# AMTRAK MADE SIGNIFICANT IMPROVEMENTS IN ITS LONG-TERM CAPITAL PLANNING PROCESS

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# Memorandum

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| Subject: | ACTION: Amtrak Made Significant Improvements in its Long-Term Planning Process<br>Federal Railroad Administration<br>Report Number CR-2011-036 | Date: | January 27, 2011 |
| From: | Mitch Behm<br>Assistant Inspector General for Rail, Maritime, & Economic Analysis | Reply to Attn. of: | JA-50 |
| To: | Federal Railroad Administrator | | |

The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) re-authorized the National Railroad Passenger Corporation (Amtrak) for the years 2009 through 2013.[1] Not since the Amtrak Reform and Accountability Act of 1997 (ARAA) has Amtrak received a multi-year authorization for appropriations to cover its capital spending.[2] As a result, the company has had to develop its capital budget on a year-to-year basis without knowing how much funding Congress would provide. This method of planning has significantly affected Amtrak's ability to maintain safe and reliable infrastructure and equipment, and increased its capital program's annual costs. Amtrak estimates that the State of Good Repair (SOGR)[3] backlog on Amtrak-owned and operated Northeast Corridor (NEC) infrastructure alone is approximately $5.2 billion in fiscal year 2010 dollars.[4] Amtrak also faces the renewal and replacement of an aging equipment fleet, safety and security needs, business improvement initiatives, and compliance with legal requirements such as accessibility for passengers with disabilities.

Because Amtrak requires significant Federal funds for its capital program, the House Appropriations Subcommittee on Transportation, Housing and Urban Development, and Related Agencies requested this audit. Our objectives were to determine: (1) Amtrak's five-year capital requirements and how they align with the

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1 P.L. 110-432, October 16, 2008.

2 P.L. 105-134, December 2, 1997.

3 State of good repair is a condition in which the existing physical assets, both individually and as a system, are (a) functioning within their useful lives, and (b) sustained through regular maintenance and replacement programs.

4 The Northeast Corridor Infrastructure Master Plan, May 2010.

company's business and strategic goals; (2) how Amtrak prioritizes its capital projects; (3) Amtrak's capital needs and ability to implement its increased capital budget as a result of the American Recovery and Reinvestment Act (ARRA);[5] and (4) how Amtrak evaluates the performance of its capital projects.

## RESULTS IN BRIEF

Amtrak has established four long-range planning documents that outline the company's long-term capital requirements and align with the company's business and strategic goals. In 2009, after completing a comprehensive evaluation of its funding and projected ridership, the company implemented a Five-Year Financial Plan that calls for over $8 billion in capital investments. The company has also implemented a SOGR plan for the NEC, which estimates the funding required for eliminating the backlog of deferred investments for the Corridor's infrastructure and equipment. Both plans were required by PRIIA. In addition, the company has established long-range plans for its fleet acquisitions, required by the Fiscal Year 2009 Omnibus Appropriations Act,[6] and information technology (IT) needs. The Fleet Strategy Plan sets timelines for replacing rolling stock through 2040, and describes possible funding sources for these new acquisitions. The long-range plan for IT modernization describes required investments and serves as the blueprint for IT in the Five-Year Financial Plan.

Amtrak prioritizes its capital needs through the use of *Decision Lens*, a software package that brings transparency to the process and facilitates collaboration among groups with different prioritization needs. With project evaluation criteria developed by Amtrak executives and staff, *Decision Lens* develops a prioritized list of capital projects from all departments. Prior to the use of *Decision Lens*, Amtrak's capital plans were too heavily weighted in favor of engineering safety and SOGR projects across all departments. During the initial corporate-wide rollout of *Decision Lens*, executives and staff detected problems with the new process, but Amtrak has made improvements. Minimum funding for engineering SOGR was removed from the *Decision Lens* process and given the highest priority to support the NEC SOGR plan. The remainder of the requested engineering projects was prioritized with all other departmental projects. As a result, funds are allocated to projects across departments based on weighted priorities.

Amtrak assessed its capital needs and in a short time-frame reported them in a capital spending plan for the $1.3 billion in funds it received from ARRA. Per ARRA's requirements, the company has allocated a large portion of the grant to its security and life safety programs for projects that will reduce infrastructure

[5] P.L. 111-5, February 17, 2009.
[6] P.L. 111-8, March 11, 2009.

vulnerabilities and enhance incident management, such as fire detection and suppression systems. As a result, many historically neglected capital projects will receive significant amounts of ARRA funding. As part of its strategic plan for the funds, Amtrak has allocated over half—63 percent—of the funds to contracted projects in order to quickly get the resources needed to move projects along and to avoid layoffs once the projects are completed. While the capital plan is in place, Amtrak likely faces challenges in making investments by the mandated February 17, 2011 deadline.

Amtrak developed a measurable performance plan for its capital projects. During the 2008 planning cycle, Amtrak staff updated the Budget Manual with guidance on establishing project outcomes and performance measures, and later updated the Policy Manual with requirements for conducting post-completion project reviews. Based on this new guidance, Amtrak has made progress in developing capital project performance metrics. Despite this progress, however, it is too early to determine the effectiveness of the post-completion review process, as Amtrak still faces challenges in evaluating capital projects, including difficulties in identifying metrics for projects that cannot be easily evaluated, and the limited staffing resources available for thorough evaluations.

To ensure that Amtrak maintains the recent improvements to its long-range capital planning and effectively spends its ARRA funds, we are making recommendations to the Federal Railroad Administration (FRA) regarding improvement of its oversight of Amtrak's capital grants.

## BACKGROUND

Amtrak was established by the Federal government and cannot remain solvent or operate without substantial Federal subsidies. It is not, however, a Federal agency, but rather a private, for-profit corporation. It receives Federal subsidies, through annual appropriations, which FRA administers pursuant to operating and capital funds grant agreements.[7] Amtrak currently operates a rail network of over 21,000 track miles, providing services to 46 states, the District of Columbia, and three Canadian provinces, primarily using tracks owned by freight railroads. The company also owns over 600 miles of track, mostly located in the NEC between Boston, Massachusetts, and Washington, D.C. In 2009,[8] Amtrak served approximately 27 million passengers. About one-third of its ridership takes trains in the NEC.

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[7] Grant agreements govern the relationship between FRA and Amtrak, detailing a number of provisions that Amtrak must meet in order to receive the funding from FRA.

[8] Unless otherwise noted, referenced years are fiscal years.

Despite receiving billions of dollars in Federal funding[9] throughout its history to cover operating losses and capital expenditures, Amtrak has struggled financially. In 1997, Congress passed the Taxpayer Relief Act,[10] providing Amtrak with $2.2 billion for capital expenditures with the goal of enabling the corporation to make the investments necessary to reduce its reliance on Federal support and meet its mandate for operational self-sufficiency. Also in 1997, Congress passed ARAA, authorizing $5.2 billion to cover operating, capital, and debt expenses through 2002. Despite receiving this significant amount of funding, however, Amtrak did not achieve self-sufficiency.

In 2001 and 2002, Amtrak experienced a series of financial crises that threatened to shut down its intercity passenger rail system and many of its commuter rail systems. In response to these events, Congress instituted new oversight measures as part of Amtrak's 2003 appropriations that require the U.S. Department of Transportation (DOT) to approve Amtrak's allocation of Federal funding. Prior to that time, Congress had generally given Amtrak discretion for allocating its Federal funding, while occasionally designating specific amounts to capital or operating expenses. These changes have divided appropriated funds into designated operating and capital expense accounts that FRA monitors on a monthly basis. Federal grants to these accounts are disbursed quarterly rather than annually, and Amtrak must submit a detailed business plan, updated as necessary, for approval by the Secretary of Transportation.

In 2008, Congress passed PRIIA, providing a reauthorization for Amtrak that included a number of provisions addressing financial reforms. PRIIA authorized $9.8 billion in funding between 2009 and 2013, with specific amounts allocated to operating expenses, capital expenditures, and debt expenses. Figure 1 shows the trend in Amtrak's capital appropriations since 2000. PRIIA also requires Amtrak's Board of Directors to submit a Five-Year Financial Plan and annual budget to the Secretary of Transportation and DOT's Office of Inspector General (OIG). ARRA, passed in February 2009, provided another $1.3 billion to supplement Amtrak's capital program through February 2011.

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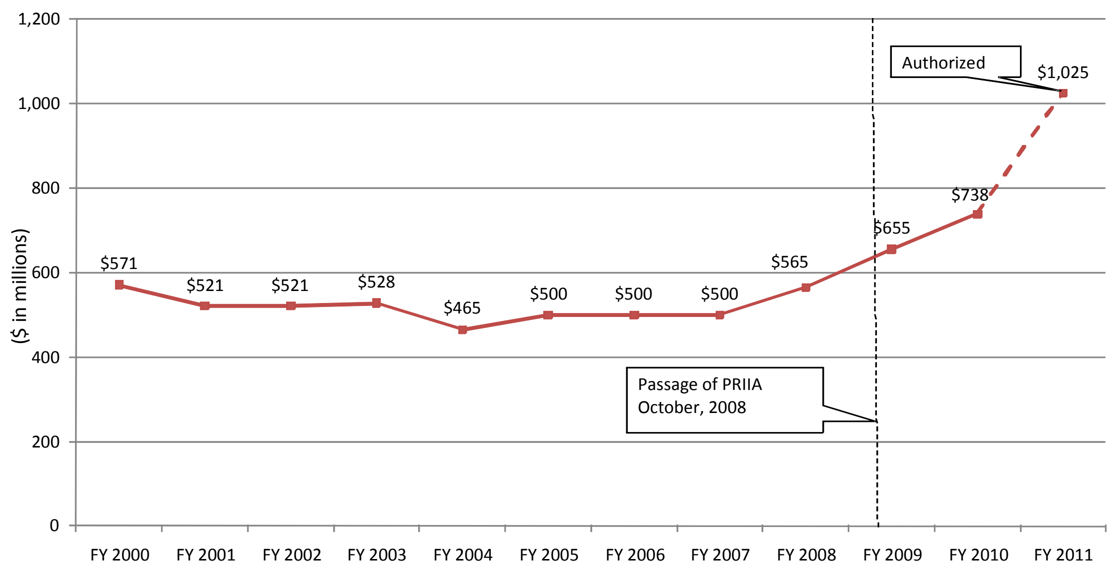
[9] Through 2008, Amtrak received $32.1 billion in Federal subsidies for operating and capital expenditures.

[10] P.L. 105-34, August 5, 1997

***Figure 1: Federal Capital Appropriations to Amtrak***
***Fiscal Years 2000 through 2011***




Source: OIG analysis of Federal Appropriations and PRIIA.

Amtrak's financial difficulties have contributed to its significant backlog of deferred investments. In 2005, the Government Accountability Office (GAO) reported that Amtrak's annual Federal subsidy of $1.2 billion between 2004 and 2006 was sufficient to keep the company in operation, but not large enough for it to avoid further deferral of significant maintenance projects.[11] By 2006, Amtrak had deferred an estimated $6 billion in capital maintenance spending.

## AMTRAK'S LONG-TERM FINANCIAL PLANS REFLECT ITS BUDGET AND STRATEGIC GOALS FOR INFRASTRUCTURE, FLEET AND INFORMATION TECHNOLOGY

Amtrak now has four long-range financial planning documents in place that outline the company's capital requirements in line with its budget and strategic goals for the next 5 years and beyond. In 2009, the company implemented its Five-Year Financial Plan that calls for over $8 billion in capital investments. It has also established a SOGR plan for the NEC, which estimates the funding needed to eliminate the backlog of deferred infrastructure and equipment investments in the Corridor. Both plans were required by PRIIA. The company

[11] GAO Report, "Amtrak Management: Systemic Problems Require Actions to Improve Efficiency, Effectiveness, and Accountability" GAO-06-145, October 4, 2005.

also developed a long-range plan for fleet acquisitions, which was required by the Fiscal Year 2009 Omnibus Appropriations Act. Finally, the company took the initiative to develop a plan for determining its IT needs and modernization requirements.

### Amtrak's Five-Year Financial Plan Calls for Over $8 Billion in Investments in Infrastructure, Fleet Maintenance and Overhaul, and Information Technology

Amtrak's 2010-2014 Five-Year Financial Plan, dated September 2009, calls for $8.7 billion[12] in capital investments, with the majority of funding—92.5 percent—coming from the Federal government.[13] The largest investments fall into three areas—infrastructure, fleet maintenance and overhaul,[14] and IT—accounting for $8.4 billion, or 96.2 percent, of the plan's spending (Table 1). These investments align with business and strategic goals outlined in Amtrak's new strategic plan—known as the Strategic Guidance—which outlines the company's mission, goals, and progress criteria (see Exhibit B). The Guidance is consistent with best practices outlined by GAO.

***Table 1: Amtrak's Capital Spending Plan Fiscal Years 2010 through 2014 ($ in millions)***

| Investment Category | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | Total |
|---|---|---|---|---|---|---|
| Infrastructure | $621.2 | $930.7 | $1,174.7 | $1,143.6 | $975.2 | $4,845.4 |
| Fleet | 391.0 | 376.7 | 813.8 | 718.6 | 357.7 | 2,657.8 |
| IT | 224.3 | 239.6 | 189.9 | 139.2 | 70.3 | 863.3 |
| ***Subtotal*** | ***$1,236.6*** | ***$1,546.9*** | ***$2,178.4*** | ***$2,001.5*** | ***$1,403.1*** | ***$8,366.5*** |
| All Other | 40.0 | 65.4 | 79.2 | 77.1 | 66.1 | 327.8 |
| **Total** | **$1,276.6** | **$1,612.3** | **$2,257.6** | **$2,078.6** | **$1,469.3** | **$8,694.3** |

Source: OIG analysis of Amtrak data
Note: Columns may not sum due to rounding.

The development of Amtrak's Five-Year Financial Plan required a comprehensive evaluation of the company's funding from all sources covering the costs of operations, capital investments, and principal and interest payments. This process also required Amtrak to determine: projected ridership levels; the capital funding

[12] This figure does not include $1.3 billion in capital funding provided by ARRA.
[13] The plan calls for more than the full level of authorized Federal funding in each year.
[14] Overhauls extend the useful lives of fleet components, improve equipment, and return or maintain equipment in SOGR. They address longer-term equipment needs and involve significant investment in new components and systems, such as wheels, trucks, or brakes, and may include interior upgrades such as new carpeting.

and expenditures required to accommodate predicted ridership levels; and methods of estimation and significant assumptions. It also required Amtrak to assess its financial stability. Our November 2009 assessment of the plan found it to be generally in compliance with PRIIA's requirements.[15] However, we found two deficiencies in the plan—a lack of detailed operating expense forecasts, including information on the cost drivers, and a lack of detailed information on Amtrak's workforce planning efforts. Amtrak officials acknowledged the deficient information in these areas, but stated that the capabilities of the company's financial systems limited reporting. These officials also noted that reporting will improve in coming years, in large part due to the integration of key operational, financial, and human resources business processes and the replacement of outdated financial, work management, and other systems as mandated by PRIIA.

## Three Other Financial Plans Reflect Amtrak's Long-Term Investments in its Northeast Corridor, Fleet Acquisition, and Improvements in Information Technology

Amtrak has developed a plan for bringing its NEC to SOGR, as required by PRIIA,[16] This plan serves as the basis for meeting both the long-term needs for engineering in Amtrak's Five-Year Financial Plan and the annual engineering budget, and estimates of the funds needed to perform normalized replacement and eliminate the backlog of deferred investments for NEC's infrastructure and equipment. Amtrak based this plan on a 2007 report on the states of repair of the corporation's assets in each of four broad categories—track, electric traction, communication and signals, and structures. For the 2007 report, Amtrak had determined quantities, estimated useful life, and amount of inventory already beyond useful life, and estimated normalized maintenance costs and replacement costs for each major asset type. In May 2010, the NEC Master Plan Working Group[17] published a more comprehensive report, which includes SOGR, safety and mandated programs, and growth requirements for the NEC. The report estimated Amtrak's costs of deferred investments in infrastructure alone to be $5.2 billion, and normalized replacement costs between 2009 and 2030 to be $7.2 billion—estimates that would result in average annual costs of approximately $700 million.[18]

While Amtrak's Five-Year Financial Plan includes approximately $650 million in annual infrastructure investments—investments that are consistent with projections in the SOGR report—engineering officials informed us that, in some

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[15] DOT-OIG Report, "Fourth Quarter Report on Amtrak's FY 2009 Operational Reforms Savings and Financial Performance and Five–Year Financial Plan Review", Number CC-2009-098, November 19, 2009.

[16] Northeast Corridor State of Good Repair Spend Plan, April 15, 2009.

[17] The group includes representatives of the twelve states that make up the NEC, the District of Columbia, Amtrak, FRA, and the eight commuter and three freight railroads operating in the NEC.

[18] Amtrak adjusted the figures in this report for inflation for its NEC SOGR plan.

cases, the Five-Year Plan's numbers will not line up with those in the SOGR Report because the Plan is an evolving document with numbers that fluctuate based on Amtrak's yearly appropriations. Amtrak has proposed that instead of annually updating its SOGR plan, as required by PRIIA, it annually update the master plan to reflect its SOGR needs.

Amtrak has developed a long-range fleet plan, known as the Amtrak Fleet Strategy, in accordance with the Fiscal Year 2009 Omnibus Appropriations Act. Published in February 2010, this plan extends through 2040 and expands on the Five-Year Financial Plan by integrating timelines for vehicle condition, needs, and replacement with potential financing mechanisms—including direct Federal appropriations, and Federal and commercial loans—for the acquisition of new vehicles. The Plan estimates annual costs for its first 5 years at $684 million per year, and seeks to replace Amtrak's current rolling stock on a continual basis through 2040.

Under its own initiative, Amtrak has developed a long-range investment plan—also known as an Enterprise Architecture (EA)—for its IT needs. This plan describes the investments needed to modernize all primary IT infrastructure and systems, and serves as a strategic blueprint for guiding IT modernization in the Five-Year Financial Plan. According to Amtrak officials, a business case has been developed that justifies each project in the EA, and annual budgeting for these projects simply requires estimates of labor hours and the costs of other inputs, such as computer hardware and software. Departments must present a specific business case in support of any IT project not included in the EA.

FRA will be responsible for reviewing Amtrak's new long-term plans. Amtrak's 2010 grant agreement for capital and debt service includes specific requirements for FRA to review the company's Five-Year Financial, Fleet, NEC SOGR, and Strategic plans. However, there is no explicit requirement to review Amtrak's EA.

## AMTRAK IMPLEMENTED A CORPORATE DECISION MAKING PROCESS TO PRIORITIZE ITS CAPITAL NEEDS

In March 2009, Amtrak began using the decision-making software package *Decision Lens* to prioritize capital projects for its budget process. *Decision Lens* is a software tool suited for decision-making by groups and facilitates collaboration among groups with different functions. Amtrak had previously used *Decision Lens* to select vendors for procurement and to designate projects for ARRA funding. Although Amtrak experienced problems in the initial roll out of *Decision Lens*, officials stated that the program makes capital prioritization more transparent, and improves the process by calculating priority scores for projects based upon the corporate goals set out in the Strategic Guidance.

*Decision Lens* differs significantly from Amtrak's previous process. Prior to the implementation of *Decision Lens*, the company relied upon a points-based process to rank and score capital projects. This process weighted Amtrak's capital plans in favor of engineering SOGR projects due to the prioritizing criteria, such as safety and security, used to establish project approval. When using *Decision Lens*, Amtrak executives established project evaluation criteria and their relative weights of importance for both new and continuing projects, and loaded them into the application. Projects were also reviewed by departmental staff with previous experience in Amtrak's capital programs, referred to as subject matter experts (SME). The SMEs then used *Decision Lens* to vote on projects based on a 15 point scale on which a score of 15 indicated that a project best met the criteria, and a score of 1 indicated that a project did not meet any criteria. With SME input, and the executive criteria and rankings programmed into *Decision Lens*, Amtrak created a prioritized list of capital projects.

During the rollout of *Decision Lens*, Amtrak executives and SMEs detected problems with the application and the new process. Because executives provided their departmental priorities after *Decision Lens* had developed the prioritized list, a number of funding decisions had to be included on the list in order to address high priorities that the *Decision Lens* ranking process did not recognize. In prior years, departmental priorities were gathered prior to the development of a ranked project list. A similar approach may have saved a few steps in the prioritization process. Moreover, with over 600 projects to prioritize, Amtrak’s capital program proved to be too large for *Decision Lens*. SMEs pointed out that the package did not have the capacity to handle all activities, particularly at the end of the process, and the system crashed twice on the last day before all SMEs could complete the voting process.

According to finance department officials, many of the concerns about *Decision Lens* were addressed for the 2011 capital budget process. Executives published their prioritizing criteria before project submissions were made. Because they make up such a large amount of the capital budget, engineering safety and SOGR projects were removed from the prioritization process by allocating the engineering department $350 million before other projects were ranked, thus freeing up capacity in *Decision Lens*. An Amtrak official pointed out that by removing engineering SOGR projects, the process no longer favors those projects over those of other departments, and instead allocates funds to projects across departments based on weighted priorities.

According to FRA officials, Amtrak's use of *Decision Lens* improves the capital budget prioritization process because the software allows for transparency. Furthermore, it allows Amtrak's Board and FRA to detect which projects fall below the funding line, creating opportunities for discussions about funding priorities.

## AMTRAK HAS A SPENDING PLAN FOR ITS ARRA FUNDING, BUT WILL LIKELY FACE CHALLENGES IN SPENDING THE FUNDS EFFECTIVELY

Amtrak has established a spending plan for the $1.3 billion in ARRA funds it has received, allocating a significant portion to its security and life safety programs as mandated. The company has modified a number of operational practices, including allocating more than half—63 percent—of its ARRA funds to contracted projects in order to quickly get the resources needed to move projects along and to avoid layoffs once the projects are completed. However, the company has a mandated deadline of February 17, 2011 for spending all ARRA funds, and despite its plan, faces challenges, such as making investments by this deadline.

### Amtrak Has Established a Capital Spending Plan for Its ARRA Funding

Amtrak has established a spending plan for its $1.3 billion in ARRA funds. Amtrak used *Decision Lens* to prioritize projects according to both corporate goals and the goals of the Recovery Act, which require the company to commit $450 million to security and life safety programs and no more than 60 percent of the remaining $850 million, or $510 million, to projects within the NEC. As a result, Amtrak can use ARRA funding for capital projects with a history of neglect, including a number of large bridge and tunnel replacements. Amtrak has allocated $447.5 million to security and life safety projects, $841.0 million to other projects, and $5 million to the Amtrak Inspector General (IG). FRA retained 0.05 percent or $6.5 million for administrative costs. Fifty-two percent of the funds have gone to the NEC and the remainder to projects outside the Corridor. The security and life safety projects are intended to reduce infrastructure vulnerabilities and enhance incident management at Amtrak facilities nationwide, including stations, bridges, tunnels, maintenance facilities, and other buildings. Enhancements to safety installations include fire detection and suppression systems and emergency exits from buildings and tunnels. Other funded projects involve expansion of Positive Train Control[19] safety systems in the NEC.

The company budgeted the vast majority of its ARRA funds (91.5 percent) for three departments—engineering, police and security, and mechanical. See Table 2 for a breakdown of Amtrak's ARRA funding by department.

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[19] Positive Train Control refers to communications technology that will improve railroad safety by significantly reducing the probability of collisions between trains, casualties among roadway workers and damage to their equipment, and over speed accidents.

| Table 2: Amtrak ARRA Budget by Amtrak Department | | |
|---|---|---|
| **Department** | **Budget** *($ in millions)* | **Description of Projects** |
| Amtrak Technologies | $24.1 | *Mechanical and Engineering wireless access, employee information system, and enterprise data management.* |
| Contract Administration | 15.0 | *Wheelchair accessibility improvements* |
| Engineering | 846.7 | *Infrastructure improvements and upgrades to bridges, stations, facilities, implementation of positive train control.* |
| Marketing and Product Management | 9.3 | *Station signs, Passenger Information Display System, Amtrak.com re-launch, train communications.* |
| Chief Financial Officer | 55.4 | *Program administration.* |
| Mechanical | 140.8 | *Return cars and locomotives to service, construct progressive maintenance facilities in FL and CA.* |
| Procurement | 1.1 | *Procurement system improvements (IT).* |
| Police and Security | 196.1 | *Strategic infrastructure protection and police equipment modernization.* |
| Amtrak IG | 5.0 | *Amtrak ARRA Oversight.* |
| FRA | 6.5 | *Administrative costs.* |
| **TOTAL** | **$1,300.0** | |

Source: OIG analysis of Amtrak data.

## Amtrak Has Modified Certain Operational Practices to Meet Its February 2011 Deadline, but Timely Completion is Uncertain

ARRA requires all projects and activities funded by the Act to be completed within 2 years of its enactment, and Amtrak's grant agreement with FRA imposes a deadline of February 17, 2011, by which Amtrak must spend its ARRA funds. Not only does the agreement require that measures be taken to complete projects within 2 years, it also requires Amtrak to apply to FRA for a waiver after proving that, despite its best efforts, a project that it has initiated, is under construction, and has been diligently pursued, cannot be completed by the deadline.

To ensure that it spends the funds efficiently and timely, Amtrak planned to contract out a majority of its projects, and then modified a number of operational practices. The procurement department required vendor certification of timely accomplishment for these contracts, and changed language in requests for proposals and bids. It also held weekly management meetings to address delay issues. By July 2010, Amtrak had awarded 789 contracts worth $820.4 million, or 63 percent of its total ARRA appropriation. According to Amtrak officials, reliance on contractors was an important strategy for mitigating the risks of initiating projects with the one-time funding under ARRA. For example, Amtrak's information technology department relied on contractors in order to avoid the risk of having to support employees hired to implement the new projects with uncertain future funding. Project managers also took extraordinary measures, including the addition of second and third work shifts on construction projects, reductions in project scope, and the division of projects into phases. Despite its actions to ensure that it spends the ARRA funds by the deadline, Amtrak had actually spent only 31.9 percent of its total grant (Table 3) by the beginning of July 2010, even though it had drawn down a large portion of its ARRA funding by June 2010 in anticipation of its funding needs for the busy summer construction season.

***Table 3: Amtrak ARRA Funds Obligated, Drawn, Spent, and Cash on Hand through July 10, 2010 ($ in millions)***

| ARRA Spending Category | Obligated | Drawn | Spent | Cash on Hand |
|---|---|---|---|---|
| Security and Life Safety | $447.5 | $248.4 | $133.4 | $115.0 |
| Non-Security and Life Safety | 841.0 | 726.2 | 279.2 | 447.0 |
| **Economic Stimulus Projects** | **$1,288.5** | **$974.6** | **$412.6** | **$562.0** |
| Amtrak Inspector General | 5.0 | 5.0 | $0.8 | 4.2 |
| **ARRA - Total** | **$1,293.5** | **$979.6** | **$413.4** | **$566.2** |

Source: OIG Analysis of Amtrak Data

It is also not certain that the investments Amtrak has made with ARRA funds are sound and effective. By May 2010, the company had not bid out or awarded a number of projects due to concerns over design or because the projects still lacked agreements with third parties. Amtrak revised its estimates of what it could realistically achieve by the deadline. In June and July 2010, Amtrak made requests to its Board of Directors to approve reprogrammings[20] that would shift a total of $166 million in ARRA funding from the engineering and other departments to the mechanical department primarily for fleet overhauls, which could be completed within the prescribed timeframe. Amtrak did not ask for funds in its 2010 request to Congress to cover these fleet overhauls. Internal documents state that Amtrak's primary objective for the reprogrammings was completion of the ARRA capital programs by the February 2011 deadline.

FRA did not have concerns over Amtrak's process for reprogramming of ARRA funds. FRA officials stated that the company's use of *Decision Lens* gave the process transparency, allowing FRA staff to understand the projects that received the transferred funds. However, the need for the reprogrammings did raise concerns for FRA. For example, one FRA official expressed concern over the fact that bridge projects in the NEC were bid well over budget because Amtrak's initial

[20] The ARRA grant agreement allows Amtrak to make revisions or reprogram funds in its approved budget under certain circumstances with written approval from FRA.

budget estimates did not include either costs to operate on a live railroad, or the cost of performing the work in 2 years (which actually meant a single construction season because of the procurement process). This official believed that the estimates may have actually been budget placeholders because Amtrak did not originally believe it would receive enough money to fund the projects. In another example, an FRA official informed us that Amtrak's Police and Security Department's lack of experience in managing large grants has affected its ability to spend the money to date. Finally, these officials stated that FRA's goal is to ensure that Amtrak spends the money in a timely manner and that it reaches ARRA's goals of job creation and infrastructure investment.

While FRA has not expressed concern over the company's reprogramming of ARRA funds, Amtrak's IG recently identified a number of risks associated with the company's ARRA projects. A May 2010 Amtrak IG report identified five out of nine engineering projects that contained a number of high-risk areas, including environmental and acquisition risks. Environmental risks are caused by unpredictable environmental factors such as soil contamination and timeliness of environmental approvals, while acquisition risks arise when untimely deliveries of materials and equipment may prevent the achievement of project deadlines. The report also notes that the February 2011 deadline has stretched the capabilities of Amtrak's procurement function, and that projects operate under tight schedules with few buffers. The report recommends that Amtrak apply to FRA to amend provisions in the grant agreement that require Amtrak to take these costly measures.

## AMTRAK HAS ESTABLISHED A PROCESS FOR EVALUATING CAPITAL PROJECT PERFORMANCE, BUT QUESTIONS REMAIN REGARDING EFFECTIVE IMPLEMENTATION

Amtrak has developed a measurable performance plan to evaluate the outcomes of its capital projects. To address criticisms by its IG, Amtrak updated its Budget and Policy manuals and made progress in developing capital project performance metrics. Despite this progress, however, it is too early to determine the effectiveness of the post-completion review process. Amtrak still faces challenges in evaluating capital projects, including difficulties in identifying metrics for projects that cannot be easily evaluated, and the limited staffing resources available for thorough evaluations. In addition, FRA's capital grant agreement does not require any review of Amtrak's new capital project performance evaluation.

To address its IG's concerns, Amtrak recently developed guidance for its Budget and Policy Manuals. In 2007, Amtrak's IG reported that the company's capital budget submissions did not consistently include strategies for measuring capital projects' outcomes to determine whether the investments achieved their intended results. The Amtrak IG recommended that the company develop operational and financial metrics linked to corporate goals, and that Amtrak conduct these reviews within 1 year of project completion to assess how well each project's outcomes were measured and whether the project achieved its intended results.

In 2008, Amtrak included an addendum to its Budget Manual, which required project submissions to include explanations of intended outcomes and department plans for verifying these outcomes. Subsequent Budget Manuals required project justifications to include outcomes and performance measures, and introduced language stating that the finance department will coordinate with project managers to evaluate the performance of projects and implementation success. Amtrak's 2008 Policy Manual required project managers to conduct post-completion reviews, the finance department to audit the reviews on a sample basis, and reviewers to verify that projects have realized anticipated benefits and were completed on time and within budget. The December 2009 Policy Manual included additional guidance[21] requiring project managers and the finance department to verify that projects have realized anticipated benefits and achieved their intended objectives based upon performance metrics defined during the budget process.

By applying this new guidance, Amtrak has made progress in developing capital project performance metrics. It included outcome metrics for the first time in most project submissions with its 2008 budget. In our review of the company's capital budgets for 2008 through 2010, project justifications spanned a spectrum from broad, qualitative descriptions of project impacts to specific, quantifiable estimates of costs and expected revenues and performance metrics. For example, in the 2008 budget, the mechanical department's submission for the overhaul of 36 baggage cars included a project justification stating that the work would improve the units' serviceability and reduce mechanical delays by replacing major components instead of repairing them. A finance department submission in 2009, for the automation of credit card acceptance, included a justification describing specific expenditures and revenues that the project would generate if it were implemented. Project submissions in the 2010 capital budget were generally tied to corporate goals and key performance indicators outlined in the Strategic

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[21] This version refers to the 2008 manual's section on post-completion reviews, but the section appears in a different location in the manual. Although the 2008 and 2009 sections on post-completion reviews focus on different areas of review, one on the accountability of resources and the other on measuring project performance, it could be beneficial for Amtrak to have all guidance on these reviews incorporated into one section of the Policy manual.

Guidance—indicating Amtrak's attempt to align its capital program with the strategic plan and accountability measures.

It is too soon to determine the effectiveness of the new review process. Per the Policy Manual, Amtrak's IG will periodically audit post-completion reviews, and officials acknowledged that Amtrak is making progress in addressing the related recommendations. However, because the process changes have only occurred over the last year, there is not yet enough quantifiable data for a good understanding of how well it is working. Amtrak finance officials informed us that they plan to begin conducting post-project reviews in early 2011.

Amtrak still faces challenges in evaluating capital project performance. Finance officials described two challenges in particular. The first arises from difficulties in identifying evaluation metrics for projects that cannot easily be evaluated. For example, it is difficult to link an engineering project that replaces a certain number of railroad ties[22] to larger corporate outcomes such as reduction in travel time, improvements in on-time-performance, and cost savings. The second challenge stems from the fact that the finance department has limited staffing resources to perform thorough evaluations. Due to Amtrak's limited staffing, the new guidance calls for evaluations of only a sample of completed capital projects.

FRA's capital grant agreement does not include specific requirements to review the performance of Amtrak's capital investments. The 2010 grant agreement for capital and debt service does require Amtrak to provide a return on investment calculation for all proposed capital projects, with the exception of SOGR and fleet overhaul projects. This calculation is used in part to determine which projects get funded. However, the agreement lacks any explicit requirement for Amtrak to provide information which would allow FRA to review the company's performance against expected outcomes for its capital investments. This information would allow FRA to determine whether or not Amtrak is making effective and efficient capital investment decisions.

## CONCLUSION

Amtrak's long-term capital planning processes have evolved. Most notably, Amtrak's Five-Year Financial Plan and *Decision Lens* tool will allow the company to make adjustments to both its short and long-term capital plans. However, given the amount of money at stake and the need for sound capital investment decisions, it is imperative that Amtrak sustain improvements to its long-term capital planning. ARRA and PRIIA have provided Amtrak with both the funds and

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[22] Ties are the portion of the track structure placed under the rails to hold them in place and distribute the weight of the rails and rolling stock.

opportunity to implement its strategic vision, particularly for its capital program. However, if Amtrak does not receive the level of Federal funding authorized in PRIIA, it will not have the resources to carry out its current plans, and its continuing financial struggle may hamper the company's ability to sustain the improvements made to its long-term capital planning processes. Enhanced FRA oversight will be critical to ensure that needed actions are carried out.

## RECOMMENDATIONS

To ensure that Amtrak successfully integrates and maintains recent improvements to its long-term capital planning processes and effectively spends ARRA funds, we recommend that the FRA Administrator:

1. Amend the 2009 ARRA grant agreement to make the requirements for waiving the project completion deadline less stringent.

2. Enhance its oversight of Amtrak's capital grant agreement by including specific requirements for post-project reviews to evaluate the results of capital investments.

## AGENCY COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE

We provided a draft of our report to FRA on December 3, 2010 and received their response on January 11, 2011, which can be found in its entirety in the appendix of this report. In response to recommendation 1, FRA fully concurred with our recommendation and amended Amtrak's ARRA grant agreement to better ensure that ARRA funds are well spent, and not just expended to meet the February 17, 2011 deadline. FRA also provided sufficient documentation to support the actions taken. Accordingly, we consider this recommendation closed. For recommendation 2, FRA plans to amend Amtrak's fiscal year 2011 capital grant agreement to require post-project reviews for certain project categories. FRA provided a target completion date of April 15, 2011. We believe FRA's actions will enhance its oversight of Amtrak's future use of capital resources from the Federal government. Accordingly, we consider this recommendation resolved pending completion of FRA's planned actions.

## ACTIONS REQUIRED

Based on the actions taken by FRA and our review of the supporting documentation provided by the Agency, we consider recommendation 1 closed subject to follow-up provisions in accordance with Department of Transportation Order 8000.1C. Based on the information provided by FRA, we consider recommendation 2 resolved but open pending completion of FRA's planned actions.

We appreciate the courtesies and cooperation of FRA representatives during this audit. If you have any questions concerning this report, please call me at (202) 366-9970 or Toayoa Aldridge, Program Director, at (202) 366-2081.

cc: Audit Liaison, OST, M-1
Audit Liaison, FRA, RAD-43

## EXHIBIT A. SCOPE AND METHODOLOGY

We prepared this audit in response to a directive in the House Appropriations Subcommittee on Transportation, Housing and Urban Development, and Related Agencies committee report accompanying the fiscal year 2008 appropriations bill.[1] We conducted this performance audit from January 2008 through November 2010 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.

To determine Amtrak's five year capital requirements and how they align with its business and strategic goals, we reviewed Amtrak's 2010-2014 Five-Year Financial Plan, 2010 Fleet Strategy Plan, IT Enterprise Architecture Plan, NEC SOGR Plan, and NEC Master Plan, and compared the plans with Amtrak's 2009 Strategic Guidance. We interviewed officials from Amtrak's engineering, mechanical, finance and information technology (IT) departments to understand their respective plans and how each department aligned its planning with Amtrak business and strategic goals.

To determine how Amtrak prioritizes its capital projects among competing needs, we interviewed engineering, mechanical, and IT department officials to understand their department-level prioritization processes for capital projects that are submitted to the finance department. Moreover, we interviewed finance officials to understand their roles in prioritizing the company's capital needs and their improvements to the prioritization process using *Decision Lens* software. We compared the old prioritization process with the existing *Decision Lens* process to document differences in the processes and outcomes.

To determine Amtrak's ability to implement its increased capital budget provided by ARRA, we reviewed Amtrak's capital appropriations history and ARRA spend plan, and interviewed finance, engineering, IT, and mechanical department officials to understand their ability to meet the ARRA deadline and how the departments prioritized ARRA spending with ongoing projects. We reviewed documentation on Amtrak's Board of Directors to understand the reprogramming of ARRA funds to meet the mandated ARRA deadline. Additionally, we interviewed FRA and Amtrak IG officials to understand their views of Amtrak's abilities to meet the ARRA mandated deadline.

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[1] House Report 110-238 (July 18, 2007)

To determine how Amtrak evaluates the performance of capital projects, we interviewed finance department officials to understand their progress in performing post-completion reviews of capital projects. We reviewed Amtrak's capital programming policy and capital budget manuals to document Amtrak's process for evaluating capital project performance and conducting post-completion reviews. We also reviewed capital project budget submissions to determine if submissions included justifications that were tied to corporate goals. Finally, we met with officials from Amtrak's IG and FRA to understand their views of Amtrak's new capital project performance reviews.

# EXHIBIT B. AMTRAK MISSION, GOALS, AND PROGRESS CRITERIA

## *Amtrak Mission, Goals, and Progress Criteria*

*Amtrak Mission:*
To operate intercity passenger service on the existing national network, operate high speed services, operate and maintain the Northeast Corridor (NEC), and partner with the states to provide the resources and expertise they need to develop rail service nationwide.

*Corporate Goals:*
1. Safer: Operate the safest possible passenger railroad.
2. Greener: Increase efficiency, reduce emissions, and make better use of resources.
3. Healthier: Improve the condition, durability, and wholesomeness of every aspect of the company.
4. Improve financial performance: Improve Amtrak's bottom line.
5. Improve customer service: improve the quality and attractiveness of Amtrak's service to passengers.
6. Meet national needs: help with disaster relief and mobilization efforts, and help advance national policies and plans.

*Efficiency Measures*:
1. Cost per Available Seat Mile - cost to move a seat one mile.
2. Cost Recovery Ratio - proportion of expenses that are covered by revenues.
3. Passenger Miles per Core Employee - total passenger miles divided by employees in core business lines.
4. Revenue per Available Seat Mile - income produced by moving a seat one mile.

*Effectiveness Measures*:
1. Safety Ratio - number of reportable injuries per 200,000 man-hours of work.
2. Customer Service Index - survey-generated measure of performance.
3. Host Railroad Performance - minutes of delay per ten thousand train miles.
4. On-Time Performance - percentage of trains that arrive at their destination within the “threshold of tolerance” for delay.
5. Ridership Growth - percentage of increase (or decrease) in riders.

Source: Amtrak Strategic Guidance, October 2009

## EXHIBIT C.  ORGANIZATIONS VISITED OR CONTACTED

Federal Agencies:

Federal Railroad Administration, U.S. Department of Transportation, Washington, DC

Amtrak:

Amtrak Finance, Information Technology, and Inspector General, Washington, DC

Amtrak Engineering and Procurement, Philadelphia, PA

Amtrak Mechanical, Wilmington, DE

Host Railroads:

BNSF Railway, Fort Worth, TX

Norfolk Southern, Norfolk, VA

Union Pacific Railroad, Omaha, NE

Other:

Association of American Railroads, Washington, DC

# EXHIBIT D. MAJOR CONTRIBUTORS TO THIS REPORT

| Name | Title |
| --- | --- |
| Toayoa Aldridge | Program Director |
| Matt Williams | Analyst |
| Aaron Schwarz | Analyst |
| Susan Neill | Writer/Editor |

# APPENDIX MANAGEMENT COMMENTS

U.S. Department
of Transportation

**Federal Railroad Administration**

# Memorandum

Date: January 11, 2011 Reply to Attn of:

Subject: Response to OIG Draft Report Entitled "Amtrak Made Significant Improvements in its Long-Term Capital Planning Process" – Project No. 08C3003C000

From: Joseph C. Szabo
Administrator

To: Mitchell Behm
Assistant Inspector General for Rail, Maritime & Economic Analysis

**Significant Progress Achieved in Improving Amtrak's Capital Planning**

The Federal Railroad Administration is pleased with the progress achieved by Amtrak in improving its capital planning process. As mentioned in the OIG draft report, Amtrak has issued a five-year financial plan, a state-of-good-repair plan for the Northeast Corridor, and a long-term fleet plan. In addition, subsequent to issuance of the draft report, Amtrak released a long-term vision plan for the Northeast Corridor. All of these plans will inform Amtrak's future use of capital resources from the federal government.

**Recommendations and Responses**

**Recommendation 1: Amend the 2009 ARRA grant agreement to make the requirements for waiving the project completion deadline less stringent.**

FRA Response to Recommendation 1: Concur. On August 25, 2010 Amendment Number 2 to the American Recovery and Reinvestment Act (ARRA) of 2009 grant agreement was executed. This amendment modified section 124 of the ARRA grant agreement which covers the waiver process by changing the requirement for requesting a waiver from *"taking extraordinary measures"* to simply *"taking measures"* to ensure completion of projects by February 17, 2011. FRA has already approved one waiver under the new standard and will consider all future waiver requests received from Amtrak under this standard. The intent of this action is to better ensure that these funds are well spent, and not just expended to meet a deadline.

**Recommendation 2: Enhance its oversight of Amtrak's capital grant agreement by including specific requirements for post-project reviews to evaluate the results of capital investments.**

> FRA Response to Recommendation 2: Concur. By April 15, 2011 FRA will include a provision in the Fiscal Year 2011 Amtrak capital grant agreement to require post-project reviews for certain project categories. FRA has decided to begin by requiring Amtrak to conducted post-project reviews on all projects except those for which Amtrak is not required to conduct return-on-investment calculations under the current capital grant agreement. FRA does not currently require Amtrak to conduct return on investment calculations on any projects in the State-of-Good-Repair Plan for the Northeast Corridor or for regular equipment overhauls. (Both types of investment are needed to preserve the service intact, but do not produce significant, measurable improvements beyond the normative level of service. Hence, the return on investment is not readily susceptible to measurement.) The one exception to the rule is that FRA will require Amtrak to conduct post-project reviews of any bridge project costing more than $25 million even if the bridge project is on Amtrak's State of Good Repair plan for the Northeast Corridor. The reason for this is that many issues have been encountered in the past in regard to these costly projects involving Amtrak's replacement of major bridges.

The Federal Railroad Administration appreciates the opportunity to comment on the OIG draft report. FRA will inform OIG of any activity pursuant to these recommendations within 6 months of the final OIG report issuance. Please contact Dharm Guruswamy at 493-6378 with any questions if we may be of further assistance.