation investment in the Lower Manhattan Recovery Projects and the initial goal of maintaining 100-percent Federal funding for these projects, we recommend that FTA continue the strong oversight efforts already underway and take other specific actions to enhance its oversight of these projects. Specifically, we recommend that FTA:

1. Work with MTA and the Port Authority to expeditiously finalize for each of their projects a single set of realistic, mutually agreed-to cost estimates and schedules that reflect all potential risks.
2. After release of the Port Authority's next assessment, finalize the remaining open items in the detailed action plans with the Port Authority to address the management challenges identified in FTA's March 2008 technical capacity and capability report, and carefully track the Port Authority's progress in carrying out the plans.
3. Assess what additional actions it could take to ensure that:
  - a. grantees address the agreed-upon risks identified through the risk management process in a timely manner and
  - b. recovery plans are used to mitigate those risks to minimize further estimated cost increases and schedule delays.
4. Request that MTA and the Port Authority submit financial plans to FTA—as was done for the Route 9A North project—that identify sources of local funding to cover likely estimated cost overruns exceeding the Federal funding caps.
5. Ensure that the Recovery Office and its project management oversight contractor assigned to the Route 9A North project meet with FHWA on a periodic basis to encourage better coordination between all parties.

## **AGENCY COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE**

We provided a draft of this report to FTA and FHWA for review and comment on August 7, 2008. FTA provided us its formal comments, with technical clarifications, on September 5, 2008, which we incorporated into this report, as appropriate. FTA's complete comments are included as the appendix to this report. FHWA provided informal comments, which we also incorporated into this report, as appropriate.

FTA's lengthy comments expressed concern that the draft report either did not clearly recognize factors outside FTA's control or did not realistically portray the degree to which FTA's oversight process could prevent cost overruns or schedule delays. For example, the comments noted that market conditions, largely outside FTA or the grantees' control, impacted project costs. FTA also commented that the draft report could more clearly differentiate between FTA's success in identifying project risks using its oversight processes, and the difficulties FTA has encountered in ensuring that grantees address these risks. FTA further noted that our expectations for recovery plans should be more realistic and that FTA had limited tools at its disposal to ensure that grantees take effective action to control estimated cost increases or schedule delays.

We revised the report, as appropriate, to distinguish between factors that were and were not under the control of FTA and its grantees and to clarify our conclusion regarding FTA's oversight processes. However, we continue to make recommendations for finalizing unresolved issues and for improving FTA's oversight. For example, we clarified our position to state that the specific element of FTA's oversight that was not fully successful was getting grantees to use FTA's risk management process as a management tool. We also acknowledged the difficulties FTA would encounter in obtaining grantees' actions through the temporary withholding of funds. However, it is our opinion that if FTA and a grantee agree that certain risks are valid and serious enough, it is realistic to expect FTA to take stronger action beyond encouraging a grantee to address certain risks, including using its authority to withhold funds.

In its comments, FTA generally concurred with our recommendations and stated that it has taken and is planning to take the following actions on specific recommendations.

**Recommendation 1:** Concur. FTA stated it is working with the grantees on an ongoing basis to address issues with cost estimates and schedules. For example, FTA stated that it was already close to reaching agreement with the Port Authority on revised cost and schedule estimates in June 2008, when the Port Authority

issued the new assessment. FTA then agreed to delay concluding its cost and schedule updates until the Port Authority completes its second assessment by September 30, 2008. With respect to MTA, FTA stated that it has a draft recovery plan for the Fulton Street Transit Center and is awaiting agreement from the MTA Board on how estimated cost increases will be funded.

**OIG Response:** We agree with the actions FTA is taking to address the intent of our recommendation. In our opinion, the Port Authority's recent planned actions are an opportunity for FTA and the Port Authority to work through project management issues. Further, we are encouraged by FTA's expectations that these efforts will yield better project management, including finalizing new cost and schedule estimates after the Port Authority issues its September 30, 2008, assessment. Regarding MTA's Fulton Street Transit Center project, cost, schedule, and funding uncertainties still need to be resolved. Accordingly, we request that FTA provide us, within 30 days from the date of this report, a target date of when these actions are expected to be completed by all parties.

**Recommendation 2:** Concur. FTA stated that the requirements of its March 2008 Technical Capacity and Capability Report clearly required the Port Authority to submit action plans to address the report's recommendations within specified periods of time. FTA indicated that it reviewed the action plans through several iterations and accepted them. Further, FTA stated that its project management oversight contractor is prepared to track completion of items included in the plans.

**OIG Response:** We agree with the actions FTA is taking and plans to take to address the intent of our recommendation. Based on FTA's comments, we revised the report narrative to reflect the current status of the Port Authority's action plans and FTA's approval of them. We also revised the report's recommendation to state that FTA should finalize the remaining open items in the action plans after the Port Authority releases its next assessment. We will continue to monitor the Port Authority's progress in implementing its planned actions and the oversight provided by FTA's project management oversight contractor.

We request that, within 30 days from the date of this report, FTA provide us with a target date for finalizing the open items in the action plans. At this critical stage, FTA and its oversight contractor must closely monitor the plans, address unresolved issues, and hold the Port Authority accountable for significantly improving its project management.

**Recommendation 3:** Concur in part. FTA stated that it will continue to actively work with its grantees to gain agreement for addressing risks and will continue to make the best possible use of its available tools, including recovery plans, to identify project risks, bring risks to the grantees' attention, and encourage grantees

to take the actions necessary to address and mitigate those risks to the extent possible.

FTA further stated that, to the extent that the report implies that the risk assessment process has failed because there have been cost overruns and schedule slippages, OIG has misinterpreted the purpose and use of the tool. According to FTA, the risk assessment tool is intended to help FTA and the grantee understand what risks a project is facing and identify actions needed to minimize those risks—it is not a means to ensure that the risks are totally mitigated. FTA further stated that our report presupposes that because a risk can be identified, it can be mitigated if the grantee is diligent. While there have been cost and schedule issues with these projects, in this case, FTA stated it was not the tool that failed. Rather, FTA contended that the cost overruns and schedule slippages were caused by a combination of adverse economic conditions and the unwillingness of some grantees to take aggressive actions necessary to address project risks. Finally, FTA stated that some grantees still need to provide meaningful and effective action by some grantees to address project risks.

**OIG Response:** Overall, we agree with the actions FTA plans to take to address the intent of our recommendation. We clarified our position regarding FTA’s oversight tools but, in our view, FTA could take additional steps to improve the way in which FTA and its grantees are using these tools.

Regarding FTA’s comment that our report concluded the risk management process as a failure, misinterpreted the purpose of this tool, and presupposed that identified risks can be mitigated by a diligent grantee, this was not our intent. We recognize that not every risk can be fully mitigated and that some risks are outside the control of FTA and its grantees. However, as we state in our report, in some cases grantees did not take sufficient action to address the risks that FTA and its project management oversight contractors identified, which FTA acknowledged. We clarified our position in the report to state that the tool was not a failure; rather, the main issue was that FTA was not fully successful in getting its grantees to use the risk process as a management tool and address risks that could at least be partially mitigated through sound management practices. In our opinion, if FTA and a grantee discuss the risks identified by the risk assessment process and agree that certain risks are valid, it is realistic to expect FTA to do more than encourage a grantee to take action. In fact, the March 2008 Technical Capacity and Capability Report stated that the Port Authority “must” take the action recommended for each deficiency cited, suggesting that FTA can and will be more forceful with a grantee if it believes a risk is serious enough.

Regarding recovery plans, we agree that FTA must use them as a tool to document actions planned or taken to minimize further changes to cost or schedule estimates.

We modified our recommendation to state that FTA should assess what additional actions it could take to improve the grantees' use of its oversight tools.

We request that FTA provide us its comments on our modified recommendation and a target completion date for any planned actions within 30 days from the date of this report.

**Recommendation 4:** Concur. FTA stated that it has always asked a grantee, as part of the recovery plan process, to provide evidence of specific funding sources it plans to use to cover any cost increase, and will continue this practice. To the extent that FTA deems a grantee's financial commitment to be insufficient without providing a detailed financial plan, FTA stated that it will request such a plan.

**OIG Response:** We agree with the actions FTA is taking to address the intent of our recommendation. We request that, within 30 days of this report, FTA provide us a target date for determining the sufficiency of the Port Authority and MTA's commitment to provide additional funding to cover significant estimated cost increases.

**Recommendation 5:** Concur. FTA stated that along with its project management oversight contractor, it has always been available to meet with FHWA regarding the Route 9A project. FTA further stated that FHWA has consistently been invited to attend oversight meetings during the last 9 months and FHWA has also been provided copies of the PMOC reports.

**OIG Response:** We agree with the actions FTA has taken to address the intent of our recommendation. Based on FTA's comments, we consider the actions taken sufficient to close-out this recommendation.

## **ACTIONS REQUIRED**

We consider FTA's actions taken and planned reasonable. However, in accordance with Department of Transportation Order 8000.1C, we request that FTA provide us with comments on the modification to recommendation 4 and target completion dates for implementing recommendations 1 through 4 within 30 days of the date of this report.

We appreciate the courtesies and cooperation of FTA and FHWA representatives during this audit. If you have any questions concerning this report, please call me at (202) 366-5630 or Thomas Yatsco, Program Director, at (202) 366-1302.

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**cc:** Federal Highway Administrator  
FTA Region 2 Administrator

FHWA New York Division Administrator  
Audit Liaison, OST, M-1  
Audit Liaison, FTA, TBP-30  
Audit Liaison, FHWA, HAIM-13

## **EXHIBIT A. OBJECTIVES, SCOPE, AND METHODOLOGY**

Our objectives were to assess (1) the status of each Lower Manhattan Recovery Project, including costs, funding, schedules, and grantees' oversight and (2) any risks that may adversely impact completion of each project. In addition, we evaluated issues related to FTA's Lower Manhattan Recovery Office's oversight of these projects and the activities of the project management oversight contractors that FTA has assigned to each project.

We interviewed officials from FTA, the Recovery Office, MTA, the Port Authority, FHWA, the New York State Department of Transportation, and the Recovery Office's project management oversight contractors. We also monitored the status of individual projects by obtaining current developments through periodic meetings with and inquiries to FTA, grantees, and news sources.

Further, we reviewed material gathered from earlier monitoring efforts on these projects. We also reviewed the project management oversight contractor's monthly updates and specialty spot reports to understand the specific issues surrounding each project. In addition, to understand the Recovery Office's risk assessment process, we received a presentation from the contractor's risk specialist and obtained information on the process FTA uses for its New Starts program. We also reviewed the risk registers and risk mitigation matrices created by FTA's project management oversight contractors.

To evaluate the Recovery Office's oversight tools, we reviewed each project's project development agreement, project management plan, construction agreement, and recovery plans and contractor financial and procurement reviews of grantees' management capabilities. We obtained copies of grant awards and amendments from FTA's Team-Web database to verify changes made to each project's funding. We reviewed MTA's compliance monitor reports and correspondence between the grantees and Federal officials.

We reviewed each grantee's procurement selection process to determine whether architectural and engineering service contracts followed FTA requirements. In addition, we interviewed members of the grantees' staff to get an understanding of the processes used to develop project schedules, cost estimates, and funding. We also went on several site tours of the Lower Manhattan Recovery Projects during the course of this audit. Because this was a monitoring effort, we did not perform any detailed audit verification, but we did look for and resolve inconsistencies in the material presented. We conducted our work from August 2006 through August 2008 in accordance with Generally Accepted Government Auditing Standards as prescribed by the Comptroller General of the United States.

**EXHIBIT B. CONTRIBUTORS TO THIS REPORT**

<b>Name</b>	<b>Title</b>
Thomas Yatsco	Program Director
George Lavanco	Project Manager
Timothy Keane	Management/Program Analyst
Eileen Merritt	Management/Program Analyst
Joseph Tschurilow	Auditor
Rosa Scalice	Auditor
Harriet Lambert	Writer-Editor

## APPENDIX. MANAGEMENT COMMENTS



U.S. Department  
of Transportation  
**Federal Transit  
Administration**

# Memorandum

Subject: ACTION: Response to Office of Inspector General (OIG) Draft Report, "Baseline Report on the Lower Manhattan Recovery Projects" Date: SEP 5 2008

From: Robert J. Tuccillo   
Associate Administrator for  
Budget and Policy/CFO Reply to  
Attn. of: R.G. Owens  
x61689

To: Joseph W. Come  
Assistant Inspector General  
for Highway and Transit Audits

As we continue to recover from the terrorist attacks of September 11, 2001, in Lower Manhattan, the transportation projects underway are not only important to the City of Manhattan, but to the Nation as a whole. These projects can and must be completed.

FTA provides oversight of its grantees to achieve its primary objectives of completing the projects, at the best possible cost to the taxpayer, and as expeditiously as possible. We appreciate the efforts of the Office of Inspector General (OIG) in providing additional oversight to help achieve these objectives. FTA has thoroughly reviewed the OIG's draft report and offers these comments for inclusion in the final report. In addition, we offer a number of technical and specific comments for the OIG's consideration in finalizing its report.

### **FTA Provides Comprehensive Oversight of the Recovery Projects**

FTA has provided comprehensive oversight of the transit elements of the Lower Manhattan Recovery projects since their inception. In order to provide focused, intensive oversight necessary on these projects, FTA: established the Lower Manhattan Recovery Office (LMRO); brought highly skilled technical expertise onboard to conduct detailed evaluations using its established Project Management Oversight Contractor (PMOC) mechanism; and applied its risk assessment process before and on a quarterly basis during project implementation to fully identify risks to project cost, scope and schedule.

### **Appendix. Management Comments**

While the oversight mechanisms put in place have been highly effective in identifying project risks and bringing them to the attention of the cognizant grantee, FTA has not been fully successful in all circumstances. FTA still needs to gain meaningful and effective action by some of the grantees to remediate the identified project risks. FTA has a limited choice of tools to have the grantee take action on identified risks. Therefore, the report could more clearly differentiate between the success and utility of FTA project oversight in identifying the project risks, and the difficulties encountered in ensuring that some grantees proactively address those risks.

### **FTA's Risk Assessment Tool Functioned Effectively**

FTA's risk assessment process is intended to predict the probabilistic cost and schedule for a project at various ranges (from 0 to 100 percent). However, FTA uses the 90 percent level for purposes of identifying a cost or schedule number. It analyzes possible risk scenarios based upon a point-in-time understanding of potential risks. It is not a deterministic value of cost and schedule. Rather, it is a tool for recognizing project risks. To the extent that the report implies that the risk assessment process has failed because there have been cost overruns and schedule slippages, it has misinterpreted the purpose and use of the tool. The risk assessment tool is intended to help FTA and the grantee understand what risks the project is facing and identify areas needed to minimize the risk. It is not a means to ensure that the risks are totally mitigated. While there have been cost and schedule issues with these projects, in this case, it was not the tool that failed. It was a combination of adverse economic conditions and the grantee's unwillingness to take aggressive actions necessary to better control cost and schedule issues that were within their control. The failure to make effective use of this information was the basis for FTA taking action to advise the grantee that it was in jeopardy of being found not to have the technical capacity to carry out the project, unless it took further action. It was as a result of this action by FTA that the grantee is now addressing many of the risk items identified in the risk assessment. While the full outcome of the grantee's action will not be available until the end of September 2008, it is already apparent that systemic changes are being made in the way the grantee is approaching project management.

The report also presupposes that because a risk can be identified, it can be mitigated if the grantee is diligent. Even though a risk can be identified, the ability to mitigate it cannot be assumed. For instance, escalation is listed as a major risk in Table 4 of the OIG report. However, macroeconomic factors control the occurrence of this risk and mitigation efforts to control this risk are not always possible within the scope of the project.

### **Market Conditions Can Affect Project Costs Beyond FTA or Grantee Control**

Market factors, largely beyond the direct control of FTA and its grantees, have significantly affected the cost to complete the LMRO projects. For example, construction material costs have skyrocketed over the last few years. Between 2002 and 2007, the cost of structural concrete has increased 77 percent while the cost of steel reinforcing bar

## **Appendix. Management Comments**

has increased 118 percent. Such market factors are beyond the control of FTA and its grantees. However, FTA has taken steps for contending with market factors. In particular, FTA focused on improving its risk assessment process for new contracts to provide a better perspective on the possible impact of market conditions before it executes a contract. While the impact of market conditions is acknowledged in the OIG report, it does not recognize the impact these costs have on keeping projects within 100 percent of budget, and particularly in its lead-in to the recommendations. We suggest that the OIG restructure its discussion to more clearly recognize the impact of market factors and acknowledge that actions enabling FTA or its grantees to keep costs within the Federal funding cap are not available.

### **Recovery Plan Expectations Should be Realistic**

The report needs to recognize that a recovery plan cannot realistically be expected to recover all cost overruns and schedule delays. Reductions in cost usually result from reductions in scope or construction changes. These options are not necessarily available since FTA and the grantee have committed to completing the project with the objective of not reducing scope. While schedule recovery can often be accomplished by acceleration, it is usually not without a resultant increase in cost. The report also criticizes the recovery plans for not identifying actions to bring the cost and schedule back in line with the budget, but rather for merely documenting why increases and delays occurred. While it would be ideal if the grantee could actually “recover” cost and schedule, the primary benefit of the recovery plan in the Construction Agreements has been to offer useful tools to encourage and require grantees to take a constant, consistent, detailed look at their budget and schedule throughout the project. The plan is to help guide any necessary adjustments. It is the grantee’s primary responsibility to determine how it will apply this information.

### **FTA Works Diligently with its Grantees to Manage Project Issues**

FTA works diligently with its grantees to address project management issues such as cost changes and schedule slippage that can be attributed to grantee action or inaction. As recognized in the report, FTA maintained frequent contact with its grantees, both orally and in writing, in an effort to resolve issues identified in the risk assessment. While it is within FTA’s oversight responsibility to inform the grantee of the results of the risk assessment and the need to prepare recovery plans, it is the grantee’s responsibility to identify and implement the actions necessary to address those risks. It would be contrary to FTA’s oversight role to direct a grantee to take specific project related actions in response to the risk assessment.

FTA took firm and specific action with the grantee to gain its cooperation in addressing project risk factors. Specifically, FTA issued its Technical Capacity and Capability Report, which put the Port Authority on notice that changes in its management approach and structure were necessary in order to achieve the technical capacity to carry out the project. The Port Authority is undertaking an assessment to address the problems FTA identified. While it is beyond the capability of the tools available to FTA to “ensure” that

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there are no cost increases, the agency takes actions necessary to gain acknowledgement from the grantee of the issues, along with a specific action plan to address them.

Finally, FTA notes that the underlying nature of its grant program offers limited tools that it can use to “ensure” that grantees take effective action to address schedule and cost issues. Two of FTA’s most useful tools are requiring the grantee to fund any costs exceeding the Federal commitment, and precluding the grantee from reducing project scope to save costs without FTA approval. However, even these tools are not always effective at keeping projects on budget and schedule, particularly when external factors, such as cost increases in materials, exert a substantial impact on the project. While FTA has other tools, such as withholding funding or declaring a project in default, these are extreme measures used as a last resort and inevitably result in further cost increases and schedule delays.

### **Recommendations and Responses**

FTA appreciates the report’s recognition that FTA has “strong oversight efforts already underway”, and requests that the OIG acknowledge that FTA has efforts already underway that address each of the report’s recommendations.

**Recommendation 1:** Work with MTA and the Port Authority to expeditiously develop for each of their projects a single set of realistic, mutually-agreed-to cost estimates and schedules that reflect all potential risks.

**Response:** Concur. FTA has ongoing efforts working with the grantees to address issues with cost estimates and schedules. In the case of the Port Authority, FTA undertook a series of schedule workshops to evaluate every aspect of the schedule from activity durations and manpower requirements to constructability. We also took part in an evaluation by an Independent Cost Consultant to evaluate the areas where the Port Authority and FTA disagreed on costs. We were very close to reaching agreement with the Port Authority on a revised cost and schedule when the June assessment was issued. We agreed to delay conclusion of the cost and schedule update until the Port Authority completed its assessment. This assessment is to be completed by September 30, 2008. FTA expects that it will yield agreement on cost and schedule and that the Port Authority will manage the projects according to that agreement. With respect to the MTA, FTA has a draft recovery plan for cost and schedule and is awaiting agreement from the MTA board on how the costs will be funded.

**Recommendation 2:** Finalize a detailed action plan with the Port Authority to address the management challenges identified in the Recovery Office’s March 2008 technical capacity and capability report, and carefully track the Port Authority’s progress in carrying out the plan.

**Response:** Concur. The requirements of the Technical Capacity and Capability Report (TC&C) issued to the Port Authority on March 28, 2008, clearly identified the requirement for the grantee to submit action plans for 12 Immediate Recommendations

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and 35 Additional Recommendations within specified periods of time. The Action Plans have been reviewed through several iterations. The Immediate Action Plan was accepted on July 31, 2008. The Action Plan for the 35 additional recommendations was accepted on August 29, 2008. The PMOC is prepared to track completion of items included in the Action Plans.

**Recommendation 3:** Enhance the Recovery office’s oversight tools to ensure that (a) grantees address the agree-upon risks identified through the risk management process in a timely manner and (b) recovery plans are used to mitigate those risks to minimize further cost increases and schedule delays.

**Response:** Concur in part. We will continue to actively work with the grantees to gain agreement for addressing agreed-upon risks. However, as discussed extensively with OIG staff, it is unrealistic to expect FTA, with the tools it has available, to “ensure” these actions are taken. FTA will continue to make the best possible use of its available tools to identify project risks, bring them to the attention of the grantees, and encourage them to take the actions necessary to address and mitigate those risks to the extent possible. With regard to recovery plans, FTA will continue to require the grantee to identify why costs increased or schedules slipped, the implications of those changes, and the actions planned or taken to minimize, to the extent possible, further cost and schedule changes.

**Recommendation 4:** Request that MTA and the Port Authority submit financial plans to FTA – as was done for the Route 9A North project – that identify sources of local funding to cover likely cost overruns exceeding the Federal funding caps.

**Response:** Concur. We have always asked grantees, as part of the recovery plan process, to provide evidence of the specific funding source it will use to provide additional funds needed to cover any cost increase. We will continue this practice. To the extent that the grantee’s commitment is insufficient without providing a detailed financial plan, we will request such a plan.

**Recommendation 5:** Ensure that the Recovery Office and its project management oversight contractor assigned to the Route 9A North project meet with FHWA on a periodic basis to encourage better coordination between all parties.

**Response:** Concur. FTA and its PMOC have always been available to meet with FHWA regarding the Route 9A project. Since the project received a Construction Agreement, communications have been exchanged at all levels of the agencies; from the FTA Regional Administrator to the FHWA Division Administrator, down through the ranks. FHWA has consistently been invited to attend oversight meetings during the last nine months and it also is provided with copies of the PMOC reports.

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