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Subcommittee on Transportation, Housing and Urban Development,  
and Related Agencies  
United States House of Representatives**

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**Top Management  
Challenges Facing the  
Department of  
Transportation**

**Statement of  
The Honorable Calvin L. Scovel III  
Inspector General  
U.S. Department of Transportation**



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Mr. Chairman and Members of the Subcommittee:

Thank you for inviting me here today to discuss the Department of Transportation's (DOT) top management challenges for fiscal year 2012. We report annually on these challenges, as Congress and the Office of Management and Budget (OMB) require. Our November 2011 report<sup>1</sup> addressed both short- and long-term actions (see exhibit) that DOT should take to ensure transportation safety—DOT's top priority—and maximize investments in transportation. The Department's fiscal year 2013 budget requests over \$74 billion for a wide range of programs and initiatives, and we continue to support the Department's efforts through audits and investigations that identify opportunities for program effectiveness and efficiencies and to minimize fraud, waste, and abuse.

My comments today will summarize the Department's top management challenges along three cross-cutting areas: (1) enhancing aviation, surface, and pipeline safety; (2) ensuring effective stewardship of the Department's resources; and (3) effectively implementing transportation infrastructure programs. I will also report on DOT's progress in addressing some of these challenges and conclude with what remains to be done.

## **SUMMARY**

Over the past 2 years, DOT has undertaken several initiatives to help ensure the safety of our Nation's airspace system, highways, railways, bridges, transit systems, and pipelines. In fiscal year 2011, the Federal Aviation Administration (FAA) implemented a system designed to track incidents involving aircraft that breach flight separation standards and to evaluate the risks of these operational errors. FAA has also issued updated regulations on pilot fatigue. The Federal Motor Carrier Safety Administration (FMCSA) issued new regulations to keep unsafe commercial drivers off our roads, while the Federal Highway Administration (FHWA) launched a new bridge oversight initiative to improve States' bridge inspection and maintenance programs. To improve pipeline safety, DOT issued a "Call to Action," challenging the pipeline industry and key regulatory agencies to increase efforts to mitigate pipeline safety risks. Despite these advancements, the Department and its Operating Administrations will need to take a number of actions, many based on recommendations we made, to minimize transportation safety risks.

At the same time, the Department must provide effective stewardship of its financial and information technology resources. DOT must strategically plan and oversee its contracts and adequately prepare the acquisition workforce to ensure projects achieve

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<sup>1</sup> OIG Report Number PT-2012-006, "Top Management Challenges for Fiscal Year 2012, Department of Transportation," November 15, 2011. OIG reports and testimonies are available on our website: [www.oig.dot.gov](http://www.oig.dot.gov).

mission results. Budget constraints and problems with existing projects are forcing the Department to rethink its investments and priorities in important yet costly programs, such as the Next Generation Air Transportation System (NextGen). While NextGen has made important advancements, we noted a number of improvements that are needed, particularly in the management of its contracts. The Department must also ensure that its more than 400 information systems, including air traffic data systems, are secure from unauthorized access and cyber threats.

Finally, the Department must continue to work to ensure the effective implementation of highway, transit, and passenger rail infrastructure programs—including large-scale projects supported by the American Recovery and Reinvestment Act (ARRA). As ARRA funds are expended, the Department may have less Federal funding available to meet growing transportation demands, including addressing the Nation’s aging surface infrastructure. The Department will need to closely oversee the completion of ARRA projects to mitigate the risk of fraud, waste, and abuse; apply lessons learned from ARRA; put in place clear goals for the high-speed rail program; and leverage limited Federal transportation resources using innovative credit and financing programs.

## **ENHANCING AVIATION, SURFACE, AND PIPELINE SAFETY**

In 2011, DOT undertook several safety initiatives. These include announcing the update of regulations dealing with pilot fatigue, issuing new regulations to keep unsafe commercial drivers off our roads, launching new bridge safety efforts, and initiating a pipeline safety Call to Action. At the same time, Congress debated the merits of enhancing the Department’s role in transit safety. By sustaining focus on these and other important initiatives, DOT can better position itself to ensure the safety of our Nation’s airspace system, highways, railways, bridges, transit systems, and pipelines for fiscal year 2012 and beyond.

### **Ensuring Effective Oversight on Key Initiatives That Can Improve Aviation Safety**

The United States continues to operate the world’s safest air transportation system. However, our audit and investigation work and recent incidents underscore the need for FAA to take additional actions to improve safety.

A top priority for FAA is to accurately count and identify trends that contribute to operational errors—events where controllers do not maintain safe separation between aircraft. While FAA statistics indicate that operational errors increased by more than 50 percent, from 1,234 in fiscal year 2009 to 1,887 in fiscal year 2010, it is unclear whether this reported increase is due to more operational errors being committed,

improved reporting, or both. According to FAA, the Air Traffic Safety Action Program (ATSAP) has encouraged controllers to report operational errors. However, not all operational errors reported in ATSAP are counted in FAA's reported numbers. Almost one-quarter of the increase can be attributed to the revocation of a separation waiver at the Southern California Terminal Radar Approach Control.<sup>2</sup> Improved radar and voice tools for identifying errors may also have contributed to the increase. In fiscal year 2011, FAA implemented the System Risk Event Rate tool, which is designed to track and evaluate systemwide risk when aircraft fly closer together than separation standards permit. Implementing systems and processes that capture accurate and complete data is critical for FAA to determine the true magnitude of operational errors and to assess their potential safety impacts, identify their root causes, and effectively address and mitigate them.

Addressing pilot training is also critical to strengthening aviation safety. In January 2009, FAA issued a Notice of Proposed Rulemaking for revised crew training that requires use of flight simulators and incorporates special hazard practice training for pilots. However, FAA received extensive industry comments, which primarily opposed the rule's prescriptive training hours rather than basing pilot training on skills most needed to safely perform flight operations. As a result, FAA issued a second proposed rule in May 2011, which requires more thorough ground and flight training for pilots on how to recognize and recover from stalls, as well as remedial training for pilots with performance deficiencies. FAA has not yet issued a final rule on crew training requirements, which was congressionally mandated by October 1, 2011.

In January 2012, FAA updated its flight and duty time regulations for Part 121 air carriers<sup>3</sup> in an effort to better ensure that pilots are rested when they fly. Unlike the old regulations—which included different rest requirements for domestic, international, and unscheduled flights—the new regulations establish one set of rules that are based on scientific factors. However, the regulations do not require air carriers to identify pilots who commute or address issues related to pilot commuting—significant factors that may contribute to fatigue. While FAA considered mandating that pilots arrive in time to receive a pre-flight rest period in the new rule, it stated that the requirement would be difficult to enforce and would not guarantee responsible commuting.

FAA's oversight of aircraft repair stations also remains a concern. Given air carriers' continued reliance on repair stations, it is imperative that FAA provide more rigorous oversight of this industry. According to FAA, there are nearly 4,800 FAA-certificated repair stations worldwide that perform maintenance for U.S. registered aircraft. In response to weaknesses we identified, FAA implemented a new risk-based system to

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<sup>2</sup> The waiver allowed aircraft landing simultaneously to be closer than normally allowed. Air Traffic Safety Oversight Service revoked the waiver because it considered it unsafe, and subsequently, reclassified aircraft landings that occurred under the waiver as operational errors.

<sup>3</sup> 14 CFR Part 121, Operating Requirements: Domestic, Flag, and Supplemental Operations

target surveillance efforts to facilities with the greatest risk. Furthermore, our ongoing review indicates that the system is not applied consistently—some inspectors do not use the risk assessment process at all, while other inspectors use it to varying degrees. Our criminal investigations continue to identify significant improprieties committed by repair station personnel, a number of which resulted in the repair or sale of aircraft parts that were certified as airworthy when they were not.

FAA's oversight of aircraft manufacturers has also not been fully effective—due to weaknesses in FAA's Organization Designation Authorization (ODA) program and Risk-Based Resource Targeting (RBRT) system. FAA created ODA in 2005 to standardize its oversight of organizations that supplement FAA's safety inspector and engineer workforce. However, FAA has not adequately trained engineers on their new enforcement responsibilities under ODA, and some FAA certification offices have not effectively tracked or addressed poorly performing ODA personnel. Additionally, a lack of detailed, objective data and technical difficulties has limited RBRT's usefulness in measuring risk and directing FAA engineers' oversight efforts to high-risk projects. FAA is working to improve ODA and RBRT policy, training, and tools to ensure that ODA organizations comply with safety requirements and that the Agency targets its limited engineering resources to the highest risk projects.

To effectively oversee a dynamic aviation industry, it is critical that FAA places its approximate 4,300 safety inspectors where they are most needed. A 2006 National Research Council study conducted at the direction of Congress concluded that FAA's methodology for allocating aviation safety inspector resources was ineffective and recommended that FAA develop a new approach. In response, FAA completed a new staffing model in October 2009. While FAA used the model to support an increase in the number of inspectors for its fiscal year 2012 budget request, it did not fully rely on the number projected by the model. For fiscal year 2013, FAA did not request additional inspectors. FAA is working to further refine the model so that it more effectively identifies the number of inspectors needed and where they should be placed to address the greatest safety risks.

FAA also needs to advance air carrier collaboration and assess the potential safety impacts of code share agreements—where one air carrier sells and issues tickets for flights operated by another carrier. While code share agreements can reduce major carrier costs and enhance customer service, FAA faces challenges in overseeing these agreements. A key concern is that since FAA does not review any domestic code share agreements, the Agency is not aware of whether the performance incentives or penalties in these agreements could result in unintended safety vulnerabilities. FAA's 2009 Call to Action plan for airline safety encourages mainline and regional carriers to collaborate on code share safety programs and mentoring. However, FAA has not issued guidance to operators involved in these arrangements to encourage safety

collaboration. Further, the Department will need to pay closer attention to compliance with code share disclosure requirements.

Finally, continued FAA attention is needed to ensure safety improvements contained in the Airline Safety and FAA Extension Act of 2010 are implemented in a timely and effective manner. The Act contains measures intended to improve safety and address longstanding pilot concerns, such as fatigue, training, and professionalism. In addition to mandating completion dates for pilot training and fatigue rules, the law requires mentoring programs and a more focused FAA approach to increase air carriers' adoption of voluntary safety programs. FAA is also required to establish and maintain a pilot database—including performance records from the Agency and air carriers, and additional records from the National Driver Register—that air carriers must access and review during the pilot hiring process.

### **Enhancing the Department's Oversight of Surface Safety**

Surface transportation safety has improved in recent years—especially as it relates to motor vehicles. From 2005 to 2009, fatalities and injuries related to motor vehicle crashes declined by 22 percent and 18 percent, respectively. Large truck and bus fatalities dropped by 29 percent between 2007 and 2009. To maintain these positive trends, the Department must work with its State and local partners to tackle persistent challenges, build on key initiatives, and address longstanding concerns with motor carrier, vehicle, bridge, and transit safety.

FMCSA is responsible for overseeing over 525,000 active interstate freight and passenger carriers. An important challenge it faces is identifying reincarnated carriers—those who attempt to evade enforcement by obtaining authority to operate as a different entity. FMCSA has taken action to address this issue but needs to refine its existing screening process for detecting reincarnated carriers, and use a risk-based approach to better target its limited resources before expanding the vetting process from passenger and household goods carriers to all new motor carrier applicants.

Another key safety focus for FMCSA is to follow through on its commitment to strengthen the Commercial Driver's License (CDL) program and prevent fraudulently issued CDLs. Our work has shown that FMCSA will be challenged to ensure that States swiftly and effectively implement new regulations for tightening controls over CDL testing that FMCSA issued in 2011. Ongoing testing problems are evident with the recent sentencing of 10 people in Pennsylvania for bypassing CDL regulations and providing false CDLs to more than 400 drivers.

Vehicle defects, particularly unintended acceleration, have brought significant public, media, and congressional attention to the National Highway Traffic Safety Administration's (NHTSA) oversight of vehicle safety. While NHTSA's Office of Defects Investigation (ODI) is well respected internationally, improvements are

needed in ODI's processes for identifying and addressing potential safety defects, assessing staffing needs, staying abreast of new automobile technologies, and sharing and coordinating information with foreign countries. NHTSA responded positively to recommendations we made in 2011 and is taking action to strengthen its processes, workforce, and training program.

The safety of the Nation's bridges is another key focus area. According to the FHWA, about one-fourth of the Nation's more than 600,000 bridges are deficient.<sup>4</sup> However, FHWA has lacked quality inspection data and a risk-based oversight approach to prioritize bridge safety risks. In 2011, FHWA launched an initiative to improve FHWA's oversight of how well States meet National Bridge Inspection Standards and maintain their bridges. If successfully implemented, this initiative should enable FHWA to target higher priority bridge problems using objective data and risk-based metrics, and better monitor States' performance.

Since 2009, rail transit incidents, including the fatal crash here in Washington, D.C., have raised concerns about safety oversight of the Nation's transit systems. The Department's budget requests additional funding to support enhanced Federal rail transit oversight; and the Senate's reauthorization bill includes an expansion of the Department's role in this area. We have identified actions the Federal Transit Administration (FTA) could take to enhance transit safety, such as maximizing the usefulness of current safety data. We have also pointed out challenges FTA would likely face in developing and implementing enhanced rail transit safety oversight, such as establishing national standards across the Nation's diverse transit systems. DOT is facing a similar challenge in implementing new railroad safety regulations under the Rail Safety Improvement Act of 2008.

## **Ensuring Effective Oversight of Pipeline Safety**

The Nation's aging oil and gas pipeline infrastructure is vulnerable to ruptures caused by corrosion and other pipe defects. For example, in 2010, a 54-year old gas pipeline in San Bruno, California, exploded, killing eight people and destroying 38 homes. In the same year, a leaking pipeline spilled nearly a million gallons of crude oil into a tributary of the Kalamazoo River in southwest Michigan. The Pipeline and Hazardous Material Safety Administration (PHMSA) faces several challenges in effectively overseeing pipeline operators and ensuring States carry out their pipeline safety responsibilities.

First, PHMSA must ensure that operators of hazardous liquid, gas transmission, and gas distribution pipelines have sound integrity management (IM) programs for conducting inspections, identifying and repairing defects, and continually evaluating risks to pipeline integrity. The National Transportation Safety Board's (NTSB) investigation of the San Bruno incident raised a number of concerns regarding

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<sup>4</sup> Deficient bridges generally refers to bridges that are either structurally deficient or functionally obsolete.

PHMSA's oversight of IM programs and recommended that PHMSA expand the use of IM metrics; validate operator IM data; ensure pipeline operators incorporate leak, failure, and incident data into their risk models; and establish performance goals for operators. NTSB's report also cited the California Public Utilities Commission for failing to detect inadequacies in the Pacific Gas and Electric Company's IM program. Addressing these weaknesses is particularly critical given the recent enactment of Federal pipeline safety rules<sup>5</sup> and the corresponding increases in State oversight responsibilities in high-risk areas. Under the most recent initiative, States will be responsible for overseeing IM programs for almost 1,300 operators of local gas distribution systems—where the highest rates of pipeline-related fatalities and injuries occur. While PHMSA has several efforts under way to enhance its hazardous liquid IM inspection program, such as focusing on the quality and number of field visits, the Agency faces challenges in accomplishing these improvements while meeting its other inspection activities, including pipeline construction and control room management.

Second, PHMSA must ensure State partners effectively execute their regulatory and enforcement responsibilities. State pipeline safety regulators currently oversee about 90 percent of the 2.5 million miles of our Nation's pipeline infrastructure. In 2010, PHMSA distributed more than \$30 million in Federal grant funds to encourage States to take on more responsibility for overseeing pipeline safety and to improve performance. Despite these investments, the San Bruno explosion and other recent accidents call into question the effectiveness of these partnerships.

In response to several serious pipeline accidents in 2010 and 2011, Secretary LaHood issued a "Call to Action" for improving pipeline safety. In doing so, the Secretary and the PHMSA Administrator challenged the pipeline industry and key regulatory agencies to increase efforts to identify and repair or replace high-risk pipelines. Of particular concern are pipelines constructed with cast iron, bare steel, and other material that may have a higher risk of leaking or exploding. However, achieving the Secretary's Call to Action will not be easy, largely because PHMSA lacks the authority to require operators to accelerate the repair or replacement of high-risk pipelines; and PHMSA relies heavily on its State pipeline safety partners to oversee much of this work. Given its limited authority and the sizable resources needed to achieve the Call to Action, PHMSA will be significantly challenged to ensure corrective steps are taken and that high-risk pipelines no longer pose a threat.

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<sup>5</sup> PHMSA issued two final rules in December 2009 on Gas Distribution Pipeline Integrity Management and Control Room Management, placing additional requirements on pipeline operators.



## **ENSURING EFFECTIVE STEWARDSHIP OF THE DEPARTMENT'S RESOURCES**

The Department has a fundamental responsibility to be an effective steward of its financial and information technology resources, especially at a time when it must confront shrinking budgets and increasing cyber security threats. It faces challenges to strategically plan and oversee acquisitions and adequately prepare its acquisition workforce to ensure projects achieve mission results. Budget constraints and problems with existing projects are forcing the Department to rethink its investments and priorities in programs such as NextGen, a multi-billion, satellite-based air traffic management system. The Department must also ensure that its more than 400 information systems, including air traffic data systems, are secure from inappropriate access and cyber threats.

### **Strategically Managing the Department's Acquisitions**

In fiscal year 2011, the Department obligated approximately \$5.8 billion on contracts for goods and services to build and support a transportation system that meets vital national interests. Our audits continue to find weaknesses in how DOT and its Operating Administrations plan, administer, and oversee its contracts and manage its acquisition workforce. These deficiencies challenge DOT's ability to effectively manage its contracts and identify opportunities to improve program performance and save millions in taxpayer dollars.

A lack of planning related to DOT's selection of contract type and resources needed to manage contracts has created cost risks. In 2010, we estimated that DOT paid over \$140 million in fees on cost-plus award fee contracts without properly justifying their cost-effectiveness. While these contracts can provide incentives to spur innovation and reduce costs, they require greater agency effort to document contractor performance and mitigate cost risks to the Government. Because FAA is responsible for a significant portion of the Department's contract dollars, it is especially critical for FAA to improve its acquisitions. In 2011, we reported that FAA's sole-source, noncompetitive contract actions—which accounted for over half a billion dollars in fiscal year 2009 obligations—provided little assurance that prices were consistently fair and reasonable for the contracts we reviewed. Further, a lack of fundamental planning to properly design and execute contracts can significantly impact the Department's bottom line—as was the case with FAA's Air Traffic Controller Optimum Training Solution (ATCOTS) Program contract. In 2010, we reported that the contract's costs and fees exceeded baseline estimates by about \$46 million (27 percent) for the first 2 years of the contract due to weaknesses in contract design and planning. We recently announced a follow-up audit on FAA's progress to improve management of its ATCOTS contract.

An effective acquisition workforce is also critical to ensure the Department's thousands of complex contracts provide maximum value and benefit. While DOT's Acquisition Workforce Strategic Human Capital Plan sets strategies and goals to increase the capability of the acquisition workforce, DOT has faced challenges in strengthening its acquisition workforce, which has contributed to weaknesses in contract management and administration. For example, according to DOT's Acquisition Workforce Strategic Human Capital Plan, about 63 percent of its contracting employees will be eligible for retirement by 2018. Almost 40 percent of FAA's acquisition workforce will be eligible to retire by the end of 2016. We reported in 2011 that gaps in FAA's acquisition staff hiring and development contributed to poor contract administration on critical FAA programs. To better ensure DOT and its Operating Administrations make wise contracting decisions, the Department issued a DOT Cost-Plus-Award-Fee Contracting Guide in July 2011 and requires acquisition personnel involved with these contracts to be trained. FAA also implemented training on the use of price analysis. However, more training is needed to better develop the acquisition workforce in the current climate of budgetary hiring constraints and the high rate of retirement facing the Department.

A lack of effective data management systems and surveillance exacerbates these weaknesses. Unreliable acquisition data hinder the Department's ability to strategically manage its contracts, meet reporting and transparency requirements, and ensure the billions of dollars it spends on contracting each year are used efficiently and effectively. In 2011, we reported that roughly one-third of the Office of the Secretary of Transportation's (OST) fiscal year 2008 and fiscal year 2009 data in the Governmentwide procurement information system were inaccurate. In some cases, DOT Operating Administrations cannot accurately account for all of their active contracts. While DOT's recent data quality reports to OMB have indicated an improvement, the Department needs to remain vigilant to implement its efforts and controls for improving data accuracy. We will continue to monitor its efforts and validate the data. Weaknesses in contract oversight and surveillance also limit the Department's ability to achieve successful acquisition outcomes. For example, in 2010, we reported that in the first year of its \$859 million Air Traffic Controller Optimum Training Solution contract, FAA authorized payment for 11 invoices totaling \$45 million without verifying whether the services billed were actually provided.

More vigilant oversight is also needed to detect and prevent grant and procurement fraud, which currently comprises about 50 percent of active OIG investigations. In fiscal year 2011, our investigations of grant and procurement fraud resulted in 41 indictments, 29 convictions, and approximately \$280 million in recoveries. DOT's more than \$40 billion in ARRA funds awarded to grant recipients heightens the importance of vigilant oversight. However, deficiencies we found in DOT's Suspension and Debarment Program (S&D) limit its ability to safeguard against

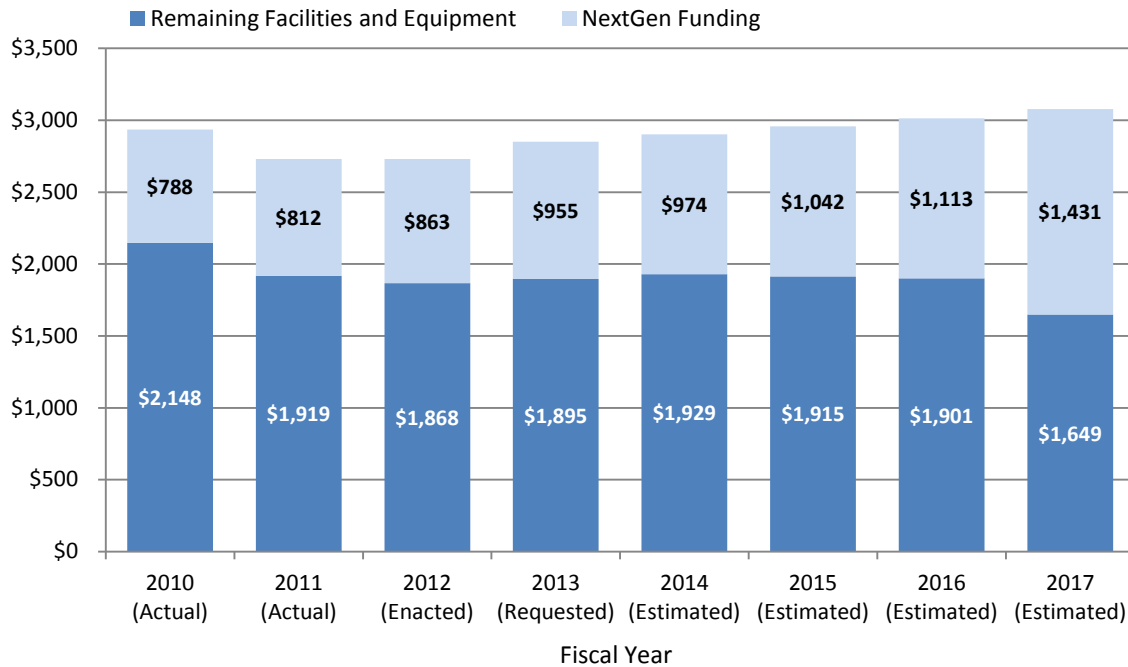
fraudulent actors obtaining DOT contracts or funds. While DOT and FAA have initiated several actions in response to recommendations we made in 2010—such as revising their S&D policies to require timely S&D actions—sustained focus and demonstrated progress in this area are still needed. Until DOT fully implements an efficient and effective S&D Program, it will continue to risk awarding contracts and grants to improper parties.

Finally, to ensure effective stewardship of its contract dollars, DOT needs to place its acquisitions work in a long-term strategic context, elevate the importance of its acquisition function, and institutionalize procurement reforms across the Department. In 2011, we reported that the Office of the Senior Procurement Executive’s strategic plan does not link its goals to DOT’s strategic plan, and until recently DOT’s Senior Procurement Executive did not directly report to the Chief Acquisition Officer as envisioned by major acquisition reform legislation. Organizational weaknesses in DOT Operating Administrations’ acquisition functions similarly hinder their ability to serve a strategic role in carrying out agency missions.

### **Controlling Costs While Advancing NextGen**

To control the Department’s costs, DOT will need to set realistic plans, budgets, and expectations for NextGen—a complex effort requiring investments from both the Government and the airline industry. A constrained budget and problems with existing projects are forcing FAA to rethink its capital investments and NextGen priorities (see figure 1). Currently, FAA plans to spend almost \$5 billion on all NextGen programs between fiscal years 2012 and 2016—a significant investment but billions less than FAA projected a year ago. This adjustment creates significant challenges in sustaining existing projects and facilities while introducing new NextGen-related capabilities.

**Figure 1. FAA Capital Funding for Fiscal Years 2010 Through 2017, Dollars in Millions**



Source: FAA Budget Documents

FAA’s 2011 NextGen implementation plan provides a vision for NextGen from 2015 to 2018 and broadly outlines linkages between FAA and stakeholder investments. However, FAA has yet to make critical decisions that affect near- and long-term goals.

For the near-term, FAA is taking action to address recommendations from a Government-industry task force on NextGen. However, most efforts are still in the planning, study, or design phases, including FAA’s 7-year initiative for reducing delays at congested airports in 21 major metropolitan areas.<sup>6</sup> FAA has completed studies at seven locations and has begun design work at six, but it has not established a mechanism to integrate its efforts with other important initiatives, such as improving airport surface operations. Enhancing capacity at congested airports also depends on the timely deployment of more efficient flight procedures. However, as we noted in December 2010, FAA’s flight procedures have mostly been overlays of existing routes.

<sup>6</sup> Subsequently, FAA reduced the number of metroplex projects from 21 to 13 by combining some and dropping others because of ongoing airspace and performance-based navigation initiatives. The sites dropped were: New York/Philadelphia, Minneapolis-St. Paul, Seattle, and Las Vegas Valley.

Between fiscal years 2012 and 2016, FAA plans to spend \$2.4 billion on NextGen's six transformational programs—including a new satellite-based surveillance system and a new information sharing system—which have complex interdependencies and integration issues with automated systems that controllers rely on to manage traffic and FAA communications networks. However, FAA has not yet developed an integrated master schedule for implementing these programs or established total program costs, schedules, or performance baselines. In addition, FAA's approach of baselining smaller segments of larger programs in an effort to reduce risks in the short-term provides no clear end-state for programs—leaving decisionmakers in Congress and the Department without the information needed to assess NextGen progress, establish priorities, and make necessary tradeoffs between programs. Although FAA recognizes the need for an integrated master schedule to manage NextGen, it remains incomplete.

FAA's long-term goals for NextGen depend on the successful implementation of the En Route Automation Modernization (ERAM) program—a \$2.1 billion system for processing flight data. ERAM will replace all existing hardware and software at FAA's facilities that manage high-altitude traffic. Without ERAM, the key benefits of several other programs, such as new satellite-based surveillance systems and data communications for controllers and pilots, will not be possible. However, software-related problems—including incorrect flight data display—have pushed schedules well beyond original completion dates and increased costs by hundreds of millions of dollars. FAA formally rebaselined the program in June 2011 and now plans to complete ERAM in 2014—a slip of 4 years. FAA estimates that delays with ERAM will translate to an additional \$330 million to complete deployment. If problems persist, total program cost growth could be as much as \$500 million with potential delays stretching to 2016. ERAM delays have required FAA to maintain aging systems longer, reprogram funds from other projects to cover the total cost overruns, and retrain controllers and maintenance technicians who must operate and maintain two different systems.

## **Improving the Department's Cyber Security**

A sound information security program is critical to protect the confidentiality, availability, and integrity of information systems—as well as the significant investments in these systems. DOT's 400-plus information systems—nearly two-thirds of which belong to FAA—represent an annual investment of approximately \$3 billion in resources. Last year, we reported that DOT's information security program did not meet key OMB and Federal Information Security Management Act requirements to establish an information security program—one that would protect Agency information and systems from increasingly aggressive and technically proficient cybercriminals. As a result, DOT declared its information security deficiencies a material weakness in its annual assurance statement required by the Federal Managers' Financial Integrity Act. While DOT has made some progress

toward correcting these weaknesses, security deficiencies remain in key control areas, such as contingency planning, software configuration, system controls testing, and network user accounts.

These deficiencies have serious implications for personally identifiable information (PII) and NextGen. To prevent unauthorized access to PII, OMB requires agencies to reduce the volume of and restrict access to information collected and maintained, as well as implement other security controls, such as encryption. In fiscal year 2011, the Department provided plans for reducing PII and the use of Social Security numbers, and is working to establish required privacy protections by 2013. However, until these measures are implemented, the Department's systems remain vulnerable to exploitation. For example, our ongoing audit of the United States Merchant Marine Academy's (USMMA) network identified and exploited a critical vulnerability providing full access to the network, including databases containing sensitive midshipmen information. While USMMA corrected this identified vulnerability, numerous internal administrative and technical control deficiencies that we identified continue to place USMMA data at risk of unauthorized access.

The new technologies that NextGen relies on to achieve its goals—such as satellite-based surveillance technologies for tracking aircraft—could introduce significant cyber security risks. While FAA expects that using commercial products will be less expensive than developing new, FAA-owned software, the Internet Protocol-based commercial products, and Web applications that NextGen relies on are inherently more vulnerable to security risks than FAA's proprietary software. In addition, FAA may have little control over security challenges that could arise in the Automatic Dependent Surveillance-Broadcast (ADS-B) and other systems owned and operated by NextGen contractors.<sup>7</sup> We have already identified weaknesses in FAA's Air Traffic Control System, including an information disclosure vulnerability, insufficient updating of system software, unsupported operating systems, improper network configurations, and communication system vulnerabilities. As FAA develops NextGen, it must continue to protect its current air traffic control and related systems, located at hundreds of operational facilities.

The Department's Office of the Chief Information Officer (OCIO) could do more to guide and oversee Operating Administrations in building and sustaining strong information security practices. In 2011, OCIO revamped its information security policy for all Operating Administrations except OST. However, OCIO has yet to finalize Departmentwide procedural guidance, improve its quality assurance reviews of modal cyber security efforts, and establish an effective means for conducting timely assessments of the Department's cyber security. Until OCIO can better guide and oversee Operating Administrations' information security, the Department cannot

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<sup>7</sup> NextGen's ADS-B system is the first operational air traffic control system to be owned and operated by a contractor.

verify that its policy is properly implemented or deploy automated tools to quickly and continuously monitor its cyber security efforts.

Despite its \$48 million investment and years of effort, the Department does not have a blueprint for modernizing its information systems in an efficient or secure manner. The purpose of this blueprint, known as enterprise architecture (EA), is to save costs, reduce duplication of systems, identify technology needed to conduct missions, and maximize the benefits of security spending. The Department has been relying on the Operating Administrations to develop their own EAs, but has not provided the necessary policies, procedures, guidance or oversight to direct this effort. In response to an OMB request, the OCIO recently began planning for the development of a Departmentwide EA. However, until these efforts are complete, the Department cannot verify that security needs are efficiently addressed or identify duplicate or unnecessary systems that may exist or occur.

## **EFFECTIVELY IMPLEMENTING INFRASTRUCTURE PROGRAMS**

ARRA provided over \$48 billion to support existing highway and transit infrastructure programs, and infused an unprecedented amount of capital into new passenger rail programs. As ARRA funds are expended, the Department may have less Federal funding available to meet growing transportation demands, including addressing the Nation's aging surface infrastructure. To address these infrastructure challenges, the Department will need to closely oversee the completion of ARRA projects, apply lessons learned from ARRA to improve project oversight, put in place clear goals for the high-speed rail program, and leverage limited Federal transportation resources using innovative credit and financing programs.

### **Ensuring Effective Oversight of ARRA Projects and Applying Related Lessons Learned To Improve DOT's Infrastructure Programs**

Since ARRA's enactment in 2009, FHWA and FTA have taken significant actions to oversee ARRA projects but remain challenged to ensure remaining funds are spent appropriately. Lessons learned from ARRA can maximize the Department's efforts to improve key oversight mechanisms and keep projects within budget; on schedule; and free from fraud, waste, and abuse.

As of March 2012, FHWA reported that almost 79 percent of its ARRA-funded projects were completed with 88 percent of funds expended. To oversee ARRA expenditures, FHWA created national review teams, which identified a number of management weaknesses. However, the Agency must follow through to address problems identified by these teams and our audit work—especially those that extend

beyond ARRA. First, FHWA must follow through on promised actions to enhance the States' local public agency (LPA) program, which refers to projects managed by cities, counties, and other local entities. Persistent risks with the program include insufficient State oversight of LPAs, noncompliance with Federal labor requirements, and improper processing of contract changes. In addition, FHWA faces a significant challenge in ensuring that States effectively implement the new value engineering regulations that it recently finalized—5 years after Congress enacted additional value engineering requirements. Opportunities to improve project performance, cost, and quality may be lost for ARRA and non-ARRA projects if FHWA fails to ensure States conduct value engineering studies.

While FTA received a smaller amount of ARRA funds than FHWA, it directed a significant portion of these funds to a number of major projects that require sustained management attention to mitigate further cost and schedule risks. For example, \$423 million in ARRA funds were provided to the Fulton Street project in New York, which had experienced significant cost increases and years of delays. FTA increased its project oversight and risk assessments, and implemented robust recovery plans to prevent additional cost increases and delays. However, years of complex work remain, and FTA will need to sustain a high level of oversight to ensure prudent and timely expenditure of ARRA funds.

Vigilant oversight of the Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant Program is also needed to ensure effective execution of these grants, including those funded by ARRA. In February 2010, OST awarded \$1.5 billion in ARRA funding for TIGER grants to 51 recipients across the Nation. The program relies heavily on FHWA, FTA, Federal Railroad Administration (FRA), and the Maritime Administration (MARAD) to ensure recipients meet ARRA requirements. While FHWA and FTA have longstanding procedures in place to administer grant programs, FRA and MARAD are still implementing standard oversight practices for grants. Accurate grantee reports, comprehensive risk assessments, and sufficient performance measures are critical for tracking and monitoring individual projects and evaluating the program's impact. Subsequent appropriations<sup>8</sup> have doubled the program's funding, substantially increasing the challenges facing OST and its Operating Administrations in effectively overseeing TIGER projects.

ARRA funding and significant ongoing construction activity emphasize the need for DOT and our office to continue to aggressively pursue counter-fraud efforts. We have worked with DOT to deter fraud schemes through ongoing outreach and targeted assessments of projects with fraud risk indicators, as well as investigated criminal and

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<sup>8</sup> In 2010, Congress provided \$528 million for 42 capital projects and 33 planning projects. In 2011, it provided \$527 million for 46 capital projects. Finally, in 2012, it provided \$500 million for capital investments in surface transportation infrastructure.



civil complaints. As of February 29, 2012, we have 66 open ARRA investigations—47 of which the Department of Justice is reviewing for potential prosecution (see table 1).

**Table 1. Open Investigations into Allegations of ARRA Fraud, by Operating Administration, as of February 29, 2012**

<b>Allegation</b>	<b>FHWA</b>	<b>FAA</b>	<b>FTA</b>	<b>FRA</b>	<b>MARAD</b>	<b>Total</b>
False Statements, Claims, Certifications	15	3	2	1	1	22
Disadvantaged Business Enterprise Fraud	16	4	5	0	0	25
Anti-Trust Violations, Bid-Rigging, Collusion	4	1	0	0	0	5
Embezzlement	0	0	1	0	0	1
Prevailing Wage Violations	8	0	1	0	0	9
ARRA Whistleblower	0	1	0	0	0	1
Corruption <sup>*</sup>	1	1	0	1	0	3
<b>Total</b>	<b>44</b>	<b>10</b>	<b>9</b>	<b>2</b>	<b>1</b>	<b>66</b>

Source: OIG

<sup>\*</sup> This type of investigation involves allegedly dishonest or fraudulent conduct by individuals who are responsible for overseeing ARRA-funded projects.

These investigations illustrate the need for DOT to take action to deter fraudulent activity on all DOT-funded projects. Our office has provided fraud awareness and prevention presentations to over 20,000 DOT officials, State departments of transportation officials, local transit authority staff, and aviation authorities. However, Operating Administrations’ role in outreach is also critical to ensuring recipients of Federal grants and contracts have meaningful ethics programs and sound internal controls.

### **Defining Clear Goals To Guide FRA in Its Transformation**

The 2008 Passenger Rail Investment and Improvement Act (PRIIA) dramatically realigned and expanded FRA’s roles and responsibilities. In addition, ARRA infused an unprecedented amount of new capital into new passenger rail programs and drastically accelerated timeframes for implementation. FRA has been challenged to establish specific goals to guide its transformation and measure progress—largely because it has yet to complete a long-range National Rail Plan, as required by PRIIA.

A complete rail plan—one that is consistent with approved State plans—would provide a blueprint for an efficient national system of passenger and freight rail corridors. While FRA issued a Preliminary National Rail Plan and Progress Report—in October 2009 and September 2010, respectively—neither defines specific goals to guide States’ intercity passenger rail planning and encourage private sector support of State programs. At the same time, the roles various stakeholders will play in intercity passenger rail remain unclear. FRA recognizes that successful implementation of

high-speed intercity passenger rail requires participation from a number of industry stakeholders—from freight railroads to equipment manufacturers. However, it has not specified what stakeholders' roles will be. Rail industry stakeholders have expressed optimism about increased public investment in intercity passenger rail, but without a complete National Rail Plan there is uncertainty about how effectively private stakeholders can participate in the intercity passenger rail market.

According to FRA staff, the lack of a complete National Rail Plan has also delayed FRA's efforts to develop the PRIIA-mandated schedule for achieving specific, measurable performance goals that include estimated funds and staff resources needed to accomplish each goal. PRIIA requires FRA to submit the schedule to Congress with the President's budget each fiscal year, starting with fiscal year 2010, along with an assessment of progress towards achieving the performance goals. However, FRA has not submitted this schedule or progress assessments to Congress. Completing the schedule could provide the basis for FRA to prioritize its ongoing and outstanding responsibilities, such as completing policies and procedures related to high-speed rail, help allocate resources to accomplish the work planned, and report on progress.

### **Using Department Credit Programs To Leverage Limited Federal Transportation Infrastructure Resources**

The National Surface Transportation Infrastructure Financing Commission estimates that nearly \$100 billion in Federal investments is needed annually to preserve and enhance our Nation's surface transportation infrastructure.<sup>9</sup> The Highway Trust Fund (HTF) falls well short of this mark, typically devoting less than \$45 billion per year to roadways and transit systems. Moreover, in recent years, HTF receipts have fallen significantly short of HTF outlays. To strengthen the Nation's ability to meet its increasing surface transportation infrastructure needs, the Department must maximize the effectiveness of its credit programs and expand the use of innovative financing techniques such as public private partnerships (PPP), where appropriate.

To date, only a small percentage of authorized funds for the Department's Railroad Rehabilitation and Infrastructure Financing (RRIF), and the Tax-Exempt Private Activity Bond (PAB) credit programs have been used. Since RRIF was established in 1998, FRA has made loans to railroads totaling approximately \$1.6 billion—roughly 4.5 percent of RRIF's total authorization of \$35 billion. Application costs, which include the credit risk premium (CRP),<sup>10</sup> and lengthy application review periods appear to contribute to RRIF's underutilization. Similarly, the Department's PAB program, established in 2005, has issued only \$2.2 billion in bonds to date, or about 15 percent of PAB's total authorization of \$15 billion. An additional \$4.8 billion has

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<sup>9</sup> "Paying Our Way: A New Framework for Transportation Finance, Report of the National Surface Transportation Infrastructure Financing Commission," February 26, 2009.

<sup>10</sup> CRP equals the net present value of expected losses due to default, delinquency, or prepayment. The CRP is based primarily on two factors: the financial viability of the applicant and the value of the collateral provided to secure the debt.

been approved, but not yet issued. Even though the opportunity for low-cost, tax-exempt financing under the PAB credit program is intended to increase private sector investment in transportation infrastructure projects, demand for PAB financing remains relatively low for surface transportation projects. As with RRIF, the upfront costs associated with issuing PABs may be contributing to the program's underutilization.

In addition, MARAD's Title XI Federal Ship Financing Program (Title XI) currently has over \$27 million in available appropriations that can be leveraged as much as twentyfold to guarantee more than \$500 million in loans. However, Title XI has experienced a number of defaults in recent years, costing the Department roughly \$795 million in lost loan guarantees. After our 2003 and 2004 reports<sup>11</sup> outlined concerns about potential increases in defaults due to program administration weaknesses, Congress cut off program funding from fiscal year 2003 through fiscal year 2007. In December 2010, following up on MARAD's implementation of our recommendations arising from prior audits, we continued to raise concerns regarding MARAD's oversight and monitoring of the Title XI program. Improved monitoring by MARAD could result in expanding the use of the program and further leverage Federal support of transportation infrastructure projects.

In contrast, the Transportation Infrastructure Finance and Innovation Act (TIFIA) credit program is oversubscribed. TIFIA provides a platform that combines PPPs with a number of other Federal and State funding sources in a manner that makes PPPs more financially attractive to private investors. Unlike RRIF, the Department can use TIFIA funds to pay 100 percent of CRP—the most significant component of the application cost—associated with TIFIA financing. To date, TIFIA has provided credit assistance of \$8.7 billion for 25 highway and transit projects with a total cost of \$33 billion. However, 10 years into the program, total credit requests began exceeding annual CRP appropriations. For fiscal year 2012, TIFIA has a backlog of 26 applications for projects totaling \$36 billion. Recognizing the significant demand for TIFIA, recent legislative proposals in both the House and Senate version of the next surface transportation authorization included an increase in TIFIA's annual CRP appropriation to \$1 billion. To further expand the breadth of the program, the Department is considering allowing applicants to pay the CRP (similar to RRIF), as regulations permit, and thereby alleviate reliance on appropriations. However, the need for upfront capital could deter certain applicants. Increasing TIFIA's program capacity could also strain the administrative resources to monitor and manage the program.

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<sup>11</sup> OIG Report Number CR-2003, "Title XI Loan Guarantee Program," March 27, 2003, and OIG Report Number CR-2004-095, "Title XI Loan Guarantee Program," September 28, 2004.

## **CONCLUSION**

Ensuring the Nation's airspace, highway, rail and transit, and pipeline systems are safe, while maintaining a viable transportation infrastructure and protecting taxpayer dollars from fraud, waste, and abuse is a daunting mission. The Department's many recent and ongoing initiatives clearly demonstrate its commitment to this mission; however, a number of ongoing and emerging management challenges remain. Our individual and cross-cutting work on these challenges helps the Department and Congress identify opportunities for program improvements and cost savings, which is particularly critical in our current budget environment. We appreciate the Subcommittee's support of our office. Without it, we would not have the resources needed to conduct comprehensive oversight of DOT's programs and activities. We work diligently to prioritize and focus OIG's finite resources on areas of high-risk within the Department and of particular interest to Congress. We will continue to work with this Subcommittee on prioritizing the competing demands for our resources and we remain committed to meeting your legislative and oversight priorities.

This concludes my statement. I will be happy to answer any questions you or Members of the Subcommittee may have.

## **EXHIBIT. DOT'S FISCAL YEAR 2012 TOP MANAGEMENT CHALLENGES**

We identified the following nine challenges in our November 15, 2011, report, "Top Management Challenges for Fiscal Year 2012, Department of Transportation."

- Enhancing the Department's Oversight of Highway, Bridge, and Transit Safety
- Ensuring Effective Oversight on Key Initiatives That Can Improve Aviation Safety
- Ensuring Effective Oversight of Hazardous Liquid and Natural Gas Pipeline Safety
- Ensuring Effective Oversight of ARRA Projects and Applying Related Lessons Learned To Improve DOT's Infrastructure Programs
- Managing the Next Generation Air Transportation System Advancement While Controlling Costs
- Managing DOT Acquisitions in a More Strategic Manner To Maximize Limited Resources and Achieve Better Mission Results
- Improving the Department's Cyber Security
- Defining Clear Goals To Guide the Federal Railroad Administration in Its Transformation
- Utilizing Department Credit Programs To Leverage Limited Federal Transportation Infrastructure Resources