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ACQUISITION AND PROCUREMENT:
Gateway Program Projects Have Certain Cost and Schedule Risks

Certain information in this report has been redacted due to its sensitive nature.

Audit Report OIG-A-2015-002 | December 19, 2014

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NATIONAL RAILROAD
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Office of Inspector General

Memorandum

To: Stephen Gardner, Executive Vice President, Northeast Corridor Infrastructure and Investment Development

From: David R. Warren
David R. Warren, Assistant Inspector General, Audits

Date: December 19, 2014

Subject: *Acquisition and Procurement: Gateway Program Projects Have Certain Cost and Schedule Risks* (Audit Report OIG-A-2015-002)

This is our second report on Amtrak's Gateway Program, a planned but not fully funded set of projects[1] that would double rail capacity between Newark, New Jersey, and Penn Station, New York City, including two new rail tunnels under the Hudson River. The team managing these projects consists of officials from the Office of Northeast Corridor (NEC) Infrastructure and Investment Development, and the Amtrak Engineering department. For a figure showing the project relationships and roles, see Appendix B.

The two initial projects are to construct concrete casings (box tunnels) in New York City:

- project one: beneath the eastern rail yard of Hudson Yards
- project two: beneath 11th Avenue

Project one also includes the partial demolition and temporary relocation of activities in the Long Island Rail Road's (LIRR) maintenance of equipment facility, reconstruction of this facility, and project management and administration.

In June 2013, the Federal Railroad Administration (FRA) approved a $185 million grant request to construct project one. Construction started in August 2013 and is scheduled to be completed in October 2015. The planning for project two is underway; project two

[1] These planned projects include constructing two rail tunnels under the Hudson River and expanding Penn Station tracks and platforms to eventually connect to a future station.

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is estimated to cost about $66.5 million. Figure 1 shows ongoing construction for project one and the location of project two. Figure 2 shows the location of the maintenance of equipment facility.

Figure 1. Ongoing Tunnel Construction for Project One (bottom of picture); Project Two Will Continue the Tunnel Under Bridge (top of picture)

Source: Amtrak OIG, August 20, 2014

Figure 2. Maintenance of Equipment Facility

Source: Amtrak OIG, August 20, 2014

In April 2013, the Board of Directors requested that we periodically review infrastructure projects in the NEC and provide timely information and recommendations on emerging issues. In February 2014, we reported that the company (Amtrak) had established an effective project management framework, but project one's costs were exceeding initial estimates.[2]

Our objective for this report is to provide an updated assessment on progress and risk on the two Gateway Program tunnel projects. For a more detailed discussion of our scope and methodology, see Appendix A.

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[2] *Acquisition and Procurement: Gateway Program's Concrete Casing Project Progressing Well; Cost Increases Will Likely Exceed Project Budget* (Audit Report OIG-A-2014-004, February 11, 2014).

SUMMARY OF RESULTS

Risks we identified for project two in a draft of this report related to funding and environmental risk have largely been resolved. However, a new funding risk related to the construction contract cost has arisen that has delayed the planned December 8, 2014 start date. This delay could impact the project's schedule and increase costs. The company is now paying LIRR about $[redacted] each month and would continue paying that amount or potentially more for each month of delay.[3]

Good progress has been made toward completing project one on schedule. Since our February 2014 report, the estimated cost has increased by about $7.7 million (4.15 percent) from $185 million to about $192.7 million. The company's share of the LIRR maintenance of equipment facility rebuild is still uncertain.

Project officials have acted on our earlier recommendations and have largely resolved the risks we identified for project two in our draft report. Also, they are working to negotiate a final construction contract for project two. Good progress has been made on completing project one. Consequently, we are not making any recommendations in this report.

CONTRACT COST MUST BE RESOLVED FOR PROJECT TWO CONSTRUCTION TO BEGIN

The project team largely resolved the risks we identified in our draft report related to funding and environmental risk. The company has identified a new funding risk related to the construction contract cost. This delay could impact the project's schedule and affect returning the maintenance of equipment facility to LIRR by [redacted][4] If not returned by that date, the company would continue to pay LIRR about $[redacted] a month or more.

The new funding risk is occurring because the company and the contractor have not agreed to a contract price for project two. The project team planned to award a sole-source contract in early December 2014 so the project can be completed by [redacted]. The contractor proposed an 11-month schedule that includes blasting for rock excavation. The contractor's Vice President noted that the New York Fire Department

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[3] LIRR has the right [redacted] this amount using the methodology in the Railroad Coordination Agreement.

[4] The deadline was established in the Railroad Coordination Agreement.

must approve the proposed blasting plan. He stated that if the blast plan is not approved, the rock excavation will be done with machines, which will take longer than 11 months.

However, the contractor submitted a $[redacted] million pricing proposal for construction, which was $[redacted] million more than the $[redacted] million maximum the company set aside. Currently, the company is in negotiations with the contractor. This delay could impact the project's schedule and affect returning the maintenance of equipment facility to LIRR by [redacted].

The risks identified in a draft of this report have largely been resolved and are discussed below:

- **Funding Risk.** The project team initially developed a two-pronged approach to fund the $66.5 million project. In March 2014, the company submitted a grant request for $49.9 million to the Federal Transit Administration. The request noted that the company was anticipating $16.6 million[5] in matching funds from Metropolitan Transportation Authority (MTA)/LIRR, New Jersey Transit, and the company. In September 2014, however, the company was informed that the grant was not approved.

  To cover the project costs, the project team now plans to use the following funds instead:

  - **$50 million grant from the Disaster Relief Appropriations Act of 2013.**[6] FRA approved a $50 million grant agreement with the company on December 4, 2014. The project team presented this option to the Board of Directors in October 2014. The Board approved the plan; the project team submitted a grant agreement to the FRA in November 2014, according to the Chief, Corridor Development, NEC Infrastructure and Investment Development.

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[5] Specifically, the grant request noted matching $5.5 million from MTA/LIRR and New Jersey Transit with $5.6 million from the company.

[6] P.L. 113-2 appropriated $86 million for capital projects that address Northeast Corridor infrastructure recovery and resiliency. This amount was subsequently reduced to $81 million by P.L. 112-25, otherwise known as the Budget Control Act of 2011.

- **$11 million in matching funds from MTA and New Jersey Transit.** On November 19, 2014, MTA authorized $5.5 million for this project; however, New Jersey Transit has not yet authorized funding for this project. According to the Chief, Corridor Development, NEC Infrastructure and Investment Development, if the matching funds are not received, the company plans to reprogram funds from other budgeted fiscal year (FY) 2015 Gateway program activities.

- **$[redacted] million from the company's FY 2015 capital budget.**

- **Environmental Assessment Risk.** The FRA issued a "Finding of No Significant Impact" on November 14, 2014.

PROJECT ONE ON SCHEDULE, BUT ESTIMATED COST HAS INCREASED, AND MINOR COSTS ARE UNCERTAIN

Good progress has been made toward completing project one on schedule. Since our February 2014 report, the estimated cost has increased by about $7.7 million (4.15 percent) from $185 million to about $192.7 million. The cost increase will be funded from the company's capital budget, according to the Chief, Corridor Development, NEC Infrastructure and Investment Development. The project cost could increase by about another $[redacted] million depending on the company's share of the LIRR maintenance of equipment facility rebuild cost.

The reasons for the $7.7 million risk and cost increases are described below:

- **Rebuild Cost—estimated $1 million for maintenance of equipment facility (13.03 percent of cost increase); costs could increase further.** The original budget included $14 million for the company's share of the rebuild of the maintenance of equipment facility, according to engineering officials. The program manager increased the budget to $15 million pending the outcome of ongoing negotiations with the developer on the final cost share.

- **$3.9 million for Project Management (50.82 percent of cost increase).** Based on our analysis of expenditures through September 2014, the budgeted amount is sufficient to cover program management costs for the remainder of the project. According to the program manager, the original budget estimate included $7.5 million for project management. This entire amount is being used to pay the developer as required under the development agreement. The $3.9 million increase is to pay for the construction management services and salaries of the Engineering department staff working on the project. Engineering department officials stated they do not expect any further cost increases for project management.

- **$1.6 million for Caissons (20.85 percent of cost increase).** Because all the caisson[7] work is completed, we conclude there should be no further cost increases in this category. The developer identified the need to increase the size of some caissons for the foundation of one of the commercial development's towers and to perform additional work on adjacent platform caissons and foundations. The developer estimated the additional work would cost about $9 million. Engineering department officials agreed to increase the contract by $1.6 million to cover this additional work; they stated that there should be no additional cost increases related to this work.

- **$673,416 for Mass Grouting (8.78 percent of cost increase).** The mass grouting is completed; [8] we conclude there should be no further cost increases in this category. The contractor, Tutor Perini, identified a need for rock mass grouting on some of the caissons and estimated that the work would cost about $1.7 million. However, the program manager believed that the estimate was high and decided to pay for time and materials, which resulted in a cost of $673,416. Engineering department officials stated that this work has been completed so there should be no additional cost increases related to this work.

- **$500,000 for Legal Services (6.52 percent of cost increase).** The program manager stated that legal services for project one are completed. The additional costs are required to draft amendments to the development agreement and railroad coordination agreements for project two.

Rebuild Cost Could Increase by $[redacted] million. The company's share of the LIRR maintenance of equipment facility rebuild is still uncertain. In August 2014, the developer, Related, signed a $[redacted] million contract to rebuild the facility. To enable

[7] A caisson is a watertight retaining structure used to work on foundations.
[8] Rock mass grouting is the injection of grout into rock fissures to eliminate water seepage into foundations.

construction to start, the Executive Vice President, NEC Infrastructure and Investment Development, agreed to pay 34 percent of the invoices until a final agreement is reached. Based on this agreement, if there is no change the company's share would be 34 percent or $[redacted] million—$[redacted]million more than their budget. However, the project team officials stated that ongoing negotiations with the developer regarding allocating the costs associated with the demolition, design, and rebuild of the facility will reduce the company's share to less than the $[redacted] million budget.

RECOMMENDATIONS

Project officials have acted on our earlier recommendations and have largely resolved the risks we identified for project two in our draft report. Also, they are working to negotiate a final construction contract for project two. Good progress has been made on completing project one. Consequently, we are not making any recommendations in this report.

MANAGEMENT COMMENTS AND OIG ANALYSIS

In commenting on a draft of this report, the Executive Vice President, NEC Infrastructure and Investment Development, provided some updated information regarding the risks for project two. This report contains the updated information on progress in addressing risks and information on a new construction cost risk identified by management.

For a copy of management's comments, see Appendix C.

Appendix A

SCOPE AND METHODOLOGY

The scope of this report addresses work on two Gateway Program projects—the Hudson Yards concrete casing project (project one), and the 11th Avenue concrete casing project (project two). Our objective is to provide an updated assessment on progress and risk on the two Gateway Program tunnel projects. We conducted this audit work from July through November 2014 in Philadelphia, Pennsylvania; New York City; and Washington, D.C. Certain information in this report has been redacted due to its sensitive nature.

Our methodology for assessing the adequacy of progress toward completing project one, was to compare the actual progress to the project schedule, review monthly progress reports, and tour the project construction site. We assessed the risk related to potential cost increases by reviewing reasons for increased costs related to rebuilding the maintenance of equipment facility, project management, and legal services work. We also interviewed company engineering officials responsible for managing the project and the Tutor Perini Vice President of Operations to obtain their views on completing the project on schedule and within budget.

Our methodology for assessing the adequacy of planning for project two was to review the grant application and documents supporting the cost estimate, and to interview company engineering officials who prepared the grant application and cost estimate. To identify potential risks related to funding and completion of the environmental assessment, we reviewed the draft amendments to the Railroad Coordination and Development Agreement, and we interviewed the company officials in the Law Department and the Office of NEC Infrastructure and Investment Development regarding the status of negotiations to finalize these agreements. We also interviewed company engineering officials and a senior Tutor Perini official about potential risks with the construction schedule.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Internal Controls

We reviewed the management controls the project team has in place for planning and overseeing the concrete casing projects. We focused on controls related to project cost and schedule. For cost, we reviewed the amendment for project one and the estimate for project two. For schedule, we reviewed the base line schedule and identified key milestones that we will use to monitor progress. We did not review the Engineering department's overall system of controls for project management.

Computer-Processed Data

We did not use computer-processed data for any aspect of the audit.

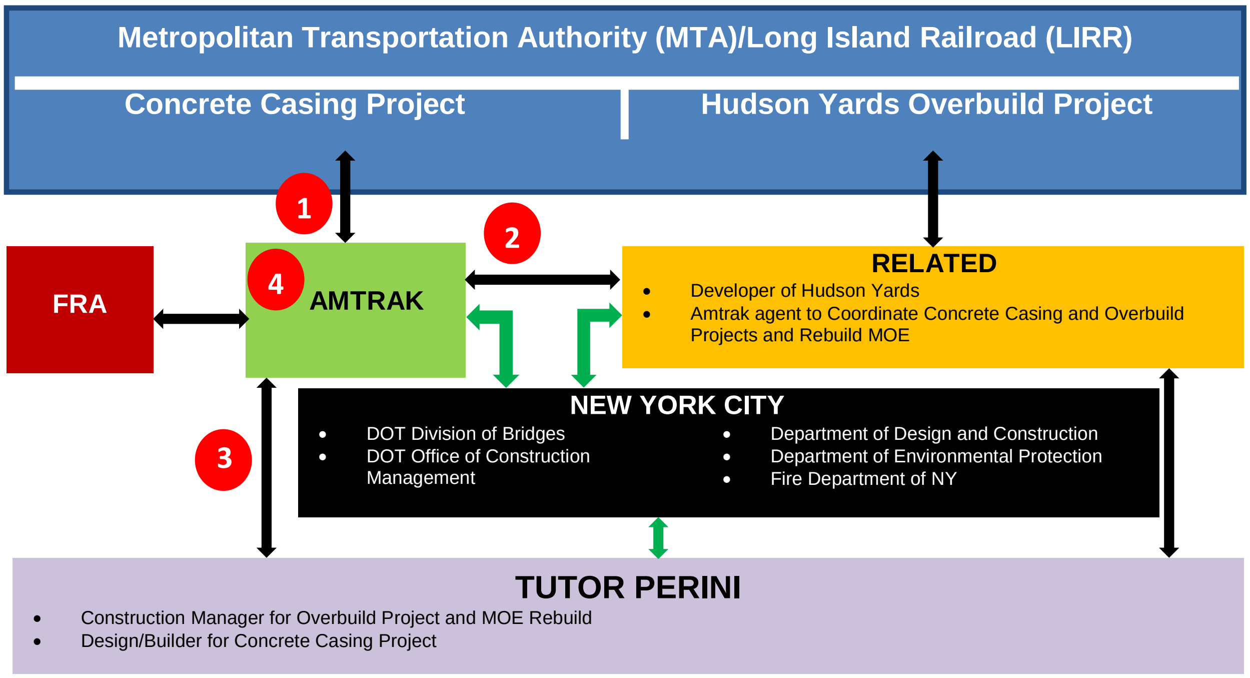
Prior Audit Reports

One OIG audit report is relevant to this report:

- *Acquisition and Procurement: Gateway Program's Concrete Casing Project Progressing Well; Cost Increases Will Likely Exceed Project Budget (*Audit Report OIG-A-2014-004, February 4, 2014)

Appendix B

PROJECT RELATIONSHIPS AND ROLES



AGREEMENTS

1. **Railroad Coordination:** covers approval rights of MTA/LIRR with respect to the Concrete Casing design and construction, ensuring it is constructed timely and without interfering with the Overbuild project or yard operations, and requiring Amtrak to rebuild the maintenance of equipment facility.
2. **Development:** Related acts as Amtrak's agent to coordinate design and construction of the Overbuild and the Concrete Casing projects and rebuild LIRR's maintenance of equipment facility.
3. **Design/Build and General Conditions:** Tutor Perini will complete the design of the Concrete Casing and construct the Concrete Casing for a lump sum price.
4. **Amtrak:** This consists of officials from the Office of Northeast Corridor Infrastructure and Investment Development, Engineering Department, and a construction management company.

Source: Amtrak OIG Analysis of Executive Steering Committee for Hudson Yards Concrete Casing Project

Appendix C

COMMENTS FROM AMTRAK'S MANAGEMENT

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Memo

Date	December 9, 2014	From	Stephen Gardner EVP and Chief Business Development
To	David R. Warren, Assistant Inspector General, Audits	Department	NEC Infrastructure and Investment Development
		Subject	OIG Audit Report Acquisition and Procurement: Gateway Program Projects Have Certain Costs and Schedule Risks, Project No. 013-2014
		cc	William Herrmann Matthew Gagnon Melantha Paige

Mr. Warren's memo dated November 21, 2014, requests the Chief of Corridor Development, NEC Infrastructure and Investment Development share with you managements thinking in its draft audit report, project number 013-2014 entitled Acquisition and Procurement: Gateway Program Projects Have Certain Cost and Schedule Risks.

Since there were no recommendations in the audit report, this letter is intended to acknowledge receipt of your report and to provide some updates on the Gateway Program Projects. Please note we are still negotiating with Tutor Perini and the price for their work in designing and building the 11th Avenue Extension and, accordingly, we request that you remove all references to the price, costs or funding of the Extension before you make your report public.

Since the concrete casing work in Project One is 94% complete and continues on schedule and the MOE Facility Rebuild has started and we anticipate that it too will be delivered on budget and on schedule, the brief update below focuses exclusively on Project Two.

Update on Project Two:

The following key deliverables required to start construction have been completed:

- FRA issued a FONSI under the National Environmental Policy Act.
- New York City (DOT, Mayor and Comptroller) approved and registered the Revocable Consent.
- FRA and Amtrak have executed a $50M Grant Agreement and the funds are now available to us.
- The MTA Board approved their $5.5M contribution to the project.
- 100% final sealed plans.

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- All parties have agreed to virtually all provisions in all of the relevant agreements and signatures are being gathered.

There is one significant outstanding issue, however, that prevented us from starting construction on December 8, as had been anticipated: Tutor Perini (TPC) submitted a $[redacted] pricing proposal which is [redacted] more than the [redacted] maximum for TPC we had estimated when establishing the overall [redacted] budget, including soft costs and contingencies. Our estimate for TPC's costs was based on several sources, including an earlier estimate provided by TPC at [redacted], and estimates from our Design and Engineering teams, including our external consultants, that were even lower. We anticipate that negotiations leading to a Final Lump Sum (FLS) contract will bring TPC's pricing proposal [redacted] (although changes in the NYC construction industry costs since the estimate were originally prepared by TPC could [redacted] As negotiations continue, we may consider [redacted].

We are still anticipating a December construction start date by either finalizing the FLS or by [redacted]

As in the past, we will continue to keep OIG staff informed of our progress on this critical project and we appreciate the engagement and professionalism of your staff as you've undertaken your reviews.

Appendix D

ABBREVIATIONS

DOT	U.S. Department of Transportation
FRA	Federal Railroad Administration
FY	fiscal year
LIRR	Long Island Rail Road
MTA	Metropolitan Transportation Authority
NEC	Northeast Corridor
the company	Amtrak

Appendix E

OIG TEAM MEMBERS

Michael Kennedy, Senior Director

Dorian Herring, Audit Manager

Nadine Jbaili, Auditor

Kira Rao, Auditor

OIG MISSION AND CONTACT INFORMATION

Amtrak OIG's Mission	The Amtrak OIG's mission is to provide independent, objective oversight of Amtrak's programs and operations through audits, inspections, evaluations, and investigations focused on recommending improvements to Amtrak's economy, efficiency, and effectiveness; preventing and detecting fraud, waste, and abuse; and providing Congress, Amtrak management, and Amtrak's Board of Directors with timely information about problems and deficiencies relating to Amtrak's programs and operations.
Obtaining Copies of OIG Reports and Testimony	Available at our website: www.amtrakoig.gov
To Report Fraud, Waste, and Abuse	Report suspicious or illegal activities to the OIG Hotline (you can remain anonymous): Web: www.amtrakoig.gov/hotline Phone: 800-468-5469
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