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# *Office of Inspector General*

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## **Transportation Investment Projects Management and Oversight**

***Federal Transit Administration***

***Report No. RT-2000-063  
Date Issued: March 28, 2000***





# Memorandum

U.S. Department of  
Transportation

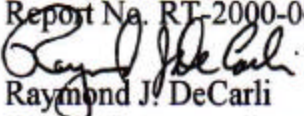
Office of the Secretary  
of Transportation

Office of Inspector General

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Subject: **ACTION:** Transportation Investment Projects  
Management and Oversight  
Report No. RT-2000-063

Date: March 28, 2000

From:   
Raymond J. DeCarli  
Deputy Inspector General

Reply to JA-50  
Attn of:

To: Assistant Secretary for Budget and Programs  
Acting Federal Transit Administrator

On March 8, 2000, at a hearing of the Committee on Appropriations, Subcommittee on Transportation, U.S. House of Representatives, we provided testimony on transit and highway projects costing \$1 billion or more, or projects with congressional interest. Our testimony discussed three points regarding Federal Transit Administration (FTA) management and oversight of these projects. First, full funding grant agreements (grant agreements) have effectively limited the Federal government's financial risks and promoted accountability; second, better guidance is needed for finance plans; and third, the Department of Transportation (DOT) needs to provide effective independent oversight of major projects. A copy of our statement is attached for your information.

FTA uses full funding grant agreements to fund new starts capital investment projects. These grant agreements set the maximum amount of discretionary capital investment funds that can be used for transit projects. However, we have noted several problems with this process.

- First, the competition for discretionary capital investment funds can lead to premature submission of project applications. This can result in the underestimation of project costs, which must later be covered with local funds including other Federal funds.
- Second, there have been instances where the annual Federal appropriations were less than the commitments made in the grant agreements. This requires the grantee to find alternate funding sources or change the construction schedule.

- Third, grantees use other Federal money to fund project cost growth, thereby increasing Federal participation beyond the amount of discretionary capital funds in the grant agreement.
- Finally, transit agencies have requested changes to the scope of their projects through amendments to their existing grant agreements. FTA does not have criteria for deciding whether or when to approve such requests versus requiring a new grant agreement. If major modifications were approved without going through the new starts process, it would disadvantage other new starts by tying up the limited amount of discretionary capital investment funds.

Finance plans are essential tools for identifying project costs and funding needs. However, better criteria are needed to ensure finance plans are complete, reliable, and consistent. We found the quality and completeness of finance plans for highway and transit capital projects to be highly variable. Some finance plans accurately reported costs and identified funding shortfalls. Others needed to be more thorough in disclosing problems and presenting information in a consistent manner over time.

While recognizing that FTA's oversight program has improved in recent years, it is important for FTA to stay on this course, especially in view of the infusion of capital investment in transit.

## **RECOMMENDATIONS**

We recommend that FTA:

1. Establish policies regarding the level of project design that must be completed before a grant agreement can be approved.
2. Establish criteria and/or thresholds for determining whether an additional Federal funding request can be approved as an amendment to an existing grant agreement or whether a new grant agreement is required.

We also recommend that the DOT Assistant Secretary for Budget and Programs ensure that FTA and FHWA develop and institute criteria for finance plans to ensure that they are complete, reliable, and consistent.

At a minimum, we recommend that finance plans submitted to FTA and FHWA:

- Include the assumptions underlying both cost and revenue estimates;
- Report actual versus budgeted amounts for contracts awarded, work performed, and revenue;
- Clearly describe cost trends (e.g., contract change orders and contract award) and the potential impact of those trends on project costs;
- Identify measures being taken to monitor and control costs;

- Identify sources of funding that can be used if costs rise or other anticipated funding is not received;
- Identify significant changes to the scope of the project, and the effect of these changes on the cost and capacity of the project; and
- Identify the grantee's plan for financing existing operations during construction of new or extended segments, as well as its plans for financing all operations, both new and existing, once construction is complete.

### **ACTION REQUIRED**

In accordance with DOT Order 8000.1C, we would appreciate receiving your written comments within 30 days. If you concur with our findings and recommendations, please indicate for each recommendation the specific action taken or planned and target dates for completion. If you do not concur, please provide your rationale. Furthermore, you may provide alternate courses of action that you believe would resolve the issues presented in this report.

We appreciate the courtesies and cooperation extended by your staff. If you have any questions or need further information, please contact me at (202) 366-6767 or Mark Dayton, Acting Deputy Assistant Inspector General for Competition, Rail, Transit and Special Program Audits, at (202) 366-2001.

Attachment

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**Before the Subcommittee on Transportation  
Committee on Appropriations**

**U.S. House of Representatives**

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For Release on Delivery  
expected at  
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March 8, 2000  
Report No. RT-2000-063

**Transportation  
Investment Projects  
Management and  
Oversight**

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**Statement of  
Raymond J. DeCarli  
Deputy Inspector General  
U.S. Department of Transportation**



Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to be here today to discuss transit and highway capital projects.

The focus of our work in this area has been on those transit and highway projects costing more than \$1 billion, or projects with congressional interest. We reviewed seven transit projects with a total estimated cost of approximately \$8 billion and eight highway projects with an estimated total cost of at least \$23 billion. Our reviews assessed cost, schedule, funding, and emerging issues. Attachment 1 contains a description of each on-going project we have reviewed, information on the projects' cost and schedule, and the results of our audits.

Today I want to discuss three points regarding the management and oversight of these projects:

**First, full funding grant agreements have effectively limited the Federal government's financial risks and promoted accountability.** The Federal Transit Administration (FTA) uses full funding grant agreements (grant agreements) to fund new starts capital projects. These grant agreements set the maximum amount of discretionary capital investment funds that can be used for transit projects.

The grant agreements have effectively limited the exposure of the Federal government for project cost increases. They also provide local accountability and incentives for grant recipients to exercise tight control over project costs. Grantees know they must find the funds needed to pay any additional costs and that the Department will not entertain requests for any more discretionary funds.

Of the current 15 projects with grant agreements, 3 had cost increases of approximately \$929 million dollars. None received additional discretionary capital investment funds. For example, the new starts funds committed for the South Boston Piers Transitway remains \$331 million, as established by the 1994 grant agreement, despite an increase of \$188 million in the project's estimated cost.

By contrast, Federal Highway Administration (FHWA) projects have no comparable limitations. For example, the FHWA share of the Central Artery/Ted Williams Tunnel Project has increased by more than \$8 billion as the project's costs have increased from \$2.6 billion to at least \$12.2 billion.

However, we have noted several problems with this process. First, the competition for new starts funds can lead to premature submission of project applications. This can result in the underestimation of project costs, which must later be covered with local funds including other Federal funds. The South Boston Piers Transitway and the Tren Urbano Rail Transit Project were submitted for

approval prematurely. They experienced cost growth of \$188 million and \$425 million, respectively.

Second, there have been instances where the annual Federal appropriations were less than the commitments made in the grant agreements. This requires the grantee to find alternate funding sources or change the construction schedule. From Fiscal Year 1996 through Fiscal Year 2000, 12 projects received about \$321 million less than the scheduled amount in the grant agreement.

Third, grantees use other Federal money to fund project cost growth, thereby increasing Federal participation beyond the amount of discretionary capital funds in the grant agreement. For example, other Federal funds totaling \$556 million are being used to pay for the cost increases on the South Boston Piers Transitway and Tren Urbano Rail Transit Projects.

Finally, transit agencies have requested changes to the scope of their projects through amendments to their existing grant agreements. FTA does not have criteria for deciding whether or when to approve such requests versus requiring a new grant agreement. Where the request is to add a major operating segment, as was the case with the St. Clair extension of the St. Louis MetroLink System, it should not be approved without going through FTA's evaluation and rating process for new starts. If major modifications were approved without going through the process, it would disadvantage other new starts by tying up the limited amount of discretionary capital investment funds.

**Second, better guidance is needed for finance plans.** Finance plans are essential tools for identifying project costs and funding needs. However, better criteria are needed to ensure finance plans are complete, reliable, and consistent. Finance plans describe how projects will be implemented over time. They identify project costs and timing, and the financial resources needed to pay for those costs. At a minimum, finance plans should:

- Include the assumptions underlying both cost and revenue estimates;
- Report actual versus budgeted amounts for contract award costs, the cost of work performed, and revenue;
- Clearly describe cost trends (e.g., contract change orders and contract awards) and the potential impact of those trends on project costs;
- Identify measures being taken to monitor and control costs;
- Identify sources of funding that can be used if costs rise or other anticipated funding is not received;
- Identify significant changes to the scope of projects, and the effect of these changes on the cost and capacity of the project; and
- Identify the grantee's plan for financing existing operations during construction of new or extended segments, as well as its plans for financing all operations, both new and existing, once construction is complete.

We found the quality and completeness of finance plans for highway and transit capital projects to be highly variable. Some finance plans accurately reported costs and identified funding shortfalls. Others needed to be more thorough in disclosing problems and presenting information in a consistent manner over time. For example, the 1999 Finance Plan for the Bay Area Rapid Transit District includes construction costs and operating costs for the new segment; including a 10-year forecast that identifies underlying revenue and expense assumptions; and demonstrates that Bay Area Rapid Transit District has the financial capacity to operate the airport extension, after it opens in mid-2002.

Conversely, our most recent report on the Central Artery/Ted Williams Tunnel Project indicated significant, fundamental problems with its finance plan. The reporting methodology was changed so that the reviewer could only see the cost to complete, not the total project cost. The plan did not report specific cost, funding, and schedule indicators, such as “budgeted cost of work performed,” “actual cost of work performed,” “contract awards versus budget,” “total projected cost by type of cost,” and “annual funding requirements by source.”

**Third, DOT needs to provide effective independent oversight of major projects.** The FTA oversight program is responsible for managing hundreds of grantees and over \$42 billion of major capital projects, including 15 new starts projects with total project costs of over \$10 billion. In the early 1990’s, FTA oversight was on the U.S. General Accounting Office’s High-Risk List. Since then, FTA’s oversight has improved and FTA was one of the few agencies removed from this list. We have found that FTA has not been reluctant to reject finance plans and require changes before approval. It is important for FTA to stay on this course, especially in view of the infusion of capital investment in transit.

FHWA is responsible for overseeing annual budgets for new highway projects averaging more than \$28 billion annually since the passage of Transportation Equity Act for the 21st Century (TEA-21). In our opinion, FHWA’s oversight relies too much on unsubstantiated information provided by project management officials, who are often referred to as their partners. As a consequence of the recently identified \$1.4 billion increase in the cost of the Central Artery/Ted Williams Tunnel Project, DOT is reviewing the project oversight process. Based on the results, FHWA should strengthen its oversight program.



## **FULL FUNDING GRANT AGREEMENTS HAVE EFFECTIVELY LIMITED THE FEDERAL GOVERNMENT'S FINANCIAL RISKS AND PROMOTED ACCOUNTABILITY.**

Full funding grant agreements (grant agreements) impose limits on the amount of discretionary capital investment funding a grantee can receive for new transit projects. Of the current 15 projects with grant agreements, 3 had cost increases of approximately \$930 million. However, none received additional discretionary capital investment funds and the grant recipients had to identify alternate funding sources to cover these costs increases.

While FTA uses grant agreements that limit discretionary funding of transit projects, FHWA has no comparable requirements. Unlike FTA, FHWA approves projects with the Federal contribution specified as a percentage of the cost. These grants contain no maximum amount similar to FTA grant agreements. Furthermore, except for the Wilson Bridge Project, FHWA has not supported any recommendations to establish Federal funding caps on large highway projects.

For example, FTA capital investment funds committed for the South Boston Piers Transitway remains \$331 million, as established by the 1994 grant agreement, despite an increase of \$188 million in the project's cost. By contrast, the expected FHWA share of the Central Artery/Ted Williams Tunnel Project has increased to \$8.5 billion as the project's costs have increased from \$2.6 billion to at least \$12.2 billion.

## Approving Grants Agreements Too Early Can Lead to Cost Increases

FTA executes a limited number of new grant agreements for new starts projects every year. Because competition for approval is intense, a few transit authorities submitted project applications before they had reliable cost estimates. On two projects we reviewed, the Tren Urbano Rail Transit Project and the South Boston Piers Transitway, FTA approved grant agreements very early in the design stage; and both experienced significant cost increases, as shown in Table 1.

Table 1  
Projects with Early FTA Approval and Subsequent Cost Increases  
(\$ in millions)

Existing Grant Agreements	Baseline Cost Estimate	Current Cost Estimate	Estimated Amount of Increase	Non-Discretionary Federal Funding	Additional Local Funding
South Boston Piers Transitway	\$413.4	\$600.9	\$187.5	\$150.0	\$37.5
Tren Urbano Rail Transit Project	1,250.3	1,675.6*	425.3	405.9	19.4
<b>Total</b>	<b>\$1,663.7</b>	<b>\$2,276.5</b>	<b>\$612.8</b>	<b>\$555.9</b>	<b>\$56.9</b>

\* Includes \$22 million provided to the project prior to the award of the grant agreement. About \$5 million was capital investment funds and the remaining \$17 million was local funds.

The pressure to enter into grant agreements in the early stages of project development almost always originates with the grantee, despite the transfer of liability for cost overruns and delays. Congress has recognized this problem with awarding grants early in the design process. In the Fiscal Year 2000 Appropriation hearings, Congress directed FTA not to award grant agreements

until there were “no outstanding issues which could have a material effect on the estimated cost of the project.”

### **Underfunding Disrupts Project Financing and Schedules**

One strength of grant agreements is that, with their schedule of Federal funding by year, they allow local governments and transit agencies to plan their project timetables by scheduling construction when capital investment funding would be provided. However, when capital investment funds are not provided as planned, transit agencies have to obtain interim funding. For example, the Tren Urbano Rail Transit Project had a \$110 million cash flow shortfall because it did not receive the Federal funding it anticipated.

As shown in Table 2, from Fiscal Year 1996 through Fiscal Year 2000, 12 projects with grant agreements received about \$321 million less than the scheduled payment amount in the grant agreements. The primary reason for the shortfall in the scheduled capital investment funding is that Congress generally appropriated less money than FTA requested for specific projects with grant agreements.

Table 2  
 Capital Investment Funding Differences from Grant Agreement Schedule  
 (\$ in millions)

Project	1996 and 1997	1998	1999	2000	Total
Bay Area Rapid Transit Extension to San Francisco International Airport	\$0	(\$26.6)	(\$34.3)	(\$20.2)	(\$81.1)
Denver Southwest Corridor	(5.2)	(2.1)	(.3)	(.7)	(8.3)
Houston Regional Bus	(.6)	(8.7)	(.4)	(1.0)	(10.7)
Hudson-Bergen Light Rail Transit	0	(4.2)	(.5)	0	(4.7)
Los Angeles Metro Rail Red Line	0	(14.7)	(24.3)	(.9)	(39.9)
MARC Commuter Rail	(7.2)	(10.5)	16.9	.7	(.01)
Sacramento South Corridor Light Rail Transit	0	(.6)	(.2)	(.5)	(1.3)
Salt Lake City North/South Light Rail Line	9.4	13.2	(.5)	(22.8)	(.7)
San Jose-Tasman Light Rail West Extension	(10.0)	(3.7)	(8.2)	(.4)	(22.3)
San Juan Tren Urbano Rail Transit	(3.9)	(15.1)	(40.1)	(50.6)	(109.7)
South Boston Piers Transitway	(26.6)	(7.9)	(.4)	(1.1)	(36.0)
St. Clair Extension of the St. Louis MetroLink System	0	(5.1)	(.3)	(.9)	(6.3)
<b>Total</b>	<b>(\$44.1)</b>	<b>(\$86.0)</b>	<b>(\$92.6)</b>	<b>(\$98.4)</b>	<b>(\$321.0)</b>

### **Local and Other Federal Funds Used for Cost Increases**

Since grant agreements limit the amount of discretionary capital investment funds for new fixed guideway systems and extensions, they help to promote accountability in the states and transit agencies responsible for project funding. When the cost of a project increases, state and local governments must find the funding sources to cover shortfalls. They have done so in a variety of ways,

including the use of state and local funds, FTA Section 5307 transit formula grants, FHWA Flex funds<sup>1</sup> and loans.

For example, the cost of the Bay Area Rapid Transit (BART) District's San Francisco Airport Extension Project has increased by \$316 million since the full funding grant agreement was executed in 1997. BART is funding the cost increase through a variety of state and local sources including state gasoline taxes, local bridge tolls, and bond proceeds backed by sales tax revenue.

On the other hand, the cost increases on the Tren Urbano Rail Transit Project and the South Boston Piers Transitway, \$425 million and \$188 million, respectively, are being funded primarily with \$556 million in other Federal funds. The Puerto Rico Highway and Transportation Authority is using highway flex funds and transit formula grants, with the remainder coming from local funds. The Massachusetts Bay Transportation Authority is not using any highway funds but is relying primarily on transit formula grants and a small amount of local bond funds to cover cost increases on the South Boston Piers Transitway.

Although we have not assessed the impact of redirecting these Federal funds to new starts projects, these actions could adversely impact other important

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<sup>1</sup> Federal law permits states to transfer funds among certain FHWA programs. For example, with the approval of the Secretary, a state may transfer up to 50 percent of its interstate maintenance apportionment to its National Highway System, Surface Transportation Program, Congestion Mitigation/Air Quality, or other programs if the State certifies that the apportionment is in excess of the State's needs for that program and that the State is adequately maintaining the Interstate System.

transportation needs and could also affect the operations and maintenance of existing services.

A new funding source for capital projects is provided by the Transportation Infrastructure Finance and Innovation Act (TIFIA). TIFIA funds are provided through secured loans, loan guarantees, and standby lines of credit to leverage Federal funds by attracting substantial private and other non-Federal co-investment in projects. For example, the Washington Metropolitan Transit Authority has recently received a \$600 million loan guarantee under this program.

### **Amendments to Grant Agreements Can Circumvent New Starts Criteria**

Several transit agencies have requested amendments to the scope of their projects. The requests include adding operating segments, modifying the approved track alignment, changing the number of new rail cars, accounting for higher costs, and changing the revenue operation date.

TEA-21 requires FTA to evaluate proposed projects and rate them as highly recommended, recommended or not recommended. Although FTA has the authority to amend grant agreements, amending grant agreements to add additional operating segments is contrary to our interpretation of the intent of TEA-21 project evaluation requirements. Such amendments would work to the disadvantage of other transit agencies in the competition for new grant funds.

One example is the Bi-State Development Agency request for an amendment to the grant agreement for the St. Clair Extension of the St. Louis Metrolink system. This amendment requested \$60 million of Federal funding to extend its light rail system by 3.5 miles and add a new station. We evaluated this proposal and noted that the low ridership forecast for the second phase posed a risk to the economic viability of the entire proposed project. We recommended that the second phase be rated and evaluated before the decision to commit Federal funds. FTA nevertheless notified Congress that it intended to execute the amendment.

In our opinion, FTA must retain discretion in amending grant agreements. In situations where transit agencies recognize problems with elements of their current grant agreements, amendments that correct those problems should be evaluated by FTA, and when found to be reasonable, approved. However, where amendments are so substantial that they fundamentally alter the criteria on which the grant was predicated, the amended project should compete for funding in the new starts evaluation and rating process.

An example of the benefits of a flexible amendment process was the amendment to the grant agreement for the Hudson-Bergen Light Rail Transit System. The amendment authorized a change in alignment for a portion of the system. Changing the alignment would lessen the system's impact on traffic and parking in downtown Hoboken. It did not change the cost of the system, but necessitated a delay in the start of operations for the portion with the new alignment.

## **Better Criteria Are Needed for Finance Plans**

A key benefit of finance plans is knowing what the costs and funding sources are before the project commences, then tracking costs and funding *as the project proceeds*. Neither FTA nor FHWA have adequate guidance for grant recipients to prepare finance plans. TEA-21 requires recipients of Federal-aid funds to submit to the Secretary annual finance plans for projects with an estimated total cost of \$1 billion or more. TEA-21 requires that finance plans be based on detailed annual estimates of the cost to complete the remaining elements of the project and on reasonable assumptions of future increases in costs for completion.

FHWA's August 1998 guidance for finance plans was intended to provide disclosure of information for decision-makers on the immediate and long-term financial implications resulting from project initiation. To provide decision makers with continuing information on the financial implications of completing the project, subsequent annual updates of the finance plan are to provide current information on actual costs and funding in comparison to initial estimates.

The quality of finance plans developed for FHWA varies widely among project sponsors. To illustrate, the Utah Department of Transportation developed a reliable estimate of costs and revenues to construct and fund the Interstate-15 Reconstruction Project in Salt Lake City.



By contrast, the 1998 finance plan for the Central Artery/Ted Williams Tunnel Project did not report that the project was experiencing significant construction cost increases that were being offset with scope reductions. From July 1997 through April 1999, there were more than \$827 million in construction cost increases on the project, including more than 3,000 individual contract changes.

Cost increases on the Artery Project were partially offset through scope reductions, reductions in non construction costs, and the use of contingency funds. Rather than reporting these cost trends and their implications for future cost increases, the Massachusetts Turnpike Authority changed the finance plan to avoid disclosing the magnitude of the project's cost problems. As a result, the project reported a net cost increase after the offsets of only \$189 million, and the finance plan described project costs as "stable."

Before committing Federal funds to a major capital project, FTA evaluates the project's proposed capital finance plan and proposed operating finance plan. The evaluation of a capital finance plan takes two forms. First, FTA reviews the transit agency's capital plan to determine the stability and reliability of each proposed source of non-Federal funds (inter-governmental grants, tax sources, debt obligations, etc.) within the project timetable. Second, FTA reviews the capital plan to determine whether the project sponsor has made adequate provisions to cover unanticipated cost overruns.

For the operating finance plan, FTA determines whether the transit agency's operating revenue base can expand to meet the incremental operating costs associated with the proposed project and any other new services and facilities. FTA's project evaluation is intended to be an ongoing process in which evaluations are updated annually to reflect new information, changing conditions, and refined finance plans.

Finance plans prepared by transit agencies varied widely for the major capital projects we reviewed. Some finance plans included reliable cost estimates and identified potential funding shortfalls; others were unclear and did not fully disclose funding problems. For example, the 1999 Finance Plan for BART includes both construction costs and the operating costs for the airport extension. Furthermore, it includes a 10-year forecast that identifies underlying revenue and expense assumptions. The plan shows BART has the financial capacity to operate the airport extension after it opens in mid-2002.

By contrast, in 1998, we reported that the Los Angeles Metropolitan Transit Authority did not have an updated, comprehensive finance plan but separate capital and operating budgets. At the time of our audit, these budgets reflected a \$495 million capital funding shortfall and a \$643 million *operating* shortfall.

At a minimum, finance plans should:

- Include the assumptions underlying both cost and revenue estimates;
- Report actual versus budgeted amounts for contract award costs, the cost of work performed, and revenue;
- Clearly describe cost trends (e.g., contract change orders and contract awards) and the potential impact of those trends on project costs;
- Identify measures being taken to monitor and control costs;
- Identify sources of funding that can be used if costs rise or other anticipated funding is not received;
- Identify significant changes to the scope of projects, and the effect of these changes on the costs and capacity of the project; and
- Identify the grantees' plan for financing existing operations during construction of new or extended segments, as well as its plans for financing all operations, both new and existing, once construction is complete.

### **Independent Project Oversight is Essential**

FTA relies on project and financial management oversight contractors to carry out its project oversight responsibilities. FTA's oversight program is responsible for managing more than 800 grantees and over \$42 billion of major capital projects.

Currently, FHWA delegates the oversight of highway capital projects to state and territorial highway departments. However, FHWA is ultimately responsible to ensure the proper use of the \$171 billion in Federal funds authorized by TEA-21.

Our recent report on the Central Artery/Ted Williams Tunnel Project illustrates what can happen when effective oversight is lacking. Our October 1999 draft report advised FHWA of the potential for a \$942 million increase in construction costs. FHWA officials and the Project Director rejected our warning, and advised that further cost increases were not likely.

Just 3 months later, a new finance plan was submitted for the project. On the same day, the plan was approved, and the Project Director announced that estimated costs would go up by \$1.4 billion. Because of the announcement of the cost increase, both FHWA and Central Artery/Ted Williams Tunnel Project management are now faced with a loss of credibility, and authority and approval for advance construction funds have been withdrawn until a new finance plan is approved. This problem could have been avoided if Federal officials responsible for the project used a disciplined methodology to conduct oversight activities; verified data rather than accepting it without question; and closely examined the finance plans.

FTA's oversight program for capital projects today consists of 15 project management oversight contractors, who monitor project costs, schedules, and construction data; and 5 financial management oversight contractors, who review

project and cost accounting systems, and conduct financial capacity and financial management system reviews. This program is funded by a statutory set-aside of funds allocated for transit projects. As Federal funds have increased for transit projects, FTA appropriations for project and financial management oversight have grown.

In Fiscal Year 1999, FTA had 14 projects with grant agreements. So far in Fiscal Year 2000, FTA has signed one grant agreement and anticipates signing three additional agreements this year. FTA also anticipates executing 12 additional grant agreements in Fiscal Year 2001. During Fiscal Years 2000 and 2001, funding for eight existing projects will be completed, resulting in 22 active projects after Fiscal Year 2001. To be aware of problems and to be able to address them in a timely fashion, FTA must provide effective, independent oversight of the major transit projects.

A positive example of financial management oversight is FTA's recently completed review of the finance plan submitted by the Massachusetts Bay Transportation Authority for the South Boston Piers Transitway. FTA rejected the plan because it did not include a cash flow chart; a budget for construction; costs for operation and debt service; and the effect, if any, of a new state mandated funding process based on sales tax revenues.

Mr. Chairman, this concludes our statement, I would be pleased to answer any questions.

## Status of Mega Projects

### Bay Area Rapid Transit Extension to the San Francisco International Airport

#### **Project Description:**

The airport extension project will add 8.7 miles of new track and four new stations. It also includes enhancements and additions to operations and maintenance facilities and equipment.

#### **Prior Audit Coverage:**

Use of Airport Revenue for the Bay Area Rapid Transit District Extension to the San Francisco International Airport

(Report Number AV-1999-056, February 18, 1999)

This audit was to determine if cost allocation agreements between the Bay Area Rapid Transit District (BART) and the San Francisco International Airport (Airport) were reasonable and if Airport revenue was being used only for Airport-related costs. We determined that the August 1998 proposed cost allocation plan for project operating systems did not reasonably prorate costs to the Airport because it was based on outdated engineering estimates rather than actual contract bid amounts. We recommended that the Federal Aviation Administration (FAA): 1) review the cost allocation for project operating systems within 30 days of the report to ensure costs are reasonably prorated to the Airport, and advise the airport not to approve the plan unless it used contract bid amounts, not engineering estimates, to allocate costs; 2) advise BART and the airport that costs to construct bulk supply power substations off airport property, to provide power feeds to these substations, and to procure spare parts not used during systems integration and testing are not eligible uses of airport revenue; 3) establish a system to review project expenditures on a periodic basis to ensure airport revenue is used only for eligible costs; and 4) direct the airport to require its independent auditor to review and provide an opinion on use of airport revenue in the annual audit, commencing with the airport Fiscal Year ended June 30, 1998.

FAA has not provided the OIG with a final determination on the second recommendation. FAA has taken action on all other recommendations.

#### **Current Audit Coverage:**

Ongoing Review of the Bay Area Rapid Transit District Extension to the San Francisco International Airport

We are conducting an in-depth review of the BART airport extension. The objectives of the review are 1) determine current project costs and the reasonableness of cost estimates provided to the Federal Transit Administration (FTA) for the full funding grant agreement, 2) determine whether BART's revised November 1999 finance plan accurately portrays costs to complete the project, 3) determine whether BART has the

financial capacity to construct the project, and 4) assess whether the project will open on schedule. Our audit also includes an assessment of BART's November 1999 Capital Operating and Finance Plan as required in the House of Representatives Conference Report to the Department of Transportation Fiscal Year 2000 Appropriations. The Conference Committee directed the OIG to conduct an independent analysis of a finance plan that clearly delineates the full costs to complete the project and how the sponsor expects to pay those costs.

**Cost:**

The current cost to construct the BART airport extension is \$1.483 billion, \$316 million over the original estimated cost of \$1.167 billion.

**Schedule Status:**

BART anticipates the airport extension project to begin revenue operations no later than July 2002, 9 months behind the date established in FTA's grant agreement. FTA's project management oversight consultant believes that BART and the contractor can implement sufficient measures in order to meet the projected opening date of July 2002.

**Federal Funding:**

The full funding grant agreement committed \$750 million in capital investment funds. Through Fiscal Year 2000, Congress had appropriated \$217.2 million. The remaining \$532.8 million is scheduled to be appropriated in Fiscal Years 2001 to 2005.

## **Hudson-Bergen Light Rail Transit System**

### **Project Description:**

The Hudson-Bergen Light Rail Transit System is being built in three phases. When completed, it will be a 20.1-mile light rail network running along the west side of the Hudson River in northern New Jersey. The completed system will include 30 stations, 5 major intermodal transfer stations, and 8 park-and-ride facilities. Service will be provided by 66 light rail vehicles. Currently, only the initial phase has been approved for FTA funding. This phase will be 9.3 miles long, include 16 stations, and require 29 vehicles.

### **Prior Audit Coverage:**

Baseline Review of the Hudson-Bergen Light Rail Transit System  
(Report Number RT-1999-123, August 18, 1999)

OIG conducted a baseline review of the initial phase of the Hudson-Bergen Light Rail Transit System to determine the project status, estimated cost, funding sources, and completion schedule, and to identify major issues that might affect the project. We determined that this phase will cost about \$42.1 million less than anticipated and only 8.1 miles of the first phase will open on time because of a change in alignment. We recommended that FTA not shift any savings from the first phase to the second phase until issues including the proposed change in routing, value engineering, and financing costs have been resolved. FTA noted that savings have not been finalized and no funds would be transferred until any savings were substantiated and verified.

### **Cost:**

The estimated cost of the project's first phase is \$992.1 million, identical to the original cost estimate. This estimate, however, does not take into account the \$42.1 million savings identified in our August 1999 audit report.

### **Schedule Status:**

Because of a change in alignment, the entire first phase will not be opening by July 2000 as originally planned. An 8.1-mile segment is scheduled to open in March 2000 with the remaining 1.2 miles opening by May 2002.

### **Federal Funding:**

The grant agreement committed \$604.1 million in capital investment funds. Through Fiscal Year 2000, Congress had appropriated \$325.4 million of this amount. The remaining \$278.7 million is scheduled to be appropriated in Fiscal Years 2001, 2002, and 2003.



## Los Angeles Metro Rail Red Line

### **Project Description:**

The Red Line was originally a 23.3-mile heavy rail subway system carrying 160,000 passengers per day and estimated to cost \$5.478 billion. Under the terms of three full funding grant agreements, it was to be built in five segments.

In January 1998, the Los Angeles County Metropolitan Transportation Authority (MTA) suspended work on two Red Line segments (Mid-City and East Side) in an effort to address a projected shortfall in both its capital and operating budgets. Today, the Red Line consists of three segments (Downtown LA, Wilshire Center, and North Hollywood) and covers 17.4 miles.

### **Prior Audit Coverage:**

Mega Project Review of Los Angeles Metro Rail Red Line Project  
(Report Number TR-1998-154, June 12, 1998)

This was an in-depth review of the Los Angeles Metro Red Line to determine the current cost, funding, and schedule status of the project, and the reasonableness of the related data. In addition, the review identified potential financial and schedule risks. The report concluded that the costs and completion schedules were reasonable but there were funding risks for the North Hollywood segment. In addition, MTA's overall capital and operating budget shortfalls could affect the Red Line. We recommended that FTA require MTA to keep its finance plan current and to clearly identify and prioritize its various capital and operating costs, revenues by source, and the specific revenues that are to cover specific costs. FTA concurred with our recommendation.

Analysis of Los Angeles County Metropolitan Transportation Authority's Recovery Plan  
(Report Number TR-1998-176, July 16, 1998)

This was a review of MTA's Recovery Plan, which serves as a basis for the finance plan. The report concluded that the Recovery Plan's 7-year projections of revenues and costs were supportable and reasonable. However, MTA would be facing a shortfall of \$1.1 billion over a 7-year period ending in 2004. In addition, we concluded that risks remained regarding the Plan's implementation. We recommended that: 1) contingent on release of the Fiscal Year 1998 funds, the House Subcommittee on Transportation and Related Agencies Committee on Appropriations U.S. House of Representatives confirm with FTA that the Recovery Plan commits as a first priority the funding required to complete the Red Line's North Hollywood extension and comply with the Bus Consent Decree; 2) FTA closely monitor MTA's financial performance throughout Fiscal Year 1999; and 3) FTA require MTA to describe what actions it plans to take to eliminate the funding shortfalls in Fiscal Year

2000 before releasing that year's appropriated funds. FTA did not provide written comments to this report, but acted on the recommendations.

**Current Audit Coverage:**

Ongoing Report on the Progress of the Los Angeles Metro Rail Red Line Project

We are conducting a follow-up review of the June 1998 report. The objectives of this review were to 1) examine the project's cost estimates, construction schedule, and funding; 2) identify issues that could affect the project's status; and 3) follow up on the implementation of the recommendations contained in our previous report. We recommended that the Acting FTA Administrator 1) postpone a decision for a grant agreement for the Mid-City and East-Side extensions until the finance issue of the Bus Consent Decree is resolved; 2) require MTA to document what changes it will make in its finance plan to purchase 481 buses, or the currently planned 297 buses; and 3) notify MTA whether the \$76 million in Federal funds spent on the suspended Mid-City and East-Side extensions must be returned. In response to recommendation one, FTA noted that, once alternatives for Mid-City and East Side were selected and discussions on grant agreements had begun, MTA would be required to submit a revised financial/cost impact, of implementing the consent decree. FTA agreed with recommendation 2. For recommendation three, FTA stated that Region 9 is conducting an extensive analysis of all expenses incurred by MTA since the stop order on the two suspended segments was issued. All ineligible expenditures or unexpended funds will be reprogrammed

**Cost:**

The current estimated cost to construct the three segments of the Red line is \$4.489 billion, \$482 million over the original estimated cost of \$4.007 billion. Currently, only the North Hollywood segment is under construction. The projected cost to complete this segment is \$1.311 billion, equaling the amount estimated in the full funding grant agreement. However an additional \$24 million in costs outside the original scope of the project have been identified. These costs are for additional locally funded activities, which may include transit enhancements, new legislative requirements, non-revenue connectors, Metro art program, and other MTA Board or FTA requirements not originally envisioned at project adoption. These costs are managed separately from the original budget. The completion costs for Downtown LA and Wilshire Center were \$1.439 billion and \$1.739 billion, respectively. Downtown LA exceeded its original estimated cost by \$189 million and Wilshire Center exceeded its original estimate by \$293 million.

**Schedule Status:**

The North Hollywood segment of the Red Line is scheduled to open June 2000, 6 months before the revenue operation date in the full funding grant agreement. The first two segments, Downtown LA and Wilshire Center, were completed January 1993 and June 1999, respectively. Downtown LA and Wilshire Center were both 9 months behind the scheduled openings in their respective grant agreements.

**Federal Funding:**

The full funding grant agreement committed \$681.04 million in capital investment funds. Through Fiscal Year 2000, Congress had appropriated \$581.82 million. The remaining \$99.22 million is scheduled to be appropriated in Fiscal Years 2001 and 2002.

## **San Juan Tren Urbano Rail Transit Project**

### **Project Description:**

The Tren Urbano Rapid Rail Transit Project is a 17.2-kilometer (10.7 miles) fixed rail system that includes 16 stations and a centrally controlled communications and train control system. Service will be provided with 74 transit vehicles.

### **Current Audit Coverage:**

In response to the House of Representatives Conference Report to the Department of Transportation Fiscal Year 2000 Appropriations, we are currently conducting an independent analysis of the finance plan to determine whether it clearly delineates the full costs to complete the project and how the sponsor expects to pay those costs. The OIG will be reporting to the House and Senate Committees on Appropriations within 60 days of FTA accepting the plan.

### **Cost:**

The current estimated cost to construct the rail line is \$1.676 billion. This is \$425 million above the original estimated cost, but includes significant scope changes and project enhancements, including adding two new stations and repositioning a third.

### **Schedule Status:**

The rail line was originally scheduled to be completed on or before July 2001. Because of construction delays, the new completion date is August 2002.

### **Federal Funding:**

The full funding grant agreement committed \$307 million in capital investment funds. Through Fiscal Year 2000, Congress had appropriated \$84.63 million, including \$5 million appropriated prior to the award of the grant agreement. The remaining \$227.7 million is scheduled to be appropriated in Fiscal Years 2001 and 2002. In addition, to new starts funding, the Puerto Rico Highway and Transportation Authority is using \$141 million in Transit formula funds, and \$259.9 million in Federal Highway Administration (FHWA) Flex Funds, and it has requested a \$300 million loan under the Transportation Infrastructure Finance Innovation Act program.

## South Boston Piers Transitway

### **Project Description:**

When completed, the South Boston Piers Transitway will consist of two underground tunnels connecting the South Boston Piers area with existing transit systems. It will be constructed in two phases. Phase I is a 1-mile tunnel with three stations between the existing transit network and the South Boston Piers area. Phase II is a ½-mile tunnel between the phase I terminus and two additional subway lines. Thirty-two 60-foot buses powered by electricity and diesel (dual mode) will operate in the tunnel and on limited surface routes in the eastern end of the Piers area.

### **Current Audit Coverage:**

The OIG is currently conducting an audit of the South Boston Piers Transitway. The objectives of the audit are to evaluate the current funding, cost, and schedule for phase I and identify any risks or emerging issues that could significantly affect the project.

We are also assessing the South Boston Piers Transitway finance plan, as required in the House of Representatives Conference Report to the Department of Transportation Fiscal Year 2000 Appropriations. The Conference Committee directed the OIG to conduct an independent analysis of the finance plan to determine whether it clearly delineates the full costs to complete the project and how the sponsor expects to pay those costs. The OIG will be reporting the results to the House and Senate Committees on Appropriations within 60 days of FTA accepting the finance plan.

### **Cost:**

The current estimated cost to construct phase I of the Transitway and acquire 32 buses is \$600.9 million. This is \$187.5 million above the original estimated cost.

### **Schedule Status:**

The Transitway was originally scheduled to be completed in December 2000. Because of construction delays, the new completion date is December 2003.

### **Federal Funding:**

The full funding grant agreement committed \$330.73 million in capital investment funds. Through Fiscal Year 2000, Congress had appropriated \$294.76 million. The remaining \$35.97 million is scheduled to be appropriated in Fiscal Year 2001.

## St. Clair Extension of the St. Louis MetroLink System

### **Project Description:**

The St. Clair Extension of the St. Louis MetroLink system is a 26-mile light rail system in St. Clair County, Illinois, running from East St. Louis, Illinois, to Mid-America Airport. The system will have 10 at-grade stations, 9 park-and-ride facilities, a new maintenance facility in East St. Louis, Illinois, and will have 24 vehicles. Only the first of two phases was approved by the grant agreement. This phase is a 17-mile extension running from East St. Louis, Illinois, to Belleville Area College that includes 8 at-grade stations, 7 park-and-ride facilities, and acquisition of 20 light rail vehicles.

### **Prior Audit Coverage:**

#### Baseline Review of the St. Clair Extension

(Report Number RT-2000-025, December 21, 1999)

OIG conducted a baseline review of the system to determine the status, estimated cost, funding sources, and completion schedule; and to identify any major issues that may affect the project. We determined that the initial phase would cost the same as proposed and service would begin 4 months early. We also determined that the next phase of the project would not generate sufficient ridership to make Federal funding cost effective. During our review, we determined that the grantee planned to seek an amendment of the existing grant agreement and request additional funds to complete the second phase. We recommended that the Acting FTA Administrator base the final decision to award funds for the second phase on an evaluation and rating under the New Starts criteria. FTA evaluated the project and gave the project a medium rating. However this was in part because of “other factors” rather than the standard evaluation categories. These factors were the value of the project for economic development and the language in the original grant agreement that allowed FTA to amend the agreement if additional funds became available.

### **Cost:**

The current estimated cost to construct the first phase is \$339.2 million. This is the same as the original estimated cost. The estimated cost to complete phase two is \$77 million.

### **Schedule Status:**

The first phase of the light rail system may be completed in May 2001, ahead of the September 30, 2001 date proposed in the full funding grant agreement.

### **Federal Funding:**

The full funding grant agreement committed \$252.42 million in capital investment funds, including \$8.49 million previously awarded for preliminary engineering. Through Fiscal Year 2000, Congress had appropriated \$161.89 million. The remaining \$90.53 million is

## **Attachment 1**

scheduled to be appropriated in Fiscal Years 2001 and 2002. The grantee is requesting \$60 million in new starts funds for the second phase.

## Washington Metrorail

### **Project Description:**

The Washington Metrorail is a heavy rail subway project serving the Washington, DC, metropolitan area. When completed, the subway system will cover 103 miles and include 83 stations.

### **Prior Audit Coverage:**

Review of Completion of the Metrorail System, Washington, DC  
(Report Number TR-1998-213, September 30, 1998)

The review objectives were to 1) determine the current funding, cost, and schedule status and the reasonableness of related data for a subway construction project expanding the existing system in the Washington, DC, metropolitan area and, 2) identify any segments of the expansion project that are at risk of not having adequate Federal and state/local funding, exceeding costs, or not meeting scheduled completion dates. The report concluded that Federal, state, and local funding was sufficient to pay for construction of the final 4 segments of the system. Final construction costs of these four segments were estimated to be less than the Washington Metropolitan Area Transit Authority's original cost estimates, which could result in a potential net surplus of \$210 million for the construction of these segments. Segments 1 and 2 opened on schedule but there is some risk that segments 3 and 4 may not open on time.

### **Cost:**

The cost to complete the entire 103-mile system is \$9.3 billion. With FTA's approval WMATA intends to use the \$210 million surplus from the last four segments and the \$95 million surplus on the original 89.5 miles to purchase rail cars and construct a rail yard at Branch Avenue.

### **Schedule Status:**

The first 89.5 miles of the project were completed in 1993. Segments 1 and 2 of the expansion project were opened schedule in June 1997 and July 1998, respectively. Segment 3 opened on time on September 18, 1999, and Segment 4 is scheduled to open on time in early 2001.

### **Federal Funding:**

The Federal government contributed \$1.3 billion to the completion of these segments. The remaining \$780 million was contributed by state and local governments.



## Alameda Corridor Project

### **Project Description:**

The Alameda Corridor project is a \$2.4 billion project to build a 20-mile, high-capacity rail corridor that will consolidate rail traffic between the Ports of Los Angeles and Long Beach (Ports) and the rail yards near downtown Los Angeles. The Cities of Los Angeles and Long Beach created the Alameda Corridor Transportation Authority (ACTA) in August 1989 to fund, construct, and operate the Alameda Corridor. Both the FHWA and the Federal Railroad Administration (FRA) are involved in the project. FHWA has construction oversight responsibility, and FRA has responsibility for funds distribution. The project consists of three segments: the North End Segment is about 3 miles long, the South End Segment is about 7 miles long, and the Mid-Corridor Segment is 10 miles long.

### **Prior Audit Coverage:**

#### Review of Alameda Corridor Project

(Report Number TR-2000-004, October 22, 1999)

This was an in-depth review of the Alameda Corridor project to determine the current cost, funding, and schedule status of the project, and the reasonableness of the related data. We concluded that ACTA's \$2.4 billion estimate of the total costs should be adequate to complete the project. Further, the project's finance plan identifies sufficient funding to meet costs, but it does not identify two known risks. First, a consent decree may require one of the sources (the Los Angeles MTA) to redirect funds to purchase additional buses. Second, ACTA has accepted an inherent risk that revenues from use fees and port contributions may be insufficient in later years (after the Corridor is completed) to cover bond and loan repayments. We also found that the project is on schedule to be completed in December 2002 as planned.

We recommended that FHWA require ACTA to annually update and submit its finance plan to FHWA. Further, if ACTA does not receive the expected funding, we recommended that FHWA require ACTA to address these risks in its finance plan. ACTA generally concurred with our report and agreed to implement the recommendations.

Review of Alameda Corridor Project [Training/Hiring Programs]  
(Report Number TR-1999-010, October 16, 1998)

This report reviewed concerns raised by Congresswoman Millender-McDonald. The report concluded that ACTA's estimate of approximately 10,520 direct construction jobs distributed over 7 years between 1995 and 2001 was subject to gross misinterpretation. This figure did not mean that 10,520 people would be working on the project at any one time. The projection actually equated to an average of about 1,500 jobs per year. At the time of our review, we also found that the controls over the training program were deficient.

To address this deficiency, ACTA hired a consultant to monitor the contractor operating this training program. The consultant's monthly activities include monitoring contractor utilization of minorities and compiling statistics on the demographics of workers for all construction contracts.

**Cost:**

We concluded that the estimated cost of \$2.4 billion would be adequate to complete the project, based on four factors. First, ACTA included \$200 million in the budget, or 8 percent of project costs, for potential cost growth. Second, contracts awarded through June 1999 were \$82 million less than estimated, which indicates that ACTA's cost estimates for these contracts were conservative. Third, change order activities on ongoing and completed contracts have increased costs by only 3.7 percent to date. Fourth, the Mid-Corridor subproject, a 10-mile trench that represents more than 50 percent of all construction costs on the project, was awarded as a design-build contract. Since design-build contracts generally involve fewer change orders than projects with one design consultant and numerous contractors for the construction, this large contract is likely to remain close to the awarded cost.

**Schedule Status:**

Although the project is in the early stages of its construction schedule, ACTA expects to complete the project in December 2002 as planned. ACTA has completed 2 of the 15 subprojects. It has started construction on 6 of the remaining 13 subprojects, 3 in the North End Segment, 2 in the South End Segment, and the trench in the Mid-Corridor Segment.

**Federal Funding:**

Originally, project officials budgeted for a \$400 million direct Federal loan. They also had expected to receive Federal funds as pass-throughs from state and local agencies (e.g., LA MTA), although they cannot specify exact amounts at this time. Currently, total Federal funds are estimated at about \$499 million (which includes the \$400 million loan that is expected to be paid back in later years).

## California State Route 210 Project (Formerly State Route 30)

### **Project Description:**

The California State Route (SR) 210 project replaces the existing SR 30 with an eight-lane freeway that consists of three general-purpose lanes and one High Occupancy Vehicle lane in each direction. The new freeway will extend 29 miles from Interstate 210 in eastern Los Angeles County to Interstate 215 in San Bernardino County.

### **Prior Audit Coverage:**

Report on Baseline Reviews of Four Highway/Transit Mega Projects  
(Report Number TR-2000-043, February 4, 2000)

The review objective was to provide baseline information on the current status, estimated cost, funding sources, and completion schedule, as well as to identify outstanding issues that may affect the four Mega projects reviewed. We recommended that FHWA require a finance plan for the remaining work to be done on the SR 210 project in California. This plan should be updated on an annual basis and, if warranted, include contingency plans for particular funding sources if these sources later are determined to be at risk. FHWA has not provided written comments to this report.

### **Cost:**

The 1996 Record of Decision for the project's environmental review estimated the cost at \$1.2 billion. The cost estimate as of December 1999, is approximately \$1.059 billion, \$363 million for the Los Angeles County portion and \$696 million for the San Bernardino County portion.

### **Schedule Status:**

Construction on the SR 210 project began in 1997 and is scheduled to be completed by 2005. The Los Angeles portion of the project is to be completed by 2002, while construction on the San Bernardino County portion of the project is scheduled to extend through 2005.

### **Federal Funding:**

The Federal government has obligated \$602 million to this project. There were no Federal funds estimates prior to the \$602 million figure. In total, \$156 million has been spent on the project; however, California was unable to separate out Federal funds spent from the total.

## Central Artery/Ted Williams Tunnel

### **Project Description:**

The Central Artery project will replace Boston's deteriorating elevated Central Artery with an underground expressway. The project will also extend the Massachusetts Turnpike (Interstate 90) to Logan Airport. This is a significant project, not only for its role in New England's transportation infrastructure, but also for the economic benefits and cost impacts it presents to residents of Massachusetts (the State).

### **Prior Audit Coverage:**

Report on Current Costs and Funding of the Central Artery /Ted Williams Project  
(Report Number TR-2000-050, February 10, 2000)

The review objectives were to determine the current cost and funding of the project and evaluate the Massachusetts Turnpike Authority's 1998 finance plan. We determined that the cost of the project as of April 30, 1999, was \$11.8 billion rather than the \$10.8 billion shown in the project's 1998 finance plan. Furthermore, if costs are not controlled or offsetting cost reductions are not identified, the potential exists for costs to increase by another \$942 million.

We recommended the Federal Highway Administrator require project managers to: 1) identify specific additional funding or cost reductions to meet the current funding shortfall; 2) locate additional funding or cost reductions (i.e., scope reductions or potential cost savings) that can be used to offset future cost increases; 3) revise the guidance for reporting financial data to include specific reporting criteria; 4) disclose significant changes to the project scope in their annual financial plans by disclosing the total value of all project scope changes, and by listing individual scope changes of \$1 million or more; and 5) perform reasonable independent validation of all project status and cost data before agreeing with or making decisions based on information provided by the Massachusetts Turnpike Authority. FHWA concurred with all of our recommendations.

### Overpayments of Premiums for Central Artery Project's Owner-Controlled Insurance Program

(Report Number TR-1999-104, May 24, 1999)

The audit objective was to determine whether the workers' compensation and general liability portions of the program were effective in reducing the overall cost of the project's insurance. We identified overpayments of Federal funds (including accrued interest) totaling \$150 million. We recommended the FHWA: 1) recover the \$150 million Federal share of the premium overpayment and interest earned related to payments made through 1997, as well as, any further overpayments and interest that have since accrued; 2) determine actual insurance requirements

annually and ensure overpayments involving Federal funds are recovered; and 3) review its policy for insurance reimbursement and establish guidelines to ensure future overpayments of insurance premiums are recovered.

FHWA has agreed to the following: 1) The premium adjustments and interest related to these adjustments will be used to make scheduled Owner Controlled Insurance Program (OCIP) worker's compensation estimated premium payments due for the next policy year, starting November 1, 1999, and for the next policy year beginning November 1, 2000. 2) All remaining premium adjustments in excess of the amount needed to make the payments specified in above item #1, plus any amount of the adjustments already used to make premium payments for policy years 1997-98 and 1998-99, will be immediately returned to the project and used to pay project costs, or credited to the State's Federal-aid account. 3) FHWA will issue a policy on insurance programs that ensures the Federal share of premium adjustments on highway projects is immediately applied to other project costs or credited to the State's Federal-aid account, and that reserve accounts do not exceed allowable amounts.

Report on the Central Artery/Ted Williams Tunnel Project  
(Report Number: TR-1998-109, April 3, 1998)

Our objective was to audit the cost and financing for the Central Artery/Ted Williams Tunnel Project. Based on our analysis of historical project costs, we determined that the project cost could increase to \$11.2 billion, if stringent cost containment methods are not enforced. This increase is based on potentially higher-than-budgeted costs for change orders, contract awards, and consultants.

We made 4 recommendations for the Federal highway Administrator. First, instruct the State to aggressively pursue cost-containment goals. Second, closely monitor the State's progress toward achieving its cost containment goals. If these goals are not met, and project costs rise above the current estimate, FHWA should promptly require the State to identify additional sources of revenue and notify the appropriate Congressional committees of the situation. Third, ensure the State carries out the balanced transportation infrastructure program statewide, as specified in its finance plan for the project. Finally, continue to submit periodic updates of the State's finance plan to the Office of Inspector General for review. We also made two recommendations to the Secretary of the Department of Transportation. First, determine if project cost estimates should include the costs and credits from owner-controlled insurance for projects in which it is used. If those costs are to be included, the Secretary should instruct the Operating Administrations to issue appropriate guidance. Second, determine if project cost estimates should include the interest expense of grant anticipation notes. If those costs are to be included, the Secretary should instruct the Operating Administrations to issue appropriate

guidance and develop a methodology for assessing their effects on the feasibility of proposed and future projects. FHWA concurred with the recommendations.

Management Advisory Memorandum on Relocation of Utilities, Central Artery/Third Harbor Tunnel

(Report Number R2-FH-7-025, August 12, 1997)

The audit objective was to evaluate FHWA oversight of costs associated with the relocation of utilities on the project. Our Management Advisory Memorandum notes our concern that FHWA had continued to rely on the State's oversight, despite the State's emphasis on its own interest, as noted in our prior audits on the project and again in the relocation of a electrical power company substation. In addition, we reaffirmed our longstanding position that Federal funds should not be used to pay for inefficiencies and diseconomies resulting from local project decisions not supported by demonstrated need. In our opinion, Federal participation was not justified. We recommended FHWA reconsider its participation in the costs for the electric company's substation, and increase its oversight of relocation of other utilities on the project. The recommendations have been closed out.

Quality of Construction, Central Artery/Third Harbor Tunnel

(Report Number R2-FH-7-007, December 19, 1996)

The audit objective was to evaluate the FHWA oversight of the project's testing procedures to ensure construction was completed in accordance with applicable specifications. We found that FHWA provided limited oversight of the project's testing procedures. Weaknesses were found in the project's quality of workmanship, disposition of failed materials, implementation of the Massachusetts Highway Department's Materials Manual, and completion of material documents and reports.

We recommended the FHWA Administrator: 1) instruct the FHWA Massachusetts Division to strengthen oversight of project testing procedures to ensure construction materials used in the project are in accordance with applicable specifications; 2) not participate in project costs caused by inferior workmanship, and seek reimbursement from the State for any Federal funds already provided for this purpose; 3) emphasize the need for strict compliance with project testing procedures and pertinent regulations, including receipt of credits for failed materials, and do not participate in project costs resulting from overriding contract provisions; 4) require the State to direct Bechtel Civil Inc./Parsons, Brinckerhoff, Quade, & Douglas Inc. (Consultant) to provide the Consultant's Technical Services Department the necessary independence and support to perform effective testing of project construction materials; 5) require the State to ensure that the Consultant responds to Disposition of Materials in a timely and effective manner; 6) ensure that the

Massachusetts Division reviews and formally approves all changes to the Materials Manual prior to implementation; and 7) require that, prior to certification, the State ensure that material closeout reports include necessary documentation for all materials that have been tested and incorporated into the project, and review such documentation for compliance with contract specifications. FHWA concurred with the recommendations.

Personal Property Management, Central Artery/Third Harbor Tunnel  
(Report Number: R2-FH-6-015, May 1996)

The audit objective was to evaluate FHWA's monitoring of the State's control of personal property purchased by the consultant for the project. We found that FHWA did not provide effective monitoring to ensure the State maintained proper control over personal property. We found \$677,165 of project property was not recorded accurately, \$39,151 of stolen items was not properly reported, and accountability was not established for more than \$500,000 of property.

We recommended that the FHWA Administrator: 1) instruct the Massachusetts Division to provide effective monitoring to ensure the State maintains adequate control over personal property purchased for the project; 2) require the State to designate a properly trained asset manager or coordinator for the project to ensure the consultant uses, manages, and disposes of property in accordance with State laws and procedures; 3) ensure project procedures are strengthened to resolve discrepancies in inventory records, provide complete and accurate physical inventories, and tag property upon receipt; 4) require the State to furnish us a copy of the consultant's reconciliation for project property that could not be located where recorded and property that did not appear on inventory records for the locations where the property was in use; 5) require the State to direct the consultant to establish and maintain a theft log for the project, immediately report stolen property, notify State Police of thefts, and provide adequate safeguards against unauthorized removal of property from project premises; 6) ensure the State directs the consultant to perform physical inventories of project property purchased by subconsultants/subcontractors and establish and maintain accurate inventory reports for such property; 7) seek reimbursement for sales tax and other related costs unnecessarily paid by the consultant and require the consultant to avoid such costs in the future by making purchases through the State Purchasing Agent, whenever possible, or use the tax exempt status provided by the State; and 8) not participate in the additional \$2.6 million sales tax, if assessed. FHWA concurred with the recommendations.

Construction Contract Changes and Extra Work Orders, Central Artery/Third Harbor Tunnel

(Report Number R2-FH-5-019, July 27, 1995)

The audit objective was to evaluate the adequacy and effectiveness of FHWA oversight of construction contract change orders and extra work orders on the project to ensure the reasonableness of pricing and proper justification for changes. We found that FHWA lacked assurance that \$2.2 million of change orders were properly justified prior to approval, and FHWA did not process approvals for up to 7 months. We recommended the FHWA Administrator: 1) require the State to establish and document what constitutes a non-major change order, and, until such definition is established, approve all change orders prior to the start of work; 2) require the State to submit major change order requests before effective dates and assign priority to review of major changes; 3) document advance approval for emergency or unusual conditions and provide formal approval as soon thereafter as practicable. FHWA concurred with the recommendations.

Relocation Assistance Activities, Central Artery/Third Harbor Tunnel

(Report Number R2-FH-4-022, July 6, 1994)

The audit objectives were to evaluate FHWA's oversight of relocation eligibility determinations, appropriateness of acquisitions and use of relocation estimates, propriety of mover selections, inspection process to ensure standards were met, and actual relocations to determine whether they were carried out in accordance with Federal regulations. We found weaknesses in FHWA's monitoring of acquisitions, using appropriate relocation estimates, and accomplishing actual relocations in accordance with Federal regulations. Resource availability and inadequate guidance limited FHWA's oversight. FHWA was not aware of a relocation costing \$15,000, and the project incurred \$54,100 in excess relocation claims and \$10,500 in unsupported and ineligible relocation costs. During the audit, FHWA officials agreed to take appropriate action to ensure relocations are carried out in accordance with Federal regulations.



Right-Of-Way Acquisition, Central Artery/Third Harbor Tunnel  
(Report Number R2-FH-4-011, March 10, 1994)

The audit objective was to evaluate FHWA administration and oversight of right-of-way (ROW) acquisition activities. We found that due to insufficient FHWA oversight, the Massachusetts Highway Department (State) unnecessarily acquired a \$13 million building and \$11.8 million of easements and leasehold rights. We recommended the FHWA Administrator ensure that Federal funding for ROW is limited to acquisition of property necessary to the final ROW. Furthermore, when the State makes ROW acquisition related decisions based on local political and economic reasons, when feasible and less costly alternatives exist, the Division should limit the Federal share to those costs involved in the lower alternatives. FHWA agreed with the recommendation.

Value Engineering, Central Artery/Third Harbor Tunnel  
(Report Number R2-FH-3-027, January 13, 1993)

The audit objective was to evaluate the effectiveness of FHWA administration and oversight of the value engineering (VE) program. We found that although \$400 million in savings resulted from value engineering, an additional \$100 million could have been achieved if FHWA and the State had thoroughly and objectively considered technically feasible, but controversial, value engineering recommendations. We recommended the FHWA Region 1 Administrator: 1) encourage the Division to provide sufficient resources to ensure VE reports are reviewed and finalized promptly; 2) advise the Division to assist the State in resolving management consultant problems timely, so that proper emphasis can be given to finalizing VE reports; 3) encourage the Division to share the project's VE Program Manual with other regions; 4) reemphasize current VE policies and ensure the Division thoroughly and objectively reviews all technically feasible VE recommendations; and 5) direct the Division to seek a higher share from the State for those recommended savings lost because of an arbitrary rejection by the State. FHWA agreed with the recommendations.

Consultant Services, Central Artery/Third Harbor Tunnel  
(Report Number R2-FH-1-196, September 17, 1991)

The audit objectives were to evaluate the adequacy of internal controls, including direct charges to Federal-aid projects, and use of the Massachusetts Department of Public Works (MDPW) pre-award audit function to ensure proposed consultant overhead rates were supported and consultant accounting systems properly accumulate costs by project. We also identified weaknesses in the State's external audit function that impaired its ability to objectively report findings and ensure that project costs were reasonable and proper. We recommended that the FHWA

Regional Administrator: 1) withhold all Federal participation in State audit costs for the project until the independence issue is resolved; and 2) require the external auditor to report directly to the MDPW Commissioner and ensure undue pressure is not placed on the external auditor by MDPW management. FHWA agreed with the recommendations.

**Current Audit Coverage:**

The Inspector General has provided a representative to the FHWA task force on the Central Artery to provide advice, based on our understanding of the project developed through our prior work. OIG is not a member of the task force but is providing independent advice consistent with its statutory role in the Department.

**Cost:**

Since its inception, the estimated cost of the Central Artery project increased from \$2.6 billion to \$12.2 billion.

**Schedule Status:**

As of June 30, 1999, the project is 66 percent complete. The project is maintaining its 2004 final completion date.

**Federal Funding:**

As of April 30, 1999, the Federal funding to be provided to the project through 2004 was estimated to total \$8.5 billion.

## **Gowanus (New York) Expressway Project**

### **Project Description:**

The Gowanus Expressway is a 6-mile highway serving the New York boroughs of Brooklyn, Manhattan, Queens, and Staten Island. The viaduct portion of the Gowanus Expressway is a continuous bridge from 6<sup>th</sup> Avenue and 65<sup>th</sup> Street to the Brooklyn Battery Tunnel. The project is in the early stages of the environmental study process, with various project alternatives under consideration.

### **Prior Audit Coverage:**

Report on Baseline Reviews of Four Highway/Transit Mega Projects  
(Report Number TR-2000-043, February 4, 2000)

The review objective was to provide baseline information on the current status, estimated cost, funding sources, and completion schedule, as well as to identify outstanding issues. In its report, OIG made no recommendations.

### **Cost:**

If project officials choose to rehabilitate the existing expressway, including the viaduct, the estimated cost would be \$800 million; however, if the officials choose to replace the entire expressway with one large tunnel, the estimated cost would be \$9 billion.

### **Schedule Status:**

The project is in the early stages of the environmental study process, and project officials have not determined the project's scope and design. The current schedule calls for construction to begin on the project around 2006. The Draft Environmental Impact Statement is expected to be completed by spring 2002, but may be delayed by a lawsuit. It will define the project's preferred alternative and the expected schedule for completion of the project.

### **Federal Funding:**

The Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) provided \$18 million for a tunnel study for this project. However, because the project is in the early stages of the design process, a finance plan has not been prepared, and FHWA will not know the estimated cost until an alternative is chosen. Approximately \$59.5 million in Federal funds have been spent on the project – \$1.2 million from the TEA-21 funds and \$58.3 million from New York's Federal-aid highway funds.

## **Interstate 15 (I-15) Reconstruction Project in Utah**

### **Project Description:**

The I-15 project will replace the existing 16.5 miles of general-purpose traffic lanes in the Salt Lake Valley with eight lanes, including High Occupancy Vehicle and ramp lanes in each direction, reconstruct approximately 140 bridges, and establish an Advanced Traffic Management System to monitor traffic. The I-15 project budget is \$1.6 billion. The project, which is using the Design-Build contracting process, is to be completed prior to the 2002 Winter Olympics.

### **Audit Coverage:**

Review of Interstate 15 (I-15) Reconstruction Project in Utah  
(Report Number TR-1999-028, November 24, 1998)

This was an in-depth review of the I-15 Reconstruction Project to: 1) determine current schedule, cost, and funding status and the reasonableness of related data; and 2) identify whether the project was at risk of exceeding costs or not meeting the scheduled completion date; or of not having adequate Federal, state, and local funding. We recommended FHWA require that the Utah Department of Transportation (UDOT) keep its finance plan current, and identify how it intends to resolve the I-15 funding shortfalls identified in the report. FHWA concurred with our recommendation and stated it would request UDOT to prepare an annual finance plan update for the project. UDOT also agreed to prepare annual updates.

### **Current Audit Coverage:**

The OIG is currently conducting a follow-up review to the November 1998 report. The objectives of this review are to: 1) update and evaluate the status of the project's costs, funding and schedule; 2) identify any risks or emerging issues that could affect the completion of project; and 3) follow up on the implementation of the recommendation contained in our previous report.

### **Cost:**

The original cost estimate for the I-15 project in its 1997 finance plan was \$1.4 billion. The latest cost estimate is \$1.6 billion.

### **Schedule Status:**

Construction began in 1997, and the project is on schedule to be completed in July 2001, 3 months before the contract completion date.

**Federal Funding:**

At the beginning of the project, state officials estimated that the Federal funding portion would be between \$350 million and \$450 million. Project officials are currently indicating Federal funding will be between \$250 million and \$450 million, which is between 22 and 28 percent of total project costs. The final Federal figure will depend on current and future state legislative actions regarding commitments of state funds.

## **Miami (Florida) East-West Multimodal Corridor Project**

### **Project Description:**

The Miami East-West Multimodal Corridor project originally included a new 12-mile rail transit line from the Palmetto Expressway to the Port of Miami and 9 miles of highway improvements on State Route (SR) 836. However, the transit portion of the project is on hold because on July 29, 1999, voters rejected a local sales tax referendum to provide the state and local funding for the project.

### **Audit Coverage:**

Report on Baseline Reviews of Four Highway/Transit Mega Projects  
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The review objective was to provide baseline information on the current status, estimated cost, funding sources, and completion schedule, as well as to identify outstanding issues that may affect the four Mega projects reviewed. In its report, OIG made no recommendations concerning the Miami East-West Multimodal Corridor project.

### **Cost:**

The estimated cost of the original project, including the transit line, was \$1.6 billion. Currently, with the suspension of the \$1.5 billion transit line, the cost of the project is estimated at \$103 million (based on 1995 dollars) for 9 miles of highway improvements to SR 836.

### **Schedule Status:**

Construction of the highway portion is scheduled to begin in 2000 and be completed by 2005. Construction of the transit line was to begin in 2002, and the entire project was to have been completed and opened for service in 2009. A new project schedule for the transit line has not been developed.

### **Federal Funding:**

Originally, \$1.3 billion in Federal funds were to be provided for the entire project, which included the now-suspended transit line. For the ongoing highway part, \$610,000 in Federal funds have been spent on planning items, but no additional Federal funds are requested or expected for the rest of the highway project. For the now-suspended transit portion, \$9.5 million in Federal funds were spent on planning and engineering. No new Federal estimates for the transit part have been developed.

## **Monongahela/Fayette (Mon/Fayette) Expressway Project in Pennsylvania and West Virginia**

### **Project Description:**

The Mon/Fayette Expressway project will cover about 75 miles of highway between Interstate 68 east of Morgantown, West Virginia, through the Monongahela River Valley to Pittsburgh, Pennsylvania. The expressway will be made up of seven segments – six in Pennsylvania and one in West Virginia. Two segments in Pennsylvania are completed and opened.

### **Audit Coverage:**

Report on Baseline Reviews of Four Highway/Transit Mega Projects  
(Report Number TR-2000-043, February 4, 2000)

The review objective was to provide baseline information on the current status, estimated cost, funding sources, and completion schedule, as well as to identify outstanding issues that may affect the four Mega projects reviewed. OIG made no recommendations concerning the Mon/Fayette Expressway project.

### **Cost:**

As of December 1999, the project to design and construct the remaining five segments of the Mon/Fayette Expressway was estimated to cost \$2.5 billion.

### **Schedule Status:**

The remaining five segments of the Mon/Fayette Expressway are scheduled to be completed by 2009, assuming adequate funding is provided on a timely basis. Two of the Pennsylvania segments (segments 2 and 4) are presently under construction, as well as segment 1 in West Virginia. Construction on segments 2 and 4 are 95 percent and 50 percent complete, respectively. No percentage completion figure is available for segment 1 because construction only began near the end of 1999.

### **Federal Funding:**

As of December 1999, \$58 million in Federal funds have been provided to construct the final five segments of the project. No specific total Federal funding estimate was available from the beginning of the project; similarly, project officials have declined to estimate the total amount to be requested from Federal sources for the remainder of the project. To date, \$20 million in Federal funds have been spent on the five segments. In total, about \$462 million had been spent on the segments as of December 1999, \$454 million for the four Pennsylvania segments and \$8 million for the West Virginia segment.

## Woodrow Wilson Bridge Project

### **Project Description:**

The Woodrow Wilson Bridge project includes replacement of the existing 6-lane bridge with 2 side-by-side bridge spans providing 12 travel lanes along with reconstruction of 4 adjacent interchanges, 2 in Maryland and 2 in Virginia.

### **Audit Coverage:**

#### Baseline Review of the Woodrow Wilson Bridge Project

(Report Number TR-1999-133, September 27, 1999)

This was a baseline assessment of the Woodrow Wilson Bridge project to determine the current status, estimated costs, funding sources, and completion schedule, as well as to identify outstanding issues that may affect the project. The report concluded that FHWA should establish timeframes and a resolution process to ensure all items (e.g., development of an all-inclusive cost estimate for the project, finalization of the finance plan, and determination of a new owner for the bridge) are completed in a timely fashion in order to keep the project on schedule. We further recommended that FHWA request Congress to establish a statutory cap limiting Federal funding for the Woodrow Wilson Bridge project to either the amount currently requested or some other amount established by Congress. FHWA concurred with our recommendations and stated that the five prescribed activities are underway. FHWA agreed that a cap on Federal funding is appropriate, but commented that it should be made clear that such a cap does not apply to the states' use of their respective Federal-aid apportionment. We consider FHWA's comments responsive to our recommendations.

### **Cost:**

FHWA's current estimated cost of the entire project is \$1.9 billion. However, OIG found an additional \$227 million in costs that had not been included in the original estimate. FHWA is in the process of developing a more accurate and current cost estimate. FHWA expects to complete this estimate by March 2000.

### **Schedule Status:**

Construction is scheduled to begin in October 2000. The first bridge span would open in 2004, and the total project would be completed by the end of 2006.

### **Federal Funding:**

The original Federal funding for the Woodrow Wilson Bridge project was approximately \$950 million. In 1999, the Administration proposed a \$600 million increase in Federal funding for the project, which, if approved, would bring the total Federal funding to about \$1.55 billion.



## Existing and Proposed Grant Agreements

New Starts Projects	Current Project Cost	Total Capital Investment Grant Funds	Capital Investment Grant Funds Appropriated Through FY 2000	Fiscal Year 2001 Budget Request Capital Investment Grant Funds
Atlanta North Line Extension	\$463,179,000	\$370,543,200	\$304,820,496	\$25,000,000
Bay Area Rapid Transit Extension to San Francisco Airport	1,483,200,000	750,000,000	217,198,700	80,000,000
Dallas North-Central Light Rail Extension	517,255,153	333,000,000	92,267,653	70,000,000
Denver Southwest Corridor	177,699,523	120,000,000	99,796,515	20,203,485
Houston Regional Bus	1,000,000,000	500,000,000	489,255,128	10,744,873
Hudson-Bergen Light Rail Transit	992,139,596	604,088,750	325,430,406	121,000,000
Los Angeles Metro Rail Red Line	1,310,822,000	681,037,000	581,819,469	50,000,000
MARC Commuter Rail	128,600,000	121,202,200	121,188,593	0
Portland-Westside Light Rail Extension	951,000,000	630,060,336	629,851,104	209,232
Sacramento South Corridor Light Rail Transit	222,000,000	113,185,000	77,985,550	35,199,450
Salt Lake City North/South Light Rail Line	312,500,000	243,993,530	243,275,524	718,006
San Jose-Tasman Light Rail West Extension	325,000,000	182,750,000	170,501,285	12,248,715
San Juan-Tren Urbano Rail Transit Project	1,675,630,645	312,372,354	84,627,780	118,000,000
South Boston Piers Transitway	600,915,070	330,726,320	294,757,071	35,969,249
St. Clair Extension of the St. Louis MetroLink System	339,169,856	252,415,961	161,888,949	60,000,000
<b>Total Active Grant Agreements</b>	<b>\$10,499,110,843</b>	<b>\$5,545,374,651</b>	<b>\$3,894,664,223</b>	<b>\$639,293,010</b>
<b>Pending Grant agreements</b>				
Fort Lauderdale-Tri-County Commuter Rail	\$327,000,000	\$110,500,000	\$13,780,997	\$30,000,000
Newark Rail Link	207,694,400	141,950,074	29,678,339	10,000,000
San Diego- Mission Valley East Light Rail Transit	431,000,000	329,958,000	22,107,170	65,000,000
<b>Total Pending Grant Agreements</b>	<b>\$965,694,400</b>	<b>\$582,408,074</b>	<b>\$65,566,506</b>	<b>\$105,000,000</b>
Maryland MTA Baltimore Double Tracking	\$153,700,000	1/	\$5,652,679	\$10,000,000
Chicago Transit Authority Douglas Branch Reconstruction	450,000,000	1/	4,922,605	17,000,000
Chicago METRA Southwest Corridor Extension	165,400,000	1/	27,506,968	10,000,000
Denver Southeast Corridor	882,500,000	1/	3,439,516	20,000,000
Memphis Medical Center Rail Extension	69,100,000	1/	10,382,697	14,174,990
Minneapolis Hiawatha Avenue Corridor	548,600,000	1/	69,320,169	20,000,000
New Jersey Transit-Hudson-Bergen	1,100,000,000	1/	0	0
Pittsburgh Light Rail Transit (Stage II)	383,700,000	1/	11,818,840	20,000,000
Portland Interstate MAX light rail extension	350,000,000	1/	5,960,000	40,000,000
Utah Light Rail Transit	105,800,000	1/	4,962,765	15,000,000
Seattle Sound Transit	1,500,000,000	1/	41,436,968	35,000,000
Washington DC Metro Largo Metro Extension	433,900,000	1/	5,652,679	10,000,000
<b>Total Proposed Grant agreements</b>	<b>\$6,142,700,000</b>		<b>\$191,055,886</b>	<b>\$211,174,990</b>
<b>Grand Totals</b>	<b>\$17,607,505,243</b>	<b>\$6,127,782,725</b>	<b>\$4,151,286,615</b>	<b>\$955,468,000</b>

<b>Federal Highway Mega Projects Reviewed by OIG</b>				
	<b>Project Name</b>	<b>Description</b>	<b>Cost Estimate</b>	
			<b>Original</b>	<b>Current</b>
1	Alameda Corridor	20-mile new rail corridor	\$2.3 billion	\$2.4 billion
2	California State Route 210	29-mile replacement, and expansion -- underway	\$1.2 billion	\$1.1 billion
3	Central Artery / Ted Williams Tunnel	7.5-mile highway tunnel through Boston	\$2.6 billion	\$12.2 billion
4	Gowanus Expressway	6-mile expressway will be rehabilitated or replaced with a tunnel	\$0.8 to \$7 billion	\$0.8 to \$9 billion
5	Interstate 15 Reconstruction	16.5 miles of I-15 are being reconstructed in Salt Lake City, Utah	\$1.36 billion	\$1.6 billion
6	Miami East-West Multimodal Corridor	9-mile highway improvements	\$103 million	\$103 million
		9-mile highway improvements and 12-mile transit line	\$1.6 billion (includes the above \$103 million)	\$1.6 billion (includes the above \$103 million)
7	Mon-Fayette Expressway	65-70-miles of new or improved highway	\$1.8 billion	\$2.5 billion
8	Woodrow Wilson Bridge	Replacement of the Potomac River crossing and reconstruction of 4 adjacent interchanges	\$1.9 billion	\$1.9 billion <sup>1</sup>
<b>Estimated Total - Current Costs</b>				<b>\$22.7 billion to \$32.4 billion<sup>2</sup></b>

<sup>1</sup> The OIG identified a \$227 million net increase to the cost, which would bring the total to \$2.1 billion. However, FHWA does not agree that it is appropriate to recognize these costs at this time.

<sup>2</sup> Because several of these projects are in the early stages of planning and development, the total cost figures are subject to change.