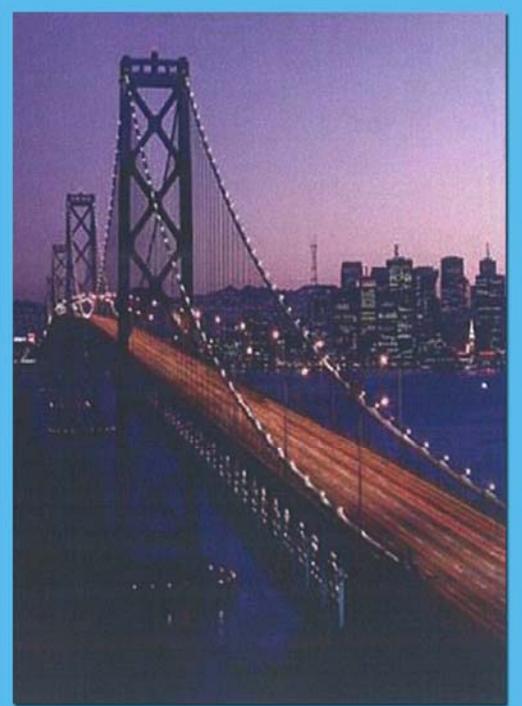
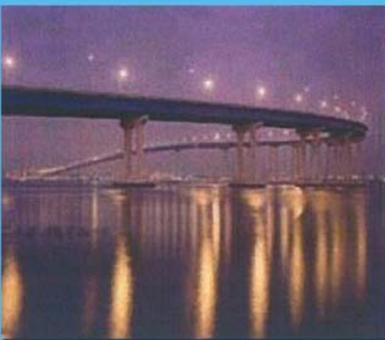
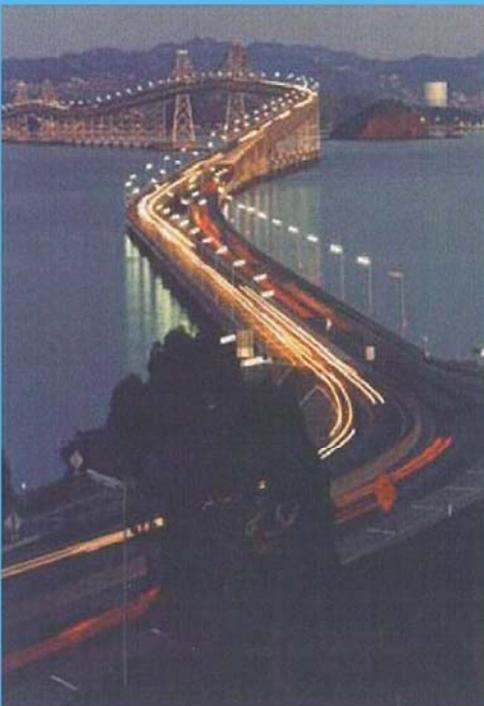


Toll Bridge Seismic Retrofit Program Report

First Quarter Report

Ending March 31, 2006

Submitted by
Toll Bridge Program
Oversight Committee





TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

Toll Bridge Program Oversight Committee
Department of Transportation
Office of the Director
1120 N Street
P.O. Box 942873
Sacramento, CA 94273-0001

May 14, 2006

Mr. Gregory Schmidt
Secretary of the Senate
State Capital, Room 3044
Sacramento, CA 95814

Mr. E Dotson Wilson
Chief Clerk of the Assembly
State Capital, Room 3196
Sacramento, CA 95814

Dear Messrs. Schmidt and Wilson:

The Toll Bridge Program Oversight Committee (TBPOC) is pleased to submit the 2006 First Quarter "Toll Bridge Seismic Retrofit Program Report," prepared pursuant to California Streets and Highways Code Section 30952.2. The First Quarter report includes project progress and activities for the Toll Bridge Seismic Retrofit Program through March 31, 2006.

California Streets and Highways Code Section 30952.1 established the TBPOC to exercise project oversight and control over the Toll Bridge Seismic Retrofit Program. The TBPOC is comprised of the Director of the Department of Transportation (Caltrans), the Executive Director of the Bay Area Toll Authority (BATA), and the Executive Director of the California Transportation Commission (CTC). The TBPOC's program oversight and control activities include review and approval of contract bid documents, review and resolution of project issues, evaluation and approval of project change orders and claims, and the issuance of monthly and quarterly program progress reports.

Gregory Schmidt
E. Dotson Wilson
May 14, 2006
Page 2

As highlighted in the First Quarter Report, on March 22, 2006, two bids were submitted and opened for the San Francisco-Oakland Bay Bridge East Span Seismic Replacement Project Self Anchored Suspension (SAS) Bridge contract. The low bidder was American Bridge/Fluor, a joint venture, which submitted a bid of \$1.435 billion, \$49 million less than the engineer's estimate for the project. Since the close of the first quarter, on April 18, 2006, the bid for the SAS was awarded to American Bridge/Fluor and, on May 3, 2006, the contract between Caltrans and American Bridge/Fluor was signed.

The TBPOC is committed to providing the Legislature with comprehensive and timely reporting on the Toll Bridge Seismic Retrofit Program. If there are any questions or if any additional information is required, please do not hesitate to contact the members of the TBPOC.

Sincerely,



WILL KEMPTON
Director
California Department of
Transportation
Chair, TBPOC



JOHN F. BARNA, JR.
Executive Director
California Transportation Commission



STEVE HEMINGER
Executive Director
Bay Area Toll Authority



TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS · BAY AREA TOLL AUTHORITY · CALIFORNIA TRANSPORTATION COMMISSION

Toll Bridge Program Oversight Committee
Department of Transportation
Office of the Director
1120 N Street
P.O. Box 942873
Sacramento, CA 94273-0001

May 14, 2006

Ms. Marian Bergeson, Chair
California Transportation Commission
1120 N Street, Room 2221
Sacramento, CA 95814

Mr. James C. Ghielmetti, Vice Chair
California Transportation Commission
1120 N Street, Room 2221
Sacramento, CA 95814

Dear Commissioners Bergeson and Ghielmetti:

The Toll Bridge Program Oversight Committee (TBPOC) is pleased to submit the 2006 First Quarter "Toll Bridge Seismic Retrofit Program Report," prepared pursuant to California Streets and Highways Code Section 30952.2. The First Quarter report includes project progress and activities for the Toll Bridge Seismic Retrofit Program through March 31, 2006.

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Marian Bergeson
James C. Ghielmetti
May 14, 2006
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The TBPOC is committed to providing the CTC with comprehensive and timely reporting on the Toll Bridge Seismic Retrofit Program. If there are any questions or if any additional information is required, please do not hesitate to contact the members of the TBPOC.

Sincerely,



WILL KEMPTON
Director
California Department of
Transportation
Chair, TBPOC



JOHN F. BARNA, JR.
Executive Director
California Transportation Commission



STEVE HEMINGER
Executive Director
Bay Area Toll Authority

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Executive Summary

The Toll Bridge Program Oversight Committee (TBPOC) submits the 2006 First Quarter Report ending March 31, 2006, for the Toll Bridge Seismic Retrofit Program (TBSRP) in accordance with Assembly Bill (AB) 144 and Senate Bill (SB) 66. This report provides the following:

1. Information on the progress of each project in the program.
2. Baseline budget for Capital Outlay (CO) and Capital Outlay Support (COS).
3. Current projected costs for CO and COS.
4. Expenditures to date.
5. Comparison of the baseline schedule to the March 2006 projected schedule.
6. Summary of the milestones achieved during the quarter.
7. Major risk assessment for the remaining projects.
8. Summary of expenses incurred by the TBPOC in performing its duties.

Major Milestones and Program Activities During the First Quarter 2006

Significant progress on the completion of the seismic retrofit projects continued during this past quarter. Appendix E includes a gallery of photos of construction activities on the bridge projects. Only one of the seven toll bridges in the TBSRP remains to be retrofitted. The major milestones achieved during the quarter include:

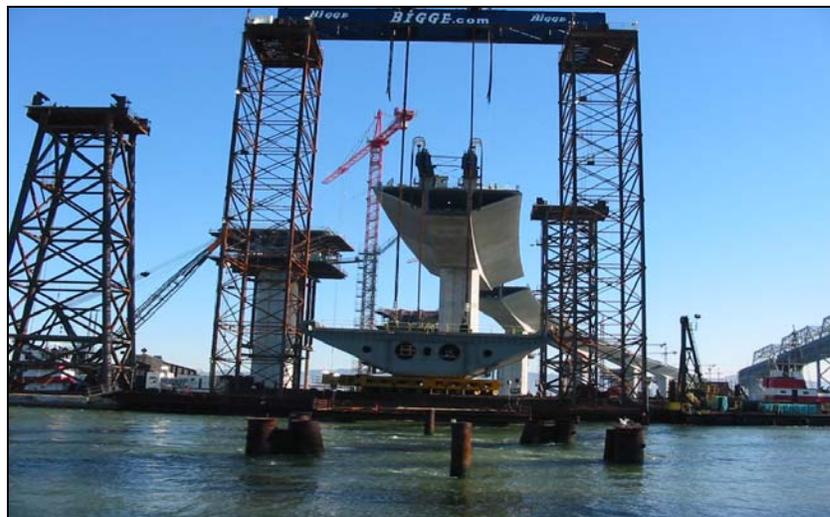
- The San Francisco-Oakland Bay Bridge (SFOBB) West Approach Project has advanced an additional 3 percent this quarter to approximately 66 percent complete and is on schedule for completion in August 2009. Besides construction work currently progressing onsite, planning is underway to support significant structural demolition work scheduled for June and fall 2006.
- The SFOBB East Span Seismic Replacement Project Skyway contract is 88 percent complete as of March 2006, a 4 percent progress since last quarter report. An extension to that contract schedule is due to issues with the fabrication of the hinge pipe beams that connect the major frames of the bridge, service platforms, electrical appurtenances, polyester concrete, and other operations yet to be completed. The amount of contract extension is subject to analysis by Department of Transportation (Caltrans) and negotiation with the contractor. The likely revised schedule is not expected to delay the overall open-to-traffic date for the east span replacement project, nor is the associated cost expected to impact the overall budget for the Skyway contract.
- In this quarter, the SFOBB East Span Seismic Replacement Project Self-Anchored Suspension (SAS) Marine Foundation East Pier and Tower (E2/T1) contract is 32 percent complete. Progress continues on the drilling of T1 piles, fabrication of steel pipes, and the footing box. The E2 template has arrived onsite, and deliveries of E2 foundation pile bottoms and steel plate continue on schedule.
- The SFOBB East Span Seismic Replacement Project Yerba Buena Island (YBI) South South Detour (SSD) contract is 38 percent complete, an additional 3 percent progress this quarter. The contract is performance based, whereby the contractor is responsible for both designing and constructing the detour structures. Progress continues on various structural elements, to include bents and column segments. Caltrans is recommending design enhancements to the viaduct segment of the structure to improve seismic safety and to allow the structure viaduct to stand alone, necessary due to a suspension of tie-in construction work. Caltrans is also reviewing the east and west tie-in design submittals. As a result of the SAS completion being extended by 12 months due to TBPOC approved Addenda #5 and #7, impact and

mitigation options for the YBI SSD contract are being evaluated to minimize the length of time motorists will be detoured.

- The SFOBB East Span Seismic Replacement Project SAS Superstructure contract was advertised on August 1, 2005, and seven addenda were issued through January 23, 2006, to respond to contractor inquiries, clarify technical specifications, and encourage greater competition, thereby lowering contract costs. Addenda #5 and #7 extended the overall duration of the SAS contract by 12 months, which will have a like schedule impact on the overall east span corridor, however, Addendum #7 also provided for a six-month early completion incentive. The bid opening date was revised to March 22, 2006, at which time two bids were received. The apparent low bidder was American Bridge Fluor Enterprises, Inc., a Joint Venture, which bid \$1.43 billion for the project, approximately \$49 million less than the engineer's estimate. Caltrans is currently reviewing the bid and obtaining pre-award documentation, leading to an award of the contract expected by April 18, 2006.
 - The SFOBB East Span Seismic Replacement Project Stormwater Treatment Measures contract to implement best practices for stormwater runoff treatment at the toll plaza area was advertised on January 9, 2006, with bids opened on March 7, 2006. The lowest bidder on the project was Diablo Contractors, to which the contract was awarded on March 20, 2006. Construction is scheduled to begin in April 2006.
 - The SFOBB East Span Seismic Replacement Project Oakland Touchdown (OTD) contract, currently in design, is being split into four contracts as authorized by the TBPOC to accelerate work and to reduce the risk of any of this work impacting the critical path for the project. The Plans, Specifications, and Estimate (PS&E) package that would replace the existing submarine electrical cable from Oakland to Treasure Island was approved by the TBPOC. The Submarine Electrical Cable contract is forecast to be advertised in mid-2006.
 - The SFOBB East Span Seismic Replacement Project YBI Transition Structure (YBITS) contract is currently being designed by Caltrans, and was authorized in February 2006 by the TBPOC to be split into two structures contracts to balance the time that traffic is placed on the SSD with overall corridor schedule risk and to mitigate cost risk on the project. Caltrans is now initiating the design effort required to split the contract documents. A third YBI landscaping contract is being developed.
 - In March 2006, the Bay Area Toll Authority (BATA) approved the issuance of \$1.3 billion in bonds to defease the California Infrastructure and Economic Development Bank (I-Bank) State Seismic Retrofit Bonds approved in October 2005. Additionally, pursuant to the law, BATA held two public hearings, one in October and one in November 2005, to receive public testimony regarding the proposed \$1.00 seismic surcharge toll increase beginning on January 1, 2007, on the state-owned toll bridges in the Bay Area. BATA considered and approved the toll increase on January 25, 2006. BATA acted well in advance of the statutory effective date for the toll increase in order to provide the bond rating agencies and financial institutions with clear assurances that BATA has taken the necessary steps to have the financial capacity to fund the seismic retrofit program.
- In accordance with AB 144 legislated requirements, Caltrans continues to develop and implement an expanded comprehensive risk management plan for the TBSRP to augment the established risk management protocols and mitigation measures already in place. An update on these risk management activities is included in this report in Appendix C.



Skyway Orthotropic Girder



Skyway Orthotropic Box Girder

Program Overview

Seven of the nine state-owned toll bridges were identified for seismic retrofit in the TBSRP:

1. Benicia-Martinez Bridge
2. Carquinez Bridge
3. San Mateo-Hayward Bridge
4. Vincent Thomas Bridge
5. San Diego-Coronado Bridge
6. Richmond-San Rafael Bridge
7. San Francisco-Oakland Bay Bridge (SFOBB) (west span, west approach replacement, and east span replacement).

Seismic retrofit of these complex structures presents an extremely difficult engineering challenge and nowhere in the world has a bridge seismic safety program of this size been undertaken. Although the Dumbarton and the Antioch bridges were not included in the program, Caltrans is continuing to work on seismic vulnerability studies to assess the

potential for necessary retrofit work on these structures. See discussion on page 27.

As shown in *Table 1-TBSRP Project Status*, a significant portion of the TBSRP is complete. Currently, it is still anticipated that there will be a cost savings of approximately \$89 million from the project cost included in the AB 144/SB 66 baseline budget on the completed Richmond-San Rafael Bridge.

The SFOBB west approach and new east span seismic replacement projects are currently under construction. The First Quarter 2006 forecast for those projects indicates that they will be completed within the current TBPOC approved cost and schedule estimates. The schedule for the completion of the new east span has been extended by 12 months in response to bidder inquiries received on the SAS contract, however, Addendum #7 for the SAS contract did provide for a six-month early completion incentive.

Tables 2 and 3 provide a summary of the cost, schedule, and status of all the TBSRP projects.

Table 1-TBSRP Project Status

Toll Bridge Seismic Retrofit Projects	Seismic Safety Status
San Francisco-Oakland Bay Bridge East Span Replacement	Construction
San Francisco-Oakland Bay Bridge West Approach Replacement	Construction
San Francisco-Oakland Bay Bridge West Span Seismic Retrofit	Complete
San Mateo-Hayward Bridge Seismic Retrofit	Complete
Richmond-San Rafael Bridge Seismic Retrofit	Complete
Carquinez Bridge Eastbound Seismic Retrofit	Complete
Benicia-Martinez Bridge Seismic Retrofit	Complete
San Diego-Coronado Bridge Seismic Retrofit	Complete
Vincent Thomas Bridge Seismic Retrofit	Complete

Risk Management

The following is a summary of risk management activities during the First Quarter 2006.

“One Mission, One Vision”

Caltrans, BATA and the California Transportation Commission (CTC) have embarked on an initiative to jointly manage risk on the SFOBB project. The objectives are to share program and project risk information and to provide reliable risk assessments and risk reports to the TBPOC in support of decision-making processes.

Caltrans, BATA, and the CTC recognize that their risk management and program oversight activities would benefit from using a shared information base. Key to this cooperative effort is the joint evaluation of both risk and risk response data. While Caltrans, BATA, and the CTC continue to discharge their respective responsibilities, they will rely on the same information for decisions and reporting. Integration of risk management with risk response monitoring will provide risk-based cost and schedule forecasts. Details about the initiative were reported in Appendix C of the 2005 Fourth Quarter Toll Bridge Seismic Retrofit Program Report.

Updated TBSRP Risk Management Plan

After performing risk management on projects in construction and projects in the pre-construction phases, enough operational experience has been

gained to warrant updating the Program Risk Management Plan. The updated plan includes roles, responsibilities, and a reporting hierarchy. Also detailed are risk management activities, from risk identification to monitoring and control.

Quantified Risk Input to Budget Analysis

Cost risk analyses of all projects and their COS are proceeding. These analyses provide the risk management input to a Budget Balance Bar (*Figure 1*) that displays the budget status of a project; the risk management component of this bar contains the probable total cost of the risks and Notices of Potential Claim (NOPC) in each project risk register.

Risk Management Status of Projects

All projects in construction have active Risk Response Teams. These teams have updated their respective risk registers and continue to review new and existing risks and their responses. They provide input quarterly to the Budget Balance Bar.

Projects not yet in construction have Risk Response Teams producing the first editions of their risk registers and commencing risk response activities. After bid award, a Risk Response Team will be assembled for the construction phase of the SAS project. The team will update the current risk register, retiring risks that no longer apply and adding new risks. Initially, added risks will come from the ongoing constructability review and analysis of the winning bid. The receipt of two competitive bids for the SAS project is evidence that the many risk responses implemented to date

Figure 1-Capital Outlay Budget Balance Bar



achieved their objectives. Further details are provided in Appendix C.

Near -Term Risk Management Action

The anticipated risk management activities over the next two quarters will focus on:

- Transitioning the SFOBB East Span SAS contract into construction phase risk management activities. For high-priority risks, the intention is to draw from the extensive talent pool available to this project to support the risk response team in developing and implementing appropriate and effective mitigating responses.
- Integrating the individual project risk analyses into a program-level quantification to determine the probable cost of risks, potential for delay in completion of the corridor, and to check any pressures on program contingency reserves.
- Further refining risk management procedures, particularly assigning risk to

owners who will be responsible for assigning, tracking, and documenting risk response actions. The Program Risk Management Plan will be updated accordingly.

Forecast near-term risk management activities are based on what is known and anticipated at this time. They remain subject to change as conditions, events, and priorities dictate.



Lifting of Precast Segment for Skyway Deck

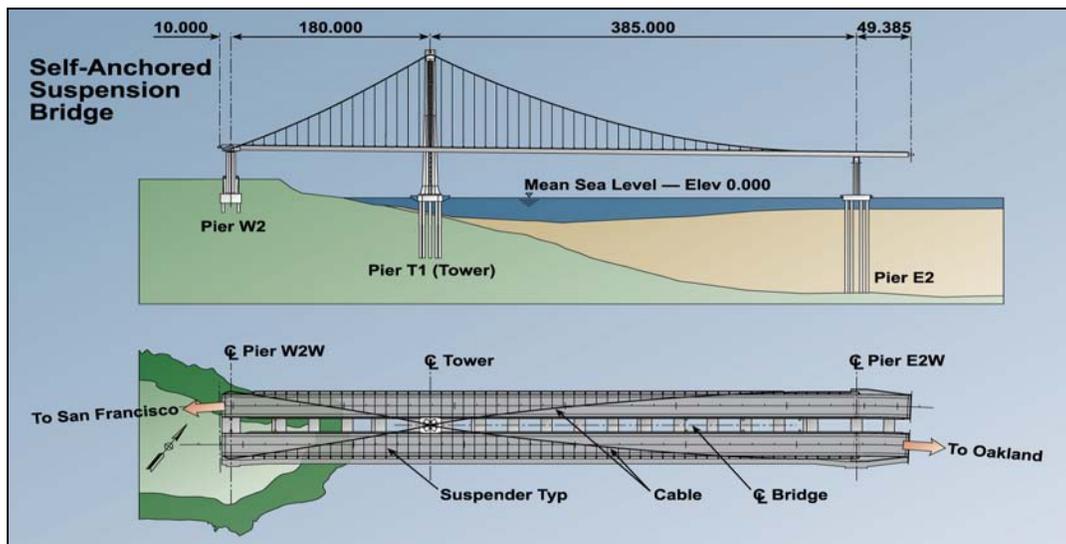


Table 2-Toll Bridge Seismic Retrofit Program—Cost Summary (\$Millions)

Project	Work Status	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (03/2006)	Actual Cost To Date (03/2006)	1 st Quarter 2006 Forecast	At-Completion Variance	Cost Status
a	b	c	d	e = c + d	f	g	h = g - e	i
SFOBB East Span Replacement Project								
Capital Outlay Support		959.4	-	959.4	418.9	977.1	17.7	●
Capital Outlay Construction								
Skyway	Construction	1,293.0	-	1,293.0	999.9	1,293.0	-	●
SAS Superstructure	Advertise	1,753.7	-	1,753.7	-	1,767.4	13.7	●
SAS E2/T1 Foundations	Construction	313.5	-	313.5	100.6	313.5	-	●
YBI Transition Structures	Design	299.3	-	299.3	-	318.5	19.2	●
Oakland Touchdown	Design	283.8	-	283.8	-	272.7	(11.1)	●
South/South Detour	Design/Const	131.9	-	131.9	32.3	133.7	1.8	●
Existing Bridge Demolition	Design	239.2	-	239.2	-	222.0	(17.2)	●
Stormwater Treatment Measures	Advertise	15.0	-	15.0	-	15.0	-	●
East Span Completed Projects		90.3	-	90.3	89.1	90.3	-	
Right-of-Way and Environmental Mitigation		72.4	-	72.4	38.7	72.4	-	●
Other Budgeted Capital		35.1	-	35.1	-	11.0	(24.1)	
Total SFOBB East Span Replacement Project		5,486.6	-	5,486.6	1,679.5	5,486.6	-	
SFOBB West Approach Replacement								
	Construction							●
Capital Outlay Support		120.0	-	120.0	74.9	120.0	-	
Capital Outlay Construction		309.0	-	309.0	186.0	309.0	-	
Total SFOBB West Approach Replacement		429.0	-	429.0	260.9	429.0	-	
Richmond-San Rafael Bridge Retrofit								
	Construction							●
Capital Outlay Support		134.0	-	134.0	124.9	127.0	(7.0)	
Capital Outlay Construction		780.0	-	780.0	663.7	698.0	(82.0)	
Total Richmond-San Rafael Bridge Retrofit		914.0	-	914.0	788.6	825.0	(89.0)	
Program Completed Projects								
	Complete							
Capital Outlay Support		219.8	-	219.8	219.2	219.8	-	
Capital Outlay Construction		705.6	-	705.6	698.1	705.6	-	
Total Program Completed Projects		925.4	-	925.4	917.3	925.4	-	
Miscellaneous Program Costs								
		30.0	-	30.0	25.6	30.0	-	
Program Contingency								
		900.0	-	900.0	-	989.0	89.0	
Total Toll Bridge Seismic Retrofit Program		8,685.0	-	8,685.0	3,671.9	8,685.0	-	

- Within Approved Schedule and Budget
 - Potential Cost and Schedule Impacts: Possible future need for Program Contingency Allocation
 - Known Cost and Schedule Impacts: Request for Program Contingency Allocation forthcoming
- Note: Details may not sum to totals due to rounding effects.

Table 3-Toll Bridge Seismic Retrofit Program—Schedule Summary

Project	AB 144 / SB 66 Project Complete Baseline (07/2005)	Approved Changes (Months)	Project Complete Current Approved Schedule (03/2006)	Project Complete Schedule Forecast (03/2006)	Schedule Variance (Months)	Schedule Status	Remarks
a	b	c	d= b + c	e	f = e - d	g	h
SFOBB East Span Replacement Project Skyway	Apr 07	-	Apr 07	Apr 07	-	●	A schedule extension due to hinge pipe beam fabrication, service platforms electrical appurtenances, polyester concrete, etc., is currently under evaluation and subject to negotiations with the contractor. Forecast completion date is TBD.
SAS E2/T1 Foundations	Jun 08	(3)	Mar 08	Mar 08	-	●	
SAS Superstructure	Mar 12	12	Mar 13	Mar 13	-	●	Bids were opened on March 22, 2006. Contract award expected by April 18, 2006.
YBI Transition Structures	Nov 13	12	Nov 14	Nov 14	-	●	In March 2006, the TBPOC approved the split of the YBI contract into three contracts. Schedules and estimates for the split contracts are being developed.
Oakland Touchdown (OTD)	Nov 13	12	Nov 14	Nov 14	-	●	
• OTD Submarine Cable	n/a		Jul 07	Oct 07	3	●	Advertise date postponed pending execution of cooperative agreement with City of San Francisco.
• OTD Westbound	n/a		Jul 09	Oct 09	3	●	Advertise date postponed to provide additional time for utility coordination and contract formation.
• OTD Eastbound	n/a		Nov 14	Nov 14	-	●	
YBI South/South Detour	Jul 07	-	Jul 07	Jul 07	-	●	Schedule is being assessed. Forecast completion date is TBD.
Existing Bridge Demolition	Sep 14	12	Sep 15	Sep 15	-	●	
Stormwater Treatment Measures	Mar 08	-	Mar 08	May 07	(10)	●	Forecast based on actual award date and duration in contractor's A+B bid.
Open to Traffic Date: West Bound	Sep 11	12	Sep 12	Sep 12	-	●	
Open to Traffic Date: East Bound	Sep 12	12	Sep 13	Sep 13	-	●	
SFOBB West Approach Replacement	Aug 09	-	Aug 09	Aug 09	-	●	
Richmond-San Rafael Bridge							
• Seismic Retrofit	Aug 05	-	Aug 05	Oct 05	2	●	Seismic retrofit completed July 29, 2005. Formal acceptance of this contract on October 28, 2005.
• Public Access Project	n/a	-	Dec 06	May 07	5	●	

Program Costs

Baseline and Projected Budget

The 2005 AB 144/SB 66 baseline budget is \$7.785 billion for CO and COS plus \$900 million in program contingency, for a total baseline budget of \$8.685 billion. The First Quarter 2006 forecast for the program remains within the \$8.685 billion budget. As highlighted above, an approximate \$89 million cost savings is projected for the Richmond-San Rafael Bridge project. As shown in *Table 4-Toll Bridge Seismic Retrofit Program Baseline (AB 144 / SB 66) and Forecasts* below, the First Quarter 2006 forecast shifts the projected cost savings from the Richmond-San Rafael project into the available program contingency funds.

Additional cost estimate and expenditure detail for the TBSRP are included in Appendices A-1 and A-2. The details of the cost estimates and expenditures for the SFOBB east span are shown in Appendix B.

Summary of TBPOC Expenses

Pursuant to Streets and Highways Code Section 30952.1 (d), expenses incurred by Caltrans, BATA, and the CTC for costs directly related to the duties associated with the TBPOC are to be reimbursed by toll revenues. At present, the member agencies of the TBPOC are developing actual and expected expenditures for their work activities related to the TBPOC. During the Second Quarter of 2006, the TBPOC will develop the processes and procedures for budgeting and reimbursing each agency for costs related to their participation on the TBPOC.

**Table 4-Toll Bridge Seismic Retrofit Program Baseline (AB 144 / SB 66)
And Forecasts (\$ million)**

Contracts	AB 144 / SB 66 Baseline Budget	1 st Quarter 2006 Forecast	Difference from Baseline
Completed Projects			
Benicia-Martinez	177.8	177.8	-
Carquinez	114.2	114.2	-
San Mateo-Hayward	163.5	163.5	-
Vincent Thomas	58.5	58.5	-
San Diego-Coronado	103.5	103.5	-
SFOBB West Span	307.9	307.9	-
Ongoing Projects			
Richmond-San Rafael	914.0	825.0	(89.0)
SFOBB West Approach	429.0	429.0	-
SFOBB East Span	5,486.6	5,486.6	-
Miscellaneous Program Costs	30.0	30.0	-
Subtotal	7,785.0	7,696.0	(89.0)
Program Contingency	900.0	989.0	89.0
Total Program	8,685.0	8,685.0	-

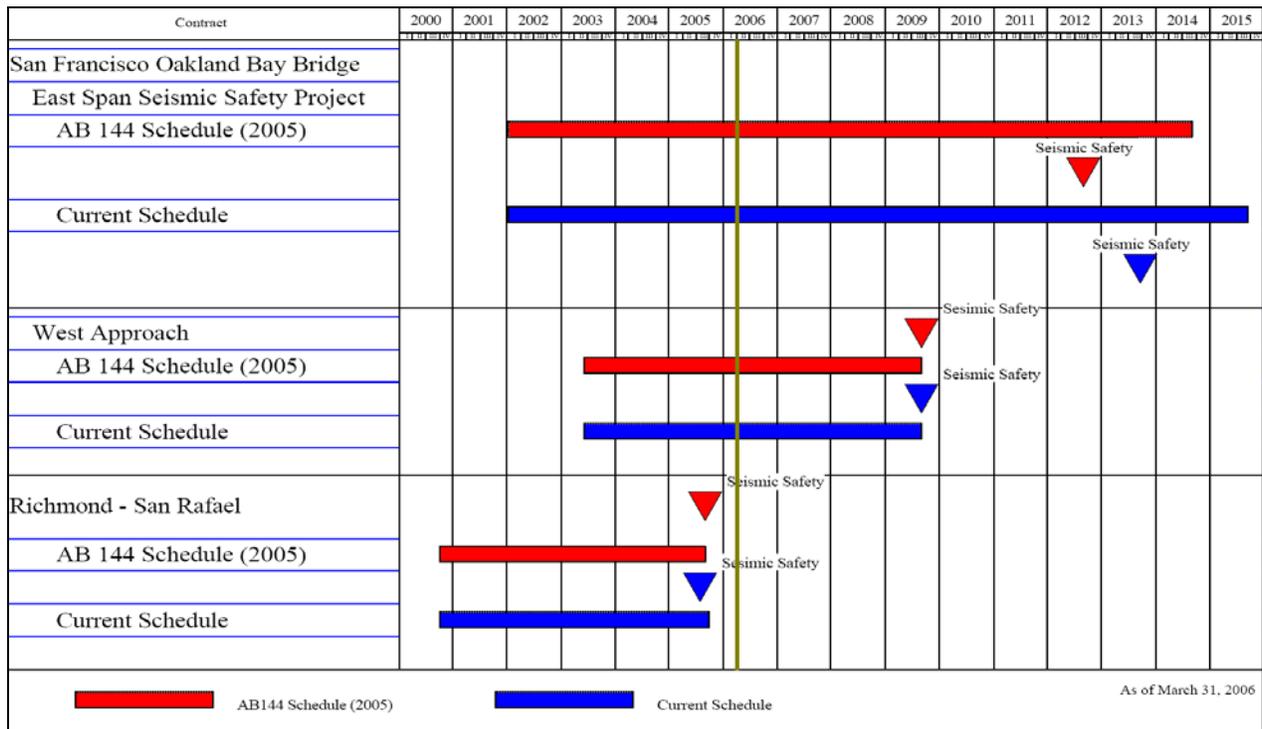
Program Schedule

Baseline and Projected Schedule

Seismic retrofit on six of the seven toll bridges in the TBSRP is complete. These structures include the Benicia-Martinez, Carquinez, Richmond-San Rafael, San Mateo-Hayward, Vincent Thomas, and San Diego-Coronado bridges. Seismic retrofiting of the SFOBB west span was completed in June 2004. The SFOBB West Approach and East Span Seismic Replacement projects are currently under construction. The March 2006 schedule calls for achieving seismic safety and opening to traffic the SFOBB new east span in 2013. Since the adoption of the AB 144/SB 66 baseline schedule, the opening date for the project has been extended by twelve months due to the approval of Addendum #5 and Addendum #7 to the SFOBB East Span Seismic Replacement Project SAS contract. These addenda were issued to respond to bidder inquiries and to attract more bidders, thereby receiving cost

competitive bids that would reduce project costs. Addendum #7 also provided for a six-month early completion incentive; although the current schedule forecast does not reflect achievement of this incentive, schedule planning for the OTD and YBITS contracts is being done as to respond to this possibility. It is estimated that all of the construction activities for the SFOBB East Span Seismic Replacement project will be completed by 2014, marked by the planned demolition of the existing SFOBB east span. The schedule for the SFOBB East Span Seismic Replacement project does not include all “worst-case” schedule risks that have been projected by the risk management activities (Appendix C). *Chart 1-Toll Bridge Seismic Retrofit Program Schedule*, shows the baseline AB 144/SB 66 project schedule versus the projected completion schedules for the TBSRP projects under construction.

Chart 1-Toll Bridge Seismic Retrofit Program Schedule Baseline AB 144/SB 66 vs. Projected Schedule



Program Funding and Financing

AB 144 established a funding level of \$8.685 billion for the TBSRP. The bill specifies funding sources for the program, as shown in *Table 5-Program Budget*.

Table 5 - Program Budget
As of March 31, 2006
(\$ Millions)

Fund	Budgeted	Allocated
AB 1171 Funding		
Proposition 192	790.0	789.0
Toll Bridge Seismic Retrofit Account (TBSRA)		2,819.0
Seismic Surcharge Revenue	2,282.0	
San Diego-Coronado Toll Bridge Revenue Fund	33.0	
Vincent Thomas Bridge	15.0	
State Highway Account (SHA) ⁽¹⁾⁽²⁾	745.0	
Public Transportation Account ⁽¹⁾⁽³⁾	130.0	
ITIP/SHOPP/Federal Contingency	448.0	
Federal Highway Bridge Replacement and Rehabilitation (HBRR)	642.0	635.5
AB 144 Funding		
Seismic Surcharge Revenue	2,150.0	
BATA Consolidation	820.0	
SHA - East Span Demolition	300.0	
SHA - "Efficiency Savings" ⁽⁴⁾	130.0	2.0
Redirect Spillover	125.0	
Motor Vehicle Account	75.0	75.0
Total	8,685.0	4,320.5

⁽¹⁾ The CTC adopted a new schedule and changed the PTA/SHA split on December 15, 2005.

⁽²⁾ To date, \$645 million has been transferred from the SHA to the TBSRP, including the full \$290 million transfer scheduled by the CTC to occur in 2005-06. An additional \$100 million has been expended directly from the account.

⁽³⁾ To date, \$90 million has been transferred from the PTA to the TBSRP, including the full \$80 million transfer scheduled by the CTC to occur in 2005-06. Approximately \$40 million remains to be transferred. Caltrans anticipates receipt of such balance in Fiscal Year 2006-07 as directed by the CTC.

⁽⁴⁾ To date, \$2 million has been transferred from the SHA to the TBSRP, representing the commitment of "Efficiency Savings" for 2005-06 identified under AB 144. Approximately \$128 million remains to be distributed as scheduled by the CTC.

Notes: Program budget includes \$900 million program contingency.

Funding Status

The program's financial status of revenues and expenditures is summarized in the table below, *Table 6-Toll Bridge Seismic Retrofit Program Financial Status*. The figures include the surcharge revenues collected, transfers from the SHA and the

Public Transportation Account (PTA), and expenditures from the Toll Bridge Seismic Retrofit Account (TBSRA) and the Seismic Retrofit Bond Act of 1996 (Proposition 192). Through September 2005, \$789 million provided by Proposition 192 has been allocated by the CTC.

Table 6 - Toll Bridge Seismic Retrofit Program Financial Status
As of March 31, 2006
(\$ Millions)

Revenues		
Toll Surcharge ⁽¹⁾		687.9
SMIF Interest		83.0
Bond Revenue (Seismic Bond of 1996)		789.0
Bond Revenue (Toll Revenue Bonds)		1,062.0
Commercial Paper ⁽²⁾		80.0
SANDAG		33.0
Vincent Thomas ⁽³⁾		6.9
Federal Highway Bridge Replacement and Rehabilitation		300.0
Transfers to TBSRA		
Motor Vehicle Account		75.0
State Highway Account ⁽⁴⁾		745.0
Public Transportation Account ⁽⁵⁾		90.0
State Highway Account "Efficiency Savings" ⁽⁶⁾		2.0
	Total Revenues and Transfers	3,953.8
Expenditures		
Capital Outlay		2,808.5
State Operations		863.4
	Total Expenditures	3,671.9
Encumbrances		
Capital Outlay ⁽⁵⁾		543.0
State Operations		29.0
	Total Encumbrances	572.0
Total Expenditures and Encumbrances		4,243.9

(1) The Toll Surcharge is dedicated to repayment of bonds beginning September 1, 2003. Toll Surcharge shown here is only toll revenue collected prior to that date.

(2) \$80 Million in Commercial Paper issued on or about April 5, 2005.

(3) No additional funding is expected from the Vincent Thomas Toll Revenue Account.

(4) To date, \$645 million has been transferred from the SHA to the TBSRP, including the full \$290 million transfer scheduled by the CTC to occur in 2005-06. An additional \$100 million has been expended directly from the account.

(5) To date, \$90 million has been transferred from the PTA to the TBSRP, including the full \$80 million transfer scheduled by the CTC to occur in 2005-06. Approximately \$40 million remains to be transferred. Caltrans anticipates receipt of such balance in 2006-07 as directed by the CTC.

(6) To date, \$2 million has been transferred from the SHA to the TBSRP, representing the commitment of "Efficiency Savings" for 2005-06 identified under AB 144. Approximately \$128 million remains to be distributed as scheduled by the CTC.

Program Financing

As discussed above, AB 144 consolidated the administration of all toll revenues collected on the state-owned Bay Area toll bridges and financing of the TBSRP under the jurisdiction of BATA. BATA has direct programmatic responsibilities for the administration of all toll revenues collected on the state-owned bridges in the Bay Area and responsibilities for financial management of the TBSRP program, including:

- Administrative responsibility for collection and accounting of all toll revenues
- Authorization to increase tolls on the state-owned bridges by \$1.00, effective no sooner than January 1, 2007
- Project level toll setting authority as necessary to cover additional cost increases beyond the funded \$900 million program contingency in order to complete the TBSRP
- Assumption of funding all of the roadway and bridge structure maintenance from Caltrans once bridge seismic retrofit projects are completed

In accordance with its responsibilities provided under the law, in September 2005, BATA adopted a finance plan for the TBSRP. The major components of the finance plan include:

- Issuing \$6.2 billion in debt, including defeasance of \$1.5 billion in outstanding State Infrastructure Bank bonds and commercial paper
- Increasing tolls on the state-owned bridges by \$1.00, (from \$3.00 to \$4.00 for two-axle vehicles), effective January 1, 2007
- Securing the maximum amount of state funding early in the construction schedule to most efficiently use toll funds (see discussion below)

- Locking in current interest rates to the extent possible in order to improve the chances that the entire toll program construction and the operations and maintenance can be delivered within the \$4.00 auto toll level

In September 2005, BATA approved a Finance Plan for the TBSRP and other toll bridge improvement programs dependent on toll revenues from the state-owned bridges. The finance plan calls for \$6.2 billion in new debt issuances, including defeasance of the existing outstanding I- Bank bonds. Consistent with the finance plan, in December 2005, BATA approved the issuance of up to \$1.0 billion of 2006 toll bridge revenue bonds. The bond issuance will provide adequate cashflow to fund the Self-Anchored Suspension contract for the East Span Replacement project, which opened bids on March 22, 2006.

Furthermore, in March 2006, BATA approved the issuance of \$1.3 billion in bonds to defease the I-Bank bonds approved in October 2005. Additionally, pursuant to the law, BATA held two public hearings, one in October and one in November 2005, to receive public testimony regarding the proposed \$1.00 seismic surcharge toll increase beginning on January 1, 2007 on the state-owned toll bridges in the Bay Area. BATA approved the toll increase on January 25, 2006.

Pursuant to AB 144, on September 29, 2005, the CTC adopted a schedule - revised in December 2005 - for the transfer of state funds to BATA to fund the TBSRP. The schedule contains the timing and sources of the state contributions, which begin in FY 2005-06 and distributes the contributions over the years of project construction to ensure a timely balance between state sources and the contributions from toll funds. In December 2005, the CTC re-adopted the schedule to reflect opportunities to maximize the use of available PTA funds and correct prior transfer transactions. The CTC's December 2005 revised schedule for the transfer of funds allows BATA to pledge the state fund contribution to the financing of the TBSRP per

BATA's adopted finance plan. The CTC schedule is included in Appendix D.

Project Status

Completed Projects

Seismic retrofit and project close-out has been completed on the Benicia-Martinez, Carquinez, San Mateo-Hayward, Richmond-San Rafael, Vincent Thomas, San Diego-Coronado toll bridges and on the west span of the SFOBB. See *Table 7-Cost Comparison AB 144/SB 66, Fourth Quarter 2005 Forecast and Expenditures through December 2005 for Completed Bridges*. As discussed above, the Richmond-San Rafael Bridge project expenditures have not been completely closed because Caltrans is in discussions with regulatory agencies regarding potential mitigations for impacts on fish in the project area.

The Richmond-San Rafael Bridge seismic retrofit was completed on July 29, 2005, and all construction activities for the project were completed on October 28, 2005. Final contractor's payment was paid on March 3, 2006.

The current cost forecast for the Richmond-San Rafael Bridge project includes approximately \$89 million in savings from the \$914 million project cost budgeted in the AB 144/SB 66 forecast, as projected in Caltrans' August 2004 cost reporting.

Caltrans currently is finalizing project plans and specifications for a public access lot on the Marin side of the bridge to comply with a Bay Conservation and Development Commission (BCDC) permit condition. Permits from other public agencies to support the completion of the public access lot, including the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service and the U.S. Army Corps of Engineers, are also being secured.

Table 7-Cost Comparison AB 144/ SB 66, First Quarter 2006 Forecast and Expenditures through March 31, 2006 for Completed Bridges (\$ million)

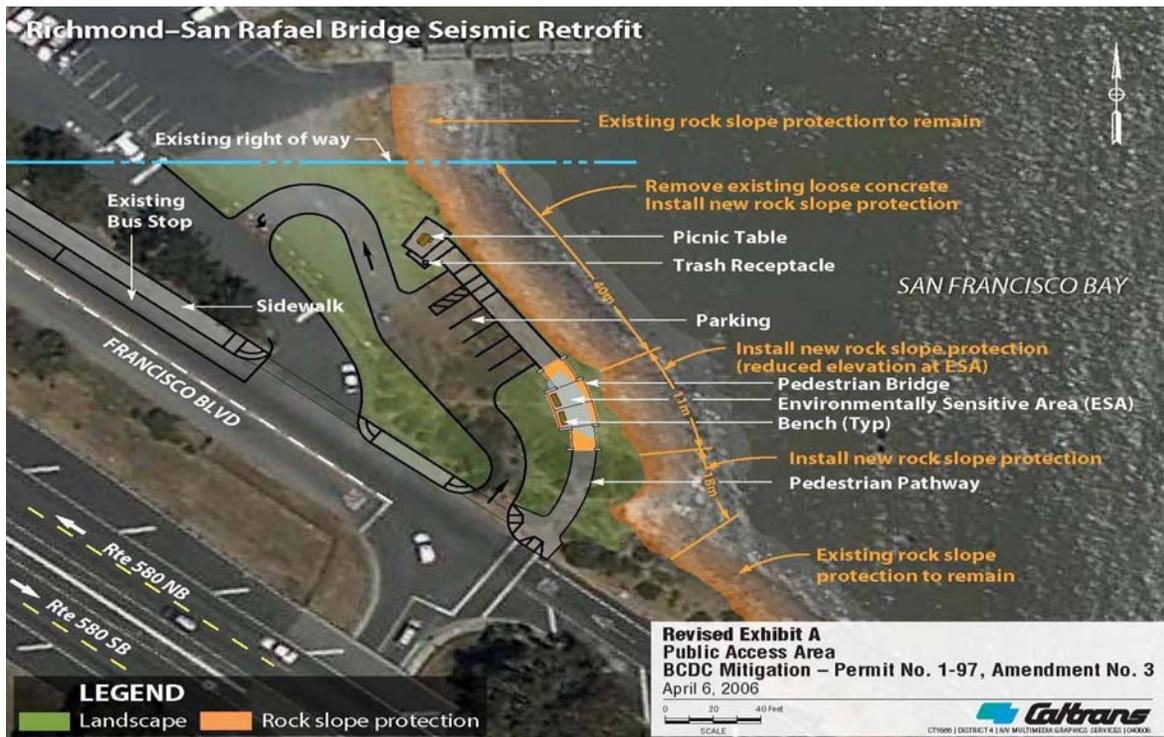
Project	AB 144/ SB 66 Budget	Approved Changes	Current Approved Budget	Cost To Date (03/2006)	1 st Quarter 2006 Forecast	Variance
a	b	c	d = b + c	e	f	g = f - d
San Francisco-Oakland Bay Bridge West Span Seismic Retrofit Project	307.9	-	307.9	300.9	307.9	-
Carquinez Bridge Retrofit Project	114.2	-	114.2	114.2	114.2	-
Benicia-Martinez Bridge Retrofit Project	177.8	-	177.8	177.8	177.8	-
San Mateo-Hayward Bridge Retrofit Project	163.5	-	163.5	163.4	163.5	-
Richmond-San Rafael Bridge Retrofit Project	914.0	-	914.0	788.6	825.0	(89.0)
Vincent Thomas Bridge Retrofit Project	58.5	-	58.5	58.4	58.5	-
San Diego-Coronado Bridge Retrofit Project	103.5	-	103.5	102.6	103.5	-
TOTAL	1839.4	-	1,839.4	1,705.9	1,750.4	(89.0)

Note: Details may not sum to totals due to rounding effects. Capital Outlay Support and Capital Outlay have been combined.

To close out Richmond-San Rafael Seismic Retrofit Project, Caltrans faces potential exposures concerning the environmental mitigation for negative impacts on fish, which is currently being discussed with regulatory agencies. Final savings for the Richmond-San Rafael Bridge project will be based on the resolution of pending negotiations with environmental permitting agencies regarding the cost of pile driving mitigation. The project cost forecast allows the project budget to be reduced by \$82 million in CO and \$7 million in COS.



Hinge Pipe Beam on Temporary Support



Ongoing Construction Projects

SFOBB West Approach

The SFOBB west approach seismic retrofit project will remove and replace the west approach to the SFOBB, which includes all of the westbound mainline and most of the eastbound mainline from 4th Street to the SFOBB west anchorage, and all of the connecting entrance and exit ramps in downtown San Francisco. The construction work, which began in June 2003, is approximately 66 percent complete. Completion of this project is scheduled for 2009.

Upon completion of the retrofit project, the west approach mainline and ramps will have the same number of traffic lanes as before, but with improved highway geometrics. The mainline eastbound and westbound structures will be adjacent to each other at 4th Street and transition to a double-deck configuration with their own independent support system from Rincon Hill to the anchorage in order to tie into the existing SFOBB.

Milestones Achieved

Seismic retrofitting construction is continuing throughout the project. Major ongoing work during the first quarter of 2006 included cast-in-drilled-hole (CIDH) and cast-in-steel-shell (CISS) pile driving operations for the mainline, 5th Street, and Harrison Street off ramps; 4th Street retrofit work; substructure construction activities for the I-80 mainline structures; and superstructure construction activities for Frame 7U (North).

Planning and preparation continued for the June 2006 demolition of Frame 8U (North). Prior to demolition, Caltrans will be opening a traffic bypass lane (split) for mainline I-80 traffic at the Fremont/Folsom Street off ramp that will maintain the existing number of through traffic lanes during the Frame 8U (North) demolition and reconstruction work. During demolition work in early June 2006, the 1st and Essex Street on ramps to the lower deck

will be closed throughout two weekends, and the lower deck will be closed at night during the tendon cutting. Significant traffic congestion on I-80 and on local streets in downtown San Francisco is expected; however, Caltrans is working with Bay Area Rapid Transit (BART) to provide 24-hour transbay service, and with 511 to disseminate information. In March 2006, the TBPOC gave conceptual approval of the June 2006 communication plan developed to support the demolition of Frame 8U (North). Caltrans will brief the TBPOC about this work scope in April 2006.

During the first quarter of 2006, progress also continued on the development of the workplan for the demolition of Frames 7U (South) and 8U (South) scheduled for fall 2006. In February 2006, the TBPOC approved a weekend closure option for the demolition of these frames over a period of two full weekends in lieu of the six-weekend partial lane closures currently called for in the contract. The cost associated with this revised weekend closure option is within the project budget.

Project Funding

The AB 144/SB 66 baseline budget totals \$429 million for the project with \$309 million for CO and \$120 million for COS. See *Table 8-Baseline and Estimated Budget Need for SFOBB West Approach*.

Table 8-Baseline and Estimated Budget Need for SFOBB West Approach (\$ million)

	AB 144/ SB 66 Budget	1 st Quarter 2006 Forecast	Difference
COS	120.0	120.0	-
CO	309.0	309.0	-
Total	429.0	429.0	-

Major Risk Issues

Caltrans' west approach risk management team is continuing with its efforts to manage project risks. During the quarter, an updated risk assessment was performed.

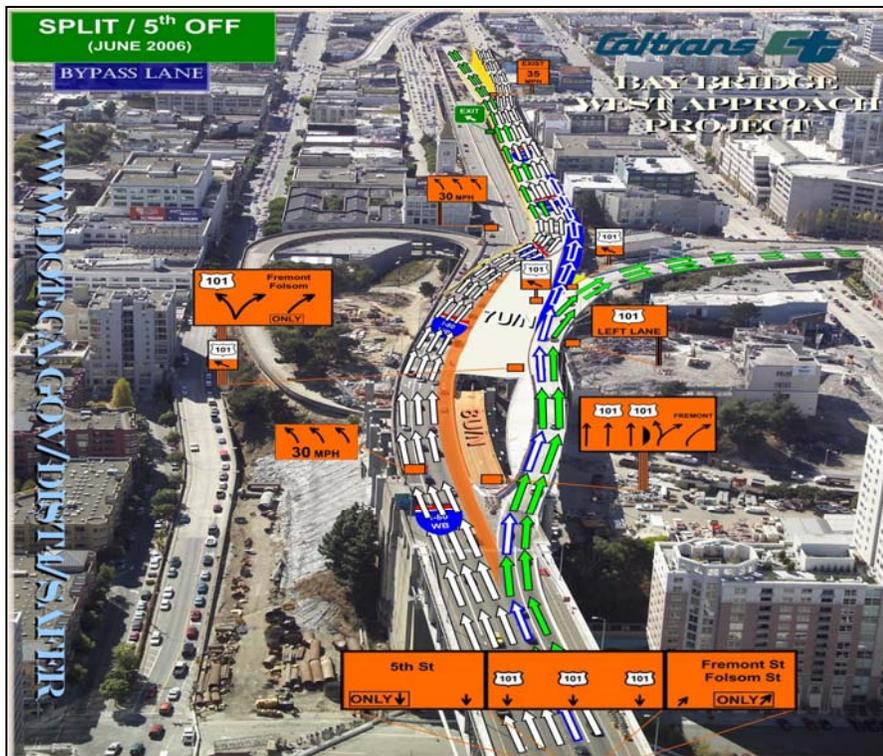
A major risk element involving the demolition procedures at the first of the four anchorage areas has been resolved and no longer jeopardizes the project's objectives. The three remaining anchorage areas still pose a challenge, but the unknowns have been significantly reduced by the experience and knowledge gained from the previous operations.

Lessons learned to this point in the project are now important aspects of the implementation plans designed to mitigate risk:

- Purchasing additional BART services during impacted hours proved to be a successful mitigation effort and will be used during

demolition operations scheduled for June 2006 and fall 2006. Approximately \$2.0 million for these BART services was included in the AB 144/SB 66 project budget.

- The aggressive informational campaigns proved successful in mitigating adverse public perception. This approach has the support of the TBPOC, as evidenced by their review and approval of the west approach communication plan.
- Equipment and labor resources were increased during low traffic times such as nights and weekends. This strategy reduced inconveniences to the surrounding residents and businesses and minimized impact to the regional motorists while maintaining the level of production required to maintain the project target schedule. The June 2006 and fall 2006 work plans both feature the condensing of work to the fewest number of weekends feasible.



West Approach Project Stages

SFOBB East Span Seismic Replacement

The SFOBB East Span Seismic Replacement project will be seismically retrofitted through the complete replacement of the existing span. The project includes construction of the Skyway portion of the bridge, which consists of two parallel concrete structures, each approximately 1.3 miles in length; a SAS bridge consisting of a 510-foot tower supporting a bridge deck connecting the Skyway bridge to YBI, transition structures on YBI and on the east end of the bridge connecting to the toll plaza area, and demolition of the existing east span. The SFOBB east span project now consists of 19 contracts. Note that the east end connection to the toll plaza, also known as the Oakland Touchdown (OTD) contract, was split into four contracts by the TBPOC to facilitate construction flow. Splitting this contract will remove elements of the OTD construction from the critical path for completion of the new east span. Also, the YBITS contract will be split in the future into three contracts for reasons discussed below.

The current 19 SFOBB east span contracts are identified below:

Eight contracts are **complete**:

- Interim Retrofit (Existing Bridge)
- East Span Retrofit (Existing Bridge)
- Pile Installation Demonstration
- OTD Geofill
- YBI Archaeology
- USCG Road Relocation on YBI

- SAS Land Foundations (W2)
- YBI Electrical Substation

Three contracts are under **construction**:

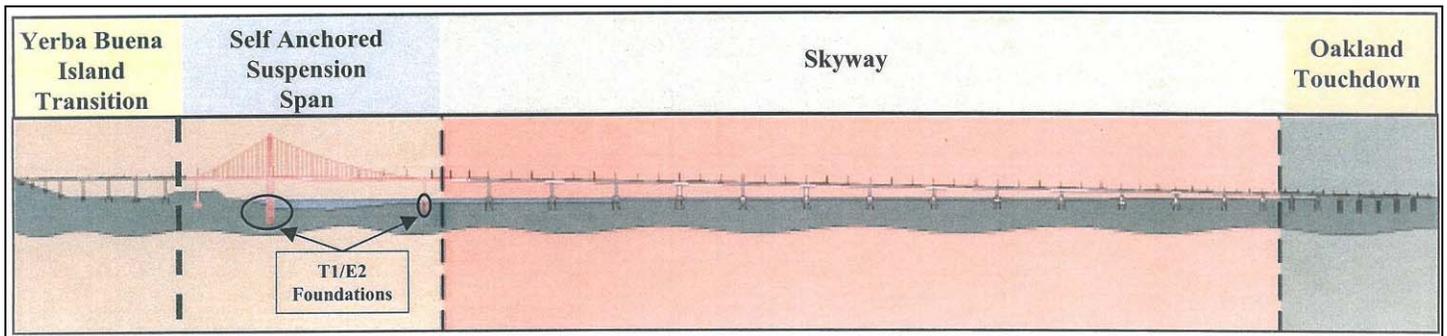
- Skyway contract (88 percent complete)
- South/South Detour (38 percent complete)
- SAS Marine Foundations (E2/T1) (32 percent complete)

Two contracts are **advertised** (will become construction contracts in the next report):

- SAS (advertised August 1, 2005; bids opened March 22, 2006; anticipated award April 18, 2006)
- Stormwater Treatment Measures (advertised January 9, 2006; bids opened on March 7, 2006; contract awarded March 20, 2006)

Six contracts are in **design**:

- OTD Contract 1 (construct westbound structure, eastbound marine foundation, eastbound detour, and electrical substation) The contract is planned to be advertised in spring 2007.
- OTD Contract 2 (construct eastbound superstructure, landscaping, and maintenance road) The contract is planned to be advertised in summer 2010.



SFOBB East Span Replacement Project

- OTD Submarine Cable design is 100 percent complete and is scheduled to be advertised for bid in mid 2006.
- OTD Portions of the Corridor Electrical Contract: This scope may be executed as a separate contract, or alternatively, may be included within OTD Contract 2 and/or the other contracts within the east span corridor.
- YBI Transition Structure design (80 percent complete to date)
- Existing Bridge Demolition design (10 percent complete to date)

schedule due to issues with the fabrication of the hinge pipe beams that connect the major frames of the bridge, service platforms, electrical appurtenances, polyester concrete, modular joints, and other operations yet to be completed. Also, the approved east span opening date has been delayed by 12 months due to the TBPOC approval and Caltrans’ issuance of Addenda #5 and #7 to the SAS contract. These addenda extended the completion date of the SAS contract by 12 months, in response to bidder inquiries, and to attract more bidders and therefore, attempt to lower project costs. Note, however, that Addendum #7 provided for an early completion incentive that has the potential for reducing the SAS contract duration by six months; this would likewise reduce the overall east span corridor schedule by six months if achievement of the incentive is successful.

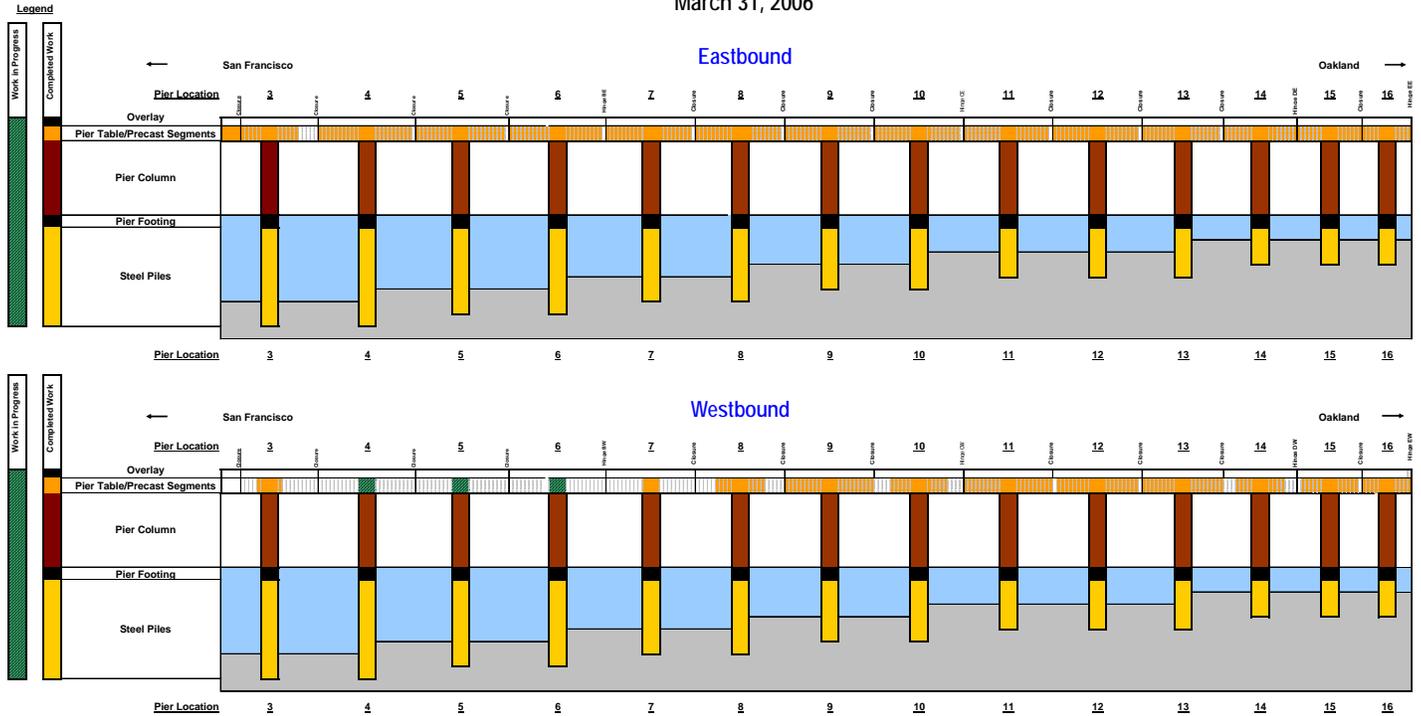
The forecasted completion date as compared to the AB 144/SB 66 baseline completion date for each of the major components of the SFOBB East Span Seismic Replacement project is shown in *Table 9-SFOBB East Span Seismic Replacement Project Schedule Summary* below. There is a potential for an extension to the Skyway contract

Table 9-SFOBB East Span Seismic Replacement Project Schedule Summary

Contract	AB 144/SB 66 Baseline Project Completion Date	Approved Changes	Current Approved Schedule	1 st Quarter 2006 Forecast Project Completion Date	Variance (Months)
Skyway	Apr-07	-	Apr-07	Apr-07	-
YBI South / South Detour	Jul-07	-	Jul-07	Jul-07	-
Stormwater Treatment Measures	Mar-08	-	Mar-08	May-07	(10)
SAS E2/T1 Foundations	Jun-08	(3)	Mar-08	Mar-08	-
Open to Traffic: Westbound	Sep-11	12	Sep-12	Sep-12	-
SAS Superstructure	Mar-12	12	Mar-13	Mar-13	-
Open to Traffic: Eastbound	Sep-12	12	Sep-13	Sep-13	-
Oakland Touchdown	Nov-13	12	Nov-14	Nov-14	-
◆ OTD Submarine Cable	N/A		Jul-07	Oct-07	3
◆ OTD Westbound	N/A		Jul-09	Oct-09	3
◆ OTD Eastbound	N/A		Nov-14	Nov-14	-
YBI Transition Structures	Nov-13	12	Nov-14	Nov-14	-
Existing Bridge Demolition	Sep-14	12	Sep-15	Sep-15	-

Note: The new east span forecast to be fully open to traffic in September 2013. Construction activities will continue beyond that date to complete the project, including demolition of the existing structure.

San Francisco-Oakland Bay Bridge East Span Replacement Project - Skyway Contract
 March 31, 2006



Milestones Achieved – Construction Contracts

- The Skyway contract is 88 percent complete as of March 2006. The foundation work is complete with the exception of installing fenders around six of the pier footings. The fender work began in late January 2006 and is scheduled to be completed by September 2006. The Stockton pre-cast yard continues to cast one concrete bridge segment every two to three days in each of the two casting beds, or roughly five segments per week. Currently, 438 of 452 segments (97 percent) have been cast with the remaining 14 segments scheduled to be complete by June 2006. A total of 342 segments (76 percent) have been installed to date. A likely schedule extension to the Skyway contract is due to issues with the fabrication of

the hinge pipe beams that connect the major frames of the bridge, service platforms, electrical appurtenance, polyester concrete, overlay, modular joints, and other operations yet to be completed. The amount of contract extension is subject to analysis by Caltrans and negotiation with the contractor. The likely revised schedule is not expected to delay the overall open-to-traffic date for the East Span Replacement project, nor is the associated cost expected to impact the overall budget for the Skyway contract.

- E2/T1 contract is 32 percent complete as of March 2006. Construction of stairs for access from YBI to the trestle leading to the T1 foundation is completed, as is T1 template installation. The installation of temporary casings at the T1 foundation, which started on January 30, 2006, is complete. The drilling

operation of T1 piles, which commenced on February 20, 2006, is in progress. Fabrication of steel piles for T1 is approximately 10 percent complete and those for E2 are about 50 percent complete. Fabrication of T1 footing box is 5 percent complete. The E2 template and the pile bottoms of ten of the E2 foundation piles have arrived on site. Steel fabrication for footing boxes continues at fabrication facilities. The contractor’s schedule submittals continue to meet contract requirements.

- The YBI SSD contract is 38 percent complete as of March 2006. To minimize impacts to the traveling public, portions of the east and west tie-in field operations remain suspended with the exception of the work in the vicinity of Southgate Road. Caltrans is recommending design enhancements to the viaduct segment of the structure to improve seismic safety and to allow the viaduct structure to stand alone, necessary due to a suspension of tie-in construction work. The final design submittal for the west tie-in is anticipated to be received in the near future for review and comment. Caltrans has completed review of, and has rejected, the east tie-in final superstructure design submittal. As a result of the SAS completion being extended by 12 months due to Addenda #5 and #7, impact and mitigation options for the YBI SSD contract are being evaluated to minimize the length of time motorists will be detoured.

Milestones Achieved –Contracts in Advertisement

- Addendum #7 to the SAS Superstructure Contract approved by the TBPOC in January 2006, included a not-to-exceed six-month \$50,000 per day incentive clause to reward and encourage time savings by the contractor. These incentives have the potential to achieve a westbound open-to-traffic date of March 2012, and an eastbound open-to-traffic date of March 2013, respectively. Corridor schedules and planning are based on the contractor achieving

the early completion incentive. Addendum #7 raised the stipend from \$3 million to \$5 million to be awarded to the top three bidders that provide responsive bids, thereby making the submittal of a bid more inviting by compensating contractors for extensive bid preparation work. Addendum #7 also extended the bid opening date from February 1, 2006, to March 22, 2006, to allow contract bidders more time to better prepare bids and develop their construction teams. To help mitigate some of this extended bid preparation time, Caltrans will reduce its bid review process from 60 days to 30 days for awarding the contract.



View of the Western end of the Skyway contract that will connect with the future SAS contract.

The strategy underlying the SAS addenda of encouraging multiple, competitive bids was successful when bid opening was held on March 22, 2006, at which time, two bids were received. The apparent low bidder was American Bridge Fluor Enterprises, Inc., a Joint Venture (ABF), which bid \$1.43 billion for the project, approximately \$49 million less than the engineer's estimate. Caltrans is currently reviewing the bid and obtaining pre-award documentation from ABF. Award of the contract is expected by April 18, 2006.

An immediate first priority after contract award will be to address several necessary design changes identified during the bid period but

which could not be timely included in the addenda process.

- The Stormwater Treatment Measures contract to implement best practices for stormwater runoff treatment at the toll plaza area was advertised on January 9, 2006. Bids were opened on March 7, 2006. The lowest bidder on the project was Diablo Contractors, out of total seven bids submitted (bid amount was \$12.9 million; engineer's estimate was \$11.7 million). Contract was awarded on March 20, 2006, with construction scheduled to begin in April 2006. The current schedule forecast reflects the actual award date that was earlier than planned, and the contract duration of 258 workdays shown in the contractor's bid.

Milestones Achieved –Contracts in Design

- The OTD contract design documents are being split into multiple contracts as authorized by the TBPOC to accelerate work and to reduce the risk of any of this work impacting the critical path for the project. The first contract would construct all the marine foundation work and westbound approach work earlier to keep the work off the project critical path and is forecast to be complete in October 2009. The second contract would construct the remaining eastbound approach after westbound traffic is shifted onto the new SAS and is now scheduled to complete by, November 2014, all final work required after the east span opens to traffic. However, assuming the SAS contractor achieves the six-month early completion incentive, the forecast completion date for this contract is May 2014. The third contract would replace the existing submarine electrical cable from Oakland to Treasure Island, and it is forecast to be completed in October 2007. It will be the first to be constructed to avoid possible construction conflicts; in March 2006, the TBPOC approved this contract's Plans, Specifications, and Estimate (PS&E). A fourth contract could incorporate most of the electrical elements from OTD, as well as from other segments of the east span into a single contract and is currently being scoped; including this work into another existing contract is also being considered.
- The YBITS contract is currently being designed by Caltrans (roadway portion) and consultants (electrical and structures). In February 2006, the TBPOC authorized the split of the YBITS contract into two contracts to balance the time that traffic is placed on the SSD with overall corridor schedule risk; to mitigate potential cost increases due to delays from other contracts; and to optimize the YBI contract durations and reduce cost risk for the SSD demolition by sequencing the contracts to allow SSD as-built plans to be incorporated into the YBITS contract documents. The first structures contract will construct the mainline YBITS and all work required to place traffic onto the new bridge. The second structures contract will include demolition of the SSD, completion of the new eastbound on-ramp, retrofitting the viaduct, and YBI restoration activities. Caltrans is now initiating the design effort required to split the contract documents. A third YBI contract is being developed concerning the landscaping scope. The contract schedule completion date has been extended by 12 months due to a 12-month delay to the "Eastbound Open to Traffic" date caused by SAS contract Addenda #5 and #7.
- The design of the Bridge Demolition contract is at 10 percent complete and is currently on hold. Dismantling of the existing east span is pending the completion of, and traffic switch onto, the new east span. Because of the long lead-time, it is possible that specifications and other conditions may change by then, possibly impacting the demolition contract. To avoid or minimize the possibility of redesign or rework and the associated costs, design work on this contract has been placed on hold.



Viaduct portion of SSD



Construction of columns for the viaduct portion of SSD

Project Funding

Baseline and Projected Budget and Schedule

The AB 144/SB 66 baseline budget for the SFOBB east span is \$5.486 billion with \$4.527 billion for CO and \$959.3 million for COS. This amount does not include program contingencies. See *Table 10-SFOBB East Span Replacement Cost Summary*.

Caltrans re-evaluates project and contract cost forecasts continuously. The estimate-at-completion as of March 31, 2006, includes revised forecasts from AB 144/SB 66 budget, as follows:

- A forecast increase in the cost of Capital Outlay Support (COS) to \$977.1 million as a result of a detailed staffing and consultant contract cost forecast completed as of the end of the First Quarter 2006. This forecast includes considerations of revised and increased construction contract schedules as mentioned elsewhere in this report that require coverage by staff and consultants.
- A forecasted \$13.7 million increase for the SAS Superstructure contract to cover actions taken to encourage additional bidders for the project, including the bidder's stipend for the lowest three responsive bidders.
- A forecasted \$19.2 million increase for the YBITS contract due to a higher estimate for electrical work and scheduling.
- A forecasted \$11.1 million decrease in the capital outlay for the OTD contract due to the split of the OTD contract into multiple contracts to accelerate work and to reduce

Table 10-SFOBB East Span Replacement Cost Summary (\$ Millions)

Contract a	AB 144/ SB 66 Budget b	Approved Changes c	Current Approved Budget d = b + c	Cost To Date (03/2006) e	1 st Quarter 2006 Forecast f	Variance g = f - d
Capital Outlay Support	959.4	-	959.4	418.9	977.1	17.7
Capital Outlay Construction				-	-	-
Skyway	1,293.0	-	1,293.0	999.9	1,293.0	-
SAS Superstructure	1,753.7	-	1,753.7	-	1,767.4	13.7
SAS E2/T1 Foundations	313.5	-	313.5	100.6	313.5	-
YBI Structures	299.3	-	299.3	-	318.5	19.2
Oakland Touchdown	283.8	-	283.8	-	272.7	(11.1)
YBI South/South Detour	131.9	-	131.9	32.3	133.7	1.8
Existing Bridge Demolition	239.2	-	239.2	-	222.0	(17.2)
Stormwater Treatment Measures	15.0	-	15.0	-	15.0	-
East Span Completed Projects	90.3	-	90.3	89.1	90.3	-
Right-of-Way and Environmental Mitigation	72.4	-	72.4	38.7	72.4	-
Other Budgeted Capital	35.1	-	35.1	-	11.0	(24.1)
TOTAL	5,486.6	-	5,486.6	1,679.5	5,486.6	-

Note: Details may not sum to totals due to rounding effects.

schedule risks. The capital outlay support for the contract was increased to cover the additional work to split the contract and to administer four separate contracts over a longer duration rather than the original single contract.

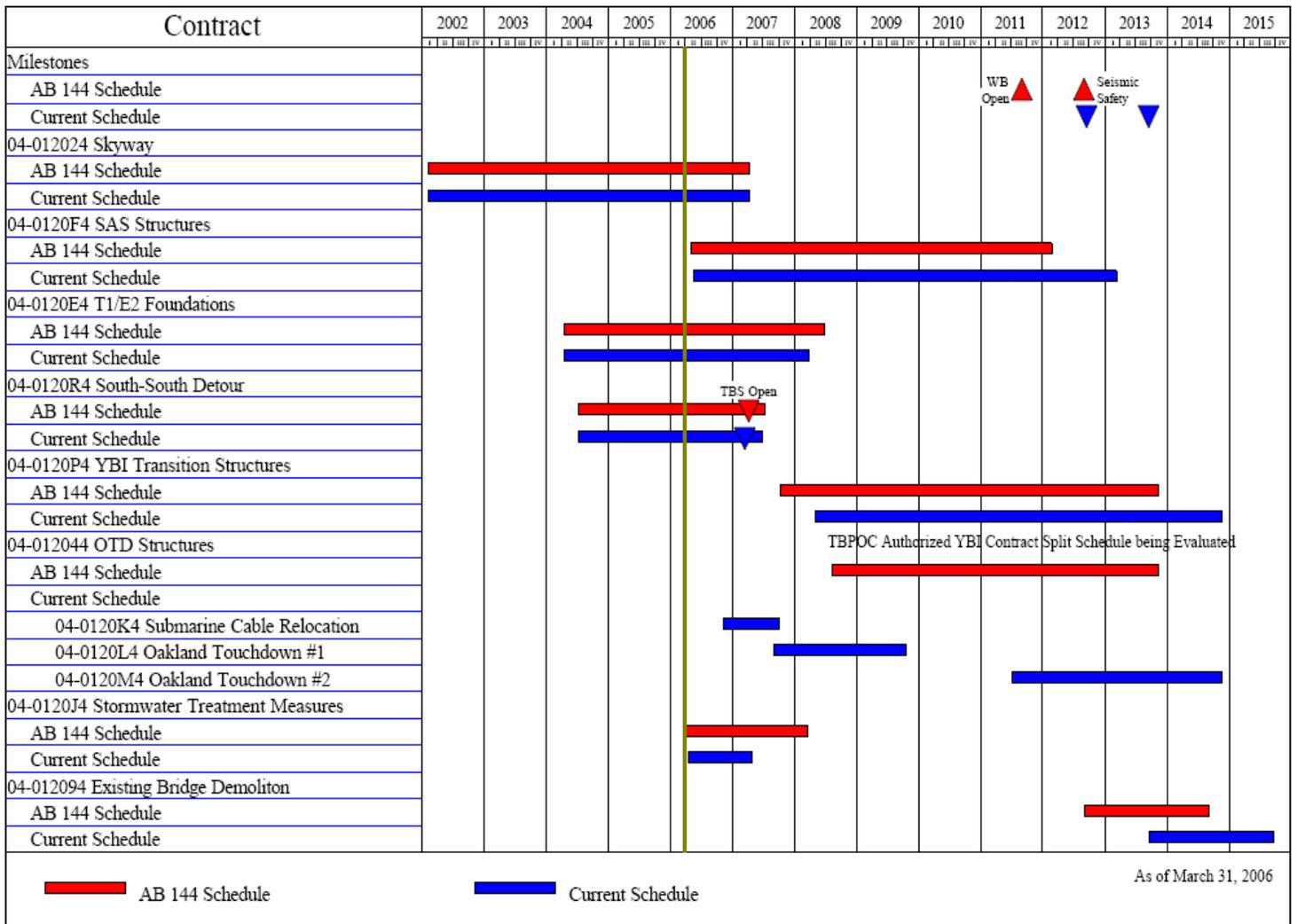
- A forecasted \$1.8 million increase for the YBI SSD contract due to a potential extension of contract to integrate with the schedule of the SAS contract.

- A forecasted \$17.2 million decrease for the Bridge Demolition Contract due to a re-evaluation of the cost escalation rates for the project.

All of the variances discussed above can be funded from other budgeted capital and do not reflect on overall change in forecast for the SFOBB east span budget.

The AB 144/SB 66 baseline schedule for seismically retrofitting the structure and opening the

**Chart 2-San Francisco-Oakland Bay Bridge East Span Corridor
Schedule Baseline AB 144/SB 66 vs. Current Projected**



bridge to traffic in both directions is 2012. However, the forecast opening date has been revised to 2013 due to the TBPOC approval and Caltrans issuance of Addenda #5 and #7 to the SAS contract. These addenda extended the completion date of the SAS contract by 12 months in response to bidder inquiries and to attract more bidders and lower project costs. The SAS Addendum #7 also provided for a six-month early completion incentive; although the current schedule forecast does not reflect achievement of this incentive, schedule planning for the OTD and YBITS is being done so as to respond to this possibility.

The comparison of the AB 144/SB 66 baseline schedule and the current projected schedule is shown in *Chart 2-SFOBB East Span Corridor Schedule, Baseline AB 144/SB 66 vs. Current Projected*. It should be noted that the schedules shown in *Chart 2* do not at this time account for:

- A number of issues that include the fabrication of the hinge pipe beams, service platforms, electrical appurtenances, polyester concrete, modular joints and other operations yet to be completed on the Skyway contract.
- The potential “worst-case” issues that may affect the schedule identified in the SFOBB East Span Seismic Retrofit Project Risk Management Plan.

The TBPOC is working aggressively to continuously identify, manage, and reduce these additional schedule risks, as shown in Appendix C.

Major Risk Issues

SFOBB East Span Project Replacement Risk Management Plan

Caltrans continues to implement comprehensive risk management on all SFOBB East Span Seismic Replacement Project contracts in accordance with AB 144. Currently, Caltrans and BATA have embarked on an initiative to manage risk jointly.

Risk response efforts continue to focus on encouraging responsive bids for future contracts and mitigating the estimated cost/schedule impact of identified risks. Updates of these risk management activities are included in Appendix C.

Quarterly Environmental Compliance Highlights

SFOBB east span environmental tasks for the current quarter are focused on mitigation monitoring. All weekly, monthly, and annual compliance reports to resource agencies have been delivered on time with no comments from receiving agencies. Key successes this quarter include:

- Falcons were observed at the existing bridge throughout the month of March, and it is anticipated the pair will make a nesting attempt in 2006.
- The mitigation contract committed to addressing 155 acres of stormwater run-off has been awarded; construction will start May 2006.
- Approval for the Navy Cable Relocation was received from NOAA - Fisheries. After years of stalled negotiations, an agreement was finally reached between Caltrans, BCDC, and the Navy on how to proceed with the Navy Cable Relocation.
- The Air Bubble Curtain and Marine Mammal Monitoring were performed without incident during the casing installation at the T1 footing. Turbidity monitoring is ongoing during drilling operations.

Other Toll Bridges

Dumbarton and Antioch Bridges

The original design of the Dumbarton and Antioch bridges were based on design criteria developed after the 1971 San Fernando Earthquake. In the early 1990s, Caltrans determined that these two structures had the seismic resistant features required by the post 1971 codes and were not likely to be vulnerable during a major seismic event. Since that time, Caltrans has pursued an aggressive seismic research program, and based on the results of this program, significantly revised its seismic design practice in the late 1990s. Consistent with recommendations by the Caltrans Seismic Advisory Board, Caltrans regularly reassesses the seismic hazard and performance of its bridges. Due to the tremendous changes in seismic design practice that have occurred since the design of the Dumbarton and Antioch bridges, a comprehensive assessment of the potential need and scope for seismic retrofit based on current knowledge is prudent.

Previous Reports

A number of limited studies have been made of these bridges in the past. However, none of the studies have fully assessed the seismic performance of the structures under current standards.

Vulnerability Studies

In late 2004, Caltrans initiated vulnerability studies on the Dumbarton and Antioch bridges. The purpose of these studies was to determine if the bridges would meet current seismic performance standards. The studies were essentially completed in May 2005. They were not a complete global analysis, but rather an investigation of selected bents modeled as independent structures. The analysis was limited in scope and based on as-built plans and currently available geotechnical information. The superstructure response was not analyzed.

The Dumbarton and Antioch bridges have many seismic resistant features, and the results of the vulnerability studies indicate that the bridges should perform well in a moderate seismic event. However, during a major seismic event, some potential vulnerabilities (summarized below) become apparent.

- Foundation response generally governs performance. The piles may plunge axially and potentially cause permanent footing rotations.
- Potentially large foundation displacements and rotations may result in deformations that cannot be easily repaired.
- The bent cap, pile cap, pile, and superstructure are not capacity protected by the ductile columns and, as a result, these elements may be damaged in a major event, especially if the foundation is retrofitted.

Given the limitations of the studies, there was insufficient evidence to conclusively determine the performance of the bridges during a maximum credible earthquake (MCE). While the Dumbarton and Antioch bridges may meet performance standards, a more comprehensive technical study is necessary to understand the performance of these structures during an MCE event. A study of this level is necessary to accurately determine the structures' response and to develop any necessary retrofit strategies. A comprehensive geotechnical study using the latest analysis techniques is likely necessary in order to perform this level of analysis.

Sensitivity Analysis

As a follow-up to the vulnerability study, a sensitivity analysis was completed on a single representative bent used in the vulnerability study (Bent 23 of the Dumbarton Bridge). The goal of the analysis is to determine the structural response associated with uncertainties in the geotechnical data. An envelope of soil conditions (best-case and worst-case scenarios) was used in the analysis. The

results of the sensitivity analysis will be used to determine the scope and value of conducting further geotechnical studies.

The preliminary results from the sensitivity analysis indicate that the seismic response of the bridge is largely dependant on the soil conditions and that a comprehensive geotechnical investigation is essential for understanding the bridge's performance during a major seismic event. A work plan is being developed to assess the extent of geotechnical work needed for a complete seismic analysis and to assess the required performance levels for each structure. Caltrans is currently conducting a value analysis to scope the geotechnical investigation which will be required to complete the strategy. The value analysis report is estimated to be completed by the end of May 2006.

Cost and Schedule

A preliminary cost estimate, schedule, and an initial risk analysis have been developed to complete a comprehensive seismic analysis for each bridge. The preliminary estimate and schedule were developed as a baseline assuming a complete geotechnical and geophysical investigation is required at each bridge.

The TBPOC will consider how to proceed with this comprehensive seismic analysis in the coming months, and will update the Legislature in the Second Quarter Report for 2006.

Appendices

- A. TBSRP All Bridges AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures through March 31, 2006 (A-1 and A-2).
- B. TBSRP East Span Only AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures through March 31, 2006.
- C. Toll Bridge Seismic Retrofit Program Risk Management.
- D. California Transportation Commission First Quarter Schedule.
- E. Project/Contract Photographs.

Appendix A-1.

Toll Bridge Seismic Retrofit Program						
AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through March 2006						
(\$ millions)						
Bridge	AB 144/SB 66 Baseline	Fourth Quarter 2005 Forecast	First Quarter 2006 Forecast	Variance (1st Q06 - 4th Q05)	Expenditures Through March 2006	
Benicia-Martinez						
Capital Outlay Support	38.1	38.1	38.1	-	38.1	
Capital Outlay	139.7	139.7	139.7	-	139.7	
Total	177.8	177.8	177.8	-	177.8	
Carquinez						
Capital Outlay Support	28.7	28.7	28.7	-	28.8	
Capital Outlay	85.5	85.5	85.5	-	85.4	
Total	114.2	114.2	114.2	-	114.2	
San Mateo-Hayward						
Capital Outlay Support	28.1	28.1	28.1	-	28.1	
Capital Outlay	135.4	135.4	135.4	-	135.3	
Total	163.5	163.5	163.5	-	163.4	
Vincent Thomas						
Capital Outlay Support	16.4	16.4	16.4	-	16.4	
Capital Outlay	42.1	42.1	42.1	-	42.0	
Total	58.5	58.5	58.5	-	58.4	
San Diego-Coronado						
Capital Outlay Support	33.5	33.5	33.5	-	33.2	
Capital Outlay	70.0	70.0	70.0	-	69.4	
Total	103.5	103.5	103.5	-	102.6	
Richmond-San Rafael						
Capital Outlay Support	134.0	127.0	127.0	-	124.9	
Capital Outlay	780.0	698.0	698.0	-	663.7	
Total	914.0	825.0	825.0	-	788.6	
West Span Retrofit						
Capital Outlay Support	75.0	75.0	75.0	-	74.7	
Capital Outlay	232.9	232.9	232.9	-	226.2	
Total	307.9	307.9	307.9	-	300.9	
West Approach						
Capital Outlay Support	120.0	120.0	120.0	-	74.9	
Capital Outlay	309.0	309.0	309.0	-	186.0	
Total	429.0	429.0	429.0	-	260.9	
SFOBB East Span						
Capital Outlay Support	959.4	977.1	977.1	-	418.9	
Capital Outlay	4,492.1	4,498.5	4,498.5	-	1,260.6	
Other Budgeted Capital	35.1	11.0	11.0	-	-	
Total	5,486.6	5,486.6	5,486.6	-	1,679.5	
Miscellaneous Program Costs	30.0	30.0	30.0	-	25.6	
Subtotal Capital Outlay Support	1,463.2	1,473.9	1,473.9	-	863.6	
Subtotal Capital Outlay	6,321.8	6,222.1	6,222.1	-	2,808.3	
Subtotal Toll Seismic Retrofit	7,785.0	7,696.0	7,696.0	-	3,671.9	
Program Contingency	900.0	989.0	989.0	-	-	
Total Toll Seismic Retrofit Program	8,685.0	8,685.0	8,685.0	-	3,671.9	

Notes:

(Due to the rounding of numbers, the totals above are shown within \$0.2.)

Appendix A-2.

Toll Bridge Seismic Retrofit Program				
AB 144 Baseline Budget, Forecasts and Expenditures Through March 2006				
(\$ in millions)				
Bridge	Column B AB 144 Baseline Budget	Column C Expenditures to date and Encumbrances as of March 2006 See Note (1)	Column D Estimated Costs not yet Spent or Encumbered as of March 2006	Column E Total Forecast as of March 2006 (Columns C +D)
Other Completed Projects				
Capital Outlay Support	144.9	144.6	0.2	144.9
Capital Outlay	472.6	474.0	(1.4)	472.6
Total	617.5	618.6	(1.1)	617.5
Richmond-San Rafael				
Capital Outlay Support	127.1	125.2	1.8	127.0
Capital Outlay	704.9	672.0	26.0	698.0
Project Reserves	82.0			
Total	914.0	797.2	27.8	825.0
West Span Retrofit				
Capital Outlay Support	75.0	74.8	0.2	75.0
Capital Outlay	232.9	234.1	(1.2)	232.9
Total	307.9	308.9	(1.0)	307.9
West Approach				
Capital Outlay Support	120.0	76.3	43.7	120.0
Capital Outlay	309.0	288.8	20.2	309.0
Total	429.0	365.1	63.9	429.0
SFOBB East Span -Skyway				
Capital Outlay Support	197.0	136.3	60.7	197.0
Capital Outlay	1,293.0	1,187.6	105.4	1,293.0
Total	1,490.0	1,323.9	166.1	1,490.0
SFOBB East Span -SAS- Superstructure				
Capital Outlay Support	214.6	21.8	192.9	214.6
Capital Outlay	1,753.7	-	1,767.3	1,767.3
Total	1,968.3	21.8	1,960.1	1,981.9
SFOBB East Span -SAS- Foundations				
Capital Outlay Support	62.5	19.5	43.1	62.5
Capital Outlay	339.9	304.3	35.6	339.9
Total	402.4	323.8	78.6	402.4
Small YBI Projects				
Capital Outlay Support	10.6	10.2	0.4	10.6
Capital Outlay	15.7	17.2	(1.5)	15.7
Total	26.3	27.4	(1.1)	26.3
South/South Detour				
Capital Outlay Support	29.5	15.1	14.4	29.5
Capital Outlay	131.9	97.1	36.7	133.8
Total	161.4	112.2	51.1	163.3
YBI - Transition Structures				
Capital Outlay Support	78.7	9.0	69.7	78.7
Capital Outlay	299.3	0.1	318.4	318.5
Total	378.0	9.1	388.1	397.2
Oakland Touchdown				
Capital Outlay Support	74.4	20.2	71.9	92.1
Capital Outlay	283.8	0.1	272.6	272.7
Total	358.2	20.3	344.5	364.8
East Span Other Small Project				
Capital Outlay Support	212.3	193.9	18.5	212.4
Capital Outlay	170.8	76.3	70.4	146.6
Total	383.1	270.2	88.8	359.0
Existing Bridge Demolition				
Capital Outlay Support	79.7	0.2	79.5	79.7
Capital Outlay	239.2	-	222.0	222.0
Total	318.9	0.2	301.5	301.7
Miscellaneous Program Costs				
	30.0	44.8	(14.8)	30.0
Total Capital Outlay Support (3)	1,463.2	891.9	552.1	1,444.0
Total Capital Outlay	6,321.8	3,351.6	2,870.4	6,222.0
Program Total	7,785.0	4,243.5	3,452.5	7,696.0

(1) Funds allocated to project or contract for Capital Outlay and Support needs includes Capital Outlay Support total allocation for FY 05/06.

(2) BSA provided a distribution of program contingency in December 2004 based on Bechtel Infrastructure Corporation input. This column is subject to revision upon completion of the Department's risk assessment update.

(3) Total Capital Outlay Support includes program indirect costs.

(Due to the rounding of numbers, the totals above are shown within \$0.2.)

Appendix B.

Toll Bridge Seismic Retrofit Program - SFOBB East Span Only AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through March 2006

(\$ millions)						
East Span Contract	AB 144/SB 66 Baseline	Fourth Quarter 2005 Forecast	First Quarter 2006 Forecast	Variance (1st Q06 - 4th Q05)	Expenditures Through March 2006	
SFOBB East Span -Skyway						
Capital Outlay Support	197.0	197.0	197.0	-	133.3	
Capital Outlay	1,293.0	1,293.0	1,293.0	-	999.9	
Total	1,490.0	1,490.0	1,490.0	-	1,133.2	
SFOBB East Span -SAS- Superstructure						
Capital Outlay Support	214.6	214.6	214.6	-	19.3	
Capital Outlay	1,753.7	1,767.4	1,767.4	-	-	
Total	1,968.3	1,982.0	1,982.0	-	19.3	
SFOBB East Span -SAS- W2 Foundations						
Capital Outlay Support	10.0	10.0	10.0	-	9.2	
Capital Outlay	26.4	26.4	26.4	-	25.7	
Total	36.4	36.4	36.4	-	34.9	
SFOBB East Span -SAS- E2/T1 Foundations						
Capital Outlay Support	52.5	52.5	52.5	-	9.4	
Capital Outlay	313.5	313.5	313.5	-	100.6	
Total	366.0	366.0	366.0	-	110.0	
YBI/SAS (Archeology)						
Capital Outlay Support	1.1	1.1	1.1	-	1.1	
Capital Outlay	1.1	1.1	1.1	-	1.1	
Total	2.2	2.2	2.2	-	2.2	
YBI - USCG Rd Relocation						
Capital Outlay Support	3.0	3.0	3.0	-	2.7	
Capital Outlay	3.0	3.0	3.0	-	2.8	
Total	6.0	6.0	6.0	-	5.5	
YBI - Substation & Viaduct						
Capital Outlay Support	6.5	6.5	6.5	-	6.4	
Capital Outlay	11.6	11.6	11.6	-	11.3	
Total	18.1	18.1	18.1	-	17.7	
South/South Detour						
Capital Outlay Support	29.5	29.5	29.5	-	15.0	
Capital Outlay	131.9	133.7	133.7	-	32.3	
Total	161.4	163.2	163.2	-	47.3	
YBI - Transition Structures						
Capital Outlay Support	78.7	78.7	78.7	-	8.5	
Capital Outlay	299.3	318.5	318.5	-	-	
Total	378.0	397.2	397.2	-	8.5	
Oakland Touchdown (Total, including the following split contracts and prior-to-split expenses)						
Capital Outlay Support	74.4	92.1	92.1	-	19.9	
Capital Outlay	283.8	272.7	272.7	-	-	
Total	358.2	364.8	364.8	-	19.9	
Oakland Touchdown Contract No. 1						
Capital Outlay Support	-	49.9	49.9	-	0.3	
Capital Outlay	-	196.7	196.7	-	-	
Total	-	246.6	246.6	-	0.3	
Oakland Touchdown Contract No. 2						
Capital Outlay Support	-	15.8	15.8	-	-	
Capital Outlay	-	62.0	62.0	-	-	
Total	-	77.8	77.8	-	-	

Appendix B. (Cont'd.)

Toll Bridge Seismic Retrofit Program - SFOBB East Span Only
AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through March 2006

(\$ millions)						
East Span Contract	AB 144/SB 66 Baseline	Fourth Quarter 2005 Forecast	First Quarter 2006 Forecast	Variance (1st Q06 - 4th Q05)	Expenditures Through February 2006	
Oakland Touchdown Contract - Navy Cable						
Capital Outlay Support	-	3.0	3.0	-	0.1	
Capital Outlay	-	9.6	9.6	-	-	
Total	-	12.6	12.6	-	-	
Oakland Touchdown Contract - Electrical System						
Capital Outlay Support	-	1.4	1.4	-	-	
Capital Outlay	-	4.4	4.4	-	-	
Total	-	5.8	5.8	-	-	
Oakland Geofill						
Capital Outlay Support	2.5	2.5	2.5	-	2.5	
Capital Outlay	8.2	8.2	8.2	-	8.2	
Total	10.7	10.7	10.7	-	10.7	
Pile Installation Demonstration Project						
Capital Outlay Support	1.8	1.8	1.8	-	1.8	
Capital Outlay	9.2	9.2	9.2	-	9.2	
Total	11.0	11.0	11.0	-	11.0	
Existing Bridge Demolition						
Capital Outlay Support	79.7	79.7	79.7	-	0.2	
Capital Outlay	239.2	222.0	222.0	-	-	
Total	318.9	301.7	301.7	-	0.2	
Stormwater Treatment Measures						
Capital Outlay Support	6.0	6.0	6.0	-	4.3	
Capital Outlay	15.0	15.0	15.0	-	-	
Total	21.0	21.0	21.0	-	4.3	
Right-of-way and Environmental Mitigation						
Capital Outlay Support	-	-	-	-	-	
Capital Outlay	72.4	72.4	72.4	-	38.7	
Total	72.4	72.4	72.4	-	38.7	
Sunk Cost - Existing East Span Retrofit						
Capital Outlay Support	39.5	39.5	39.5	-	39.5	
Capital Outlay	30.8	30.8	30.8	-	30.8	
Total	70.3	70.3	70.3	-	70.3	
Environmental Phase (Expended)						
Capital Outlay Support	97.7	97.7	97.7	-	97.7	
Project Expenditures, Pre-splits						
Capital Outlay Support	44.9	44.9	44.9	-	44.9	
Non-project Specific Costs						
Capital Outlay Support	20.0	20.0	20.0	-	3.2	
Subtotal East Span Capital Outlay Support	959.4	977.1	977.1	-	418.9	
Subtotal East Span Capital Outlay and Sunk Costs	4,492.1	4,498.5	4,498.5	-	1,260.6	
Other Budgeted Capital	35.1	11.0	11.0	-	-	
Total SFOBB East Span	5,486.6	5,486.6	5,486.6	-	1,679.5	

(Due to the rounding of numbers, the totals above are shown within \$0.2.)

Appendix C. Toll Bridge Seismic Retrofit Program Risk Management

A summary of risk management activities for the Toll Bridge Seismic Retrofit Program is provided below by individual project/contract.

SFOBB West Approach Project

The West Approach Risk Response Team is actively monitoring and controlling existing risks.

Significant Quarterly Developments

Unforeseen Structural Behavior during Demolition: Unforeseeable consequences of demolition at the three remaining anchorage areas create a substantial risk to the project. Incorporating lessons learned from previous operations and execution of mitigation strategies, the West Approach project team (including Structures Design) meets regularly to resolve upcoming and remaining demolition issues.

Public Discontent with Delays Due To Demolition: Lessons learned during demolition of the first anchorage have been incorporated into the plan for the next anchorage demolition, currently scheduled for June. The following tactics are included:

- Increased BART services,
- Aggressive informational campaigns to mitigate public concerns and adverse public perception,
- Increased equipment and labor resources during lower traffic times at nights and weekends. This tactic will reduce inconvenience to the surrounding residents and businesses, minimize impact to motorists, and maintain production required to keep the project on schedule.

New Risks Identified

The team identified two low probability/high impact risks:

1. Numerous reconfigurations necessitated by intensive demolition procedures may cause increased delays for the traveling public.
2. Non-structural damage caused by a potential seismic event may appear to indicate significant damage. This could cause public confusion and warrant closing the bridge.

Budgeting fully for such low probability-high impact risks is not a viable option, nor a best practice. The team has developed strategies and tactics to further reduce their probability of occurrence, and recommends that the residual risk be accepted.

SFOBB East Span Project

As reported in the Third Quarter 2005 TBSRP Report, the results of the SAS and E2-T1 quantitative schedule analysis indicated there was approximately an 80 percent probability that the SAS contract date of completion would be extended (whether by contractor, third party, weather or owner delays, or due to other delays beyond the contractor's control) up to 21 months from the AB 144 schedule. Caltrans and TBPOC's current SAS schedule risk analysis indicates that, because of the successful E2-T1 contract restart change order and the proactive SAS addenda and bidder inquiry process, there has been a significant reduction in the magnitude of the risk of delay of the current SAS schedule forecast completion date as a result of contractor, third party, weather, owner, or other excusable delay. As conditions warrant, the schedule risk analysis will be updated. Moreover, as schedule risk response enhancements are implemented, their effectiveness in reducing the delay risk will be reassessed, and the schedule delay risk will be adjusted accordingly.

SFOBB East Span Skyway Contract

The Risk Response Team reports that the overall cost risk assessment for the Skyway project has not changed significantly from last quarter. Decreased risk from the tugboat prevailing wage and service platforms direct cost issues was offset by increased risks on the hinge pipe beam and orthotropic box girder issues.

Significant Quarterly Developments

Risk of Significant Project Delay: As of the beginning of February 2006, the service platforms and hinge pipe beams (HPB) were projected to be behind schedule. Caltrans has helped mitigate the HPB delays by changing the acceptance criteria for the HPB from a tension to compression criteria. In addition, the contractor has helped mitigate delay costs by resequencing segment installation. Caltrans is evaluating deletion of the installation of the A and E HPB from the Skyway project and including them as state furnished material on a future contract. Contractor is being conservative in estimating schedule durations for installation of the service platforms. The durations could be halved by furnishing a second set of installation scaffolding.

Direct cost of HPB: This issue was heard by the Dispute Review Board (DRB) in early December 2005 and resulted in a unanimous decision in favor of the contractor. Caltrans considers the issue unresolved, and has increased its assessment of this risk.

Tugboat Prevailing Wage Issue: Caltrans has prepared a legal brief for Caltrans of Industrial Relations (DIR) documenting why the marine work is not work covered under prevailing wages. The DIR accepted Caltrans' arguments, ruling that most of the tugboat and workboat activity on the seismic retrofit projects were not covered at the time Caltrans advertised its projects, and that DIR's original March 2002 letter does not apply to those projects. The contingency reserve on this project has been reduced as a result of this latest ruling.

New Risks Identified

Two new risks were identified during the quarter:

1. Constructability issues with polyester concrete overlay specification: Laying a 13 mm overlay on the bike path and a 20 mm on the orthotropic box girder may be problematic. Caltrans is reviewing the specification to identify opportunities to improve constructability.
2. Extra costs of painting the bridge as a result of project delays: If bridge painting is scheduled during a period of high relative humidity, the contractor may claim the costs of having to provide a contained environment. Caltrans is reviewing the schedule and risk contingency for this issue.

SFOBB East Span E2/T1 Contract

The E2/T1 Risk Response Team now includes members from BATA and the CTC. Existing risks are being actively monitored and controlled.

Significant Quarterly Developments

The following risks were addressed in this quarter:

Conflicts or differing opinions over welding cause increased costs to the project: Materials Engineering and Testing Services (METS) continues to monitor the fabrication process. Caltrans is processing CCO 31 to change weld requirements and inspection criteria for some welds to mitigate the risk and potentially reduce costs.

Delivery of tower base plate template and/or drawings is late: The team continues to monitor the contractor's schedule and is looking at options such as building a second template.

Delivery of 95 mm plate is late: The team continues to monitor the subcontractor Trans Bay Steel (TBS), schedule. The prime contractor is having TBS complete other work to free up space and resources for the arrival of new plate. The team is considering an option to accelerate shop work and/or plate delivery to mitigate the risk.

New Risks Identified

No new project risks were identified during the quarter.

SFOBB East Span SAS Contract

Significant contract enhancements, such as the removal of schedule constraints and the increase of contract working days, were implemented by contract addenda. Many of the assumptions upon which schedule and cost analyses were founded were mitigated.

After the final addendum was issued, the cost and schedule risk analyses were revisited to incorporate all of the changes and mitigations to determine their net effect on cost and schedule risk. The results revealed that the risk of schedule overrun has been reduced substantially from that reported in the Third Quarter 2005 TBSRP Report. The cost risk also diminished somewhat because the reduction in the cost of delays

outweighed the increased escalation risk due to the schedule prolongation, thereby reducing pressure on program reserves.

Caltrans had strong indications at that point that at least two competitive bids may be received. Inasmuch as the bid opening date was approaching, it was decided to defer dissemination of cost and schedule risk updates until after bid opening so as not to risk compromising the bidding competition.

Summary of Risk Management Activities

Risk response efforts continued to focus on encouraging responsive bids for the SAS contract. Implementing prudent risk responses by SAS contract addenda reduces one of the SAS contract's most significant risks – a potential limited bidding pool.

Caltrans has conducted several industry and bidder outreaches and has responded to concerns raised by bidders. Addenda have been issued to facilitate bidder competition. Milestone DP1 has been removed from the SAS contract, thereby eliminating a contract interface that could have caused delays. A total of 12 months has been added to the SAS schedule, however, Addendum #7 also provided for a six-month early completion incentive.

Risk analyses of the SAS project is an ongoing process, with revisions from time to time as conditions of the project change. Risk response measures to date have reduced some risks significantly, as reported in the Fourth Quarter 2005 TBSRP Report:

Cost of delays has been reduced as a result of having performed a quantitative schedule risk analysis to better define and evaluate delay risks. Continued participation of at least two bidders is evidence that Caltrans has been successful in reducing the risk of a limited bidding pool. Escalation and furnishing risks have been reduced by removal of the Buy America provisions. The restart of the E2-T1 contract was negotiated to minimize the risk that it could delay the SAS contract. The risk of delays in approving shop drawings has been reduced by the "Campus" concept – having people involved in this process co-located to facilitate the timely resolution of complex technical issues arising from review and approval of the contractor's working drawings.

A summary of the contract risks and risk responses was reported in the Third Quarter 2005 TBSRP Report.

The receipt of two competitive bids on March 22, 2006 is evidence that TBPOC has been successful in reducing the risk of a limited bidding pool.

SFOBB East Span YBI Transition Structures Contract

This project is in the design phase.

Significant Quarterly Developments

The TBPOC recently directed Caltrans to develop options of redesigning this project to reduce the time that traffic will be on the SSD temporary bypass. A quantitative analysis will be performed when the final scope of the project has been determined.

The Risk Response Team met for the first time in this quarter, conducting a workshop that identified 16 individual project risks. The following five issues were deemed most critical to the project:

1. *Late SAS hinge K closure pour:* The YBI contractor must complete the closure pour at hinge K before YBI can be completed and opened to westbound traffic. The closure pour could be delayed due to delays by adjacent contracts in completing their work at interface points. Assuming an initially coordinated schedule is added to the YBI contract, adjacent contracts could exceed any built-in cushion to the YBI schedule. In addition to the cost of delays, Caltrans may be required to pay incentives incorporated into the YBI contract. The risk is dependent on when the YBI contract is advertised and the degree of float and incentives built into the advertised schedule. Mitigation measures to date include: splitting YBI structures into two contracts to reduce delay impacts; changing the SAS contract to limit interaction between the SAS and YBI projects; and managing the master corridor schedule actively.
2. *SAS electrical/mechanical work interferes with YBI electrical mechanical work:* Similar to the risk identified above, this risk could cause significant delays. The same mitigation measures as above reduce this risk.
3. *Differing site conditions (DSC) cause delays and/or increased costs:* DSCs at any foundation, utility, or other existing structure location can cause delays and increase costs. A thorough foundation investigation has been completed. The area within this project has steep terrain, was a U.S. Coast Guard base, and is a Native American burial ground. Multiple previous contracts in the vicinity have identified and eliminated numerous DSCs. However, it is still possible that other DSCs could arise.
4. *Scope changes during design:* Scope changes include recommendations contained within a recently completed value analysis study. These are being further evaluated.
5. *Slope stability around structure excavations:* Very steep slopes are part of the terrain on this project, and slope stability problems were encountered in previous excavations.

The Risk Response Team is continuing to develop risk response actions for these risks. Results will be reported next quarter.

SFOBB East Span Oakland Touchdown Contract

The Risk Response Team, which includes members from BATA and the CTC, conducted a workshop that identified 16 individual project risks. The following five issues were deemed most critical to the project:

1. *Delay and increased costs due to conflict with unknown utilities:* There has been an exhaustive search of utility records and notification to all utility companies of upcoming work. The site has been investigated using a triple frequency line locator. Caltrans has potholed high-conflict areas. Although much information has been gathered, the risk of encountering undiscovered utilities remains.
2. *A differing site condition causes delay and increased costs:* One of the split contracts moves the 12KV line. OTD 1 will do all foundation and work over water, thus mitigating the potential for delays to OTD 2 work.

3. *Problems with deck alignment matching Skyway:* The Skyway portion will sit on temporary support towers for an extended period of time, creating the potential for time dependent settlement/creep to occur. The risk is to both structures, eastbound and westbound.
4. *Problems with HPB interface with Skyway:* As with the deck alignment risk above, there is risk to the hinge pipe beam interface between the Skyway and OTD structures.
5. *Contract Delays:* The team considers potential delays to have the highest impact to the project.

The Risk Response Team is continuing to develop risks and risk response actions. The results will be reported next quarter.

SFOBB East Span South-South Detour Contract

The SSD Risk Response Team now includes members from BATA and the CTC. Existing risks are being actively monitored and controlled.

Significant Quarterly Developments

Risk of contract prolongation: As the schedule for the SAS main span construction has lengthened, the pressure for an immediate traffic switch has decreased. Because of the significant expected impacts to traffic, the objective is to minimize the time traffic will be on the detour as much as possible. Caltrans is investigating options for minimizing traffic time on the detour including delaying construction associated with the traffic switch. The costs of the previous delays are still undetermined, due in part to the loss of the contractor's major fabricator to other work.

Potential claims: Most of the potential claims surround the unusual contract terms defining responsibilities of the contractor versus those of Caltrans. One small dollar issue, but potentially precedent-setting, was heard by the DRB. DRB unanimously agreed with Caltrans that pile installation quality control is the responsibility of the contractor. This effect of the ruling will be assessed in the next risk review. Caltrans will continue to strive to resolve issues before they become potential claims and will continue to refer unresolved issues to the dispute review process.

Load transfer: The east and west tie-in structures will connect the new detour to the existing bridge structure. The tie-ins feature new structural elements that support the existing and new bridge decks. Load transfers must occur with traffic on the structure or over very short time periods when there is no traffic on the bridge. One of the contractor's tie-in designs has been received and reviewed. Aspects of the load transfer process and the east tie-in details have not been received. Caltrans will scrutinize the load transfer contingency plans and will not allow work to start until there is high assurance that there will be no safety or public impacts. Direction or purchase of design enhancements to prevent such impacts will occur if necessary. In addition to the reviews of the risk of prolongation above, Caltrans is further evaluating changes to the design and traffic closure periods to reduce risk.

SFOBB East Span Stormwater Treatment Measures Contract

Significant Quarterly Developments

The Risk Response Team met for the first time in this quarter. It identified 20 individual project risks, of which the following five issues were deemed most critical to the project:

1. Negotiations for the hazardous material CCO may use an excessive portion of the project contingency.
2. A utility in the way of the work may cause delay and/or increased costs.
3. A differing site condition may cause delay and/or increased costs.
4. Water intrusion into excavations greater than anticipated by the contractor causes delay and/or increased costs.
5. The team considers potential delays to have the highest impact to the project.

The Risk Response Team is continuing to develop risks and risk response actions. The results will be reported next quarter.

Appendix D.

**California Transportation Commission TBSRP Contributions,
Adopted December 2005.**

Schedule of Contributions to the Toll bridge Seismic Retrofit Program (\$ million)

Source	Description	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
AB 1171	SHA	290									290
	PTA	80	40								120
	HBRR	100	100	100	42						342
	Contingency				1	99	100	100	148		448
AB 144	SHA*	2	8				53	50	17		130
	MVA	75									75
	Spillover		125								125
	SHA**									300	300
	Total	547	273	100	43	99	153	150	165	300	1830

* Caltrans Efficiency Savings

** SFOBB East Span Demolition Cost

Appendix E.

Project/Contract Photographs.

San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

Skyway Contract



Skyway Orthotropic Box Girder



Skyway Orthotropic Box Girder



Skyway Orthotropic Box Girder

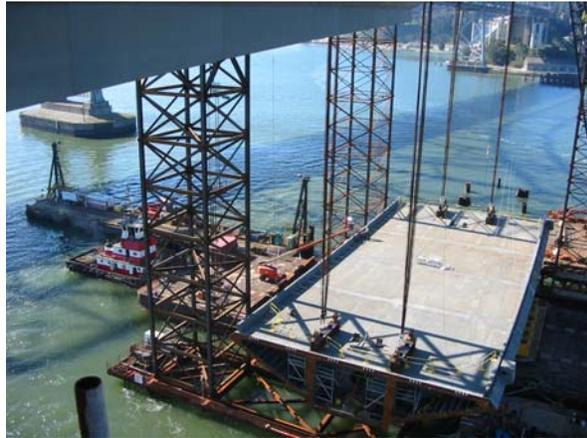


Skyway Orthotropic Box Girder

Skyway Contract (cont'd.)



Skyway Orthotropic Box Girder



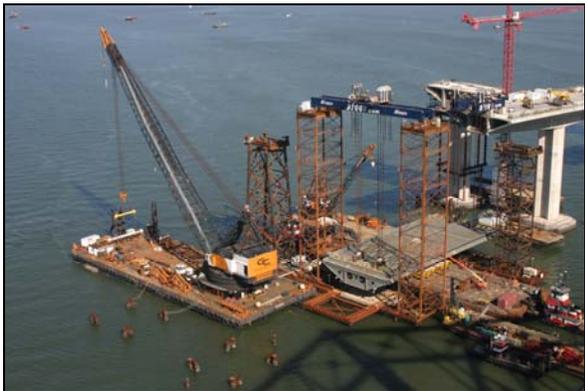
Skyway Orthotropic Box Girder



Skyway Orthotropic Box Girder



Aerial View of Skyway Construction



Aerial View of Skyway Construction



Aerial View of Skyway Construction

Skyway Contract (cont'd.)



Skyway Orthotropic Box Girder



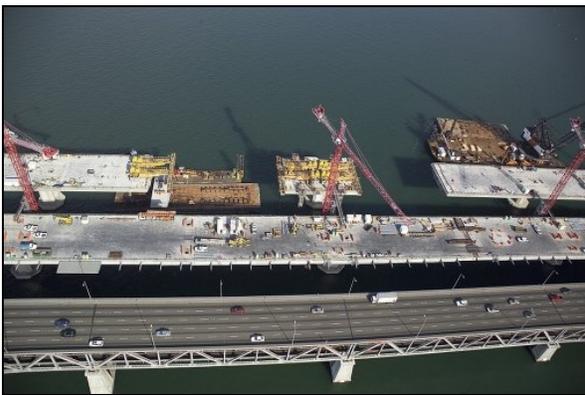
Skyway Orthotropic Box Girder



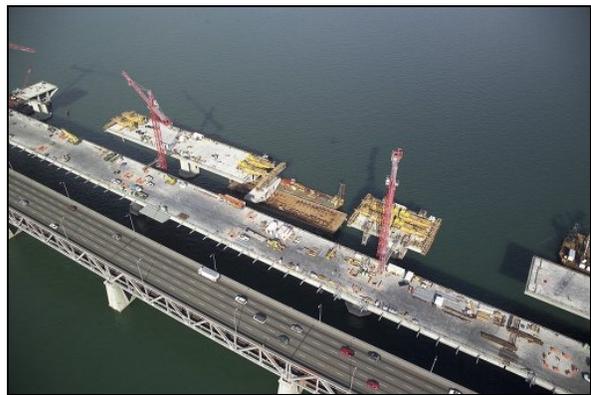
Aerial View of Skyway Construction



Aerial View of Skyway Construction

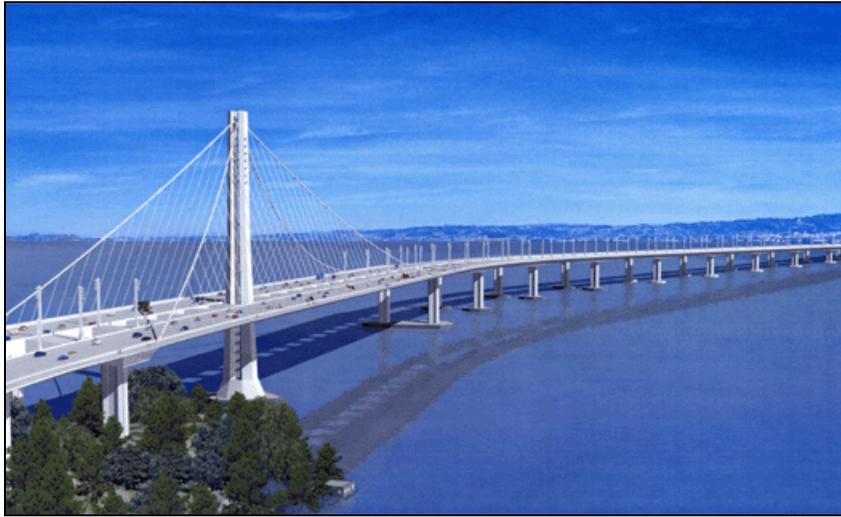


*Aerial View of Eastbound - Westbound Roadway Section
(looking west)*

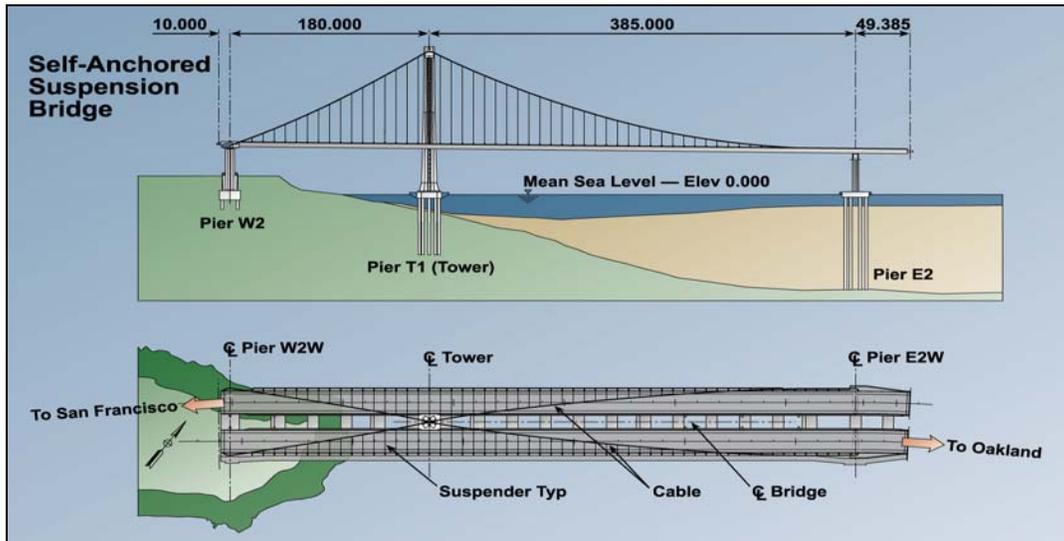


*Aerial View of Eastbound - Westbound Roadway Section
(looking west)*

Self-Anchored Suspension (SAS) Superstructure Contract



SAS Superstructure Artist Rendition



Self-Anchored Suspension (SAS) E2/T1 Foundation Contract



*T1 = Foundation for the 530-foot steel tower
E2 = Eastern Support of the suspension roadway
W2 = Western Support of the suspension roadway*



View of the completed W2 pier columns at the YBI, which will be the western support of the SAS structure

Self-Anchored Suspension (SAS) E2/T1 Foundation Contract (cont'd.)



Drilling Operations for T1 Foundations



E2 Foundation Template



Bubble Curtain used for Installation of T1 Temporary Casings



Installation of E2 Foundation Template

Yerba Buena Island (YBI) South/South Detour Contract



Pier Column Construction for Bents 50 and 51



Footing and Pier Columns for Bent 48



Piles for Bent No. 52



Drilling for CIDH piles for Bent 53



SoSoDet - Construction of columns for the viaduct portion of the Temporary Bypass Structure (TBS) adjacent to the U.S. Coast Guard Road on Yerba Buena Island



SoSoDet - Construction of Bent 48 grade beams along the former Southgate Road on Yerba Buena Island

San Francisco-Oakland Bay Bridge (SFOBB) West Approach Replacement Project



New Frame 7U north False work at bents 20 and 21



New 5th Street off ramp Bents 1 thru 5, CISS Piles



Frame 1U and 2U



Harrison St. Off-ramp Pre-demolition 1



Harrison St. Off-ramp Pre-demolition 2



Tendon Cutting

San Francisco-Oakland Bay Bridge (SFOBB) West Approach Replacement Project (cont'd.)



Harrison St. Off-ramp Demolition 1



Harrison St. Off-ramp Demolition 2



Harrison St. Off-ramp Demolition 3



Harrison St. Off-ramp Demolition 4



Harrison St. Off-ramp Demolition 5



Harrison St. Off-ramp Demolition 6

San Francisco-Oakland Bay Bridge (SFOBB) West Approach Replacement Project (cont'd.)



Temporary Support Frame (Super Bent at Bent #43) 1



Temporary Support Frame (Super Bent at Bent #43) 2



Temporary Support Frame (Super Bent at Bent #43) 3



Temporary Support Frame (Super Bent at Bent #43) 4



Demolition of Frame 7U North & 8U North over First St.
On-ramp 1



Demolition of Frame 7U North & 8U North over First St.
On-ramp 2

San Francisco-Oakland Bay Bridge (SFOBB) West Approach Replacement Project (cont'd.)



West Approach 8U North



West Approach Frame 8U North



West Approach 8U North