



OFFICE of INSPECTOR GENERAL
NATIONAL RAILROAD PASSENGER CORPORATION

GOVERNANCE:

Company Is Strengthening Project Cost Management but Can Better Organize Costs and Improve Guidance

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


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Memorandum

To: Laura Mason
Executive Vice President, Capital Delivery

From: Jim Morrison 
Assistant Inspector General, Audits

Date: July 17, 2023

Subject: *Governance: Company Is Strengthening Project Cost Management but Can Better Organize Costs and Improve Guidance (OIG-A-2023-010)*

Funding from the Infrastructure Investment and Jobs Act¹ (IIJA)—which provides \$66 billion for passenger and freight rail improvements—could triple Amtrak’s (the company) annual infrastructure spending over the coming years and will expand its passenger rail operations mission to include a major capital delivery mission. For nearly a decade, however, we have reported on the company’s challenges managing infrastructure projects that have led to cost overruns. A common business practice to ensure that capital projects do not exceed their budgets is project cost management, which involves planning, estimating, and controlling costs. Robust project cost management will help the company serve as a good steward of the federal funding it receives.

The company established the Capital Delivery department to improve its project management capabilities and implement about 70 percent of the company’s current portfolio of infrastructure, facility, and fleet investments under development.² Our objective was to identify any challenges with company systems and processes that could impede the Capital Delivery department’s ability to effectively track and manage costs for capital projects.

To perform this work, we reviewed company processes and procedures and interviewed 39 officials in the Capital Delivery, Operating and Commercial, Digital Technology and Innovation, and Finance departments with responsibilities related to project cost management. We also met with officials from the Federal Railroad

¹ Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429 (2021).

² The Capital Delivery department manages \$2.5 billion of the company’s planned capital budget of \$3.7 billion for fiscal year 2023.

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Administration (FRA) who are involved in overseeing the company's capital portfolio. In addition, we assessed six of the Capital Delivery department's ongoing projects³ to identify examples of project cost management practices. For these projects, we reviewed approximately 400 documents, including project managers' spreadsheets, and analyzed data from company systems to determine the extent to which practices follow company and industry standards. For more details on our scope and methodology, see Appendix A.

SUMMARY OF RESULTS

We identified—and the company recognizes—three key challenges with the systems and processes that the Capital Delivery department uses to track and manage costs. These challenges hinder project teams and company executives from obtaining consistent, detailed cost data to manage the company's portfolio of capital work—foundational capabilities that are critical to effectively managing costs on billions of dollars in taxpayer-funded projects.

Project costs are tracked in multiple information systems, leading to inconsistent data. We found that the total reported costs of some projects varied from one system to another, making it difficult to know the accurate status of a given project or the overall portfolio of projects. The company has begun addressing this challenge by developing a single project management system, including a cost management capability, that it anticipates will replace or integrate at least 12 of its current systems. It began implementing the system in June 2023 and plans to complete implementation by March 2025.

Detailed and standardized cost data are not readily available to project teams, hindering their ability to identify cost issues and plan for future work. The company systems that project managers use cannot easily identify the costs for project activities at a detailed level, which common industry practices call for. As a result, project teams can miss emerging problems that might lead to cost overruns. In addition, project teams do not categorize costs the same way for all capital projects, making it difficult for executives to compare progress across projects, measure performance, and plan for future work. The company previously identified these challenges, but the challenges

³ We reviewed the [REDACTED] New Veltri Interlocking, Ham Interlocking Renewal, Conestoga Substation Improvements, and Gunpow Substation 18 New Prefabricated Control House projects. For more information, see Appendix A.

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have not been resolved because the company has not fully (1) planned how to systematically implement these common industry practices and (2) identified the people, systems, and processes needed to effect the necessary changes. We recognize that such an effort would likely require a significant time commitment and financial investment by the company. Given the potential infrastructure spending in the coming years, however, the results would likely materially impact the return on such commitment and investment.

Project cost management guidance is outdated, leading to inconsistent adherence to standards. The Capital Delivery department relies on individual project teams to adhere to the company's standards for project cost management, which are not always used consistently. This is because the department has not updated its procedures to reflect current standards, which common industry practices call for. Project managers have told us that without up-to-date procedures, some of the cost management processes, roles, and responsibilities are not always clear, particularly when transitioning to a new project. The Capital Delivery department is drafting new procedures but has not yet completed them.

To further improve the company's project cost management capabilities, we recommend that the Executive Vice President for Capital Delivery coordinate with the Finance department to study how the company can develop and use more detailed and standardized costs for effective project cost management and then create a plan specifying the people, processes, and systems it needs to do so. Because of the time such a study may take, we recommend that the Capital Delivery department develop and implement rules in the short term that define how project teams should categorize costs using existing systems and processes. Finally, we recommend that it update and implement project cost management procedures to reflect current processes and requirements.

In commenting on a draft of our report, the Executive Vice President for Capital Delivery agreed with our recommendations and identified actions the company plans to take to address them. For management's complete response, see Appendix B.

BACKGROUND

Project cost management refers to the systems and processes that organizations use to plan, estimate, track, and manage costs so they can complete projects within approved

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budgets. Leading industry practices⁴ for tracking and managing project costs include the following:

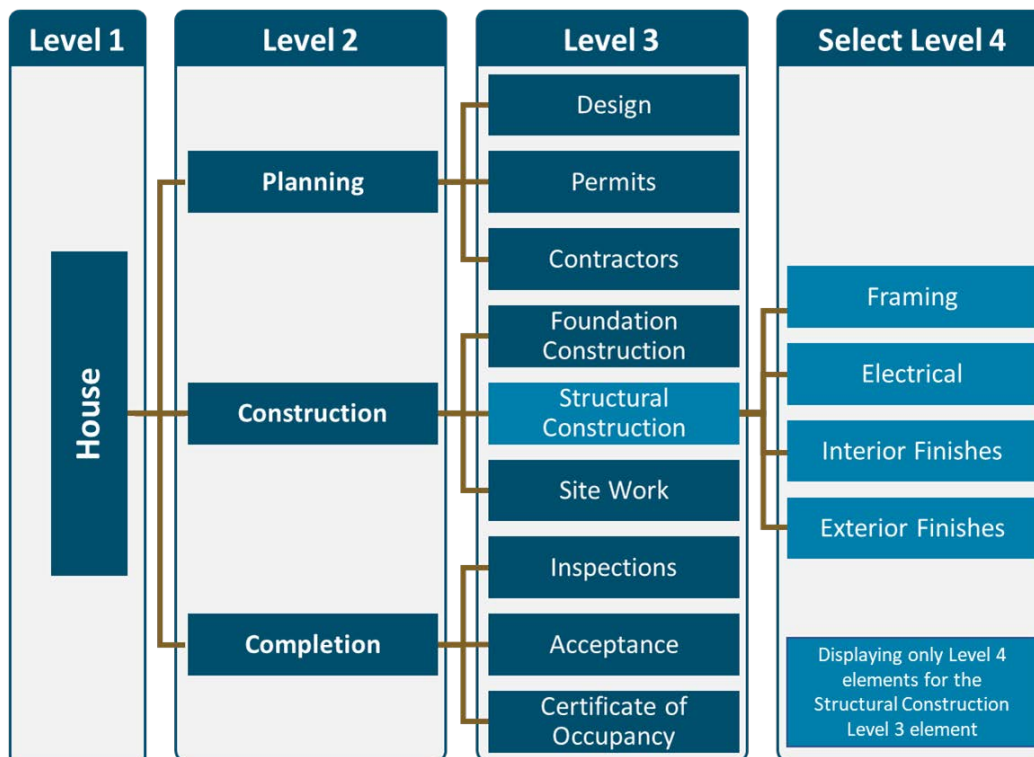
- **Use a centralized project management information system** to provide project teams access to the tools and data they need to make informed decisions, including the ability to collect, analyze, and store project cost data.
- **Establish procedures for tracking and managing costs**, including completing cost management plans that describe how each project team will track and manage costs unique to that project.
- **Tie costs to meaningful and detailed work breakdown structures.** A work breakdown structure (WBS) is a hierarchy that organizes an entire project into all of the small component activities needed to accomplish a project's objectives.⁵ According to common industry practices, project teams should link the activities of work breakdown structures to their associated costs at three or more levels of detail. For an example of a project's WBS with four levels of associated costs, see Figure 1.

⁴ Project Management Institute, *Project Management Body of Knowledge*, 6th edition, 2017; U.S. Government Accountability Office, *Cost Estimating and Assessment Guide*, 2020.

⁵ Common industry use of the term "work breakdown structure" differs from the company's use. For the company, it is an accounting term that defines the first level of cost detail for a project or program; it is a unique identifier used to track costs associated with trains, programs, projects, and certain capital assets. This report refers to the common industry use of the term "work breakdown structure."

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Figure 1. Example of Work Breakdown Structure for a House Renovation



Source: OIG analysis of industry practices published by the Government Accountability Office

In June 2021, the company hired an Executive Vice President for Major Program Delivery to oversee its major infrastructure, fleet, and facility improvement efforts. In January 2022, the company reorganized to combine Major Program Delivery with the project delivery function from the former–Engineering department to create the new Capital Delivery department, which also included the creation of the Project Controls group in the new department. This group provides department-specific guidance to project managers who are responsible for tracking and managing their projects’ costs. In addition, the following stakeholders have responsibilities related to project cost management:

- **The Finance department** is responsible for reviewing project data, approving cost changes, and reporting project cost information to internal stakeholders and FRA. Within the department, the Enterprise Program Management Office (EPMO) develops project management standards and tools for all company departments. The standards provide a core set of rules and conventions to be applied companywide, outline the company’s program and project management

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expectations, and define terminology and minimum requirements. In addition, EPMO submits project status reports to FRA that include cost data.

- **The Capital Project and Portfolio Review Committee** consists of members of the Senior Leadership Team and Executive Leadership Team. The teams are responsible for meeting monthly to approve budget requests for capital projects. When projects exceed established change thresholds, the company then submits the requests to FRA for final approval.

The company also works closely with FRA on all federally funded infrastructure projects. FRA reviews the company's project status reports and change requests when projects exceed the scope, schedule, or budget thresholds set in the company's agreements with FRA. In addition, IJJA requires the company to submit detailed reports to FRA on planned and actual uses of federal funds.

EFFORTS UNDERWAY TO ADDRESS THE CHALLENGE OF TRACKING AND MANAGING COSTS ACROSS MULTIPLE SYSTEMS

The company tracks its project costs across multiple systems, which is inconsistent with common industry practices. The company is aware of this issue and, since July 2022, has been developing a single, unified project management system—the Enterprise Project and Portfolio Management (EPPM) system—which includes a cost management capability to help organize data from the existing systems. The company anticipates that EPPM will replace or integrate at least 12 current systems to provide a single view of project cost data, including cost-estimating, scheduling, and financial accounting systems.

Without such an integrated system, total reported costs of some projects did not always align across current company systems on the same date. We compared reported costs for our sample of projects across various systems on December 5, 2022, and identified discrepancies. For example, on that date, the [REDACTED] project's costs were \$4.0 million in one system and \$4.4 million in another, making it difficult to know the actual cost of this project. A company official confirmed that such discrepancies are common. The company plans for EPPM to replace those two systems, which could help improve project cost transparency—including executives' ability to review consistent cost data to manage the company's entire portfolio of infrastructure work. The company also anticipates that EPPM will enable it to report certain project

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cost data that FRA requires but has not been reportable because of the company's historical system limitations.⁶

The company began implementing EPPM in June 2023 and plans to complete implementation by March 2025. Given the company's ongoing efforts to implement EPPM, we are not making a recommendation in this area. As part of our future oversight work, however, we plan to monitor the extent to which EPPM meets the company's project cost management needs and is adopted companywide.

DEPARTMENT'S ORGANIZATION OF COSTS IN WORK BREAKDOWN STRUCTURES DOES NOT ALIGN WITH INDUSTRY PRACTICES

Notwithstanding the anticipated benefits of EPPM, the Capital Delivery department faces additional impediments that hinder its ability to track and manage project costs and has opportunities to improve its capabilities in the short and long terms.

Insufficient Levels of Cost Detail Could Obscure Emerging Problems

Company systems impede the Capital Delivery department's ability to easily tie costs to specific work activities identified in projects' work breakdown structures. The company developed these systems, which typically collect cost data using two levels of detail,⁷ to facilitate its financial accounting and reporting to FRA rather than to maximize the effectiveness of its project management. Tracking costs at only two levels for purposes of project cost management, however, does not align with common industry standards that call for three or more levels of cost detail in a WBS, depending on a project's complexity.⁸ With only high-level cost data typically available for Capital Delivery project teams to assess, they may miss emerging cost issues that could lead to overruns as projects progress. Additionally, FRA officials told us the company cannot always

⁶ The project status reports the company submits to FRA are to have project cost data—including budget variances, cost by funding source, and a comparison of budget and expenditures by project milestone. The company currently has a waiver from providing a comparison of budget and expenditures for a project broken out by phase or budget milestone.

⁷ The company's financial accounting system can provide cost data beyond two levels, such as data by cost type (for example, labor and materials) and by cost center (for example, department or business group). A company official, however, told us these cost details may not be comprehensive enough for project managers to use.

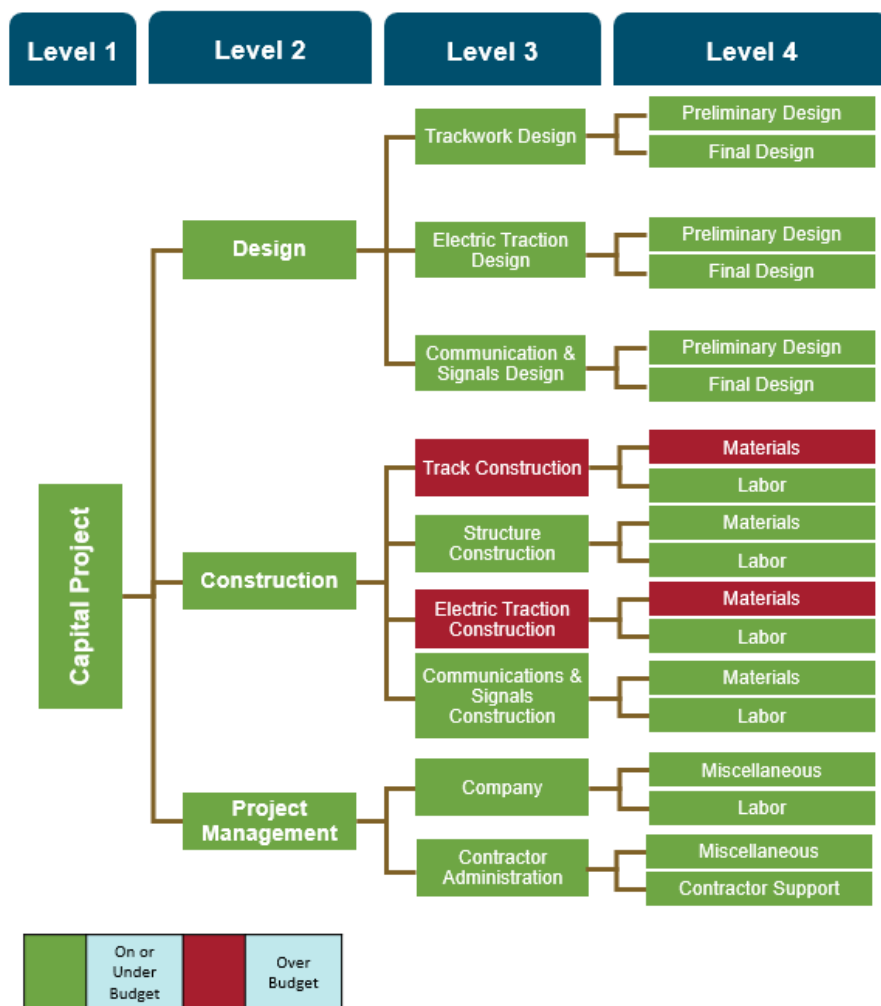
⁸ The National Aeronautics and Space Administration, for example, uses up to seven levels of cost detail to manage its construction and other capital projects.

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provide sufficient cost details to help support its requests for additional funds for projects.

Figure 2 provides a simplified example of how using more levels of cost detail in a WBS could help project teams identify specific cost issues in a timely manner. In the example, a team that has visibility of costs at lower, more detailed levels will more likely identify emerging cost overruns for track and electric traction construction materials even though the project itself remains on or under budget.

Figure 2. Simplified Example of Cost Visibility at Four Levels of Detail



Source: OIG analysis of industry practices

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If project teams do not uncover and address the cause of issues such as potential overbillings or mischarges in a timely manner, they miss opportunities to correct course, recover costs if applicable, and reallocate funds if needed. This increases the risk that the project will go over budget as it progresses. For example, FRA officials told us that the company's inability to see costs deviating from the budget within a necessary timeframe for correction has led to cost overruns on past projects.

Without systems to tie discrete costs to specific activities for project management purposes, project managers in the Capital Delivery department who want to track and manage project costs at a sufficient level of detail use manual processes and their own tools outside company systems to do so. For example, since December 2022, the Project Controls group has provided project managers with a spreadsheet-based tool to help them estimate costs at three levels of detail. A department official told us this tool led to immediate improvements in the variance between budgeted and actual amounts for projects but may not be appropriate for multibillion-dollar projects, according to another official.

Workarounds continue because the company has not fully identified and planned how to incorporate more levels of detail into its project cost management capabilities on an enterprise level. This increases the likelihood that project teams miss emerging cost issues—putting the department's multibillion-dollar infrastructure portfolio at risk of not achieving approved budgets.

In addition to identifying emerging cost issues, tying costs to specific activities in a WBS would help the company capture complete costs for its projects and programs. For example, our review of the \$30 billion Gateway program—a series of projects to improve rail infrastructure in and around New York City—identified \$3.7 million that the company had not included as part of its total program costs.⁹ We found Gateway costs that were included under an unrelated program. We also found costs from a Gateway project combined with those from a non-Gateway project. Having more disciplined work breakdown structures that automatically tie discrete costs to their

⁹ *Governance: Company Needs a Comprehensive Framework to Successfully Manage its Commitments to the Gateway Program* (OIG-A-2022-006), February 4, 2022. In verifying the expenditure data the company provided during our audit of the Gateway program, we identified an additional \$3.7 million it spent on Gateway that its data did not capture. The company corrected this discrepancy during that audit.

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program activities at lower levels of detail would have helped the program team completely capture all costs.

Inconsistent WBS Elements for Projects Hinder Oversight

The Capital Delivery department's project teams do not use consistent WBS elements to organize costs even though infrastructure projects typically share several common work activities. This does not align with common industry practices, which call for using standard WBS elements across projects and clearly defining the activities that fall under each element. For example, two company [REDACTED] projects use different WBS elements to organize their design costs. The [REDACTED] project team is capturing the final design phase's project management costs, labor costs, and engineering costs as discrete WBS elements. However, the [REDACTED] team is not using the same elements to organize its final design costs. Standardizing how teams categorize costs would allow the company to collect cost data consistently across its portfolio of projects. This would help executives and project teams assess cost trends across projects, measure performance, and determine how to improve cost management for future projects.

In addition, standardizing WBS elements across projects would facilitate building a usable dataset to inform the cost analysis on future projects. For example, developing estimates for the [REDACTED] project was a challenge because the department did not have comparable cost data from past [REDACTED] projects, according to the project manager. Another company official told us the New Acela team did not have detailed data on its costs of commissioning a trainset¹⁰ to inform the cost estimate for the company's more recent \$7.3 billion intercity trainset acquisition. Standardizing WBS elements, coupled with having additional levels of cost detail readily available to project managers, would have allowed the team to provide comparable data for the intercity trainset acquisition's estimate.

Instituting Short- and Long-term Changes to Cost Tracking Would Improve the Company's Cost Management Capabilities

To its credit the company conducted an assessment in 2021, which found that its practice of generally breaking costs into only two levels of detail and not using

¹⁰ Commissioning costs include funds spent to ensure that the systems and equipment for a trainset are designed, tested, and operating in line with the company's requirements.

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consistent cost elements in work breakdown structures was inadequate. The assessment did not, however, identify systems that could support the development and use of more detailed and standardized levels of costs for project management purposes. Because the company is now in the process of developing EPPM and upgrading its primary financial accounting system, it has an opportunity to revisit and expand this assessment. An updated analysis could help identify and add features or tools to company systems that would allow project teams to more effectively organize specific WBS elements and then track and manage these costs at consistent and sufficient levels of detail.

Expanding the company's use of detailed and consistent WBS elements in this way, however, would be a foundational change that could require significant time commitment and financial investment and could result in complex, organization-wide impacts. For example, some company officials stated that such a change could complicate financial reporting and reprogramming activities if FRA required the company to report at lower levels of cost detail.¹¹ In addition, company officials told us implementing more detailed and consistent levels of costs would require process changes and additional staff. Considering these obstacles, a comprehensive study that also determines and plans for any people and processes needed to affect a new approach could help the department successfully implement such a foundational change. Further, given the enormity of potential expenditures in the coming years, coupled with the risks associated with the company's existing cost management systems, the return on investment to conduct such a study could be substantial.

In the short term, however, the challenges we describe above will likely be ongoing. FRA recently established a new grant requirement for the company to report costs by stages for projects that use IIJA funds. This could create even greater disparity of WBS elements between IIJA-funded and non-IIJA-funded capital projects. Therefore, promptly issuing guidance that defines rules for categorizing the current two levels of detail would help ensure consistent data collection across capital projects until longer-term solutions are available. This would help management more effectively oversee the company's extensive portfolio of infrastructure work and facilitate FRA reporting.

¹¹ Finance department and FRA officials told us their respective requirements do not prohibit the Capital Delivery department from organizing costs at lower levels of detail for project management purposes because they can roll them up to their required level of detail.

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DEPARTMENTAL PROCEDURES FOR TRACKING AND MANAGING COSTS DO NOT REFLECT CURRENT COMPANY STANDARDS

The Capital Delivery department expects its employees to follow EPMO standards, but its current cost management procedures are out of date with those standards, which does not align with common industry practices. As a result, some of the Capital Delivery department's project teams are using outdated cost management procedures from the former-Engineering department, which does not exist anymore. These procedures, which date to 2016, do not do the following:

- They do not reflect the company's current organizational structure, including the creation of EPMO, the Capital Delivery department, and its Project Controls group.
- They do not reference current positions. Instead, they reference positions from the former-Engineering department that no longer exist, like the Chief Engineer.
- They do not explain how the department will implement and enforce the EPMO project cost management standards issued in December 2021.
- They do not adhere to the department's current practices for tracking and managing costs.

Without updated cost management procedures to guide them, project teams are less likely to adhere to company standards, which increases the risk of overruns resulting from ineffective cost management, as shown in the following examples:¹²

- The cost management plan for the [REDACTED] project did not include cost assumptions and risks, identify how to measure cost performance, or define how to control costs, which EPMO standards call for.
- The cost management plan for the [REDACTED] project did not identify cost control thresholds or who has the authority to approve changes to the budget, which EPMO standards call for.

¹² EPMO requires all projects to have charters and complex projects to have cost management plans that explain how managers will monitor and control costs. Project charters formally authorize projects and facilitate project cost management by ensuring that teams understand key project aspects, such as planned costs, constraints, deliverables, and scope.

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- Managers for the [REDACTED], Conestoga Substation Improvements, and New Veltri Interlocking projects did not develop charters that align with EPMO standards.
- We previously reported that although the Gateway program team could describe the process it was using to control its costs, it had not fully captured this process in its cost management plan, as required by EPMO standards.¹³

A Project Controls official told us the department is in the process of developing new project cost management procedures but has not yet finalized them. Implementing procedures that reflect current standards could help the department address several issues we identified. For example, updated procedures could help ensure that project managers follow the same practices, which could make staff transitions smoother. They could also help clarify the roles and responsibilities of EPMO, the Project Controls group, and other specialized staff whom the company has been hiring to improve its project cost management efforts, including schedulers, cost engineers, and cost estimators. Several project managers told us this lack of clarity has made effective project cost management more difficult and having updated procedures would be helpful to improve on this.

CONCLUSIONS

The company is improving its ability to track and manage project costs, and its development of the EPPM system is a positive step in that direction. It has opportunities, however, to further strengthen its project cost management processes and systems so it can help identify and minimize cost overruns on the expected influx of billions of dollars it will soon receive for its infrastructure projects.

These cost management improvement opportunities, such as a comprehensive study on strengthening these capabilities, may be administratively burdensome in the short term, but the long-term outcomes will likely help the Capital Delivery department successfully develop this important element of effective project management. In the near term, developing and implementing guidance that standardizes the Capital Delivery department's current rules for how project teams organize their costs could help ensure more consistent data in the two levels of detail the company currently uses. This would also allow the company to better assess its capital portfolio and inform

¹³ *Governance: Company Needs a Comprehensive Framework to Successfully Manage its Commitments to the Gateway Program* (OIG-A-2022-006), February 4, 2022.

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future work. Finally, updating and implementing the department's project cost management procedures would clarify roles and increase adherence to company requirements.

RECOMMENDATIONS

To further improve the company's capabilities to manage project costs, we recommend that the Executive Vice President for Capital Delivery coordinate with the Finance department and other departments as necessary to take the following actions:

1. Conduct a comprehensive study to identify how the company can support the development and use of more detailed and standardized work breakdown structures in accordance with common industry practices. At minimum, this analysis should determine the following for the Capital Delivery department:
 - a. how many levels of cost detail project managers need to effectively track and manage costs for a diverse capital portfolio
 - b. the extent to which projects or programs should have work breakdown structures with standardized cost elements
 - c. based on the above decisions, the people, systems, and processes necessary to develop more detailed and standardized work breakdown structures and sustain them over time
2. Based on the results of the study, develop a proposal specifying the people, processes, and systems needed to implement more detailed and standardized work breakdown structures and submit it to the Executive Leadership Team for consideration.
3. Given the length of time the above could take, develop and implement guidance in the interim that clearly defines the Capital Delivery department's rules for how project teams should organize costs in the two levels of detail the company currently uses.
4. Update and implement the department's project cost management procedures to reflect current processes and requirements.

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MANAGEMENT COMMENTS AND OIG ANALYSIS

In commenting on a draft of this report, the company's Executive Vice President for Capital Delivery agreed with our recommendations and identified actions the company plans to take to address them, which we summarize below.

- Recommendation 1: Management agreed with our recommendation to conduct a comprehensive study to identify how the company can support the development and use of more detailed and standardized work breakdown structures in accordance with common industry practices. The company plans to perform the study with internal experts and a third-party consultant. The target completion date to commission the study is December 31, 2023.
- Recommendation 2: Management agreed with our recommendation to develop a proposal specifying the people, processes, and systems needed to implement more detailed and standardized work breakdown structures and submit it to the Executive Leadership Team for consideration. The company plans to develop the proposal after it performs its comprehensive study, in line with our recommendation. The target completion date is June 30, 2024.
- Recommendation 3: Management agreed with our recommendation to develop and implement guidance in the interim that clearly defines the Capital Delivery department's rules for how project teams should organize costs in the two levels of detail the company currently uses. The target completion date is November 30, 2023.
- Recommendation 4: Management agreed with our recommendation to update and implement the department's project cost management procedures to reflect current processes and requirements. In addition to finalizing its procedures, the department plans to develop related training materials. The target completion date is October 31, 2023.

For management's complete response, see Appendix B. Management also provided technical comments that we have incorporated in this report as appropriate.

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APPENDIX A

Objective, Scope, and Methodology

This report provides the results of our audit of the company's project cost management practices. Our objective was to identify any challenges with company systems and processes that could impede the Capital Delivery department's ability to effectively track and manage costs for capital projects. The scope of our work focused on the procedures and systems that the Capital Delivery department uses to track and manage project costs and on how it organizes cost details for project management purposes. We performed our work from March 2022 through June 2023 in Washington, D.C. Certain information in this report has been redacted due to its sensitive nature.

To perform our work, we reviewed the Capital Delivery department's processes and procedures and EPMO standards on project cost management. We interviewed a total of 39 officials in the Capital Delivery, Operating and Commercial, Digital Technology and Innovation, and Finance departments with responsibilities related to project cost management. We also interviewed FRA and company officials to understand project cost management challenges the company faces.

In addition, we used a non-generalizable sampling methodology to select six of the Capital Delivery department's ongoing projects to identify examples of current cost management practices and any challenges. We selected two [REDACTED] projects, two interlocking projects, and two substation projects along the Northeast Corridor to assess how the department tracks and manages costs. For these projects, we reviewed approximately 400 documents—including project charters, cost management plans, and project managers' spreadsheets—and analyzed data from company systems to determine the extent to which their practices follow company and industry standards. We also conducted semi-structured interviews with the managers of these projects to learn about the processes and systems they use to track and manage costs, as well as any challenges they face. Results of our review pertaining to our selected projects cannot be projected to all capital projects across the company.

As of March 2023, the company's updated estimates for these projects ranged from about [REDACTED] to [REDACTED] as Table 1 shows.

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Table 1. Capital Delivery Department Project Sample

	Project Start Date	Original Cost Estimate	Updated Cost Estimate	Total Expenditures
[REDACTED]	November 2014	[REDACTED]	[REDACTED]	\$18.3 million
[REDACTED]	October 2012	[REDACTED]	[REDACTED]	\$42.4 million
[REDACTED]	February 2019	[REDACTED]	[REDACTED]	\$8.1 million
[REDACTED]	August 2018	[REDACTED]	[REDACTED]	\$6.0 million
[REDACTED]	January 2020	[REDACTED]	[REDACTED]	\$2.0 million
[REDACTED]	August 2021	[REDACTED]	[REDACTED]	\$0.4 million

Source: Data from company's project status report on March 29, 2023

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

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obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

Internal Controls

We reviewed internal controls related to designing and implementing project cost management. We assessed internal control components and underlying principles and determined that the following three components were significant to our audit objective:

- **Control environment.** Management should establish an organizational structure and assign responsibility to achieve the entity's objectives.
- **Control activities.** Management should implement control activities through policies, periodically review policies and procedures for continued relevance and effectiveness, and design control activities to achieve objectives and respond to risks.
- **Information and communication.** Management should use and communicate quality information to achieve the entity's objectives.

We developed audit work to ensure that we assessed each of those controls. This included reviewing the following:

- the extent to which the company is designing the EPPM system to achieve its project cost management needs
- the extent to which the company uses the level of cost detail it needs to track and manage its project costs and develop reports for FRA
- EPMO standards and department procedures for tracking and managing project costs
- the extent to which the company has established and communicated the responsibilities of the business units involved in project cost management and new staff roles

We determined that it was not necessary to evaluate information system controls as part of our audit scope. We also did not review the company's overall system of controls and procedures. Because our review was limited, we may not have identified, and therefore disclosed, all relevant internal control deficiencies that existed at the time of our audit.

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Computer-processed Data

To establish relevant cost information about the projects we reviewed, we used computer-processed data from EPMO's Enterprise Project Inventory dashboard, the March 29, 2023 project status report that the company prepared for FRA, and the system that project managers use to view cost information. We assessed the reliability of the data in the project status report by interviewing company officials who develop and use the reports, the Assistant Vice President of the Capital Delivery department's Project Controls group, and FRA representatives. For the six projects we reviewed, we also compared planned costs across various company systems. We determined that the data were sufficiently reliable for the purpose of our audit.

Prior Reports

In conducting our analysis, we reviewed and used information from the following Amtrak OIG reports:

- *Train Operations: Company Has Improved Management of Intercity Trainset Acquisition and Can Improve Stakeholder Engagement on Major Capital Programs* (OIG-A-2023-005), December 22, 2022
- *Governance: Company Needs a Comprehensive Framework to Successfully Manage its Commitments to the Gateway Program* (OIG-A-2022-006), February 4, 2022
- *Governance: Early Planning and Oversight Deficiencies Led to Initial Program Failures and Continued Risks to the Moynihan Train Hall Program* (OIG-A-2020-014), August 17, 2020
- *Train Operations: Acela 21 Program Continues to Face Significant Risk of Delays, Warranting More Contingency Planning* (OIG-A-2020-004), January 21, 2020
- *Amtrak: Top Management and Performance Challenges—Fiscal Years 2019 and 2020* (OIG-SP-2018-011), September 28, 2018

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APPENDIX B

Management Comments

NATIONAL RAILROAD PASSENGER CORPORATION

Memo



Date July 6, 2023 From Laura Mason, EVP Capital Delivery 

To Jim Morrison, Assistant Inspector General, Audits Department Capital Delivery

cc Stephen Gardner, CEO
 Roger Harris, President
 Eleanor Acheson, EVP General Counsel
 Yevgeniya Burg, AVP Capital Portfolio Governance
 Costin Comeanu, SVP Finance
 Steve Dulman, Sr. Dir Financial Systems
 Carol Hanna, VP Controller
 Robert Grasty, EVP CHRO
 Baseer Khan, Dir Project Cost Engr & Ctrl
 Sara Lu, Asst Controller
 Dennis Newman, EVP Strategy & Planning
 Steven Predmore, EVP CSO
 Jim Short, Acting VP Program Development & Project Services
 Gerhard Williams, SVP Service & Delivery Ops
 Tracie Winbigler, EVP CFO
 Christian Zacariassen, EVP CIO

Subject: Management Response to *Governance: Company Is Strengthening Project Cost Management but Can Better Organize Costs and Improve Guidance (Draft Audit Report for Project No. 011-2022)*

This memorandum provides Amtrak's response to the draft audit report titled, "*Company Is Strengthening Project Cost Management but Can Better Organize Costs and Improve Guidance*". Management agrees with all the recommendations and appreciates the opportunity to respond to the OIG's audit report.

Additionally, Amtrak appreciates the recognition in the report of a number of key actions already taken/under way to improve project cost management including:

- In 2022, the Capital Delivery department created the Project Controls group to provide department-specific guidance to project managers who are responsible for tracking and managing their projects' costs.

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- Since July 2022, Amtrak has been developing a single, unified project management system—the Enterprise Project and Portfolio Management (EPPM) system—that includes cost management capability.
- We are in the process of updating our cost management procedures to help ensure that project managers follow the same practices and to clarify the roles and responsibilities of EPMP, the Project Controls group, and other specialized staff whom the company has been hiring to improve its project cost management efforts, including schedulers, cost engineers, and cost estimators.

Amtrak is committed to enhancing our project cost management capabilities and will continue to implement improved processes, add experienced staff and implement the recommendations provided by the OIG report to achieve our goals.

Recommendations

To further improve the company’s capabilities to manage project costs, we recommend that the Executive Vice President for Capital Delivery coordinate with the Finance department and other departments as necessary to take the following actions:

Recommendation #1:

Conduct a comprehensive study to identify how the company can support the development and use of more detailed and standardized work breakdown structures in accordance with common industry practices. At minimum, this analysis should determine the following for the Capital Delivery department:

- a. how many levels of cost detail project managers need to effectively track and manage costs for a diverse capital portfolio
- b. the extent to which projects or programs should have work breakdown structures with standardized cost elements
- c. based on the above decisions, the people, systems, and processes necessary to develop more detailed and standardized work breakdown structures and sustain them over time

Management Response/Action Plan: Amtrak recognizes the importance and agrees with the recommendation to conduct the study. We will leverage the results of the 2021 assessment and perform this study with a cross-functional team of internal experts as well as a third-party consultant to ensure we are fully considering industry best practices. Engaging the third-party will take some time as this will require the generation of a statement of work, engagement with the market and onboarding a consultant.

Responsible Amtrak Official(s):

Sara Lu, Asst Controller
 Steve Dulman, Sr. Dir. Financial Systems

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NATIONAL RAILROAD PASSENGER CORPORATION

Yevgeniya Burg, AVP Capital Portfolio Governance
 Laura Mason, EVP Capital Delivery
 Jim Short, Acting VP Program Development & Project Services (PDPS)

Target Completion Date: Commission the study by December 31, 2023

Recommendation #2:

Based on the results of the study, develop a proposal specifying the people, processes, and systems needed to implement more detailed and standardized work breakdown structures and submit it to the Executive Leadership Team for consideration.

Management Response/Action Plan: Amtrak agrees with this recommendation and will review the results of the study and develop the plan to proceed accordingly.

Responsible Amtrak Official(s):

Sara Lu, Asst Controller
 Steve Dulman, Sr. Dir. Financial Systems
 Yevgeniya Burg, AVP Capital Portfolio Governance
 Laura Mason, EVP Capital Delivery
 Jim Short, Acting VP PDPS

Target Completion Date: June 30, 2024 (depending on the findings of the study)

Recommendation #3:

Given the length of time the above could take, develop, and implement guidance in the interim that clearly defines the Capital Delivery department's rules for how project teams should organize costs in the two levels of detail the company currently uses.

Management Response/Action Plan: Amtrak agrees with the recommendation to develop interim guidance specifically aimed at how project teams should organize project cost information within the existing structure. Additionally, we will continue to implement other initiatives across Capital Delivery aimed at enhancing our cost control function including the use of a standard cost forecasting process/template. This process/template provides Project Managers direct access to cost breakdown information by WBS Level 1, Level 2 and further information by cost category (wages, salaries, materials, professional services, etc.) to facilitate improved project cost forecasting.

Responsible Amtrak Official(s):

Sara Lu, Asst Controller
 Steve Dulman, Sr. Dir. Financial Systems
 Yevgeniya Burg, AVP Capital Portfolio Governance

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Laura Mason, EVP Capital Delivery
Jim Short, Acting VP PDPS

Target Completion Date: November 30, 2023

Recommendation #4:

Update and implement the department's project cost management procedures to reflect current processes and requirements.

Management Response/Action Plan: Capital Delivery Project Cost Management Procedures are currently being finalized and will be issued by 10/31/2023. Training materials are also being developed to facilitate the procedure's implementation and promote a shared understanding of the procedure. As new team members join the team and individuals transition into new positions, the training will be rolled out in a continuous, ongoing manner.

Responsible Amtrak Official(s):

Laura Mason, EVP Capital Delivery
Jim Short, Acting VP PDPS
Baseer Khan, Director Cost Engineering and Control

Target Completion Date: October 31, 2023

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APPENDIX C

Abbreviations

EPMO	Enterprise Program Management Office
EPPM	Enterprise Project and Portfolio Management
FRA	Federal Railroad Administration
IIJA	Infrastructure Investment and Jobs Act
OIG	Amtrak Office of Inspector General
the company	Amtrak
WBS	work breakdown structure

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APPENDIX D

OIG Team Members

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OIG MISSION AND CONTACT INFORMATION

Mission

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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or

800-468-5469

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