REPORT ON THE OCTOBER 2002 FINANCE PLAN FOR THE CENTRAL ARTERY/TUNNEL PROJECT

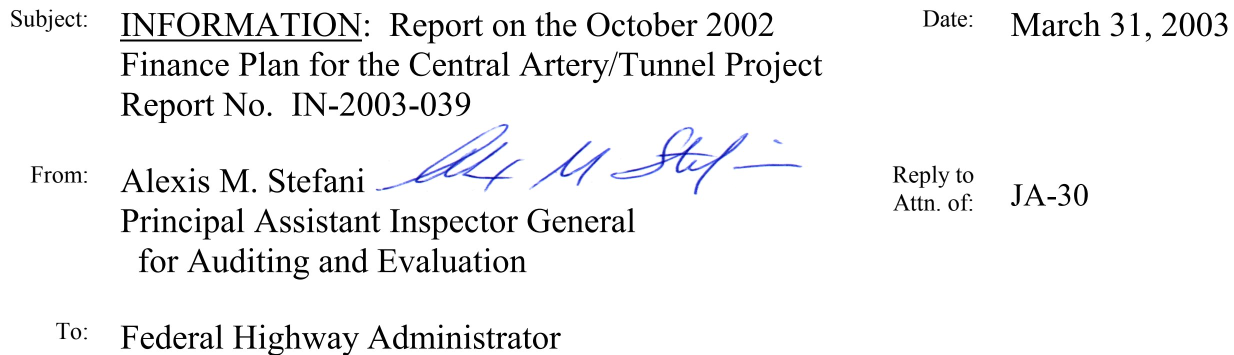
Federal Highway Administration

Report Number: IN-2003-039
Date Issued: March 31, 2003

Memorandum

U.S. Department of Transportation

Office of the Secretary of Transportation
Office of Inspector General



Subject: INFORMATION: Report on the October 2002 Finance Plan for the Central Artery/Tunnel Project
Report No. IN-2003-039

Date: March 31, 2003

From: Alexis M. Stefani
Principal Assistant Inspector General
for Auditing and Evaluation

Reply to Attn. of: JA-30

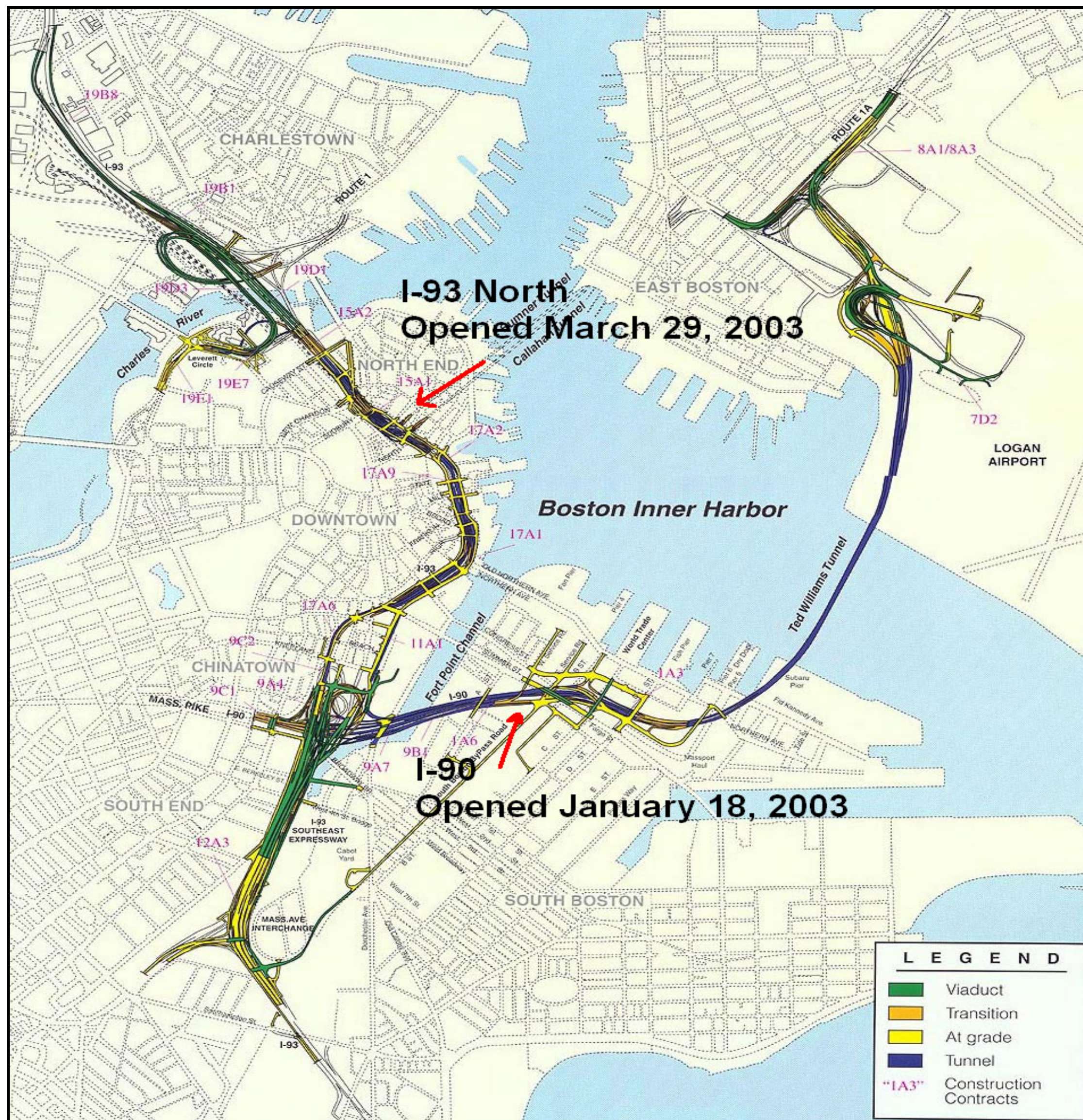
To: Federal Highway Administrator

This report provides the results of our review of the October 2002 Finance Plan for the Central Artery/Tunnel project (the Project) in Boston, Massachusetts. The Project is replacing an elevated expressway through downtown Boston with 7.5 miles of tunnels, surface highways, and bridges, creating an expanded underground expressway to relieve congestion. Currently estimated to cost $14.625 billion, the Project is in the final construction stages, with an estimated completion date of February 2005.

In January 2003, the Project accomplished a significant milestone by opening the Interstate 90 connector (I90 connector) to the Ted Williams Tunnel and Logan Airport. This 3.5 mile segment extends Interstate 90 from Interstate 93 near South Station, Chinatown, and the Fort Point Channel, through to the Ted Williams Tunnel and on to Logan Airport. Approximately 43 construction contracts were required to construct the I90 connector at a total cost of about $3.5 billion. On March 29, 2003, Interstate 93 North (I93N) also opened. It includes 1.5 miles of new tunnel construction from just south of Kneeland Street to just north of Causeway Street adjacent to the Fleet Center. The roadway crosses over the Charles River on a new cable–stayed bridge and connects to existing Interstate 93.

The three remaining milestone segments, Initial I93 South (Initial 93S), Full I93 South (Full 93S), and Project Substantial Completion (PSC), are scheduled to

be finished from late 2003 through early 2005. The Initial I93S opening allows traffic to flow southbound over the new Zakim Bridge and viaducts over the Charles River, through the new tunnel onto temporary lanes in the existing Dewey Square Tunnel onto a new at grade roadway. The Final I93S opening shifts traffic from temporary lanes in the existing Dewey Square Tunnel to the refurbished portion of the tunnel. The Project Substantial Completion includes completing all roadways, activating and testing the final Integrated Project Control System[1] and mechanical and electrical systems, and demolishing the existing elevated roadway. The following map provides an overview of the I90 and I93 roadways.



[1]Integrated Project Control System is the traffic management and control system for operating the new roadway.

In October 2000, Congress limited the total Federal financial contribution available to the project to $8.549 billion[2] and directed the Office of Inspector General (OIG) to review annual Project finance plan updates to determine whether they comply with Federal Highway Administration (FHWA) finance plan guidance. Congress also directed the Secretary of Transportation to withhold obligations of Federal funds and all project approvals until the OIG determines that the finance plan update is consistent with FHWA guidance.

Finance plans are intended to provide senior program and oversight officials with comprehensive information needed to make appropriate financial decisions. FHWA guidance requires finance plans to report (1) all costs, (2) all funding sources, (3) realistic schedules, and (4) other issues relevant to project managers and oversight officials. The guidelines also require that finance plans be prepared in accordance with recognized reporting standards, such as the American Institute of Certified Public Accountants' *Guide for Prospective Financial Information*. (Exhibit A contains additional background information regarding FHWA's finance plan guidance.)

We reviewed the Project's October 1, 2002 Finance Plan to determine whether it complied with FHWA finance plan guidelines. (Exhibit B describes our scope and methodology.) Our objective was to determine whether the Plan:

- provides an estimated cost based on reasonable and supportable information,
- identifies appropriate and available funding sources sufficient to meet the total estimated cost,
- provides a project construction schedule that is based on all known and reasonably anticipated delays, and
- discloses other issues affecting the Project.

RESULTS IN BRIEF

Based on our review, we found that this year's Finance Plan provides a fair representation of the Project's costs and identifies adequate funding to cover the costs. Specifically, the plan estimates project costs to be $14.625 billion and identifies $8.549 billion of Federal funds and $6.076 billion of State funds to pay all Project costs. The Finance Plan also reflects our prior recommendations for full disclosure, including a $150 million increase to the Project cost estimate

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[2] Department of Transportation and Related Agencies Appropriations Act of 2001, Public Law No. 106-346, § 340(d), 114 Stat. 1356A-32 (2000).

to reflect added insurance costs. We also verified that the State plans to spend $400 million annually on the Statewide Road and Bridge Program.

However, we also identified four material matters that needed to be disclosed in the Plan as follows:

(1) an unresolved legal issue creates uncertainty about how to characterize expected proceeds from the sale of the Project's headquarters building and could require the State to identify an additional $79 million in funds,

(2) the Project faces a risk of 6 to 9 months of delay to the remaining three milestones,

(3) the Project faces potential cost growth related to construction claims and has an opportunity to recover some costs from engineering firms due to design errors and omissions, and

(4) the Project should note in the Plan, as it did in its legally required bond disclosures, that it faces a risk that insolvency of a major contractor could lead to cost increases and schedule delays.

In response to recommendations to disclose these matters contained in our March 26, 2003 draft report, FHWA and Project officials agreed to amend the Plan, and on March 31, 2003, the Project amended the Plan to make the recommended disclosures. Since the October 2002 Finance Plan, as amended, meets FHWA finance plan guidance and is otherwise satisfactory, we concur with FHWA's decision to approve the Plan.

The following provides a summary of the four disclosures that needed to be identified in the Plan.

- **Unresolved Legal Issue.** The Plan should disclose an unresolved legal issue surrounding the treatment of the proceeds from the planned sale of the Project's headquarters building that we first reported in our audit of the October 2001 Finance Plan.[3] The issue involves the proper implementation of congressional direction to limit Federal contributions to the Project to $8.549 billion. Both the DOT General Counsel and the General Accounting Office (GAO) are analyzing the legal issue, which should be resolved before the next annual finance plan update is due in October 2003.

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[3] Report on the October 2001 Finance Plan for the Central Artery/Tunnel Project, Report Number IN-2002-086, issued March 11, 2002.

In 1991, the Project purchased its headquarters building with $26 million in Federal funds and $3 million in State funds. The Finance Plan states that the Commonwealth of Massachusetts intends to apply $86 million of the $97 million in estimated net sales proceeds, as State funds, to pay Project costs. The question is whether these funds should be considered State or Federal funds, and if Federal, whether they should be counted toward the $8.549 billion cap on Federal contributions. Since Federal contributions up to the cap have already been identified, if the "Federal share" (90 percent) of the proceeds is deemed to be a Federal contribution for purposes of calculating the cap, only $7 million of the $86 million in proceeds could be applied to the Project without exceeding the cap. The Project would then have to identify an additional $79 million in State funds. The State, however, would not have to return the Federal share of the net proceeds to FHWA, but instead would be able to use the Federal share on other highway projects eligible for Federal assistance.

If the legal issue remains unresolved, and ambiguity continues to surround this matter, the issue will need to be addressed by Congress during the process to reauthorize the Transportation Equity Act for the 21st Century (TEA-21), which expires on September 30, 2003.

- **Schedule Risks.** The Plan should prominently disclose that the Project faces a risk of 6 to 9 months of delays and should identify how it plans to mitigate this risk. *The Plan has set aside $54 million to cover delays of up to 5 months, as a schedule contingency, without increasing total project costs.* If delays exceed 5 months, the Project will likely need to use a portion of the $63 million in unassigned contingency funds that are currently available to the Project. The 2002 Finance Plan disclosed that each of the five project segments that remained to be opened at the time the Plan was issued could encounter a 6-week delay.

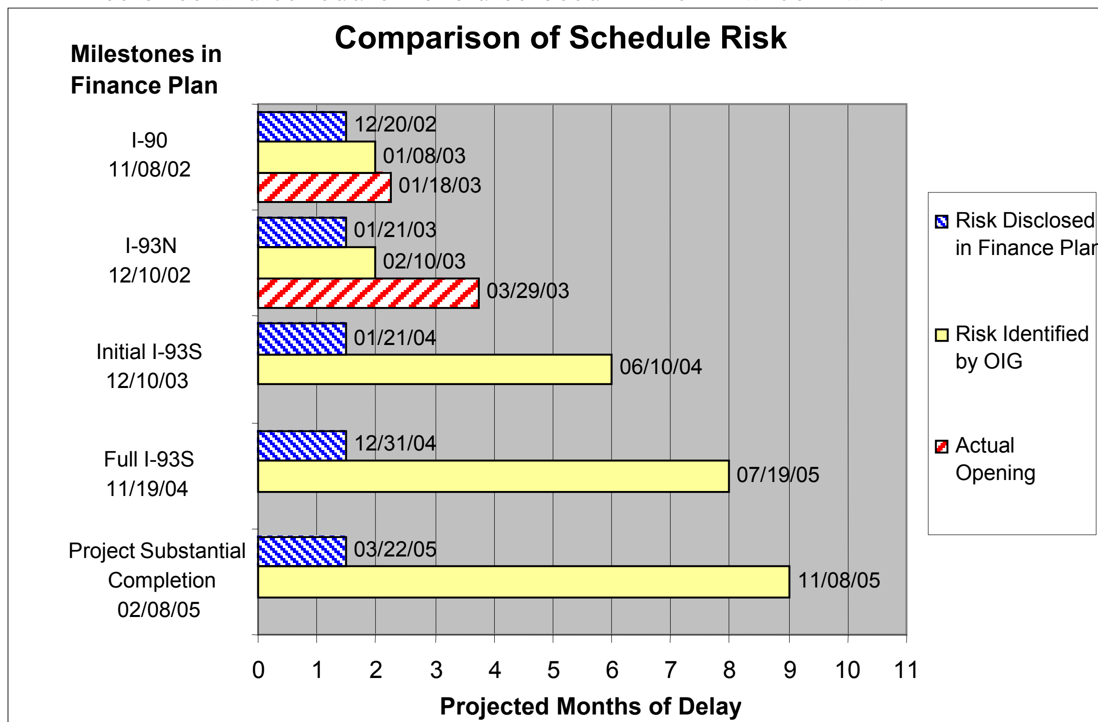
  However, three independent analyses of the Project's schedule, including the Office of Inspector General's, agree that the Project faces an additional risk of schedule delays. Although the Finance Plan also stated that the Project expected to prevent the 6-week delays, actual delays for two Project segments that opened after the Finance Plan was issued exceeded 6 weeks. The Project opened I90 on January 18, 2003, 2 months later than scheduled, and I93N opened on March 29, 2003, almost 4 months late.

  Further, we project that Initial I93S, Full I93S, and Project Substantial Completion could experience as much as 6-month to 9-month schedule delays, rather than the estimated 6-week delays disclosed in the Finance Plan. Project officials stated that they are developing mitigation plans to

avoid delays on Initial I93S and will develop plans to avoid delays on the final two milestones before the next Finance Plan update.

However, given that prior mitigation efforts did not succeed, the Project should disclose 6- to 9-month delay risks and state what is being done to mitigate them.

The following figure shows our projection of schedule risks compared to the milestones and schedule risks disclosed in the Finance Plan.



Deloitte & Touche LLP (D&T), a consultant hired by the State, projected a 5-month schedule delay from December 10, 2003 to May 18, 2004 for the Project's next milestone involving Initial I93S. It reported that the schedule delay was due to the Project's failure to achieve minimum productivity rates; late delivery of system controls software; failure to achieve an overly aggressive system testing schedule; and excessive zeal to open highways. D&T advised the Project of these problems, but the Project disagreed with the analysis and reported the 6-week schedule risk shown in the Finance Plan.

Our consultant, AJ Inc., concurred with D&T and projected a 6-month schedule risk on I93S, from December 10, 2003 to June 10, 2004. It noted that the Project's I93S major construction contract represents a large volume of work that is being scheduled in a relatively short time frame. This level of productivity has been achieved only twice on the Project, and one of those instances was in nearly ideal conditions. Our consultant stated that

the Finance Plan's schedule does not appear achievable and does not reasonably account for unanticipated problems that are likely to occur.

- **Risk of Cost Growth and Opportunity to Recover Costs.** The Project should disclose both the risks of cost growth related to the settlement of outstanding and yet to be filed construction claims, as well as the opportunity to recover some costs related to previously approved change orders.

  Although the process used by the Project to develop the amount allocated for claims appears appropriate and reasonable, a great deal of uncertainty exists about the ultimate settlement cost. The Project has 3,200 unresolved claims totaling about $1 billion and has reserved $633 million or 63 percent of the total exposure to cover the cost of settlements. Although that amount exceeds the Project's historical settlement rate of 50 percent, two factors create a risk that claims could cost more than currently estimated. First, additional claims can be expected because about $1.6 billion in construction costs remain. Second, many of the claims have been outstanding for long periods of time, making it more difficult to obtain documentation and recollect events.

  Resolving the claims on terms favorable to the Project depends to a large extent on the availability of documentation and key Project staff. A February 2003 report by the National Academy of Engineering (NAE) confirmed that the outstanding claims constitute a large and uncertain financial risk, both because of the complexity of the issues involved and because of the length of time that has passed. The report stated that claims that have been pending for long periods of time could be more expensive than anticipated if the cost of interest is included in the settlement. The report also cited the increasing difficulty of finding documentation and recollecting details as the issues age, as well as the loss of institutional memory, which may diminish as the Project nears completion and key Project staff begin to leave.

  On the other hand, the Project might be able to reduce Project costs by *aggressively* pursuing opportunities to recover costs already paid on some previously approved change orders. The Project has had an FHWA approved Cost Recovery Program since 1994 that allows the Project to approve the change order, pay the consultant contractor for the work, and seek reimbursement from FHWA, before determining whether the change was, in fact, due to a design error. Currently, the Project has approximately 295 unresolved change orders in the Cost Recovery Program valued at $188 million. Although, to date, the Cost Recovery Program has had little

success, significant attention is now being paid by FHWA, State, and Project officials to recover costs that were due to design errors.

- **Bond Disclosures.** Finally, the Plan should disclose the same risks the Project identifies in its legally required bond disclosures. This is because bond disclosures and finance plans have similar requirements to disclose risks to the public. Our review of the Project's February 2003 bond disclosures noted that the Project faces a risk that insolvency of a major contractor could lead to cost increases and schedule delays. The bond disclosure notes that two factors could affect major Project contractors: (1) the current weak economy, and (2) delays or reductions in settling contractor claims against the Project. These factors could create cash flow and credit issues that could, in turn, affect the ability of some contractors to complete contract work. The Project does have some degree of protection should one of its major contractors fail to perform, in that it requires all contractors to provide surety bonds that guarantee contractor performance.

FINDINGS

The Finance Plan Needs to Disclose Unresolved Legal Issues Surrounding the Treatment of Proceeds from the Planned Sale of the Project's Headquarters Building

The Finance Plan should disclose unresolved legal issues surrounding the treatment of proceeds from the planned sale of the Project's headquarters building. The issues, first raised in our report on the October 2001 Finance Plan, involve the proper implementation of congressional direction to limit Federal contributions to the Project to $8.549 billion. Both the DOT General Counsel and GAO are currently analyzing the legal issues, which should be resolved before the next annual finance plan update is due.

Specifically, the Project purchased the headquarters building in 1991 with $26 million in Federal funds and $3 million in State funds. The Finance Plan provides that the Commonwealth of Massachusetts intends to apply $86 million[4] from the estimated $97 million in net sales proceeds as a State contribution, to pay Project costs. The question is whether these funds should be considered State or Federal, and if Federal, whether they should be counted toward the cap. As Federal contributions up to the cap have already been identified, if the "Federal share" (90 percent) of the proceeds is deemed to be a Federal contribution for purposes of the cap, the Project would be able to use

[4] The remaining $11 million would be available for future Project needs or other statewide transportation projects.

only $7 million of the proceeds without exceeding the cap. The Project would then have to identify an additional $79 million in State funds. The State would not, however, lose the $79 million because those funds could be used on other highway projects eligible for Federal assistance.

As a result of the legal issues raised in our report on the October 2001 Finance Plan, Senator John McCain requested that GAO examine the question of whether the share of proceeds from the sale of real property purchased with Federal Highway Trust Funds should be considered Federal funds. In a September 13, 2002 opinion, GAO concluded that the net proceeds from the sale of the Project's headquarters building are Federal funds.[5]

GAO subsequently issued a report that included its legal opinion that proceeds from real property dispositions should be considered Federal funds.[6] However, both the legal opinion and report indicate that GAO had not determined whether the proceeds would, in fact, be counted against the cap. Therefore, on February 20, 2003, we requested a legal opinion from GAO (see Exhibit C) regarding whether the reinvestment of the Federal portion of the sales proceeds is subject to the Federal funding cap of $8.549 billion imposed on the Project. GAO's legal opinion carries significant weight because Congress has given GAO the authority in Title 31 United States Code Section 3526(a) to "settle all accounts of the United States Government."

Because a legal determination has not been made at this time by DOT's General Counsel and GAO, it is unclear whether the proceeds from the sale of the Project's headquarters building should be considered State or Federal, and if Federal, whether they should be counted toward the cap. In our opinion, this uncertainty should be disclosed in the Finance Plan. If the issue remains unresolved, and ambiguity continues to surround this matter, the issue will need to be addressed by Congress during the process to reauthorize the Transportation Equity Act for the 21st Century (TEA-21), which expires on September 30, 2003.

The Finance Plan Needs to More Fully Disclose Schedule Risks

The Finance Plan should prominently disclose that the Project faces a risk of additional delays and identify how it plans to mitigate this risk. *The Plan does include adequate contingency funds to pay for the additional delays without increasing the total cost.* The October 2002 Finance Plan discloses that each of

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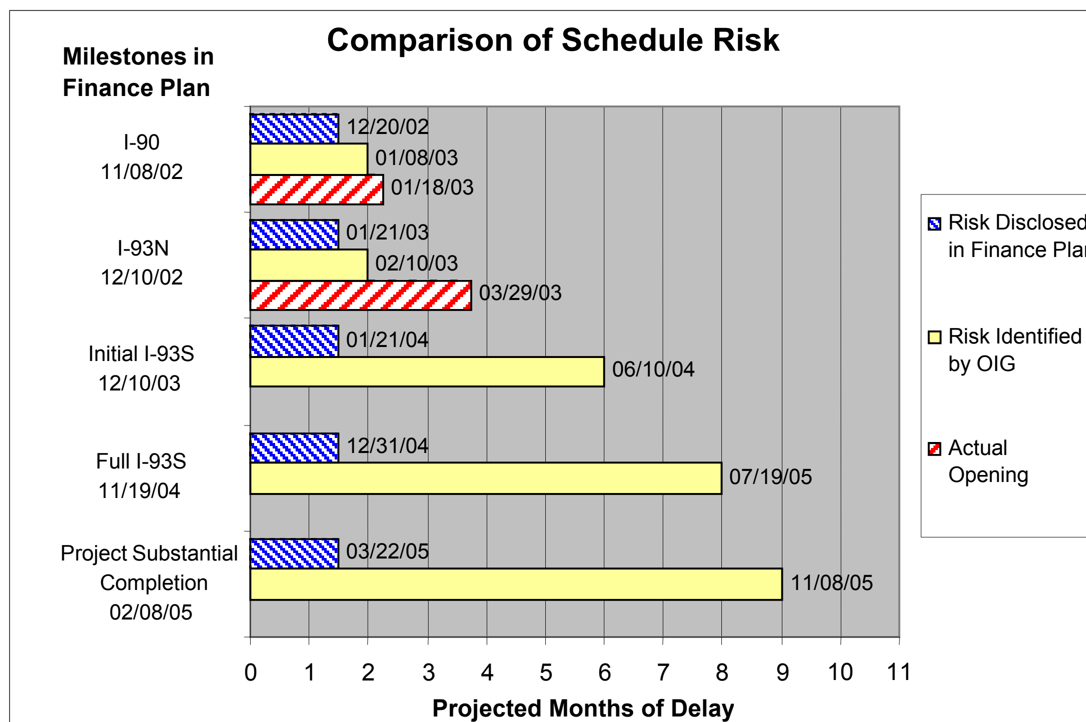
[5] Use of Proceeds from the Sale of Real Property Purchased with Federal Highway Funds, B-290744.

[6] Report to the Ranking Minority Member, Committee on Commerce, Science, and Transportation, U.S. Senate, GAO-03-207.

the five Project segments that had not been completed when the Finance Plan was issued could encounter a 6-week delay.

The following Figure shows the milestone dates for five Project segments, including I90 and I93N, the two segments completed after the submission of the Plan. The Figure also shows a comparison of risks disclosed in the Finance Plan to risks that we identified.



As shown in the above Figure, the October 2002 Finance Plan projected that, at that time, each of the five remaining Project segments could encounter a 6-week delay. Although the Finance Plan also stated that the Project had developed plans to prevent the 6-week delays, actual delays for two Project segments that opened after the submission of the Finance Plan exceeded 6 weeks. The Project opened I90 on January 18, 2003, 2 months later than scheduled, and I93N opened on March 29, 2003, almost 4 months late.

Risks associated with completing the remaining three Project segments also have not been fully disclosed in the Finance Plan. Independent analyses of the Project's schedule made by our consultant, AJ Inc., in February 2003, D&T in September 2002, and NAE in February 2003 agree that the Project faces a risk of delays beyond the 6-week delays disclosed in the Plan.

The following paragraphs describe the schedule issues identified by AJ Inc., D&T, and NAE for each of the five Project segments included in the Finance Plan.

I90 and I93N. AJ Inc. concluded that both I90 and I93N would likely incur a 2-month delay. In addition, in September 2002, D&T identified substantial risks that both the I90 and I93N opening would encounter 2-month delays, as compared to the 6-week potential delays disclosed in the Finance Plan. Before the Finance Plan was issued, D&T discussed its evaluation of these schedule risks with the Project. The Project disagreed, indicating that it could mitigate the schedule risks and reported the possibility of only 6-week schedule risks. Regardless of efforts to mitigate schedule risks, the Project exceeded its 6-week risks—I90 opened 2 months, 10 days later than planned, and I93N opened 3 months, 19 days later than planned.

Initial I93S. D&T also concluded that the Initial I93S opening faced a substantial risk of being delayed by 5 months. This risk was based on the "failure to achieve minimum productivity rates, late delivery of system controls software, failure to achieve overly aggressive systems testing schedule, and excessive zeal to open highways." D&T also noted that the delays likely to be encountered opening I90 and I93N would also delay the Project's ability to start some important work on Initial I93S. Project officials disagreed with D&T's projection of a 5-month schedule delay and indicated, as it did for I90 and I93N, that such risks could be mitigated. Consequently, the Project reported a 6-week delay risk in the October 2002 Finance Plan.

AJ Inc. projected a likely 6-month schedule delay for the Initial I93S milestone, which is consistent with the 5-month delay D&T identified. AJ Inc. analyzed schedule risks using the Project's scheduling data from July 2001 through August 2002, management reports, and discussions with Project officials. AJ Inc.'s analysis also included actual schedule progress through November 2002, not included in D&T's report, which showed additional schedule slippage. It found that the Finance Plan's schedule does not appear achievable and does not reasonably account for unanticipated problems that are likely to occur.

Final I93S and Project Substantial Completion. D&T did not analyze schedule risks associated with Final I93S or Project Substantial Completion. AJ Inc. did analyze these risks and concluded that delays encountered in prior openings would also be incurred in these milestones. AJ Inc. also projected additional delays due to the complexity of the work involved and the fact that the schedule of work on I93S has been compressed; thereby, leaving less time on this work segment than other similar work completed on earlier tasks. AJ Inc.'s analysis is based on its review of schedule data associated with the last major construction contract work remaining to be completed on I93S. This

type of work has typically been bid for completion within a 60-month duration while this contract has a very aggressive 42-month schedule. AJ Inc. concluded that Final I93 would likely encounter an 8-month delay and Project Substantial Completion would probably encounter a 9-month delay, compared to the 6-week delay disclosed in the Finance Plan.

When we discussed with Project officials the need to more fully disclose schedule risks, they agreed, and committed to do so. They explained that the Finance Plan was based on "aggressive but achievable" schedule milestone dates. The officials stated that the Project is committed to meet its schedule and does not want to adjust schedules until it has exhausted all means to avoid delays. They also recognized that actual delays have been incurred on I90 and I93N milestones, in spite of mitigation efforts intended to avoid the delays. Project officials also stated that they are developing mitigation plans to avoid delays on Initial I93S and will develop plans to avoid delays on the final two milestones before the end of July 2003.

At the conclusion of our review, in February 2003, the NAE also concluded that Project schedule estimates are not realistic, as demonstrated by schedule slippages. For example, NAE stated that the opening of I90 was delayed from September 7, 2002 to November 8, 2002, then to December 20, 2002. I90 actually opened on January 18, 2003. The Academy recommended that published completion dates should be developed around realistic workflows and schedule risks, with modest allowance for unknown issues. It also recommended that Project reports should reflect the probability of meeting milestones based on the results of past efforts.

With regard to the cost impact of potential schedule delays, we found that the Project has set aside $54 million to cover up to 5 months of schedule delay for each of the last three milestones, as a schedule contingency. If delays exceed 5 months, the Project will likely need to use a portion of the $63 million in unassigned contingency funds that are currently available to the Project.

The Finance Plan Needs to Disclose Potential Cost Increases Related to Claims, and Potential Cost Reductions From Cost Recovery Efforts

The Project should disclose both the risks of cost growth related to the settlement of outstanding construction claims, and the opportunity to recover some costs related to previously approved change orders.

Outstanding and Yet to be Filed Claims. As the remaining 2 years and $1.6 billion in Project construction activity comes to closure, the Project faces a risk that outstanding and yet to be filed construction claims could ultimately cost more than currently anticipated.

We reviewed the process the Project used to develop the amount allocated for claims, and it appeared appropriate and reasonable. Nevertheless, a great deal of uncertainty exists about the ultimate settlement cost. The Project has 3,200 unresolved claims totaling about $1 billion and has reserved $633 million or 63 percent of the total exposure to cover the costs of settlements. Although that amount exceeds the Project's historical settlement rate of 50 percent, two factors create a risk that claims could cost more than currently estimated. First, additional claims can be expected because about $1.6 billion in construction costs remain. Second, many of the claims have been outstanding for long periods of time, making it more difficult to obtain documentation and recollect events.

Resolving the claims on terms favorable to the Project depends to a large extent on the availability of documentation and key Project staff. The February 2003 NAE report confirmed that the outstanding claims constitute a large and uncertain financial risk, both because of the complexity of the issues involved and because of the length of time that has passed. The report stated that claims that have been pending for long periods of time could be more expensive than anticipated if the cost of interest is included in the settlement. The report also cited the increasing difficulty of finding documentation and recollecting details as the issues age, as well as the loss of institutional memory, which may diminish as the Project nears completion and key Project staff begin to leave.

Potential Cost Reductions From Cost Recovery Efforts. On the other hand, the Project might be able to reduce Project costs by *aggressively* pursuing opportunities to recover costs already paid on some previously approved change orders. The Project's contract terms make engineering consultants responsible for change orders when changes are required to correct a design error or omission, within dollar limitations set in the contract. The Project has had a Cost Recovery Program since 1994, which FHWA approved, that allows the Project to approve the change order, pay the consultant contractor for the work, and seek reimbursement from FHWA, before determining whether the change was, in fact, due to a design error. However, to date, the Cost Recovery Program has not resulted in the timely resolution of most items.

Eight years of cost recovery efforts have led to only $30,000 in recoveries from a single consultant, even though 76 cost recovery items, involving $53.7 million in change orders, have been resolved to date. The $30,000 represents less than one-tenth of 1 percent (.056 percent) of the amount in question. Currently, the Project has approximately 295 unresolved items, valued at $188 million. Of these, the Project identified 76 items that are between 2 and 7 years old. Timely resolution of change orders is important, because the longer the issues remain unresolved, the more difficult it becomes for the Project to determine

whether the change orders were caused by design errors. Like outstanding claims, the passage of time makes it more difficult to find documentation and to recollect details relevant to the change. Additionally, institutional memory diminishes as key staff leaves the Project.

The FHWA, the Project, and the State have renewed interest in the Cost Recovery Program. In January 2003, FHWA provided additional program oversight actions to ensure the Project's Cost Recovery Program will be successful. Such procedures will require FHWA's approval and reconciliation of each cost recovery item and review of quarterly status reports being prepared to address the backlog of cost recovery items. Additionally, FHWA asked the Project to prepare an Action Plan that includes key milestones for resolution of cost recovery items. In response, the Project has updated its Cost Recovery Master List, which details all identified cost recovery issues, and plans to update the list quarterly. Separate from these efforts, several different entities in the State, including the State Inspector General and the State Auditor, are reviewing specific change orders to determine whether improper payments were made due to designer errors and omissions to allow the recovery of these funds.

The Finance Plan Needs to Disclose the Same Risks Identified in Bond Disclosures

Finally, the Finance Plan should disclose the same risks the Project identifies in its legally required bond disclosures. This is because bond disclosures and finance plans have similar requirements to disclose risks to the public. Our review of the Project's February 2003 bond disclosures for general obligation bonds by the Commonwealth of Massachusetts for approximately $1 billion noted that the Project faces a risk that insolvency of a major contractor could lead to cost increases and schedule delays. The bond disclosure notes that two factors could affect major Project contractors: (1) the current weak economy, and (2) delays or reductions in settling contractor claims against the Project. These factors could create cash flow and credit issues that could, in turn, affect the ability of some contractors to complete contract work. The Project does have some degree of protection should one of its major contractors fail to perform, in that it requires all contractors to provide surety bonds that guarantee contractor performance

CONCLUSIONS AND RECOMMENDATIONS

In view of the foregoing, we are prepared to conclude that the Finance Plan is consistent with FHWA guidance, contingent on the Project amending the Finance Plan to:

1. Disclose unresolved legal issues surrounding the treatment of proceeds from the planned sale of the Project's headquarters building.
2. Disclose in a prominent place in the Finance Plan that the remaining 3 milestones are likely to experience as much as 6-month to 9-month schedule delays. The disclosure should identify how it plans to mitigate such risks.
3. Disclose that settling outstanding and yet to be filed construction claims could increase Project costs as well as the potential to recover some costs that were due to design errors by consultant contractors.
4. Disclose risks associated with the financial health of major construction contractors.

We appreciate the courtesies and assistance provided by FHWA and Project officials to our staff during this review. FHWA provided oral comments on the March 26, 2003 draft report and agreed to direct the Project to disclose these issues in the Finance Plan. The Project agreed and on March 31, 2003, provided the disclosures to recipients of the Finance Plan. Because FHWA and Project officials have implemented our recommendations, we consider them closed. In accordance with Department of Transportation Order 8000.1C, no follow-up action is required. If you have questions, please contact me at (202) 366-1992 or Theodore Alves, Assistant Inspector General for Highway Infrastructure and Safety Programs, at (202) 366-0687.

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EXHIBIT A. BACKGROUND

Under the provisions of TEA-21, all recipients of Federal highway funds with an estimated project cost of $1 billion or more must submit an annual finance plan to the Secretary of Transportation. The finance plans are intended to provide senior program and oversight officials with comprehensive information needed to make appropriate financial decisions regarding the projects.

On May 23, 2000, FHWA issued guidance to ensure that finance plans reflect the total cost and revenue requirements of a project and provide a reasonable assurance that there will be sufficient financial resources available to implement and complete the project as planned. FHWA's guidance requires that finance plans and annual updates include the following elements.

- **Cost Estimate**. All costs and the value of all resources that will be used to complete the project.
- **Implementation Plan**. A project schedule and cost-to-complete, in annual increments in year of expenditure dollars.
- **Construction Financing and Revenues**. All funding sources that will be used to meet project obligations, clearly described as committed or anticipated amounts, with an evaluation of the likelihood of the anticipated amounts being realized.
- **Cash Flow**. The annual cash income and disbursements on the project.
- **Other Factors**. Other data relevant to program and oversight officials.

The guidance also requires that finance plans be prepared in accordance with recognized reporting standards, such as the American Institute of Certified Public Accountants' *Guide for Prospective Financial Information*.

In October 2000, in the aftermath of a $1.4 billion cost increase earlier that year, Congress limited the total Federal financial contribution to the Project to $8.549 billion, and required that the OIG review all finance plans to determine whether they comply with FHWA finance plan guidance. Congress also directed that, in order to receive Federal funding, each annual finance plan must show that the State:

- is complying with a June 22, 2000, partnership agreement with FHWA,
- is complying with the requirement for a balanced statewide program, and

- will spend no less than $400 million each year on the Statewide Road and Bridge Program outside the Project.

EXHIBIT B. SCOPE AND METHODOLOGY

We followed-up on prior audit recommendations made in our March 2002 report on the October 2001 Finance Plan.

We compared the October 2002 Finance Plan with FHWA guidance[7] and reviewed the Finance Plan's cost, funding, and schedule estimates. We updated prior Finance Plan audit work to establish a baseline of audit coverage and to identify any major changes in presentation or Plan contents made by the Project since our last report.

We reviewed the Finance Plan's cost estimate, and analyzed any significant cost increases and the underlying assumptions for those increases. We reviewed the independent cost and schedule report developed by D&T[8] and FHWA's independent cost estimate. We analyzed the various cost estimates for significant variances and obtained explanations for any major differences. In particular, we evaluated the Project's contingency budget to determine whether the Finance Plan identified all anticipated costs to complete the project. We assessed the current impact of the Project's anticipated sale of the headquarters building.

We interviewed Project management team officials from Massachusetts Turnpike Authority and Bechtel/ Parsons Brinkerhoff. We also contacted State officials to assess the Finance Plan's financing requirements, cash flow information, certifications and other relevant factors. We reviewed Federal legislation, project agreements, and memorandums of understanding.

We also procured the services of AJ Inc., an independent engineering consultant firm, to review the Project's schedule methods and milestones, using the Project's scheduling data.[9] Finally, we reviewed the National Academy of Engineering report titled Completing the Big Dig – Managing the Final Stages of Boston's Central Artery/ Tunnel Project, issued in February 2003.

Our review was conducted from August 2002 to March 2003. The review was conducted at the FHWA Massachusetts Division Office in Cambridge, Massachusetts; the Massachusetts Turnpike Authority and the Central Artery Project Offices in Boston, Massachusetts; and FHWA Headquarters in Washington, DC. Our review was conducted in accordance with Government Auditing Standards prescribed by the Comptroller General of the United States.

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[7] Federal Highway Administrative Guidelines issued on May 23, 2000.

[8] Deloitte & Touche report on Central Artery/Tunnel Project, Project Assessment, dated September 30, 2002.

[9] The assessment compares the Project's Cost Schedule Update CSU8 to the CSU9 schedule information using Primavera software.

EXHIBIT C. OIG LETTER TO GAO

February 20, 2003

The Honorable David Walker
Comptroller General
U.S. General Accounting Office
441 G Street, NW
Washington DC 20548

Dear Mr. Walker:

I am writing on behalf of the Office of Inspector General (OIG) to request a legal opinion from the General Accounting Office (GAO) that will assist in our review of the October 2002 Central Artery/Tunnel Project ("Project") finance plan, as required by the Department of Transportation and Related Agencies Appropriations Act for Fiscal Year 2001 ("Act").[10] GAO provided a legal opinion to Senator John McCain on September 13, 2002, and this letter concerns the application of that opinion to the facts and circumstances described below.

The Act mandates that the Office of Inspector General review each annual update of the finance plan and determine whether it is consistent with Federal Highway Administration ("FHWA") finance plan guidelines. The Act also states that the Secretary of Transportation ("the Secretary") must withhold Federal funds and all project approvals until (1) OIG determines that the annual update is consistent with FHWA guidelines and (2) the Secretary approves the plan.

FHWA's guidelines require the finance plan to identify all costs and resources that will be used to complete the project and all funding sources that will be used to meet project obligations. The guidelines also require that the finance plan be prepared in accordance with recognized reporting standards such as the American Institute of Certified Public Accountants' *Guide for Prospective Financial Information*.

As our review of the Project's October 2002 finance plan progressed, we were confronted with an important issue bearing directly on whether the plan met FHWA guidelines and recognized reporting standards. The issue, which we raised in our audit of the October 2001 finance plan,[11] involved the proper

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[10] Public Law 106-346, 114 Stat. 1356A-32, § 340(c).
[11] Report on the October 2001 Finance Plan for the Central Artery/Tunnel Project, Report Number IN-2002-086, issued March 11, 2002, pp. 4-7.

implementation of Section 340(d) of the Act, which states that "total Federal contributions to Central Artery/Tunnel project shall not exceed $8.549 billion."

One option currently being considered by the Project is to sell its headquarters building, which was purchased in 1991 with $26 million in Federal funds and $3 million in State funds. The Project would then lease the building from the new owners so that the Project headquarters could maintain operations in the building until the Project was completed.

In our report on the October 2001 finance plan, we estimated the net proceeds from the sale to be $97 million. The Commonwealth of Massachusetts is planning to apply $86 million from the sale to the Project. As a result, we are faced with the question of whether the Federal portion of these funds should be counted toward the cap on Federal contributions.[12] Our report also questioned FHWA's interpretation that these proceeds should be treated as State funds. We recommended that FHWA obtain a written legal opinion from the Department of Transportation's General Counsel ("OGC") concurring with their interpretation and then notify the appropriate congressional committees. This action is currently pending.

Senator John McCain then requested that GAO examine the question of whether the share of proceeds from the sale of real property purchased with Federal Highway Trust Funds should be considered Federal funds. In a September 13, 2002 opinion, GAO concluded that the net proceeds from the sale of the Project's headquarters building are Federal funds.[13] As GAO stated, in order to be valid, the agency's interpretation must be reasonable and must be based on a permissible construction of the statute. In this particular case, GAO found that FHWA had "the argument precisely backwards."

This position was reaffirmed by GAO in a subsequent report in which GAO recommended that FHWA explain how it will comply with GAO's legal conclusion.[14] Although FHWA did not comment on this recommendation, OGC is currently reviewing the issue to determine whether it agrees with GAO's legal opinion.

While GAO concluded that the net proceeds from the sale of the Project's headquarters building are Federal funds, both GAO's legal opinion and subsequent report state that it has not decided whether these proceeds would, in fact, be counted against the cap. The resolution of this specific question is

[12] Report No. IN-2002-086, p. 6.
[13] Use of Proceeds from the Sale of Real Property Purchased with Federal Highway Funds, B-290744.
[14] Federal-Aid Highways; States Need Guidance on Sales or Leases of Property Purchased with Federal Funds, GAO-03-207.

important for us to be able to perform our statutory requirements and advise Congress and the Secretary. Given GAO's authority to settle all accounts of the government,[15] we are therefore requesting an opinion on the following questions:

1. ***Does the Federal share of proceeds from the disposition of real property count toward the $8.549 billion cap on total Federal contributions to the Central Artery/Tunnel project?***

2. ***If the Project were to sell its headquarters building and then lease a portion back, would such use qualify for reimbursement with Federal funds given that Federal funds were used to purchase the property in the first instance?***

   I appreciate your assistance in this matter and look forward to your response. If I can answer any questions or be of further assistance, please feel free to contact me at (202) 366-1959 or Ted Alves, Assistant Inspector General for Highway Infrastructure and Safety Programs, at (202) 366-0687.

Sincerely,

/signed/

Kenneth Mead
Inspector General

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[15] 31 U.S.C. § 3526(a).

EXHIBIT D. CONTRIBUTORS TO THIS REPORT

THE FOLLOWING INDIVIDUALS CONTRIBUTED TO THIS REPORT.

Name	Title
Theodore Alves	Assistant Inspector General for Highway Infrastructure and Safety Programs
Richard Kaplan	Program Director
Peter Babachicos	Project Manager
William Lovett	Auditor
Laurence Burke	Analyst
John Hannon	Auditor
Dave McBride	Analyst
Rodolfo Pérez	Engineering Advisor
Thomas Lehrich	Counsel
Seth Kaufman	Associate Counsel
Harriet Lambert	Writer-Editor

The following table is a screenreader friendly version of the "Comparison of Schedule Risk" table found on pages 7 and 11 of this document.
This page was not included with the original audit, and may be discarded if the reader wishes to retain an exact copy of the original document.

Segment	Finance Plan Reported Milestones	Risk Disclosed in the Finance Plan	Risk Identified by the OIG	Actual Opening
I90	November 8, 2002	December 20, 2002	January 8, 2003	January 18, 2003
I93N	December 10, 2002	January 21, 2003	February 10, 2003	March 29, 2003
Initial I93S	December 10, 2003	January 21, 2004	June 10, 2004	Not Open
Full I93S	November 19, 2004	December 31, 2004	July 19, 2005	Not Open
PSC	February 8, 2005	March 22, 2005	November 8, 2005	Not Open