

**SUPPLEMENT TO DOT/OIG JULY 8, 2003 TESTIMONY BEFORE
THE HOUSE BUDGET COMMITTEE:**

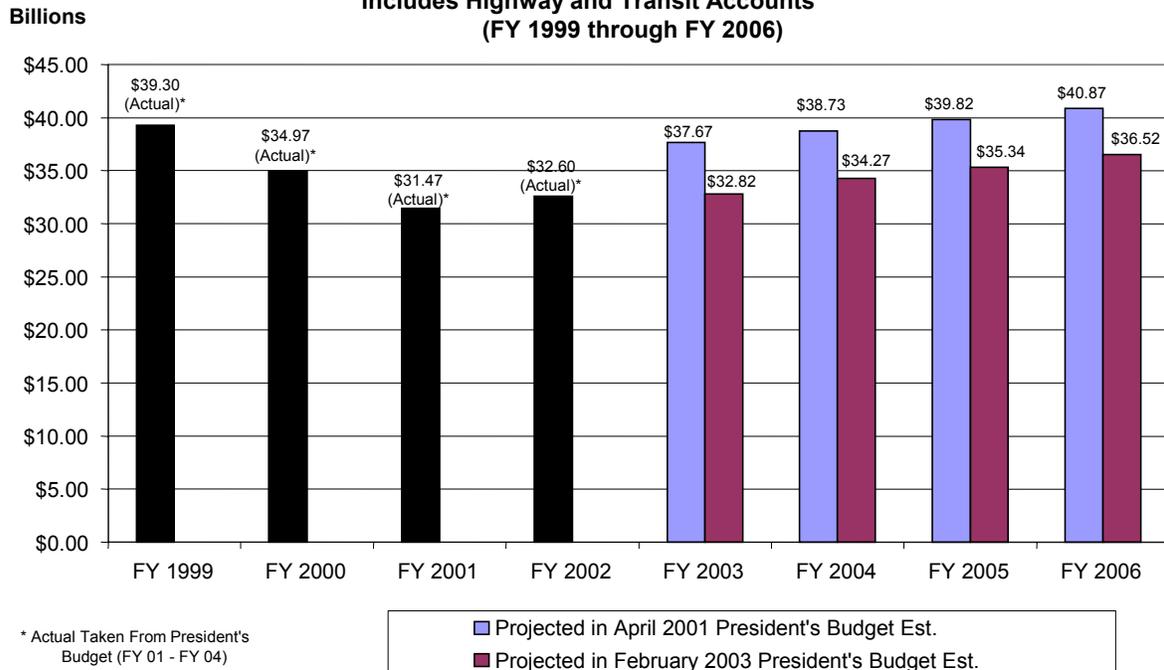
**OPPORTUNITIES TO REDUCE COSTS AND IMPROVE THE
EFFECTIVENESS OF DEPARTMENT OF TRANSPORTATION
PROGRAMS**

**FEDERAL HIGHWAY ADMINISTRATION AND
FEDERAL TRANSIT ADMINISTRATION**

In Fiscal Year (FY) 2004, the Federal Highway Administration (FHWA) requested \$30.2 billion (all from the Highway Trust Fund) for grants to states and local governments to build and repair highways and to reduce highway injuries and fatalities. These investments facilitate economic growth, increase mobility, and improve safety. For FY 2004, the Federal Transit Administration (FTA) requested \$7.2 billion (\$5.9 billion from the Highway Trust Fund and \$1.3 billion from the General Fund) for grants to transit operators, and to state and local governments to construct transit facilities and purchase transit equipment.

However, Highway Trust Fund tax receipts have fallen from \$39.3 billion in FY 1999 to \$31.5 billion in FY 2001, a 20 percent decline. Current estimates show that between FY 2003 and FY 2006, Highway Trust Fund tax revenues will be about \$18 billion less than projections made in April 2001, and are not expected to return to the FY 1999 level until FY 2008.

**Figure 1
Actual and Projected Highway Trust Fund Tax Revenue
Includes Highway and Transit Accounts
(FY 1999 through FY 2006)**



Whether funds are lost to cost overruns, schedule delays, or fraud, the result is the same—fewer resources are available for important transportation projects. To illustrate, if the efficiency with which the \$500 billion invested by the Federal Government and states over the last 6 years on highway projects had been improved by only 1 percent, an additional \$5 billion would be made available—enough to fund 4 of the 15 active major highway projects.

Although proposals have been made to increase funding for Federal-aid Highways, and these proposals may have merit, we believe considerably more can and should be done to stretch Federal dollars by ensuring that funds are spent cost effectively. The key issue for FHWA and FTA is ensuring that major projects are delivered on time, on budget, and free from fraud. Secretary Mineta has emphasized improving oversight and has fully supported our work to identify ways to get better value for the Federal investment. We have identified a number of ways, based on our audit and investigative work, that FHWA and FTA could do a better job. These are:

Making Better Use of Available Funds

- FHWA must be more vigilant in identifying and redeploying funds sitting idle on inactive projects. Our work has identified \$238 million in funds no longer associated with valid projects or liabilities. Of this amount, \$54 million had been idle for 16 years on a freeway project in Connecticut that had never been started. Funds on inactive projects should be redeployed to active projects.

Strengthening Project Management of Federally-Funded Highway and Transit Projects to Minimize Significant Cost Increases, Financing Problems, Schedule Delays, and Technical or Construction Difficulties

- Unreliable cost estimates on major highway and transit projects have led to substantial cost increases in the long-run. We found the Virginia Department of Transportation (VDOT) understated project cost estimates by \$236.5 million on the Springfield Interchange Project, or 35 percent, by not including estimates for some known and planned costs.
- In 2002, Maryland officials managing the Wilson Bridge Project did not adopt a value engineering proposal to change from one type of girder to another. At our request, FHWA advised the state to more objectively reexamine the proposal. Project officials accepted it as a design change and saved \$59 million.
- FHWA and FTA should ensure that master schedules that tie together the work of all the contractors and identify and track the costs of labor, material, and equipment resources required to complete each task are used on major projects and are based on accurate and reliable data.
- FHWA had not ensured that the Central Artery/Tunnel Project in Boston took aggressive action to recover costs of design errors or omissions caused by engineering consultants.

Eight years of cost recovery efforts have led to only \$30,000 in recoveries from a single consultant—less than one-tenth of 1 percent of the amount in question.

- Finance plans that identify cost, schedule, funding, and risks to projects are not usually required for projects costing under \$1 billion, although such projects can also burden a state's management resources.
- State plans, which are representations to the taxpayers of how the states intend to use the taxpayers' money to meet their transportation needs, are not always realistic. We found that of the 152 interstate, primary, and urban construction projects in one state's plans for 1994 to 2000, 30 percent were started on time, 57 percent were delayed, and 13 percent were eliminated primarily due to understated cost estimates that led to insufficient funding.
- FHWA lacks the expertise to effectively oversee major projects and state management processes and should restructure its staffing mix to bring the right set of skills to bear on oversight activities.

Preventing Fraud and Increasing Revenue Collections

- During the last 4 1/2 years, fraud indictments have tripled, convictions have doubled, and monetary recoveries have totaled more than \$80 million.
- Fuel tax fraud may drain the Highway Trust Fund of an estimated \$1 billion annually, which can be mitigated with strengthened enforcement and investigative efforts to increase tax collections.

The demand for highway and transit funds remains great. The Department estimates that a \$75.9 billion average annual capital investment from all levels of government will be required through 2020 to maintain the condition and performance of the Nation's highways and bridges at the 2000 level, and a \$14.8 billion average annual investment will be required to maintain transit assets at the 2000 level. To expand system capacity and improve the condition of these assets, annual average investment requirements would increase to \$106.9 billion for highways and bridges and \$20.6 billion for transit. All of these investment projections are significantly above Federal, state, and local annual capital spending levels for highway, bridge, and transit investments in the last 6 years.

We have reviewed a number of large projects that stand as examples of good project management: projects such as Utah's I-15; New Jersey's Hudson Bergen Light Rail project; and California's Alameda Corridor. In contrast, we have reviewed projects in which management and oversight were ineffective, leading to significant cost increases, financing problems, schedule delays, and/or technical or construction difficulties. These projects include the Central Artery in Boston, Massachusetts; the Woodrow Wilson Bridge in the Washington, D.C. area; the Springfield Interchange in Virginia; the Tren Urbano transit system in Puerto Rico; and the Los Angeles Metro Red Line and the San Francisco Bay Area Rapid Transit (BART) Airport Extension in California. In each of those cases, project management has agreed to take action to correct the deficiencies we

reported. Many of these problems, as noted below, resulted from unreliable cost estimates; a not using proven management tools, such as finance plans and master schedules; and weaknesses in Federal oversight.

Redeploying Millions of Dollars in Idle Funds to Other Projects. FHWA must be more vigilant in identifying funds that are no longer needed by states. These funds, sitting idle on inactive projects, can be used to fund active projects. In 2001, we found \$238 million in funding that was obligated but never spent on specific projects that should have been redeployed to other projects. Of this amount, \$54 million had been sitting idle for 16 years on a freeway project in Connecticut that had not been constructed. The funds were subsequently de-obligated and used for other valid transportation projects or returned to the U.S. Treasury.

Preparing Reliable Cost Estimates. One problem we have seen repeatedly is that cost estimates on major highway and transit projects have been unreliable and have resulted in substantial cost increases in the long-run. The most recent example of this problem occurred on the Springfield Interchange Project. We found that the Virginia Department of Transportation (VDOT) understated project cost estimates by \$236.5 million, or 35 percent, by not including some known and planned costs, such as \$43 million for preliminary engineering and design and \$44 million for inflation. In addition, the baseline estimate for this project was prepared using design plans that were only 15 to 20 percent complete, which is far too early in the design to produce reliable estimates. VDOT agreed with our findings and has incorporated previously omitted costs in the Project's \$676.5 million budget. We also found unreliable cost estimates on the BART project. Our April 2000 report noted that the project's cost had increased by \$316 million over the initial cost estimate.

As a result of finance plan requirements, FHWA has issued minimum cost estimating standards for projects costing \$1 billion or more. Yet for the vast majority of projects, those costing less than \$1 billion, FHWA has not established minimum cost estimating standards. In response to our recommendation, FHWA plans to issue draft cost estimating guidance for projects below \$1 billion by August 2003.

Implementing the Most Cost-Effective Projects and Engineering Alternatives. To maximize the return on transportation investments, the Federal Government could do more to help project sponsors identify more cost-effective solutions both when analyzing alternatives when defining the specific project characteristics. Based on reviews of alternatives during the project development process, the Miami-Dade Transit Agency expanded its existing busway system after determining that a heavy rail system would have cost 10 times as much to build,

and a light rail system would have cost 4 times as much. In the testimony before the House Appropriations Committee, Subcommittee on Transportation, Treasury, and Related Agencies, in April 2003, the FTA Administrator discussed FTA's plans to help project sponsors make decisions based on cost-benefit analyses.

FHWA's value engineering (VE) program, established in 1997, requires that a study be performed on all Federal-aid National Highway System projects with an estimated cost of \$25 million or more and on other projects where using VE has a high potential for cost savings. According to FHWA's FY 2001 Annual Federal-aid VE Summary Report, the latest report available, the states' VE studies included 2,013 recommendations estimated to save \$2.4 billion. FHWA and the states approved about 50 percent of the recommendations made in FY 2001, saving approximately \$865 million, or 36 percent of the total value of VE recommendations.

For example, in 2002 Maryland officials who manage the Wilson Bridge Project decided not to adopt a VE proposal to change from one type of girder to another. Maryland officials claimed that the VE proposal would cause significant delays that could result in additional costs. However, we conducted a review and found that the proposal was technically feasible and would not result in a cost increase or delay the schedule. After FHWA advised the state to more objectively reexamine the VE proposal, project officials accepted it as a design change and saved \$59 million.

Recovering Overpayments and Resolving Construction Claims Promptly. Change orders to contracts are initiated by the project or contractors in response to changes in the project's scope or differing site conditions. However, some change orders are a result of design errors or omissions caused by consultant engineers. Recovering funds paid on these change orders offers an opportunity to reduce project costs, which benefits the Federal and state governments. Maintaining tight control over change orders and promptly resolving outstanding construction claims are key in controlling project costs. For example, the Central Artery/Tunnel Project (the Project) in Boston might be able to reduce Project costs by aggressively pursuing opportunities to recover costs of design errors or omissions caused by engineering consultants.

To date, the Project's cost recovery efforts have been anemic. First, 8 years of cost recovery efforts have led to only \$30,000 in recoveries from a single consultant—less than one-tenth of 1 percent (.056 percent) of the amount in question. Furthermore, the Project has 295 unresolved change orders, valued at \$188 million, of which 76 have been outstanding for 2 to 7 years. Finally, the Project has 3,200 unresolved claims totaling about \$1 billion and has reserved \$633 million or 63 percent of the total exposure to cover the cost of settlements.

Preparing Finance Plans to Identify Cost, Schedule, Funding, and Risks to the Project. Finance plans are not usually required for highway projects costing under \$1 billion, although such projects can also burden a state's management resources. A finance plan is a vital management tool that provides project managers and the public with information on how much a project is expected to cost, when it will be completed, whether adequate funding is committed to the project, and whether there are risks to completing the project on time and within budget.

Our work has shown that adding a legislative provision in TEA-21 requiring finance plans for projects costing more than \$1 billion was a wise decision on the part of Congress. FHWA reviews and approves those plans and should continue to do so. In our opinion, finance plans should be prepared for projects costing \$100 million or more, and responsibility for approving those plans should be delegated to the states, with the Secretary reserving the right to review any plan. If states plan to spend \$100 million or more of taxpayer money, it is reasonable to require them to develop an approved finance plan that identifies project costs, milestones, and funding sources. The Department has incorporated this new requirement in its reauthorization proposal.

Ensuring That Statewide Plans Properly Represent to the Taxpayers How Funds Will Be Spent. State plans are representations to the taxpayers of how the states intend to use the taxpayers' money to meet their transportation needs and identify the projects that will be funded, their costs, schedules, and funding sources. However, these plans are not always realistic. For example, we found that of the 152 interstate, primary, and urban construction projects in one state's plans for 1994 to 2000, 30 percent were started on time, 57 percent were delayed, and 13 percent were eliminated. One reason this occurred was that cost estimates included in the plan understated the actual cost of the projects, making the funding identified for the overall highway construction program insufficient. Despite these problems, FHWA had approved the plans.

Refocusing FHWA Efforts on Project Management and Financial Oversight. The failure to properly oversee states' project management practices has contributed to increased project costs. Our work has disclosed that until recently, FHWA managers rarely focused on program and major project management and financial oversight. FHWA took a partnership approach in exercising its oversight role of Federal-aid Highway projects, with FHWA channeling money for highways to the states and working with state highway personnel to administer highway contracts. This partnership is important, but it is equally important that FHWA be willing to step back and make the hard calls when necessary. For example, at the time the Central Artery announced a \$1.4 billion cost increase in 2000, FHWA had approved thousands of engineering design changes.

Nonetheless, FHWA was caught unaware when the cost increase was announced, even though it had just approved the Project's finance plan.

Today's highway projects require professional competencies in emerging technologies, financing, cost-estimating, program analysis, environmental processes, and schedule management. Yet, FHWA's expertise in these areas is limited because its workforce is structured primarily around engineering skills that were in greater demand during construction of the interstate system. Of FHWA's workforce of 2,860 employees, 1,130 or approximately 40 percent, are highway engineers. Yet, in the remaining 60 percent, or 1,730 employees, specialists skills needed to oversee state management processes are in short supply. For example, FHWA employs 88 financial specialists, who primarily perform financial management tasks internal to FHWA, rather than analyzing project finance plans and evaluating state financial management processes. Accordingly, FHWA should restructure its staffing mix to bring the right set of skills to bear on oversight activities. This is not to suggest FHWA needs more staff. A strategy for achieving a more multi-disciplinary approach to oversight activities within current staffing levels could include a mix of actions such as:

- hiring staff with private sector project management skills, that is, financing, program analysis, and cost estimating; and
- streamlining and delegating project-level approvals to the states so that staff time can be refocused on overseeing program-level management and financial issues.

Detecting and Preventing Fraud. Fraud in highway and transit construction projects remains a significant concern, although it has not reached the levels experienced in the 1960's and 1970's. During the last 4 ½ years, highway and transit-related fraud indictments have tripled, convictions have doubled, and monetary recoveries have totaled more than \$80 million. We currently have over 100 ongoing investigations of infrastructure projects or contracts. Fraud schemes that we are commonly seeing today include bid-rigging and collusion among contractors; false claims for work or materials not provided on the project; product substitution by contractors or vendors who provide substandard or inferior materials; bribery of inspectors to look the other way on poor quality work or materials; failure by contractors to pay workers required prevailing wages; and fraud against the Disadvantaged Business Enterprise (DBE) Program for minority and women contractors.

We have found that DBE fraud is an area with serious enforcement and compliance problems, and requires more attention. Our work has disclosed that compliance problems with DBE Program regulations appear to be nationwide in

scope with over 30 ongoing investigations in 16 states. This type of fraud typically involves prime contractors who conspire with “false front” DBE firms to fraudulently meet required DBE participation criteria in order to obtain contracts. In such cases, DBEs either do not perform the work or yield total control of personnel and operations to the prime contractors. This crime defrauds the integrity of the DBE program and harms legitimate DBEs who abide by the law.

In June 2003, as a result of its role in a DBE fraud scheme, a California concrete company operating as a DBE in the San Francisco Bay area, agreed to forfeit \$1 million and accepted a voluntary 2 year exclusion from seeking contracts on DOT funded projects, as well as contracts with the City of San Francisco and the State of California. The company and its principals will also refrain from applying for any DBE certifications for 5 years.

Debarment—Debarment is one administrative tool that can be used to protect the Government’s interest against fraud on transportation projects. Under current regulations, the Operating Administrations have wide discretion in determining whether or not to debar convicted contractors who, even though they have been convicted of defrauding Federal-aid projects, are also allowed to appeal debarments at any time. For example,

- In 2001 three major construction companies in the New York City area, co-owned by the Scalamandre brothers, pled guilty to felony fraud charges involving payoffs to organized crime to influence labor unions on FHWA-funded road projects. Because debarment is not mandatory under the current Federal-aid rules, it took over 6 months after conviction to obtain a 3-year debarment. Now, 1 year after debarment, the companies are appealing to FHWA to lift their debarment. Should FHWA turn down this appeal, the companies can file subsequent appeals with FHWA burdening the Agency by requiring it to invest additional time and legal resources to defend its action. At our recommendation, the Department has proposed language in its highway reauthorization proposal to make debarment mandatory and final when a contractor is convicted of fraud.

Sharing Federal Recoveries with States—States are the first line of defense in preventing and detecting fraud in transportation projects. Since state programs are the first to be damaged by fraud, allowing states to share in Federal monetary recoveries would help to restore their programs and provide support for further fraud deterrence and detection efforts. However, states normally do not receive a portion of any monies recovered in successful fraud prosecutions because fines and recoveries from Federal case judgments must be returned to the Federal Treasury unless a judge determines otherwise or the law is changed to allow states to share in Federal fines and recoveries. For example,

- Recently, the United States and Louisiana shared a \$30 million recovery stemming from a civil settlement with Contech Construction Products, Incorporated, and Ispat-Inland, Incorporated involving product substitution fraud. The companies substituted sub-standard polymer-coated steel culvert pipe used in highway and road construction projects in Louisiana from 1992 through 1997. Under the settlement agreement, the state of Louisiana received \$5.2 million to compensate for the cost of the investigation and losses due to the product substitution, and another \$5.4 million as a credit to its unobligated FHWA balance for use on future projects.

Increasing Revenue Collections. Although the exact loss is difficult to quantify, FHWA estimates that fuel tax fraud drains the Highway Trust Fund of an estimated \$1 billion annually, which can be mitigated with strengthened enforcement and investigative efforts to increase tax collections. For example,

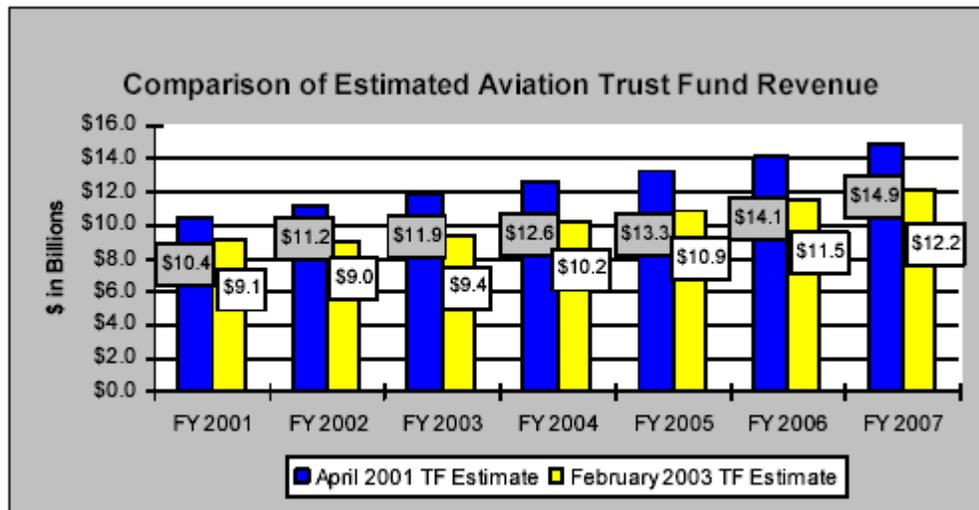
- Cross-border bootlegging of fuel typically occurs when bordering states have a significant difference in their motor fuel tax rates. Bootleggers profit from the difference between the taxes charged in low-tax and high-tax jurisdictions by purchasing fuel—and paying the associated tax—in a low-tax jurisdiction, and then smuggling the fuel into a high-tax jurisdiction where they sell it and pocket the difference in taxes. The Federal tax code restricts the Internal Revenue Service’s ability to share taxpayer information with all state and Federal agencies having an interest in the information, which makes it extremely difficult to investigate this crime.

At the Federal level, aviation “jet” fuel tax evasion is an area several independent petroleum industry analysts allege is possibly costing billions of dollars of lost tax revenues, and which requires further examination. Tax evasion opportunities exist, in part, because jet fuel is sold tax-free to wholesalers and is not taxed until sold to an end user such as an airline. Taxing jet fuel at the terminal rack¹ would bring it into conformity with Federal gasoline and diesel fuel taxes and could help reduce this evasion opportunity. For example, according to a recent KPMG Consulting analysis, one year after Florida began taxing aviation fuel at the rack in 1996 it experienced a 21.4 percent increase in aviation fuel tax collections. While Florida’s experience is not conclusive, it does illustrate the potential to increase tax collections by moving the point of taxation to the rack and reducing tax evasion opportunities.

¹ The Tax Reform Act of 1986, effective January 1, 1988, changed the point of taxation for gasoline tax collection from the wholesaler/distributor to the fuel terminal (or “rack”), which is the last “bulk storage” point in the distribution chain. The Omnibus Budget Reconciliation Act of 1993, effective January 1, 1994, similarly changed the point of taxation for diesel fuels from the wholesaler/distributor to the fuel terminal (or “rack”).

FEDERAL AVIATION ADMINISTRATION

For FY 2004, the Federal Aviation Administration's (FAA) budget request is \$14 billion, which is 26 percent of DOT's budget, representing a 3 percent increase above the FY 2003 appropriations of \$13.6 billion. FAA's budget request exceeds projected Aviation Trust Fund revenues in FY 2004 by over \$3 billion. In fact, projected tax receipts to the Aviation Trust Fund for FY 2004 have dropped from approximately \$12.6 billion estimated in April 2001 to about \$10.2 billion estimated in February 2003.



Over the next 4 years (FY 2004 through FY 2007), Aviation Trust Fund tax revenues are expected to be about \$10 billion less than projections made in April 2001. Assuming no new taxes or fees, this shortfall will have to be made up either by drawing down the uncommitted balance of the Trust Fund or tapping the General Fund.

In 1996, Congress acted to make FAA a performance-based organization by giving the Agency two powerful tools—personnel reform and acquisition reform. The expectation was that, being relieved from Government personnel and procurement rules, FAA would operate more like a business—that is, services would be provided to users cost effectively and air traffic control modernization programs would be delivered approximately on time and within budget.

Seven years later, we do not see sufficient progress toward achieving those outcomes. FAA's budget has grown from \$8.2 billion in FY 1996 to \$14 billion in FY 2004—an increase of \$5.8 billion, or over 70 percent. About 33 percent of this increase was a result of higher airport funding, and about 15 percent was a result of increases in FAA's modernization budget, but the largest portion of this

increase (52 percent) was attributable to FAA's operating budget. During this period, we have also seen large cost overruns and schedule slips in FAA's major acquisitions. Continued growth of that magnitude is unsustainable, given the multibillion-dollar declines in projected Aviation Trust Fund receipts, and greater dependence of FAA on the General Fund.

FAA's Spiraling Operating Costs Are Unsustainable and Need to Be Brought Under Control

- FAA operating costs, which are primarily payroll, have increased 65 percent since personnel reform. Much of the increase has been as a result of workforce cost increases negotiated under FAA's personnel reform authority.
- Although linking pay and performance was a key tenet of personnel reform, only about 36 percent of FAA employees receive pay increases based on individual performance.
- FAA has not implemented a cost accounting system and labor distribution system for measuring the costs and productivity of its activities and workforce.
- FAA needs to take advantage of existing opportunities to reduce costs, such as consolidating flight service station operations which could save FAA \$500 million over 7 years.

FAA's Major Acquisitions Continue to Experience Large Cost Increases, Extended Schedule Delays, and Performance Problems

- Fourteen of 20 major acquisitions that we track have experienced substantial cost growth totaling more than \$4.3 billion, which is more than an entire year's budget for FAA's modernization account.
- Thirteen of those 20 acquisitions have experienced schedule slips of up to 7 years.
- Many projects—both old and new—do not have reliable cost and schedule baselines. As a result, FAA cannot effectively plan, manage programs, or meet expectations for improving the safety and efficiency of the National Airspace System.
- Billion dollar cost growth with acquisitions is not sustainable given there are several multi-billion, complex projects just getting started. FAA must fund these projects while at the same time funding projects that have been delayed for several years.

FAA Needs to Strengthen Controls Over Programs That Have Been Susceptible to Fraud, Waste, and Abuse.

- FAA has not followed sound business practices for administering contracts. We found every stage of contract management, from contract award to closeout, was deficient, and lacked basic principles of sound contract administration.
- We found significant indications of abuse involving workers' compensation claims.
- At 5 airports sampled, we found approximately \$40.9 million in potential airport revenue diversions that were not detected by FAA's primary oversight methods.

FAA's Spiraling Operating Costs Are Unsustainable and Need to Be Brought Under Control

Although Congress envisioned that personnel reform would result in more cost-effective operations, this has not happened. To date, the most visible results of personnel reform are increased workforce costs. While labor/management relations with controllers (FAA's largest workforce) have improved, FAA's operating costs, which are primarily payroll, have increased by \$3 billion, going from \$4.6 billion in FY 1996 to \$7.6 billion in FY 2004—an increase of over 65 percent.

Much of that increase has been a result of salary increases negotiated under personnel reform. The new pay system for controllers was a significant cost driver. Between 1998 (when the new system was implemented) and 2003, the average base pay for controllers has increased 47 percent. This compares to an average salary increase for all other FAA employees during the same period of about 32 percent. Although linking pay and performance was a key tenet of personnel reform, only about 36 percent of FAA employees receive pay increases based on individual performance. The remainder of FAA employees receives largely automatic pay increases.

We also found that FAA and the National Air Traffic Controllers Association (NATCA), FAA's largest union, have entered into hundreds of side bar agreements or memoranda of understanding (MOUs) outside the national collective bargaining agreement. These agreements cover a wide range of issues such as implementing new technology, changes in working conditions and—as a result of personnel reform—compensation, bonuses, and benefits.

While many of the agreements we reviewed serve legitimate purposes, we found some that had significant cost and/or operational impacts on FAA. For example,

- As part of the controller pay system, FAA and NATCA entered into a national MOU providing controllers with an additional cost of living adjustment. As a result, at 111 locations, controllers receive between 1 and 10 percent in “Controller Incentive Pay,” which is in addition to Government-wide locality pay. In FY 2002, the total cost for this additional pay was about \$27 million.

We also reviewed a number of MOUs that provided controllers with salary increases that, in our opinion, were neither justified nor in the best interest of the Government. For example,

- One MOU we reviewed allows controllers transferring to larger consolidated facilities to begin earning the higher salaries associated with their new positions substantially in advance of their transfer or taking on new duties. At one location, controllers received their full salary increases 1 year in advance of their transfer (in some cases going from an annual salary of around \$54,000 to over \$99,000). During that time, they remained in their old location, controlling the same air space, and performing the same duties.

Some MOUs we reviewed provided large incentives to controllers for simply receiving training on new systems. For example,

- One MOU for a new software enhancement for controllers gave each controller a \$500 cash award and a 24-hour time-off award for meeting certain training milestones on the new system. The MOU contained no distinction of awards for individual contributions other than coming to work and attending training. In fact, at two locations, 11 controllers received the total \$500 cash award and 16 controllers received the 24 hours of time-off even though they were on detail, on military leave, medically disqualified, or on workers' compensation.

We estimate that at six facilities alone this MOU resulted in FAA incurring approximately \$1.3 million in individual cash awards and 62,500 hours in time off. If a similar agreement were to be reached for the next 14 sites scheduled to receive the new software, we estimate FAA could incur \$53 million in additional overtime costs, over \$3 million in cash awards, and an additional 145,000 hours of time-off awards.

We found controls over the MOU process were inadequate. For example, at the time of our review there was:

- no standard guidance for negotiating, implementing, or signing MOUs;
- broad authority among managers to negotiate MOUs and commit the Agency;
- no requirement for including labor relations specialists in negotiations;
- no requirement for estimating potential cost impacts prior to signing the agreement; and
- no system for tracking MOUs.

Because of the significant control weaknesses, we briefed the FAA Administrator about our concerns in January 2003—2 months after initiating this review. FAA has moved expeditiously to address this issue. For example, FAA is now in the process of identifying those MOUs that are problematic or costly and has begun correspondence with NATCA to reopen several agreements. FAA has also issued new procedures for MOUs, which include limiting approval authority and requiring that both the Human Resources and Budget divisions review proposed

MOUs before they are signed by management. These are clearly steps in the right direction.

Cost Accounting and Labor Distribution Systems. To effectively control costs, FAA needs accurate cost accounting and labor distribution systems. At the direction of Congress, FAA began developing its cost accounting system in 1996, which was estimated at that time to cost about \$12 million and to be completed in October 1998. Now, after nearly 7 years of development and over \$38 million, FAA still does not have an adequate cost accounting system, and it expects to spend at least another \$7 million to deploy the cost accounting system throughout FAA.

Although FAA's cost accounting system is producing cost data for two of its lines of business, which, according to FAA, represent 80 percent of the Agency's costs, it still does not report actual costs for each facility location. For example, for the Terminal Service in FY 2001, about \$1.3 billion of \$2.4 billion was reported in lump-sum totals and not by individual facility locations. FAA cannot credibly claim to be a performance-based organization, nor can it function as one, until it has an effective cost accounting system.

FAA also needs an accurate labor distribution system to track the costs and productivity of its workforces. For example, there has been much discussion as to what extent overtime costs are being driven by staffing levels, but those questions cannot be credibly answered until FAA has an accurate labor distribution system.

Cru-X is the labor distribution system FAA chose to track hours worked by air traffic employees. As designed, Cru-X could have provided credible workforce data for addressing controller concerns about staffing shortages, related overtime expenditures, and how many controllers are needed and where. That information, in turn, is especially important, given projections of pending controller retirements.

However, an agreement between FAA and the controllers' union has removed many of the internal control features of Cru-X including features that record the actual start and stop times worked by controllers. In fact, under provisions of the agreement, Cru-X would automatically sign controllers in and out of their work shifts even if they were not there. It also strips the system's ability to track the amount of time controllers spend actually controlling traffic and performing other collateral duties.

Given the fiscal constraints facing FAA, the availability critical, reliable, and competent data to make informed decisions about the Agency's basic day-to-day operations must be an imperative for FAA. FAA needs to redouble its efforts to

have a fully functional cost accounting and labor distribution system in place and operating. We are encouraged by FAA's response to our June 3, 2003 assessment of its cost accounting system in which the Agency agreed to have both its cost accounting and labor distribution systems in place and operating by September 30, 2004. FAA also agreed to make successful implementation of both systems a precondition to senior executives and program managers receiving annual bonuses.

Other Opportunities to Save Costs. There are also opportunities for FAA to save Government funds while maintaining safety and system efficiency. For example, we estimated FAA could realize cost savings of nearly \$500 million over 7 years without reducing safety or service by reducing the number of existing automated flight service stations by over half in conjunction with deployment of new flight service station software.

We also identified that FAA could save over \$57 million annually by expanding the contract tower program to 71 visual flight rule towers still operated by FAA. Clearly, these actions are controversial among certain groups; however, given the current fiscal issues facing FAA, the agency needs to objectively consider these and other cost saving measures from a business perspective.

FAA's Major Acquisitions Continue to Experience Large Cost Increases, Extended Schedule Delays, and Performance Problems

In terms of acquisition reform, FAA has made progress in reducing the time it takes to award contracts, but the Agency has not held managers accountable or used the benefits of acquisition reform to control cost and schedule slips.

We recently reported that 14 of 20 major acquisitions that we track have experienced substantial cost growth totaling more than \$4.3 billion (from \$6.8 billion to \$11.1 billion), which is more than an entire year's budget for FAA's modernization account.² Also, 13 of the 20 acquisitions have experienced schedule slips ranging from 1 to 7 years. In addition, many projects—both old and new—do not have reliable cost and schedule baselines.

Problems with cost growth, schedule slips, and performance shortfalls have serious consequences—they result in costly interim systems, a reduction in units procured, postponed benefits (in terms of safety and efficiency), or “crowding out” other projects. For example, in FY 2002 alone, FAA reprogrammed over \$40 million from other modernization efforts (data link communications, oceanic modernization, and instrument landing systems) to pay for cost increases

² For additional details, see [Status of FAA's Major Acquisitions](#) (Report Number AV-2003-045, June 26, 2003).

associated with the Standard Terminal Automation Replacement System (STARS)—new controller displays and related equipment for FAA terminal facilities. As a result, FAA is not getting as much as it can for its acquisition dollar.

Multi-billion-dollar cost growth with major acquisitions is not sustainable or affordable. If FAA does not exercise more management control over its acquisitions, existing projects will be further delayed, and new projects may not start as planned. A key focus for FAA must be effective cost control for new projects that are just getting started that are high risk efforts because of their size, complexity, and level of software development work required such as the En Route Automation Modernization program. This a complex effort to replace all software and hardware for facilities that control high altitude traffic and is estimated to cost over \$2.1 billion.

FAA must take a number of steps to control costs of acquisitions and get as much as it can from each acquisition dollars. We recommended FAA update the cost, schedule, and performance baselines for many of its major acquisitions, including STARS and the Local Area Augmentation System (a new precision approach and landing system). Baselines for these and other major acquisitions are misleading because they do not adequately reflect the true cost, schedule, or performance parameters for the project. This process may require FAA to establish a new strategy for modernizing the National Airspace System that accelerates some projects and defers others. We also recommended FAA to develop—and use—performance goals for assessing progress with its major acquisitions. This should involve holding staff and contractors accountable for keeping projects within cost and schedule.

FAA Needs to Strengthen Controls Over Programs That Have Been Susceptible to Waste, Fraud, and Abuse.

Contract Oversight. Our work has also found that FAA has not followed sound business practices for administering contracts. We have consistently found a lack of basic contract administration at every stage of contract management, from contract award to contract closeout. For example, we found that Government cost estimates were:

- prepared by FAA engineers, then ignored;
- prepared using unreliable resource and cost data;
- prepared by the contractor (a direct conflict of interest); or
- not prepared at all.

In our September 2000 report on the Technical Support Services Contract (with a potential cost of \$875 million), we found that FAA did not control costs by developing reliable cost estimates for proposed projects. We found that in the majority of cases, FAA used the contractor's project cost estimate to set the project's budget. We also found that FAA did not evaluate contractor work performance, and nearly 10 percent of the contract personnel reviewed did not meet contract standards for education and experience.

In November 2002, we found that contract oversight of the National Airspace System Implementation Support Contract (NISC) was seriously inadequate. We concluded that of the 46 active task orders having obligated funds totaling \$97 million, approximately \$10 million (10 percent) were in excess of the required amount to fully fund the task order deliverables. As a result, FAA reprogrammed \$5 million from NISC to meet other Agency priorities, and re-baselined NISC task orders to make better use of the remaining funds.

In our May 2002 report on the oversight of cost-reimbursable contracts, we found that contracting officers exercised little effective oversight, and in most cases, lacked the basic information needed to properly manage, pay, and close contracts. We found every stage of contract management was deficient, lacked accountability, and did not adequately protect FAA from waste, fraud, and abuse. For example,

- For the 54 cost-reimbursable contracts totaling \$3.6 billion that we selected, FAA searched for 6 months and could not locate all or significant parts of 22 contract files totaling \$274 million.
- For 19 of the 32 contract files FAA found, totaling \$585 million, FAA did not have the required evidence showing the contractor's accounting system was adequate for cost-reimbursable contracts.
- For 22 of the 32 contracts, totaling \$2 billion, FAA did not obtain incurred-cost audits as required. One contract for system engineering and integration work on the National Airspace System Plan had not received annual audits on the \$1.1 billion of costs incurred for over 12 years.

To protect the Government's interests, FAA needs to hold managers accountable and adhere to the basic principles of contract oversight and administration. FAA also needs to make greater use of Defense Contract Audit Agency audits and institute cost control mechanisms for software-intensive contracts. In addition, FAA needs to (1) develop independent cost estimates for proposed projects that allow FAA to better analyze a contractor's proposed work plan to ensure that costs

are fair and reasonable, and (2) institute greater controls over evaluating education and experience qualifications of proposed contractor personnel.

FAA has stated that it will take actions to address these contractor oversight concerns—the key now is follow through

Workers' Compensation. Our review of the workers' compensation program within FAA's Air Traffic Services division found indications of potential fraud and/or abuse involving stress-related traumatic injury claims. At several locations, we found stress-related claims were being filed by controllers who were simply present when another controller was involved in an operational error (when controllers fail to maintain minimum separation requirements between aircraft) and did not experience the error themselves. Further, we found many of the stress-related injury claimants were repeatedly diagnosed by the same doctors. At one facility, we found that virtually 100 percent of stress-related injury claimants went to the same two psychologists. These doctors, who distributed their cards at the facility, performed the same tests on each controller, completed a form letter on the individual, and specified the necessary time for recuperation. For these services, the doctors received payments from the Government of up to \$500 per claim.

We have also found cases of fraud involving long-term claimants. For example, we investigated one case of an FAA employee who received over \$397,000 in workers' compensation claims over a 5-year period after allegedly falling out of a chair and injuring his back. While receiving those benefits, the individual obtained a pilot's license and was employed as a pilot at various organizations. FAA is currently considering administrative action against the individual pending resolution of this criminal case.

There are also Government-wide improvements that can be made to the Workers' Compensation Program. One issue we previously identified is the number of claimants who continue to receive workers' compensation benefits long after they are eligible to receive retirement benefits. For example, in 2001 for FAA alone, there were nearly 1,500 claimants over the age of 60 who were still receiving workers' compensation benefits. In fact, there were 218 claimants still receiving workers' compensation benefits who were 80 years old or older. Converting claimants from workers' compensation benefits to retirement benefits after they reach retirement age could result in significant savings Government-wide. However, changes of this magnitude would clearly require legislative actions.

Airport Revenue Diversions. The Airport and Airways Improvement Act of 1982 requires that all airports receiving Federal assistance to use revenues generated at the airport for the capital or operating costs of the airport. Any other

use of the airport's revenue is considered a revenue diversion. Examples of common revenue diversions include local governments (1) charging the airport for property or services that were not provided, or (2) renting airport property at less than fair market value.

At a sample of five airport sponsors reviewed, we found approximately \$40.9 million in potential revenue diversions that were not detected by FAA's primary oversight methods. These amounts were not detected because independent auditors of airport sponsors were not sufficiently aware of relevant Office of Management and Budget guidance on auditing airport revenue, and airport sponsors were not adhering to FAA requirements for airport financial reports.

Since we completed our fieldwork, the American Institute of Certified Public Accountants (AICPA) and FAA have taken steps to better inform independent auditors about requirements for reviewing airport revenue use during single audits. In our opinion, the actions taken by the AICPA and FAA, when fully implemented, should improve FAA's ability to detect and prevent airport revenue diversions. However, to ensure that revenue diversions that occurred are resolved, FAA needs to verify the status of the \$40.9 million in potential revenue diversions that we identified and seek recoveries as necessary.

MARITIME ADMINISTRATION

Title XI of the Merchant Marine Act of 1936, as amended, established the Federal Ship Financing Guarantee Program to assist private companies to obtain financing for the construction of ships or to modernize U.S. shipyards. This Program authorizes the Federal Government to guarantee full payment to the lender of the unpaid principal and interest of a commercial debt obligation, with the Government holding a mortgage on the equipment or facilities financed.

MARAD Needs to Strengthen Financial Oversight of Borrowers and Assets

- Our recent work found that all phases of the Title XI loan process need improvement.
- In the last 5 years, nine defaults totaling \$490 million have occurred. One bankruptcy affected over one-quarter of MARAD's loan portfolio value.
- In approving applications, MARAD agreed to waivers and modifications to program financial requirements without adequate compensating provisions to reflect the increased risk to the Government.

- MARAD lacked a formal process to continually monitor the financial condition of borrowers and did not systematically monitor the physical condition of guaranteed assets or ensure the maximum recoveries from foreclosed assets.

Between FYs 1985 and 1987, 129 defaults occurred in the Title XI Program, and MARAD paid out approximately \$2 billion in guarantees. These defaults were attributed to a downturn in the economic conditions in two key industries—oil and agricultural products. The Federal Credit Reform Act of 1990³ was established, in part, to measure more accurately the costs of Federal credit programs. In the 5 years following implementation of this Act (FYs 1993 through 1997), only three loans defaulted, totaling approximately \$12 million.

In recent years, however, the Program has experienced an increase in loan defaults and in the number of firms with loan guarantees filing for bankruptcy protection. In the last 5 years, nine loans have defaulted, totaling approximately \$490 million, six of which have occurred since December 2001. The bankruptcy of one firm significantly affected the Program, although it does not threaten the Program's immediate solvency. That firm's bankruptcy affected over one quarter (\$1.3 billion out of \$4.9 billion at the time of default) of the value of MARAD's Title XI loan guarantee portfolio.

MARAD needs to improve administration and oversight in all phases of the Title XI loan process. During a recent audit, we identified a number of areas where MARAD could improve its Program practices, limit the risk of default, and reduce losses to the Government. Specifically, we recommended that MARAD:

- Perform a rigorous analysis of the risks from modifying any loan approval criteria and impose compensating provisions on the loan guarantee to mitigate those risks;
- Formally establish an external review process as a check on MARAD's internal loan application review and as assistance in crafting loan conditions and covenants;
- Establish a formal process to continuously monitor the financial condition of borrowers, including requirements for financial reporting over the term of the guarantee as a condition of loan approval;
- Establish a formal process to continuously monitor the physical condition of guaranteed assets over the term of the loan guarantee; and

³ Public Law 101-508

- Develop an improved process to monitor the physical condition of foreclosed assets and to recover the maximum amount of funds from their disposal.

MARAD concurred with our recommendations and is designing additional policies and procedures to strengthen its financial oversight practices. One area where MARAD could reduce costs is collecting fees from applicants that fully recover the costs of obtaining an independent analysis of the applications, as we recommended. These analyses would supplement MARAD's in-house reviews and provide valuable third-party expertise and assistance in devising loan packages that reduce the default and loss risks to the Government.

AMTRAK

We are including a brief discussion of Amtrak because even Federal funding levels of \$1 billion a year are not going to solve the fundamental problem: the current Amtrak model is broken. The problem extends beyond funding to questions of who makes the decisions about and who controls the provision of service, including commuter services. The status quo pleases no one; it will require significant increases in funding just to maintain it; and it will not meet the mobility needs of this country in the years ahead.

Although Amtrak has received about \$1 billion in annual Federal assistance during the past 6 years, the general state of Amtrak's infrastructure and rolling stock continue to deteriorate. Amtrak's deferred capital investment is estimated at about \$6 billion and its annual cash operating losses are expected to range between \$700 million and \$800 million over the next 5 years. Amtrak has requested \$1.8 billion for FY 2004 to begin to address the capital backlog and to cover its large cash operating losses. The Administration has requested \$900 million for Amtrak for FY 2004.

Congress and the Administration Need to Consider New Models for Passenger Rail—Focused on Shifting More Decisions to States

- The current model is broken: the system is under-funded and perpetually faces collapse.
- Cash losses have increased considerably in the last 2 years and are expected to exceed \$700 million this year.
- The investment backlog is approaching \$6 billion.
- The vast majority of routes lose money—in some cases \$500 per passenger.

Over the last year, Amtrak's president and the Department have worked diligently to improve cost control and achieve expense savings, and to bring more order to

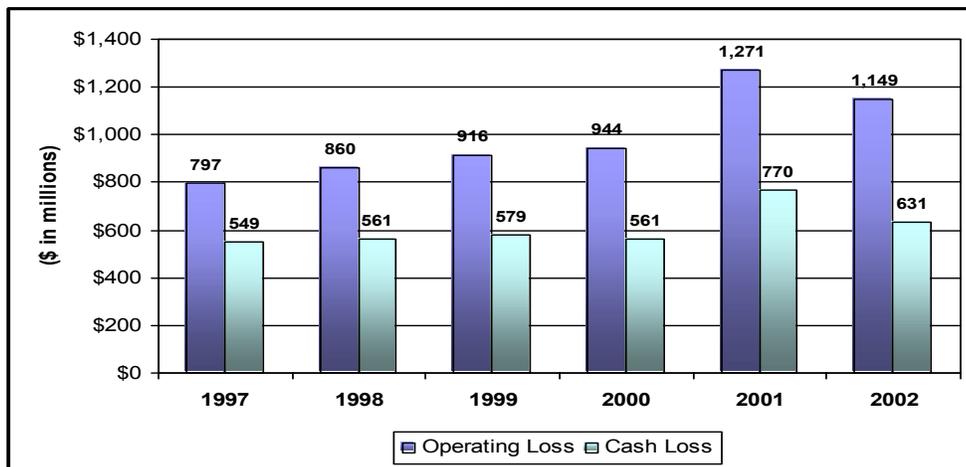
Amtrak's accounting and financial statements. These efforts need to continue. In addition, the Department has been given more authority to oversee and control Amtrak's adherence to its budget, ensuring that it operates within the Federal funding provided.

Despite multiple efforts over the years to change Amtrak's goals, its structure, and its funding, the result always seems to be a status quo that is the product of seemingly inevitable budgetary compromises. These compromises over the years have produced a system that limps along, never in a state of good repair, and perpetually one, two, or three steps from the edge of collapse. These dire straits have been repeated time and again over Amtrak's history. In the end, Amtrak has been tasked to be all things to all people, but insufficiently funded to be fully anything to anyone.

It is a system with a backlog of investment and maintenance needs that has reached at least \$6 billion. Finally, this is a system that, except for a handful of routes, continues to suffer operating losses on all services offered. In fact, the fully allocated losses on some trains (including depreciation and interest) can exceed \$500 per passenger. For the company as a whole, annual cash operating losses have averaged \$600 million for the last 6 years and are estimated to range between \$700 million and \$800 million over the next 5 years.

Figure III

**Growth in Amtrak's Operating and Cash Losses,
1997 Through 2002**



Clearly, one option is to end the Federal role in intercity passenger rail services and leave all service decisions and 100 percent of the funding to the states. While this approach may seem appealing from a Federal budgetary standpoint, especially with large deficits looming, it would not address the mobility needs of certain

congested regions of the country and the benefits that passenger rail may provide. Although these problems exist on local and regional levels, there is a national economic interest in assisting mobility that is the foundation for the Department's transit, highway, and aviation programs.

Another option is to reduce the demand on Federal funds by eliminating all long-distance trains. Although this might eventually save \$300 million or more (after labor protection and other shut-down costs are amortized), it does not come close to solving the \$2 billion funding dilemma. Furthermore, in the past, the long-distance trains have been the political glue that has held together support for intercity passenger rail and Amtrak. Eliminating these trains, without a clear plan to improve mobility through a restructured Federal program, would likely lead to a continuation of a status quo, limp-along Amtrak.

A better option for the future of intercity passenger rail service lies in improving mobility in short-distance corridors around the country (not just in the Northeast Corridor) and in restructuring long-distance services to complement these corridor services. It is in short-distance corridors that the Federal Government and the states should focus their investments to increase speeds, increase frequency, and improve the quality of the services offered. For the \$2 billion that would need to be spent on a steady-state Amtrak system, significantly better service to a greater number of passengers is possible through a refocused Federal program that gives the states more control and authority.

For the successful development of higher speed/higher frequency, short-distance corridors, there must be a new relationship established between the Federal Government and the states. An option is a transition to a Federal passenger rail program that is modeled more on the current transit program. This transition would likely require a number of years for institutional arrangements to be developed among the states (such as multi-state compacts) and for funding arrangements to be completed.

This approach would involve Federal capital grants to the states for investment in short-distance corridors where states would have a more defined and consistent role in determining what services are provided and by whom. The states might choose to contract with Amtrak to operate these services or seek bids from alternative operators. States would also decide on the service attributes such as speed, frequency, and quality.

With control comes funding responsibilities, and the states should be expected to provide capital funds to match in some proportion the Federal grants. Ultimately, these corridors should be self-sufficient from an operating (not necessarily capital) standpoint, either through farebox collections or through state and local subsidies.

Currently, states provide about \$138 million in operating support to Amtrak for corridor trains and provide capital funds on a project-by-project basis.