

# Toll Bridge Seismic Retrofit Program Report



## TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS    BAY AREA TOLL AUTHORITY    CALIFORNIA TRANSPORTATION COMMISSION



**Second Quarter Report**

June 30, 2008





# 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

August 14, 2008

Mr. John Chalker, Chair  
California Transportation Commission  
1120 N Street, Room 2221  
Sacramento, CA 95814

Mr. Bob Alvarado, Vice-Chair  
California Transportation Commission  
1120 N Street, Room 2221  
Sacramento, CA 95814

Dear Commissioners Chalker and Alvarado:

The Toll Bridge Program Oversight Committee (TBPOC) is pleased to submit the 2008 Second Quarter "Toll Bridge Seismic Retrofit Program Report," prepared pursuant to California Streets and Highways Code Section 30952.2. The Second Quarter report includes project progress and activities for the Toll Bridge Seismic Retrofit Program through June 30, 2008.

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.

In the second quarter, the TBPOC took action to address significant construction schedule risks associated with the construction of the Yerba Buena Island Detour (YBID) contract.

John Chalker  
Bob Alvarado  
August 14, 2008  
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The YBID contract will construct the temporary viaduct structure necessary to maintain traffic flow across the existing bridge while allowing for the construction of the new transition structures from the future Self-Anchored Suspension Span (SAS) to the Yerba Buena Island tunnel. In June 2008, the TBPOC approved a revised project budget of \$442.2 million for the project to manage identified construction and schedule risks and to provide a construction contingency for the contract. The budget change will be funded from the TBSRP program contingency and redirected project savings from the E2/T1, Skyway, Richmond-San Rafael Bridge contracts, and will not increase the overall Toll Bridge Seismic Retrofit Program Budget.

In this current quarter, Caltrans will be advertising the Yerba Buena Island #1 contract to complete the approach structures from the new Self-Anchored Suspension Span to the Yerba Buena Island tunnel. Work is also proceeding ahead of schedule on the San Francisco-Oakland Bay Bridge West Approach Project that replaces the bridge approach structures in San Francisco. The contract is forecast to be completed seven months early in January 2009. Additional information on these and other projects is provided in the report.

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

August 14, 2008

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:

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In the second quarter, the TBPOC took action to address significant construction schedule risks associated with the construction of the Yerba Buena Island Detour (YBID) contract. The YBID contract will construct the temporary viaduct structure necessary to maintain

Gregory Schmidt  
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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 2008 Second Quarter Report ending June 30, 2008 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 December 2007 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 Highlights during the Second Quarter 2008

Of the seven toll bridges in the TBSRP, only the San Francisco-Oakland Bay Bridge (SFOBB) remains to be retrofitted. Highlights of major milestones and actions made during the quarter include:

- On the SFOBB West Approach Project, a reconstructed eastbound Interstate 80 (I-80) approach structure from 5<sup>th</sup> Street in San Francisco to the west spans of the SFOBB was opened in April 2008. Taking traffic off a temporary detour structure, the new eastbound approach puts traffic near its final alignment. Future work includes completing the widening of the approach structure, retrofitting the remaining structure near the anchorage and the Harrison Street off-ramp.

The project is forecast to be completed seven months ahead of

schedule in January 2009. To achieve the early project completion and minimize impacts to the local community and the traveling public, the TBPOC has approved a number of contract changes that have increased the final cost of the project (see page 4 – *Table 2*). The costs of these changes are within the TBSRP program contingency and will result in no change to the overall program budget. (See project notes on page 11.)

- As part of the SFOBB East Span Seismic Replacement Project, the Self-Anchored Suspension Span (SAS) contract is constructing the superstructure of the signature span between the Skyway and Yerba Buena Island (YBI). Work is occurring both in the Bay Area and around the world to complete the span.

American Bridge/Fluor, the prime contractor on the project, is performing civil work both on YBI and out on the bay with construction of the W2 and E2 support piers and with the erection of temporary support structures along the path of the future SAS.



SAS – E2 Temporary Supports



SAS – Barge Crane Installation

Fabrication of the steel SAS tower and deck sections is ongoing in China at Zhenhua Port Machinery Company (ZPMC), the steel fabrication subcontractor. ZPMC is also attaching a shearleg crane to the custom barge that was fabricated in Portland, Oregon. The cable saddles for the SAS are under fabrication in Japan.

- In the first quarter of 2008, Caltrans accepted the Skyway and E2/T1 Foundations contracts. These contracts represented over \$1.5 billion in completed construction value. The Skyway contract constructed twin pre-cast concrete segmental bridges that will connect the Oakland approach to the new SAS. The E2/T1 Foundations contract constructed the two marine foundations for the new SAS. Both contracts were completed with project savings that will be returned to the program contingency. The Skyway and E2/T1 contracts were completed with \$38.9 million and \$32.6 million in savings respectively.
- The Yerba Buena Island Detour contract (YBID) is constructing a temporary detour structure from the Yerba Buena Island tunnel to the existing east span. The contract is making progress on the temporary detour viaduct and on advanced work on a number of foundations for the future transition structure from the SAS to the tunnel. Clearly visible to the traveling public, the double-deck steel truss of the temporary detour viaduct is being pieced

together just south of the existing bridge.

The contract originally intended to put traffic on a temporary detour in 2006 to meet an earlier east span replacement schedule. The current revised schedule will not have traffic on the temporary detour until 2009. To better integrate the contract into the revised project schedule, the TBPOC has approved a number of changes to the contract. These changes included adding the deck replacement work near the tunnel that was rolled into place over Labor Day Weekend 2007, advancing future transition structure foundation work, and making design enhancement to the temporary detour structure.

Significant construction risks have been identified that will require additional funds to be budgeted for the project. In June 2008, the TBPOC approved a revised project budget of \$442.2 million for the project, which is \$107.8 million higher than the previously approved budget. The revised forecast for the project is \$461.2 million, which includes additional contingencies to cover the potential project risks. The budget change will be funded from the TBSRP program contingency and redirected project savings from the E2/T1, Skyway, Richmond-San Rafael Bridge contracts. (See page 4 – *Table 2* and project notes starting on page 16.)



Yerba Buena Island Detour Work

## 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. 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 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 pages 27 and 28).

As shown in *Table 1-TBSRP Project Status*, a significant portion of the TBSRP is complete. Only the East Span Seismic Replacement projects remain to be seismically retrofitted.

The second quarter 2008 forecast indicates that the TBSRP projects will be completed within the overall current TBPOC approved program budget. *Tables 2 and 3* on the following pages 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

**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 (06/2008)	Cost To Date (06/2008)	Cost Forecast*	At-Completion Variance	Cost Status
a	b	c	d	e = c + d	f	g	h = g - e	i
Capital Outlay Support		959.3	-	959.3	620.3	977.1	17.8	●
Capital Outlay Construction								
Skyway	Complete	1,293.0	(38.9)	1,254.1	1,234.1	1,254.1	-	●
SAS E2/T1 Foundations	Construction	313.5	(32.6)	280.9	272.7	280.9	-	●
SAS Superstructure	Construction	1,753.7	-	1,753.7	466.0	1,767.4	13.7	●
YBI Detour	Design/Const	132.0	310.2	442.2	191.4	461.2	19.0	●
YBI Transition Structures		299.3	(23.2)	276.1	-	276.1	-	●
* YBITS Contract No. 1	Design				-	214.3		
* YBITS Contract No. 2	Design				-	58.5		
* YBITS Contract No. 3 - Landscape	Design				-	3.3		
Oakland Touchdown (OTD)		283.8	-	283.8	102.4	302.5	18.7	
* OTD Submarine Cable	Complete				7.9	9.6		●
* OTD No. 1 (Westbound)	Construction				94.5	226.5		●
* OTD No. 2 (Eastbound)	Design				-	62.0		●
* OTD Electrical Systems	Design				-	4.4		●
Existing Bridge Demolition	Design	239.2	-	239.2	-	222.0	(17.2)	●
Stormwater Treatment Measures	Construction	15.0	3.3	18.3	16.4	18.3	-	●
Right-of-Way and Environmental Mitigation		72.4	-	72.4	39.3	72.4	-	●
<b>Total SFOBB East Span Replacement Project</b>								
<b>SFOBB West Approach Replacement</b>	Construction							●
Capital Outlay Support		120.0	-	120.0	107.4	120.0	-	
Capital Outlay Construction		309.0	24.7	333.7	282.9	350.7	17.0	●
<b>Total SFOBB West Approach Replacement</b>		<b>429.0</b>	<b>24.7</b>	<b>453.7</b>	<b>390.3</b>	<b>470.7</b>	<b>17.0</b>	
<b>Richmond-San Rafael Bridge Retrofit</b>	Complete							●
Capital Outlay Support		134.0	(7.0)	127.0	126.7	127.0	-	
<b>Total Richmond-San Rafael Bridge Retrofit</b>		<b>914.0</b>						
<b>Program Completed Projects</b>	Complete							
Capital Outlay Support		219.8	-	219.8	219.4	219.8	-	
Capital Outlay Construction		705.6	-	705.6	698.1	705.6	-	
<b>Total Program Completed Projects</b>		<b>925.4</b>	<b>-</b>	<b>925.4</b>	<b>917.5</b>	<b>925.4</b>	<b>-</b>	
<b>Program Contingency</b>		<b>900.0</b>	<b>(142.7)</b>	<b>757.3</b>	<b>-</b>	<b>712.4</b>	<b>(44.9)</b>	
<b>Total Toll Bridge Seismic Retrofit Program</b>		<b>8,685.0</b>	<b>-</b>	<b>8,685.0</b>	<b>5,158.3</b>	<b>8,685.0</b>	<b>-</b>	

● Within Approved Schedule and Budget  
 ● Potential Cost and Schedule Impacts: Likely 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 (06/2008)	Project Complete Schedule Forecast (06/2008)	Schedule Variance (Months)	Schedule Status	Remarks
a	b	c	d = b + c	e	f = e - d	g	h
<b>SFOBB East Span Replacement Project</b>							
SAS Superstructure	Mar 12	12	Mar 13	Mar 13	-	●	See Note. Go to Page 25, Risk Management Program, for more information.
• OTD Eastbound	n/a		Nov 14	Nov 14	-	●	See Note.
Existing Bridge Demolition	Sep 14	12	Sep 15	Sep 15	-	●	See Note.
Open-to-Traffic Date: Westbound	Sep 11	12	Sep 12	Sep 12	-	●	See Note.
Open-to-Traffic Date: Eastbound	Sep 12	12	Sep 13	Sep 13	-	●	See Note.
<b>SFOBB West Approach Replacement</b>	Aug 09	-	Aug 09	Jan 2009	(7)	●	
• Open-to-Traffic Date: Mainline		-		April 2008			Open To Traffic
• Seismic Retrofit	Aug 05	-	Aug 05	Oct 05	2	●	Seismic retrofit completed July 29, 2005. Formal acceptance of contract October 28, 2005.
• Public Access Project	n/a	-	May 07	Sept 07	4	●	

*Note: Schedules for selected projects and the Open-to-Traffic dates were extended by 12 months from the AB 144/SB 66 baseline schedule due to Addenda #5 and #7 on the SAS Superstructure contract in response to bidder inquiries and to reduce costs.*

## Program Costs

### Baseline and Projected Budget

The 2005 AB 144/SB 66 budget is \$7.785 billion for Capital Outlay (CO) and Capital Outlay Support (COS) plus \$900 million in program contingency for a total baseline budget of \$8.685 billion. The Second Quarter 2008 forecast for the program remains steady at the \$8.685 billion budget. The Second Quarter 2008 forecast for the SFOBB East Span Project is \$5.730 billion and is based on revised construction estimates as generated from the first quarter 2007 risk management effort.

Additional cost estimate and expenditure details 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.



YBITS Advanced Column Work on the YBID Contract

**Table 4-Toll Bridge Seismic Retrofit Program Cost (\$ Millions)**

Contracts	AB 144 / SB 66 Baseline Budget	Approved Changes	Current Approved Budget	2nd Quarter 2008 Forecast	Difference from Current Approved Budget
<b>Completed Projects</b>					
Benicia-Martinez	177.8	-	177.8	177.8	-
Carquinez	114.2	-	114.2	114.2	-
San Mateo-Hayward	163.5	-	163.5	163.5	-
Vincent Thomas	58.5	-	58.5	58.5	-
San Diego-Coronado	103.5	-	103.5	103.5	-
SFOBB West Span	307.9	-	307.9	307.9	-
<b>Ongoing Projects</b>					
Richmond-San Rafael	914.0	(97.5)	816.5	816.5	-
SFOBB West Approach	429.0	24.7	453.7	470.7	17.0
SFOBB East Span	5,486.6	215.5	5,702.1	5,730.0	27.9
Miscellaneous Program Costs	30.0	-	30.0	30.0	-
<b>Subtotal</b>	<b>7,785.0</b>	<b>142.7</b>	<b>7,927.7</b>	<b>7,972.6</b>	<b>44.9</b>
Program Contingency	900.0	(142.7)	757.3	712.4	(44.9)
<b>Total Program</b>	<b>8,685.0</b>	<b>-</b>	<b>8,685.0</b>	<b>8,685.0</b>	<b>-</b>

## Program Schedule

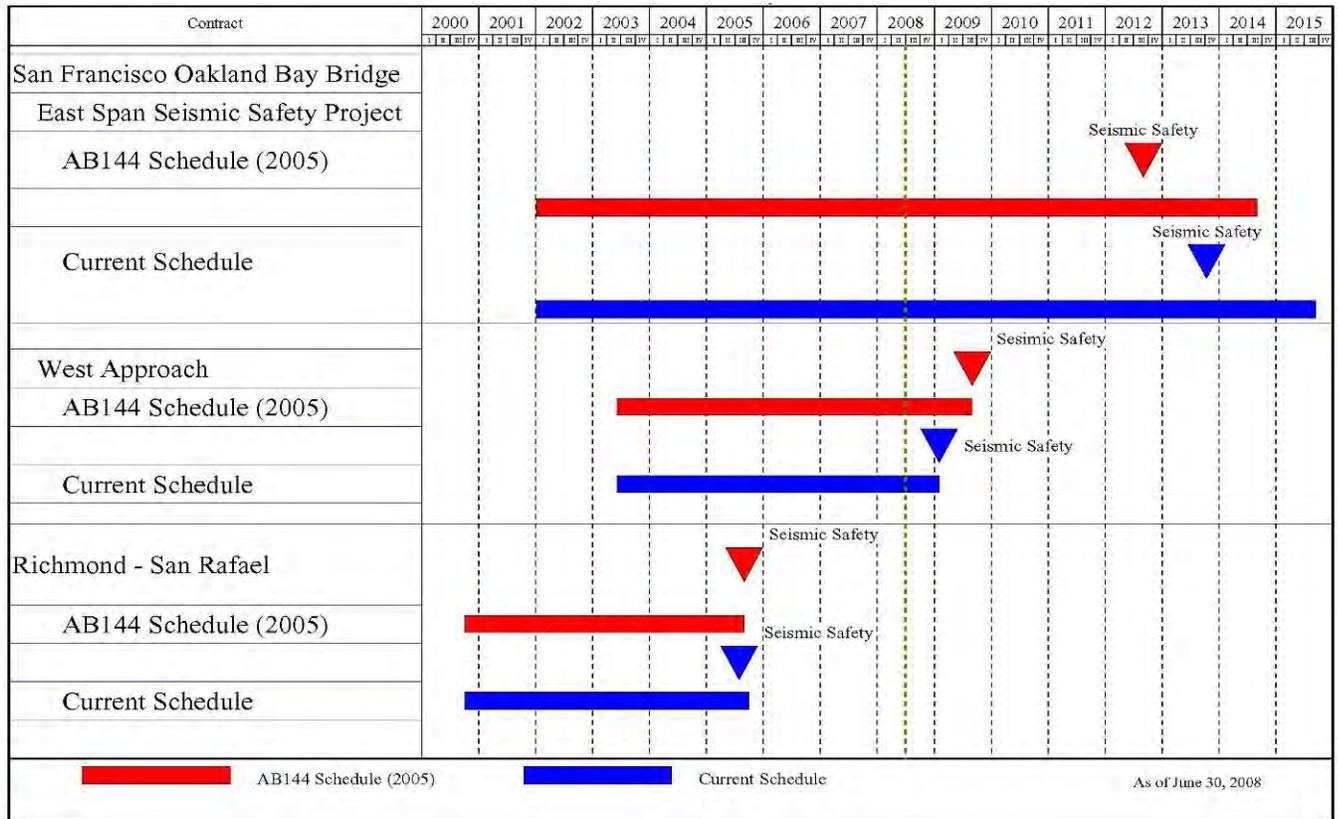
### Baseline and Projected Schedule

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 West Approach Project is forecast to be completed in January 2009. The new East Span is

forecast to open in the westbound direction in September 2012 and in the eastbound direction in September 2013.

It is estimated that all of the construction activities for the SFOBB East Span Seismic Replacement project will be completed by 2015, marked by the planned demolition of the existing SFOBB East Span. *Chart 1-Schedule of Remaining Projects* shows the Baseline AB 144/SB 66 project schedule versus the projected completion schedules for the TBSRP projects currently under construction.

**Chart 1-Schedule of Remaining Projects**



## Program Funding and Financing

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

**Table 5-Program Budget as of June 30, 2008 (\$ Millions)**

<b>Program Budget</b>		
(\$ Millions)		
	<b>Budgeted</b>	<b>Funding Available &amp; Contributions</b>
<b>Financing</b>		
Seismic Surcharge Revenue AB 1171	2,282.0	2,282.0
Seismic Surcharge Revenue AB 144	2,150.0	2,150.0
BATA Consolidation	820.0	820.0
<b>Subtotal - Financing</b>	<b>5,252.0</b>	<b>5,252.0</b>
<b>Contributions</b>		
Proposition 192	790.0	789.0
San Diego Coronado Toll Bridge Revenue Fund	33.0	33.0
Vincent Thomas Bridge	15.0	6.9
State Highway Account <sup>(1)(2)</sup>	745.0	745.0
Public Transportation Account <sup>(1)(3)</sup>	130.0	130.0
ITIP/SHOPP/Federal Contingency	448.0	-
Federal Highway Bridge Replacement and Rehabilitation (HBRR)	642.0	600.0
SHA - East Span Demolition	300.0	
SHA - "Efficiency Savings" <sup>(4)</sup>	130.0	10.0
Redirect Spillover	125.0	125.0
Motor Vehicle Account	75.0	75.0
<b>Subtotal - Contributions</b>	<b>3,433.0</b>	<b>2,513.9</b>
<b>Total Funding</b>	<b>8,685.0</b>	<b>7,765.9</b>
<b>Allocated to date</b>		<b>6,782.0</b>
<b>Remaining Unallocated</b>		<b>983.9</b>
<p><sup>(1)</sup> The California Transportation Commission adopted a new schedule and changed the PTA/SHA split on December 15, 2005.</p> <p><sup>(2)</sup> 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.</p> <p><sup>(3)</sup> To date, \$130 million has been transferred from the PTA to the TBSRP, including the full amount of all transfers scheduled by the CTC.</p> <p><sup>(4)</sup> To date, \$10 million has been transferred from the SHA to the TBSRP, representing the commitment of "Efficiency Savings" identified under AB 144. Approximately \$120 million remains to be distributed as scheduled by the CTC.</p> <p><b>Notes:</b> Program budget includes \$900 million program contingency.</p>		

## 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 PTA, and expenditures from the Toll Bridge Seismic Retrofit Account (TBSRA) and the Seismic Retrofit Bond Act of 1996 (Proposition 192).

**Table 6-Toll Bridge Seismic Retrofit Program Financial Status as of June 30, 2008 (\$ Millions)**

<b>Toll Bridge Seismic Retrofit Program Financial Status</b>	
<b>As of June 30, 2008</b>	
(\$ Millions)	
<b>Revenues:</b>	
Toll Surcharge <sup>(1)</sup>	687.9
SMIF Interest	97.9
Bond Revenue (Seismic Bond of 1996)	789.0
Bond Revenue (Toll Revenue Bonds)	1,062.0
Commercial Paper <sup>(2)</sup>	80.0
SANDAG	33.0
Vincent Thomas <sup>(3)</sup>	6.9
Federal Highway Bridge Replacement and Rehabilitation	600.0
<b>Transfers to TBSRA:</b>	
Motor Vehicle Account	75.0
State Highway Account <sup>(4)</sup>	745.0
Public Transportation Account <sup>(5)</sup>	130.0
State Highway Account "Efficiency Savings" <sup>(6)</sup>	10.0
Total Revenues and Transfers	<b>4,316.7</b>
<b>Expenditures :</b>	
Capital Outlay	4,059.9
State Operations	1,098.5
Total Expenditures	<b>5,158.3</b>
<b>Encumbrances:</b>	
Capital Outlay	1,617.9
State Operations	5.7
Total Encumbrances	<b>1,623.6</b>
<b>Total Expenditures and Encumbrances</b>	<b>6,782.0</b>
<p>(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.</p> <p>(2) \$80 Million in Commercial Paper issued on or about April 5, 2005.</p> <p>(3) No additional funding is expected from the Vincent Thomas Toll Revenue Account.</p> <p>(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.</p> <p>(5) To date, \$130 million has been transferred from the PTA to the TBSRP, including the full amount of all transfers scheduled by the CTC.</p> <p>(6) To date, \$10 million has been transferred from the SHA to the TBSRP, representing the commitment of "Efficiency Savings" identified under AB 144. Approximately \$120 million remains to be distributed as scheduled by the CTC.</p>	

## Program Financing

As discussed on the previous page, 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 January 1, 2007
- project level toll-setting authority as necessary to cover additional cost increases beyond the funded 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 (I-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 the following discussion concerning the California Transportation Commission (CTC) funding schedule)
- locking in current interest rates to the extent possible in order to improve the likelihood that the entire toll program construction and the operations and maintenance can be delivered within the \$4.00 auto toll level.

In March 2006, BATA approved the issuance of \$1.2 billion in bonds to defease the I-Bank bonds

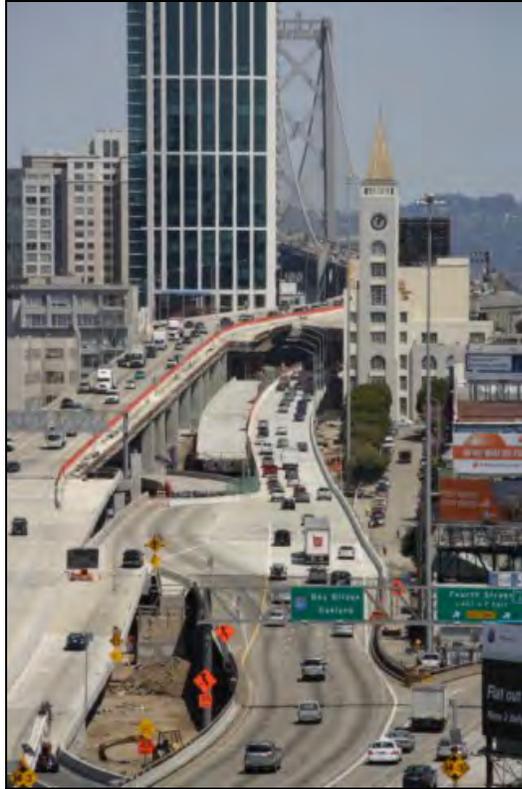
approved in October 2005. Additionally, pursuant to the law, BATA held two public hearings - one in October and one in November 2005 - to receive public testimony regarding the proposed \$1.00 seismic surcharge toll increase that began on January 1, 2007 on the state-owned toll bridges in the Bay Area. 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 began in Fiscal Year (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 maximizing 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 C.

In June 2008, BATA refunded \$500 million of the Series 2006 XL Capital auction rate bonds and variable rate demand notes. In July 2008, BATA will be requested to approve the refunding of \$715 million in Ambac-insured bonds. The bonds will be reissued as uninsured fixed rate bonds. The BATA total debt portfolio is approximately \$5.2 billion.



*The New Benicia-Martinez Bridge Toll Plaza*



The Newly Opened West Approach

## Project Status

### 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 4<sup>th</sup> Street to the SFOBB west anchorage, and all of the connecting entrances and exit ramps in downtown San Francisco. 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 4<sup>th</sup> 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

The San Francisco-Oakland Bay Bridge (SFOBB) West Approach Project is 95 percent complete as of June 20, 2008 and is forecast for early completion in January 2009. The mainline eastbound traffic was switched to the permanent structure on April 12, 2008. Major ongoing work during this quarter includes final widening of both mainline structures. Work on the architectural elements of the 1st Street retaining wall and the seismic retrofit work on Frame 8L (lower deck anchorage spans) is expected to start by the end of June 2008 and July 2008, respectively. Discussions and job walks have begun with the City of San Francisco (Department of Parking and Traffic (DPT) and Department of Public Works (DPW) to close out items that involve the City’s concurrence. Punchlist activities have also started for the Fremont off-ramp area.

## Project Funding

The TBPOC has forecasted \$470.7 million and budgeted \$453.7 million to complete the West Approach Project. The higher forecast covers potential costs associated with achieving early project completion, minimizing impacts to the public and remaining construction risk. Savings from the sale of excess project right-of-way upon completion may reduce the forecast project costs.

The forecast cost of the project remains within the overall TBSRP program contingency capacity and will result in no change to the overall program budget. (See *Table 7- Current West Approach Project Budget and Forecast*).

**Table 7-Current West Approach Project Budget and Forecast (\$ Million)**

	Current Approved Budget	2 <sup>nd</sup> Quarter 2008 Forecast	Difference
COS	120.0	120.0	-
CO	333.7	350.7	17
<b>Total</b>	<b>453.7</b>		<b>17</b>

## **SFOBB East Span Seismic Replacement**

The east span of the San Francisco-Oakland Bay Bridge (SFOBB) will be seismically retrofitted through the complete replacement of the existing span. The project is split into four distinct elements; the Oakland Touchdown Approach Structures (OTD), Skyway Structures, Self-Anchored Suspension Span (SAS), and Yerba Buena Island Transition Structures (YBITS).

To facilitate construction flow and acceleration of work off the critical path for project completion, the OTD, SAS, and YBITS elements have been split into multiple contracts.

Including contracts for the interim retrofit and final demolition of the existing east span, the SFOBB East Span Seismic Safety Project now consists of 21 contracts. Twelve contracts are **complete**:

- Interim Retrofit (Existing Bridge)
- East Span Retrofit (Existing Bridge)
- Pile Installation Demonstration
- OTD Geofill
- YBI Archaeology
- United States Coast Guard (USCG) Road Relocation on YBI
- SAS Land Foundations (W2)
- YBI Electrical Substation
- OTD Submarine Cable
- Skyway
- SAS Marine Foundations (E2/T1)
- Stormwater Treatment Measure



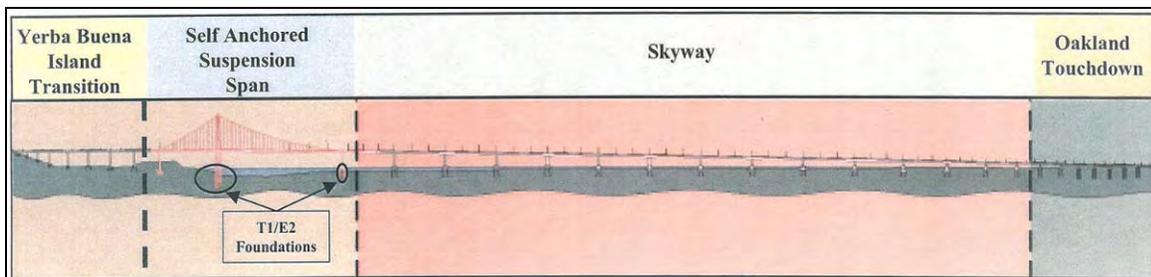
Completed E2/T1 Towers

Three contracts are under **construction**:

- YBID
- SAS Superstructure
- OTD #1 contract

Six contracts are in **design**:

- YBITS #1: The contract is now being prepared for advertisement in Headquarters
- YBITS #2: (design 80 percent complete to date)
- YBITS #3 Landscaping contract
- OTD #2 contract: The contract is planned to be advertised in summer 2010
- OTD portions of the corridor electrical contract: This scope may be executed as a



SFOBB East Span Replacement Project



separate contract, or alternatively, may be included within the OTD #2 contract and/or the other contracts within the east span corridor. A 35 percent PS&E package will be ready for review by summer 2008, at which point an informed decision can be made on whether to include the corridor electrical work into the OTD contract, or to have it as a separate contract.

- Existing Bridge Demolition design (10 percent complete to date)

The forecast 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 8-SFOBB East Span Seismic Replacement Project Schedule Summary* below.

The approved east span opening date has been extended by 12 months by the TBPOC through addendum issued on the SAS contract based on bidder inquiries received during advertisement. The current approved schedule does not include the potential for schedule reduction based on an early completion incentive on the SAS contract of six months that was also included in the addendum.

**Table 8-SFOBB East Span Seismic Replacement Project Schedule Summary**

Contract	AB 144/SB 66 Baseline Pro	Approved Changes	Current Approved Schedule	2 <sup>nd</sup> Quarter 2008 Forecast Project Completion Date	Variance (Months)
Skyway	April 2007	8	December 2007	December 2007	-
YBI Detour*	July 2007	36	June 2010	June 2010	-
Stormwater Treatment Measures	March 2008	-	March 2008	March 2008	-
SAS E2/T1 Foundations	June 2008	(3)	March 2008	January 2008	(2)
Open to Traffic: Westbound	September 2011	12	September 2012	September 2012	-
SAS Superstructure	March 2012	12	March 2013	March 2013	-
Open to Traffic: Eastbound	September 2012	12	September 2013	September 2013	-
Oakland Touchdown (OTD)	December 2013	12	December 2014	December 2014	-
OTD Submarine Cable	n/a		January 2008	January 2008	-
OTD No. 1 (Westbound)	n/a		January 2010	January 2010	-
OTD No. 2 (Eastbound)	n/a		November 2014	November 2014	-
YBI Transition Structure*	December 2013	12	November 2014	November 2014	-
Existing Bridge Demolition*	September 2014	12	September 2015	September 2015	-

*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.*

The schedule for the YBID contract has been extended to take into account the 12-month change to the SAS contract schedule and the incorporation of additional work scope from the YBITS contract. This extension is not expected to affect the new east span open-to-traffic date

## Milestones Achieved – East Span Contracts

### Skyway Contract

- The Skyway Contract constructed a pair of 1.3-mile long pre-cast segmental concrete bridges that will each carry five lanes of traffic with shoulders. The eastbound structure (to the south) also features a pedestrian/bike path. Substantially completed by the end of 2007, Caltrans accepted the contract on March 24, 2008 upon completion of final punchlist items. The TBPOC has revised the contract budget to close out at \$38.9 million in project savings at a final budget of \$1,254.1 million.

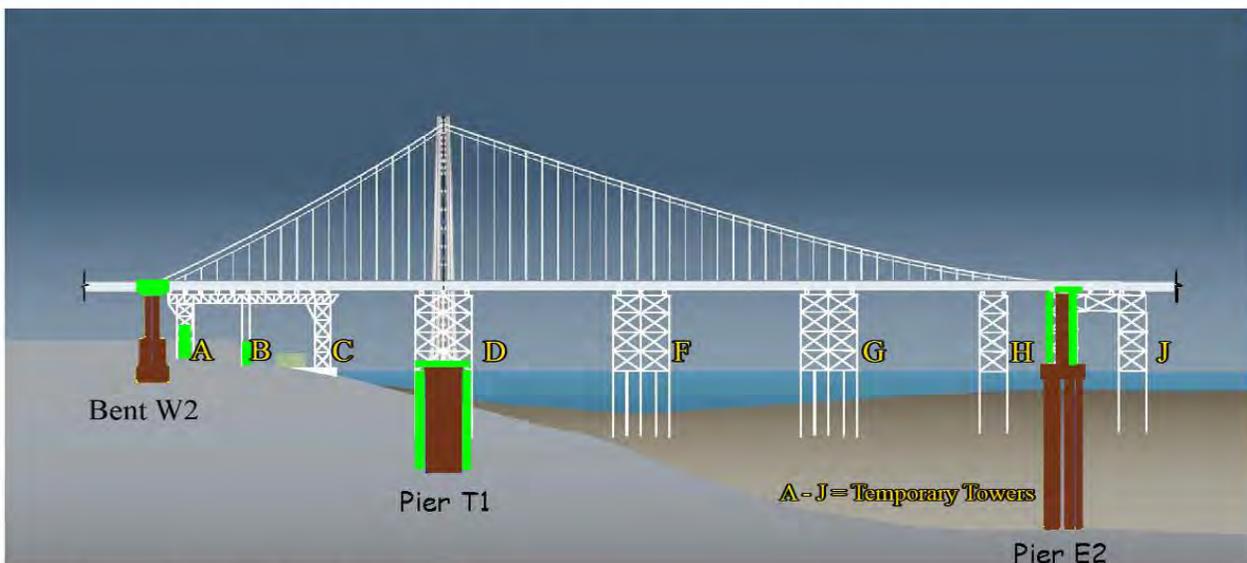


OBG Segment Assembly in the Jig for Bottom and Side Panels

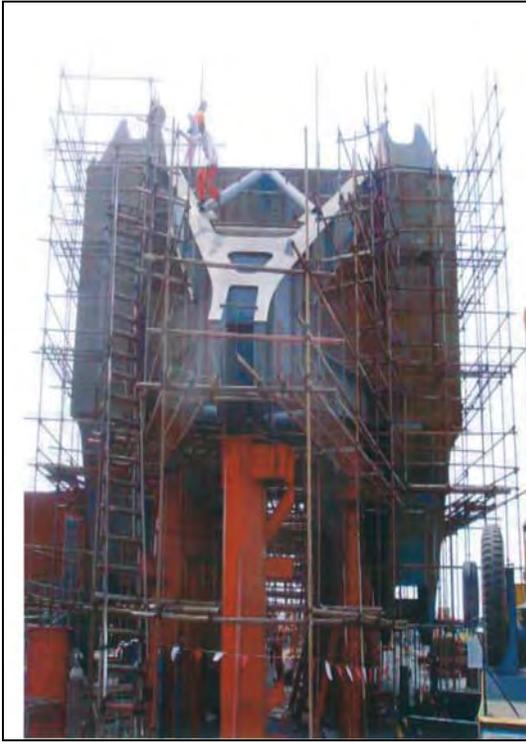
### Self-Anchored Suspension Bridge Contracts

- The Self-Anchored Suspension Span is being constructed under three separate contracts. The foundations to the span were constructed by the W2 Land and E2/T1 Marine contracts. Both

## SAS Superstructure Construction Progress



- SAS field work to be completed
- SAS field work in progress
- Completed field work under prior W2 and E2/T1 contracts



*Construction of Crane Head of Shearleg Crane*

China, has been subcontracted to supply and fabricate all the major steel elements of the SAS. Caltrans has set up facilities and has organized resources in China that will ensure an effective owner's presence in the steel fabrication shops operated by ZPMC. ZPMC is also attaching a shearleg crane to the custom barge which was fabricated in Portland, Oregon. Japan Steel Works is fabricating the tower and deviation saddles that will hold the main cable in place.

- All foundations for the SAS were completed in January 2008 with the acceptance of the E2/T1 SAS Marine Foundation contract. The E2/T1 contract completed the main tower foundation at T1 and the foundations and columns at the first pier east of main tower at E2. The TBPOC has revised the contract budget to close out at \$32.6 million in project savings that can be returned to the program.

contracts are now complete. The SAS superstructure, which features a single 525-foot steel tower supporting two parallel steel roadway decks over the shipping channel, is being constructed under a single contract by American Bridge/Fluor (ABF).

- The SFOBB East Span Seismic Replacement Project SAS Superstructure contract is 29 percent complete based on payments to the contractor as of June 2008.

In the Bay Area, ABF is focused on completing the cap beams for W2 and E2 and constructing the temporary supports for the SAS superstructure. Temporary support foundation piles and falsework are being installed at various locations. Fabrication of the hinge K pipe beam has started at Oregon Iron Works.

Various portions of the bridge are under fabrication around the world. Zhenhua Port Machinery Company (ZPMC), of Shanghai,

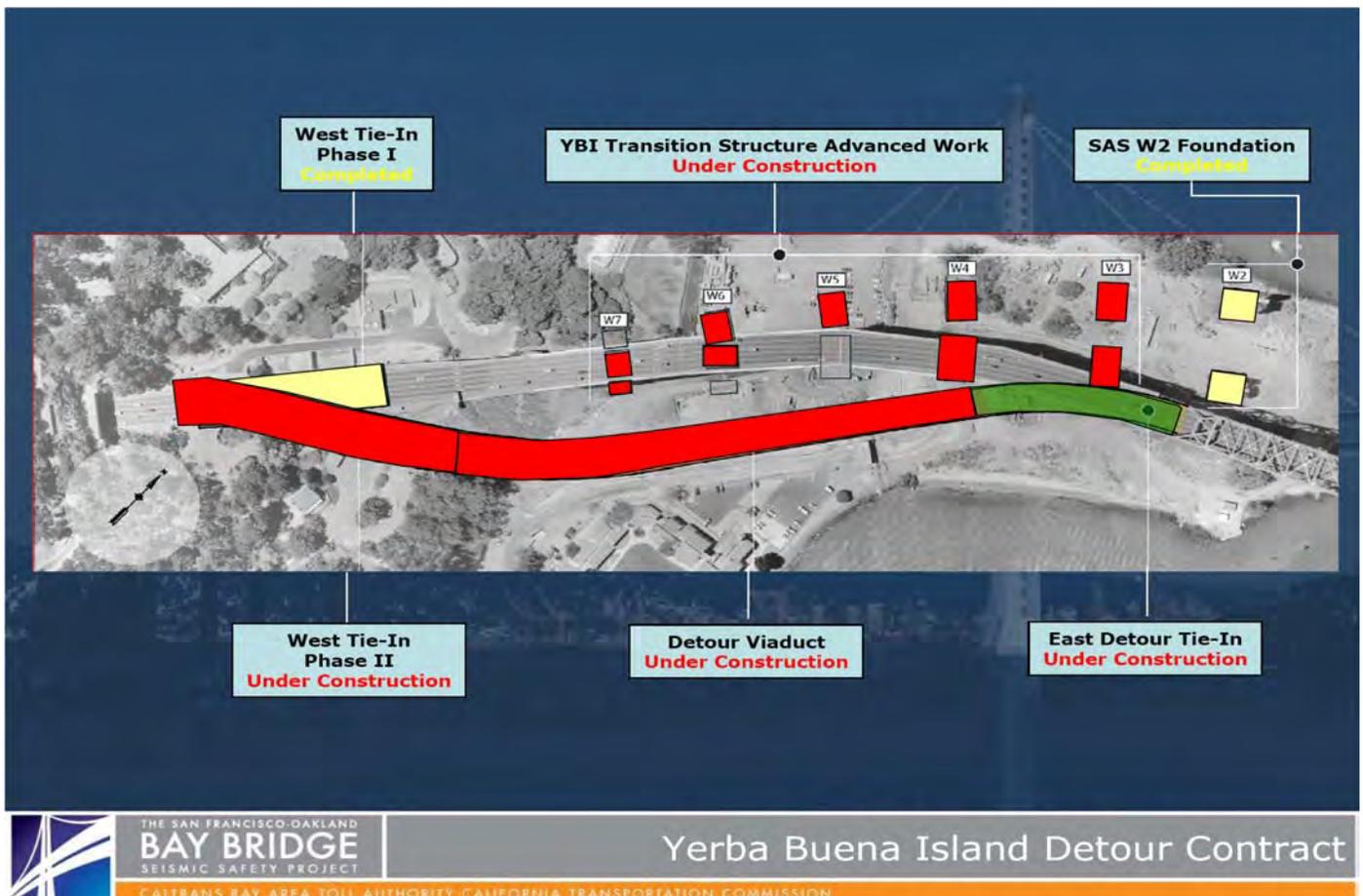


*YBITS Advanced Column Work on the YBID Contract*

### Yerba Buena Island Contracts

- The Yerba Buena Island contract involves constructing a temporary detour from the tunnel to the existing east span to be followed by the construction of new transition approach structures from the SAS to the YBI tunnel. The work is being constructed under four separate contracts: YBI Detour (YBID), YBI Transition Structures (YBITS) #1, YBITS #2, and YBITS #3.
- The YBID Contract was awarded in early 2004 to CC Myers to construct a temporary detour structure providing for, at that time, the SAS to open in 2006. Due to the re-advertisement of the SAS superstructure contract in 2005, the bridge opening was rescheduled to 2013, which necessitated a temporary suspension of the YBI Detour contract and significant design changes. The required suspension of work and design revisions have resulted in increased costs for the YBID contract.

In 2006, the TBPOC approved a plan to pace work on the project, to have Caltrans assume design responsibility over the east and west tie-ins, and to make changes to the detour structures to allow it to stand in place alone for a longer duration than originally intended. The YBID contract is now forecast to be completed in 2010 consistent with the planned westbound opening date of 2012 for the new bridge. In addition to the revised contract completion date, the TBPOC approved to advance some foundation and retrofit work from the YBITS contracts to the YBID contract on February 15, 2007. Advancing the work will reduce overall project schedule risk by taking work off the critical path for the East Span project, while making more effective use of the extended YBID contract duration, and will enable potential acceleration of the SAS construction pending negotiation with the contractor, ABF.



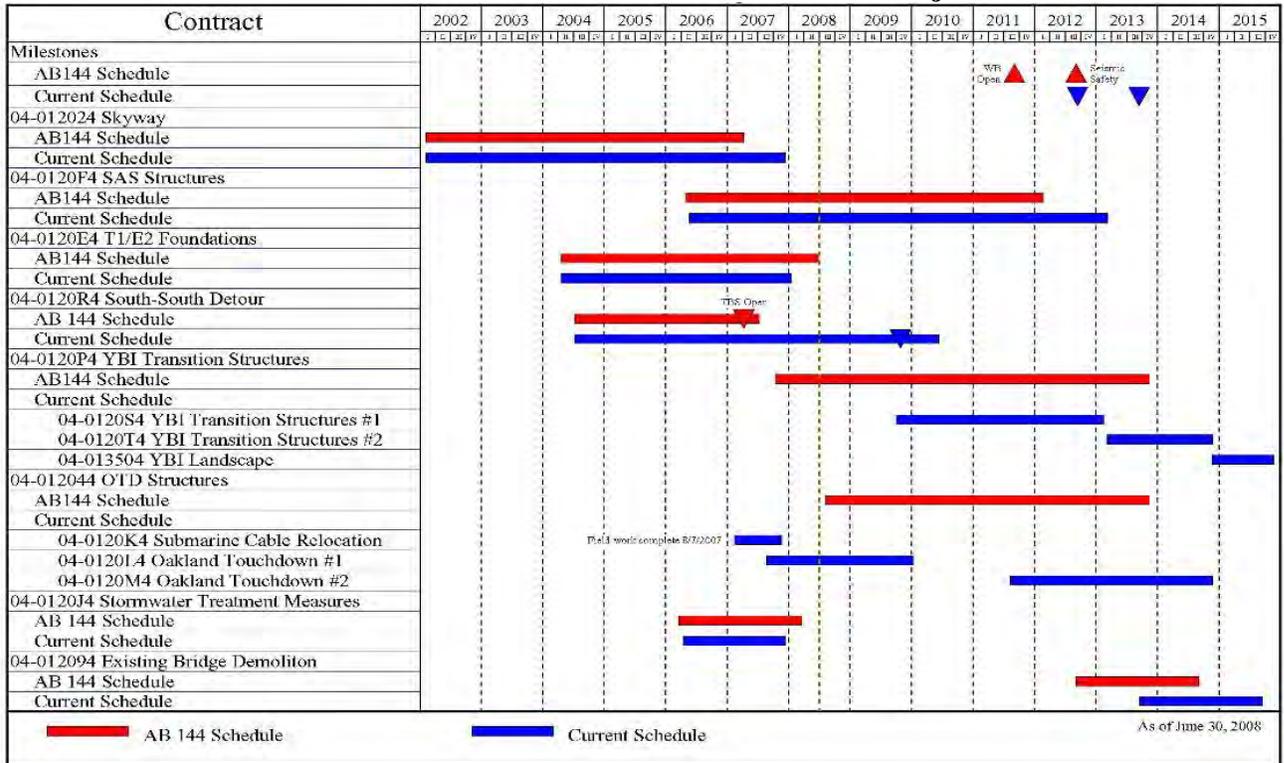
As part of the YBI advanced work, the W3, W4 and W6 L & R foundations and columns are in various stages of construction. Fabrication of the temporary viaduct detour structural steel has been completed in Pohang, Korea, and all components have arrived in the Bay Area. Viaduct bent caps construction is complete, and steel erection is ongoing. The contractor, CC Myers, is completing span 48 of the viaduct, and progressing with the steel erection for span 49. The contractor has completed the relocation of the existing pump station, and is working on the removal of the existing pump station. Construction of East Tie-In support structures is in progress.



Aerial of YBITS Advanced Work

- Significant construction risks have been identified that required additional funds to be budgeted for the project. In June 2008, the TBPOC approved a revised project budget of \$442.2 million for the project that is \$107.8 million higher than the previously approved budget. The revised forecast for

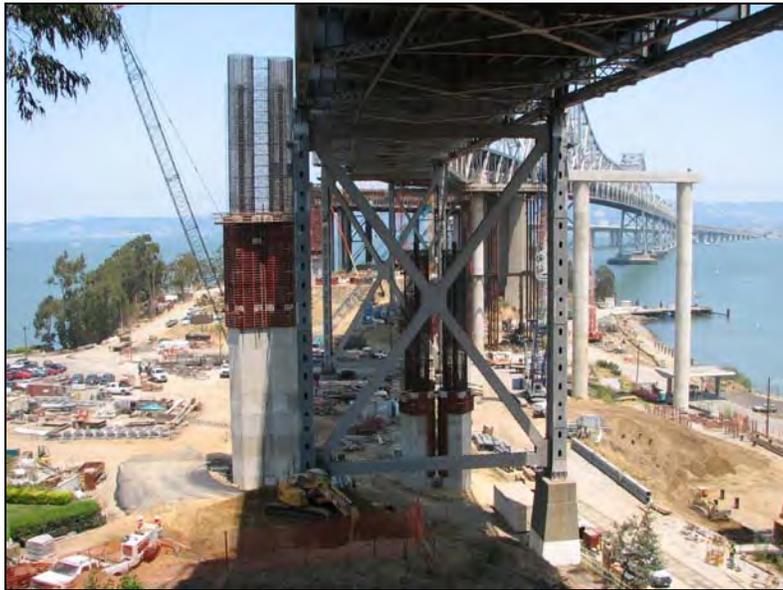
**Chart 2-San Francisco-Oakland Bay Bridge East Span Corridor  
Schedule Baseline AB 144/SB 66 vs. Current Projected**



the project is \$461.2, which includes additional contingencies to cover the potential project risks. The budget change will be funded from the TBSRP program contingency and redirected project savings from the E2/T1, Skyway, Richmond-San Rafael Bridge contracts.

and plant maintenance for the areas affected by YBI construction. A planting concept and preliminary plans have been developed for a majority of the area.

### Oakland Touchdown Contracts



*YBITS Advanced Column Work on YBI*

- The YBITS #1 contract will construct the approach structures necessary to connect the new SAS to the existing YBI tunnel. To minimize schedule and construction risk, the TBPOC approved the option to accelerate portions of YBITS #1 work, including shifting critical foundation work to the YBID contractor. The remaining YBITS #1 contract will be advertised in August 2008.
- The YBITS #2 contract includes demolition of the YBID temporary structure, completion of the new eastbound on-ramp, completion of the bike path section on YBI and reconstruction of local and affected facilities at YBI. The majority of the design work is complete. Preparation of detailed plans and quantity calculations is in progress.
- The YBITS #3 contract is for landscaping, and includes slope restoration, vegetation restoration

- The Oakland Touchdown (OTD) contracts will construct the twin approach structures from just west of the metering lights at the toll plaza to the Skyway. The work is being constructed under at least two separate contracts – OTD #1 and OTD #2.
- The OTD #1 will construct the complete northern westbound approach structure and most of the substructure to the southern eastbound approach structure. The eastbound structure cannot be completed until westbound traffic is moved to the SAS in 2012, due to the existing structure overlapping the new eastbound alignment. The eastbound structure will be completed as part of the OTD #2 contract.

Caltrans awarded the OTD #1 contract to MCM Construction on July 17, 2007. The work started on the contract on August 22, 2007. The westbound structure is scheduled to be



*Column Work at OTD*

completed by June 2009 with overall construction to be completed by November 2009.

The project is approximately 45 percent complete based on expended value of the contract as of June 30, 2008. The temporary trestle used for construction of the westbound portion of the bridge is substantially complete, while the temporary trestle for the eastbound portion of the bridge is still under construction. Work on the substructure and the superstructure of the westbound bridge structure is ongoing, while the substructure work at the eastbound bridge has started. Other work in progress includes electrical work for temporary underground and roadway at grade, construction of the electrical duct bank and surveying of manhole locations.

- The OTD #2 contract involves constructing the remaining eastbound bridge section from the new Skyway to the roadway west of the Oakland Toll Plaza. This work will occur once the westbound traffic is shifted onto the new SAS. Design work for the structures portion of the OTD #2 contract is substantially complete. Design work on the roadway portion is ongoing.

#### Other Major Ongoing Contracts

- Design of the Existing Bridge Demolition contract is 10 percent complete. Design work has been temporarily suspended to assign engineering resources to higher priority tasks, and will resume at a later time. The contract schedule completion date has been extended by 12 months due to a 12-month SAS contract extension.

**Table 9-SFOBB East Span Replacement Cost Summary (\$ Millions)**

Contract	AB 144/SB 66 Budget	Approved Changes	Current Approved Budget	Cost To Date (06/2008)	2nd Quarter 2008 Forecast	Variance
a	b	c	d = b + c	e	f	g = f - d
Capital Outlay Support	959.3	-	959.3	620.3	977.1	17.8
Capital Outlay	-	-	-	-	-	-
Skyway	1,293.0	(38.9)	1,254.1	1,234.1	1,254.1	-
SAS E2/T1 Foundations	313.5	(32.6)	280.9	272.7	280.9	-
SAS Superstructure	1,753.7	-	1,753.7	466.0	1,767.4	13.7
YBI Detour	132.0	310.2	442.2	191.4	461.2	19.0
YBI Transition Structures	299.3	(23.2)	276.1	-	276.1	-
* YBITS 1				-	214.3	
* YBITS 2				-	58.5	
* YBITS 3 - Landscape				-	3.3	
Oakland Touchdown	283.8	-	283.8	102.4	302.5	18.7
* OTD Submarine Cable				7.9	9.6	
* OTD Westbound				94.5	226.5	
* OTD Eastbound				-	62.0	
* OTD Electrical Systems				-	4.4	
Existing Bridge Demolition	239.2	-	239.2	-	222.0	(17.2)
Stormwater Treatment Measures	15.0	3.3	18.3	16.4	18.3	-
East Span Completed Projects	90.3	-	90.3	89.2	90.3	-
Right-of-Way and Environmental Mitigation	72.4	-	72.4	39.3	72.4	-
Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
<b>TOTAL</b>	<b>5,486.6</b>	<b>215.5</b>	<b>5,702.1</b>	<b>3,032.5</b>	<b>5,730.0</b>	<b>27.9</b>

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



## Project Funding

The AB 144/SB 66 baseline budget for the SFOBB East Span is \$5.487 billion. The current approved budget for SFOBB East Span is \$5.702.1 billion. See *Table 9-SFOBB East Span Replacement Cost Summary*.

The TBPOC re-evaluates project and contract cost forecasts continuously. The current Second Quarter 2008 forecast of \$5.730 billion for the project, based upon the Fourth Quarter 2007 risk management effort, includes the following revisions:

- A budgeted \$38.9 million decrease for the Skyway contract from project savings after contract closeout.
- A budgeted \$32.6 million decrease for the SAS E2/T1 Foundations contract from project savings after contract closeout.
- A budgeted \$310.2 million and a forecasted \$19 million increase for the YBID contract for construction risks and contingencies identified for the contract based on the fourth quarter 2007 risk management effort. These risks are focused on higher construction costs to tie in the detour viaduct to the existing east spans and schedule risks.
- A forecast increase in the cost of Capital Outlay Support (COS) to \$17.8 million, as a result of a detailed staffing and consultant contract cost forecast, was completed as of the end of the Second Quarter 2007. 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 forecast \$13.7 million increase for the SAS Superstructure contract to cover actions taken to encourage additional bidders for the project, including the bidders' stipend for the lowest three responsive bidders.
- A forecast \$18.7 million increase in the Capital Outlay (CO) for the OTD contract due to an approved Engineer's Estimate for the OTD #1 contract. The COS for the contract was also 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 forecast \$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 a combination of other budgeted capital and Toll Bridge Seismic Retrofit Program Contingency.

## Project Schedule

The current schedule calls for achieving seismic safety and opening the SFOBB new east span to traffic in 2013. The 12 months of schedule extension from the AB144 baseline schedule was granted by addenda to the SFOBB East Span Seismic Replacement Project SAS contract based on bidder inquiries received during advertisements.

While the 12-month schedule extension for the SAS has also extended the schedules for YBITS and OTD contracts accordingly, the TBPOC is scheduling the contracts to accommodate the possibility of opening the SAS earlier than currently forecast.

It is estimated that all of the construction activities for the SFOBB East Span Seismic Replacement project will be completed by 2015.

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* on page 17. It should be noted that the schedules shown in *Chart 2* do not at this time account for the potential "worst-case" issues that may affect the schedule identified in the SFOBB East Span Seismic Retrofit Project Risk Management Plan.

## 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 BATA, and CTC 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. (See “Risk Management Program” on page 25 for more information.)

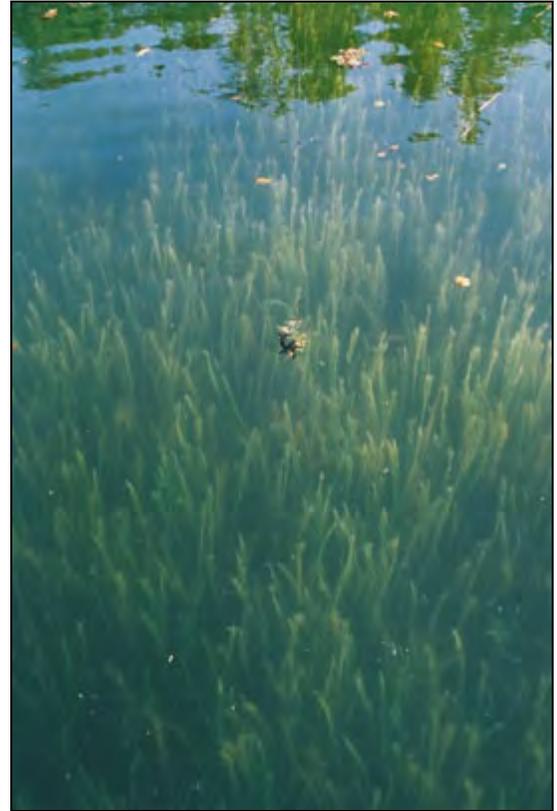


*SAS - Temporary Tower D Pile Driving*

## Quarterly Environmental Compliance Highlights

Overall environmental compliance for the SFOBB East Span project has been a success. All weekly, monthly and annual compliance reports to resource agencies have been delivered on time. There are no comments from receiving agencies. The tasks for the current quarters are focused on mitigation monitoring. Key successes in this quarter are as follows:

- Weekly bird monitoring was conducted in the active construction areas, in addition to American Peregrine falcon monitoring for the 2008/2009 nesting season.
- Bird predation monitoring, marine mammal monitoring and hydro-acoustic monitoring were conducted during pile driving activities for the SAS contract.
- Turbidity monitoring was conducted without incident during pile driving for the temporary access trestle and cofferdam cleanout at the OTD #1 contract and for pile-driving activities for the SAS contract.
- Quarterly seasonal dynamics surveys were conducted as part of the Baywide Eelgrass Research Project.
- Buoy maintenance began during the month of June and will continue through the month of July at areas adjacent to OTD and YBI.
- A Native Oyster Survey was conducted on June 3<sup>rd</sup> for the SAS contract in the location proposed for fill placement at Temporary Tower C.



*A Healthy Eelgrass Bed Provides Habitat and Food for Many Organisms*



*Protecting Fish, Birds and their Environs*

**Completed Projects**

Seismic retrofits and project closeout have been completed on the Richmond-San Rafael, Benicia-Martinez, Carquinez, San Mateo-Hayward, Vincent Thomas, San Diego-Coronado toll bridges and on the west span of the SFOBB. (See Table 10-Cost Comparison AB 144/SB 66, Second Quarter 2008 Forecast and Expenditures through June 2008 for Completed Projects below.)

The TBPOC is forecasting additional project savings on the Richmond-San Rafael Bridge Seismic Retrofit Project with the completion of the public access project and resolution of final negotiations with regulatory agencies regarding the cost of pile driving mitigation and impact to fisheries. An additional \$8.5 million in project savings can be returned to the program, for a total project savings of \$97.5 million.



The Richmond-San Rafael Bridge

**Table 10-Cost Comparison AB 144/SB 66, Second Quarter 2008 Forecast and Expenditures through June 30, 2008 for Completed Projects (\$ Millions)**

Project	AB 144/ SB 66 Budget	Approved Changes	Current Approved	Cost To Date (06/2008)	2nd Quarter 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	301.1	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	(97.5)	816.5	793.3	816.5	-
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	-
<b>TOTAL</b>	<b>1,839.4</b>	<b>(97.5)</b>	<b>1,741.9</b>	<b>1,710.8</b>	<b>1,741.9</b>	<b>-</b>

Note: Details may not sum to totals due to rounding effects. Capital Outlay Support and Capital Outlay have been combined. Although seismic retrofit of the Richmond-San Rafael and San Diego-Coronado bridges are complete, environmental mitigation/monitoring work is ongoing.

## Risk Management Program

The following is a summary of risk management developments during the second quarter of 2008.

### Corridor Schedule Opportunity and Risk Response

Risk identification, updating and mitigation activities are ongoing on all contracts in the project. The following six risk areas have been identified as critical to the corridor schedule:

- Self-Anchored Suspension (SAS) Tower and Deck Fabrication
- SAS Cable Installation
- SAS Barge Crane Procurement and Delivery
- Corridor Electrical/Mechanical Systems Integration
- SAS Tower Erection
- SAS Hinge Closure Construction

A focus team is assigned to each risk area and provides updates on risk response strategies. This is incorporated into the risk registers on an ongoing basis.

### Updates to Risk Registers

The Skyway contract was accepted on March 24, 2008 with no claims outstanding and significant savings in both Capital Outlay (CO) and Capital Outlay Support (COS).

During the quarter, the SAS contract risk manager conducted a workshop in China with all the key members of Team China. The Team China risk workshop evaluated all of the developments in the fabrication process and updated the risk registers accordingly.



SAS - OBG Segment Assembly

Prices of construction materials, energy and commodities have risen significantly in recent months. Moreover, the value of the United States dollar against foreign currency has dropped significantly. Along with significant fuel price escalation, operating cost volatility has also increased. The risk registers were updated to reflect these market conditions and the resulting cost risk adjustments will be reported in upcoming risk management reports.

The Corridor Schedule Team (CST) continues to identify ways to enhance completion dates while providing recommendations to program management on scheduling decisions and mitigating potential schedule risks. The risk registers were updated as to delay risks of each contract and the cross-impact of one contract on another.

The SAS Contractor has stated that the fabrication schedule for the Orthotropic Box Girder (OBG) is four to five months behind schedule. Opportunities for acceleration to mitigate this delay are being developed. If acceleration does not occur, this delay may

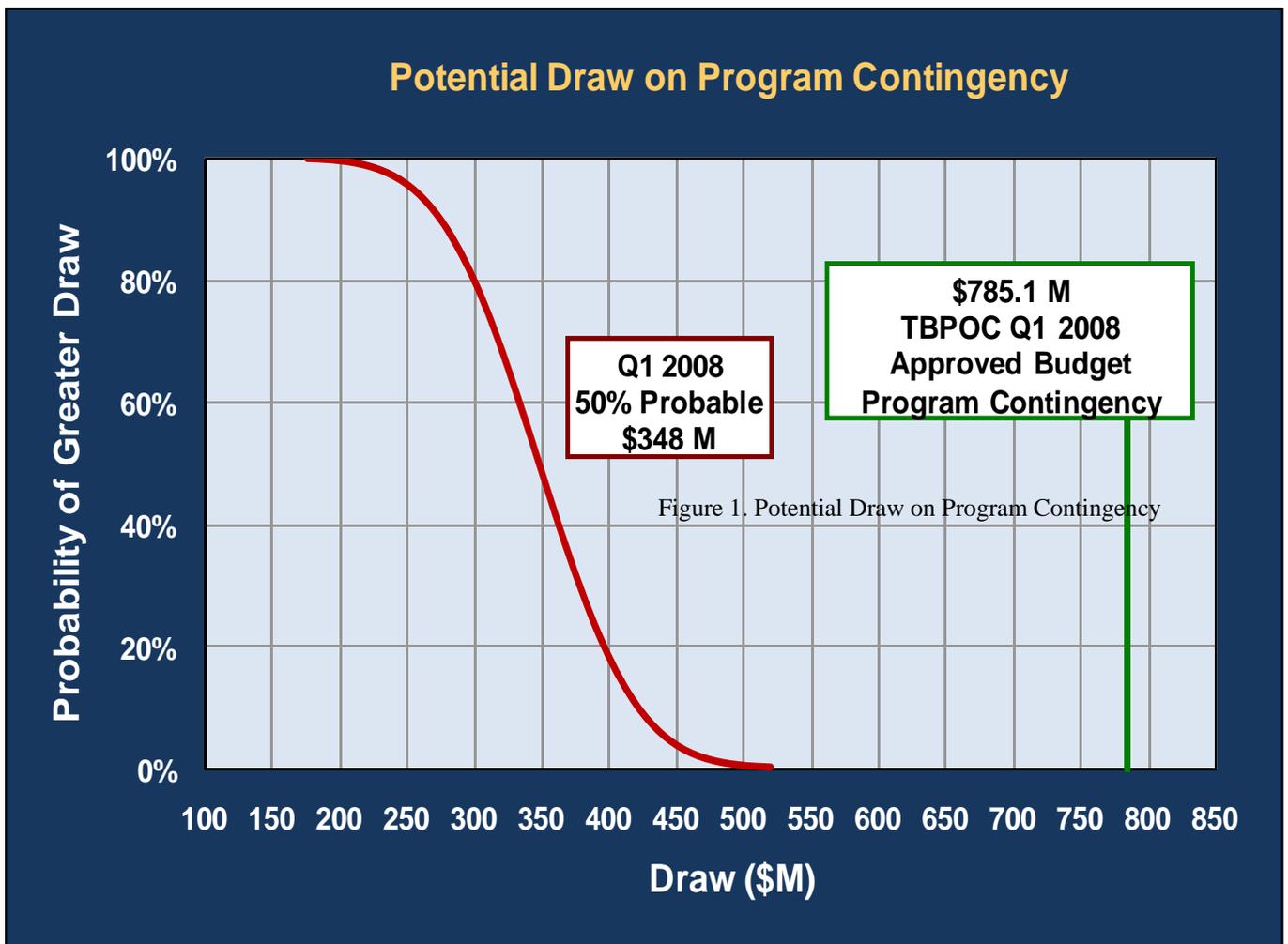
increase and result in additional cross-impacts to the corridor schedule. This issue is being incorporated into the risk register and is likely to result in additional identified risk that will also be reported in upcoming risk management reports.

draw on the program contingency (the reserve). As of the end of the first quarter 2008, the potential draw on program contingency ranges from about \$175 million to \$520 million, as shown in the diagram below.

**Adequacy of Program Reserves**

AB144 states that Caltrans must “regularly reassess its reserves for potential claims and unknown risks, incorporating information related to risks identified and quantified through its risk assessment processes.”

Each contract has a contingency allowance within its budget. The sum of these contingency allowances is compared to the total of CO, COS and program risks. Any excess of the risks over the contingency allowances represents a potential



## Other Toll Bridges

### The Dumbarton Bridge

State Route 84 crosses the southern region of San Francisco Bay between the cities of Newark to the east and East Palo Alto to the west. The Route consists of three lanes in each direction and an eight-foot bicycle/pedestrian lane. The annual average daily traffic (AADT) of the route is near 60,000. The bridge is over 2 km in length and is positioned in an approximately normal geometry between two seismic faults. The United States Geometrical Survey (USGS) reports that the San Andreas Fault, some nine miles to the west of the bridge, and the Hayward Fault, some eight miles to the east of the bridge, pose most of the significant seismic threat to the San Francisco Bay Area.

### The Antioch Bridge

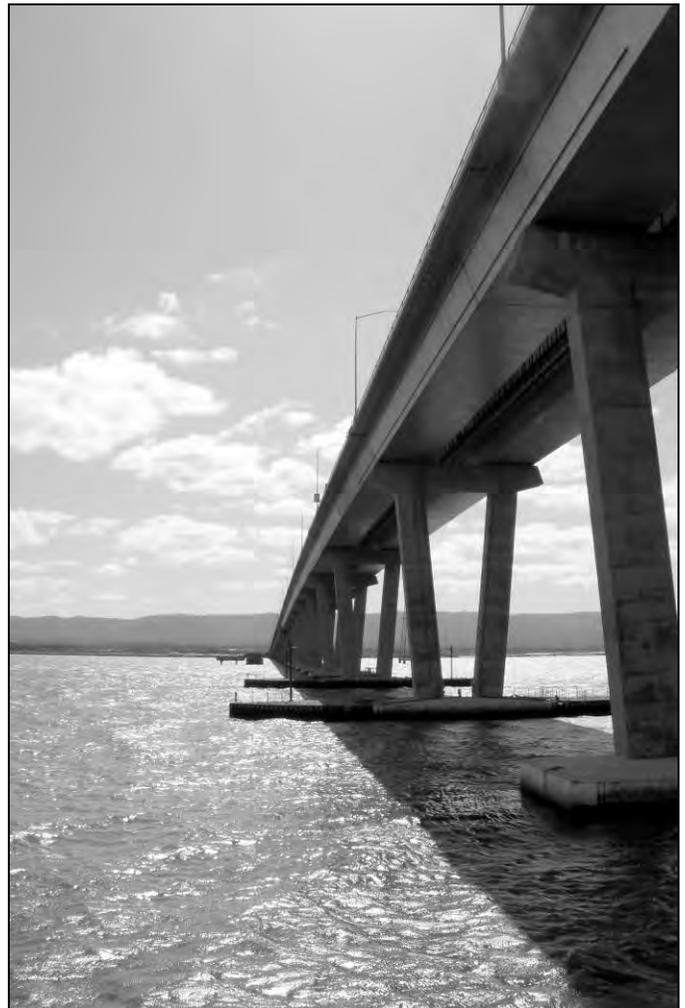
State Route 160 crosses the San Joaquin River between the city of Antioch and Sherman Island (leading to Rio Vista) via the Antioch Bridge. The Bridge carries a single lane of traffic in each direction. The AADT for the route is slightly over 10,000 vehicles per day. This bridge is threatened by the Bird's Landing Seismic Zone, Cost Range/Sierra Nevada Boundary Zone and the San Andreas Fault.

### Cost and Schedule

In late 2004, Caltrans initiated limited vulnerability studies of the Antioch Bridge and the Dumbarton Bridge. These studies were completed in May 2005. Based on the vulnerability studies and a follow up sensitivity analysis, Caltrans and BATA developed a work plan to refine the seismic analysis and to assess the required performance levels of each structure, including new geotechnical analysis. In June 2006, BATA approved \$17.8 million in toll bridge rehabilitation funding to proceed with the comprehensive seismic analysis of the bridges. In

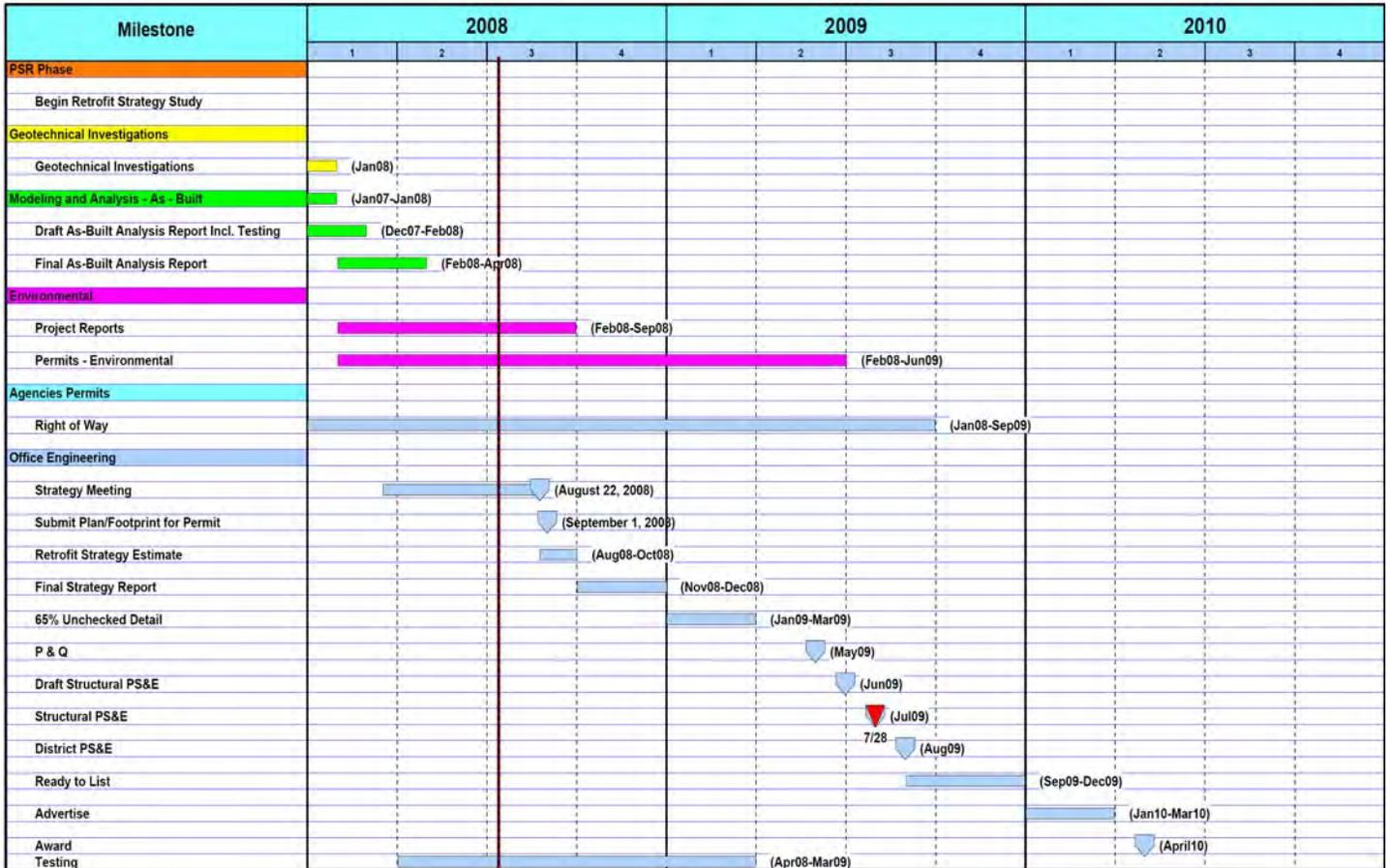
September 2006, BATA entered into a consultant contract to conduct geotechnical and geophysical investigations, which have been ongoing since December 2006. Based on the analysis, Caltrans has determined that the Dumbarton and Antioch bridges require seismic retrofit.

Caltrans is currently working on preliminary plans and details for aspects of retrofit for each bridge. The retrofit strategy selection for each bridge will take place in August 2008. Once retrofit strategies have been selected, cost estimates for each selected strategy will be developed. It is anticipated that construction could begin as early as 2010 on each bridge.



*The Dumbarton Bridge*

**Chart 3 – Dumbarton and Antioch Bridges  
Summary Schedule**



### Summary of TBPOC Expenses

Pursuant to Streets and Highways Code Section 30952.1 (d), expenses incurred by Caltrans, BATA, and the California Transportation Commission (CTC) for costs directly related to the duties associated with the TBPOC are to be reimbursed by toll revenues. *Table 11-Toll Bridge Program Oversight Committee Actual Expenses: July 1, 2005 through June 30, 2008* shows expenses through June 30, 2008 for TBPOC functioning, support, and monthly and quarterly reporting.

**Table 11-Toll Bridge Program Oversight Committee**

**Expenses: July 1, 2005 through June 30, 2008 (\$ Millions)**

Agency/Program Activity	Expenses
BATA	0.5
Caltrans	1.1
CTC	0.7
Reporting	2.1
<b>Total Program</b>	<b>4.4</b>



## **Appendices**

- A. TBSRP All Bridges AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures through June 30, 2008 (A-1 and A-2).
- B. TBSRP East Span Only AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures through June 30, 2008.
- C. CTC Second Quarter Schedule.
- D. Project/Contract Photographs.

**Appendix A-1.**

<b>Toll Bridge Seismic Retrofit Program</b>						
<b>AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through June 30, 2008</b>						
(\$ millions)						
<b>Bridge</b>	<b>AB 144/SB 66 Baseline</b>	<b>TBPOC Current Approved Budget</b>	<b>First Quarter 2008 Forecast</b>	<b>Second Quarter 2008 Forecast</b>	<b>Variance 2nd Q08 -1st Q08)</b>	<b>Expenditures Through Jun 2008</b>
<b>Benicia-Martinez</b>						
Capital Outlay Support	38.1	38.1	38.1	38.1	-	38.1
Capital Outlay	139.7	139.7	139.7	139.7	-	139.7
Total	177.8	177.8	177.8	177.8	-	177.8
<b>Carquinez</b>						
Capital Outlay Support	28.7	28.7	28.7	28.7	-	28.8
Capital Outlay	85.5	85.5	85.5	85.5	-	85.4
Total	114.2	114.2	114.2	114.2	-	114.2
<b>San Mateo-Hayward</b>						
Capital Outlay Support	28.1	28.1	28.1	28.1	-	28.1
Capital Outlay	135.4	135.4	135.4	135.4	-	135.3
Total	163.5	163.5	163.5	163.5	-	163.4
<b>Vincent Thomas</b>						
Capital Outlay Support	16.4	16.4	16.4	16.4	-	16.4
Capital Outlay	42.1	42.1	42.1	42.1	-	42.0
Total	58.5	58.5	58.5	58.5	-	58.4
<b>San Diego-Coronado</b>						
Capital Outlay Support	33.5	33.5	33.5	33.5	-	33.2
Capital Outlay	70.0	70.0	70.0	70.0	-	69.4
Total	103.5	103.5	103.5	103.5	-	102.6
<b>Richmond-San Rafael</b>						
Capital Outlay Support	134.0	127.0	127.0	127.0	-	126.7
Capital Outlay	780.0	689.5	689.5	689.5	-	666.6 *
Total	914.0	816.5	816.5	816.5	-	793.3
<b>West Span Retrofit</b>						
Capital Outlay Support	75.0	75.0	75.0	75.0	-	74.8
Capital Outlay	232.9	232.9	232.9	232.9	-	226.3
Total	307.9	307.9	307.9	307.9	-	301.1
<b>West Approach</b>						
Capital Outlay Support	120.0	120.0	120.0	120.0	-	107.4
Capital Outlay	309.0	333.7	350.7	350.7	-	282.9
Total	429.0	453.7	470.7	470.7	-	390.3
<b>SFOBB East Span</b>						
Capital Outlay Support	959.3	959.3	977.1	977.1	-	620.3
Capital Outlay	4,492.2	4,711.0	4,745.2	4,745.2	-	2,411.5
Other Budgeted Capital	35.1	31.8	7.7	7.7	-	0.7
Total	5,486.6	5,702.1	5,730.0	5,730.0	-	3,032.5
Miscellaneous Program Costs	30.0	30.0	30.0	30.0	-	24.7
Subtotal Capital Outlay Support	1,463.2	1,456.2	1,473.9	1,473.9	-	1,098.5
Subtotal Capital Outlay	6,321.8	6,471.5	6,498.7	6,498.7	-	4,059.8
Subtotal Toll Seismic Retrofit	7,785.0	7,927.7	7,972.6	7,972.6	-	5,158.3
Program Contingency	900.0	757.3	712.4	712.4	-	-
<b>Total Toll Seismic Retrofit Program</b>	<b>8,685.0</b>	<b>8,685.0</b>	<b>8,685.0</b>	<b>8,685.0</b>	<b>-</b>	<b>5,158.3</b>

Notes: \* Budget for Richmond-San Rafael Bridge include \$16.9 million of deck joint rehabilitation work that's considered to be eligible for seismic retrofit program funding. (Due to the rounding of numbers, the totals above are shown within \$0.1).

## Appendix A-2.

<b>Toll Bridge Seismic Retrofit Program</b>						
<b>AB 144 Baseline Budget, Forecasts and Expenditures Through June 30, 2008</b>						
(\$ in millions)						
Bridge	AB 144 Baseline Budget	TBPOC Current Approved Budget	Expenditures to date and Encumbrances as of Jun 2008 See Note (1)	Estimated Costs not yet Spent or Encumbered as of Jun 2008	Total Forecast as of Jun 2008  (Columns C +D)	
<b>Other Completed Projects</b>						
Capital Outlay Support	144.9	144.9	144.6	0.3	144.9	
Capital Outlay	472.6	472.6	472.6	0.1	472.7	
Total	617.5	617.5	617.2	0.4	617.6	
<b>Richmond-San Rafael</b>						
Capital Outlay Support	134.0	127.0	126.7	0.3	127.0	
Capital Outlay	698.0	689.5	674.8	14.7	689.5	
Project Reserves	82.0	-	-	-	-	
Total	914.0	816.5	801.5	15.0	816.5	
<b>West Span Retrofit</b>						
Capital Outlay Support	75.0	75.0	74.8	0.2	75.0	
Capital Outlay	232.9	232.9	232.8	0.1	232.9	
Total	307.9	307.9	307.6	0.3	307.9	
<b>West Approach</b>						
Capital Outlay Support	120.0	120.0	107.9	12.1	120.0	
Capital Outlay	309.0	333.7	324.8	25.9	350.7	
Total	429.0	453.7	432.7	38.0	470.7	
<b>SFOBB East Span -Skyway</b>						
Capital Outlay Support	197.0	181.0	180.1	0.9	181.0	
Capital Outlay	1,293.0	1,254.1	1,358.2	(104.1)	1,254.1	
Total	1,490.0	1,435.1	1,538.3	(103.2)	1,435.1	
<b>SFOBB East Span -SAS- Superstructure</b>						
Capital Outlay Support	214.6	214.6	95.0	119.6	214.6	
Capital Outlay	1,753.7	1,753.7	1,649.6	117.8	1,767.4	
Total	1,968.3	1,968.3	1,744.6	237.4	1,982.0	
<b>SFOBB East Span -SAS- Foundations</b>						
Capital Outlay Support	62.5	41.0	37.4	3.6	41.0	
Capital Outlay	339.9	307.3	308.7	(1.4)	307.3	
Total	402.4	348.3	346.1	2.2	348.3	
<b>Small YBI Projects</b>						
Capital Outlay Support	10.6	10.6	10.2	0.4	10.6	
Capital Outlay	15.6	15.6	16.2	(0.5)	15.7	
Total	26.2	26.2	26.4	(0.1)	26.3	
<b>YBI Detour</b>						
Capital Outlay Support	29.5	66.0	45.5	20.5	66.0	
Capital Outlay	131.9	442.2	327.9	133.3	461.2	
Total	161.4	508.2	373.4	153.8	527.2	
<b>YBI - Transition Structures</b>						
Capital Outlay Support	78.7	78.7	16.4	62.3	78.7	
Capital Outlay	299.4	276.1	0.1	276.0	276.1	
Total	378.1	354.8	16.5	338.3	354.8	
<b>Oakland Touchdown</b>						
Capital Outlay Support	74.4	74.4	38.8	53.3	92.1	
Capital Outlay	283.8	283.8	219.1	83.4	302.5	
Total	358.2	358.2	257.9	136.7	394.6	
<b>East Span Other Small Project</b>						
Capital Outlay Support	212.3	213.3	201.6	11.7	213.3	
Capital Outlay	170.8	170.8	93.0	53.6	146.6	
Total	383.1	384.1	294.6	65.3	359.9	
<b>Existing Bridge Demolition</b>						
Capital Outlay Support	79.7	79.7	0.3	79.4	79.7	
Capital Outlay	239.2	239.2	-	222.0	222.0	
Total	318.9	318.9	0.3	301.4	301.7	
<b>Miscellaneous Program Costs</b>						
	30.0	30.0	24.9	5.1	30.0	
<b>Total Capital Outlay Support (2)</b>	1,463.2	1,456.2	1,104.2	369.7	1,473.9	
<b>Total Capital Outlay</b>	6,321.8	6,471.5	5,677.8	820.9	6,498.7	
<b>Program Total</b>	<b>7,785.0</b>	<b>7,927.7</b>	<b>6,782.0</b>	<b>1,190.6</b>	<b>7,972.6</b>	

(1). Funds allocated to project or contract for Capital Outlay and Support needs includes Capital Outlay Support total allocation for FY 06/07.

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

(Due to the rounding of numbers, the totals above are shown within \$0.1).

**Appendix B.**

**Toll Bridge Seismic Retrofit Program - SFOBB East Span Only**  
**AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through June 30, 2008**

East Span Contract	AB 144/SB 66 Baseline	TBPOC Current Approved Budget See Note (1)	(\$ millions)		Variance 2nd Q08 - 1st Q08	Expenditures Through Jun 2008
			First Quarter 2008 Forecast	Second Quarter 2008 Forecast		
<b>SFOBB East Span -Skyway</b>						
Capital Outlay Support	197.0	181.0	181.0	181.0	-	180.1
Capital Outlay	1,293.0	1,254.1	1,254.1	1,254.1	-	1,234.1
<b>Total</b>	<b>1,490.0</b>	<b>1,435.1</b>	<b>1,435.1</b>	<b>1,435.1</b>	<b>-</b>	<b>1,414.2</b>
<b>SFOBB East Span -SAS- E2/T1 Foundations</b>						
Capital Outlay Support	52.5	31.0	31.0	31.0	-	28.1
Capital Outlay	313.5	280.9	280.9	280.9	-	272.7
<b>Total</b>	<b>366.0</b>	<b>311.9</b>	<b>311.9</b>	<b>311.9</b>	<b>-</b>	<b>300.8</b>
<b>SFOBB East Span -SAS- Superstructure</b>						
Capital Outlay Support	214.6	214.6	214.6	214.6	-	91.9
Capital Outlay	1,753.7	1,753.7	1,767.4	1,767.4	-	466.0
<b>Total</b>	<b>1,968.3</b>	<b>1,968.3</b>	<b>1,982.0</b>	<b>1,982.0</b>	<b>-</b>	<b>557.9</b>
<b>SFOBB East Span -SAS- W2 Foundations</b>						
Capital Outlay Support	10.0	10.0	10.0	10.0	-	9.2
Capital Outlay	26.4	26.4	26.4	26.4	-	25.8
<b>Total</b>	<b>36.4</b>	<b>36.4</b>	<b>36.4</b>	<b>36.4</b>	<b>-</b>	<b>35.0</b>
<b>YBI Detour</b>						
Capital Outlay Support	29.4	66.0	66.0	66.0	-	44.7
Capital Outlay	132.0	442.2	461.2	461.2	-	191.4
<b>Total</b>	<b>161.4</b>	<b>508.2</b>	<b>527.2</b>	<b>527.2</b>	<b>-</b>	<b>236.1</b>
<b>YBI - Transition Structures (Total, including the following split contracts and prior-to-split expenses)</b>						
Capital Outlay Support	78.7	78.7	78.7	78.7	-	20.3
Capital Outlay	299.3	276.1	276.1	276.1	-	-
<b>Total</b>	<b>378.0</b>	<b>354.8</b>	<b>354.8</b>	<b>354.8</b>	<b>-</b>	<b>20.3</b>
<b>YBI- Transition Structures Contract No. 1</b>						
Capital Outlay Support			45.0	45.0		2.7
Capital Outlay			214.3	214.3		-
<b>Total</b>			<b>259.3</b>	<b>259.3</b>		<b>2.7</b>
<b>YBI- Transition Structures Contract No. 2</b>						
Capital Outlay Support			16.0	16.0		1.2
Capital Outlay			58.5	58.5		-
<b>Total</b>			<b>74.5</b>	<b>74.5</b>		<b>1.2</b>
<b>YBI- Transition Structures Contract No. 3 - Landscape</b>						
Capital Outlay Support			1.0	1.0		-
Capital Outlay			3.3	3.3		-
<b>Total</b>			<b>4.3</b>	<b>4.3</b>		<b>-</b>
<b>Oakland Touchdown (Total, including the following split contracts and prior-to-split expenses)</b>						
Capital Outlay Support	74.4	74.4	92.1	92.1	-	38.0
Capital Outlay	283.8	283.8	302.5	302.5	-	102.4
<b>Total</b>	<b>358.2</b>	<b>358.2</b>	<b>394.6</b>	<b>394.6</b>	<b>-</b>	<b>140.4</b>
<b>Oakland Touchdown Contract - Submarine Cable</b>						
Capital Outlay Support	-	-	3.0	3.0	-	0.9
Capital Outlay	-	-	9.6	9.6	-	7.9
<b>Total</b>	<b>-</b>	<b>-</b>	<b>12.6</b>	<b>12.6</b>	<b>-</b>	<b>8.8</b>
<b>Oakland Touchdown Contract No. 1 (Westbound)</b>						
Capital Outlay Support	-	-	49.9	49.9	-	16.4
Capital Outlay	-	-	226.5	226.5	-	94.5
<b>Total</b>	<b>-</b>	<b>-</b>	<b>276.4</b>	<b>276.4</b>	<b>-</b>	<b>110.9</b>
<b>Oakland Touchdown Contract No. 2 (Eastbound)</b>						
Capital Outlay Support	-	-	15.8	15.8	-	0.6
Capital Outlay	-	-	62.0	62.0	-	-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>77.8</b>	<b>77.8</b>	<b>-</b>	<b>0.6</b>
<b>Oakland Touchdown Contract - Electrical Systems</b>						
Capital Outlay Support	-	-	1.4	1.4	-	0.1
Capital Outlay	-	-	4.4	4.4	-	-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>5.8</b>	<b>5.8</b>	<b>-</b>	<b>0.1</b>

## Appendix B. (Cont'd.)

**Toll Bridge Seismic Retrofit Program - SFOBB East Span Only**  
**AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures Through June 30, 2008**

East Span Contract	(\$ millions)					
	AB 144/SB 66 Baseline	TBPOC Current Approved Budget See Note (1)	First Quarter 2008 Forecast	Second Quarter 2008 Forecast	Variance 2nd Q08 - 1st Q08)	Expenditures Through Jun 2008
<b>YBI/SAS (Archeology)</b>						
Capital Outlay Support	1.1	1.1	1.1	1.1	-	1.1
Capital Outlay	1.1	1.1	1.1	1.1	-	1.1
Total	2.2	2.2	2.2	2.2	-	2.2
<b>YBI - USCG Rd Relocation</b>						
Capital Outlay Support	3.0	3.0	3.0	3.0	-	2.7
Capital Outlay	3.0	3.0	3.0	3.0	-	2.8
Total	6.0	6.0	6.0	6.0	-	5.5
<b>YBI - Substation and Viaduct</b>						
Capital Outlay Support	6.5	6.5	6.5	6.5	-	6.4
Capital Outlay	11.6	11.6	11.6	11.6	-	11.3
Total	18.1	18.1	18.1	18.1	-	17.7
<b>Oakland Geofill</b>						
Capital Outlay Support	2.5	2.5	2.5	2.5	-	2.5
Capital Outlay	8.2	8.2	8.2	8.2	-	8.2
Total	10.7	10.7	10.7	10.7	-	10.7
<b>Pile Installation Demonstration Project</b>						
Capital Outlay Support	1.8	1.8	1.8	1.8	-	1.8
Capital Outlay	9.2	9.2	9.2	9.2	-	9.2
Total	11.0	11.0	11.0	11.0	-	11.0
<b>Existing Bridge Demolition</b>						
Capital Outlay Support	79.7	79.7	79.7	79.7	-	0.3
Capital Outlay	239.2	239.2	222.0	222.0	-	-
Total	318.9	318.9	301.7	301.7	-	0.3
<b>Stormwater Treatment Measures</b>						
Capital Outlay Support	6.0	8.0	8.0	8.0	-	7.9
Capital Outlay	15.0	18.3	18.3	18.3	-	16.4
Total	21.0	26.3	26.3	26.3	-	24.3
<b>Right-of-way and Environmental Mitigation</b>						
Capital Outlay Support	-	-	-	-	-	-
Capital Outlay	72.4	72.4	72.4	72.4	-	39.3
Total	72.4	72.4	72.4	72.4	-	39.3
<b>Sunk Cost - Existing East Span Retrofit</b>						
Capital Outlay Support	39.5	39.5	39.5	39.5	-	39.5
Capital Outlay	30.8	30.8	30.8	30.8	-	30.8
Total	70.3	70.3	70.3	70.3	-	70.3
<b>Environmental Phase (Expended)</b>						
Capital Outlay Support	97.7	97.7	97.7	97.7	-	97.7
<b>Project Expenditures, Pre-splits</b>						
Capital Outlay Support	44.9	44.9	44.9	44.9	-	44.9
<b>Non-project Specific Costs</b>						
Capital Outlay Support	20.0	19.0	19.0	19.0	-	3.2
Subtotal East Span Capital Outlay Support	959.3	959.3	977.1	977.1	-	620.3
Subtotal East Span Capital Outlay and Sunl	4,492.2	4,711.0	4,745.2	4,745.2	-	2,411.5
Other Budgeted Capital	35.1	31.8	7.7	7.7	-	0.7
<b>Total SFOBB East Span</b>	<b>5,486.6</b>	<b>5,702.1</b>	<b>5,730.0</b>	<b>5,730.0</b>	<b>-</b>	<b>3,032.5</b>

(1) Current contract allotment to install two submarine electrical cables is \$11.5 million. Additional non-program funding to support this allocation beyond the \$9.6 million of available programs funds has been made available by the Treasure Island Development Authority.  
(Due to the rounding of numbers, the totals above are shown within \$0.1).

**Appendix C.**

**CTC TBSRP Contributions  
Adopted December 2005**

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

Source	Description	2005-06 (Actual)	2006-07 (Actual)	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
AB 1171	SHA	290									290
	PTA	80	40								120
	Highway Bridge Replacement and Rehabilitation (HBRR)	100	100	100	42						342
	Contingency				1	99	100	100	148		448
AB 144	SHA*	2	8				53	50	17		130
	Motor Vehicle Account (MVA)	75									75
	Spillover		125								125
	SHA**									300	300
	<b>Total</b>	<b>547</b>	<b>273</b>	<b>100</b>	<b>43</b>	<b>99</b>	<b>153</b>	<b>150</b>	<b>165</b>	<b>300</b>	<b>1830</b>

\* Caltrans Efficiency Savings

\*\* SFOBB East Span Demolition Cost

**Appendix D.**

**Project/Contract Photographs**

**SFOBB East Span Replacement Project**



*East Span Overview*

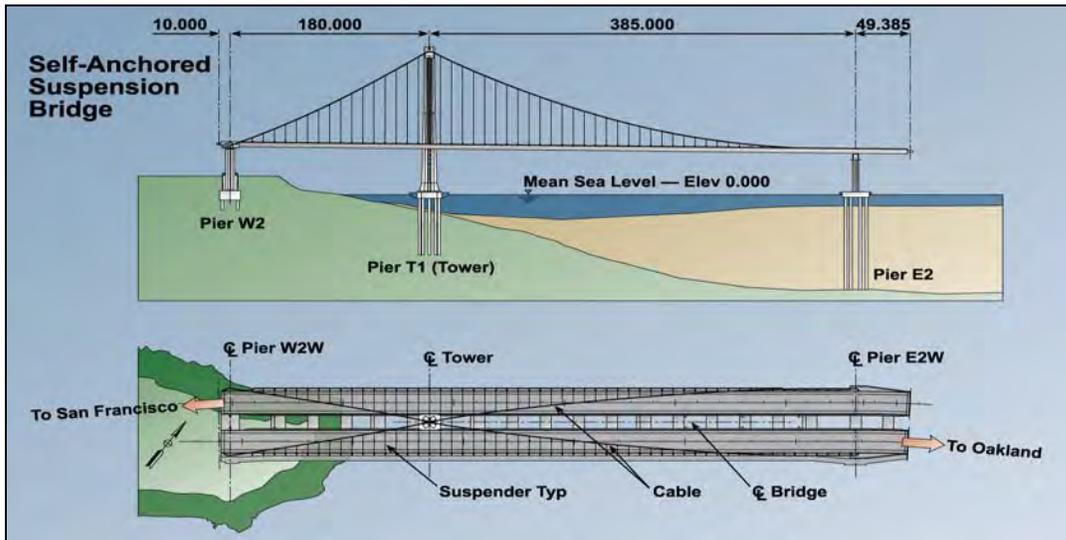


*W2 Cap Beam*

## SAS Superstructure Contract



SAS Superstructure Artist Rendition



## SAS Contract Photographs from Changxing Island, China SAS Superstructure Contract



### SAS Superstructure Contract (Cont'd.)



Completed Boom



Barge Installation Progress



Completed Spud

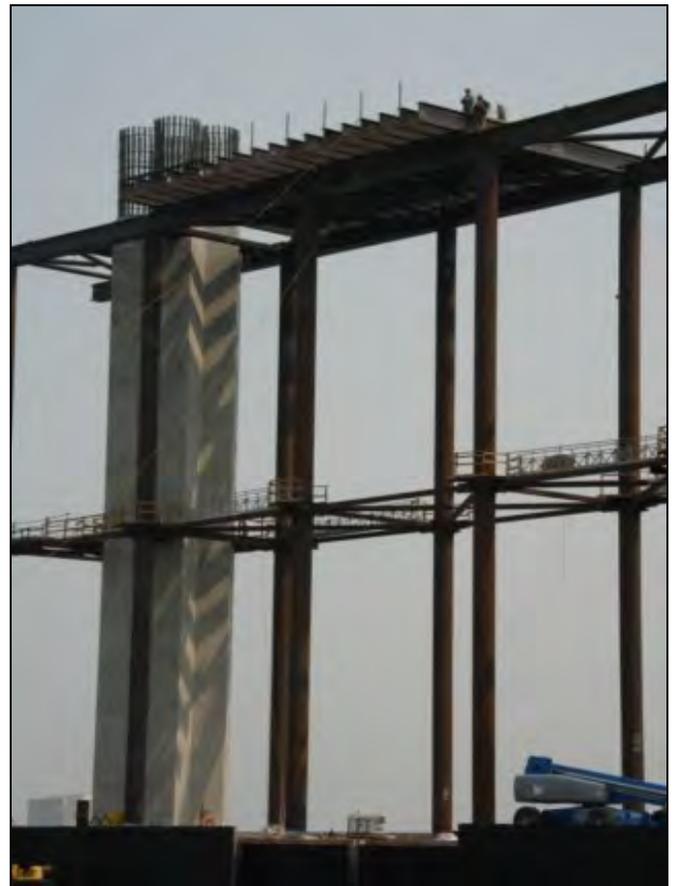
### SAS E2/T1 Foundations Contract (Cont'd.)



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



*Temporary Tower D Pile Driving*



*E2 – Temporary Falsework around E2*

## YBID Advanced Work



*Bent W4L Construction YBI Advanced Work*



*Bent W3L Construction YBI Advanced Work*



*Excavation for Advanced YBITS W3R Footing*



*Viaduct Structure and the Advanced YBITS Bent W6 LR*

# SFOBB West Approach Replacement Project

**SFOBB West Approach Retrofit Progress Diagram**  
**Mainline Eastbound 80 Rebuilding**

