

Toll Bridge Seismic Retrofit Program Report



TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION



Second Quarter Report

June 30, 2006



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, 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 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, 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
August 14, 2006
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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
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Sacramento, CA 94273-0001

August 14, 2006

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

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

Dear Commissioners Bergeson and Ghilmetti:

The Toll Bridge Program Oversight Committee (TBPOC) is pleased to submit the 2006 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, 2006.

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Marian Bergeson
James C. Ghilmetti
August 14, 2006
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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 2006 Second Quarter Report ending June 30, 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 June 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 Second 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 is 69 percent complete and is on schedule to finish in August 2009. Caltrans has opened a traffic bypass lane (split) for mainline I-80 traffic at the Fremont/Folsom Street off-ramp that maintained the existing number of through-traffic lanes during Frame 8U (North) demolition and reconstruction work. The project had planned

for the closure of the 1st and Essex Street on-ramps to the lower deck throughout two weekends in early June, and the closure of the lower deck during the night for tendon cutting. In fact, these closures were required for only one weekend, and short duration work on Bent 6 was performed the following weekend requiring only a ten-minute traffic block on the lower deck. Planning is also underway to support significant structural demolition work schedule for Labor Day Weekend 2006.

- The SFOBB East Span Seismic Replacement Project Skyway contract is 91 percent complete as of June 2006. The erection of the pre-cast deck for the eastbound structure is 100 percent complete, while the westbound structure is 77 percent complete. Pre-casting of the segments at the casting yard in Stockton is 100 percent complete. A schedule extension to this contract is likely due to various issues, this being subjected to analysis by Caltrans and negotiation with the Contractor. The likely revised schedule is not expected to delay the open-to-traffic date for the overall East Span Replacement project, nor is the associated cost expected to exceed the overall Skyway contract budget.
- The SFOBB East Span Seismic Replacement Project Self-Anchored Suspension (SAS) Marine Foundation East Pier and Tower (E2/T1) contract is 42 percent complete as of June 2006, and work continues on schedule. Progress continues on the drilling of T1 piles and the driving/splicing of the E2 piles, steel fabrication work for both the E2 and T1 piles, and the fabrication of the E2 cofferdam.
- The SFOBB East Span Seismic Replacement Project SAS Superstructure contract was executed on May 3, 2006, awarding the contract to 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. This contract is 5 percent complete as of June 2006. The Contractor has started mobilization, as well as commencing with work on various administrative submittals and finalizing agreements with subcontractors and suppliers, including ZPMC, the steel fabricator located in the People’s Republic of China.

- The SFOBB East Span Seismic Replacement Project Yerba Buena Island South-South Detour (SSD) contract is 38 percent complete as of June 2006. Work on this contract was originally planned to be completed sooner to meet earlier SAS completion dates. To minimize impacts to the traveling public due to the current SAS schedule, portions of work have been suspended. The suspension of the viaduct detour segment has necessitated additional design enhancements to allow it to stand in place alone for a longer duration and to improve seismic safety. The viaduct suspension has also resulted in the original steel fabricator no longer being able to accommodate this contract on their schedule and in a change in steel fabricator currently being implemented. The east and west tie-in design work is still under review by Caltrans. As a result of these work suspensions and the SAS contract completion date being extended by 12 months due to SAS addenda #5 and #7, scheduled impacts are being assessed and mitigation options for the SSD contract are being evaluated to minimize the time duration that motorists will be detoured and contract costs.
- Construction work on the SFOBB East Span Seismic Replacement Project Stormwater Treatment Measures contract to implement best practices for stormwater runoff treatment at the toll plaza area began in April 2006 by Diablo Contractors and is 10 percent complete as of June 2006. Initial construction work included installing drainage systems and pump stations.
- 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 impact to the critical path for the project. The Plans, Specifications, and Engineer’s Estimate (PS&E) documents for the contract that would replace the existing submarine electrical cable from Oakland to Treasure Island are complete in preparation for advertising in July 2006. This is the first contract to be implemented to avoid possible construction conflicts.

- The SFOBB East Span Seismic Replacement Project Yerba Buena Island Transition Structures (YBITS) contract is in design, and is being split per TBPOC authorization 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. A third contract is being developed concerning the landscaping scope.
- In June 2006, the Bay Area Toll Authority (BATA) approved \$17.8 million to proceed with a comprehensive seismic analysis of the Dumbarton and Antioch Bridges.

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.



Temporary support for the orthotropic box girder - west



Pile driving at T1



Pile driving at E2

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 29.

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 Second Quarter 2006 forecast for those projects indicates that they will be completed within the current TBPOC approved cost and schedule estimates.

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 Second Quarter of 2006.

Developments this Quarter

Project Risk Registers

All projects now have a Risk Response Team and a Risk Register. Quantitative risk analysis has been completed for each project. The costs of risks, notices of potential claims, and future contract change orders are combined to determine the project's Risk Management Cost probability distribution. This information is considered by Caltrans for budget analysis.

Capital Outlay Support (COS) Risk Register

A preliminary risk register was developed for Capital Outlay Support (COS) costs. Project risk registers contain risks that may have an impact on COS, but such impacts are not quantified in the project risk registers. The COS risk register incorporates such risks from the project risk registers and uses the same probability of occurrence of the risk. A quantitative risk analysis from the register is currently underway to determine the probability distribution for COS costs.

Program Risk Register

A program-level risk register was developed this quarter. It captures risks that are common to all projects, and the cost of potential delays arising from one project delaying another. The cross-delay risk is currently being analyzed using the integrated east span corridor schedule and the potential for delay within each project.

Risk Response Actions

The Risk Response Teams have focused attention on developing and executing risk response actions for their most significant risks. Many of the actions

have been effective: risks on the Skyway and E2/T1 contracts have been reduced from the previous quarter. The SAS team has initiated and assigned specific tasks to potentially reduce five of the top risks, those of high probability and high impact. This activity will be expanded in the next quarter to the next five top risks.

Quarterly Risk Management Report

Caltrans completed its first quarterly risk management report. It documents risk management actions, processes, and risk data for departmental recordkeeping. This report will continue to be prepared quarterly.

Adequacy of Reserves

AB 144 requires Caltrans to regularly assess its reserves for risks and potential claims. When the program-level and COS risk registers will be completed in the next quarter, they will be combined with the project risk registers to assess the overall pressure on the \$900 million Program Reserve.

Risk Management Summary of Projects

A risk management summary of each project is provided in Appendix C.

Near-Term Risk Management Actions

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

- Continuing the development and execution of appropriate and effective risk responses.
- Completing the program-level and COS risk registers, including quantitative risk analysis.
- Evaluating any pressures on the Program Reserve.
- Further refining risk management procedures and processes.

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.



Precast segment Skyway deck ready for transport

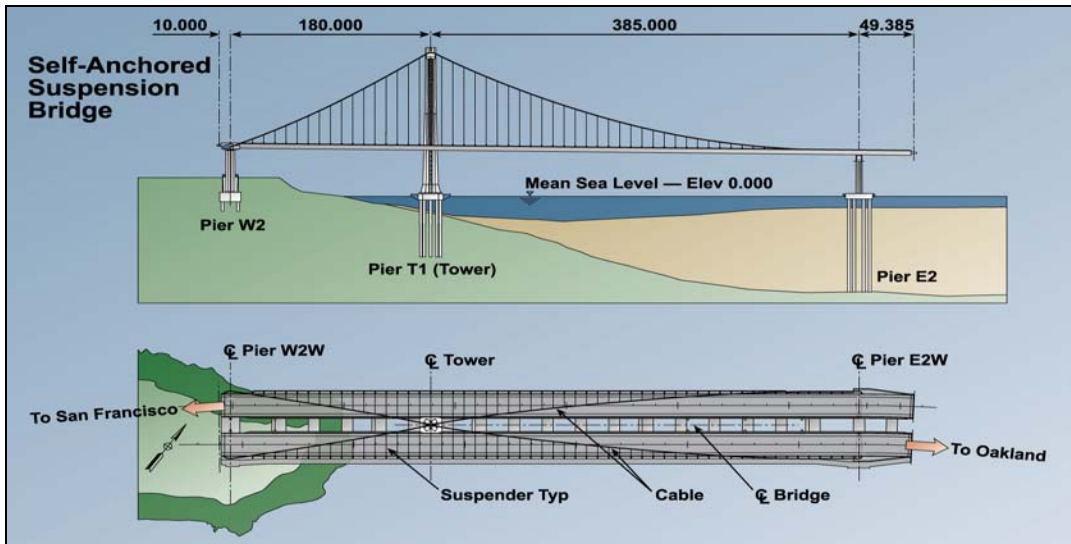


Table 2-Toll Bridge Seismic Retrofit Program—Cost Summary (\$Millions)

| Project | Work Status | AB 144 / SB 66 Budget (07/2005) | Approved Changes | Current Approved Budget (06/2006) | Actual Cost To Date (06/2006) | 2nd 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 | 435.3 | 977.1 | 17.7 | ● |
| Capital Outlay Construction | | | | | | | | |
| Skyway | Construction | 1,293.0 | - | 1,293.0 | 1,032.8 | 1,293.0 | - | ● |
| SAS E2/T1 Foundations | Restart | 313.5 | - | 313.5 | 144.8 | 313.5 | - | ● |
| SAS Superstructure | Advertise | 1,753.7 | - | 1,753.7 | 67.6 | 1,767.4 | 13.7 | ● |
| YBI Transition Structures | Design | 299.3 | - | 299.3 | - | 318.5 | 19.2 | ● |
| Oakland Touchdown | | 283.8 | - | 283.8 | - | 272.7 | (11.1) | |
| * OTD Submarine Cable | Design | | | | - | 9.6 | - | ● |
| * OTD No. 1 (Westbound) | Design | | | | - | 196.7 | - | ● |
| * OTD No. 2 (Eastbound) | Design | | | | - | 62.0 | - | ● |
| * OTD Electrical Systems | Design | | | | - | 4.4 | - | ● |
| South/South Detour | Design/Const | 131.9 | - | 131.9 | 33.7 | 133.7 | 1.8 | ● |
| Existing Bridge Demolition | Design | 239.2 | - | 239.2 | - | 222.0 | (17.2) | ● |
| Stormwater Treatment Measures | Design | 15.0 | - | 15.0 | 1.3 | 15.0 | - | ● |
| East Span Completed Projects | | 90.3 | - | 90.3 | 89.2 | 90.3 | - | |
| Right-of-Way and Environmental Mitigation | | 72.4 | - | 72.4 | 38.8 | 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 | 1,843.5 | 5,486.6 | - | |
| SFOBB West Approach Replacement | | | | | | | | |
| | Construction | | | | | | | ● |
| Capital Outlay Support | | 120.0 | - | 120.0 | 79.2 | 120.0 | - | |
| Capital Outlay Construction | | 309.0 | - | 309.0 | 196.1 | 309.0 | - | |
| Total SFOBB West Approach Replacement | | 429.0 | - | 429.0 | 275.3 | 429.0 | - | |
| Richmond-San Rafael Bridge Retrofit | | | | | | | | |
| | Construction | | | | | | | ● |
| Capital Outlay Support | | 134.0 | - | 134.0 | 125.3 | 127.0 | (7.0) | |
| Capital Outlay Construction | | 780.0 | - | 780.0 | 663.8 | 698.0 | (82.0) | |
| Total Richmond-San Rafael Bridge Retrofit | | 914.0 | - | 914.0 | 789.1 | 825.0 | (89.0) | |
| Program Completed Projects | | | | | | | | |
| | Complete | | | | | | | |
| Capital Outlay Support | | 219.8 | - | 219.8 | 219.4 | 219.8 | - | |
| Capital Outlay Construction | | 705.6 | - | 705.6 | 698.3 | 705.6 | - | |
| Total Program Completed Projects | | 925.4 | - | 925.4 | 917.7 | 925.4 | - | |
| Miscellaneous Program Costs | | | | | | | | |
| | | 30.0 | - | 30.0 | 24.5 | 30.0 | - | |
| Program Contingency | | 900.0 | - | 900.0 | - | 989.0 | 89.0 | |
| Total Toll Bridge Seismic Retrofit Program | | 8,685.0 | - | 8,685.0 | 3,850.1 | 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 (06/2006) | Project Complete Forecast (06/2006) | 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 | - | ● | Contract executed on May 3, 2006. See Note. |
| 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. See Note. |
| 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 | - | ● | See Note. |
| 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 | - | ● | See Note. |
| 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: Westbound | Sep 11 | 12 | Sep 12 | Sep 12 | - | ● | See Note. |
| Open to Traffic Date: Eastbound | Sep 12 | 12 | Sep 13 | Sep 13 | - | ● | See Note. |
| 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 | ● | Project delayed due to NOAA Fisheries permit issues. |

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 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 Second 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 Second 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 California Transportation Commission (CTC) for costs directly related to the duties associated with the TBPOC are to be reimbursed by toll revenues. Table 5 shows actual expenses through June 30, 2006, for TBPOC functioning, support, and monthly and quarterly reporting.

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

| Contracts | AB 144 / SB 66 Baseline Budget | 2nd 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 | - |

**Table 5-Toll Bridge Program Oversight Committee
Actual Expenses: July 1, 2005 through June 30, 2006
(\$ Millions)**

| Agency/Program Activity | FY 2005 - 2006 Actual Costs |
|-------------------------|-----------------------------|
| BATA | 0.2 |
| Caltrans | 0.3 |
| CTC | 0.1 |
| Reporting | 0.8 |
| Total Program | 1.4 |

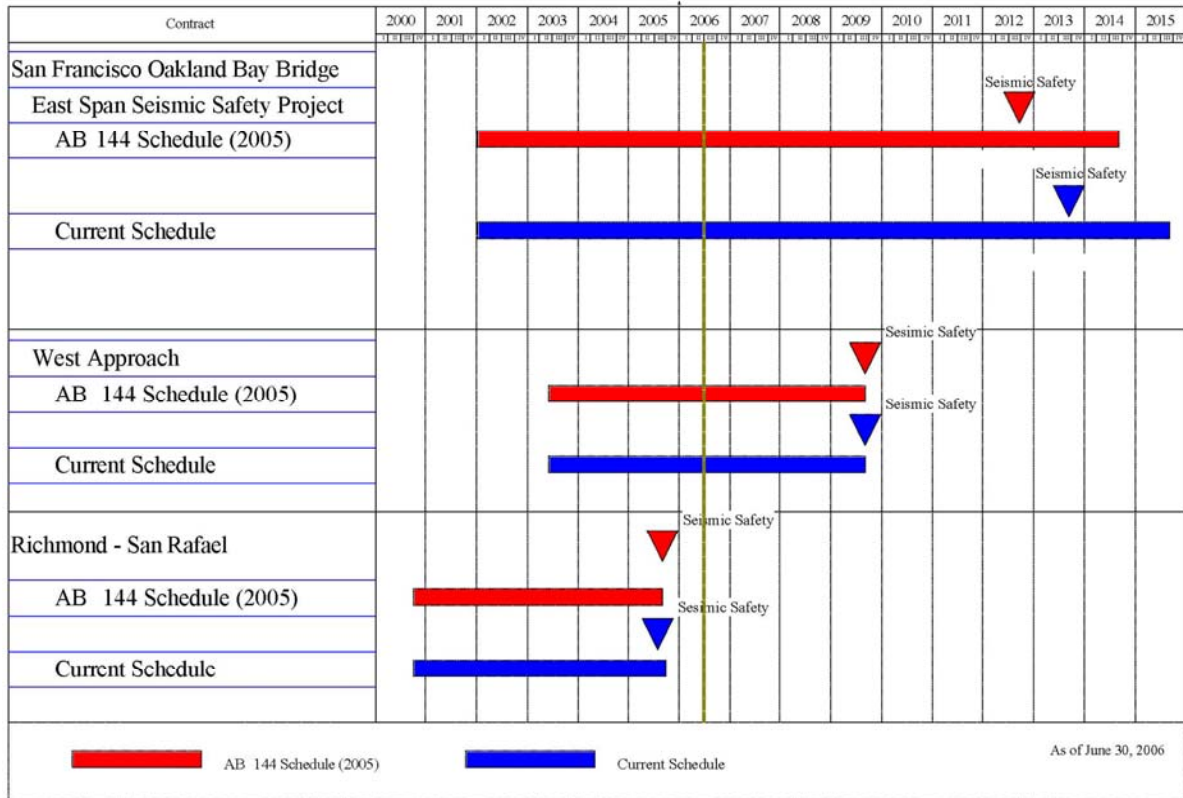


Aerial view of Skyway construction



Aerial view of Bay Bridge East Span and new Skyway

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



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 June 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 12 months due to the approval of Addendum #5 and Addendum #7 to the SFOBB East Span Seismic Replacement Project SAS contract. Although the

current schedule forecast does not reflect achievement of the six-month early completion incentive provided for by SAS contract Addendum #7, 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 2015, 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.

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 6-Program Budget*.

Table 6-Program Budget as of June 30, 2006
(\$ Millions)

| | Budgeted | Funding Available & Contributions | Allocated to Date |
|--|----------------|-----------------------------------|-------------------|
| Financing | | | |
| 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 | |
| Subtotal - Financing | 5,252.0 | 5,252.0 | |
| Contributions | | | |
| 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 ⁽¹⁾⁽²⁾ | 745.0 | 745.0 | |
| Public Transportation Account ⁽¹⁾⁽³⁾ | 130.0 | 90.0 | |
| ITIP/SHOPP/Federal Contingency | 448.0 | - | |
| Federal Highway Bridge Replacement and Rehabilitation (HBRI) | 642.0 | 400.0 | |
| 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 | |
| Subtotal - Contributions | 3,433.0 | 2,140.9 | |
| Total | 8,685.0 | 7,392.9 | 5,893.6 |
| <p>⁽¹⁾ The California Transportation Commission (CTC) adopted a new schedule and changed the PTA/SHA split on December 15, 2005.</p> <p>⁽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.</p> <p>⁽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. The Department anticipates transfer of such balance in Fiscal Year 2006-07 as directed by the CTC.</p> <p>⁽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.</p> <p>Notes: 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 7-Toll Bridge Seismic Retrofit Program Financial Status*. The figures include the surcharge revenues collected, transfers from the State Highway Account (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 7-Toll Bridge Seismic Retrofit Program
Financial Status as of June 30, 2006**

(\$ Millions)

| | |
|---|----------------|
| Revenues: | |
| Toll Surcharge ⁽¹⁾ | 687.9 |
| SMIF Interest | 97.9 |
| 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 | 400.0 |
| 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 | 4,068.7 |
| Expenditures: | |
| Capital Outlay | 2,966.5 |
| State Operations | 883.6 |
| Total Expenditures | 3,850.1 |
| Encumbrances: | |
| Capital Outlay | 2,040.8 |
| State Operations | 2.7 |
| Total Encumbrances | 2,043.5 |
| Total Expenditures and Encumbrances | 5,893.6 |
| <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, \$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. The Department anticipates transfer of such balance in 2006-07 as directed by the CTC.</p> <p>(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.</p> | |

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 was awarded on May 3, 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.

completed on October 28, 2005. Final Contractor’s payment was made on March 3, 2006.

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 8-Cost Comparison AB 144/SB 66, Second Quarter 2006 Forecast and Expenditures through June 2006 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 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, but delays in accomplishing this have impacted the project completion date. Caltrans is working to mitigate that impact through the use of contract language that is expected to result in a reduced construction schedule.

The Richmond-San Rafael Bridge seismic retrofit was completed on July 29, 2005, and all construction activities for the project were

Table 8-Cost Comparison AB 144/ SB 66, Second Quarter 2006 Forecast and Expenditures through June 30, 2006 for Completed Bridges (\$ million)

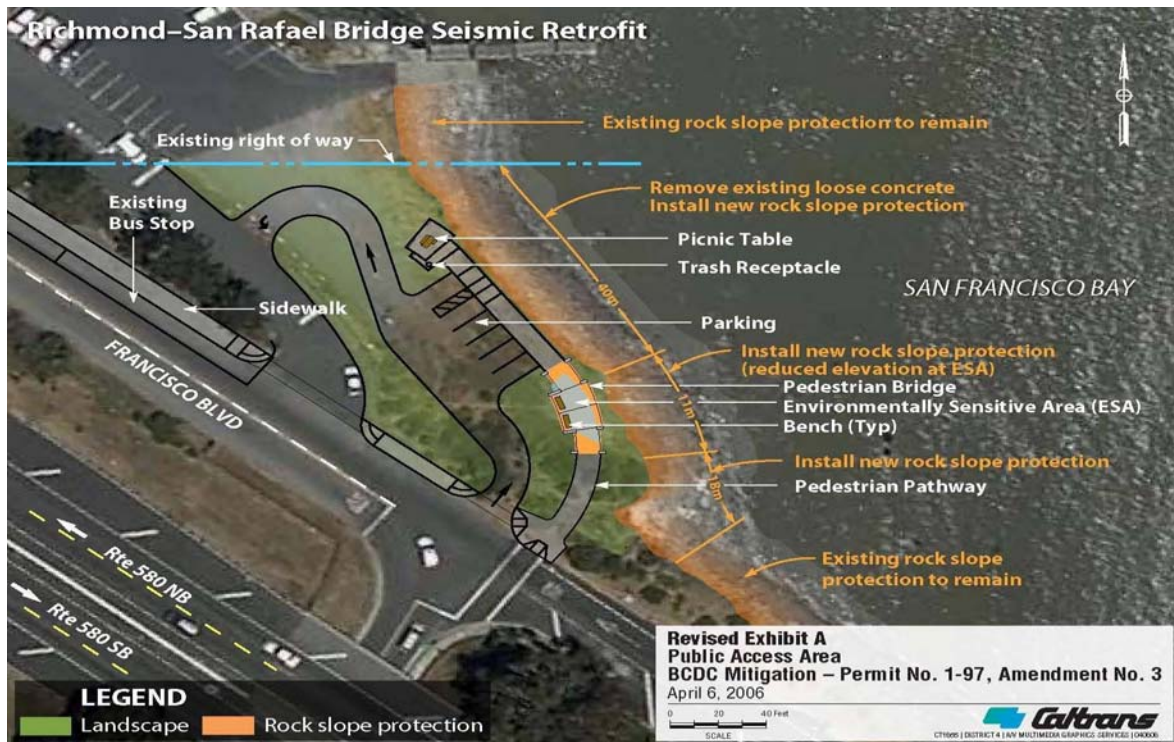
| Project | AB 144/ SB 66 Budget | Approved Changes | Current Approved Budget | Cost To Date (06/2006) | 2nd Quarter 2006 Forecast | Variance |
|---|----------------------|------------------|-------------------------|------------------------|---------------------------|---------------|
| a | b | c | d = b + c | e | f | g = f - d |
| San Francisco-Oakland Bay Bridge West Span Seismic Retrofit Project | 307.9 | - | 307.9 | 301.0 | 307.9 | - |
| Carquinez Bridge Retrofit Project | 114.2 | - | 114.2 | 114.5 | 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 | 789.1 | 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 | 1,706.8 | 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.



Precast deck segments at Stockton casting yard



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 69 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 retrofit construction continued throughout the project during the reporting period. Major ongoing work during the quarter included substructure construction activities for the I-80 mainline structures, the 5th Street and Harrison Street off-ramps, and the 4th Street retrofit work; and superstructure construction activities for Frames 7U (North) and 8U (North).

Caltrans made extensive preparations for the early June demolition of Frame 8U (North). Prior to the demolition, Caltrans opened a traffic bypass lane (split) for mainline I-80 traffic at the Fremont/Folsom Street off-ramp that maintained the existing number of through-traffic lanes during the Frame 8U (North) demolition and reconstruction work. The project had planned for the closure of the 1st Street and Essex Street on-ramps to the lower deck throughout two weekends in early June, and

the closure of the lower deck during the night for tendon cutting. In fact, these closures were required for only one weekend, and short duration work on Bent 6 was performed the following weekend requiring only a ten-minute traffic block on the lower deck. Significant traffic congestion on I-80 and on local streets in downtown San Francisco was avoided by Caltrans embarking on a massive public outreach campaign and working with BART to provide 24-hour transbay service and with 511 to disseminate information.

During the Second Quarter 2006, progress also continued on the development of the work plan for the demolition of Frames 7U (South) and 8U (South), scheduled for Labor Day Weekend 2006.

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 9-Baseline and Estimated Budget Need for SFOBB West Approach*.

Table 9-Baseline and Estimated Budget Need for SFOBB West Approach (\$ million)

| | AB 144/ SB 66 Budget | 2nd 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 Response Team is continuing with its efforts to manage project risks. During the quarter, updated risk assessments were regularly performed as a standard project management practice.

Pile installations for the temporary eastbound detour are a major emphasis of the risk management plan. The installation, testing, and any mediation, will be closely monitored to ensure impacts to the project are minimized.

A major risk element involving the demolition procedures at the first two of the four anchorage areas has been resolved and no longer jeopardizes the project's objectives. The remaining anchorage areas at 7U (South) and 8U (South) still pose a challenge, but the unknowns have been significantly reduced by the experience and knowledge gained from the previous operations on the first two quadrants.

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 remain on the project target schedule. The fall 2006 work plan features the condensing of work to the fewest number of weekends feasible.



West Approach Traffic Split 5th Street Off-ramp (June 2006)

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**:

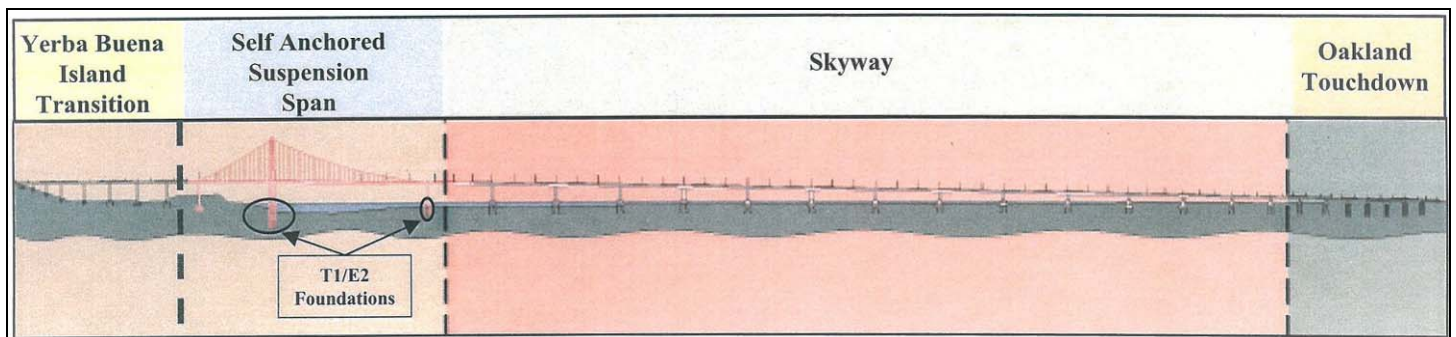
- Interim Retrofit (Existing Bridge)
- East Span Retrofit (Existing Bridge)
- Pile Installation Demonstration
- OTD Geofill
- YBI Archaeology
- USCG Road Relocation on YBI
- SAS Land Foundations (W2)
- YBI Electrical Substation

Five contracts are under **construction**:

- Skyway contract (91 percent complete)
- South/South Detour (38 percent complete)
- SAS Marine Foundations (E2/T1) (42 percent complete)
- SAS (5 percent complete)
- Stormwater Treatment Measures (10 percent complete)

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.
- OTD Submarine Cable design is 100 percent complete and is scheduled to be advertised for bid in July 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)



SFOBB East Span Replacement Project

- 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 10-SFOBB East Span Seismic Replacement Project Schedule Summary* below.

There is a potential for an extension to the Skyway contract 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. Note 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.

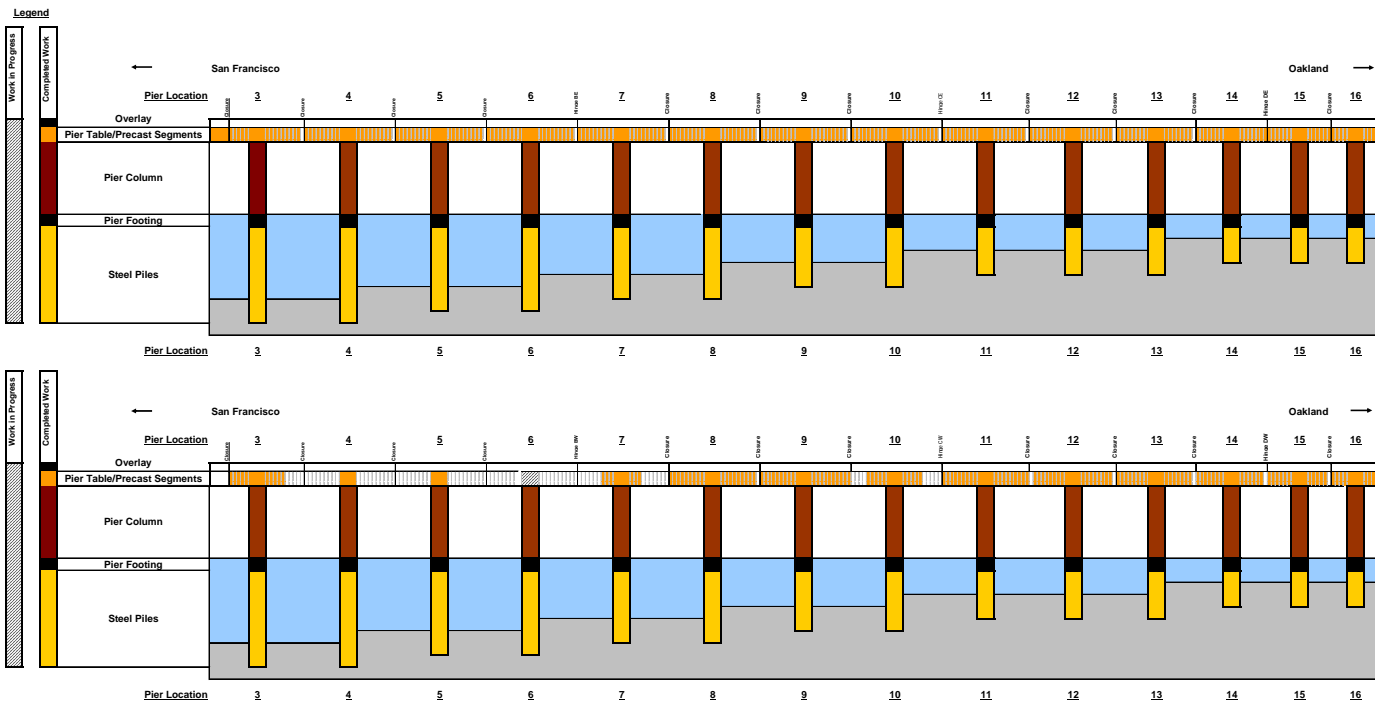
Table 10-SFOBB East Span Seismic Replacement Project Schedule Summary

| Contract | AB 144/SB 66 Baseline Project Completion Date | Approved Changes | Current Approved Schedule | 2nd 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-13 | - |
| 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

June 30, 2006



Milestones Achieved – Construction Contracts

- The Skyway contract is 91 percent complete as of June 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. Casting of the pre-cast deck segments at the Stockton casting yard was completed during the Second Quarter 2006. The pier tables are now 100 percent complete with the final work performed in early June 2006. Erection of all pre-cast deck segments for the eastbound structure is 100 percent complete, while the westbound structure has erected 174 of the 226 segments (77 percent) with 52 segments remaining to be erected. A total of 400 segments (88 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.

- The E2/T1 contract is 42 percent complete as of June 2006. The drilling operation of T1 piles, which commenced on February 20, 2006, is in progress and is scheduled to finish in July 2006. Driving and splicing of the E2 piles is also underway with two out of 16 piles completed. Fabrication of the T1 steel footing box is 20 percent complete, while that of the E2 steel footing frame is about 80 percent complete. Fabrication of the E2 piles and E2 cofferdam is continuing.

- Caltrans executed the SAS Superstructure contract on May 3, 2006, awarding the contract to 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. This contract is 5 percent complete as of June 2006. The Contractor has started mobilization, as well as commencing with work on various administrative submittals and finalizing agreements with subcontractors and suppliers, including ZPMC, the steel fabricator located in the People’s Republic of China.

The estimate-at-completion forecast for the project is being re-evaluated to reflect TBPOC direction concerning bid stipend amounts, contract incentives, and the bid contract amount.

- The YBI SSD contract is 38 percent complete as of June 2006. Work on this contract was originally planned to be completed sooner to meet earlier SAS completion dates. To minimize impacts to the traveling public due to the current SAS schedule, portions of work have been suspended. The suspension of the viaduct detour segment has necessitated additional design enhancements to allow it to stand in place alone for a longer duration and to improve seismic safety. The viaduct suspension has also resulted in the original steel fabricator no longer being able to accommodate this contract on their schedule and in a change in steel fabricator currently being implemented. The east and west tie-in design work is still under review by Caltrans. As a result of these work suspensions and the SAS contract completion date being extended by 12 months due to SAS addenda #5 and #7, scheduled impacts are being assessed and mitigation options for the SSD contract are being evaluated to minimize the time duration that motorists will be detoured and contract costs.
- Construction on the Stormwater Treatment Measures contract to implement best practices for stormwater runoff treatment at the toll plaza

area began in April 2006 and is 10 percent complete as of June 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. During the quarter, the Contractor mobilized, constructed the access road, and has started utilities relocation. On-going work includes drainage system installation, removal of buried man-made objects, ductile iron pipe installation and construction of pump stations.

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 impact on the critical path for the project. The first contract would construct the marine foundation and the westbound approach earlier to keep the work off the project critical path and is forecast



Aerial view of the western end of the Skyway contract

to be complete in October 2009. The 95 percent PS&E package for this contract has been issued for review. 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. 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. Caltrans is complete with the PS&E documents for this contract, and is preparing to advertise it in late July 2006. 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; the inclusion of 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.



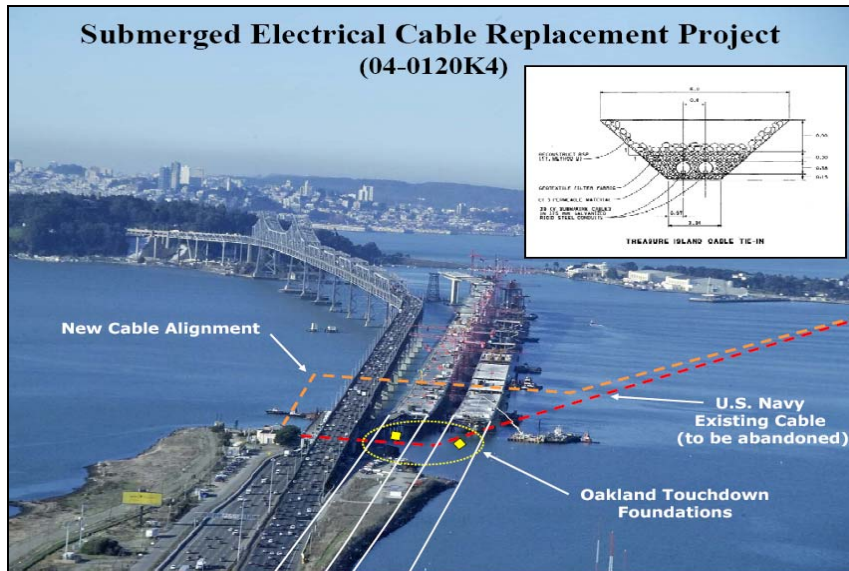
Precast deck segments at Stockton casting yard



Precast deck segments ready for transport



Aerial view of SSD



Submarine Cable Relocation

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 11-SFOBB East Span Replacement Cost Summary*.

Caltrans re-evaluates project and contract cost forecasts continuously. The estimate-at-completion as of June 30, 2006, includes revised forecasts from AB 144/SB 66 budget, as follows:

- A forecast increase in the cost of 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 forecast \$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 forecast \$19.2 million increase for the YBITS contract due to a higher estimate for electrical work and scheduling.
- A forecast \$11.1 million decrease in the capital outlay for the OTD contract due to the

Table 11-SFOBB East Span Replacement Cost Summary (\$ Millions)

| Contract | AB 144/ SB 66 Budget | Approved Changes | Current Approved Budget | Cost To Date (06/2006) | 2nd Quarter 2006 Forecast | Variance |
|---|----------------------|------------------|-------------------------|------------------------|---------------------------|-----------|
| a | b | c | d = b + c | e | f | g = f - d |
| Capital Outlay Support | 959.4 | - | 959.4 | 435.3 | 977.1 | 17.7 |
| Capital Outlay | - | - | - | - | - | - |
| Skyway | 1,293.0 | - | 1,293.0 | 1,032.8 | 1,293.0 | - |
| SAS Superstructure | 1,753.7 | - | 1,753.7 | 67.6 | 1,767.4 | 13.7 |
| SAS E2/T1 Foundations | 313.5 | - | 313.5 | 144.8 | 313.5 | - |
| YBI Structures | 299.3 | - | 299.3 | - | 318.5 | 19.2 |
| Oakland Touchdown | 283.8 | - | 283.8 | - | 272.7 | (11.1) |
| ◆ OTD Submarine Cable | | | | - | 9.6 | |
| ◆ OTD Westbound | | | | - | 196.7 | |
| ◆ OTD Eastbound | | | | - | 62.0 | |
| ◆ OTD Electrical Systems | | | | - | 4.4 | |
| YBI South/South Detour | 131.9 | - | 131.9 | 33.7 | 133.7 | 1.8 |
| Existing Bridge Demolition | 239.2 | - | 239.2 | - | 222.0 | (17.2) |
| Stormwater Treatment Measures | 15.0 | - | 15.0 | 1.3 | 15.0 | - |
| East Span Completed Projects | 90.3 | - | 90.3 | 89.2 | 90.3 | - |
| Right-of-Way and Environmental Mitigation | 72.4 | - | 72.4 | 38.8 | 72.4 | - |
| Other Budgeted Capital | 35.1 | - | 35.1 | - | 11.0 | (24.1) |
| TOTAL | 5,486.6 | - | 5,486.6 | 1,843.5 | 5,486.6 | - |

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

split of the OTD contract into multiple contracts to accelerate work and to reduce 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.

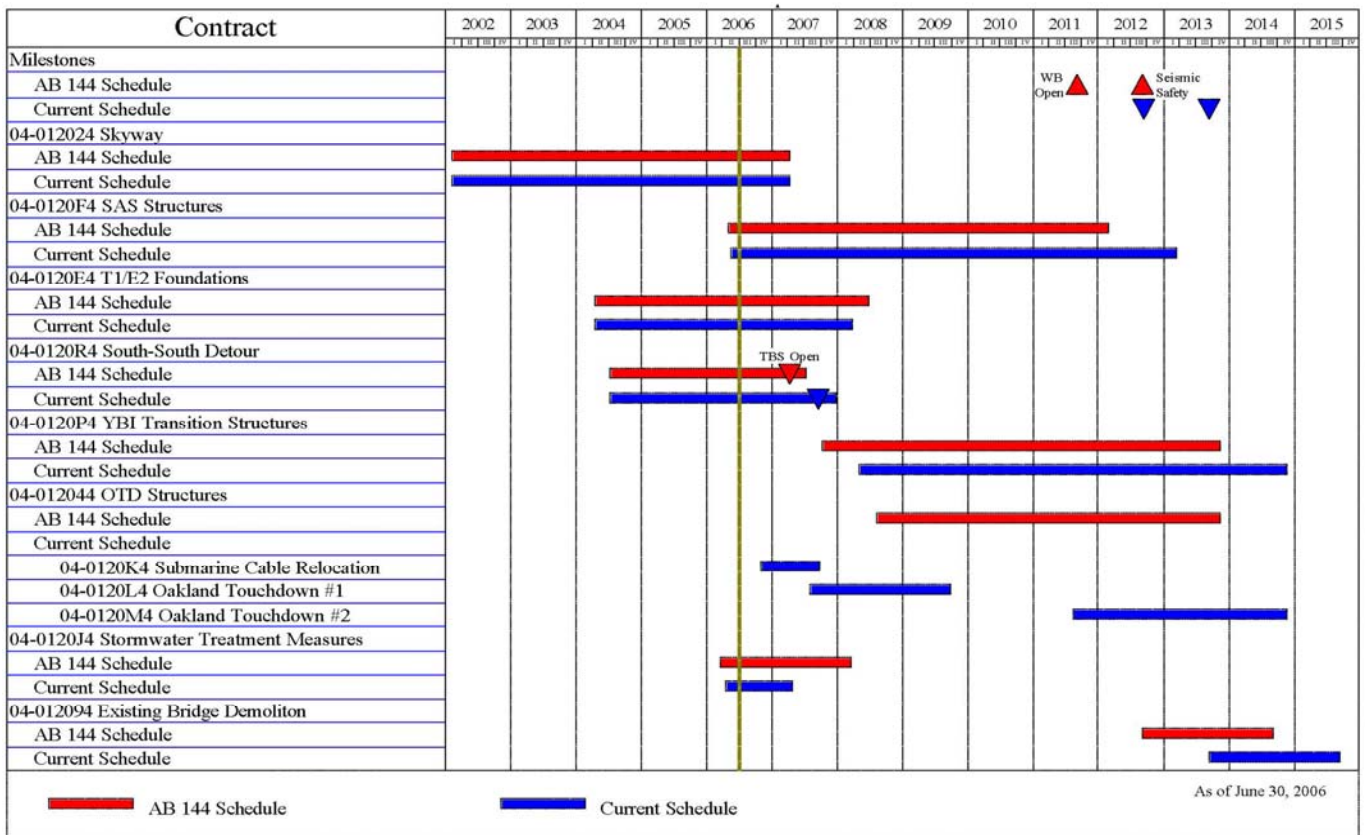
- A forecast \$1.8 million increase for the YBI SSD contract due to a potential extension of contract to integrate with the schedule of the SAS contract.

- A 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 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 bridge to traffic in both directions was 2012. However, the opening date has been revised to 2013

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



due to the TBPOC approval and Caltrans issuance of Addenda #5 and #7 to the SAS contract. 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.
- On June 13, 2006, the Bay Conservation and Development Commission (BCDC) approved the Stormwater Treatment Measures contract after agreement was reached on the mitigation costs and ratios. Construction of the Stormwater Treatment Measures contract began in April 2006. A clapper rail nest was found by a biological monitor during the installation of the salt marsh harvest mouse fence. The US Fish and Wildlife Service (USFWS) was contacted to negotiate work restrictions around the nest. To protect the nest, a no-work radius was established around it. The nest has since fledged and work in the area has resumed. Clapper rail surveys are ongoing for the project.
- Approval for the Submarine Cable relocation contract was received from BCDC on June 13, 2006.
- The Air Bubble Curtain and Marine Mammal Monitoring were performed without incident for pile driving at the E2 footing. Turbidity monitoring is ongoing during drilling operations at the T1 footing.
- Skaggs Island negotiations are back on track after obtaining a material amendment from BCDC granting a time extension and splitting the fund in a way that will facilitate land transfer negotiations between the Navy and the California Department of Fish and Game (CDFG).

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

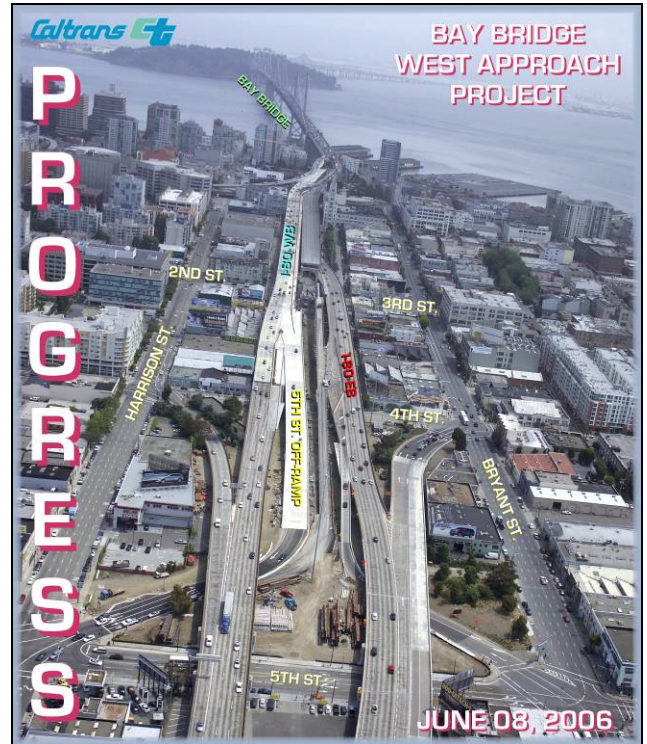
results of the sensitivity analysis have been used to determine the scope and value of conducting further geotechnical studies.

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 was 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 has conducted 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. The final report was issued on July 24, 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.

At the June 14, 2006 meeting, BATA approved the \$17.8 million that is necessary to proceed with this comprehensive seismic analysis.



West Approach



West Approach

Appendices

- A. TBSRP All Bridges AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures through June 30, 2006 (A-1 and A-2).
- B. TBSRP East Span Only AB 144/SB 66 Baseline Budget, Forecasts, and Expenditures through June 30, 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 June 2006 | | | | | |
| (\$ millions) | | | | | |
| Bridge | AB 144/SB 66 Baseline | First Quarter 2006 Forecast | Second Quarter 2006 Forecast | Variance (2nd Q06 - 1st Q06) | Expenditures Through June 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 | - | 85.7 |
| Total | 114.2 | 114.2 | 114.2 | - | 114.5 |
| 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 | - | 125.3 |
| Capital Outlay | 780.0 | 698.0 | 698.0 | - | 663.8 |
| Total | 914.0 | 825.0 | 825.0 | - | 789.1 |
| West Span Retrofit | | | | | |
| Capital Outlay Support | 75.0 | 75.0 | 75.0 | - | 74.8 |
| Capital Outlay | 232.9 | 232.9 | 232.9 | - | 226.2 |
| Total | 307.9 | 307.9 | 307.9 | - | 301.0 |
| West Approach | | | | | |
| Capital Outlay Support | 120.0 | 120.0 | 120.0 | - | 79.2 |
| Capital Outlay | 309.0 | 309.0 | 309.0 | - | 196.1 |
| Total | 429.0 | 429.0 | 429.0 | - | 275.3 |
| SFOBB East Span | | | | | |
| Capital Outlay Support | 959.3 | 977.1 | 977.1 | - | 435.3 |
| Capital Outlay | 4,492.2 | 4,498.5 | 4,498.5 | - | 1,408.2 |
| Other Budgeted Capital | 35.1 | 11.0 | 11.0 | - | - |
| Total | 5,486.6 | 5,486.6 | 5,486.6 | - | 1,843.5 |
| Miscellaneous Program Costs | 30.0 | 30.0 | 30.0 | - | 24.5 |
| Subtotal Capital Outlay Support | 1,463.1 | 1,473.9 | 1,473.9 | - | 883.7 |
| Subtotal Capital Outlay | 6,321.9 | 6,222.1 | 6,222.1 | - | 2,966.4 |
| Subtotal Toll Seismic Retrofit | 7,785.0 | 7,696.0 | 7,696.0 | - | 3,850.1 |
| Program Contingency | 900.0 | 989.0 | 989.0 | - | - |
| Total Toll Seismic Retrofit Program | 8,685.0 | 8,685.0 | 8,685.0 | - | 3,850.1 |

(Due to the rounding of numbers, the totals above are show within \$0.02).

Appendix A-2.

| Toll Bridge Seismic Retrofit Program | | | | | | |
|---|---------------------------------------|---|---|---|--|--|
| AB 144 Baseline Budget, Forecasts and Expenditures Through June 2006 | | | | | | |
| (\$ in millions) | | | | | | |
| Bridge | Column B AB 144 Baseline Budget | Column C Expenditures to date and Encumbrances as of June 2006 See Note (1) | Column D Estimated Costs not yet Spent or Encumbered as of June 2006 | Column E Total Forecast as of June 2006 (Columns C +D) | | |
| Other Completed Projects | | | | | | |
| Capital Outlay Support | 144.9 | 144.6 | 0.3 | 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 | 125.4 | 1.6 | 127.0 | | |
| Capital Outlay | 704.9 | 671.9 | 26.1 | 698.0 | | |
| Project Reserves | 82.0 | | | | | |
| Total | 914.0 | 797.3 | 27.7 | 825.0 | | |
| West Span Retrofit | | | | | | |
| Capital Outlay Support | 75.0 | 74.8 | 0.2 | 75.0 | | |
| Capital Outlay | 232.9 | 234.2 | (1.3) | 232.9 | | |
| Total | 307.9 | 309.0 | (1.1) | 307.9 | | |
| West Approach | | | | | | |
| Capital Outlay Support | 120.0 | 79.5 | 40.5 | 120.0 | | |
| Capital Outlay | 309.0 | 287.2 | 21.8 | 309.0 | | |
| Total | 429.0 | 366.7 | 62.3 | 429.0 | | |
| SFOBB East Span -Skyway | | | | | | |
| Capital Outlay Support | 197.0 | 142.2 | 54.8 | 197.0 | | |
| Capital Outlay | 1,293.0 | 1,187.6 | 105.4 | 1,293.0 | | |
| Total | 1,490.0 | 1,329.8 | 160.2 | 1,490.0 | | |
| SFOBB East Span -SAS- Superstructure | | | | | | |
| Capital Outlay Support | 214.6 | 22.1 | 192.5 | 214.6 | | |
| Capital Outlay | 1,753.7 | 1,658.3 | 109.0 | 1,767.3 | | |
| Total | 1,968.3 | 1,680.4 | 301.5 | 1,981.9 | | |
| SFOBB East Span -SAS- Foundations | | | | | | |
| Capital Outlay Support | 62.5 | 21.7 | 40.8 | 62.5 | | |
| Capital Outlay | 339.9 | 304.3 | 35.6 | 339.9 | | |
| Total | 402.4 | 326.0 | 76.4 | 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 | 15.9 | 13.6 | 29.5 | | |
| Capital Outlay | 131.9 | 97.0 | 36.8 | 133.8 | | |
| Total | 161.4 | 112.9 | 50.4 | 163.3 | | |
| YBI - Transition Structures | | | | | | |
| Capital Outlay Support | 78.7 | 9.5 | 69.2 | 78.7 | | |
| Capital Outlay | 299.3 | 0.1 | 318.4 | 318.5 | | |
| Total | 378.0 | 9.6 | 387.6 | 397.2 | | |
| Oakland Touchdown | | | | | | |
| Capital Outlay Support | 74.4 | 21.0 | 71.1 | 92.1 | | |
| Capital Outlay | 283.8 | 0.1 | 272.6 | 272.7 | | |
| Total | 358.2 | 21.1 | 343.7 | 364.8 | | |
| East Span Other Small Project | | | | | | |
| Capital Outlay Support | 212.3 | 194.5 | 17.9 | 212.4 | | |
| Capital Outlay | 170.8 | 75.5 | 71.1 | 146.6 | | |
| Total | 383.1 | 270.0 | 89.0 | 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 | 24.6 | 5.4 | 30.0 | | |
| Total Capital Outlay Support (3) | 1,463.2 | 886.2 | 557.8 | 1,444.0 | | |
| Total Capital Outlay | 6,321.8 | 5,007.4 | 1,214.6 | 6,222.0 | | |
| Program Total | 7,785.0 | 5,893.6 | 1,802.4 | 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 June 2006

| (\$ millions) | | | | | | |
|---|--------------------------|--------------------------------|---------------------------------|---------------------------------|--------------------------------------|--|
| East Span Contract | AB 144/SB 66 Baseline | First Quarter 2006 Forecast | Second Quarter 2006 Forecast | Variance (2nd Q06 - 1st Q06) | Expenditures Through June 2006 | |
| SFOBB East Span -Skyway | | | | | | |
| Capital Outlay Support | 197.0 | 197.0 | 197.0 | - | 141.4 | |
| Capital Outlay | 1,293.0 | 1,293.0 | 1,293.0 | - | 1,032.8 | |
| Total | 1,490.0 | 1,490.0 | 1,490.0 | - | 1,174.2 | |
| SFOBB East Span -SAS- Superstructure | | | | | | |
| Capital Outlay Support | 214.6 | 214.6 | 214.6 | - | 21.6 | |
| Capital Outlay | 1,753.7 | 1,767.3 | 1,767.3 | - | 67.6 | |
| Total | 1,968.3 | 1,981.9 | 1,981.9 | - | 89.2 | |
| 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 | - | 25.8 | |
| Total | 36.4 | 36.4 | 36.4 | - | 35.0 | |
| SFOBB East Span -SAS- E2/T1 Foundations | | | | | | |
| Capital Outlay Support | 52.5 | 52.5 | 52.5 | - | 12.0 | |
| Capital Outlay | 313.5 | 313.5 | 313.5 | - | 144.8 | |
| Total | 366.0 | 366.0 | 366.0 | - | 156.8 | |
| 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 | - | 15.9 | |
| Capital Outlay | 131.9 | 133.8 | 133.8 | - | 33.7 | |
| Total | 161.4 | 163.3 | 163.3 | - | 49.6 | |
| YBI - Transition Structures | | | | | | |
| Capital Outlay Support | 78.6 | 78.7 | 78.7 | - | 9.4 | |
| Capital Outlay | 299.4 | 318.5 | 318.5 | - | - | |
| Total | 378.0 | 397.2 | 397.2 | - | 9.4 | |
| Oakland Touchdown (Total, including the following split contracts and prior-to-split expenses) | | | | | | |
| Capital Outlay Support | 74.4 | 92.1 | 92.1 | - | 21.0 | |
| Capital Outlay | 283.8 | 272.7 | 272.7 | - | - | |
| Total | 358.2 | 364.8 | 364.8 | - | 21.0 | |
| Oakland Touchdown Contract No. 1 | | | | | | |
| Capital Outlay Support | - | 49.9 | 49.9 | - | 1.1 | |
| Capital Outlay | - | 196.7 | 196.7 | - | - | |
| Total | - | 246.6 | 246.6 | - | 1.1 | |
| Oakland Touchdown Contract No. 2 | | | | | | |
| Capital Outlay Support | - | 15.8 | 15.8 | - | 0.1 | |
| Capital Outlay | - | 62.0 | 62.0 | - | - | |
| Total | - | 77.8 | 77.8 | - | 0.1 | |

Appendix B. (Cont'd.)

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

| (\$ millions) | | | | | | |
|---|--------------------------|--------------------------------|---------------------------------|---------------------------------|--------------------------------------|--|
| East Span Contract | AB 144/SB 66 Baseline | First Quarter 2006 Forecast | Second Quarter 2006 Forecast | Variance (2nd Q06 - 1st Q06) | Expenditures Through June 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 | - | 0.1 | |
| 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 | - | 4.8 | |
| Capital Outlay | 15.0 | 15.0 | 15.0 | - | 1.3 | |
| Total | 21.0 | 21.0 | 21.0 | - | 6.1 | |
| Right-of-way and Environmental Mitigation | | | | | | |
| Capital Outlay Support | - | - | - | - | - | |
| Capital Outlay | 72.4 | 72.4 | 72.4 | - | 38.8 | |
| Total | 72.4 | 72.4 | 72.4 | - | 38.8 | |
| 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 | 959.3 | 977.1 | 977.1 | - | 435.3 | |
| Subtotal East Span Capital Outlay and Sunk Costs | 4,492.2 | 4,498.5 | 4,498.5 | - | 1,408.2 | |
| Other Budgeted Capital | 35.1 | 11.0 | 11.0 | - | - | |
| Total SFOBB East Span | 5,486.6 | 5,486.6 | 5,486.6 | - | 1,843.5 | |

(Due to the rounding of numbers, the totals above are shown within \$0.02).

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.

Capital Outlay Support

A preliminary risk register was developed for Capital Outlay Support (COS) costs. Project risk registers contain risks that may have an impact on COS, but such impacts are not quantified in the project risk registers because the project Risk Response Teams focus primarily on risks to their respective project plan and capital costs, and do not have the expertise to evaluate COS impacts. A separate COS team evaluates COS risks that are pervasive to all projects, and incorporates risks from each project that may have an impact on COS. The COS team applies consistent costing data for Caltrans staff and consultants, including periodic changes to overhead and hourly rates.

A quantitative risk analysis from the COS register is currently underway to determine the cost probability distribution for COS risks.

Program Risk Register

A program-level risk register was developed this quarter. It captures risks that are common to all projects, and the cost of potential delays arising from one project delaying another. The cross-delay risk is currently being analyzed using the integrated East Span corridor schedule and the potential for delay within each project.

East Span Skyway Contract

The Skyway contract is in construction.

Four risk items in the register have been retired this quarter, reducing the total number from 21 to 17.

Three risk items were retired because Caltrans reached a tentative agreement with the Contractor.

The risk associated with the workboat prevailing wage issue is retired because Caltrans' legal department advises that the issue is now resolved.

During construction, it is expected that the cantilevered bridge segments may experience nominal deflections over time and analytical models are used to predict such displacements. There is a risk that the actual deflections experienced may vary from the theoretical analytical models and that major work may be needed to restore the cantilevers to the correct profile. Close monitoring of the cantilevers to date has shown that the models predict accurately. Accordingly, the probability of this risk occurring has been reduced from "High" to "Very Low."

The risk of claims by the Contractor concerning Caltrans' interpretation and enforcement of the contract welding requirements has been reassessed upward; Caltrans has not prevailed in recent Dispute Resolution

Board (DRB) rulings involving such interpretations, and several other similar claims remain to be heard by the DRB.

East Span SAS Contract

This contract is in construction.

This quarter, the Risk Response Team updated the risk register, reflecting the bid opening and award of the contract. Further risk register updating will be required as the Contractor's staff and operations start up and the Contractor's own risks and responses are identified.

Numerous risk register items relating to Caltrans concerns of having more than one bidder and a high bid were retired. Two competitive bids were received, both within the range of the quantitative cost risk analysis results, and with the low bid coming in just under the Engineer's Estimate. This is evidence that Caltrans's risk response efforts before and during advertisement were successful in eliminating the risk of a limited bidding pool and high bids.

A few risks reflecting current contract conditions and risk practices were added.

The team has initiated and assigned specific tasks to potentially reduce the top risks, risks that have a high probability and a high impact on the project. Some actions to date:

The complex SAS bridge design requires intricate steel assembly. There is a risk that conflicts may be discovered during fabrication or erection. Caltrans has established a Working Drawing Campus facility to co-locate project and Contractor staff to facilitate review of conflicts and to resolve issues promptly.

The construction of the cross-beam at W2 is critical to the schedule. It requires careful integration of reinforcing steel, special alloy bars, pipe beams and saddles for the cable. Some potential issues have been identified for further discussion with the Contractor. The Working Drawing Campus will be used to resolve the issues and to review the integrated shop drawings to ameliorate risks during fabrication and construction.

Owing to the exacting welding requirements in the contract, there is a risk of conflicts and disagreements over interpretation of the specifications and standards. Caltrans has set up a fabrication issues quick response team (FAST) to elevate and address issues as they are identified. Numerous specifications have been revised in response to bidder inquiries, additional internal reviews, and lessons learned. The Contractor must implement an independent Quality Control (QC) process and perform trial weld mockups. Caltrans is adding Quality Assurance (QA) staff at the fabrication shops.

The roles and responsibilities among Caltrans's Materials Engineering and Testing Services (METS), Construction, and Design teams are being clarified to ensure timely resolution of issues arising in the fabrication shops. This includes a communication plan and will provide early warning about potential issues. It is an important risk mitigation response because fabrication is critical to the schedule and timely decisions will minimize the potential for extra costs and delays.

The Contractor will be providing thousands of shop drawings and requests for information to Caltrans. To avoid risks of delays, Caltrans must review the submittals in a timely manner. The contract requires the Contractor to provide a submittal schedule and keep it up to date so that Caltrans can plan its review process. The Working Drawing Campus is intended to speed up communication about submittals and Contractor questions. A document management system has been installed to track, store, and transmit submittals and due dates so that all parties will be informed of current status. Caltrans has assigned a dedicated expeditor to manage the document management system and critical submittals.

Further risk response actions addressing top risks will be developed in the next quarter.

East Span E2/T1 Contract

This contract is in construction. All risks are being actively monitored and controlled.

The delivery of steel plate was critical to the schedule. The risk of potential late delivery has been retired because the last shipment is being delivered. A risk of welding problems has been retired because a contract change order revised the inspection criteria and weld requirements at fabrication shops without compromising quality, thereby eliminating potential delays and extra costs.

Two risk items were added. One addresses the opportunity to save money if a fabricator will accept revised welding procedures and provide a compensation credit. Caltrans is pursuing this opportunity with the fabricator. The second item arises from the decision to split the risk of late completion. Formerly, the late completion risk embraced both foundations (T1 and E2). Now the risk of late completion of foundations E2 and T1 are separated to better track and respond to the each risk.

The Contractor has encountered a differing site condition (DSC) at foundation T1 when installing temporary pile casings. One claim was resolved by Caltrans approving an adjustment of the Contractor's installation methods and the solution is expected to work. A second DSC claim concerning permanent pile casings is under review by Caltrans. Additional information has been requested from the Contractor, and Caltrans is developing a contingency plan.

There is a risk that pile production may fall behind schedule because the fabricator does not have enough qualified welders. A contract change order is in process to allow the fabricator to train welders on production work provided the fabricator implements an improved QC process. Caltrans will also increase its QA to ensure that this does not result in lower quality work. Additional risk response options, if necessary, may include the addition of supplemental fabricators to perform the work and further modifications to the specification.

East Span South-South Detour Contract

This contract is in construction.

The Contractor's fabricator in China has withdrawn from the contract because of delays to date. The Contractor has proposed changing to a Korean fabricator. This may be an opportunity to mitigate the cost of further delays. Discussions with the Contractor are in progress.

The Contractor's potential late delivery of designs for the connections of the detour structure to the existing bridge is a major risk. The designs have to be acceptable to Caltrans to avoid short- and long-term problems when the detour will be connected to the existing bridge. As a risk response, Caltrans is considering assuming the design responsibility of the connections to ensure an acceptable design and to avoid further delays.

To minimize the period of time that public traffic may be impacted by its use of the temporary bypass structure, the TBPOC issued a decision to extend completion of the work on the connections and proceed with the rest of the work. The cost risk of extending the completion of the connections has been included in the risk register, resulting in an increase in the overall probable cost.

In view of the current status of this contract, Caltrans is studying several options to reduce time that traffic will be on the detour, and allow the Contractor to construct the main part of the detour using a new fabricator. These are in addition to the option for Caltrans to assume design responsibility for the connections to the existing bridge. The results of the study are expected to alter the project plan significantly. The Risk Response Team will evaluate any risks stemming from the options under consideration when a revised project plan is finalized.

East Span Stormwater Treatment Measures Contract

This contract is in construction. Existing risks are being actively monitored and controlled.

Three risk register items were retired, reflecting the positive effects of responses and as the opportunity for the risk to occur has elapsed. Two risk register items were added, accounting for newly identified risks.

Seven pumps of a specified design are required. The Contractor initially asserted that the pump components were not available. Caltrans has subsequently been able to show that this is not the case, and the risk will be retired.

There is a risk that utilities may impede the work of the Contractor, causing delay and extra cost. The Contractor has engaged a service to locate and mark utilities. Some additional digging may be needed. Caltrans is being consulted to locate known utilities, and to resolve any known conflicts.

West Approach

This project is in construction.

As a result of the successful completion of the demolition work associated with 8U (North), the risk of "Public confusion with numerous construction realignments" has been reduced by 75 percent. A very effective public information campaign was noted as the primary reason for the successful execution of the work and the consequential lowering of the risk.

The risk of problems with demolition procedures at Frames 8U (North) was retired because Caltrans issued contract change orders to resolve all issues. The risks arising from reinforcement corrosion specifications were retired because a contract change order covering all issues is pending approval.

Four new risks were identified. All are minor because they have a low or very low probability of occurring and a very low cost impact.

The original contract plans require the demolition along Stillman Lane to be staged over several weekends. A recent change of ownership of the properties has resulted in residents requesting that all demolition be completed over one weekend. This change would result in additional mobilization costs but may mitigate other project delays. Caltrans is exploring all delay mitigation opportunities this issue might offer.

Pile driving construction has risks of encountering buried objects, excessive groundwater, or changes to the construction joint. Mitigation of significant problems that arise must be mitigated as quickly as possible so as not to delay the project. The process for mitigating pile anomalies has improved significantly during the quarter. Caltrans is considering additional improvements, such as, having additional equipment on standby, mobilizing other equipment to replace manual work, and varying the location of the inspection tubes so that they are less likely to plug and delay inspections.

East Span YBI Transition Structures Contract

This contract is in design.

The YBITS scope has been split into three contracts to reduce overall project cost and risks of delays. The two major structures contracts now have individual risk registers. The third contract, for landscaping and restoration work, is not designed and is currently sufficiently distant in the future to not warrant a risk register at this time.

Exploratory borings, excavations, and archeological investigations have been performed to locate possible impediments (utilities, hazardous materials, archeological issues) to the placement of footings for the structures. This reduced the risk that the Contractor may claim additional compensation for differing site conditions. The value of performing additional borings and investigations is being studied.

The slope of the ground at some foundation excavations is very steep, and the Contractor will be contractually responsible for slope stability around excavations. There is a risk of a dispute arising over stability design issues related to excavations, requiring additional work to correct. A risk mitigation plan will use information from the slope monitoring program of the SSD contract in an adjacent area to determine the best way to address slope stability issues on the YBI project.

The YBI structures will connect to the existing viaduct which requires retrofitting. The design of the retrofitting cannot be finalized until the design of the SSD connection is complete, because the connection design will make some modifications to the viaduct. There is a risk that a late design could delay the advertisement of the YBI contracts, jeopardizing the corridor schedule. Caltrans is considering taking over the design of the SSD connections to reduce this risk.

East Span Oakland Touchdown Contracts

These contracts are in design.

The Oakland Touchdown scope has been split into three contracts (westbound structures, eastbound structures, and relocation of the underwater communications cable) to reduce overall project cost and risks of delays. Each contract has risks identified and recorded in a risk register.

Buried manmade objects in the vicinity of pile driving could delay the project and incur additional cost of remediation. Some buried old riprap (rock to stabilize shorelines) at the old shoreline is expected.

Exploratory borings have been performed at each foundation location and current plans show anticipated riprap locations. The value of additional borings is being studied for further risk mitigation.

Potential conflicts with utilities pose a risk of delay and extra cost. Records have been searched to identify utilities, and all utility companies have been notified of the upcoming work. The site has been investigated using line locator equipment and excavation in high-conflict areas. Pacific Gas and Electric (PG&E) is scheduled to relocate its gas line before the contract commences, and has been told where not to place the new line. Regular meetings will be held with utilities to monitor status of their relocation projects.

The majority of the submarine cable work is constrained by the permit which prohibits dredging in the Bay from December 1 to June 1. Dredging must occur at the same time cable is laid. If cable fabrication or delivery is late, or if contract award is later than planned, the dredging and cable-laying activities could be pushed into the prohibited period. Risk responses include: ensuring timely contract award, allowing sufficient lead time for cable fabrication and delivery, and, if necessary, applying for an exception to the no-dredging period.

San Francisco wants extra cable for its purposes and has agreed to participate in the financing of the submarine cable contract. The draft agreement between San Francisco and Caltrans requires San Francisco to provide collateral by July 2006. If this agreement fails, the construction contract specifications will have to be revised to remove the extra cable supply and installation, and completed before the planned advertisement date.

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 (Actual) | 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



Western end of Skyway with adjacent E2 Foundation construction



Deck segment at Pier 10 awaiting hinge pipe beam installation



Aerial view of the western end of the Skyway

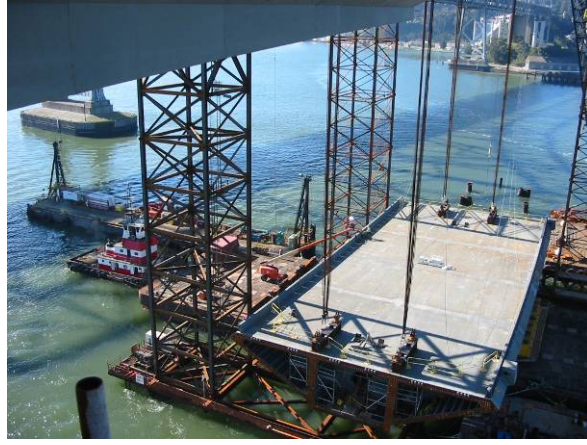


Aerial view of Skyway construction

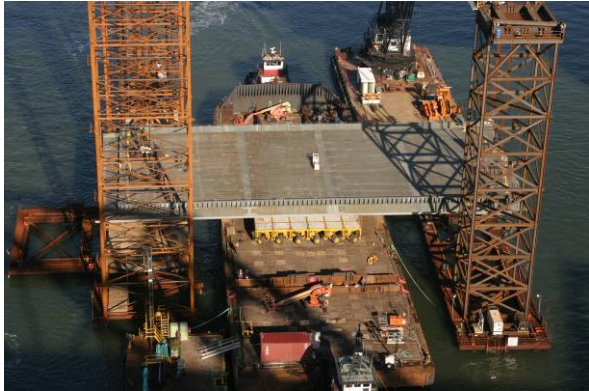
Skyway Contract (cont'd.)



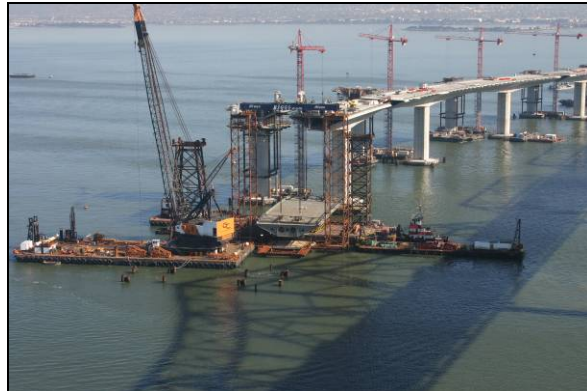
Aerial view of Bay Bridge East Span and new Skyway



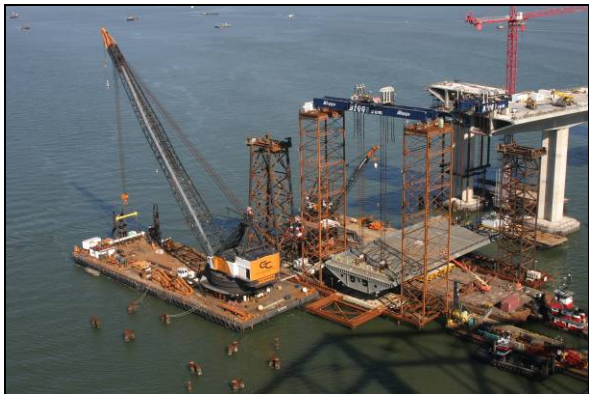
Skyway Orthotropic Box Girder



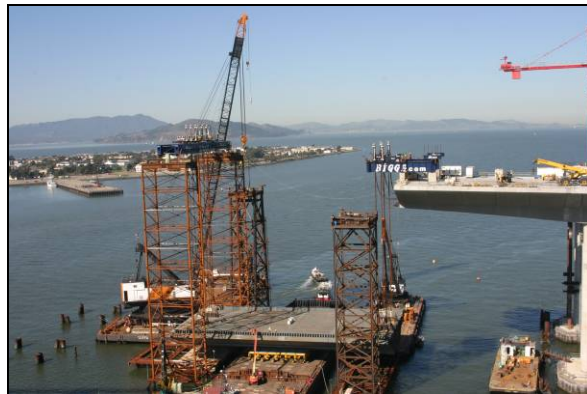
Skyway Orthotropic Box Girder



Aerial View of Skyway Construction



Aerial View of Skyway Construction



Aerial View of Skyway Construction

Skyway Contract (cont'd.)



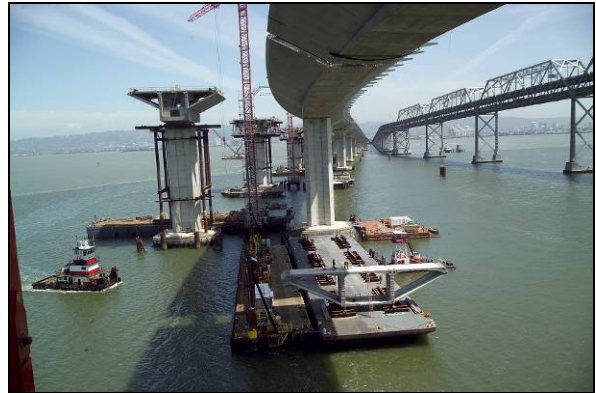
Pier Table 6W Nearing Completion



Eastbound and Westbound Skyway



Installation of final precast segment deck for EB Skyway6



Skyway-Install of final precast segment deck for EB Skyway1

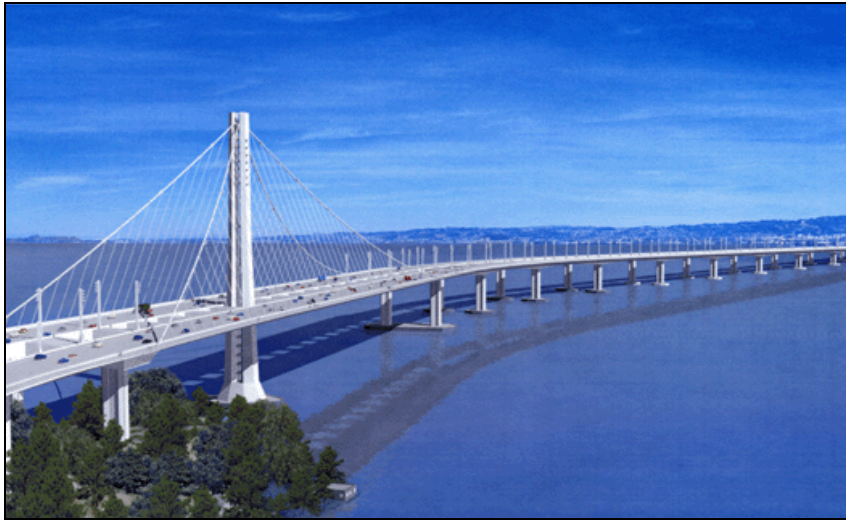


Construction of last remaining Skyway pier table (4W)

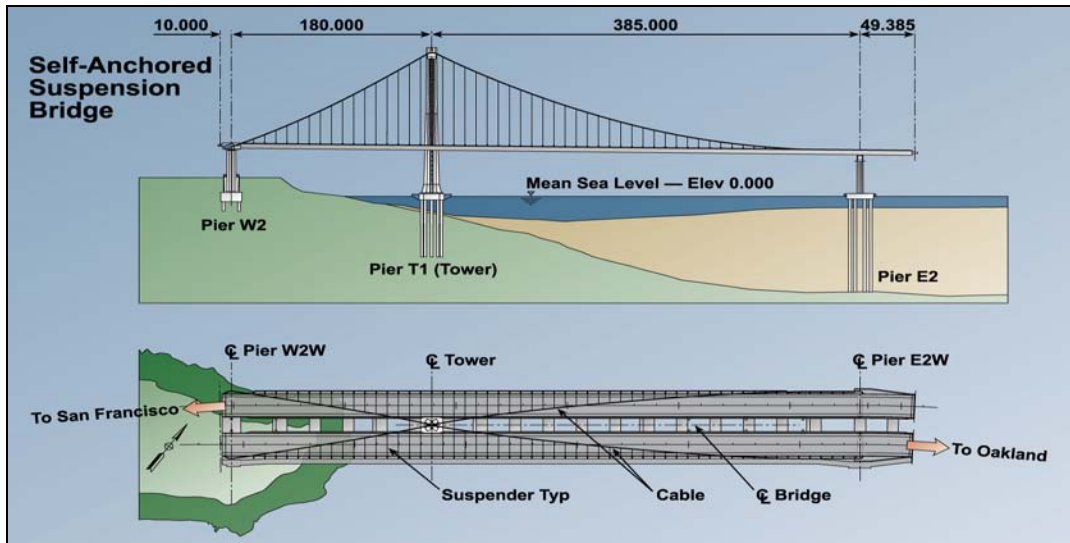


Skyway-5-5-06-Install of hinge pipe beams at Hinge DW

Self-Anchored Suspension (SAS) Superstructure Contract



SAS Superstructure Artist Rendition



Self-Anchored Suspension (SAS) E2/T1 Foundations 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



T1 Foundation-Drilling Operations for CIDH Piles



T1 Foundation-drilling operations for CIDH Piles

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



E2/T1 concrete pour for the T1 temp pile casing support 5



E2/T1- concrete pour for the T1 temp pile casing support 1



T1 Foundation-drilling Operations for CIDH Piles



T1 Foundation –drilling for CIDH Piles

Yerba Buena Island (YBI) South/South Detour Contract



Pier Column Construction for Bents 50 and 51



Footing and Pier Columns for Bent 48



Demobilization of the SSD construction equipment 4



East View from Bent 50



Demobilization of the SSD construction equipment 2

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



Frame 8U North

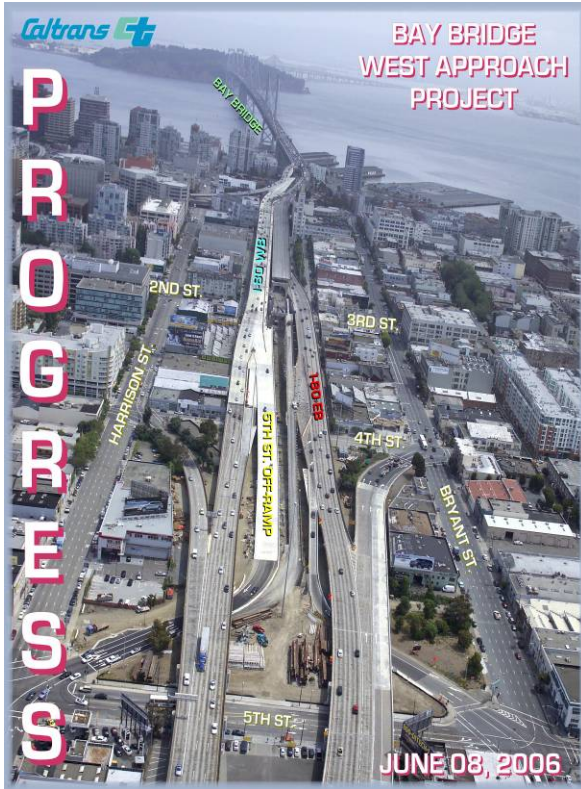


West Approach Project

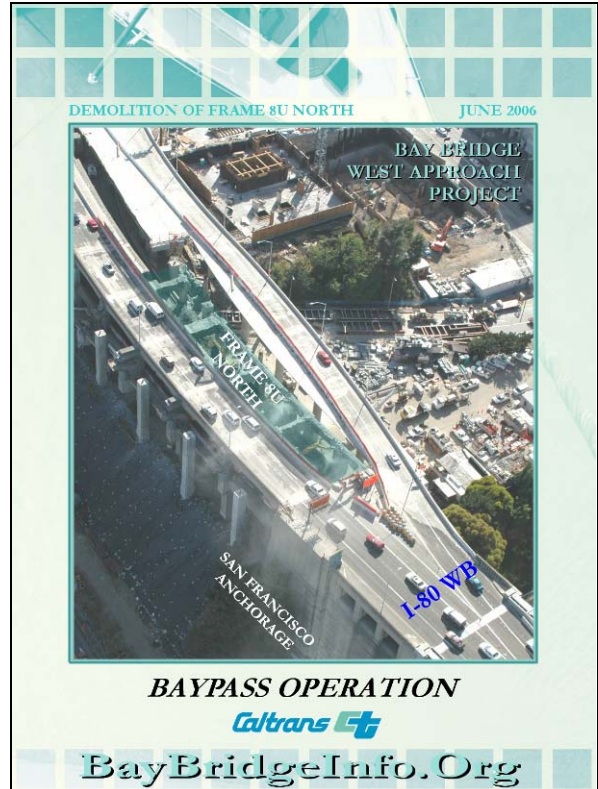


West Approach Project

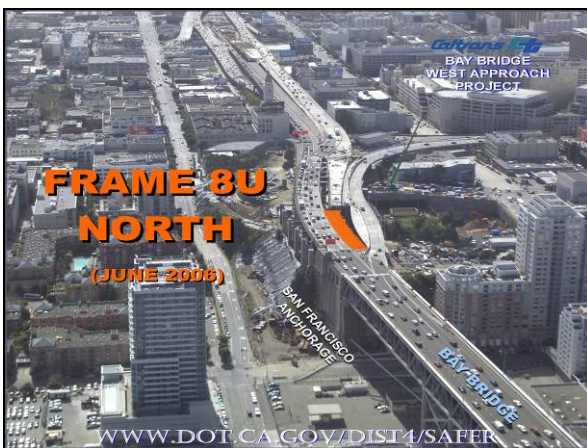
San Francisco-Oakland Bay Bridge (SFOBB) West Approach Replacement Project (cont'd.)



West Approach Project



West Approach Project



West Approach 8U North



West Approach 8U North

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*

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