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# *Office of Inspector General*

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*Central Artery / Ted Williams Tunnel Project  
Highlights Need for Effective  
Federal Oversight*

*Federal Highway Administration*

*Report Number TR-2000-088*

*Date Issued: June 7, 2000*





# Memorandum

**U.S. Department of  
Transportation**

Office of the Secretary  
Of Transportation

Office of Inspector General

Subject: **ACTION:** Central Artery/Ted Williams Tunnel  
Project Highlights Need for Effective Federal  
Oversight  
TR-2000-088

Date: June 7, 2000

Reply to JA-30  
Attn of:

From: Alexis M. Stefani  
Assistant Inspector General for Auditing

To: Federal Highway Administrator

On May 3, 2000, at a hearing before the Committee on Commerce, Science, and Transportation, U.S. Senate, we provided testimony on the Central Artery/Ted Williams Tunnel Project in Boston, Massachusetts. Our testimony addressed the recent cost increases on the Central Artery Project and the status of efforts to recover past overpayments on the Central Artery's Owner Controlled Insurance Program (OCIP). Our testimony was based on our February 10, 2000 report on the Current Costs and Funding of the Central Artery/Ted Williams Tunnel Project (Report Number TR-2000-050) and our May 24, 1999 report on Overpayments of Premiums for the Central Artery Project's Owner Controlled Insurance Program (Report Number TR-1999-104). A copy of our written statement is attached.

Specifically, we testified on (1) the findings of our latest review of costs and funding on the Central Artery, (2) the breach by Central Artery Project managers of their duty to provide financial data to the Federal Highway Administration (FHWA) and Office of Inspector General (OIG), (3) the need for FHWA to perform critical, independent oversight to protect the Federal investment in highway infrastructure projects, (4) how the use of advance construction could increase Federal exposure on the project and adversely impact the Massachusetts statewide program, and (5) the status of the FHWA's efforts to recover the insurance overpayments we identified last year.

In response to the recommendations in Report Number TR-1999-104, on September 13, 1999, FHWA agreed to take action to recover past overpayments by using the funds to pay insurance premiums due in the next 2 years, and to

issue guidance to ensure future overpayments are immediately recovered. In response to the recommendations in Report Number TR-2000-050, on February 17, 2000, the Secretary of Transportation directed FHWA to accept and implement all recommendations in the report. The OIG will continue to monitor FHWA's progress in implementing the recommendations in these reports.

In addition, our testimony addressed two concerns we have identified resulting from continuing advance construction authorizations to the Central Artery Project. First, additional advance construction authorizations for the Central Artery have the potential to raise the Federal exposure on the Project above the present target of \$8.5 billion. Second, repayment of already approved advance construction in future years at the maximum rates agreed to by Massachusetts has the potential to consume half of the estimated Federal apportionment to the state through the year 2011.

To limit the potential for additional advance construction authorizations to increase the Federal exposure on the Central Artery Project, as well as to protect the availability of future Federal funding to Massachusetts and other states, we suggested that Congress consider placing limits on the use of advance construction authority. We also suggested that, as a requirement for receiving advance construction authority, each state should demonstrate in its transportation improvement programs that adequate funding will be available after repayment of advance construction in future years to operate, maintain, and develop the highway system in the state. FHWA would monitor the states' performance at accomplishing planned projects.

We are requesting any comments you may have on our suggestions regarding potential limits on the use of advance construction authority. We would appreciate your written response within 30 calendar days.

If I can answer any questions or be of further assistance, please feel free to contact me at (202) 366-1992 or Thomas J. Howard, Deputy Assistant Inspector General for Maritime and Departmental Programs at (202) 366-5630.

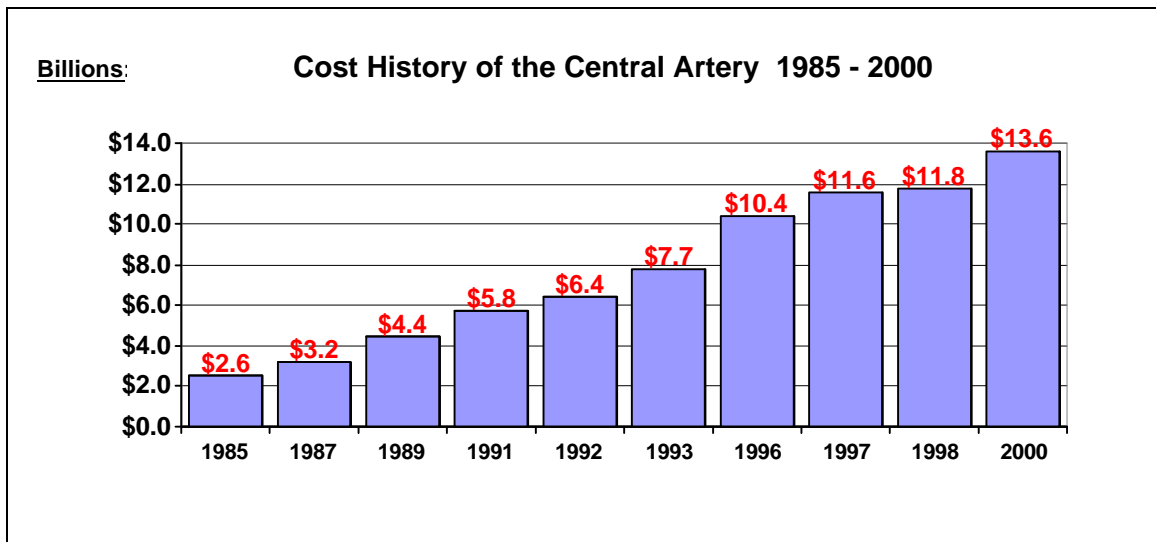
Attachment

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Mr. Chairman and Members of the Committee:

We appreciate the opportunity to be here today to discuss the Central Artery/Ted Williams Tunnel Project (Project). This is the most expensive highway construction project in the United States, and one that is important to Massachusetts and all of New England.

When initially approved in 1985, the Project was estimated to cost \$2.6 billion. The latest cost overruns raise the cost to as much as \$13.6 billion. The Federal share of that cost is expected to be more than \$8.5 billion.



In response to the latest cost increases, the Secretary directed the formation of a Task Force that returned a forthright and pointed report on the failure of oversight on the Central Artery. The Secretary briefed this report to Members of Congress and state officials in early April. The Task Force called for strong action to improve the Federal Highway Administration's (FHWA's) oversight of large infrastructure projects.

We have issued 13 reports on the Project. Our audits have recommended improvements in the Project's cost management, its insurance program, the use of value engineering, and right of way acquisitions, among other things. Attached to our statement is a description of the findings of each of our audits.

There have been several prosecutions involving the Project. However, no significant criminal activity has been found to date. The United States Attorney, Federal Bureau of Investigation, and Office of Inspector General (OIG) are continuing to evaluate various issues concerning the construction management and financial oversight of the Central Artery.

Our testimony today will address:

- the continuing construction cost overruns we found on the Project and how the lack of guidance from FHWA allowed Project managers to avoid disclosing those overruns in the Project's annual finance plans;
- the breach by Central Artery Project managers of their duty to provide financial data to FHWA and OIG;
- the need for FHWA to perform critical, independent oversight to protect the Federal investment in highway infrastructure projects;
- how the use of advance construction could increase Federal exposure on the Project and adversely impact the Massachusetts statewide program; and
- the Central Artery managers' use of its owner-controlled insurance program to draw down unneeded Federal funds for investment purposes and status of efforts to recover past insurance overpayments.

### **Central Artery Project Costs Have Mushroomed**

In our latest review of costs and funding on the Central Artery, we found that cost overruns had added \$142 million to the previously reported \$10.8 billion cost of the Project. Moreover, we predicted that continuing construction cost trends had the potential to add another \$942 million to the cost of the Project. In addition, on May 24, 1999, we disallowed an \$826 million insurance "credit" that the Project claimed it could receive in 2017 because we determined it was based on the improper retention of excess Federal funds for investment purposes. Therefore, we concluded the cost of the Project was \$11.8 billion with the potential to rise to \$12.7 billion.

In late October 1999, FHWA officials and Central Artery Project managers firmly rejected the warnings in our draft report and claimed that future cost increases were unlikely. We sought to reconfirm our analysis, and found that the cost trends we had reported were not only continuing, but worsening, despite FHWA's and the Project's claims to the contrary. For example, our initial review found that contract award amounts were exceeding budget by almost 24 percent. In further investigations, we found that the latest awards had exceeded budget by 38 percent.

As we had warned, on February 1, 2000, Central Artery Project managers revealed that costs would go up by \$1.4 billion, including over \$900 million in additional

construction costs. Besides the construction cost increases, the \$1.4 billion included almost \$500 million of cost increases in design, right of way, project management, and work done for the project by utilities (“force accounts”). As we now know, Project managers were well aware costs were increasing significantly when they replied to our draft report in October 1999. They deliberately withheld that information. In cost reviews conducted to verify the increases announced by the Project, FHWA estimated the increases would actually total \$1.7 billion to \$1.9 billion, raising the expected ultimate cost of the Project to as much as \$13.6 billion.

### **Central Artery Failure to Disclose Costs Was Unconscionable**

Not only did Central Artery managers fail to disclose cost trends in the 1998 and 1999 Finance Plans, they changed the reporting methodology to avoid disclosing the Project’s cost problems. For example, the managers switched from comparing contract award amounts against budgets to comparing the award amounts against an “engineer’s estimate” of market prices. As a result, the Project’s 1998 Finance Plan did not disclose that contracts were exceeding budget by an average of almost 24 percent. The failure of Central Artery managers to disclose known costs in the Project’s finance plans, to us during our review, or in response to our draft report, was a serious breach of their due diligence requirements.

Project managers were able to manipulate the cost data reported in the finance plans because FHWA’s guidance on finance plans is woefully inadequate to ensure complete and accurate financial reporting. Guidance on reporting of financial data is essential to avoid repetitions of such problems. We recommended that FHWA issue comprehensive guidance specifying minimum reporting requirements. In its response to our draft report, FHWA disagreed with the need for guidance, and stated, “We do not believe it is desirable to be overly prescriptive as to what specific metrics are used.”

However, on February 17, Secretary Slater overruled FHWA and directed that all our recommendations be accepted and implemented. At a minimum, FHWA’s guidance should require that finance plans:

1. Include the assumptions underlying both cost and revenue estimates;
2. Report how the Project is doing at staying on budget (e.g., by reporting the “actual cost of work performed” and comparing that figure to the amount that was budgeted for the work);
3. Clearly describe cost trends (e.g., provide the rate at which cost increases are being incurred as work is performed; explain how contract award amounts have compared to the budget) and the potential impact

- of those trends on Project costs;
4. Identify measures being taken to monitor and control costs (e.g., value engineering);
  5. Identify sources of funding that can be used if costs rise or other anticipated funding is not received;
  6. Identify significant changes to the scope of projects, and the effect of these changes on the cost and capacity of the project (costs reductions in which costs are simply moved to third parties should be clearly explained); and
  7. 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.

### **FHWA's Alarming Lapse of Oversight**

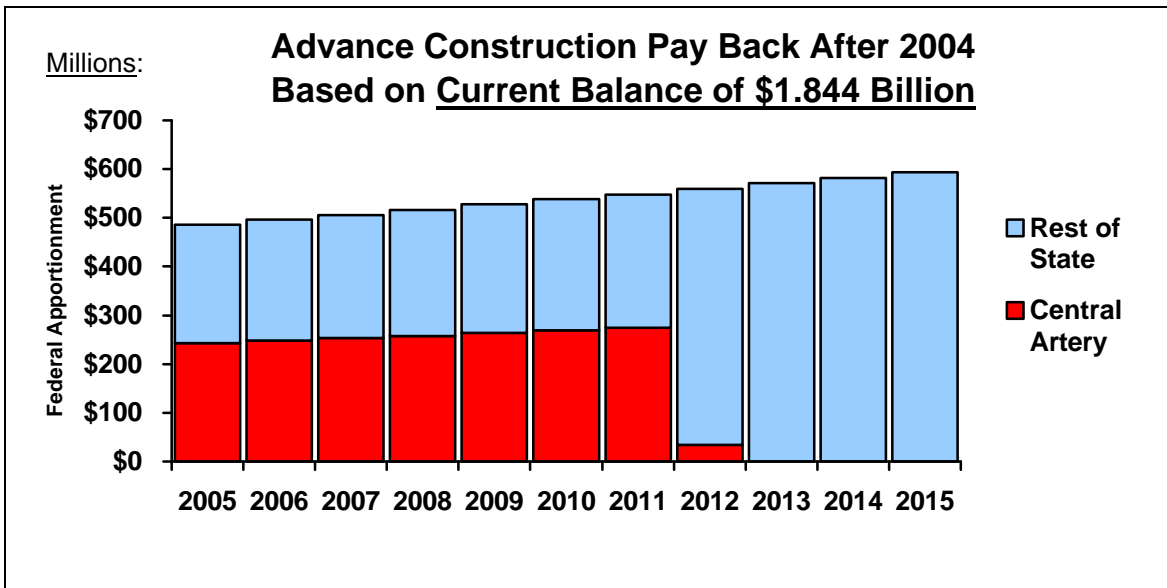
FWHA's approach to oversight is to view the states as its "partners." As a result, it performs very little independent analysis of the data provided by the states. Because this approach failed in the case of the Central Artery, the credibility of both FHWA and the Project has been damaged and senior managers in both organizations have been removed from their positions. The delays in reporting the cost increases also prevented the involvement of Federal officials at an earlier stage when there may have been more options for addressing the cost problems.

The lesson to be learned from the recent events is that FHWA needs to provide critical and objective oversight to protect Federal interests on large infrastructure projects. This situation could have been avoided if Federal officials responsible for the Project had closely examined the finance plans and independently verified data they were provided. FHWA did not even have the Project's revised finance plan reviewed by the financial analyst on the FHWA Massachusetts Division staff. A sobering aspect of the recent events is that the FHWA's oversight on the Central Artery went *beyond* that agency's normal oversight efforts. We believe FHWA should adopt a "trust but verify" approach, and recommended that FHWA independently verify financial data provided by the state.

In response to our recommendations, the Secretary, to his credit, took strong action to improve FHWA's oversight and protect the Federal investment in this project. Most visibly, he directed the formation of the Task Force that returned a forthright and pointed report on the oversight of the Central Artery that the Secretary briefed to Members of Congress and state officials in early April.

## Advance Construction Could Raise Federal Contribution to \$9.5 Billion

The state is using a financing tool called “advance construction” in which FHWA authorizes the state to proceed with work for which Federal funds are not currently available, pay for it out of state funds, and then reimburse itself out of future Federal highway apportionments. Currently authorized advance construction will leave a \$1.8 billion balance to be reimbursed after the Project ends in 2004. In its 1999 Finance Plan, the state promises that it will spend no more than 50 percent of its Federal apportionment on the Central Artery after fiscal year 2002. Assuming moderate 2 percent increases in annual apportionments, *the state could be spending half of its Federal apportionment reimbursing itself for Central Artery costs through the year 2011, or 7 years after the scheduled completion of the Project.*



Massachusetts has also indicated it may request approval for \$936 million more in advance construction on the Central Artery, and FHWA has indicated it may approve up to \$222 million of that amount. That would add another year to the payoff period. If the full \$936 million request is approved, it could extend the payoff into the year 2015, and increase the ultimate Federal contribution to the Central Artery to almost \$9.5 billion.

Massachusetts has also reiterated its commitment, as a condition for FHWA acceptance of the Central Artery finance plan, to maintain a “balanced Statewide Road and Bridge Program.” Under this commitment, the state is to spend at least \$400 million (including both Federal and state funds) on road and bridge projects throughout the state. In the Department of Transportation Appropriations Bill for 1999, Congress expressed concern that, notwithstanding the state’s commitment,



programmed funding in the Massachusetts' transportation improvement program would provide only \$16 million for interstate maintenance for 6 years.

We have two concerns. First, the continuing use of advance construction increases the Federal exposure on this Project. Second, notwithstanding Massachusetts stated commitment to "balanced" spending, dedicating half of the state's Federal apportionment to the Central Artery for such a long period may impair the state's ability to maintain and develop the highway system within the state.

We suggest that Congress consider limiting the use of advance construction to amounts that can be converted within a specified time (e.g., 3 or 5 years after project completion) using a limited portion of the state's annual apportionment. We also suggest Congress establish that no advance construction may be approved unless FHWA ascertains that the state has demonstrated in its transportation improvement program that adequate funding will remain in each year not only to operate (e.g., mowing and snow removal), but to maintain and develop the highway system throughout the state (e.g., resurfacing, rebuilding, and new construction). The program should include specific funding levels and projects to meet the state's commitment. FHWA should then monitor the performance of the state at accomplishing the planned projects, and report on that progress annually.

### **Central Artery Overpayment of Insurance Premiums**

On May 24, 1999, we reported that the Project overpaid workers compensation and general liability insurance premiums by approximately \$129.8 million dollars from 1992 to 1997 (Report Number TR-1999-104). The overpayment occurred in part because premiums for policy years 1992 through 1995 were based on work plans that called for a large number of workers. Those plans did not materialize, but the premiums were not reduced to reflect the actual lower number of workers. The overpayments were deposited into the Project's insurance trust accounts as collateral against future claims. Although expected claims did not materialize (in part because the workers were not hired), trust levels were never adjusted to remove excess funds as required by Federal regulations. Instead, the funds were kept invested in a diverse portfolio of securities (e.g., Walt Disney, Wal Mart, General Electric, and US Treasury notes).

The state planned to keep the overpayments we identified, along with other excess funds, in the trust until the year 2017. According to the state, in 2017 it expected the trust fund balance to reach \$826 million. The state was carrying the expected credit as an offset to current Project costs. Massachusetts also indicated it planned to use the cash to fund other highway projects in the state when it received the money. We determined that the state cannot both claim it needs Federal money to

pay insurance costs and that it will receive a return of \$826 million from the investment of those funds.

We recommended FHWA require the Project to recover the \$129 million in overpayments, plus interest earned, and use the money for current Project costs. We also recommended that the balance of the trust be adjusted to appropriate levels on a regular basis, and that FHWA issue policy to ensure any future overpayments are immediately recovered and applied to current costs or returned to the U.S. Treasury. On September 13, 1999, FHWA agreed with our recommendations.

On April 4, 2000, the Central Artery's insurance broker provided information that indicated the Project has used \$67.8 million of the past overpayments to make scheduled payments. FHWA and OIG are currently reviewing the documentation provided to support this use of the \$67.8 million. We will continue to monitor the state's use of the past overpayments.

FHWA has not yet issued a policy to limit Federal contributions to insurance reserves to the amount needed to pay incurred claims. FHWA is in the process of contracting for a consultant to advise it on the Central Artery insurance program and other insurance matters. FHWA's current target date for issuing the policy is July 31, 2000. The policy is still needed to ensure this and other highway construction projects do not attempt to use Owner Controlled Insurance Programs as a means of drawing down Federal funds for investment purposes.

## **Background**

The Massachusetts Central Artery/Ted Williams Tunnel Project is the most expensive highway construction project in the nation. Planning for the Project began in 1981, the Project was initially approved in 1985, and construction was authorized to begin in 1991. The Project is scheduled to be completed in 2004. The Project will replace Boston's deteriorating, elevated Central Artery (part of Interstate 93) with a modern underground expressway, and will extend the Massachusetts Turnpike to Logan Airport through the new Ted Williams Tunnel under Boston Harbor. Federal government reimbursements to the Massachusetts Highway Department for the program range from 80 to 90 percent of the costs of the Project. This is a significant project, not only for its role in New England's transportation infrastructure, but for the economic benefits and cost impacts it presents to residents of Massachusetts.

### **Central Artery Project Costs Have Mushroomed**

On October 7, 1999, we issued a draft report on the cost and funding of the Project to FHWA and to Central Artery Project managers. We found that continuing cost overruns had added \$142 million to the previously reported \$10.8 billion cost of the Project. We also identified that the Project was experiencing continuing increases in construction costs that it was offsetting with scope reductions and other cost containment measures.

Our audit documented that construction contract awards on the Project were exceeding budget by almost 24 percent, and construction costs were increasing after award by over 21 percent. The financial data made available to us during our review covered the period from July 1, 1997 to April 30, 1999. That data showed construction costs increased by a total of \$827 million, including more than 3,000 individual contract changes. The Project had offset \$638 million of those increases with money from its construction contingency accounts, as well as reductions in the scope of future construction work and other costs. We warned that, unless Project managers recognized and corrected these construction cost growth trends, there could be an additional \$942 million in construction costs before the scheduled completion of the Project.

We were concerned that, since the Project design is substantially complete, and contracts for remaining work are soon to be awarded, it was becoming increasingly difficult to identify additional cost reductions on the Project. Therefore, we warned that it was important for FHWA and Project managers to recognize the magnitude of potential future cost increases that could occur if the cost trends continued, and identify additional funding or scope reductions that could be used to offset future cost growth. We also noted that the Project was continuing to claim an \$826 million “credit” to be received from its insurance program in 2017. On May 24, 1999, we reported that credit was not allowable because it was based on the improper retention of excess Federal funds for

investment purposes. We concluded that the cost of the Project was no longer \$10.8 billion, but stood at \$11.8 billion with the potential to increase further.

In late October 1999, FHWA and Project managers firmly rejected the warnings in our draft report and claimed that future cost increases were unlikely. We undertook to reconfirm our analysis, and found that the cost trends we had reported were not only continuing, but worsening, despite FHWA's and the Project's claims to the contrary. For example, during our review we found that contract awards were exceeding budget by almost 24 percent. When we went back to check the latest awards, we found they had exceeded budget by 38 percent.

As we had warned, on February 1, 2000, the Project revealed that costs would go up by \$1.4 billion, including over \$900 million in additional construction costs. In addition to the construction costs, the \$1.4 billion increase included almost \$500 million of cost increases in design, right of way, project management, and work done for the Project by utilities ("force accounts"). As we now know, Central Artery Project managers were well aware its costs were increasing significantly when they replied to our draft report in late October 1999. They deliberately withheld that information.

### **Central Artery Failure to Disclose Costs Was Unconscionable**

The failure of the Central Artery to fully disclose cost information to us during our review or in response to our draft report was a serious breach of their

due diligence requirements. State officials' claims that they chose not to reveal the cost problems until they could find a solution are unacceptable. Failure to promptly and fully provide cost data when asked by Federal officials may violate terms of their grant agreement that require the state to provide access to information and records. Moreover, the withholding unnecessarily delayed the time when other parties concerned with the Project, including state officials outside the Project as well as Federal officials and Congress, could act to address the rising costs.

There are two primary reasons that Central Artery Project managers were able to hide the increasing costs. First, they were able to manipulate the cost data reported in the finance plans because FHWA's August 1998 guidance on finance plans is inadequate to ensure complete and accurate financial reporting. Second, the FHWA Division Office did not critically and independently review information the state provided. FHWA's approach to project oversight is to view the grantees as "partners," and it operates on the presumption that it can trust its partner. Consequently, FHWA performs very little independent analysis to identify emerging problems.

### **FHWA Guidance Inadequate to Ensure Complete and Accurate Reporting**

Finance plans are essential tools that describe how projects will be implemented over time and identify project costs and funding needs. The

Transportation Equity Act for the 21<sup>st</sup> Century requires recipients of Federal-aid funds for projects with an estimated total cost of \$1 billion or more to submit annual finance plans to the Secretary. FHWA issued guidance on finance plans in August 1998. Our reviews have found the quality of finance plans developed for highway projects depends on the project sponsor. To illustrate, we found that Utah's Department of Transportation developed a reliable estimate of costs and revenues to construct and fund the Interstate-15 Reconstruction Project in Salt Lake City.

As our report revealed, the 1998 and 1999 Finance Plans for the Central Artery failed to disclose cost trends on the Project. To the contrary, we found the Central Artery actually changed its reporting methodology to avoid disclosing the magnitude of the Project's cost problems. For example, by switching from comparing contract awards to how much was budgeted for the contract to comparing the awards to an "engineers estimate" of market prices, the Project's 1998 Finance Plan avoided disclosing that contracts were exceeding budget by an average of almost 24 percent. The Central Artery went so far as to eliminate the total cost of the Project from the October 1999 Finance Plan update it provided to FHWA in January 2000. Such manipulations were possible because FHWA's guidance established no uniform or minimum reporting criteria.

Of particular concern to us is that, even after we had warned FHWA in October 1999 that costs were increasing and that the finance plans were

incomplete, FHWA's managers did not act to ensure complete financial reporting. In fact, FHWA did not even have the Project's revised finance plan reviewed by the financial analyst on the FHWA Massachusetts Division staff. FHWA accepted the Project's inadequate finance plan on February 1, 2000, with only a caveat that the Project should identify funding to meet a \$500 million shortfall that FHWA knew about. Later that same day, the Central Artery announced the \$1.4 billion cost increase. It is incredible that FHWA would pay little attention to the warnings we provided, but accept without any analysis the finance plan submitted by the Central Artery.

We recommended that the FHWA issue more comprehensive guidance that would specify minimum reporting requirements. We recommended that FHWA issue comprehensive guidance specifying minimum reporting requirements. In its response to our draft report, FHWA disagreed with the need for guidance, and stated, "We do not believe it is desirable to be overly prescriptive as to what specific metrics are used."

On February 17, 2000, Secretary of Transportation Rodney Slater issued a press release in which he overruled FHWA and directed that all OIG's recommendations be accepted and implemented. At a minimum, finance plans should:

1. Include the assumptions underlying both cost and revenue estimates;



2. Report how the Project is doing at staying on budget (e.g., by reporting the “actual cost of work performed” and comparing that figure to the amount that was budgeted for the work);
3. Clearly describe cost trends (e.g., provide the rate at which cost increases are being incurred as work is performed; explain how contract award amounts have compared to the budget) and the potential impact of those trends on Project costs;
4. Identify measures being taken to monitor and control costs (e.g., value engineering);
5. Identify sources of funding that can be used if costs rise or other anticipated funding is not received;
6. Identify significant changes to the scope of projects, and the effect of these changes on the cost and capacity of the project (costs reductions in which costs are simply moved to third parties should be clearly explained); and
7. 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.

## **Inadequate FHWA Oversight on Large infrastructure Projects**

Since 1955, the Nation has made a significant investment in our National Highway System. Although the interstate highway system is virtually complete, FHWA is still responsible for overseeing more than \$28 billion in annual funding to maintain and expand our national highways. Capable, independent Federal oversight is essential to protect the investment in the National Highway System. A sobering aspect of the recent events is that the FHWA's oversight on the Central Artery went *beyond* that agency's normal oversight efforts. This is not the only recent instance where FHWA failed to exert sound oversight. The creation of the new Federal Motor Carrier Safety Administration was a direct result of a continuing lack of effective oversight activity by FHWA.

FHWA views its relationship with the state highway departments as a "partnership." In our opinion, FHWA's partnership approach to oversight relies too much on unsubstantiated information provided by project management officials. Therefore, on a larger scale, we believe FHWA should move to a "trust, but verify" management approach that would focus less on project advocacy and more on critical and objective oversight to ensure the maximum benefit for all Federal transportation funding.

The events surrounding the recent cost increases on the Central Artery Project illustrate what can happen when effective independent oversight is lacking.

FHWA Division Office staff chose to rely on information from their state partners and rejected our October 1999 warnings of potential construction cost increases on the Project and our call for better guidance on finance plans. Just 3 months later, on the same day FHWA accepted a revised finance plan from the Project, the Central Artery surprised FHWA by announcing a \$1.4 billion cost increase.

As a result, both FHWA and Central Artery/Ted Williams Tunnel Project management are now faced with a loss of credibility. Senior managers in both FHWA and the state have been moved or removed from their positions. The delays in reporting the cost increases also prevented the involvement of Federal officials at an earlier stage when there may have been more options for addressing the cost problems. This situation could have been avoided if Federal officials responsible for the Project had closely examined the finance plans and independently verified data they were provided.

FHWA has a duty to ensure the proper stewardship of Federal funding provided to the states. To ensure that the National Highway System is maintained and developed to the maximum extent possible with available funding, FHWA officials must actively seek to keep abreast of the progress of projects and programs in the states, and to independently verify information they are provided. FHWA must not wait for problems to emerge before acting. FHWA must not lose sight of the Federal goals it is responsible to achieve, and must temper its reliance on state partners with judicious independent oversight. Our recommendation to

FHWA was that the FHWA Division Office be required to independently verify the data provided by the state.

In response to our recommendations, the Secretary, to his credit, took strong action to improve FHWA's oversight and protect the Federal investment in this Project. Most visibly, he directed the formation of the Task Force that returned a forthright and pointed report on the oversight of the Central Artery that the Secretary briefed to Members of Congress and state officials in early April. Senior FHWA managers were reassigned to provide fresh leadership to the Project. The Secretary also directed FHWA to revise its policy on financial reporting. At the Secretary's direction, FHWA is reviewing its project oversight process. Based on the results, FHWA should strengthen its oversight program.

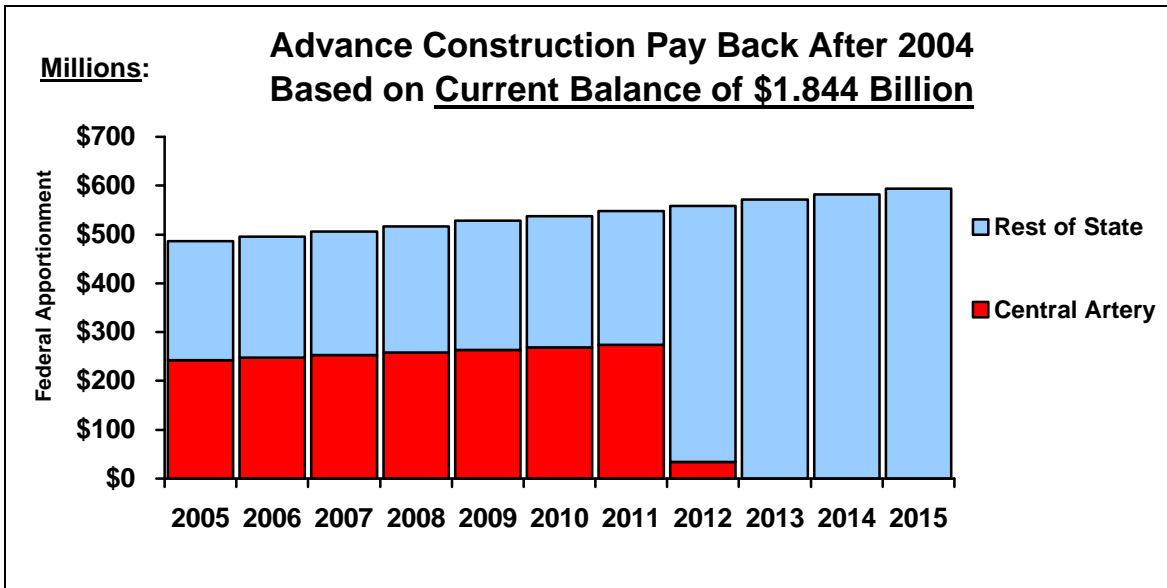
### **Advance Construction Could Raise Federal Contribution to \$9.5 Billion**

In addition to monitoring the current use of funds, FHWA must also monitor the impact of large projects on states' cash flow and long-term financial commitments. One financing tool that can have a long-term impact is the use of advance construction. Under advance construction, FHWA authorizes a state to proceed with work for which Federal funds are not currently available, pay for it out of state funds, and then "convert" the cost to Federal by reimbursing itself out of future Federal highway apportionments. FHWA's approval does not increase the *current* funding available to the Project, nor guarantee that future Federal

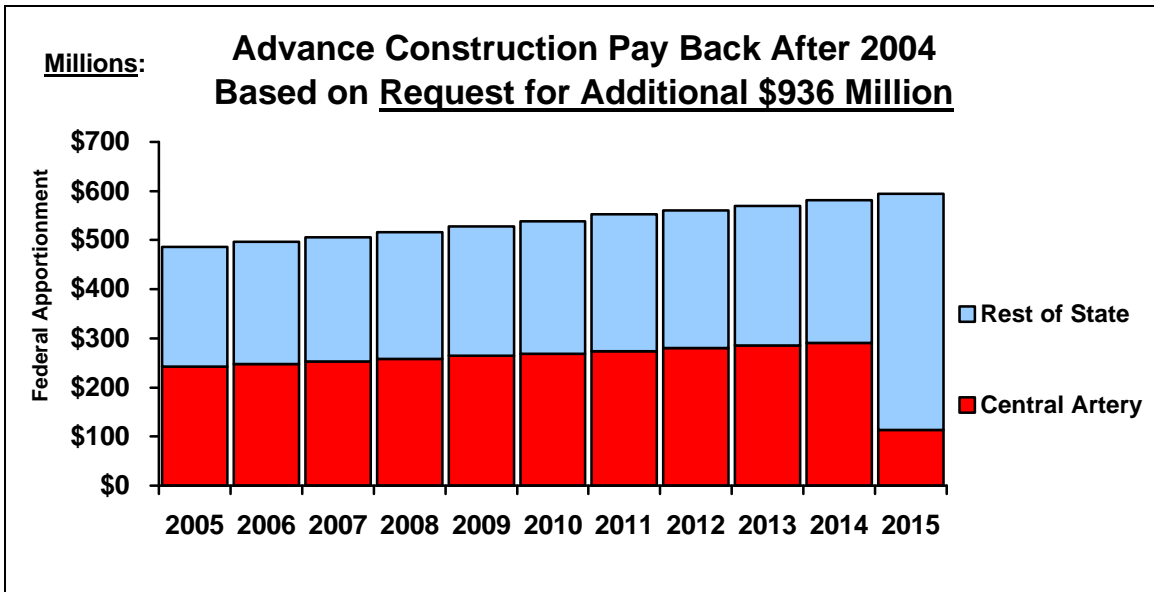
apportionments will be forthcoming. However, there are no time limits on how long the state has to convert these costs to Federal funds.

We have noted that the amount of advance construction FHWA has already authorized will prove to be a long-term drain on the Federal funding provided to the state from the Highway Trust Fund. Additional approvals of advance construction hold the potential to further increase the Federal cost exposure on the Central Artery.

We examined how long it may take the state to reimburse itself for the advance construction that FHWA has already approved. The Central Artery's 1999 Finance Plan notes that, as of January 2000, the Massachusetts' outstanding balance of approved advance construction was \$2.9 billion, of which \$2.8 billion was related to the Central Artery. Estimates in the 1999 Finance Plan indicate that about \$1.8 billion of the Project's advance construction balance will remain outstanding at the conclusion of the Project in 2004. The 1999 Finance Plan also promises that, after 2002, Massachusetts will spend no more than 50 percent of its Federal apportionment on the Central Artery. Assuming the state's apportionment rises by a moderate 2 percent annually after 2003 and the state's annual obligation limitations remain at 87 percent of the apportioned amount, *the state could be spending half of its Federal apportionment on the Central Artery through the year 2011, or 7 years after the Project is scheduled to be completed.*



Moreover, according to the Project's 1999 Finance Plan, Massachusetts plans to request approval for \$936 million more in advance construction on the Central Artery. FHWA has indicated that the Department may approve up to \$222 million of the requested amount. If an additional \$222 million is approved, it will add another year to the payoff period. If the full \$936 million request is approved, the Federal contribution to the Central Artery will eventually total almost \$9.5 billion when all those costs are reimbursed out of future Federal apportionments, and it will extend the payoff period for advance construction into the year 2015, which is 11 years after the Project's scheduled completion.



Massachusetts has also reiterated its commitment, as a condition for FHWA acceptance of the Central Artery finance plan, to maintain a “balanced Statewide Road and Bridge Program.” Under this commitment, the state is to spend at least \$400 million (including both Federal and state funds) on road and bridge projects throughout the state. In the Department of Transportation Appropriations Bill for 1999, Congress expressed concern that, notwithstanding the state’s commitment, programmed funding in the Massachusetts’ transportation improvement program would provide only \$16 million for interstate maintenance for 6 years.

Advance construction can serve a valid purpose in allowing states to manage their cash flow to accomplish costly projects in a timely manner. However, excessive or irresponsible use of advance construction can place a long-term burden on the funding provided to maintain the nation’s highway system.

We are concerned that the continuing use of advance construction increases the Federal exposure on this project. In addition, we are concerned that committing half of the state's Federal apportionment to the Central Artery for such a long period may impair Massachusetts' ability to maintain and develop the entirety of the National Highway System within the state.

It is FHWA's duty to ensure that the National Highway System is maintained and developed. Meeting that responsibility is critical to the continued economic growth of the nation, as well as to achieving the safety and mobility goals of the Department. FHWA has delegated to each state the responsibility for implementing a highway program, and requires the states to develop transportation improvement programs to define how they will accomplish that responsibility. If Federal funds remaining after advance construction conversions in future years are inadequate to maintain and develop the National Highway System roads in the state, future Massachusetts taxpayers and the Congress will be faced with difficult choices for funding the state's highway program.

To avoid the potential for further Federal exposure on this Project, as well as to prevent other states from spending future apportionments to the extent seen on the Central Artery, we suggest Congress consider limiting the use of advance construction. For example, Congress could limit advance construction to no more than the state can convert in a specified time (e.g., 3 to 5 years after project completion) using a limited portion of the state's Federal apportionment. We also



suggest Congress establish that no advance construction may be approved unless FHWA ascertains that the state has demonstrated in its transportation improvement program that adequate funding will remain in each year not only to operate (e.g., mowing and snow removal), but to maintain and develop the highway system throughout the state (e.g., resurfacing, rebuilding, and new construction). The program should include specific funding levels and projects to meet the state's commitment. FHWA should then monitor the performance of the state at accomplishing the planned projects and report on that progress annually.

### **Central Artery is Applying Past Overpayments to Current Premiums**

On May 24, 1999, we reported that the Project overpaid workers compensation and general liability insurance premiums by approximately \$129.8 million dollars from 1992 to 1997 (Report Number TR-1999-104). The overpayment occurred in part because premiums for policy years 1992 through 1995 were based on work plans that called for a large number of workers in order to complete the Project by 1998. Those plans did not materialize. Consequently, because premiums are based on the number and type of workers employed, the premium estimates were too high. However, the premiums were not recalculated to reflect the actual lower number of workers.

The overpayments were deposited into the Project's insurance trust accounts as collateral against future claims. The expected claims did not

materialize, in part because the workers who would have filed the claims were never hired. However, trust levels were never adjusted to remove excess funds as required by Federal regulations. Instead, the funds were kept invested in a diverse portfolio of securities (e.g., Walt Disney, Wal Mart, General Electric, and US Treasury notes).

The state planned to keep the overpayments we identified, along with other excess funds, in the trust until the year 2017. According to the state, in 2017 it expected the trust fund balance to reach \$826 million. The state was carrying the expected credit as an offset to current Project costs. Massachusetts also indicated it planned to use the cash to fund other highway projects in the state when it received the money. We determined that the state cannot both claim it needs Federal money to pay insurance costs and that it will receive a return of \$826 million from the investment of those funds.

We recommended FHWA require the Project to recover the \$129 million in overpayments, plus interest earned, and use the money for current Project costs. We also recommended that the balance of the trust be adjusted to appropriate levels on a regular basis, and that FHWA issue policy to ensure any future overpayments are immediately recovered and applied to current costs or returned to the U.S. Treasury.

Although they initially agreed with their state partners and rejected our

recommendations to recover the overpayments, on September 13, 1999, FHWA agreed with our recommendation to require the Central Artery to recover and use past overpayments on the Project. FHWA proposed allowing the Project to use the balance of the overpayments and accrued interest to pay the premiums for policy years 1999/2000 and 2000/2001. OIG and FHWA also agreed to allow credit for any “past use” of overpayments to pay premiums between the end of our audit and the date of the agreement. Finally, FHWA agreed to issue guidance to ensure insurance reserves for owner-controlled insurance programs do not exceed allowable amounts, and that any premium adjustments are immediately used for other approved costs or returned to the Federal government.

Information provided by the Central Artery’s insurance broker on April 4, 2000, indicates the Central Artery has used excess reserves to make scheduled payments of:

- \$12.3 million on August 1, 1999;
- \$13.2 million on December 1, 1999; and
- \$13.2 million on February 1, 2000.

The state also is claiming “past use” credit for

- an \$8.5 million reduction in the Project’s 1997/1998 premium;

- a payment of \$7.2 million made with funds from the trust on August 1, 1998; and
- a payment of \$13.5 million on December 1, 1998.

The state's claimed use of past overpayments is \$67.8 million to date. FHWA and OIG are currently reviewing the documentation provided to support this use of the \$67.8 million.

FHWA has not yet issued a policy to limit Federal contributions to insurance reserves to the amount needed to pay incurred claims. FHWA is in the process of contracting for a consultant to advise it on the Central Artery insurance program and other insurance matters. FHWA's current target date for issuing the policy is July 31, 2000. The policy is still needed to ensure this and other highway construction projects do not attempt to use Owner Controlled Insurance Programs as a means of drawing down Federal funds for investment purposes.

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

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# **Department of Transportation Office of Inspector General**

## **Audit Coverage of Central Artery/Ted Williams Tunnel**

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 construction costs are not controlled or offsetting cost reductions are not identified, the potential existed 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 funding shortfall, and 2) locate additional funding or cost reductions (i.e., scope reductions or potential cost savings) to offset potential future cost increases. We also recommended that FHWA: 3) revise its guidance for reporting financial data to include specific reporting criteria, and 4) require that projects disclose significant changes to the project scope in their annual financial plans. Finally, in light of the failure of FHWA to identify the impending cost increase on the Central Artery, we recommended that FHWA require the Massachusetts Division: 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 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.

Management Advisory Memorandum on Emergency Rescue Equipment and Services for Central Artery/Third Harbor Tunnel  
(Report Number: R2-FH-6-001, October 1995)



The audit objective was to convey our concerns that the State of Massachusetts acquired costly emergency rescue equipment and services for the CA/THT Project without coordinating requirements with other organizations to avoid potential duplication. We found that, due to lack of effective coordination and thorough analysis of requirements to eliminate duplicate costs, Federal participation was not justified for the State's acquisition of emergency rescue vehicles, equipment, training for 250 firefighters, and other related services for the CA/THT Project.

We recommended that the FHWA Administrator: 1) seek reimbursement for the cost of non-CA/THT Project use of emergency rescue equipment and services; (2) not participate in future purchases of emergency rescue equipment and services which exceed reasonable and necessary costs; and (3) not participate in recurring costs for salaries, training, and other operational expenditures which exceed reasonable and necessary amounts.

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.

Management Advisory Memorandum on use of Police Details on Central Artery/Third harbor Tunnel (Report Number R2-FH-5-012, May 19, 1995)

The advisory informed the Federal Highway Administrator of OIG's concern that Massachusetts was using police details exclusively to direct motorists at construction sites. These details, which use off-duty police for a minimum payment of 4 hours per assignment, cost the project more than would civilian flagmen. Moreover, no other state required 100 percent police details for traffic direction. We recommended that FHWA not participate in the cost of the police details.

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.

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