



OFFICE of INSPECTOR GENERAL  
NATIONAL RAILROAD PASSENGER CORPORATION

## ASSET MANAGEMENT:

Better Schedules, Cost Estimates, and Project Management  
Could Help Mitigate Risks to Washington Union Station  
Projects

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


OIG-A-2018-008 | July 24, 2018

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## Memorandum

**To:** DJ Stadtler  
Executive Vice President/Chief Administration Officer

**From:** Stephen Lord   
Assistant Inspector General, Audits

**Date:** July 24, 2018

**Subject:** *Asset Management: Better Schedules, Cost Estimates, and Project Management  
Could Help Mitigate Risks to Washington Union Station Projects  
(OIG-A-2018-008)*

Washington Union Station is Amtrak's (the company) second-busiest station, with annual ridership of about 5.2 million passengers. The station is already operating at capacity, and peak passenger use is projected to triple over the next two decades. However, the station's tracks and platforms do not meet modern design and safety standards, and they contribute to operational inefficiencies that limit the capacity and circulation of passengers. To begin addressing these shortcomings, in 2012, the company and other stakeholders<sup>1</sup> released the Washington Union Station's 2nd Century Plan—a master plan to expand and improve the station. The plan includes a set of near-term improvements and long-term initiatives that are likely to span at least two decades.

As part of this plan, the company is responsible for completing 10 near-term improvement projects and has completed 1 project. The other nine projects are either in design or ready to begin construction. These projects, which the company estimates will cost about \$296 million in total, are intended to modernize the station's concourse, rehabilitate the sub-basement, and improve the rail terminal. The company's former Vice President for Asset and Real Estate Development assumed initial responsibility for funding and managing these projects. On April 30, 2018, the company reorganized, and

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<sup>1</sup> Other stakeholders include the Union Station Redevelopment Corporation, U.S. Department of Transportation, Maryland Transit Administration, Virginia Department of Rail and Public Transportation, and Washington Metropolitan Area Transit Authority.

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the Vice President for the Stations, Facilities, Properties, and Accessibility department (the department) now has overall responsibility for these projects.

The company has experienced challenges in delivering projects on time and within budget.<sup>2</sup> In 2016, it established an Enterprise Program Management Office (EPMO) to help improve project management practices across the organization. Given the company's renewed focus on project management, our objective was to assess the effectiveness of the company's scheduling, cost estimating, and management of the Washington Union Station near-term improvement projects and the potential impacts on their completion. To address this objective, we compared the company's practices for scheduling, cost estimating, and project management to EPMO standards and other commonly accepted standards for project management.<sup>3</sup> For more details on our scope and methodology, see Appendix A.

## SUMMARY OF RESULTS

The company's nine ongoing improvement projects for Washington Union Station face risks of delays and cost overruns due to weaknesses in its practices for scheduling, cost estimating, and project management. In part, these weaknesses exist because the company did not fully implement its EPMO standards and other commonly accepted standards for project management. Because most projects are just entering the construction phase, the company has time to address the weaknesses and mitigate risks by putting these standards into place to address the following:

- **Schedules not complete.** The company developed schedules for each project, but all 10 schedules were missing the key activities necessary to accomplish the project's objectives. The company also did not develop an integrated master schedule of all projects that would help provide greater management oversight. These schedules identify the most critical activities across interrelated projects and when these activities must be completed—the critical path<sup>4</sup>—so projects will

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<sup>2</sup> *Amtrak: Top Management and Performance Challenges—Fiscal Years 2017 and 2018* (OIG-SP-2017-009), March 29, 2017.

<sup>3</sup> Government Accountability Office (GAO), *Schedule Assessment Guide: Best Practices for Project Schedules*, GAO-16-89G, December 2015; GAO, *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP, March 2009; and Amtrak's EPMO project management and risk management standards, October 1, 2016.

<sup>4</sup> The critical path is the longest continuous sequence of activities in a schedule and defines the project's earliest completion date or minimum duration.

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not be delayed. Two examples of interrelated projects are (1) the rehabilitation of track 22 and (2) the sub-basement structural repair project. The projects are interrelated because the company must upgrade the track to allow train traffic to be redirected during some phases of the sub-basement reconstruction.

- Cost estimates not updated and fully documented.** For eight of the nine ongoing projects, the company developed initial cost estimates but did not update them as it better defined the work to be accomplished. As a result, the current cost estimate of \$296 million to complete the 10 projects is likely understated. For example, as of February 2018, the company underestimated the costs of three projects nearing the construction phase — [REDACTED] —by a total of at least \$4 million (7 percent of the estimated \$58.7 million total cost of these three projects). Furthermore, it could not provide documented support showing the basis for the estimates of some cost categories that would help managers verify and update costs over time, as well as manage projects within budgets. We identified \$26.4 million in unsupported project costs—9 percent of the estimated \$296 million in total project costs.
- Project charters and risk mitigation plans not fully developed.** For 9 of the 10 projects, the company did not have approved charters. This is significant because charters define stakeholders' roles and responsibilities and help ensure that all stakeholders fully understand and agree to each project's purpose, objectives, deliverables, and expected benefits. We found that poor communication between the Stations, Facilities, Properties, and Accessibility department and the Engineering department, delayed the start of electrifying tracks 8 and 9 by nine months. A charter could have helped to avoid this. In addition, although the company identified project risks that could cause delays and overruns, they did not develop meaningful plans to mitigate them. For example, the lack of risk mitigation plans regarding the risks of obtaining external funding led to a one-year delay on the track 22 project.

The company's past challenges in project management highlight the importance of applying effective project management practices on these projects. Accordingly, to help ensure that the company completes the near-term improvement projects on schedule and within budget, we recommend that the company adopt the EPMO and other commonly accepted project management standards with an emphasis on the following:

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- complete and integrated schedules
- updated and well-supported cost estimates
- approved project charters
- risk-mitigation plans

In commenting on a draft of this report, the Executive Vice President/Chief Administration Officer (CAO) agreed with our recommendations to address the scheduling, cost estimating, and project management weaknesses we identified in the Washington Union Station projects. The CAO also identified specific actions and planned completion dates for addressing each weakness we identified in our report. For management's complete response, see Appendix B.

**BACKGROUND**

The near-term improvements to Washington Union Station focus on three areas: concourse modernization, sub-basement structural repairs, and improvements to the rail terminal.

**Concourse modernization.** The plan calls for an expanded and modernized concourse that would double its current passenger capacity, as shown in Figure 1. The company also must complete two other projects to accommodate the new concourse design:

- replacing and relocating the heating, ventilation, and air conditioning (HVAC) system
- relocating the Amtrak Police Department offices into a new two-story building that the company plans to construct on the west side of the rail terminal

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**Figure 1. Existing and Future Views of the Concourse**



Source: Amtrak Report to Congress, December 2, 2016

[REDACTED]

[REDACTED]

[REDACTED]

Source: OIG photograph, August 23, 2017



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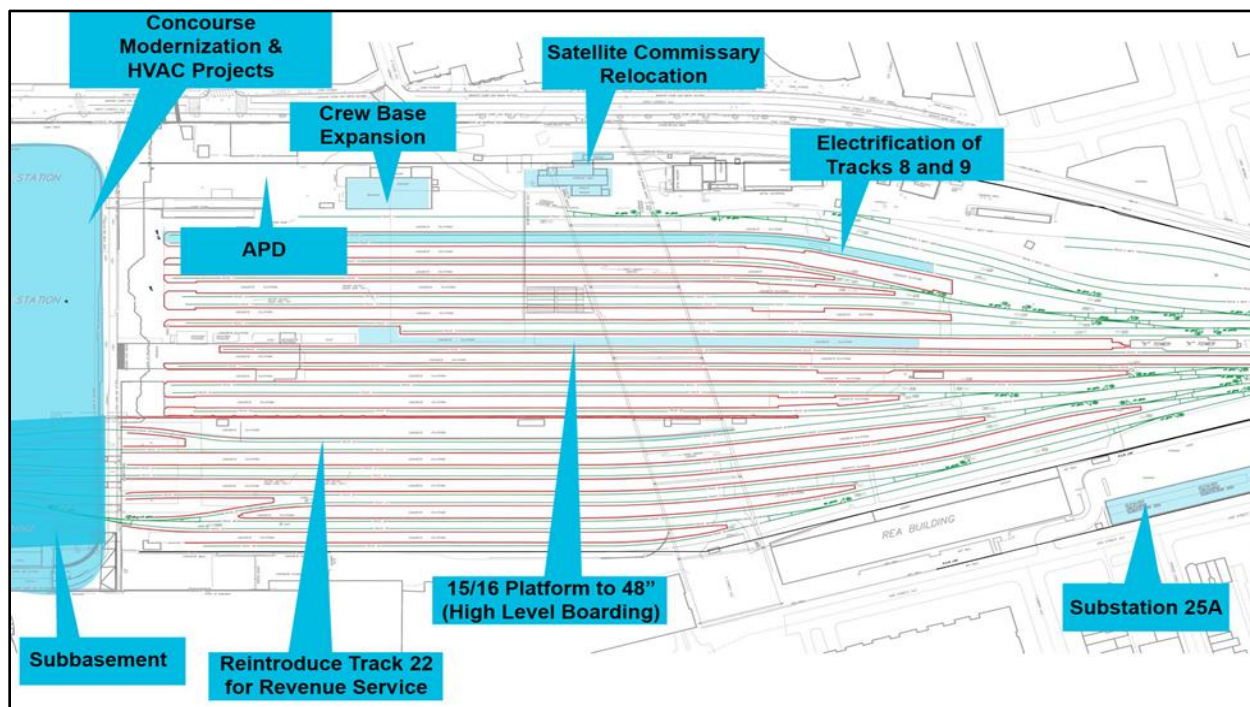
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**Rail terminal projects.** The plan includes the following six projects in the rail terminal to improve current and future operations:

- reconstructing platforms 15 and 16 to bring them into compliance with the access requirements of the Americans with Disabilities Act
- electrifying tracks 8 and 9 to provide greater operational flexibility
- rehabilitating track 22 to re-establish it for revenue service and use it for run-through trains
- relocating the satellite commissary to accommodate the District of Columbia's planned reconstruction of the nearby H Street Bridge
- renovating the crew base facility
- replacing and relocating substation 25A to upgrade an aging infrastructure and optimize the layout of the company's Railway Express Agency property

Figure 3 shows the location of the 10 near-term improvement projects at Washington Union Station.

**Figure 3. Location of Near-Term Improvement Projects**



Source: OIG Analysis of Amtrak Report to Congress on December 2, 2016 and Project Documentation



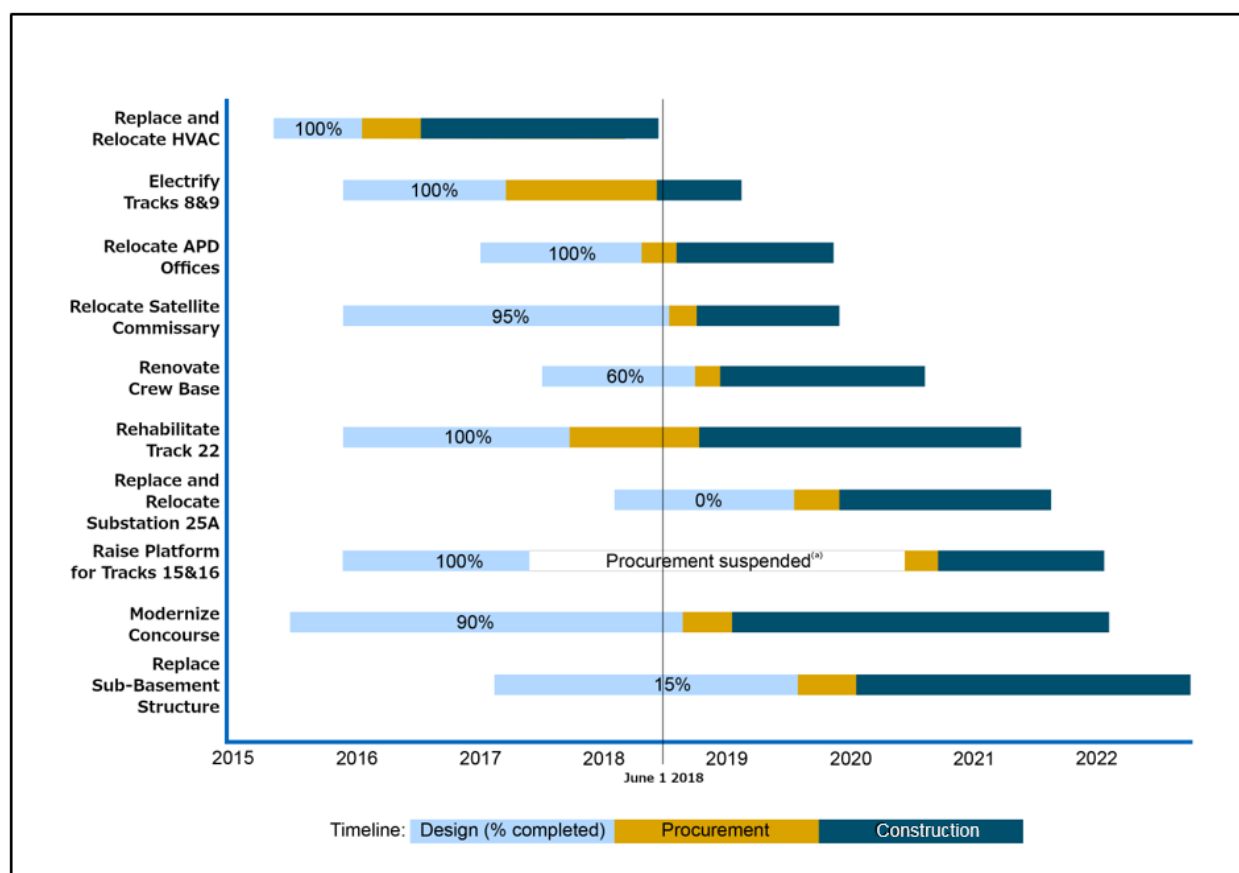
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One of the 10 near-term improvement projects is completed, 1 started construction, 3 are ready to begin construction, and 5 are in the design phase, as shown in Figure 4. Two of these five projects have more than 90 percent of their designs complete, one has 60 percent of its design complete, one has 15 percent of its design complete, and one has just begun design.

**Figure 4. Status of Near-Term Improvement Projects, April 2018**



Source: OIG analysis of data from the Stations, Facilities, Properties, and Accessibility department

Note:

<sup>(a)</sup> As a result of reprioritizing the near-term improvement projects, the Stations, Facilities, Properties, and Accessibility department suspended the procurement and construction of platforms 15 and 16.

The company is responsible for most of the \$296 million total estimated costs for the near-term improvement projects as follows:

- company funds: \$201 million (68 percent)
- federal grants and loans: \$86.5 million (29 percent)
- other stakeholders: \$8.5 million (3 percent)

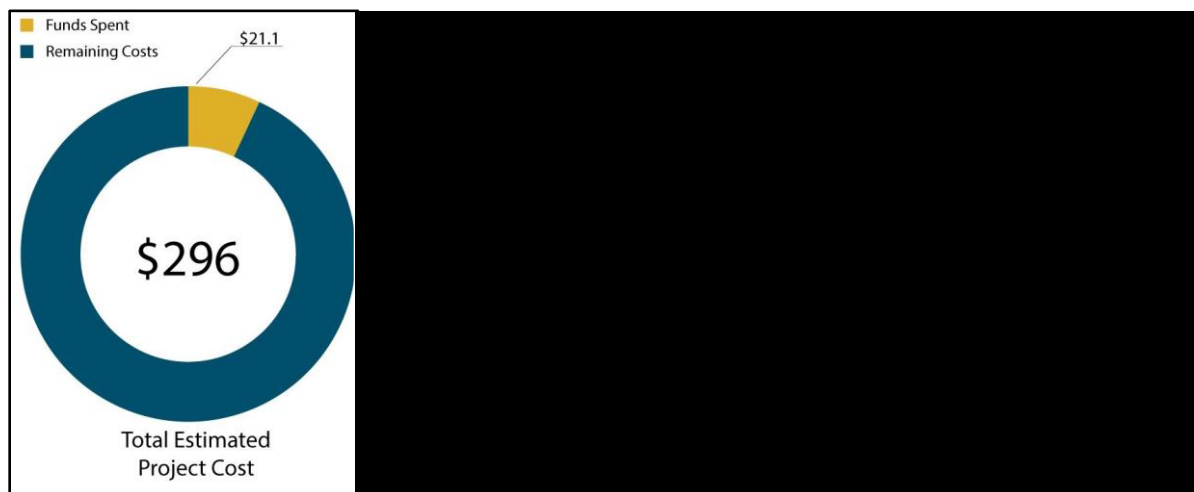
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As of April 26, 2018, the company had spent \$21.1 million of the \$296 million estimated costs (7 percent). Figure 5 provides the estimated project costs and funds spent on each project as of that date.

**Figure 5. Total Estimated Costs and Funds Spent on Near-Term Improvement Projects, as of April 2018 (\$ millions)**



Source: OIG analysis of data from the Stations, Facilities, Properties, and Accessibility department

## SCHEDULING, COST ESTIMATING, AND OTHER PROJECT MANAGEMENT WEAKNESSES POSE RISKS DURING CONSTRUCTION

Weaknesses in the Stations, Facilities, Properties, and Accessibility department's practices for scheduling, cost estimation, and management contributed to delays and understated cost estimates in the 10 near-term improvement projects. The company is at risk of delays and cost overruns because it did not fully implement the company's EPMS standards and other commonly accepted project management standards.

### Scheduling Weaknesses Could Lead to Delays

The department developed schedules for each project, but portions were incomplete for all 10 projects. Without complete individual project schedules and an integrated master schedule, the department faces the risk of delays as projects progress to and through the construction phase:

- **Incomplete schedules.** The department developed schedules that identified the major milestones for each of the 10 near-term improvement projects, but it did

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not identify the planned work activities necessary to accomplish the project's objectives from design through construction. The company's project management standards call for complete schedules; otherwise, the department cannot effectively track each project's progress to ensure timely completion, and the company is at risk of delays.

- **Lack of an integrated master schedule.** Without complete schedules for each project, the department could not develop an integrated master schedule. Under commonly accepted project management standards, an integrated master schedule is critical to determine if individual project schedules are realistic and achievable.<sup>5</sup> The department developed a schedule that showed the combined major milestones for the 10 projects; however, it did not develop a more detailed integrated master schedule. Such a schedule would identify the most critical activities across interrelated projects and when they must be completed—the critical path—so projects will not be delayed. For example, the sub-basement project depends on the timely completion of the project to rehabilitate track 22. The company relies on this track to divert trains in order to maintain an acceptable level of operations while the sub-basement project is underway. Developing an integrated schedule and identifying such critical path activities would help keep projects on track.

**Cost Estimating Weaknesses Could Lead to Cost Overruns**

The department developed cost estimates for all 10 projects but did not update estimates for 8 of the 9 ongoing projects as activities and costs became clearer. In addition, it could not provide support showing the basis for some estimates in each project. As a result, the department's current estimate of \$296 million in total project costs is likely understated, and the projects face the additional risk of cost overruns as they move to and through the construction phase:

- **Outdated project cost estimates.** As it moved through design, the department did not update its full cost estimates for eight of the nine ongoing near-term improvement projects to ensure that management had a complete understanding of costs for the upcoming construction phase. EPMO and other commonly accepted project management standards call for updating cost estimates when

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<sup>5</sup> *Schedule Assessment Guide: Best Practices for Project Schedules* (GAO-16-89G), December 2015.

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major phases of the projects are completed in order to ensure the reliability of the estimate. Nevertheless, the department missed a number of these opportunities:

- *At interim milestones during design.* Design for three projects is nearly complete—[REDACTED]—but the department did not update its cost estimates as designs progressed to construction, even though the department had a better understanding of construction costs. As a result, the department underestimated construction costs for these projects by at least \$4 million (7 percent of the estimated \$58.7 million total cost of the three projects), including other costs that are based on a percentage of construction costs, such as labor.
- *When a project enters the construction phase.* When the project entered the construction phase, the department did not update its [REDACTED] estimate for the electrification of tracks 8 and 9. The department began construction on this project in May 2018 but has not updated its estimate since January 2017 when the project was in the early design phase and construction costs and estimates were less certain.
- *After a significant project change.* For the concourse modernization, the department approved a [REDACTED] design change order in April 2017 but did not revise its original estimate of [REDACTED] until February 2018 when we asked for supporting documentation.
- **Unsupported cost estimates.** The department did not have supporting documentation showing the basis for some categories of cost estimates, such as labor and environmental costs. Company standards call for documentation that explains the process, sources, and methods used to create estimates and identifies the underlying data and assumptions. Unsupported cost estimates accounted for \$26.4 million of the total project cost estimates (9 percent). Of this amount, \$19.3 million was for labor needed for construction (73 percent). For example, estimates for the sub-basement project included [REDACTED] for labor, but the project manager did not have documentation showing the process, source, methods, and assumptions used to develop this estimate. The remaining \$7.1 million in unsupported estimates was for environmental activities, passenger information display systems, and station signage (27 percent).

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For other estimates, the department had supporting documentation, but some of the support was incomplete. For example, for the project to upgrade a substation's aging infrastructure, the department provided an email as support for [REDACTED] of electric traction work. However, the email did not include the process, sources, methods, and assumptions used to generate this estimate.

Without complete supporting documentation for cost estimates, the program manager overseeing the projects cannot determine the basis for these estimates to verify their accuracy and completeness, and subsequently update them. As a result, the company is at risk of incurring project cost overruns, based on similar gaps on prior projects.<sup>6</sup>

Company managers acknowledge the need for improvements in developing its cost estimating for these projects, as well as the need to improve cost-estimation practices company-wide. Without updated and supportable estimates, the department cannot ensure that it is managing costs to stay within the project's budget and avoid overruns—problems we identified on other projects in the past.<sup>7</sup>

**Other Project Management Weaknesses Contributed to Delays on Two Projects**

The department did not comply with two other company project management standards, which contributed to delays on two projects:

- **Lack of approved charters for 9 of 10 projects.** Project charters define the roles and responsibilities of stakeholders and help ensure that all stakeholders fully understand and agree to each project's purpose, objectives, deliverables, and expected benefits. The department approved a charter for the substation 25A project and drafted charters for five other projects but did not obtain final stakeholder approval for them. Additionally, it did not develop charters for the four remaining projects, as shown in Figure 6.

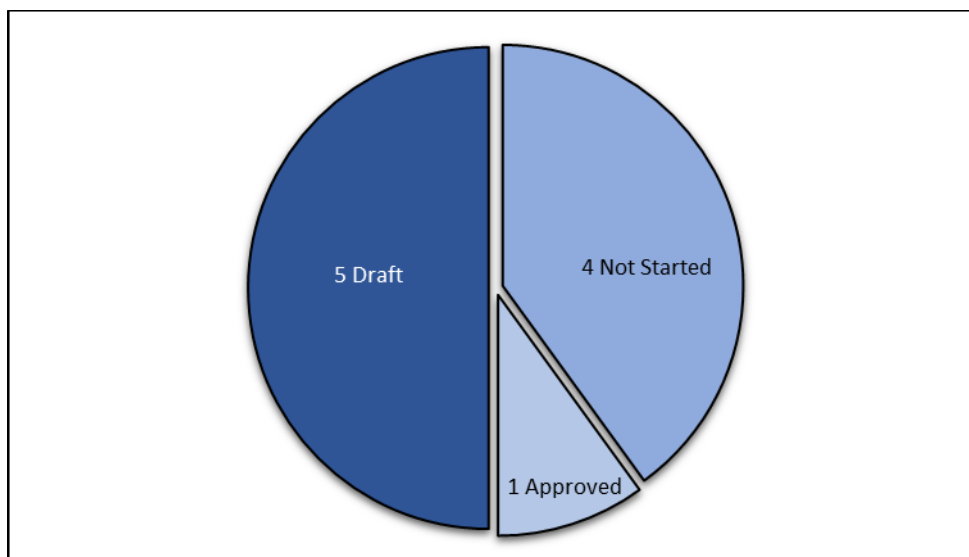
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<sup>6</sup> *Acquisition and Procurement: Adopting Additional Leading Practices to Manage the Baltimore Penn Station Redevelopment Could Help Mitigate Project Risks* (OIG-A-2017-002), December 14, 2016.

<sup>7</sup> *Amtrak: Top Management and Performance Challenges—Fiscal Years 2017 and 2018* (OIG-SP-2017-009), March 29, 2017.

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**Figure 6. Status of Charters for Near-Term Improvement Projects**



Source: OIG analysis of data from the Stations, Facilities, Properties, and Accessibility department

The absence of approved project charters has contributed to a delay on one project. Specifically, the Engineering department, which has the primary responsibility for the project to electrify tracks 8 and 9, needed to procure some construction material that required a long lead time to obtain. However, the department did not have an approved charter outlining departmental roles and responsibilities and project requirements; therefore, the Stations, Facilities, Properties, and Accessibility department and Engineering departments did not effectively communicate and reach a timely agreement on the materials' due date. As a result, the materials did not arrive in time, which delayed the start of construction by nine months, from August 2017 to May 2018. The lack of approved charters on other projects increases the risk of similar delays.

- Lack of risk mitigation plans for six projects.** The department identified some risks for 6 of the 10 projects but did not develop documented plans to mitigate these risks, contrary to company standards. This led to a delay in the project to rehabilitate track 22, which relied on grant funding from the Federal Railroad Administration and Virginia Railway Express. The department identified a risk that Virginia Railway Express may not be able to provide its portion in time to meet the scheduled timelines but did not develop a plan to mitigate this risk, such as identifying interim funding sources or alternative scheduling options. Construction for this project was scheduled to begin in October 2017. However,

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Virginia Railway Express did not provide its funding plan to the company to include in its submission for the Federal Railroad Administration grant until April 2018. As a result, the department delayed construction for one year until October 2018. Without risk mitigation plans for the remaining projects, they may be vulnerable to schedule delays and cost overruns, which the company has experienced with other projects.

These weaknesses in scheduling, cost estimation, and management practices were caused in part because the department did not fully implement the company's EPMO project management standards. The former Vice President for Asset and Real Estate Development and project managers told us they did not follow the standards because the company had not established them before the near-term improvement projects went into design. The company established the standards on October 1, 2016, when all 10 projects were already underway. Nevertheless, the company stipulated that departments had another year—until October 1, 2017—to implement the standards for projects underway before the standards went into effect. Department officials acknowledged this and told us they planned to take additional steps to implement the standards. Nevertheless, as of May 2018, the department had not fully incorporated them.

## **CONCLUSIONS**

The 10 near-term improvement projects for Washington Union Station—the company's second-busiest station—are critical to modernizing and increasing the capacity of the station for future operations. Although one of these projects is complete (the replacement and relocation of the station's HVAC), the nine remaining projects are at risk of delays and cost overruns because of weaknesses in the company's practices for scheduling, cost estimating, and project management. We have seen how similar weaknesses in the company's prior projects have resulted in similar problems. Because eight of the nine remaining projects are not yet under construction, the company has time to address these project weaknesses.

## **RECOMMENDATIONS**

To help mitigate the risk of schedule delays and cost overruns on the near-term improvement projects for Washington Union Station and to address the weaknesses identified in this report, we recommend that the Executive Vice President/Chief Administration Officer direct the Vice President for Stations, Facilities, Properties, and



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Accessibility to adopt the EPMO and other commonly accepted project management standards with an emphasis on the following:

1. Ensure that schedules covering the remaining phases of the projects include all critical activities, and create an integrated master schedule of all projects.
2. Develop updated and well-supported cost estimates to help project managers better understand anticipated costs.
3. Ensure that approved charters are in place for each project that identify each stakeholders' roles and responsibilities, among other things.
4. Develop risk mitigation plans, as appropriate, to mitigate those risks that managers identify for any of the projects.

**MANAGEMENT COMMENTS AND OIG ANALYSIS**

In commenting on a draft of this report, the Executive Vice President/Chief Administration Officer agreed with our recommendations to adopt the EPMO and other commonly accepted project management standards. He also identified efforts the company has initiated and plans to take to address the intent of our recommendations. The company's actions are summarized below:

- **Recommendation 1:** Management agreed with our recommendation to ensure complete schedules are created and updated, when appropriate, and integrated into a master schedule of all projects. Management stated it has approved the hiring of a project manager to serve, in part, as a project scheduler to assist the Washington Union Station team develop a master project schedule. The target completion date for this action is November 2018.
- **Recommendation 2:** Management agreed with our recommendation to develop updated and well-supported cost estimates for each project. Management stated it has already engaged the Engineering Project Management group to develop some project cost estimates using the group's cost estimating software. It also plans to contract with a project estimator to assist the Washington Union Station team with producing more thorough and updated cost estimates in a standardized format that adheres to EPMO and other project management standards. The target completion date for these actions is December 2018.

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- **Recommendation 3:** Management agreed with our recommendation to ensure approved charters are in place for each project. It stated the charters will identify the project purpose, high level scope, projected timeline, and stakeholders' roles and responsibilities, among other things. The target completion date for this action is October 2018.
- **Recommendation 4:** Management agreed with our recommendation to develop risk mitigation plans for the projects. It stated the plans will identify potential risks for the entire project, include mitigation strategies for each risk identified, and be reviewed and updated monthly. The target completion date for this action is January 2019.

For management's complete response, see Appendix B.

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**APPENDIX A****Scope and Methodology**

Our objective was to assess the effectiveness of the company's scheduling, cost estimating, and management of these projects and the potential impacts on their completion. The scope of our audit focused on the company's practices to develop project schedules and cost estimates and to manage these projects from 2015 to 2018. We interviewed officials in the Stations, Facilities, Properties, and Accessibility department as well as the Engineering department who have responsibilities for the projects. In addition, we toured the locations of the projects at Washington Union Station. We conducted this audit from July 2017 through June 2018 in Washington, D.C., and Philadelphia, Pennsylvania. Certain information in this report has been redacted due to its sensitive nature.

To assess the effectiveness of the company's scheduling and cost estimating, we compared the individual project schedules and cost estimates to the company's EPMO standards and other commonly accepted project management standards for scheduling and cost estimating. We discussed the results of this comparative analysis with the company's project managers, and they concurred with our observations.

To assess the effectiveness of the company's management of the near-term improvement projects, we reviewed and compared project charters to EPMO's project management standards for charters. We discussed this comparative analysis with the company project managers, and they concurred with our observations. In addition, we interviewed the project managers to determine the extent to which they had developed risk mitigation plans, as called for by EPMO project management standards.

We conducted this performance audit in accordance with generally accepted governmental 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.

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**Internal Controls**

We reviewed the management controls used for developing and maintaining schedules, costs estimates, project charters, and risk-mitigation plans. We did not review the department's overall system of controls and procedures.

**Computer-Processed Data**

Our analyses and findings did not rely on computer-generated data from any company information systems.

**Prior Audit Reports**


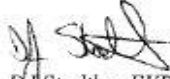
We identified and reviewed the following reports by our office as relevant to this review:

- *Top Management and Performance Challenges—Fiscal Years 2017 and 2018* (OIG-SP-2017-009), March 29, 2017
- *Acquisition and Procurement: Adopting Additional Leading Practices to Manage the Baltimore Penn Station Redevelopment Could Help Mitigate Project Risks* (OIG-A-2017-002), December 14, 2016
- *Acquisition and Procurement: New Jersey High-Speed Rail Improvement Program Has Cost and Schedule Risks* (OIG-A-2015-012), June 17, 2015
- *Acquisition and Procurement: Gateway Program Projects Have Certain Cost and Schedule Risks* (OIG-A-2015-002), December 19, 2014

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## APPENDIX B

### Management Comments

NATIONAL RAILROAD PASSENGER CORPORATION			
<div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">Memo</div> <div style="text-align: right; margin-bottom: 10px;">  </div>		<div style="text-align: center; margin-bottom: 10px;">   <i>D. Stadler, EVP/CAO</i> </div>	
Date	<i>July 12, 2018</i>	From	<i>D. Stadler, EVP/CAO</i>
To	Stephen Lord, Assistant Inspector General, Audits	Department	<i>Administration</i>
cc	<i>Mark Benedict, Director Amtrak Controls</i> <i>Rina Cutler, Senior Director Major Stations Development</i> <i>Bill Feidt, EVP Finance</i> <i>David Handera, VP Stations, Facilities, Properties, and Accessibility</i> <i>Carol Hanna, VP Finance</i> <i>Gretchen Kostura, Senior Program Manager</i> <i>Gregory Miller, Director Portfolio Management</i> <i>Mark Richards, Senior Director Amtrak Controls</i> <i>Daniel Sporik, Program Manager</i>		
Subject	Management Response to <b>ASSET MANAGEMENT: Better Schedules, Cost Estimates, and Project Management Could Help Mitigate Risks to Washington Union Station Projects</b> (Draft Audit Report for Project No. 013-2017)		
<p>This memorandum provides Amtrak's response to the audit report for project no. 013-2017 entitled, "<b>ASSET MANAGEMENT: Better Schedules, Cost Estimates, and Project Management Could Help Mitigate Risks to Washington Union Station Projects</b>". Management appreciates the opportunity to respond to the OIG recommendations. As indicated in our responses, we agree with each of the OIG recommendations and have initiated actions to address each in a timely manner.</p> <p><b><u>Recommendation 1:</u></b></p> <p>We recommend that the Executive Vice President/Chief Administrative Officer direct the Vice President for Stations, Facilities, Properties, and Accessibility to adopt the EPMO and other commonly accepted project management standards with an emphasis on ensuring schedules covering the remaining phases of the projects include all critical activities, as well as creating an integrated master schedule of all projects.</p> <p><b><u>Management Response/Action Plan:</u></b></p> <p>Management agrees with the recommendation to adopt EPMO and other commonly accepted project management standards with an emphasis on ensuring complete schedules are created and updated, when appropriate, and integrated into a master schedule of all projects. Currently, independent schedules are</p>			
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produced for design and construction milestones for each of the nine projects in design or construction. These projects are captured on an overall master project schedule. However, this master schedule fails to capture the conception to completion for some of the projects, is not updated as frequently as should be, and does not show critical linkages between projects. Much of this can be attributed to the team's limited resources. To address this, management has approved the hiring of an additional Project Manager to serve, in part, as a Project Scheduler to assist the Washington Union Station team producing a master project schedules that adhere to EPMO and other project management standards.

Responsible Amtrak Official(s):

VP Stations, Facilities, Properties and Accessibility (David Handera)

Target Completion Date:

Hiring of Project Manager – August 2018

Integration and regular cadence of schedule updates - November 2018

**Recommendation 2:**

We recommend that the Executive Vice President/Chief Administrative Officer direct the Vice President for Stations, Facilities, Properties, and Accessibility to adopt the EPMO and other commonly accepted project management standards with an emphasis on developing updated and well-supported cost estimates to help project managers better understand anticipated costs.

Management Response/Action Plan:

Management agrees with the recommendation to adopt EPMO and other commonly accepted project management standards with an emphasis on ensuring developing updated and well-supported cost estimates for each project. These projects are complex and usually the scope evolves over the project design and pre-construction phases. These costs are difficult to estimate without the help of a Cost Estimator. The team has already begun to engage the Engineering Project Management group to run some of the projects through their cost estimating software. However, that is a one-time cost estimate and not continually updated. Management will address this by contracting with a Project Estimator to assist the Washington Union Station team as well as the other Major Stations teams with producing more thorough and updated cost estimates in a standardized format that adheres to EPMO and other project management standards. Once a project cost estimate is established, the team will update it on a regular basis, when changes to the baseline occur.

Responsible Amtrak Official(s):

VP Stations, Facilities, Properties and Accessibility (David Handera)

Target Completion Date:

December 2018

**Recommendation 3:**

We recommend that the Executive Vice President/Chief Administrative Officer direct the Vice President for Stations, Facilities, Properties, and Accessibility to adopt the EPMO and other commonly accepted

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project management standards with an emphasis on ensuring approved charters are in place for each project that identifies each stakeholders' roles and responsibilities, among other things.

Management Response/Action Plan:

Management agrees with the recommendation to adopt EPMO and other commonly accepted project management standards to ensure approved charters are in place for each project. Among other things, these charters will identify the project purpose, high level scope, projected timeline, and stakeholders' roles and responsibilities.

Responsible Amtrak Official(s):

VP Stations, Facilities, Properties and Accessibility (David Handera)

Target Completion Date:

October 2018

**Recommendation 4:**

We recommend that the Executive Vice President/Chief Administrative Officer direct the Vice President for Stations, Facilities, Properties, and Accessibility to adopt the EPMO and other commonly accepted project management standards with an emphasis on developing risk mitigation plans, as appropriate, to mitigate those risks that managers identify for any of the projects.

Management Response/Action Plan:

Management agrees with the recommendation to adopt EPMO and other commonly accepted project management standards to develop risk mitigation plans for the projects. The risk plans will identify potential risks for the entire project, from design through construction, and will be reviewed and updated on a monthly basis. These plans will also provide mitigation strategies for each risk identified.

Responsible Amtrak Official(s):

VP Stations, Facilities, Properties and Accessibility (David Handera)

Target Completion Date:

January 2019



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## **APPENDIX C**

### **Acronyms and Abbreviations**

CAO	Chief Administration Officer
EPMO	Enterprise Program Management Office
GAO	Government Accountability Office
HVAC	Heating, Ventilation, and Air Conditioning
OIG	Amtrak Office of Inspector General
The company	Amtrak
The department	Stations, Facilities, Properties, and Accessibility department

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## **APPENDIX D**

### **OIG Team Members**

Eileen Larence, Deputy Assistant Inspector General, Audits

David P. Bixler, Senior Director

Todd Kowalski, Senior Audit Manager

Walter Beckman, Senior Auditor, Lead

Michelle Root, Auditor

Clare Shepherd, Auditor

Alison O'Neill, Communications Analyst

# OIG MISSION AND CONTACT INFORMATION

## Mission

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The Amtrak OIG's mission is to provide independent, objective oversight of Amtrak's programs and operations through audits 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.

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