

<h1 style="font-size: 4em; transform: rotate(-15deg); opacity: 0.5;">Agenda</h1>		<p>May 20, 2008 10:30 am – 12:30 pm</p> <p>FHWA 650 Capitol Mall, Suite 4-100 Sacramento CA 95814</p> <p>Contact: Steve Luxenberg (916) 498-5066</p>	
		<p>Meeting called by: Muhaned Aljabiry Facilitator: Abhijit Bagde Recorder/Time Keeper: Penny Gray</p>	
<p>Agenda Topics</p>			
Item	Description	Time	Presenter
1	Topics/Agenda/Introductions	10:30	Abhijit Bagde
2	Ground Rules	10:35	Abhijit Bagde
3	Approval of the 03/25/08 CFPG meeting minutes	10:40	Abhijit Bagde
4	Announcements and updates	10:45	All
5	<p>Follow-Up Items from last meeting:</p> <ul style="list-style-type: none"> • It has been requested to move the start time of the CFPG meetings from 10:30 a.m. to 10:30 a.m. – Item completed • Methodology for generating RSTP and CMAQ estimates for California- see Item No. 6 below • Inclusion of Emission Benefits field in CTIPS. Should this field be optional or required? Please provide comments to Abhijit Bagde by Friday, March 28 • Transportation Planning Requirements and their relationship to NEPA approvals. Additional time for review to determine the impact was requested - see Item No. 18 below 	10:50	Caltrans
6	FHWA's distribution of CMAQ and RSTP apportionments to the states (Handout No. 7)	10:55	John Taylor
7	2009 FSTIP Schedule – Update	11:15	Muhaned Aljabiry
8	Cost Estimation Process Documents - FHWA Resource Center Study (Handout No. 1)	11:20	Steve Luxenberg
9	New financial templates for financial summary (Handout No. 2)	11:25	Jody Tian
10	Programming requirements for Prop 1B programs	11:30	Abhijit Bagde
11	Task Force Discussions – Update (Handout No. 3)	11:35	José Luis Cáceres/Sri Srinivasan
12	Fund type for Advance Construction projects (Handout No. 4)	11:45	Abhijit Bagde
13	EPSP for FTA Projects	11:50	Abhijit Bagde
14	Programming of Local safety projects in FTIPs (Handout No. 5)	11:55	Ken Kochevar
15	Update on Public Participation Process for the FSTIP	12:05	Cathy Gomes
16	<ul style="list-style-type: none"> • Programming of carry over apportionments • Change the current requirement of developing FTIP every two years 	12:10	Sri Srinivasan

17	Delegated Authority for Amending FTIP, Survey of California MPOs (Handout No. 6)	12:15	José Luis Cáceres
18	Transportation Planning Requirements and their relationship to NEPA approvals	12:20	Abhijit Bagde /FHWA
19	Open Forum and Follow-Up Items	12:25	All
20	Meeting dates and locations for 2008: June 24 Caltrans, Sacramento (10:30-12:30pm) July 29 MTC, Oakland (10:30-12:30pm) September 9 SACOG, Sacramento (10:30-12:30pm) October 28 FHWA, Sacramento (10:30-12:30pm) December 16 Caltrans, Sacramento (10:30-12:30pm)	12:30	All

**CALIFORNIA FEDERAL PROGRAMMING GROUP (CFPG)
MEETING MINUTES –May 20, 2008**

The CFPG meeting was held at the Federal Highway Administration, 650 Capitol Mall, Suite 4-100, Sacramento, from 10:30 a.m. to 12:40 p.m.

1. Topics/Agenda/Introduction:

The meeting started with the self-introduction of attendees.

2. Ground Rules:

Abhijit Bagde, Caltrans, Federal Programming, gave a brief overview of ground rules for the meeting. Here are the full ground rules:

- Since there are phone participants, everyone who speaks should state his/her name and agency.
- Keep comments as brief as possible.
- Stick to the current agenda item. Additional items not in the agenda will be added to the end and will be discussed if time permits.
- Turn off cell phones and limit interruptions.
- This is a forum to hear everyone’s concerns, comments and suggestions. Please make sure your voice is heard.
- Facilitator to ask before moving on to the next item if anyone on the phone has any additional comments on the item, then pause for a few seconds.
- Respond to follow-up items and meeting notices by the deadlines.
- Except for follow-up items, the minutes will include discussions that take place during the meeting only. If you do not want what you say during the meeting included in the minutes, state “off the record.”
- When not speaking, phone participants to keep their phones on mute if possible.
- Do not place conference call on hold. Please hang up and redial if you must take another call.

3. Approval of 3/25/08 CFPG meeting minutes:

The meeting minutes for March 25, 2008, were approved with no changes.

4. Announcements and updates:

FHWA introduced Vince Mammano as the new Chief Operating Officer.

Abhijit Bagde inquired about the need for additional CTIPS training. There were several verbal responses requesting additional training. Abhijit will survey MPOs, FHWA, and FTA to determine the need for CTIPS training. The training will be held in Sacramento. **Please respond to Abhijit by May 23.**

5. Follow-Up Items from last meeting:

A.	Methodology for generating RSTP and CMAQ estimates for California – see Item No. 6 below.
B.	Inclusion of Emission Benefits field in CTIPS. Should this field be optional or

	required? Discussion followed. FHWA requested Caltrans provide standardized submittal of emission benefit information. FHWA referred to letter sent to Caltrans regarding the stewardship agreement, E-76 approval, and FADS. Caltrans will coordinate meeting with Local Assistance to address.
C.	Transportation Planning Requirements and their relationship to NEPA approvals. See Item No. 18 below.

6. FHWA’s distribution of CMAQ and RSTP apportionments to the states (See Handout No. 7):

John Taylor, Caltrans Federal Funds Management, gave a short overview of the federal funds distribution process for CMAQ and RSTP. The distribution of federal funds within California is based on the combination of federal law, state law, CTC resolutions and/or state/local agreements. John explained that there may be discrepancies between actual apportionments and the projected amounts used for the Fund Estimate and development of the FSTIP because Caltrans’ projections are for 5-10 years in the future. In addition, Caltrans share of equity bonus funds (which are added to the amounts of CMAQ, RSTP, and other fund types available for distribution) is decreasing - the amount that California contributes to the Highway Trust Funds is not growing as fast as other states’ contribution. There were several requests for additional detail on the various tables generated by FHWA. John Taylor will provide additional information and tables to Abhijit Bagde for distribution to the CFPG group.

7. 2009 FSTIP Schedule – Update

Caltrans is still proceeding with the following schedule:
 Board Approved FTIPs due to Caltrans August 1, 2008
 Public Review of the FSTIP will be for 30 days beginning September 1, 2008
 FSTIP submittal to FHWA for review and approval beginning October 1, 2008
 FSTIP approval/adoption anticipated by November 1, 2008

Anticipate draft STIP will be available to transfer to FSTIP on June 15th. Abhijit will inform the group if date is different.

Caltrans will work with MPOs who might be experiencing difficulty in meeting this schedule.

8. Cost Estimation Process Documents – FHWA Resource Center Study (See Handout No. 1):

The FHWA Resource Center worked closely with MTC to develop cost estimation process documents. The Resource Center will provide a webinar either May 27-28 or June 10-12. The webinar will be approximately 2-3 hours. **Please let Steve Luxenberg know which date is preferable by Thursday, May 22.**

Concern was expressed regarding several issues. Information on state-managed programs is often provided very late in the fiscal year. In addition, the funding is associated with specific projects. This makes it difficult to project costs or revenues over a four-year period. There was also discussion concerning the inability to program carryover apportionments and

programming of local funds and reserves. Not all local revenue is included in the financial tables. It is more common to show only what is needed for matching funds. Sue Kaiser reiterated that the financial templates are for financial constraint purposes. Also, if a local agency has not made their revenue available for transportation purposes, it is not considered committed. The financial cost estimation documents as well as the revenue projection documents can be used for both the long-range plan and the transportation improvement program (TIP), but may need some modification for the TIP.

9. New financial templates for financial summary (See handout No. 2):

The Financial Summary Table for the 2009 FTIPs/FSTIP was discussed. There will be a separate version of the Financial Summary Table for the amendments. MPOs must submit the financial summary tables for the 2009 FTIPs electronically as an excel document. This will enable the compilation of all MPO documents into a statewide financial summary.

10. Programming Requirements for Prop 1B:

If the bond-funded project is regionally significant, it must be included in the FTIP. Projects from the Local seismic and transit programs can be included in the FTIP when the CTC approves the list of projects for that specific program. All other Prop 1B projects can be included in the FTIP after the CTC allocation request has been approved.

11. Task Force Discussions – Update (See Handout No. 3):

Jose Luis Caceres provided a draft final report for the Amendment Modification Guidelines task force. **Please provide comments on this draft to Jose Luis by May 30.**

The task force has been working to develop new guidelines for Administrative Modifications and Amendments. Guidelines and policies from other states have been reviewed. A proposal has been developed that will allow increases to both the dollar and percentage limit on the current agreement. One proposal would revise the existing guidelines to allow the lesser of 25 percent or \$5M, with all other components of the existing agreement remaining the same. This proposal can be implemented fairly soon and would allow more flexibility than currently available for processing amendments. Furthermore, the task force can continue to pursue other options and components of administrative modifications and amendments. There was continued discussion about the need for greater flexibility for increases to “small” projects as well as the need for maintaining financial constraint and the financial capacity for administrative modifications. The task force will continue meeting to explore various options and components for proposed changes to the Amendment Modification Guidelines.

12. Fund Type for Advanced Construction (See Handout No. 4):

When programming a project using advanced construction, please use the CTIPS Fund ID LF-AC, Local Transportation Funds-Advanced Construction. This will help Caltrans Local Assistance to expedite the E-76 process.

13. Expedited Project Selection procedures (EPSP) for FTA Projects.:

Caltrans will schedule a meeting with FTA to discuss the use of EPSP for FTA projects.

14. Programming Local Safety Projects (See Handout No. 5):

Ken Kochevar from FHWA provided information on the Strategic Highway Safety Plan (SHSP). A steering committee has been formed to provide guidance for implementation of the SHSP. The steering committee is comprised of representatives from Caltrans, OTS, DMV, CHP, CDPH, EMSA, ABC, ATSSA, MPOs and local agencies. A timeline for SHSP implementation has also been developed. Implementation of the SHSP action will take place from May 2008 – December 2010. Performance monitoring of the SHSP action will begin June 2008.

FHWA has met with Caltrans Local Assistance to address delays in implementation of safety projects. One reason for delays is because projects are not programmed immediately upon project selection. As a result of an interagency meeting between Caltrans and FHWA, four action items have been developed: 1) Division of Local Assistance (DLA) is to work directly with MPOs to be included on the MPO FTIP amendment schedule; 2) DLA is to notify each MPO in advance of its FTIP amendment process to ensure that the approved safety projects are included in the amendment; 3) Verify that MPOs are notifying their agencies when FTIP amendments are approved at the May 20, 2008 CFPG meeting; 4) FHWA to provide a presentation at the May 20, 2008 CFPG meeting on MPO consideration of FTIP amendments in specific situations such as large pool of safety projects submitted at once. **Please send comments on the four actions to Ken Kochevar by May 30.** Due date for comments extended to June 30. Please copy your FSTIP Coordinator.

15. Update on Public Participation Process (PPP) for the FSTIP:

The comment period for the PPP ended May 1. We are in the process of responding to comments, and incorporating suggestions/comments into the final document. The PPP now includes a summary table for updates and amendments to the FSTIP. The final document should be available by June 30, 2008.

16. Programming Carryover Apportionments/ Change the current requirement of developing FTIP every two years:

This item will be discussed at the next meeting.

17. Delegated Authority for Amending FTIP, Survey of California MPOs (See Handout No. 6):

Jose Luis has surveyed several MPOs regarding delegation of approval for FTIP amendments to executive directors. Responses were received from SCAG, COFCG, MCTC, KCOG, MTC, ButteCAG, Shasta RTPA, San Joaquin COG, Tahoe, StanCOG, and SanDAG. A handout summarizes the responses. All MPOs may want to consider some form of delegation to executive directors for amendment approval. FHWA will also provide the court decision regarding 30-day notification for AQ determination in addition to the AQ analysis.

18. Transportation Planning Requirements and their relationship to NEPA approvals:

This item will be discussed at the next meeting.

19. Follow-Up Items

- CTIPS Training – please let Abhijit know if you are interested by May 23.
 - Inclusion of Emission Benefits field in CTIPS – Caltrans will coordinate meeting with Local Assistance.
 - John Taylor will provide additional information regarding estimates of Federal funds to help MPOs address issues regarding future year rescissions.
 - Webinar on FHWA Cost Template – if interested, please e-mail Steve Luxenberg with the requested date by May 22.
 - The FHWA Resource Center is offering training the week of September 15 on Congestion and Operations Training. They will also provide “in-person” training on the Financial Template if requested.
 - Comments on the draft Amendment Modification Guidelines report are due back to Jose Luis by May 30.
 - Caltrans will be scheduling a meeting with FTA regarding EPSP within the next couple of weeks.
 - Send comments on the SHSP action items to Ken Kochevar, FHWA by May 30. Please copy your FSTIP Coordinator.
 - Carryover Agenda Item: Programming Carryover Apportionments/Change the current requirement of developing FTIP every two years.
 - Carryover Agenda Item: Transportation Planning Requirements and their relationship to NEPA approvals.
 - Future meeting dates will be adjusted due to change requests received and in order to avoid conflicts with CTC meetings – see below.
- **Meeting dates and locations for Future Meetings**
 - July 1 - Caltrans, Sacramento (10:30 am – 12:30 pm)
 - August 12 – MTC, Oakland (10:30 am – 12:30 pm)
 - September 30 – SACOG, Sacramento (10:30 am – 12:30 pm)
 - November 18 – FHWA, Sacramento (10:30 am – 12:30 pm)
 - January 6, 2009 – Caltrans, Sacramento (10:30 am – 12:30 pm)

HANDOUT NO. 1

Systems Level Long-Range Plan Cost Template Table

2007 Year of Expenditure Dollars, Millions

COSTS/REVENUE USES		FIRST 5 YEARS (See FSTIP Cycle)					NEXT 5 YEARS	NEXT 5 YEARS	NEXT 5 YEARS	NEXT 10 YEARS	30 YEAR TOTAL
		Year 1	Year 2	Year 3	Year 4	Year 5					
OPERATIONS, MAINTENANCE and PRESERVATION	<i>Highway</i>										
	<i>Highway, State (SHOPP)</i>										
	<i>Highway, Local Streets and Roads</i>										
	<i>Transit</i>										
	<i>Transit Systems Facilities and Fleet Maintenance</i>										
	<i>Base Rail/Bus Service</i>										
	<i>Other (Specify)</i>										
	<i>Other (e.g. Off Street Bicycle/Ped Facility Maintenance and Preservation)</i>										
	Operations, Maintenance and Preservation Total										
PROJECT DEVELOPMENT	<i>Highway</i>										
	<i>Highway Project Development Total, Non-Major Projects</i>										
	<i>State (STIP)</i>										
	<i>Local</i>										
	<i>Highway Project Development Total, Major Projects</i>										
	<i>Right of Way--Major Projects</i>										
	<i>Preliminary Engineering--Major Projects</i>										
	<i>Other (e.g. third party costs)--Major Projects</i>										
	<i>Transit</i>										
	<i>Transit Project Development Total, Non-Major Projects</i>										
	<i>Transit Project Development Total, Major Projects</i>										
<i>Right of Way--Major Projects</i>											
<i>Preliminary Engineering--Major Projects</i>											
<i>Other (Specify)--Major Projects</i>											
	<i>Other modes (specify)</i>										
	Project Development Total										
DEBT SERVICES	GARVEE Debt Service Payments										
	Other Debt Service (Specify)										
	Other Debt Service (Specify)										
	Other Debt Service (Specify)										
	Debt Services Total										
CAPITAL INVESTMENT/NEW CONSTRUCTION	<i>Highway</i>										
	<i>New Highway Construction</i>										
	<i>State (STIP)</i>										
	<i>Local</i>										
	<i>New Highway Construction, Major Projects</i>										
	<i>Transit</i>										
	<i>New Transit Construction</i>										
<i>New Transit Construction, Major Projects</i>											
	<i>Other modes (specify)</i>										
	NEW CONSTRUCTION TOTAL										

Systems Level Long-Range Plan Cost Template Table

2007 Year of Expenditure Dollars, Millions

COSTS/REVENUE USES		FIRST 5 YEARS (See FSTIP Cycle)					NEXT 5 YEARS	NEXT 5 YEARS	NEXT 5 YEARS	NEXT 10 YEARS	30 YEAR TOTAL
		Year 1	Year 2	Year 3	Year 4	Year 5					
SYSTEMS MANAGEMENT	<i>System-wide</i>										
	Transportation Demand Management (TDM) Program										
	Air Quality Programs and Activities										
	Other (Specify)										
	<i>Highway</i>										
	Transportation Management, ITS, Signal Systems										
	Safety Specific Improvements										
	Other (Specify)										
	<i>Transit</i>										
	Transportation Management, ITS, Signal Systems										
Safety Specific Improvements											
Other (Specify)											
SYSTEMS MANAGEMENT TOTAL											
COST/RESOURCE USES TOTAL											

KEY:

U = Data are unavailable.

NA = Not applicable (not a projected revenue source at the development time of RTP. Note that some of these are new SAFETEA-LU funding programs.)

NOTES:

YOE: Year of Expenditure Dollars. Dollars that are adjusted for inflation. Inflation rate used should be documented.

Operations and Maintenance: Include O&M costs for all systems receiving federal funding.

SHOPP: For state facilities, includes bridge preservation, roadside preservation, roadway preservation and other (SHOPP categories of emergency response, mobility and collision reduction)

Major Project: As defined in SAFETEA-LU, projects over \$500 million in total costs or designated by FHWA. Require financial plan and project management plan.

Project Development: Major cost categories include preliminary engineering and design, right of way (ROW), third party costs such as utilities and railroad adjustments, etc

Preliminary Engineering: Cost to prepare construction documents. Includes any field investigations, testing and administration of design work. Includes cost of NEPA and environmental documentation.

Right of Way (ROW): Cost to research and acquire right of way for the project, including easements.

Construction: Cost of physically constructing the project based on current costs for labor, materials, equipment, mobilization, bonds and profit.

SOURCES: See accompanying technical source documentation report. Documentation report should include information on cost estimation approach, inflation factors, contingency factors

Systems Level Long-Range Plan Cost Template Table

2007 Year of Expenditure Dollars, Millions

COSTS/REVENUE USES		FIRST 5 YEARS (See FSTIP Cycle)					Five Year Sum	NEXT 5 YEARS	NEXT 5 YEARS	NEXT 5 YEARS	NEXT 10 YEARS	30 YEAR TOTAL
		Year 1	Year 2	Year 3	Year 4	Year 5						
OPERATIONS, MAINTENANCE & PRESERVATION	<i>Highway</i>											
	<i>Highway, State (SHOPP)</i>											
	<i>Highway, Local Streets and Roads</i>											
	<i>Transit</i>											
	Transit Systems Facilities and Fleet Maintenance											
	Base Rail/Bus Service											
	Other (Specify)											
	<i>Other (e.g. Off Street Bicycle/Ped Facility Maintenance and Preservation)</i>											
	Operations, Maintenance and Preservation Total											
	PROJECT DEVELOPMENT	<i>Highway</i>										
<i>Highway Project Development Total, Non-Major Projects</i>												
State (STIP)												
Local												
<i>Highway Project Development Total, Major Projects</i>												
Right of Way Acquisition and Support Costs--Major Projects												
Preliminary Engineering--Major Projects												
Final Design (Plans, Specifications and Estimates PS&E)--Major Projects												
Other (e.g. third party costs)--Major Projects												
<i>Transit</i>												
<i>Transit Project Development Total, Non-Major Projects</i>												
<i>Transit Project Development Total, Major Projects</i>												
Right of Way Acquisition and Support Costs--Major Projects												
Preliminary Engineering--Major Projects												
Final Design (Plans, Specifications and Estimates PS&E)--Major Projects												
Other (Specify)--Major Projects												
<i>Other modes (specify)</i>												
Project Development Total												
DEBT SERVICES	GARVEE Debt Service Payments											
	Other Debt Service (Specify)											
	Other Debt Service (Specify)											
	Other Debt Service (Specify)											
	Debt Services Total											
CAPITAL INVESTMENT/NEW CONSTRUCTION	<i>Highway</i>											
	New Highway Construction											
	State (STIP)											
	Local											
	New Highway Construction, Major Projects											
	<i>Transit</i>											
	New Transit Construction											
	New Transit Construction, Major Projects											
<i>Other modes (specify)</i>												
NEW CONSTRUCTION TOTAL												

Systems Level Long-Range Plan Cost Template Table

2007 Year of Expenditure Dollars, Millions

COSTS/REVENUE USES		FIRST 5 YEARS (See FSTIP Cycle)					Five Year Sum	NEXT 5 YEARS	NEXT 5 YEARS	NEXT 5 YEARS	NEXT 10 YEARS	30 YEAR TOTAL
		Year 1	Year 2	Year 3	Year 4	Year 5						
SYSTEMS MANAGEMENT	<i>System-wide</i>											
	Transportation Demand Management (TDM) Program											
	Air Quality Programs and Activities											
	Other (Specify)											
	<i>Highway</i>											
	Transportation Management, ITS, Signal Systems											
	Safety Specific Improvements											
	Other (Specify)											
	<i>Transit</i>											
	Transportation Management, ITS, Signal Systems											
Safety Specific Improvements												
Other (Specify)												
SYSTEMS MANAGEMENT TOTAL												
COST/RESOURCE USES TOTAL												

KEY:

U = Data are unavailable.

NA = Not applicable (not a projected revenue source at the development time of RTP. Note that some of these are new SAFETEA-LU funding programs.)

NOTES:

YOE: Year of Expenditure Dollars. Dollars that are adjusted for inflation. Inflation rate used should be documented.

Operations and Maintenance: Include O&M costs for all systems receiving federal funding.

SHOPP: For state facilities, includes bridge preservation, roadside preservation, roadway preservation and other (SHOPP categories of emergency response, mobility and collision reduction)

Major Project: As defined in SAFETEA-LU, projects over \$500 million in total costs or designated by FHWA. Require financial plan and project management plan.

Project Development: Major cost categories include preliminary engineering and design, right of way (ROW), third party costs such as utilities and railroad adjustments, etc

Preliminary Engineering: Cost to prepare construction documents. Includes any field investigations, testing and administration of design work. Includes cost of NEPA and environmental documentation.

Final Design (Plans, Specifications, Estimates PS&E): Costs for final design work including the preparation of the PS&E package.

Right of Way (ROW): Cost to research and *acquire* right of way for the project, including easements.

Please note that acquisition of ROW may be referred to as ROW "support costs" in California and would appear in the totals for Project Development in this template.

Construction: Cost of physically constructing the project based on current costs for labor, materials, equipment, mobilization, bonds and profit.

SOURCES: See accompanying technical source documentation report. Documentation report should include information on cost estimation approach, inflation factors, contingency factors

dollarYear	dollarValue
2002	Year of Expenditure Dollars, Millions
2003	Year of Expenditure Dollars, Thousands
2004	
2005	
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	
2016	
2017	
2018	
2019	
2020	
2021	
2022	
2023	
2024	
2025	
2026	
2027	
2028	
2029	
2030	

Cost Estimate Assessment Checklist to Help Ensure Fiscal Constraint Requirements

Estimate Preparation

- What types of historical data do you use as a basis for preparing conceptual estimates? How are the data adjusted for time (schedule), location and other project specific conditions?
- How are contingency amounts incorporated into the estimate? Are contingency amounts based on total estimated cost, identified project risks, or some other variables?
- Are year of expenditure dollars used in the development of cost estimates?
- Is documentation on inflation factors and reasons used provided?

Estimate Reviews

- Is there a formal estimate review process within the DOT?
- Is there a formal estimate review process within the MPO?
- How do you verify an estimate?
- Is there a set of formalized or institutionalized procedures for conducting such reviews?
- Does project value or project complexity trigger additional reviews? If so, what are the trigger values?

Estimate Communication

- Is there a systematic program that is used to standardize estimating procedures and train those responsible for assembling the estimates?
- Who approves the long range planning conceptual estimate at the DOT? At the MPO?
- Once approved, is the planning conceptual estimate communicated to executive management and/or the public as a point estimate (one number) or as a range of values with an indication of reliability?
- Who approves the programming conceptual estimate at the DOT? At the MPO?
- Once approved, is the programming conceptual estimate communicated to executive management and/or the public as a point estimate (one number) or as a range of values with an indication of reliability?
- What formal mechanisms are in place for capturing and transferring knowledge about cost estimating techniques?

Cost Estimating Management

- Are there established cost-reporting mechanisms to control changes resulting from project scope development and schedule after long range planning conceptual estimates are prepared? If so, what are these?
- Are cost differences between the long range planning conceptual cost estimates and the programming conceptual cost estimates reconciled? Is this process documented?
- Are there established cost reporting mechanisms to control changes resulting from project scope development and schedule after programming conceptual cost estimates are prepared? Are these documented?
- What triggers an update of an estimate during the long range planning and programming process? Are estimates updated on a periodic basis, when design major changes occur or through some other triggering mechanism?

Cost Estimation Resources, Tools and Notable Practices

Resource Paper

MTC Fiscal Constraint Case Study

DRAFT Submitted to California Division Office, November 7, 2007.

Final Version Submitted to California Division Office, January 30, 2008.

Submitted by

Planning Technical Service Team

Brian Betlyon

Lisa Randall

■ Summary

This Resource Paper provides a summary of cost estimation tools, notable practices and additional information to assist with the preparation, documentation and management of cost estimates at the planning and programming stages and throughout the life cycle of a transportation project's development. It is presented as part of a series of deliverables on cost estimation submitted to the FHWA California Division as part of a larger project on fiscal constraint.

The fiscal constraint project has been undertaken in partnership with the Metropolitan Transportation Commission (MTC, the Metropolitan Planning Organization (MPO) for the nine-county San Francisco Bay area). Information presented within the deliverables is generally based on public information already disseminated by MTC, CALTRANS or the California Transportation Commission (CTC).

This Resource Paper begins with a review of fiscal constraint requirements, followed by a discussion of cost estimation at the planning and programming stages, or conceptual level cost estimates. It also highlights related linkages between fiscal constraint requirements and financial and project plan requirements for major highway projects (those greater than \$500 million). The majority of the paper focuses on a review of notable practices within California and at the national level. Specific tools are also highlighted.

Fiscal Constraint Overview

The final Planning Rulemaking was published in the Federal Register on February 14, 2007 and became effective on March 16, 2007. The federal regulations govern the development of metropolitan and statewide transportation plans and programs. They result from the passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (Pub. L. 109-59, August 10, 2005), which also incorporates changes initiated in its predecessor legislation, the Transportation Equity Act for the 21st Century (TEA-21) (Pub. L. 105-178 June 9, 1998) and generally makes the regulations consistent with current statutory requirements. (See the final planning regulations at: <http://a257.g.akamaitech.net/7/257/2422/01jan20071800/edocket.access.gpo.gov/2007/07-493.htm>)

The new planning regulations continue the fiscal constraint requirements, with some specific changes. For fiscal constraint, the basic question to be answered remains the same: *"Will the revenues (Federal, State, local, and private) identified in the TIP, STIP, or metropolitan long-range transportation plan cover the anticipated costs of the projects included in this TIP, STIP, or metropolitan long-range transportation plan, along with operation and maintenance of the existing system?"* Key changes in

the federal planning regulations include those pertaining to year of expenditure (YOE) dollars, optional use of cost ranges/cost bands and systems level estimates of costs and revenues for operations and maintenance of federally supported facilities.

Year of Expenditure Dollars: Cost estimates for Regional Transportation Plans (RTPs), STIPs and TIPS must use an inflation rate to reflect year of expenditure dollars¹, based on reasonable financial principles and information, developed cooperatively by the State DOT, MPOs and public transportation operators (see 23 CFR 450.216(1), 23CFR450.322(f)(10)9iv) and 23CFR 450.324(h), respectively. This requirement goes into effect December 11, 2007 for new RTPs, STIPs/TIPs or amendments to these.² It should be noted that the same inflation rates may not be appropriate for both costs and revenues. Because circumstances vary from state to state as well as between highway and transit projects, as State DOT or MPO should evaluate and document the appropriate inflation rates for both revenues and costs. FHWA and FTA have indicated that a 4 percent inflation rate is acceptable for project costs. Presentation of data in YOE dollars will present a more accurate picture of costs, relative to revenues and potential deficits associated with RTPs and TIPs and STIPs. YOE at the planning stages also helps ensure consistency with FHWA's Major Project Guidance and FTA's Standard Cost Categories for New Starts projects, both of which require YOE.

Cost Banding: Under the new planning regulations, cost banding, or providing a range of costs from the highest to lowest estimates, is an available option for the outer years of a RTP. Cost bands can help address the possibility of multiple alternatives and uncertain project risks. Financial reasonableness must still be maintained if cost banding is applied. Cost banding is an optional tool intended to provide a clearer picture to the public of the uncertainty of a project's potential cost, scope, and schedule. The range of costs should reflect the band within the highest estimated alternative and the lowest estimated alternative as well as to reflect the uncertainty/risk in the cost estimate. The financial plan accompanying the RTP should describe the funds that are "reasonably

¹ After cost and revenue estimates are prepared for a long range plan, they need to be expressed in year of expenditure dollars. To do this, current revenues and cost estimates are "inflated" to year of expenditure levels. YOE dollars are then those that have been "inflated" or "adjusted" from current levels. Appropriate inflation rates should be used to inflate the dollars to YOE. Inflation rates could differ for specific cost estimates (e.g., construction vs. right of way). Inflation rates could also differ based on the revenue source. Documentation should be provided that specifies the inflation rate used, the assumptions behind it, and the process for determining which rate(s) were used.

² After December 11, 2007, any amendments to an existing STIP or TIP or any new STIP or TIP, triggers the YOE requirement for the entire STIP or TIP. After December 11, 2007, any amendments to the long range plan (RTP), or any new RTP triggers the YOE requirement for the entire plan.

anticipated” to be available to implement the proposal across the projected cost ranges. The RTP should also include a description of what measures will be taken to obtain the funds needed to support the higher estimates.

Operations and maintenance (O&M) Costs: Under the federal transportation planning regulations (23 CFR 450), operations and maintenance costs are required for those facilities that receive federal funds. Presentation of operations and maintenance costs for other parts of the system is not required but would be considered good practice. FHWA and FTA do not mandate a particular, specific level of operations or maintenance. States, MPOs and local agencies will establish the appropriate operation and maintenance levels from year to year and decade to decade, based on community desires and requirements established through an open transportation planning process. These levels should be documented and communicated through an open planning process.

Operations and maintenance costs may be based on the historic amount of funds expended on O&M for similar types of projects. Since MPOs typically do not own, operate or maintain transportation facilities, the MPO must work closely with the owner of the facility that will be responsible for the ongoing operation and maintenance, such as transit operators and/or State departments of transportation and local transportation and/or public works agencies.

FHWA Major Projects Guidance and Requirements

SAFETEA-LU (Pub.L. 109-59, 119 Stat. 1144) has specific requirements for major highway projects. These include the development of Project Management Plan and an Annual Financial Plan for any project with costs greater than \$500 million. Components of a Major Project Financial Plan include: 1) cost estimates (from environment thru construction), 2) schedule and milestones; 3) revenue sources; 4) risks and mitigation plan and 5) cash flow analysis. The Financial plan is approved by FHWA. For projects \$100 to \$500, financial plans also required, but are approved by state DOTs. Consistency between financial information for major projects in financial plans and information included in RTPs/TIPS/STIPs is highly encouraged. Good documentation is one of the strongest common linkage points in meeting both the requirements for fiscal constraint for RTPs, STIPs/TIPS and the requirements for Major Projects. Documentation is key. (For additional information on Major Projects, see the FHWA website: <http://www.fhwa.dot.gov/programadmin/mega/index.cfm>).

Cost Estimate Overview

Attention to cost estimation has been heightened in recent years with major project overruns on high profile projects and exacerbated by rising construction costs nationwide. Cost estimates are central to establishing the basis for key project decisions, for establishing the metrics against which project success will be measured and for communicating the status of a project at any given point in time. The reliability of cost estimates at every stage in the development process is

necessary for responsible fiscal management. Unreliable cost estimates result in severe problems in a state's or MPO's programming and budgeting, in local and regional planning. It can also result in staffing and budgeting decisions which could impair effective use of resources. This, in turn, affects relations with key stakeholders, including the public.

Estimating future transportation costs is not an exact science. A focus on cost estimation is critical throughout the entire project development process, from long range planning, through programming, up to preconstruction engineering and design. Increases in cost estimates over the course of project development may be caused by any number of factors, including inadequate project scoping and insufficient information and knowledge on costs.

One of the key cost estimating challenges is addressing uncertainty throughout the different project development stages (see Appendices B and C). As noted in a recent report from the National Highway Cooperative Research Council (NCHRP), development of planning and programming level costs estimates can be particularly challenging. "During the early stages of a project, many factors, such as insufficient knowledge about right-of-way costs and project location, environmental mitigation requirements, traffic control requirements, or work-hour restrictions, influence project costs. Moreover, there are other process type factors that often drive project cost estimate increases. These factors can include, for example, unforeseen engineering complexities and constructability issues, changes in economic and market conditions, changes in regulatory requirements, local governmental and stakeholder pressures, and a transformation of community expectations."³

An additional challenge in the development of cost estimates at the planning and programming stages is the role of a MPO. MPOs, as distinct from state DOTs and local sponsoring agencies, have a unique role in cost estimates. They are responsible for ensuring fiscal constraint and the balance of costs and revenues. However, in most cases, they are not the project sponsor and may not be directly involved in developing costs estimates. The MPO most likely will have to rely on the State, transit operator(s), and local member jurisdictions for project cost estimates. To help ensure consistency and accuracy, the MPO will need to work with its partners to develop standard procedures and common assumptions for cost estimating.

This very general overview on cost estimation highlights only a few key challenges that MPOs and State DOTs will encounter as they focus on cost estimation. Strategies to meet many of these challenges could be summarized with a few key factors. These include: the importance of continual documentation, the need for continuous refinement of cost estimates, and the importance of a quality control/quality assurance process. (Additional information on these factors is

³ See NCHRP Report 574 (Project 8-49), Procedures for Cost Estimation and Management of Highway Projects During Planning, Programming and Preconstruction.

available from the FHWA Major Projects website at: <http://www.fhwa.dot.gov/programadmin/mega/cefina.cfm>).

Important Factors in Cost Estimates at the Planning and Programming stages

Continual Documentation: Documentation is central to an effective cost estimation process in any organization. Cost estimates from the beginning to the end of a project must be reviewed continually to keep them current (reflecting a development continuum). An integrated approach must be implemented to ensure that there is a seamless progression of the cost estimate from systems (i.e. long-range) planning through priority programming and NEPA to the final engineer's estimate. This means that all costs should be included in all stages of an estimate, including the planning, programming, and NEPA stages. Since not all information is known in the early stages of a project, an adequate contingency is appropriate instead of actual costs for some items.

Need for Continuous Refinement of Cost Estimates: Estimates during the planning/programming phases are usually conceptual in nature and can be prepared using estimating cost data that are based solely upon historic cost averages for projects with similar work scope and location characteristics, such as lane-mile (kilometer) cost averages for roadway work; or upon square-foot (meter) cost averages for bridge work. For planning/programming purposes, the timeframe in which a project will be implemented plays a key role in the level of precision of the project's initial cost estimate. For example, a project included in the first five years of the Metropolitan Planning Organization's (MPO's) long-range transportation plan should be based on more precise cost estimate information than a project reflected in the latter years of the MPO's long-range transportation plan. Precise cost estimating is even more important for a project or project phase contained in the MPO's Transportation Improvement Program (TIP) and/or the Statewide Transportation Improvement Program (STIP). Construction cost estimates for projects contained in the first two years of the STIP/TIP should be based on high quality estimates, particularly since funding for projects contained in the first two years of the TIP/STIP in air quality nonattainment and maintenance areas must be "available or committed."

Quality Control/Quality Assurance: Quality Assurance/Quality Control (QA/QC) must be part of the estimating process. Cost estimates must be reevaluated at significant milestones and tracked throughout the project. Initial cost estimates will likely serve as a baseline in which any future project cost changes will be measured against.

Conceptual Level Cost Estimates: Preparation, Process and Management

In the next section of this paper, notable practices and tools are highlighted within California and throughout the country. In reviewing approaches to planning and programming level cost estimates, it became apparent that the overarching goal is constant, and that is to ensure greater consistency and accuracy between planning, programming and preliminary design, and final design. In order to assess current organizational approaches and review current procedures, a cost estimation evaluation framework may be appropriate. The framework proposed here includes three major categories that a MPO or State DOT could use to assess their current performance in cost estimation and to target potential areas of improvement. These are: 1) Cost Estimate Preparation; 2) Cost Estimation Process and Documentation and 3) Cost Estimate Management. Each of these is briefly describe below. The next section will then list notable practices and tools in these same categories.

Conceptual Cost Estimate Preparation

Information on how cost estimates are prepared and who the lead agency or agencies are for doing so is certainly critical information that feeds into adequate documentation on cost estimates. Cost estimates at the planning and programming levels are prepared by a variety of project sponsors and fed into information included in RTPs, TIPS and STIPs. These include estimates prepared by the State DOT (Caltrans), transit operators, county agencies (CMAs and public works agencies) and others. These are often referred to as conceptual level cost estimates, and due to the higher degree of “unknowns” in their preparation, a higher contingency factor is associated with these. Cost estimates are then refined throughout the project development process.

Cost forecasts can be developed and prepared in a number of ways. For example, operations and maintenance costs can be based on historic data applied on a per-lane mile and functional classification basis or an annual lump sum basis. Capital costs can be based on historic costs for: (a) an interchange; (b) new construction on new rights-of-way; (c) structure (number, type, and deck square footage (area) for various structure types); (d) transit vehicles for rolling stock procurement; or (e) widening and/or reconstruction, based on the extent of the project. In addition, capital cost estimates can be based on project-specific estimates contained in planning, environmental, or engineering studies, and updated as new information is prepared as part of project development.

Detailed information on the approach and process for cost estimates will reside with the sponsoring agency. However, some general documentation on the approach is necessary as part of a more systematic cost estimation management strategy, and feeds into the revenue and cost information included in a financial plan.

Process and Documentation

As noted in early sections of this paper, documentation is not only key, but fundamental. This applies to both costs and revenues. The documentation of cost estimates is a critical component of demonstrating fiscal constraint, both for the program and the long range plan. A companion deliverable to this Resource Paper is a cost definitions and documentation paper. That paper provides examples of how a MPO or DOT might approach documentation of cost data, including information on sources, assumptions, methodologies and escalation factors. At the present time, there are several approaches used to explain and document cost estimates in financial plans in California and across the nation. Detailed information on the process and approach for preparing cost estimates may vary by sponsoring agency, and also level of detail.

In terms of process, many MPOs have partnership forums where revenue discussions are held. As the case study MPO, MTC's process for revenue discussions was noted. Similar committees and forums on costs may not be as well developed. MTC, however, does have several existing forums that have proved effective in ensuring consistency in cost data, particularly for local streets and roads. Whatever the approach, the specific provisions for cooperatively developing and sharing information related to costs should be highlighted in financial planning information supporting a RTP or TIP.

Cost Estimate Management

To effectively manage cost estimates throughout the development cycle, an organization should have a documented cost estimate management process in place that documents the process and timing for cost estimate updates during the various stages and also documents and discusses the roles and responsibilities of different organizational units within an agency and/or the roles of different agencies when multiple organizations are involved.

Cost Estimation Tools

A variety of cost estimation approaches, documentation, and life cycle management were reviewed as part of this project. Based on a national literature review, it became apparent that, in general, MPOs seem better at documenting information on revenues rather than on costs. In response, several "tools" were developed for review and utilization by the FHWA California Division and partner agencies. These are included as appendices to this Resource Paper and also can be seen as supplementary resources to the systems level cost estimation template and sample documentation. They include the following:

Appendix A: Cost Estimate Definitions

Appendix B: Transportation Planning and Project Development Process

Appendix D: Cost Estimation and Project Development Process

Appendix E: Key Principles of Cost Estimation

Appendix F: Cost Estimation Checklist for Planning and Programming

Appendix G: CALTRANS Cost Estimate Template

Appendix H: CALTRANS District 4 Cost Estimate Certification Form

Cost Estimation Resources

A variety of cost estimation resources were also identified in the research undertaken for this project. Some of these resources are applicable to various phases of transportation project development. Since the focus of this project was on cost estimation at the planning and programming stages, particular attention to resources and notable practices was accorded here. However, recognizing the necessary focus on cost estimation throughout the project continuum, resources at other project stages are also highlighted. Resources identified here include those in place or planned by MPOs and CMAs in California as well as CALTRANS. They also include practices and approaches by other DOTs and MPOs throughout the country. The notable practices are presented in three major categories: 1) cost estimate preparation; 2) cost estimate process and documentation and 3) cost estimate management. It is recognized that some practices may cross over all three categories.

Notable Practices Within California: Cost Estimate Preparation

- *MTC Short Range Transit Plan Guidelines (Transit Costs)*: MTC develops and disseminates a document, Short Range Transit Plan Guidelines for transit operators within its region. Operators are required to submit three year retrospectives of annual operating budgets, ten year service plans, capital asset replacement requirements based on asset useful life and a fleet inventory update. Guidelines and definitions for these categories are included in the SRTP, and help ensure consistent cost data for both transit capital and operations and maintenance expenses. (SRTP Guidelines available by request of MTC online library at <http://198.94.156.143:8080/cgi-bin/starfinder/2698/enduser.txt>)
- *MTC Pavement Management Program (PMP)/ Local Streets and Roads Survey (Needs and Expenditures)*: In 1982, MTC began the process of establishing a region wide, systematic approach to a pavement management program. The impetus for this was the recognition better cost and revenue information was needed for local streets and roads. This was necessary so that public works personnel could make more cost effective decisions regarding the maintenance and rehabilitation of each jurisdiction's streets and roads in a more systematic way. The Pavement Management Program has a number of components, including a pavement management system (PMS), a database tool now called "StreetSaver." In addition, another part of MTC's Pavement Management Program is its annual survey of the region's congestion

management agencies (CMAs) to collect information on maintenance needs and costs for pavement and non-pavement assets. Specific definitions and a template are included in the survey and CMAs are asked to report pavement unit cost of maintenance treatment by roadtype. Maintenance needs for non-pavement assets (such as bike paths, guardrails, streets lights, drainage systems, etc) are also collected. Through the survey, MTC also collect information on available local streets and roads revenues. The survey helps ensure consistency across the region in needs and cost data for local streets and roads. (For more information on MTC's PMP, see: <http://www.mtcpms.org/index.htm>. (Copies of the local streets and roads survey are available from MTC).

- *MTC Pavement Management Technical Assistance Program (P-TAP):* As part of its Pavement Management Program (PMP), MTC also provides training and technical assistance to cities and counties in its region through its Pavement Management Technical Assistance Program or P-TAP. This program has assisted local jurisdictions to develop and implement their own pavement management systems, to integrate their PMSs with GIS and to assist with pavement design. Fundamentally, the P-TAP also fosters coordination, communication and consistency in cost estimates for local streets and roads in the MTC region. (More information on the P-TAP is available at <http://www.mtcpms.org/ptap/index.html>
- *Contra Costa Transportation Authority (CCTA) Cost Estimating Guide and Review Process:* Contra Cost County is one of the 9 counties in the MTC region. As the congestion management agency for the county, they recognized the need for consistency in the development of project cost estimates by their local project sponsors, at the planning or conceptual level. As a result, they developed a guideline document on cost estimation. Project sponsors are required to use the guide when preparing costs for submission to CCTA. The guide was originally developed in 1998 and updated in 2003. Accompanying the guide are cost estimate templates and databases for project sponsors to use. CCTA also reviews each cost estimate submitted to evaluate compliance with their strategic plan, appropriateness of the defined scope, completeness of the estimate, and if appropriate, compliance with environmental or other mitigation. Lump sum unit measures and guideline unit costs combine to provide conceptual estimates. Major categories include: advance work, earthwork, drainage, pavement, structures, engineering and management, land and ROW and miscellaneous items (fencing, barriers, signals, etc.). A 25% contingency and 10% project reserve assumption are provided as default values for estimation purposes. Project design estimates, at a more detailed level are required to use CALTRANS contract cost data which are published annually. Applicable project development milestones would include the following: 35% submittal estimate, 65% submittal estimate and the final engineer's estimate. Probable contingencies used for these phases of work might range from 15% to 5%, respectively. CCTA staff review cost estimates for completeness. Estimate

review, sign-off and summary sheets are prepared as documentation of the process (Access the guide at: http://www.ccta.net/PM/CostEstimate/cost_estimating.htm)

Notable Practices Within California: Cost Estimate Process and Documentation

- *MTC Local Streets and Roads Committee:* Local streets and roads are an important part of the Bay Area's transportation network and represent an immense portion of transportation investment dollars. MTC has been documenting the discrepancy between local streets and roads revenues and expenditures for cities and counties in the Bay Area since the early 1980s, when a Local Streets and Roads Committee was formed. This committee has played an integral role for MTC in establishing and documenting consistent reporting on operations and maintenance needs for local streets and roads in the region. For purposes of RTP preparation, this Committee considers three categories of maintenance: 1. Pavement - including major maintenance of the existing street/road network such as overlays and rehabilitation or reconstruction, as well as, preventative maintenance treatments that significantly extend the life of the pavement. 2. Non-Pavement - including the maintenance of such items as storm drains, traffic lights and safety, pedestrian walkways, retaining walls, storm damage, ADA compliance, etc. and 3. Local Bridges - structure maintenance.
- *SANDAG RTP Documentation on Costs:* SANDAG is the MPO for the greater San Diego area. The latest SANDAG transportation plan includes a technical appendix within the plan that provides information on capital project costs for highway and transit. The project cost appendix provides an overall summary for capital cost expenditures for highway and transit as well as total estimated cost by project and with cost details for construction, ROW and engineering. (For more information, see http://www.sandag.org/programs/transportation/comprehensive_transportation_projects/2030rtp/2030rtpta_9_final.pdf)
- *CALTRANS Cost Estimation Guidelines (Appendix AA in the Project Development Procedures Manual (PDPM):* Provides guidance on the preparation of cost estimates at different project stages and a sample project planning cost estimate. Chapter 20 of the PDPM provides more guidance on the development of cost estimates from project planning to the final engineer's cost estimate. (See: http://www.dot.ca.gov/hq/oppd/pdpm/chap_pdf/chapt20.pdf and http://www.dot.ca.gov/hq/oppd/pdpm/apdx_word/apdx-aa.doc)
- *CALTRANS Cost Estimation Website* (<http://www.dot.ca.gov/hq/oppd/costest.htm>): Website developed by

CALTRAN's Division of Design. Offers information on cost estimation, particularly post planning and programming. Includes information on CALTRANS policy and guidance, data, best practices, presentations, lessons learned and industry articles.

Notable Practices Within California: Cost Estimate Management

- *CALTRANS Quality Control/Quality Assurance for Project Cost Estimating:* In 2005, CALTRANS required each of its 12 Districts to establish and maintain a quality control/quality assurance process to improve their project cost estimation practices. A summary of current practices is documented in a report prepared by the Division of Design, available at <http://www.dot.ca.gov/hq/oppd/costest/Report-on-Cost-Estimating-QC-QA.pdf>
- *CALTRANS District 4, Cost Estimate Certification Form:* District 4 developed a cost estimation certification form which must be processed for every project in the District. The form lists factors considered in developing an estimate including: assumptions, source of unit prices, the Risk Management plan, the traffic management plan and the escalation rate. The form also documents the quality control and quality assurance process and includes value analysis, constructability, and consultant prepared independent cost estimate reviews. (See appendix E or http://www.dot.ca.gov/hq/oppd/costest/D-4_CostEstimateCertificationForm-V.1.doc)
- *CALTRANS District 4, Cost Estimate Quality Control and Quality Assurance Procedures and Practices:* In addition to District 4's Cost Estimate Certification Form, they have also implemented a number of other practices as part of their quality control/quality assurance process for cost estimates. These include: quarterly contractor outreach meeting with industry; development of a critical path construction schedule for major projects and analysis of recent bids when preparing cost estimates for other projects. Bi-monthly project engineer meetings also include a "lessons learned" discussion designed to contribute to better quality plans, specifications and estimates (PS&Es) and project cost estimates.
- *CALTRANS Project Risk Management Handbook:* The Office of Statewide Project Management Improvement at CALTRANS updated the agency's risk management handbook in May 2007. The handbook provides an overview of CALTRANS risk management practices and includes basic concepts and processes that guide risk management planning and implementation during project development. The handbook includes a list of sample risks and risk categories, including technical, environmental, right-of-way, and regulatory; discusses CALTRAN's Risk Management Plan components developed through the Capital Project Risk Management Process, a written plan that can be used to identify, assess, monitor, and control capital project risks; and includes a sample Risk Management Plan spreadsheet and ranking of risk probability. The

overall objective is to minimize adverse impacts to project scope, cost, and schedule. (Handbook available at www.dot.ca.gov/hq/projmgmt/documents/prmhb/caltrans_project_risk_management_handbook_20070502.pdf)

Notable Practices--National: Cost Estimation Preparation

- *Washington State Department of Transportation's Cost Estimate Validation Process (CEVPM):* CEVPM is a tool used by Washington State Department of Transportation to evaluate the quality and completeness of the estimate. It is intended to assist in developing a higher level of confidence in the estimate and to identify major areas of variability and uncertainty in the defined project that significantly influence the cost estimate. CEVPM assigns a range of dollar amounts to project risks. The revised estimates are stated in dollar ranges, not as single numbers. This reflects the limits of estimating precision at the planning stage where specific risks cannot be exactly costed. Usually, this occurs between the 5 and 30 percent design phase. More information can be found at the Washington DOT's website (www.wsdot.wa.gov/projects/cevp)
- *Florida Department of Transportation Cost Information:* Florida DOT has developed a transportation cost webpage of resources that is included within its main website for transportation planning. Part of the impetus of this was the recent rapid rise in transportation costs. Included on the website are recent reports on highway construction costs in Florida, summaries of recent statewide transportation summits where short term and long term strategies to address cost escalation were addressed, inflation factors, construction cost indicators, right of way costs, and links to district level contacts for additional refinement of construction and ROW costs. Information on transit costs is under development. The website is intended to provide a one-stop repository for MPOs, local agencies and state personnel on transportation costs. (See website at: <http://www.dot.state.fl.us/planning/policy/costs/default.asp>)
- *Atlanta Regional Commission, "Costing Tool Database for Transportation Capital Improvements":* As part of a sub-area study in 2003 for the northern region of Atlanta, the Atlanta Regional Commission, the MPO for the greater Atlanta area, developed a "Costing Tool Database." The purpose of the tool is to provide a user-friendly and consistent method to estimate conceptual and preliminary engineering level costs estimates for capital projects in the Atlanta region. The database was developed in Microsoft Access and is available on ARC's website along with a user manual. The database estimates capital costs by type for roadway, transit, ITS and bicycle/pedestrian improvements. (For more information, see: http://www.atlantaregional.com/cps/rde/xbcr/arc/costing_tool_manual.pdf)

Notable Practices--National: Cost Estimation Process and Documentation

- *Pennsylvania Department of Transportation: YOE Statewide Guidelines:* PENNDOT advised all MPOs in Pennsylvania of the pending YOE requirement (by December 11, 2007), and distributed guidance to assist with this. State DOT staff, both at the planning and engineering levels were made available to MPOs to assist with the transition.
- *Wasatch Front Regional Council's Regional Transportation Plan 2007-2030:* Wasatch Front Regional Council is the MPO for the Salt Lake City region, and developed its latest long range transportation plan in accordance with SAFETEA-LU requirements. The latest transportation plan includes a chapter within the plan that provides information on both revenue sources and cost estimates. The cost estimate section includes information on sources for the development of the estimates, approach and escalation factors used to inflate the costs to YOE dollars. Wasatch Front worked closely with Utah DOT as part of a statewide effort focused on ensuring a consistent process and approach in the presentation of cost data and YOE conversion. (For more information, see Chapter 7 of the 2007-2030 RTP at http://wfrc.org/cms/publications/Adopted_2007-2030RTP/Chapter%207%20-%20Financial%20Plan.pdf)
- *Atlanta Regional Commission (ARC) YOE Conversion, Coordinated Financial Plan Process and Long Range Plan Update:* Envision6 is ARC's latest long range plan. Recognizing the new requirement for cost and revenue data to be presented in YOE dollars, ARC first began by reviewing information in its previous plan, Mobility 2030. ARC also included a detailed financial plan, including information on sources, assumptions, inflation factors in technical appendices to their long range plan. The process described below is derived from documentation on the ARC website.

The first step ARC undertook in updating project costs was to place all cost information from Mobility 2030 into current year dollars. All cost estimates contained in Mobility 2030 were in 2004 dollars based on the costing tool and results of engineering and special planning studies. To update Mobility 2030 cost estimates to reflect current conditions, ARC contracted with a consultant to develop an updated costing tool. The consultant reviewed the Georgia DOT online construction bid database to obtain current Atlanta area representative project cost information for a variety of project types, i.e., roadway widenings (by number of lanes), new location roadways, intersection improvements, and bridges. Project types were further broken into urban and rural categories. The bid tabulations (by project type) were then used to develop typical roadway costs on a per lane mile basis.

To further refine the costing tool, discussions were held with GDOT personnel, local government DOT, local Public Works personal, transportation contractors, suppliers and design professionals. ARC then

used the updated costing tool to re-cost applicable projects in Mobility 2030. On average, capital construction cost estimates increased over 26% from 2004 estimates. In addition to using the updated costing tool, ARC staff conducted extensive outreach with local jurisdictions and project sponsors to further refine cost estimates. Often this resulted in additional cost increases due to increasing project scope or previously unidentified costs such as environmental mitigation. The final step in developing YOE cost estimates was to determine the appropriate inflation rate to use. ARC staff conducted a review of two construction inflation rate indexes – the FHWA road construction cost index (FHWA CCI) and a CCI published by McGraw Hill Engineering. Both indexes showed a long range annual average inflation rate of roughly 2.2%. This annual average inflation was used as the basis for placing projects into YOE costs. After placing project costs into YOE dollars, a \$4.3 billion funding shortfall was identified that ARC addressed as they developed Envision6 to ensure fiscal constraint requirements. (See section 6, financial plan at http://www.atlantaregional.com/documents/Envision6_RTP.pdf and Appendix K (YOE Tables) http://www.atlantaregional.com/cps/rde/xchg/arc/hs.xsl/2554_ENU_HTML.htm)

Notable Practices – National: Cost Estimation Management

- *Virginia DOT Project Cost Estimation System (PCES):* In 2002, Virginia DOT undertook a statewide effort designed to improve cost estimates throughout the project development lifecycle, beginning with conceptual or scoping estimates. As part of the effort, VDOT also implemented several strategies to enhance its overall management of cost estimates within the state. The process described below is derived from information on the VDOT website.

“In May 2002, Virginia's Commonwealth Transportation Commissioner tasked his Chief of Technology, Research & Innovation with leading an effort to develop a definitive, consistent, and well-documented approach for estimating the cost of delivering construction projects. A task force that included Virginia Department of Transportation (VDOT) central and district office staff, Virginia Transportation Research Council staff, Commonwealth Transportation Board members, and a metropolitan planning organization member was formed to either locate a well-founded, tested method for estimating project costs that could be adapted for use by VDOT or develop one.

The task group found that a VDOT district had been using an estimation worksheet for several years that produced consistent and reliable results for certain types of roadway and bridge construction. The task group determined that no other method

examined had the specificity and potential of this tool. The project team expanded the tool by collecting extensive project data and obtaining evaluations of VDOT project management personnel statewide to develop it further. The existing Excel worksheet with roadway and bridge estimates was expanded to include construction engineering, to be applicable for interstates, and to generate estimates for right-of-way and utilities costs. Data on completed projects were collected from all VDOT districts to help calibrate the model further to account for cost variations across the state. The task group also recognized early on that a very strong focus on project scoping was essential to accurate project estimation.

A previous VDOT scoping committee had determined that VDOT did not have a consistent, uniform method that was being used statewide to scope projects. As a result, project cost estimates made at the scoping stage often did not hold up over time because key project features were invariably overlooked. The result was inaccurate estimates. Testing of the cost estimation tool was completed in the summer of 2003. Analysis of a sample of completed VDOT construction projects throughout the state showed that the tool yielded results that, on average, differed from actual final project costs by 22 percent. After further modifications, the Project Cost Estimation System (PCES), as it was named, became a fully operational system for VDOT in October 2003. The PCES is composed of three elements: a cost estimation tool, an improved scoping process, and a project development website. The responsibility for maintaining and updating the PCES now rests with VDOT's Scheduling & Contract Development Division." (For the full report, see: <http://www.virginiadot.org/vtrc/main/online%5Freports/pdf/05-r1.pdf>)

- *Washington State Department of Transportation's Cost Estimate Validation Process (CEVPM):* CEVPM is a tool used by Washington State Department of Transportation to evaluate the quality and completeness of the estimate. It is intended to assist in developing a higher level of confidence in the estimate and to identify major areas of variability and uncertainty in the defined project that significantly influence the cost estimate. CEVPM assigns a range of dollar amounts to project risks. The revised estimates are stated in dollar ranges, not as single numbers. This reflects the limits of estimating precision at the planning stage where specific risks cannot be exactly costed. Usually, this occurs between the 5 and 30 percent design phase. More information can be found at the Washington DOT's website (www.wsdot.wa.gov/projects/cevp)

Cost Estimation Training and Technical Assistance Opportunities

- *NHI Addressing Uncertainty in Cost Estimating #134068:* This is a 2-day course designed for individuals who are involved in cost and schedule estimating, reviewing estimates, approving estimates, or analyzing risk, including Federal and State Department of Transportation personnel, design consultants, engineers and planners. The course covers consideration of risk and uncertainty in project cost estimates when using either a deterministic or probabilistic method. This course will provide participants with an overview of current cost estimating practice and an appreciation of the importance of cost estimating. The course will compare and contrast deterministic and probabilistic methods of cost estimating, including which method is most appropriate during the various phases of project development. Upon completion, participants will be able to select the most appropriate methodology based upon the project's characteristics and phase of development. Participants will be able to assist more experienced estimators in preparing either a deterministic or probabilistic estimate. Case studies and exercises will provide participants with an understanding of how to account for risk and uncertainty in an estimate; however, the course will not teach all of the mechanics on how to prepare complete cost estimates. Various forms of Federal legislation and guidelines exist that define the role of FHWA in the review and acceptance of State DOT cost estimates, especially for FHWA major projects, which have a total project cost of \$500 million or more. While this course will specifically address cost estimating for large and complex projects, the concepts presented are applicable and scalable for developing estimates for all transportation projects. (Available for request January 2008. For more information see: www.nhi.fhwa.dot.gov)
- *NTI Financial Planning Course:* This course, available through the National Transit Institute, addresses topics such as transportation plan/program revenue projections, cost estimates, and fiscal constraint "reasonableness." (For more information, see: www.ntionline.com)
- *NHI-134065 Risk Management Course:* This course provides an understanding of Risk Management concepts and processes such as: terminology, benefits of use, risk management planning, and a framework for implementation. The course addresses information gathering, risk identification, risk event analysis, risk documentation, risk prioritization, identification of risk response strategies, incorporation of response strategies into a plan, and monitoring, evaluation, and adjustment to strategies. (For more information: www.nhi.fhwa.dot.gov)
- *Technical Assistance on Cost Estimates for Major Projects.* Technical assistance on the development of cost estimates for major projects is

available from the Major Projects Team in FHWA Headquarters or the Construction & Project Management team at the FHWA Resource Center. (For more information, contact Rob Elliott, CPM team leader at rob.elliott@fhwa.dot.gov)

Fiscal Constraint and Cost Estimation Publications and Information Resources

- SAFTEA-LU Planning Rulemaking (See the final planning regulations at:
<http://a257.g.akamaitech.net/7/257/2422/01jan20071800/edocket.access.gpo.gov/2007/07-493.htm>)
- *FHWA Major Projects Web site.*
<http://www.fhwa.dot.gov/programadmin/mega/index.cfm>
- *FTA Financial Planning for Transit:* Information of preparing cost estimates for new transit capital projects and transit operations and maintenance is included in the "Procedures and Technical Methods for Transit Project Planning. (Available at:
http://www.fta.dot.gov/planning/newstarts/planning_environment_2421.html)
- "Cost and Oversight of Major Highway and Bridge Projects - Issues and Options" General Accounting Office, May 8, 2003 (pdf, 0.7 mb) (Access via the FHWA Major Projects website at:
<http://www.fhwa.dot.gov/programadmin/mega/cost.cfm>)
- "Underestimating Costs in Public Works Projects" Bent Flyvbjerg, Mette Skamris Holm, and Søren Buhl, *Journal of the American Planning Association*, Volume 68, Number 3, Summer 2002 (pdf, 0.5 mb) (Access via the FHWA Major Projects website at:
<http://www.fhwa.dot.gov/programadmin/mega/cost.cfm>)
- "Taking the Same Route: How Regional Coordination Can Improve Your Local Roads" Theresa Rommel, Metropolitan Planning Commission, in *Tech Transfer*, Fall 2005, Institute of Transportation Studies, University of California, Berkeley. (Available at:
<http://www.mtcpcms.org/news/ITS%20newsletter.pdf>)
- *NCHRP Report 574 (Project 8-49), Procedures for Cost Estimation and Management for Highway Projects During Planning, Programming and Preconstruction:* This NCHRP report serves as a guidebook on highway cost estimation management and project cost estimation procedures aimed at achieving greater consistency and accuracy between long range transportation planning, priority programming and preconstruction cost estimates. It includes strategies, methods, and tools to develop, track and document realistic cost estimates during each phase of the process. (Available at:
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w98.pdf)

- *TCRP G-07 Report, Managing Capital Costs of Major Federally Funded Public Transportation Projects*: This TCRP report provides techniques and strategies to better estimate, manage and contain the capital costs and schedules (exceeding \$100 million) federally funded public transportation projects. (Available at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_w31.pdf)
- *Transportation Research Circular E-C062, Addressing Fiscal Constraint and Congestion Issues in State Transportation Planning*: This report summarizes discussions during a peer exchange held with several state DOTs on fiscal constraint issues in 2002. (Available at: <http://onlinepubs.trb.org/onlinepubs/circulars/ec062.pdf>)

Transferable Ideas/Approaches in California

Based on research thus far, notable approaches and practices in use by MTC and CALTRANS became apparent and are highlighted above. We believe that many of these could similarly be employed by other MPOs within California. A cost estimate self-assessment by the MPOs and CALTRANS may reveal opportunities for further enhancements with their approaches to cost estimation. We also believe some of the noteworthy findings could be employed by the state's smaller and mid-sized MPOs without a significant burden.

In addition, as Caltrans is currently in process of updating its guidelines for development of state RTPs, there may be an opportunity to put more examples and documentation into that document than has been in previous versions.

Recommendations and Next Steps

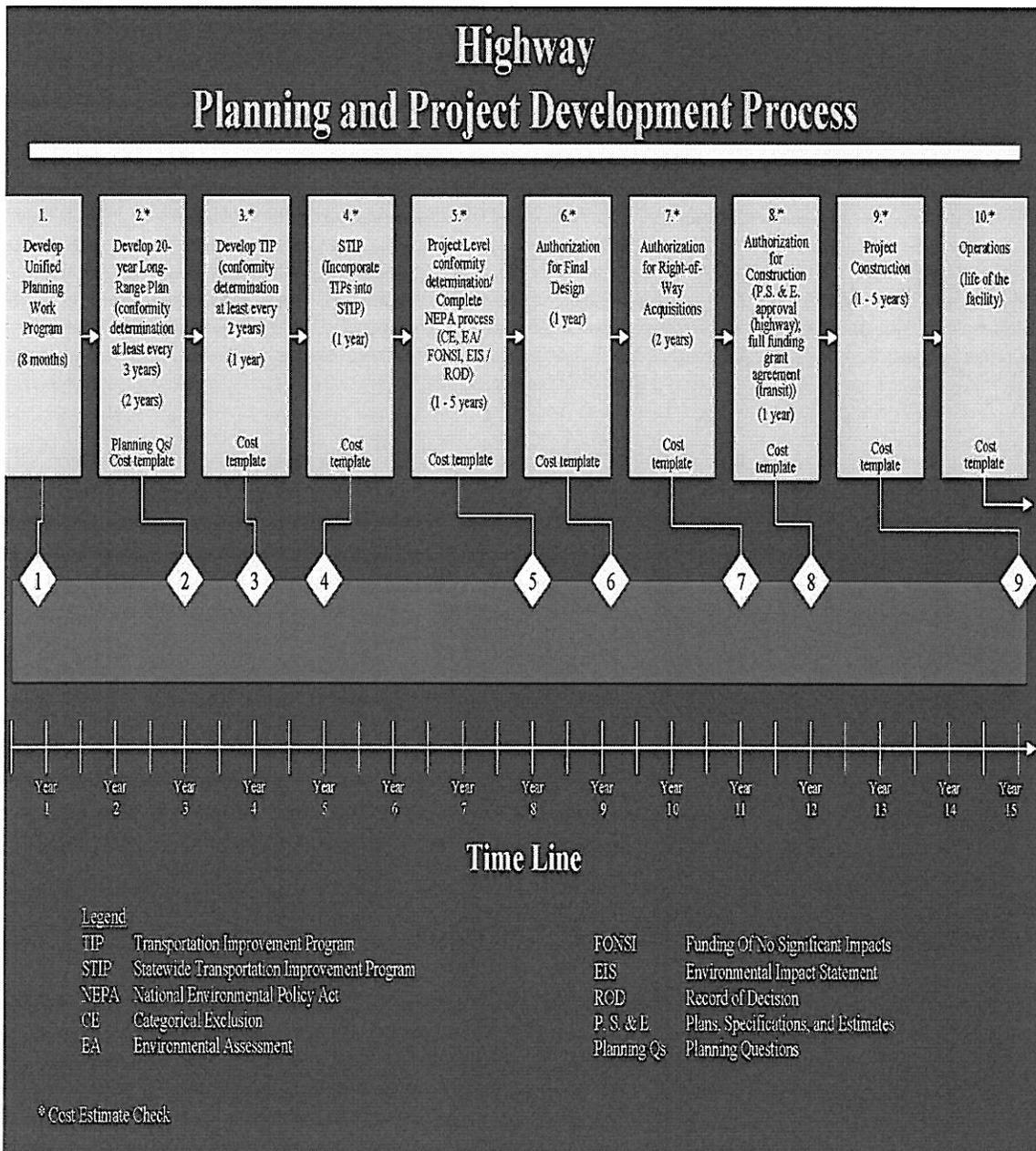
Good examples and dissemination of "notable practices" help demonstrate where things are working well, and also identify opportunities for transfer to other MPOs or Caltrans. The examples, resources and practices included in this Resource Paper are intended to be reviewed, discussed, and adopted as appropriate to improve the development, documentation and management of cost estimates within California.

Appendix A: Cost Estimate Definitions <http://www.fhwa.dot.gov/planning/fcdef62805.htm>

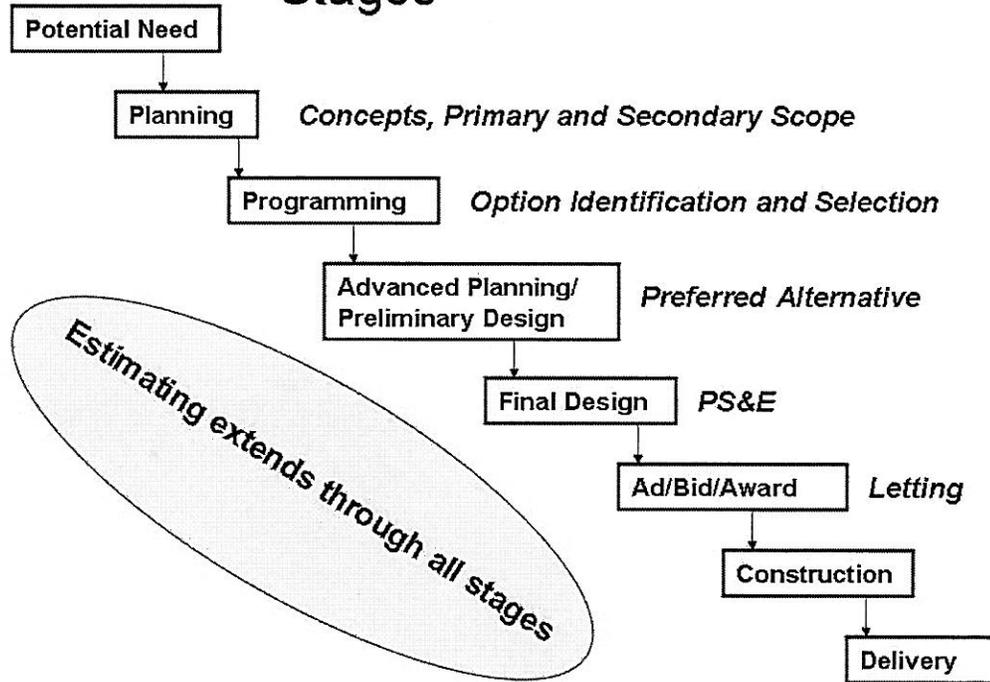
Term	Definition	Source
Advance Construction	A technique which allows a State to initiate a project using non- federal funds while preserving eligibility for future Federal-aid funds. Eligibility means that FHWA has determined that the project technically qualifies for Federal-aid; however, no present or future Federal funds are committed to the project. After an advance construction project is authorized, the State may convert the project to regular Federal- aid funding provided Federal funds are made available for the project. This can be accomplished as one action, or the project may be partially converted over time.	FHWA Innovative Finance Website http://www.fhwa.dot.gov/innovativefinance/sc308510.htm
Capital Expenses	Includes highway construction (e.g., resurfacing, restoration, and rehabilitation improvements; construction of additional lanes, interchanges, and grade separations; and construction of a new facility on a new location) and acquisition of transit vehicles and equipment.	Overview Of Current Practices In Revenue Forecasting And Cost Estimation For Transportation Plans And Programs
Cost Estimate	A prediction of all costs and the value of any resources needed to complete the design, right-of-way activities, environmental studies, construction, project management, etc. as well as costs and resources paid to others for work related to a project such as utility adjustments, environmental mitigations, and railroad relocations.	FHWA Program Administration website: http://www.fhwa.dot.gov/programadmin/mega/cefina.cfm
Financial Plan	A comprehensive document that reflects revenues and costs of a transportation plan or program and provides a reasonable assurance that there will be sufficient financial resources available to implement and complete all the elements in the plan or program. Identified funding shortfalls shall be highlighted, along with proposed resource solutions.	23 CFR 450.322(b)(11) and 23 CFR 450.324(e)
Fiscal Constraint	A demonstration of sufficient funds (Federal, State, local, and private) to implement proposed transportation system improvements, as well as to operate and maintain the entire system, through the comparison of revenues and costs.	Overview Of Current Practices In Revenue Forecasting And Cost Estimation For Transportation Plans And Programs
Maintenance	Activities to ensure the preservation of an existing highway or transit line (e.g., highway surface, shoulders, roadsides, and structures; traffic control devices; and road, rail, and signal repair).	<i>Overview of Current Practices in Revenue Forecasting and Cost Estimation for Transportation Plans and Programs</i> (Based largely on the definition in 23 U.S.C. 101(a)(14).
Operations and Maintenance	An overarching term for activities related to the performance of routine, preventive, predictive, scheduled, and unscheduled actions aimed at preventing transportation system failure or decline.	<i>Overview of Current Practices in Revenue Forecasting and Cost Estimation for Transportation Plans and Programs</i> (Based largely on the definitions in 23 U.S.C. 101(a)(14) and (18).

	See definitions of "Maintenance" and "Transportation System Management and Operations."	
Preservation	Involves the timely application of carefully selected treatments to maintain or extend an asset's service life.	FHWA Construction and Maintenance website http://www.fhwa.dot.gov/construction/fs02010.cfm
Transportation System Management and Operations	An integrated program for optimizing the performance of existing infrastructure through the implementation of systems, services, and projects designed to preserve capacity and improve security, safety, and reliability. Included are improvements to the transportation system such as traffic detection and surveillance; arterial management; freeway management; demand management; work zone management; emergency management; electronic toll collection; automated enforcement; traffic incident management; roadway weather management; traveler information services; commercial vehicle operations; traffic control; freight management; and coordination of highway, rail, transit, bicycle, and pedestrian operations.	<i>Overview of Current Practices in Revenue Forecasting and Cost Estimation for Transportation Plans and Programs</i> (Based largely on the reference document "Getting More by Working Together: Opportunities for Linking Planning and Operations" FHWA-HOP-05-016).

APPENDIX B: Transportation Planning and Project Development Process



Estimating in Development Stages



APPENDIX D: Key Principles of Cost Estimation

(extracted from: FHWA Major Projects Guidance available at:
www.fhwa.dot.gov/programadmin/meag/index.cfm)

In general, there are key principles that should be adhered to when preparing a program cost estimate at any stage of a major project. It is important that care is taken to present an achievable estimate even in the early stages of the project.

Integrity: A high standard of ethical integrity is a must. Cost estimates must be calculated through an open or transparent process. Any uncertainties should be explained in an easily understood manner in laymen's terms. Avoiding false precision and early optimism will go a long way in maintaining the public's trust, support and confidence in the project and will result in a more stable statewide program.

Contents of a Cost Estimate: The cost of a project is most often interpreted and most easily understood by the public to be dollars that are spent on the project. The program cost estimate should be considered the equivalent of the total project purchase price. As such, the program cost estimate should include all costs and the value of any resources needed to complete the NEPA work, design, right-of-way activities, environmental mitigation, public outreach, construction, overall project management, specific management plans (e.g. transportation management plans), appropriate reserves for unknowns, etc. as well as costs and resources paid to others for work related to the project such as utility adjustments, environmental mitigation, and railroad relocations.

After the cost estimate is prepared, it should be expressed in year-of-expenditure dollars.. This can be done by assigning an inflation rate.. Make certain that the selected year-of-expenditure reflects a realistic scenario, taking into account project planning and development durations, as well as construction. Inflation rates may be different for specific cost elements (e.g. construction vs. right-of-way). Potential schedule slippages can also be accounted for in a project contingency. Clearly specify how inflation is considered in the estimate and clearly state that the estimate is expressed in year-of-expenditure dollars. Consider multiple sources for determining the inflation rate, including nationwide and local references. Include consideration of any locality-specific cost factors that may reflect a growth rate significantly in excess of the inflation rate, such as land acquisition costs in highly active markets. Reporting the costs in year-of-expenditure dollars will greatly reduce the media and public perception of cost growth.

Basis of a Cost Estimate: Estimates should be developed using the best information available. When preparing any estimate, engineering judgment must be applied. For example, bid based estimating is only good if the historic prices are for similar work and similar sized projects. Engineering judgment must also be applied to any assumption made.

Risk and Uncertainty: Costs should be determined for uncertainties within an estimate. All elements of the project must be reduced to a cost that can be accounted and budgeted.

There should be a disciplined and comprehensive method of assessing and reassessing project risk and uncertainty. Costs that are unknown and costs associated with potential risks can be included in the form of a contingency amount. Contingency estimates should be defined and quantified throughout the project's development as specific risk elements, which then may then be used to create a risk management plan for the project. As the project is refined, the contingency should reflect the shift of contingencies into actual cost categories. Contingencies should be expressed in terms that can be easily presented to and understood by the public. The appearance of false precision must be avoided. Unsupported early optimism (i.e. low contingency amounts) will only cause problems as the project progresses.

Project Delivery Phase Transitions: Estimates should be tracked throughout the life of the project and assumptions and estimate information must be well documented, including changes and what is and what is not in the estimate. The estimate should note which phase of the project is being estimated (e.g. Feasibility Study, NEPA, Preliminary Engineering, Final Design, Construction). The documentation should be in a form that can be understood, checked and verified. To facilitate tracking projects, it is important to use the same project identification throughout. When cost estimates constantly increase over time, specific steps should be taken to identify problems and revise cost estimating procedures, as appropriate.

Team of Experts: A skilled, interdisciplinary team should produce estimates. Estimates should be developed using a clearly identified scope of work. Estimates should be based on consultation and input from agency experts and not be developed in a vacuum. For example, right-of-way acquisition costs should be determined in consultation with an agency's right-of-way office. Field reviews should be taken prior to preparing any estimate. For work that is unusual, (e.g. buildings, railroads, mass transit, ferry boat docks, etc.) consultation with outside agencies may be appropriate.

The estimating team should be composed of experienced personnel, with the requisite technical, managerial, leadership, and communication cost estimating skills. The team should also have a thorough understanding of the project's scope, including the ability to determine and evaluate critical issues and risks. If resources are available, others experienced in estimating who have not been extensively exposed to the project should also provide input. This can bring a new independent analysis regarding items that may have a major impact on the cost estimate. Core competencies for cost estimating and a formalized training program to meet these competencies should be established. In addition, an estimating process manual should be in place. Some State Departments of Transportation already have comprehensive cost estimating manuals and procedures. An experienced person who is well trained in major project estimating should lead the process.

Validation of Estimates: A competent unbiased team should validate the cost estimates. Estimates on very large projects are very complex and subject to perceptions of being inappropriately manipulated. A second independent set of eyes to review the estimate

will afford managers and decision makers an opportunity to capture a different perspective or at least a second opinion.

Revalidation of Estimates: Periodic reviews of estimates are important for several reasons. First, conditions and underlying assumptions for original and subsequent estimates often change, thus estimates need to be refreshed to account for these changes. Second, throughout project development phases there are key decisions in the public interest that must be made based upon the most current and accurate estimates possible. Finally, management must have a means of minimizing the potential for surprises concerning the financial condition of the project.

Release of Estimates and Estimating Information: Careful consideration must be given to the context surrounding the release and potential use for the information provided in the estimates. While estimates may have been developed for a specific and unique purpose they may be subject to misuse by those who do not understand the applicable context. Cost estimates should not be released to the public or be the basis for project approval until they have been thoroughly reviewed and found to be consistent with the project scope and are accurate and complete indicators of project costs.

Appendix E: Cost Estimates Assessment Checklist

Cost Estimates Assessment Checklist to Help Ensure Fiscal Constraint Requirements

Estimate Preparation

- Are clear and documented policies, procedures, techniques and/or standards used in preparing long range planning conceptual estimates in place?
- Are processes in place and documented to ensure that conceptual estimates used in long range planning reflect all elements of project scope (e.g. related to design, construction administration, right of way, environmental, etc)?
- What types of historical data do you use as a basis for preparing conceptual estimates? How are the data adjusted for time (schedule), location and other project specific conditions?
- Do staff responsible for the development of conceptual estimates have a common understanding and approach?
- What types of training is provided to assist technical staff who are responsible for the development of conceptual estimates?
- How are contingency amounts incorporated into the estimate? Are contingency amounts based on total estimated cost, identified project risks, or some other variables?
- Are year of expenditure dollars used in the development of cost estimates?
- Is documentation on inflation factors and reasons used provided?

Estimate Reviews

- Is there a formal estimate review process within the DOT?
- Is there a formal estimate review process within the MPO?
- How do you verify an estimate?
- Is there a set of formalized or institutionalized procedures for conducting such reviews?
- Does project value or project complexity trigger additional reviews? If so, what are the trigger values?

Estimate Communication

- Is there a systematic program that is used to standardize estimating procedures and train those responsible for assembling the estimates?
- Who approves the long range planning conceptual estimate at the DOT? At the MPO?
- Once approved, is the planning conceptual estimate communicated to executive management and/or the public as a point estimate (one number) or as a range of values with an indication of reliability?
- Who approves the programming conceptual estimate at the DOT? At the MPO?
- Once approved, is the programming conceptual estimate communicated to executive management and/or the public as a point estimate (one number) or as a range of values with an indication of reliability?
- What formal mechanisms are in place for capturing and transferring knowledge about cost estimating techniques?

Cost Estimating Management

- Are there established cost-reporting mechanisms to control changes resulting from project scope development and schedule after long range planning conceptual estimates are prepared? If so, what are these?
- Are cost differences between the long range planning conceptual cost estimates and the programming conceptual cost estimates reconciled? Is this process documented?
- Are there established cost reporting mechanisms to control changes resulting from project scope development and schedule after programming conceptual cost estimates are prepared? Are these documented?
- What triggers an update of an estimate during the long range planning and programming process? Are estimates updated on a periodic basis, when design major changes occur or through some other triggering mechanism?

**APPENDIX F: CALTRANS COST ESTIMATE TEMPLATE
(included in Appendix AA of the CALTRANS Project Development
Procedures Manual)**

(Enter Type of Project Planning Cost Estimate as Title)



District-County-Route _____
 KP(PM) _____
 EA _____
 Program Code _____

PROJECT DESCRIPTION:

Limits _____

Proposed Improvement (Scope) _____

Alternate _____

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ _____
TOTAL STRUCTURE ITEMS	\$ _____
SUBTOTAL CONSTRUCTION COSTS	\$ _____
TOTAL RIGHT OF WAY ITEMS	\$ _____
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ _____

Reviewed by District Program Manager _____ Date _____
 (Signature)

Approved by Project Manager _____ Date _____
 (Signature)

Phone No. _____

Page No. ____ of ____

District-County-Route _____
 KP(PM) _____
 EA _____

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost	Section Cost
Roadway Excavation	_____	_____	\$ _____	\$ _____	
Imported Borrow	_____	_____	\$ _____	\$ _____	
Clearing & Grubbing	_____	_____	\$ _____	\$ _____	

Develop Water Supply	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
				Subtotal Earthwork \$ _____

Section 2 Pavement Structural Section*

PCC Pavement (___Depth)	_____	_____	\$ _____	\$ _____
PCC Pavement (___Depth)	_____	_____	\$ _____	\$ _____
Asphalt Concrete	_____	_____	\$ _____	\$ _____
Lean Concrete Base	_____	_____	\$ _____	\$ _____
Cement-Treated Base	_____	_____	\$ _____	\$ _____
Aggregate Base	_____	_____	\$ _____	\$ _____
Treated Permeable Base	_____	_____	\$ _____	\$ _____
Aggregate Subbase	_____	_____	\$ _____	\$ _____
Pavement Reinforcing Fabric	_____	_____	\$ _____	\$ _____
Edge Drains	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
				Subtotal Pavement Structural Section \$ _____

Section 3 Drainage

Large Drainage Facilities	_____	_____	\$ _____	\$ _____
Storm Drains	_____	_____	\$ _____	\$ _____
Pumping Plants	_____	_____	\$ _____	\$ _____
Project Drainage (X-Drains, overside, etc.)	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
_____	_____	_____	\$ _____	\$ _____
				Subtotal Drainage \$ _____

*Reference sketch showing typical pavement structural section elements of the roadway. Include (if available) T.I., R-Value and date when tests were performed.

NOTE: Extra lines are provided for items not listed, use additional lines as appropriate.

Page No. ___ of ___

District-County-Route _____

KP(PM) _____
 EA _____

Section 4 Specialty Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Retaining Walls	_____	_____	\$ _____	\$ _____	
Noise Barriers	_____	_____	\$ _____	\$ _____	
Barriers and Guardrails	_____	_____	\$ _____	\$ _____	
Equipment/Animal Passes	_____	_____	\$ _____	\$ _____	
Highway Planting	_____	_____	\$ _____	\$ _____	
Replacement Planting	_____	_____	\$ _____	\$ _____	
Irrigation Modification	_____	_____	\$ _____	\$ _____	
Relocate Private Irrigation Facilities	_____	_____	\$ _____	\$ _____	
Erosion Control	_____	_____	\$ _____	\$ _____	
Slope Protection	_____	_____	\$ _____	\$ _____	
Water Pollution Control	_____	_____	\$ _____	\$ _____	
Hazardous Waste Mitigation Work	_____	_____	\$ _____	\$ _____	
Environmental Mitigation	_____	_____	\$ _____	\$ _____	
Resident Engineer Office Space	_____	_____	\$ _____	\$ _____	
_____	_____	_____	\$ _____	\$ _____	
_____	_____	_____	\$ _____	\$ _____	
_____	_____	_____	\$ _____	\$ _____	
Subtotal Specialty Items \$ _____					

Section 5 Traffic Items

Lighting	_____	_____	\$ _____	\$ _____	
Traffic Delineation Items	_____	_____	\$ _____	\$ _____	
Traffic Signals	_____	_____	\$ _____	\$ _____	
Overhead Sign Structures	_____	_____	\$ _____	\$ _____	
Roadside Signs	_____	_____	\$ _____	\$ _____	
Traffic Control Systems	_____	_____	\$ _____	\$ _____	
Transportation Management Plan	_____	_____	\$ _____	\$ _____	
_____	_____	_____	\$ _____	\$ _____	
_____	_____	_____	\$ _____	\$ _____	
_____	_____	_____	\$ _____	\$ _____	
Subtotal Traffic Items \$ _____					
TOTAL SECTIONS 1 thru 5 \$ _____					

NOTE: Extra lines are provided for items not listed, use additional lines as appropriate.

Page No. ____ of ____

District-County-Route _____

KP(PM) _____
EA _____

Section 6 Minor Items

	Item Cost	Section Cost
\$ _____ x (5 to 10%) = (Subtotal Sections 1 thru 5)	\$ _____	
TOTAL MINOR ITEMS		\$ _____

Section 7 Roadway Mobilization

\$ _____ x (10%) = (Subtotal Sections 1 thru 6)	\$ _____	
TOTAL ROADWAY MOBILIZATION		\$ _____

Section 8 Roadway Additions

Supplemental Work

\$ _____ x (5 to 10%) = (Subtotal Sections 1 thru 6)	\$ _____	
---	----------	--

Contingencies

\$ _____ x (**%) = (Subtotal Sections 1 thru 6)	\$ _____	
TOTAL ROADWAY ADDITIONS		\$ _____

TOTAL ROADWAY ITEMS (Subtotal Sections 1 thru 8)		\$ _____
--	--	----------

Estimate Prepared By _____ Phone# _____ Date _____

(Print Name)

Estimate Checked By _____ Phone# _____ Date _____

(Print Name) ** Use appropriate percentage per Chapter 20.

Page No. ___ of ___

District-County-Route _____
KP(PM) _____
EA _____

II. STRUCTURES ITEMS

	Structure (1)	Structure (2)	Structure (3)
Bridge Name	_____	_____	_____
Structure Type	_____	_____	_____
Width (out to out) - (m)	_____	_____	_____

Span Lengths - (m) _____
 Total Area - (m²) _____
 Footing Type (pile/spread) _____
 Cost Per m²
 (incl. 10% mobilization
 and 20% contingency) _____
 Total Cost for Structure _____

SUBTOTAL STRUCTURES ITEMS \$ _____
 -
 (Sum of Total Cost for Structures)

Railroad Related Costs: _____ \$ _____
 _____ \$ _____
 _____ \$ _____
 _____ \$ _____

SUBTOTAL RAILROAD ITEMS \$ _____
 -

TOTAL STRUCTURES ITEMS \$ _____
 -
 (Sum of Structures Items plus Railroad Items)

COMMENTS:

Estimate Prepared By _____ Phone# _____ Date _____
 (Print Name)

NOTE: If appropriate, attach additional pages and backup.

Page No. ___ of ___

District-County-Route _____
 KP(PM) _____
 EA _____

III. RIGHT OF WAY ITEMS ESCALATED VALUE

A. Acquisition, including excess lands,
 damages to remainder(s) and Goodwill \$ _____
 B. Utility Relocation (State share) \$ _____
 C. Relocation Assistance \$ _____
 D. Clearance/Demolition \$ _____
 E. Title and Escrow Fees \$ _____

TOTAL RIGHT OF WAY ITEMS \$ _____

(Escalated Value)

Anticipated Date of Right of Way Certification _____
(Date to which Values are Escalated)

F. Construction Contract Work

Brief Description of Work:

Right of Way Branch Cost Estimate for Work * \$ _____

* This dollar amount is to be included in the Roadway and/or Structures Items of Work, as appropriate. Do not include in Right of Way Items.

COMMENTS:

Estimate Prepared By _____ Phone# _____ Date _____

(Print Name)

APPENDIX G: CALTRANS District 4 Cost Estimation Certification Form

State of California – Department of Transportation
 District 4 – Oakland

Date: _____

D-4 COST ESTIMATE CERTIFICATION FORM (Version 1- February 3, 2006)

DIST-UNIT-CO-PM	
DIST-EA	
PROJECT DESCRIPTION	
PROGRAM	
CURRENT PROGRAM COST	
NUMBER OF WORKING DAYS	
A+B Contract? (Yes or No)	

PROJECT ROLE	PRINTED NAME	SIGNATURE
Project Engineer (QC)		
Design Senior (QA)		
Project Manager (QA)		

DATE	WBS	PROJECT DELIVERABLE	COST ESTIMATE
	150	PID (Program \$)	
	180	PA&ED	
	255	PS&E	

		<i>Briefly provide details below.</i>
Quality Control	Assumptions <i>How did assumptions about location (e.g., terrain, distance to construction site, etc.), relative availability of materials, weather conditions, etc. influence the cost estimate? What other elements influenced the estimate?</i>	
	Source of Unit Prices <i>What factors were considered to determine unit prices of major items? Provide EAs of projects you considered and unit prices you used. Add specialty items and costs as appropriate.</i>	
	Risk Management Plan <i>Identify risks relating to the development and management of the construction capital cost estimate (BEES).</i>	
	Escalation Factors Used <i>Explain forecasted variables and assumptions you used.</i>	
	Contingencies <i>Is 5% contingency adequate to address each risk factor? If not, why not? How much more is needed?</i>	
	DES Structures Verification of Estimate and Quantities List date of Verification.	
Quality Assurance	Constructability Review What is the assumed construction method and what risks are associated with that method?	
	DOE Review List completion date and conclusions of the review.	
	Value Analysis Performed List completion date and any alternatives that impact cost.	
	DES Structural Liaison Review List date and conclusions of Review and name of reviewer.	
	Independent Estimate Performed <i>List completion date and variance, if any, from Caltrans estimate.</i>	
Status	Variance from Programmed Funds (%) Compare current program cost to 255 PS&E BEES.	
	Next cost estimate update List projected date (three weeks before CTC vote).	

*Technical Appendix for the Systems
Level Cost Estimate Template:*

Definitions and Documentation

*MTC Fiscal Constraint Case Study:
Proposal for Documentation of
Cost Estimates and Categories*

Draft Version Submitted to California Division Office, May 2007

Interim Draft Submitted to California Division Office, November 7, 2007

Final Version Submitted to California Division Office, January 30, 2008

Submitted by

Planning Technical Service Team

Brian Betlyon

Lisa Randall

■ Introduction

This Technical Appendix provides the definitions and documentation to accompany a proposed systems level cost template for short-range programming and long range transportation planning purposes.

This technical appendix is part of a series of deliverables on cost estimation submitted to the FHWA California Division as part of a larger project on fiscal constraint. The fiscal constraint project has been undertaken in partnership with the Metropolitan Transportation Commission (MTC, the Metropolitan Planning Organization (MPO) for the nine-county San Francisco Bay area). Information presented within the deliverables is generally based on public information already disseminated by MTC, CALTRANS or the California Transportation Commission (CTC).

The proposed template provides a systems level view of looking at costs, or revenue uses. It includes five major cost categories: 1) Operations, Maintenance and Preservation; 2) Project Development; 3) Debt Service; 4) Capital Improvement/New Construction and 5) Systems Management. Many regions present cost data by jurisdiction (city, county) or with detailed information for individual projects. Information is also generally presented by revenue category and available revenues versus programmed revenue uses (such as the existing CALTRANS FSTIP format). This template complements such approaches and presents cost or revenue use information for major cost categories, from a systems perspective.

The documentation of cost estimates is a critical component of demonstrating fiscal constraint, both for the program and the long range plan. This definitions and documentation paper should be considered a companion document to the proposed systems level cost estimation template.¹ In addition, the cost documentation and definitions presented here should also be considered a companion to the revenue documentation and template that were previously submitted as part of this fiscal constraint project.

At the present time, there are several approaches used to explain and document cost estimates in financial plans in California and across the nation. Detailed information on the process and approach for preparing cost estimates may vary by sponsoring agency, and also level of detail. The documentation presented here serves as an example or illustrative model for Caltrans and California MPOs. Definitions presented here for specific cost categories are derived from multiple sources, including local agencies CALTRANS and FHWA. In utilizing

¹ Limited information on sources and definitions appear on the template itself. A technical appendix such as the approach proposed here provides more detailed information on cost sources, approaches and inflation factors.

this prototype, a MPO may wish to modify the documentation and definitions with area specific information. Proposed cost documentation approaches are presented both in narrative format as well as a sample tabular format (see Appendix A.)

Below each of the major cost categories are defined and general information on sources, and cost assumptions are presented where such information was available from MTC, CALTRANS or local agencies. Under the new federal transportation planning regulations, new or amended TIPs/STIPs or Regional Transportation Plans (RTPs) after December 11, 2007 must present revenue and cost data in Year of Expenditure (YOE) dollars.

Given this requirement, a definition section for YOE and inflation factors is important to include in any financial plan.² After cost estimates are prepared for a long range plan, the costs should be expressed in year of expenditure dollars. To do this, current cost estimates are "inflated" to year of expenditure levels. YOE dollars are then those that have been "inflated" or "adjusted" from current levels. Appropriate inflation rates should be used to inflate the dollars to YOE. Inflation rates could differ for specific cost estimates (e.g., construction vs. right of way). Documentation should be provided that specifies the inflation rate used, the assumptions behind it, and the process for determining which rate(s) were used.

No MTC illustrative documentation on YOE is presented here because the research for this project was conducted before this requirement became effective, and relies primarily on MTC's *Mobility 2030* RTP which was presented in current dollars. MTC is currently updating its RTP. Cost and revenue information in the updated plan will be presented in YOE dollars.

■ Technical Documentation: Points of Consideration

In the review/use of this proposed documentation, a few special points of consideration are important:

- FHWA/FTA issued planning regulations (23 CFR 450) on February 14, 2007, which became effective on March 16, 2007, and implement federal transportation law, SAFETEA-LU (PL 109-59) These included some changes in the area of fiscal constraint. Information on these regulations is included in the Cost Estimate Resource Paper submitted as part of this project. (See the final planning regulations at:

² After December 11, 2007, any amendments to an existing STIP or TIP or any new STIP or TIP, triggers the YOE requirement for the entire STIP or TIP. After December 11, 2007, any amendments to the long range plan (RTP), or any new RTP triggers the YOE requirement for the entire plan.

<http://a257.g.akamaitech.net/7/257/2422/01jan20071800/edocket.access.gpo.gov/2007/07-493.htm>)

- FHWA also issued guidance detailing requirements for the development of financial plans for major projects. Under SAFETEA-LU, major projects are those over \$500 million. These projects require financial plans to be developed and reviewed by FHWA. Consistency between financial information for major projects in financial plans and information included in RTPs/TIPs/STIPs is highly encouraged. Additional information on requirements of major projects is included in the Cost Estimate Resource Paper submitted as part of this project. (See the January 2007 Final FHWA Guidance on Major Projects at: <http://www.fhwa.dot.gov/programadmin/mega/011907.cfm>)
- All cost and revenue information shall be presented in year of expenditure dollars for new and amended long range plans (RTPs) and TIPs/STIPs following December 11, 2007.
- Under the new planning regulations, cost banding or cost ranges are optional for the outer years of a long range plan. Adequate information will need to be presented on costs to balance against the supporting revenue plan to ensure fiscal constraint is maintained.
- The time bands for the "outer years" of the RTP shown here are for illustrative purposes. The California Division staff will work with CALTRANS and California MPOs to discuss the applicability and utilization of appropriate time bands.
- The proposed template and the examples of cost categories' descriptions shown in this paper serve as possible examples for how to effectively document financial information. This type of information should be clearly available for both the Plan and TIP/STIP. Adequate supporting information on costs (development process, assumptions and inflation rates) should accompany and be documented for both planning and programming products. In addition, as Plans and TIP/STIPs are updated and amended, cost information should be reviewed and updated as necessary.
- Some cost categories proposed in the sample template/table may not be relevant to all MPOs or for all time periods. This will always be the case as each area may have a different mix of projects and needs. If a cost category is not utilized, then that section of the template can be noted with a NA (not applicable).
- MPOs and states should ensure that they address debt service appropriately on the cost side of their financial analysis in other fiscal constraint documentation (i.e., if some innovative financing tools are used as a revenue source in year X; debt service on some of these loans will need to appear and be counted as a cost in year Y.)

- If a category of “other” is used in the cost template data table, it should be clearly defined in the cost technical documentation. If multiple costs are being aggregated in “other”, the assumptions for each of these should be defined in the supporting documentation.

■ Cost Estimates: Supporting Documentation

Cost estimates at the planning and programming levels are prepared by a variety of project sponsors and fed into information included in RTPs, TIPS and STIPs. These include estimates prepared by the State DOT (Caltrans), transit operators, county agencies (CMAs and public works agencies) and others. These are often referred to as conceptual level cost estimates, and due to the higher degree of “unknowns” in their preparation, a higher contingency factor is associated with these. Cost estimates are then refined throughout the project development process.

Cost forecasts can be developed and prepared in a number of ways. For example, operations and maintenance costs can be based on historic data applied on a per-lane mile and functional classification basis or an annual lump sum basis. Capital costs can be based on historic costs for: (a) an interchange; (b) new construction on new rights-of-way; (c) structure (number, type, and deck square footage (area) for various structure types); (d) transit vehicles for rolling stock procurement; or (e) widening and/or reconstruction, based on the extent of the project. In addition, capital cost estimates can be based on project-specific estimates contained in planning, environmental, or engineering studies, and updated as new information is prepared as part of project development.

Detailed information on the approach and process for cost estimates will reside with the sponsoring agency. However, some general documentation on the approach is necessary as part of a more systematic cost estimation management strategy, and feeds into the revenue and cost information included in a financial plan.

Operations, Maintenance and Preservation Cost Estimates

Cost estimates for operations and maintenance (O&M) will be more general than estimates for individual projects. In general, operations and maintenance refers to activities related to the performance of routine, preventative, scheduled and unscheduled actions aimed at preventing transportation system failure or decline. Maintenance, specifically, refers to activities to ensure the preservation of an existing highway or transit line (e.g., highway surface, shoulders, roadsides and structures, traffic control devices and road, rail and signal repair.) Preservation involves the timely application of carefully selected treatments to maintain or extend an asset’s service life. (for more information, see: www.fhwa.dot.gov/construction/fs02010.htm)

Under the federal transportation planning regulations (23 CFR 450), operations and maintenance costs are required for those facilities that receive federal funds. Presentation of operations and maintenance costs for other parts of the system is not required but would be considered good practice. FHWA and FTA do not mandate a particular, specific level of operations or maintenance. States, MPOs and local agencies will establish the appropriate operation and maintenance levels from year to year and decade to decade, based on community desires and requirements established through an open transportation planning process. These levels should be documented and communicated through an open planning process.

O&M costs may be obtained based on the historic amount of funds expended on O&M for similar types of projects. Since MPOs typically do not own, operate or maintain transportation facilities, the MPO must work closely with the owner of the facility that will be responsible for the ongoing operation and maintenance, such as transit operators and/or State departments of transportation and local highway or public works agencies. These entities must work closely on identifying the likely O&M costs estimates for existing and proposed projects.

Highway, State (State Highway Operations & Protection Program, SHOPP):
Description: The SHOPP is California's program focused on state highway projects that are for pavement rehabilitation, bridge rehabilitation and roadside and roadway maintenance. SHOPP does not include projects that increase capacity.³ The SHOPP has eight major categories (Emergency Response, Collision Reduction, Legal and Regulatory Mandates, Bridge Preservation, Roadway Preservation, Mobility Improvement, Roadside Improvement and Facility Improvement. Specific definitions for these sub-categories are available at <http://www.dot.ca.gov/hq/transprog/shopp.htm>
Responsible Agency: CALTRANS.
Cost Estimate Development Process: Effective March 2007, CALTRANS Districts are responsible for providing SHOPP cost estimates that will be used for programming. Districts are also responsible for assessing and determining the escalation or inflation rate to be used. "Districts (are) responsible for developing their own project specific escalation rates based on regional data and local market conditions." (See CALTRANS Memorandum from Caltrans Chief Engineer to District Directors, March 13, 2007.)
Inflation Rate: Varies. Set by each CALTRANS District.

Highway, Local Streets and Roads: *Description:* Includes operations and maintenance data for local streets and roads. *Responsible Agency:* For the MTC region, local jurisdictions following MTC guidelines of MTC's Pavement Management Program. *Cost Estimate Development Process:* Cities and Counties within the MTC region utilize a variety tools as part of MTC's Pavement Management Process. This includes a database (Streetsaver) as well as an annual

³ SHOPP does provide for projects that construct auxiliary lanes, passing lanes, and truck climbing lanes to improve the operation of the existing system.

survey. Local jurisdictions are asked to report pavement unit cost of maintenance treatment by road type. Maintenance needs for non-pavement assets (such as bike paths, guardrails, streets lights, drainage systems, etc) are also collected. The PMP helps ensure consistency across the region in needs and cost data for local streets and roads. (For more information on MTC's PMP, see: <http://www.mtcpms.org/index.htm>. *Inflation Rate:* TBD

Transit: *Description:* Transit operating costs can be estimated by general mode type on a revenue-mile or passenger-mile basis. Maintenance, specifically, refers to activities to ensure the preservation of an existing transit line or vehicle. *Responsible Agency:* Local Transit Operators, following MTC Guidelines for Short Range Transit Plan. *Cost Estimate Development Process:* Established by local transit operators. *Inflation Rate:* TBD

Other: *Description:* Define as appropriate to the region/state for other categories not already include under Operations, Maintenance and Preservation. *Responsible Agency:* TBD. *Cost Estimate Development Process:* TBD. *Inflation Rate:* TBD

Project Development Cost Estimates

Project development includes costs associated with Right of Way (ROW), preliminary engineering (PE), final design including the development of Plans, Specifications and Estimate (PS&E) and other associated costs (such as third party costs and utilities). For non-major projects (those under \$500 million), the project development costs in the template reflect a sum of project developments costs (PE, ROW, other) by jurisdiction level (state, regional, local). For major projects, sub-categories of PE, ROW and other are include in the template for both transit and highway. Major projects should be identified and described in general terms in the documentation.

Preliminary Engineering. This is the cost to prepare the construction documents. It includes any field investigation, testing and administration of the design work. It also includes the cost of the NEPA and other environmental documentation. The cost of a General Engineering Consultant for this work would be included here.

Final Design (PS&E). This is the cost for final design work, including the cost to develop the PS&E package. Plans are graphic representations (e.g. typical cross sections, drawings, details) of the proposed work. Specifications are a general term applied to all directions, provisions and requirements concerning the quality and performance of the work for a project. A cost estimate at this stage consists of the engineer's cost analysis to perform the work. It serves as the basis of the probable construction amount, to evaluate bidders' proposals and for programming funds for construction. The PS&E package is a term used to describe the contract documents (i.e. plans, specifications and estimate of cost) for performing the work to construct a highway or transit facility.

Right-of-Way (ROW) Acquisition and Support Costs. This is the cost to *research* and *acquire* right-of-way for the project, including easements. It also includes all related ROW "support costs." Some examples of right-of-way costs are those costs for storm water management, wetland mitigation, and other work outside the roadway prism. ROW costs also include the contractual obligations with property owners to relocate fencing, reconstruct gates, and reconstruct road approaches, etc., if not included in the engineer's estimate. This also includes the cost of any required relocation assistance and benefits for displaced individuals, families, businesses, governments, and nonprofit organizations, as well as the *administration* costs of all right-of-way activities.

Other, External Third Party (e.g. Utilities and Railroad Adjustments). These are costs that are associated with third parties, such as utilities and railroads. Third party requirements have a high potential for risk and change. For example, major projects often are located in urban areas with a high concentration of existing utilities. While it is best to locate and avoid as many utilities as possible during the design phase, appropriate contingencies for utility adjustments need to be included. Cost should be included for subsurface utility engineering. Mitigating impacts to railroads or transit lines will need to be considered as well. If all external third party work cannot be identified, appropriate contingencies need to be included.

Project Development Total, Non-Major Projects, State (STIP): *Description:* California's State Transportation Improvement Program (STIP) is a capital improvement program of transportation projects funded with revenues from the State Highway Account (SHA) and other sources. It includes both a regional and interregional program of projects. Included here would be project development costs for capital projects less than \$500 million. *Responsible Agency:* CALTRANS. *Cost Estimate Development Process:* Documented in CALTRANS Project Development Procedures Manual (PDPM) available at <http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm> District 4 also uses a cost estimation certification form (see http://www.dot.ca.gov/hq/oppd/costest/D-4_CostEstimateCertificationForm-V.1.doc) *Inflation Rate:* Varies. Set by each CALTRANS District.

Project Development Total, Non-Major Projects, Local : *Description:* Project development costs (PE, ROW, Final Design, Other) for local capital improvement projects below \$500 million. *Responsible Agency:* Local sponsoring agencies. *Cost Estimate Development Process:* Generally based on historic bid review or comparison of like projects. Some MTC counties (such as Contra Costa Transportation Authority provide cost estimation guidelines to local project sponsors). *Inflation Rate:* TBD.

Highway Project Development Total, Major Projects: *Description:* Included here would be project development costs (PE, ROW, Final Design, Other) for major projects more than \$500 million. *Responsible Agency:* Generally CALTRANS. *Cost Estimate Development Process:* Documented in CALTRANS

Project Development Procedures Manual (PDPM) available at <http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm> . Financial plan required per SAFETEA-LU Major Projects requirements. District 4 also uses a cost estimation certification form (see http://www.dot.ca.gov/hq/oppd/costest/D-4_CostEstimateCertificationForm-V.1.doc *Inflation Rate:* Varies. Set by each CALTRANS District.

Transit Project Development Total, Non Major Projects : *Description:* Includes project development costs (PE, ROW, Final Design, other) for transit projects less than \$500 million. *Responsible Agency:* Local Transit Operators. *Cost Estimate Development Process:* Established by local transit operators. *Inflation Rate:* TBD

Transit Project Development Total, Major Projects : *Description:* Includes project development costs (PE, ROW, Final Design other) for transit projects more than \$500 million. *Responsible Agency:* Local Transit Operators. *Cost Estimate Development Process:* Established by local transit operators. If receiving FTA New Starts funding, must meet New Starts program requirements for financial information. *Inflation Rate:* TBD

Other: *Description:* Define as appropriate to the region/state for other categories not already include under Project Development. *Responsible Agency:* TBD. *Cost Estimate Development Process:* TBD. *Inflation Rate:* TBD

Debt Service

Costs for debt service must be included in the costs developed as part of a financial plan for a long range plan, TIP or STIP. Debt service includes payment of interest and principal required on a debt over a given period of time. Some local areas may issue bonds in anticipation of future sales tax revenues; others may issue debt that will be repaid through congestion charges and tolls.

Generally, debt service for already-issued tax-exempt bonds remains level over the life of the bonds, so states and MPOs will only need to ensure that all existing debt service commitments are included.

Estimating the cost of future debt issuance is more complicated. Key factors that affect the cost of debt service are the principal cost of the project(s) financed, the prevailing interest rates, and the term of the debt, all of which will not be known with precision until the debt is issued. If issuance of debt is part of a region's long-term strategy, states and MPOs should consult with their financial advisors to determine reasonable assumptions for long-term interest rates and issuance terms.

MPOs and states should ensure that they address debt service appropriately on the cost side of their financial analysis in other fiscal constraint documentation (i.e., if some innovative financing tools, such as Transportation Infrastructure Finance and Innovation Act (TIFIA) loans, are used as a revenue source in year

X; debt service on some of these loans will need to appear and be counted as a cost in year Y.). In planning for the costs of debt, MPOs and states may also need to consider issuance costs, such as payment for financial advisers and legal counsel.

GARVEE Debt Service: *Description:* GARVEE bonds are tax-exempt debt instruments whose proceeds are used to construct federal-aid transportation projects. They were authorized in federal law by Section 311 of the National Highway System Designation Act of 1995, which amended Section 122 of Title 23 of the United States Code (the Federal Aid Highway Act) to expand the eligibility of bond and other debt instrument financing costs for federal-aid reimbursement. The definition of construction was revised in Title 23, Section 101, to include a reference to bond-related costs eligible for reimbursement, including principal and interest payments, issuance costs, insurance, if needed, and other costs incidental to financing. Eligible costs may be reimbursed with Federal-aid funding. *Responsible Agency:* Varies. *Cost Estimate Development Process:* Costs identified as part of underwriting/debt issuance process. *Inflation rate:* TBD

Other : *Description:* : Define as appropriate to the region/state for other categories of debt service resulting from a variety of financing instruments, and not otherwise addressed under Debt Service. *Responsible Agency:* TBD. *Cost Estimate Development Process:* TBD. *Inflation Rate:* TBD

Capital Investment/New Construction Cost Estimates

Capital Investment/New Construction cost estimates include highway construction costs (e.g., resurfacing, restoration, and rehabilitation improvements; construction of additional lanes, interchanges, and grade separations; and construction of a new facility on a new location) and construction management costs. Transit capital expenditures include those to expand or increase transit services and/or facilities to substantially increase the carrying capacity of the transit system. Costs of expanding the number and size of park-and-ride lots usually are included in this category, unless the park-and-ride lot is associated only with a highway and is used primarily for carpooling (i.e., little or no transit service provided).

Highway, New Highway Construction, State (STIP): *Description:* Capital expenditures to expand or increase roadway capacity through physical improvements and may include adding new lanes to existing roads and building new roads on the state network. *Responsible Agency:* Caltrans. *Cost Estimate Development Process:* Documented in CALTRANS Project Development Procedures Manual (PDPM) available at <http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm> District 4 also uses a cost estimation certification form (see http://www.dot.ca.gov/hq/oppd/costest/D-4_CostEstimateCertificationForm-V.1.doc *Inflation Rate:* Varies. Determined by CALTRANS District Office.

Highway, New Highway Construction, Local: *Description:* Costs for local capital improvement projects below \$500 million. *Responsible Agency:* Local sponsoring agencies. *Cost Estimate Development Process:* Generally based on historic bid review or comparison of like projects. Some MTC counties (such as Contra Costa Transportation Authority provide cost estimation guidelines to local project sponsors). *Inflation Rate:* TBD.

Highway, New Highway Construction, Major Projects: *Description:* Capital expenditures to expand or increase roadway capacity through physical improvements and may include adding new lanes to existing roads and building new roads on the state network. Includes projects over \$500 million. *Responsible Agency:* Caltrans. *Cost Estimate Development Process:* Documented in CALTRANS Project Development Procedures Manual (PDPM) available at <http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm> District 4 also uses a cost estimation certification form (see http://www.dot.ca.gov/hq/oppd/costest/D-4_CostEstimateCertificationForm-V.1.doc Financial plans required for major projects over \$500 million. *Inflation Rate:* Varies. Determined by CALTRANS District Office.

Transit, New Transit Construction: *Description:* Includes capital expenditures costs or transit projects more than \$500 million. *Responsible Agency:* Local Transit Operators. *Cost Estimate Development Process:* Established by local transit operators. If receiving FTA New Starts funding, must meet New Starts program requirements for financial information. *Inflation Rate:* TBD

Other: *Description:* Define as appropriate to the region/state for other categories not already include under Capital Improvement/New Construction. *Responsible Agency:* TBD. *Cost Estimate Development Process:* TBD. *Inflation Rate:* TBD

Systems Management Cost Estimates

Systems management cost include a range of activities designed to optimize the performance of existing infrastructure through the implementation of systems, services, and projects designed to preserve capacity and improve security, safety, and reliability. Included are improvements to the transportation system such as traffic detection and surveillance; arterial management; freeway management; demand management; work zone management; emergency management; electronic toll collection; automated enforcement; traffic incident management; roadway weather management; traveler information services; commercial vehicle operations; traffic control; freight management; and coordination of highway, rail, transit, bicycle, and pedestrian operations.

Surface Transport System: *Description:* Includes, for example, costs associated with the development and implementation of the transportation demand management and transportation system management facilities and strategies along a particular corridor or within a defined transportation network subarea.

May also include costs of air quality programs and activities. *Responsible Agency:* Varies (define as appropriate) *Cost Estimate Development Process:* Varies (define as appropriate). *Inflation Rate:* Varies.

Highway: *Description:* Includes, for example, costs associated with the development and implementation of the transportation demand management and transportation system management strategies along a particular highway corridor. Also includes safety specific improvements designed to enhance highway system management and efficiency. *Responsible Agency:* Varies (define as appropriate) *Cost Estimate Development Process:* Varies (define as appropriate). *Inflation Rate:* Varies.

Transit: *Description:* Includes, for example, costs associated with transit management, ITS and signal systems. Also includes safety specific improvements designed to enhance transit system management and efficiency. *Responsible Agency:* Varies (define as appropriate) *Cost Estimate Development Process:* Varies (define as appropriate). *Inflation Rate:* Varies.

Other: *Description:* Define as appropriate to the region/state for other categories not already include under Systems Management. *Responsible Agency:* TBD. *Cost Estimate Development Process:* TBD. *Inflation Rate:* TBD

■ Conclusion

This Technical Appendix to the Systems Level Long Range Plan Cost Template provides a proposed example for documenting cost estimate information as part of a long range plan (or regional transportation plan (RTP) and Transportation Improvement Program (TIP), or Statewide Transportation Improvement Program (STIP or FSTIP in California.)

As noted, the documentation and management of cost estimates is a critical component of demonstrating fiscal constraint, both for the program and the long range plan. This technical appendix provides a proposed approach of how technical information on cost estimates, at the planning and programming levels, could be presented. It includes specific details on major cost categories supported by documentation on sources, cost estimate approach and inflation rates used. Recognizing the variability across regions, this proposed documentation approach is intended to be flexible. While it is primarily presented in a narrative approach, it could also be presented in tabular format (See Appendix A for a sample approach) in a financial plan to accompany a RTP or TIP. Alternatively, it could comprise a stand-alone technical appendix that addresses both revenues and costs.

Recommendations for Implementation

The information presented in this paper serves as a possible approach for presenting conceptual level cost estimates and their documentation for the FHWA California Division Office, the state and regional agencies. It is suggested that the utility of the suggested approaches for cost estimate management and documentation be reviewed and discussed in the relevant statewide planning and programming forums for future application as part of new RTP, TIP and FSTIP developments. At the same time, a supporting Resource Paper provides a range of additional tools and notable practices (within California and nationally) on cost estimation preparation, process and documentation and management.

Appendix A: Sample Tabular Approach for Presenting Cost Data and Information

Cost Category: Operations, Maintenance and Preservation	Description	Responsible Party for Cost Estimate Preparation and Management	Cost Estimate Approach	Inflation Rate
Highway, SHOPP	The SHOPP is California's program focused on state highway projects that are for pavement rehabilitation, bridge rehabilitation and roadside and roadway maintenance. SHOPP does not include projects that increase capacity.	CALTRANS	O&M costs may be obtained based on the historic amount of funds expended on O&M for similar types of projects. Effective March 2007, CALTRANS Districts are responsible for providing SHOPP cost estimates that will be used for programming. Districts are also responsible for assessing and determining the escalation or inflation rate to be used. "Districts (are) responsible for developing their own project specific escalation rates based on regional data and local market conditions." (See CALTRANS Memorandum from Caltrans Chief Engineer to District Directors, March 13, 2007.)	Varies. Set by CALTRANS District Office.
Highway, Local Streets and Roads	Includes operations and maintenance data for local streets and roads.	Local jurisdictions following MTC guidelines of MTC's Pavement Management Process.	Cities and Counties within the MTC region utilize a variety tools as part of MTC's Pavement Management Process. This includes a database (Streetsaver) as well as an annual survey. Local jurisdictions are asked to report pavement unit cost of maintenance treatment by road type. Maintenance needs for non-pavement assets (such as bike paths, guardrails, streets lights, drainage systems, etc) are	TBD

Cost Category: Operations, Maintenance and Preservation	Description	Responsible Party for Cost Estimate Preparation and Management	Cost Estimate Approach	Inflation Rate
			also collected. The PMP helps ensure consistency across the region in needs and cost data for local streets and roads. (For more information on MTC's PMP, see: http://www.mtcpms.org/index.htm .)	
Transit	Transit operating costs can be estimated by general mode type on a revenue-mile or passenger-mile basis. Maintenance, specifically, refers to activities to ensure the preservation of an existing transit line or vehicle.	Local Transit Operators, following MTC Guidelines for Short Range Transit Plan.	Established by local transit operators.	TBD

HANDOUT NO. 2

State of California

2008/09-2011/12 Federal Transportation Improvement Program

MPO: DRAFT

REVENUE SOURCES		4 YEARS (See FSTIP Cycle)				
		2008/09	2009/10	2010/11	2011/12	Total
LOCAL	Sales Tax	\$0	\$0	\$0	\$0	\$0
	- City	\$0	\$0	\$0	\$0	\$0
	- County	\$0	\$0	\$0	\$0	\$0
	- Other (e.g., Transportation Development Act)	\$0	\$0	\$0	\$0	\$0
	Gas Tax	\$0	\$0	\$0	\$0	\$0
	-- Gas Tax (Subventions to Cities)	\$0	\$0	\$0	\$0	\$0
	-- Gas Tax (Subventions to Counties)	\$0	\$0	\$0	\$0	\$0
	Other Local Funds	\$0	\$0	\$0	\$0	\$0
	- City General Funds	\$0	\$0	\$0	\$0	\$0
	- Street Taxes and Developer Fees	\$0	\$0	\$0	\$0	\$0
	- Other (registration fees (AB434) and Prop 42)	\$0	\$0	\$0	\$0	\$0
	Transit	\$0	\$0	\$0	\$0	\$0
	-- Transit Fares	\$0	\$0	\$0	\$0	\$0
	- Other Transit (e.g., parcel/property taxes, parking revenue, etc)	\$0	\$0	\$0	\$0	\$0
Tolls (e.g., non-state owned bridges)	\$0	\$0	\$0	\$0	\$0	
Other (Please specify)	\$0	\$0	\$0	\$0	\$0	
Local Total	\$0	\$0	\$0	\$0	\$0	
REGIONAL ¹	Tolls	\$0	\$0	\$0	\$0	\$0
	- Bridge	\$0	\$0	\$0	\$0	\$0
	- Corridor	\$0	\$0	\$0	\$0	\$0
	Regional Transit Fares/Measures	\$0	\$0	\$0	\$0	\$0
	Regional Sales Tax	\$0	\$0	\$0	\$0	\$0
	Regional Bond Revenue	\$0	\$0	\$0	\$0	\$0
	Regional Gas Tax	\$0	\$0	\$0	\$0	\$0
	Vehicle Registration Fees (CARB Fees, SAFE)	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	Regional Total	\$0	\$0	\$0	\$0	\$0
STATE	State Highway Operations and Protection Program (SHOPP)	\$0	\$0	\$0	\$0	\$0
	SHOPP (Including Augmentation)	\$0	\$0	\$0	\$0	\$0
	SHOPP Prior	\$0	\$0	\$0	\$0	\$0
	State Transportation Improvement Program (STIP)	\$0	\$0	\$0	\$0	\$0
	STIP (Including Augmentation)	\$0	\$0	\$0	\$0	\$0
	STIP Prior	\$0	\$0	\$0	\$0	\$0
	Proposition 1 B ⁴	\$0	\$0	\$0	\$0	\$0
	GARVEE Bonds	\$0	\$0	\$0	\$0	\$0
	Traffic Congestion Relief Program	\$0	\$0	\$0	\$0	\$0
	State Transit Assistance (STA) (e.g., population/revenue based, Prop 42)	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
State Total	\$0	\$0	\$0	\$0	\$0	
FEDERAL TRANSIT	Bus and Bus Related Grants (5309c)	\$0	\$0	\$0	\$0	\$0
	Clean Fuel Formula Program (5308)	\$0	\$0	\$0	\$0	\$0
	Elderly & Persons with Disabilities Formula Program (5310)	\$0	\$0	\$0	\$0	\$0
	Fixed Guideway Modernization (5309a)	\$0	\$0	\$0	\$0	\$0
	Intercity Bus (5311f)	\$0	\$0	\$0	\$0	\$0
	Job Access and Reverse Commute Program (5316)	\$0	\$0	\$0	\$0	\$0
	Metropolitan Planning (5303) ← 2.	\$0	\$0	\$0	\$0	\$0
	New and Small Starts (Capital Investment Grants) (5309b)	\$0	\$0	\$0	\$0	\$0
	New Freedom (SAFETEA-LU)	\$0	\$0	\$0	\$0	\$0
	Nonurbanized Area Formula Program (5311)	\$0	\$0	\$0	\$0	\$0
	Public Transportation on Indian Reservation (5311c)	\$0	\$0	\$0	\$0	\$0
	Transit in the Parks (5320)	\$0	\$0	\$0	\$0	\$0
	Urbanized Area Formula Program (5307)	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
Federal Transit Total	\$0	\$0	\$0	\$0	\$0	

State of California

2008/09-2011/12 Federal Transportation Improvement Program

MPO: DRAFT

REVENUE SOURCES		4 YEARS (See FSTIP Cycle)				
		2008/09	2009/10	2010/11	2011/12	Total
FEDERAL HIGHWAY	Federal Highway Non-Discretionary					
	Congestion Mitigation and Air Quality (CMAQ)	\$0	\$0	\$0	\$0	\$0
	Surface Transportation Program (Regional)	\$0	\$0	\$0	\$0	\$0
	Highway Bridge Program (HBP)	\$0	\$0	\$0	\$0	\$0
	Highway Safety Improvement Program (HSIP)	\$0	\$0	\$0	\$0	\$0
	Railway (Section 130)	\$0	\$0	\$0	\$0	\$0
	Safe Routes to School (SRTS) (SAFETEA-LU)	\$0	\$0	\$0	\$0	\$0
	Safe Routes to School (SR2S)	\$0	\$0	\$0	\$0	\$0
	Transportation Improvements (TI)	\$0	\$0	\$0	\$0	\$0
	Federal Lands Highway	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	Subtotal	\$0	\$0	\$0	\$0	\$0
	Federal Highway Discretionary Programs					
	Bridge Discretionary Program	\$0	\$0	\$0	\$0	\$0
	Corridor Infrastructure Improvement Program (SAFETEA-LU Sec. 1302)	\$0	\$0	\$0	\$0	\$0
	Coordinated Border Infrastructure (SAFETEA-LU Sec.1303)	\$0	\$0	\$0	\$0	\$0
	Ferry Boat Discretionary	\$0	\$0	\$0	\$0	\$0
	High Priority Projects (HPP)	\$0	\$0	\$0	\$0	\$0
	High Risk Rural Road (HRRR)	\$0	\$0	\$0	\$0	\$0
	National Scenic Byways Program	\$0	\$0	\$0	\$0	\$0
	Projects of National/Regional Significance (SAFETEA-LU Sec. 1301)	\$0	\$0	\$0	\$0	\$0
Public Lands Highway Discretionary	\$0	\$0	\$0	\$0	\$0	
Recreational Trails	\$0	\$0	\$0	\$0	\$0	
Transportation and Community and System Preservation Program	\$0	\$0	\$0	\$0	\$0	
Other (Please Specify)	\$0	\$0	\$0	\$0	\$0	
Subtotal	\$0	\$0	\$0	\$0	\$0	
Federal Highway Total	\$0	\$0	\$0	\$0	\$0	
FEDERAL TOTAL²	\$0	\$0	\$0	\$0	\$0	
INNOVATIVE FINANCE³	TIFIA (Transportation Infrastructure Finance and Innovation Act)	\$0	\$0	\$0	\$0	\$0
	State Infrastructure Bank	\$0	\$0	\$0	\$0	\$0
	Section 129 Loans	\$0	\$0	\$0	\$0	\$0
	Rail Rehab & Improvement Financing	\$0	\$0	\$0	\$0	\$0
	Private Activity Bonds	\$0	\$0	\$0	\$0	\$0
	Private Concession Fees	\$0	\$0	\$0	\$0	\$0
	Private Donations	\$0	\$0	\$0	\$0	\$0
	Program Income (from a federal project)	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	Innovative Financing Total	\$0	\$0	\$0	\$0	\$0
REVENUE TOTAL	\$0	\$0	\$0	\$0	\$0	

NOTES:

¹**Regional:** Some MPOs may not have regional fund sources. In these cases, data would be shown as "zero" or not applicable.

²**Federal Total:** Is the sum of federal highway and federal transit programs.

³**Innovative Finance:** Toll revenues have been included under local and regional while GARVEE bond revenues are included under state.

⁴**Proposition 1B:** Subtotal is a sum of funding for various programs funded under proposition 1B except for STIP Augmentation and SHOPP Augmentation

State of California

2008/09-2011/12 Federal Transportation Improvement Program

MPO: DRAFT

PROGRAMMED		4 YEARS (See FSTIP Cycle)				
		2008/09	2009/10	2010/11	2011/12	Total
LOCAL	Local Total	\$0	\$0	\$0	\$0	\$0
REGIONAL ¹	Tolls	\$0	\$0	\$0	\$0	\$0
	-- Bridge	\$0	\$0	\$0	\$0	\$0
	-- Corridor	\$0	\$0	\$0	\$0	\$0
	Regional Transit Fares/Measures	\$0	\$0	\$0	\$0	\$0
	Regional Sales Tax	\$0	\$0	\$0	\$0	\$0
	Regional Bond Revenue	\$0	\$0	\$0	\$0	\$0
	Regional Gas Tax	\$0	\$0	\$0	\$0	\$0
	Vehicle Registration Fees (CARB Fees, SAFE)	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	Regional Total	\$0	\$0	\$0	\$0	\$0
STATE	State Highway Operations and Protection Program (SHOPP)	\$0	\$0	\$0	\$0	\$0
	SHOPP (Including Augmentation)	\$0	\$0	\$0	\$0	\$0
	SHOPP Prior	\$0	\$0	\$0	\$0	\$0
	State Transportation Improvement Program (STIP)	\$0	\$0	\$0	\$0	\$0
	STIP (Including Augmentation)	\$0	\$0	\$0	\$0	\$0
	STIP Prior	\$0	\$0	\$0	\$0	\$0
	Proposition 1 B ⁴	\$0	\$0	\$0	\$0	\$0
	GARVEE Bonds	\$0	\$0	\$0	\$0	\$0
	Traffic Congestion Relief Program	\$0	\$0	\$0	\$0	\$0
	State Transit Assistance (STA) <small>(e.g., population/revenue based, Prop 42)</small>	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	State Total	\$0	\$0	\$0	\$0	\$0
FEDERAL TRANSIT	Bus and Bus Related Grants (5309c)	\$0	\$0	\$0	\$0	\$0
	Clean Fuel Formula Program (5308)	\$0	\$0	\$0	\$0	\$0
	Elderly & Persons with Disabilities Formula Program (5310)	\$0	\$0	\$0	\$0	\$0
	Fixed Guideway Modernization (5309a)	\$0	\$0	\$0	\$0	\$0
	Intercity Bus (5311f)	\$0	\$0	\$0	\$0	\$0
	Job Access and Reverse Commute Program (5316)	\$0	\$0	\$0	\$0	\$0
	Metropolitan Planning (5303)	\$0	\$0	\$0	\$0	\$0
	New and Small Starts (Capital Investment Grants) (5309b)	\$0	\$0	\$0	\$0	\$0
	New Freedom (SAFETEA-LU)	\$0	\$0	\$0	\$0	\$0
	Nonurbanized Area Formula Program (5311)	\$0	\$0	\$0	\$0	\$0
	Public Transportation on Indian Reservation (5311c)	\$0	\$0	\$0	\$0	\$0
	Transit in the Parks (5320)	\$0	\$0	\$0	\$0	\$0
	Urbanized Area Formula Program (5307)	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
Federal Transit Total	\$0	\$0	\$0	\$0	\$0	

State of California

2008/09-2011/12 Federal Transportation Improvement Program

MPO: DRAFT

PROGRAMMED		4 YEARS (See FSTIP Cycle)				
		2008/09	2009/10	2010/11	2011/12	Total
FEDERAL HIGHWAY	Federal Highway Non-Discretionary					
	Congestion Mitigation and Air Quality (CMAQ)	\$0	\$0	\$0	\$0	\$0
	Surface Transportation Program (Regional)	\$0	\$0	\$0	\$0	\$0
	Highway Bridge Program (HBP)	\$0	\$0	\$0	\$0	\$0
	Highway Safety Improvement Program (HSIP)	\$0	\$0	\$0	\$0	\$0
	Railway (Section 130)	\$0	\$0	\$0	\$0	\$0
	Safe Routes to School (SRTS) (SAFETEA-LU)	\$0	\$0	\$0	\$0	\$0
	Safe Routes to School (SR2S)	\$0	\$0	\$0	\$0	\$0
	Transportation Improvements (TI)	\$0	\$0	\$0	\$0	\$0
	Federal Lands Highway	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	Subtotal	\$0	\$0	\$0	\$0	\$0
	Federal Highway Discretionary Programs					
	Bridge Discretionary Program	\$0	\$0	\$0	\$0	\$0
	Corridor Infrastructure Improvement Program (SAFETEA-LU Sec. 1302)	\$0	\$0	\$0	\$0	\$0
	Coordinated Border Infrastructure (SAFETEA-LU Sec.1303)	\$0	\$0	\$0	\$0	\$0
	Ferry Boal Discretionary	\$0	\$0	\$0	\$0	\$0
	High Priority Projects (HPP)	\$0	\$0	\$0	\$0	\$0
	High Risk Rural Road (HRRR)	\$0	\$0	\$0	\$0	\$0
	National Scenic Byways Program	\$0	\$0	\$0	\$0	\$0
	Projects of National/Regional Significance (SAFETEA-LU Sec. 1301)	\$0	\$0	\$0	\$0	\$0
Public Lands Highway Discretionary	\$0	\$0	\$0	\$0	\$0	
Recreational Trails	\$0	\$0	\$0	\$0	\$0	
Transportation and Community and System Preservation Program	\$0	\$0	\$0	\$0	\$0	
Other (Please specify)	\$0	\$0	\$0	\$0	\$0	
Subtotal	\$0	\$0	\$0	\$0	\$0	
Federal Highway Total	\$0	\$0	\$0	\$0	\$0	
FEDERAL TOTAL²	\$0	\$0	\$0	\$0	\$0	
INNOVATIVE FINANCE³	TIFIA (Transportation Infrastructure Finance and Innovation Act)	\$0	\$0	\$0	\$0	\$0
	State Infrastructure Bank	\$0	\$0	\$0	\$0	\$0
	Section 129 Loans	\$0	\$0	\$0	\$0	\$0
	Rail Rehab & Improvement Financing	\$0	\$0	\$0	\$0	\$0
	Private Activity Bonds	\$0	\$0	\$0	\$0	\$0
	Private Concession Fees	\$0	\$0	\$0	\$0	\$0
	Private Donations	\$0	\$0	\$0	\$0	\$0
	Program Income (from a federal project)	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	Innovative Financing Total	\$0	\$0	\$0	\$0	\$0
PROGRAMMED TOTAL	\$0	\$0	\$0	\$0	\$0	

NOTES:

¹Regional: Not all MPOs may have regional fund sources. In these cases, data would be shown as "zero" or not applicable.

²Federal Total: Is the sum of federal highway and federal transit programs.

³Innovative Finance: Toll revenues have been included under local and regional while GARVEE bond revenues are included under state.

⁴Proposition 1B: Subtotal is a sum of funding for various programs funded under proposition 1B except for STIP Augmentation and SHOPP Augmentation

State of California

2008/09-2011/12 Federal Transportation Improvement Program

MPO: DRAFT

REVENUE Vs. PROGRAMMED		4 YEARS (See FSTIP Cycle)				
		2008/09	2009/10	2010/11	2011/12	Total
LOCAL	Local Total	\$0	\$0	\$0	\$0	\$0
REGIONAL ¹	Tolls	\$0	\$0	\$0	\$0	\$0
	-- Bridge	\$0	\$0	\$0	\$0	\$0
	-- Corridor	\$0	\$0	\$0	\$0	\$0
	Regional Transit Fares/Measures	\$0	\$0	\$0	\$0	\$0
	Regional Sales Tax	\$0	\$0	\$0	\$0	\$0
	Regional Bond Revenue	\$0	\$0	\$0	\$0	\$0
	Regional Gas Tax	\$0	\$0	\$0	\$0	\$0
	Vehicle Registration Fees (CARB Fees, SAFE)	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	Regional Total	\$0	\$0	\$0	\$0	\$0
STATE	State Highway Operations and Protection Program (SHOPP)	\$0	\$0	\$0	\$0	\$0
	SHOPP (Including Augmentation)	\$0	\$0	\$0	\$0	\$0
	SHOPP Prior	\$0	\$0	\$0	\$0	\$0
	State Transportation Improvement Program (STIP)	\$0	\$0	\$0	\$0	\$0
	STIP (Including Augmentation)	\$0	\$0	\$0	\$0	\$0
	STIP Prior	\$0	\$0	\$0	\$0	\$0
	Proposition 1 B ⁴	\$0	\$0	\$0	\$0	\$0
	GARVEE Bonds	\$0	\$0	\$0	\$0	\$0
	Traffic Congestion Relief Program	\$0	\$0	\$0	\$0	\$0
	State Transit Assistance (STA) <small>(e.g., population/revenue based, Prop 42)</small>	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	State Total	\$0	\$0	\$0	\$0	\$0
	FEDERAL TRANSIT	Bus and Bus Related Grants (5309c)	\$0	\$0	\$0	\$0
Clean Fuel Formula Program (5308)		\$0	\$0	\$0	\$0	\$0
Elderly & Persons with Disabilities Formula Program (5310)		\$0	\$0	\$0	\$0	\$0
Fixed Guideway Modernization (5309a)		\$0	\$0	\$0	\$0	\$0
Intercity Bus (5311f)		\$0	\$0	\$0	\$0	\$0
Job Access and Reverse Commute Program (5316)		\$0	\$0	\$0	\$0	\$0
Metropolitan Planning (5303)		\$0	\$0	\$0	\$0	\$0
New and Small Starts (Capital Investment Grants) (5309b)		\$0	\$0	\$0	\$0	\$0
New Freedom (SAFETEA-LU)		\$0	\$0	\$0	\$0	\$0
Nonurbanized Area Formula Program (5311)		\$0	\$0	\$0	\$0	\$0
Public Transportation on Indian Reservation (5311c)		\$0	\$0	\$0	\$0	\$0
Transit in the Parks (5320)		\$0	\$0	\$0	\$0	\$0
Urbanized Area Formula Program (5307)		\$0	\$0	\$0	\$0	\$0
Other (Please specify)		\$0	\$0	\$0	\$0	\$0
Federal Transit Total		\$0	\$0	\$0	\$0	\$0

State of California

2008/09-2011/12 Federal Transportation Improvement Program

MPO: DRAFT

REVENUE Vs. PROGRAMMED		4 YEARS (See FSTIP Cycle)				
		2008/09	2009/10	2010/11	2011/12	Total
FEDERAL HIGHWAY	Federal Highway Non-Discretionary					
	Congestion Mitigation and Air Quality (CMAQ)	\$0	\$0	\$0	\$0	\$0
	Surface Transportation Program (Regional)	\$0	\$0	\$0	\$0	\$0
	Highway Bridge Program (HBP)	\$0	\$0	\$0	\$0	\$0
	Highway Safety Improvement Program (HSIP)	\$0	\$0	\$0	\$0	\$0
	Railway (Section 130)	\$0	\$0	\$0	\$0	\$0
	Safe Routes to School (SRTS) (SAFETEA-LU)	\$0	\$0	\$0	\$0	\$0
	Safe Routes to School (SR2S)	\$0	\$0	\$0	\$0	\$0
	Transportation Improvements (TI)	\$0	\$0	\$0	\$0	\$0
	Federal Lands Highway	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	Subtotal	\$0	\$0	\$0	\$0	\$0
	Federal Highway Discretionary Programs					
	Bridge Discretionary Program	\$0	\$0	\$0	\$0	\$0
	Corridor Infrastructure Improvement Program (SAFETEA-LU Sec. 1302)	\$0	\$0	\$0	\$0	\$0
	Coordinated Border Infrastructure (SAFETEA-LU Sec.1303)	\$0	\$0	\$0	\$0	\$0
	Ferry Boat Discretionary	\$0	\$0	\$0	\$0	\$0
	High Priority Projects (HPP)	\$0	\$0	\$0	\$0	\$0
	High Risk Rural Road (HRRR)	\$0	\$0	\$0	\$0	\$0
	National Scenic Byways Program	\$0	\$0	\$0	\$0	\$0
	Projects of National/Regional Significance (SAFETEA-LU Sec. 1301)	\$0	\$0	\$0	\$0	\$0
Public Lands Highway Discretionary	\$0	\$0	\$0	\$0	\$0	
Recreational Trails	\$0	\$0	\$0	\$0	\$0	
Transportation and Community and System Preservation Program	\$0	\$0	\$0	\$0	\$0	
Other (Please specify)	\$0	\$0	\$0	\$0	\$0	
Subtotal	\$0	\$0	\$0	\$0	\$0	
Federal Highway Total	\$0	\$0	\$0	\$0	\$0	
FEDERAL TOTAL²	\$0	\$0	\$0	\$0	\$0	
INNOVATIVE FINANCE³	TIFIA (Transportation Infrastructure Finance and Innovation Act)	\$0	\$0	\$0	\$0	\$0
	State Infrastructure Bank	\$0	\$0	\$0	\$0	\$0
	Section 129 Loans	\$0	\$0	\$0	\$0	\$0
	Rail Rehab & Improvement Financing	\$0	\$0	\$0	\$0	\$0
	Private Activity Bonds	\$0	\$0	\$0	\$0	\$0
	Private Concession Fees	\$0	\$0	\$0	\$0	\$0
	Private Donations	\$0	\$0	\$0	\$0	\$0
	Program Income (from a federal project)	\$0	\$0	\$0	\$0	\$0
	Other (Please specify)	\$0	\$0	\$0	\$0	\$0
	Innovative Financing Total	\$0	\$0	\$0	\$0	\$0

NOTES:

¹Regional: Not all MPOs may have regional fund sources. In these cases, data would be shown as "zero" or not applicable

²Federal Total: Is the sum of federal highway and federal transit programs

³Innovative Finance: Toll revenues have been included under local and regional while GARVEE bond revenues are included under state

⁴Proposition 1B: Subtotal is a sum of funding for various programs funded under proposition 1B except for STIP Augmentation and SHOPP Augmentation

HANDOUT NO. 3

FTIP Modification Cost Threshold Comparison

California	FHWA Proposal	Chicago	Chicago Mod	Florida	SACOG Proposal
A project may be administratively modified if the cost change is below both 20% and \$2m.	A project may be administratively modified if the cost change is below both 25% and \$5m	A project may be administratively modified so long as it meets these thresholds: (\$1000s) 100%: \$0-999 50%: \$1,000-4,999 25%: \$5,000-\$9,999 20% \$10,000 and higher	A project may be administratively modified so long as it meets these thresholds: (\$1000s) 100%: \$0-999 50%: \$1,000-4,999 25%: \$5,000 and higher	A project may be administratively modified if the cost increase is below either 20% OR \$2m.	A project may be administratively modified if the cost increase is below either 25% OR \$2m.
(\$2m cap)	(\$5m cap)	(\$10m cap)	(\$5m cap)	(No cap)	(\$5m cap)

FTIP Modification Cost Threshold Comparison

Amendment Proposals (in 1000s)

Total Cost	California	FHWA Proposal	Chicago	Chicago Mod	Florida	SACOG Proposal
-	-	-	-	-	-	-
100	20	25	100	100	2,000	2,000
200	40	50	200	200	2,000	2,000
500	100	125	500	500	2,000	2,000
1,000	200	250	500	500	2,000	2,000
2,000	400	500	1,000	1,000	2,000	2,000
5,000	1,000	1,250	1,250	1,250	2,000	2,000
10,000	2,000	2,500	2,000	2,500	2,000	2,500
40,000	2,000	5,000	8,000	5,000	8,000	5,000
50,000	2,000	5,000	10,000	5,000	10,000	5,000

FTIP Modification Cost Threshold Comparison

SACOG Alternative Proposal 25% or \$2 million, whichever is greater (\$5 million cap)

(If Yes to both, then Amendment Required) If Yes then Amendment Required

Cost Estimate in FTIP	Latest Cost Estimate	Cost Increase	Percentage Increase	Increase Exceeds \$2 million?	Increase Exceeds 25%?	Above \$5m cap?	FTIP Amendment Required?
\$1,000,000	\$2,000,000	\$1,000,000	100%	No	Yes	No	No
\$1,000,000	\$3,200,000	\$2,200,000	220%	Yes	Yes	No	Yes
\$5,000,000	\$6,500,000	\$1,500,000	30%	No	Yes	No	No
\$5,000,000	\$7,500,000	\$2,500,000	50%	Yes	Yes	No	Yes
\$8,000,000	\$10,000,000	\$2,000,000	25%	No	No	No	No
\$10,000,000	\$15,000,000	\$5,000,000	50%	Yes	Yes	No	Yes
\$15,000,000	\$17,500,000	\$2,500,000	17%	Yes	No	No	No
\$90,000,000	\$100,000,000	\$10,000,000	11%	Yes	No	Yes	Yes

FTIP Modification Cost Threshold Comparison

MTC Formal Amendments

California (MTC did 1132 administrative changes) FHWA Proposal (256 more) Chicago (588 more)* Florida (1305 more)

Table C - Summary of Cost Change and Percentage change

%Change	Cost Change (in millions)													Grand Total
	\$0-2	\$2.01-\$3	\$3.01-\$4	\$4.01-\$5	\$5.01-\$6	\$6.01-\$10	\$10.01 - \$20	\$20.01 - \$30	\$30.01 - \$40	\$40.01 - \$50	\$50.01 - \$100	>\$100		
0-9.9%	883	61	26	23	12	29	23	11	2	1	6		1065	
10-19.9%	249	26	10	15	12	18	24	11	4	3	3	3	379	
20-24.9%	59	6	6	6	4	7	10	3	4		1	2	136	
25-49.9%	267	29	32	6	12	26	36	19	9	13	10	13	471	
50-100%	469	78	48	33	23	75	71	23	14	12	26	18	890	
>100%	168	41	34	17	8	36	43	19	15	13	19	36	449	
Grand Total	2125	280	154	101	71	191	206	86	48	42	64	72	3390	

1132 Data inconclusive.* California (MTC did 866 administrative changes--should be 1132)* FHWA Proposal (At least 100 more--should be 256)* Chicago 987 more*

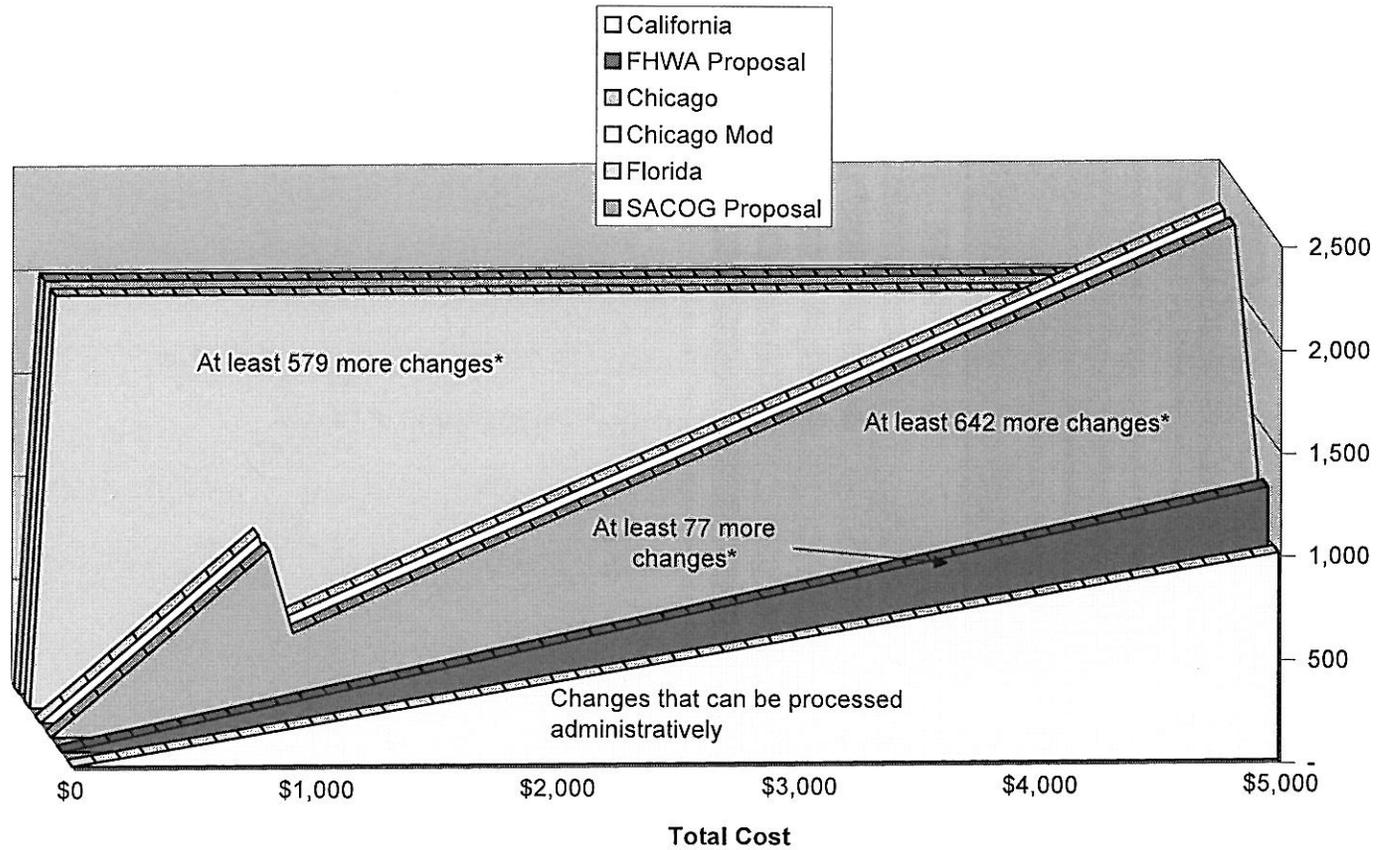
Table B - Summary of Original Cost and Percentage Change

Original Cost (in millions)	Percentage Change						Grand Total
	A	B	C	D	E	F	
	0-9.9%	10-19.9%	20-24.9%	25-49.9%	50-100%	>100%	
\$0-0.50	97	47	19	62	199	142	566
\$0.51-1	95	44	16	59	110	72	396
\$1.01-3	163	63	27	87	214	87	634
\$3.01-6	88	36	15	46	87	37	311
\$5.01-10	118	41	14	59	93	37	362
\$10.01-20	84	42	9	36	78	33	282
\$20.01-50	157	41	19	46	60	24	337
\$50.01-100	91	28	8	33	37	6	203
\$100.01 - \$200.00	85	22	6	24	11	7	155
\$200.01 - \$300.00	26	6	1	6	3		42
\$300.01 - \$400.00	20	3		4	4		31
\$400.01 - \$500.00	16	2	1	3	2	2	26
>\$500	35	4	1	4	2	2	48
Grand Total	1065	379	136	471	890	449	3390

*The numbers are for illustrative purposes. The exact number of projects that could be amended under the various thresholds is difficult to determine using these charts.

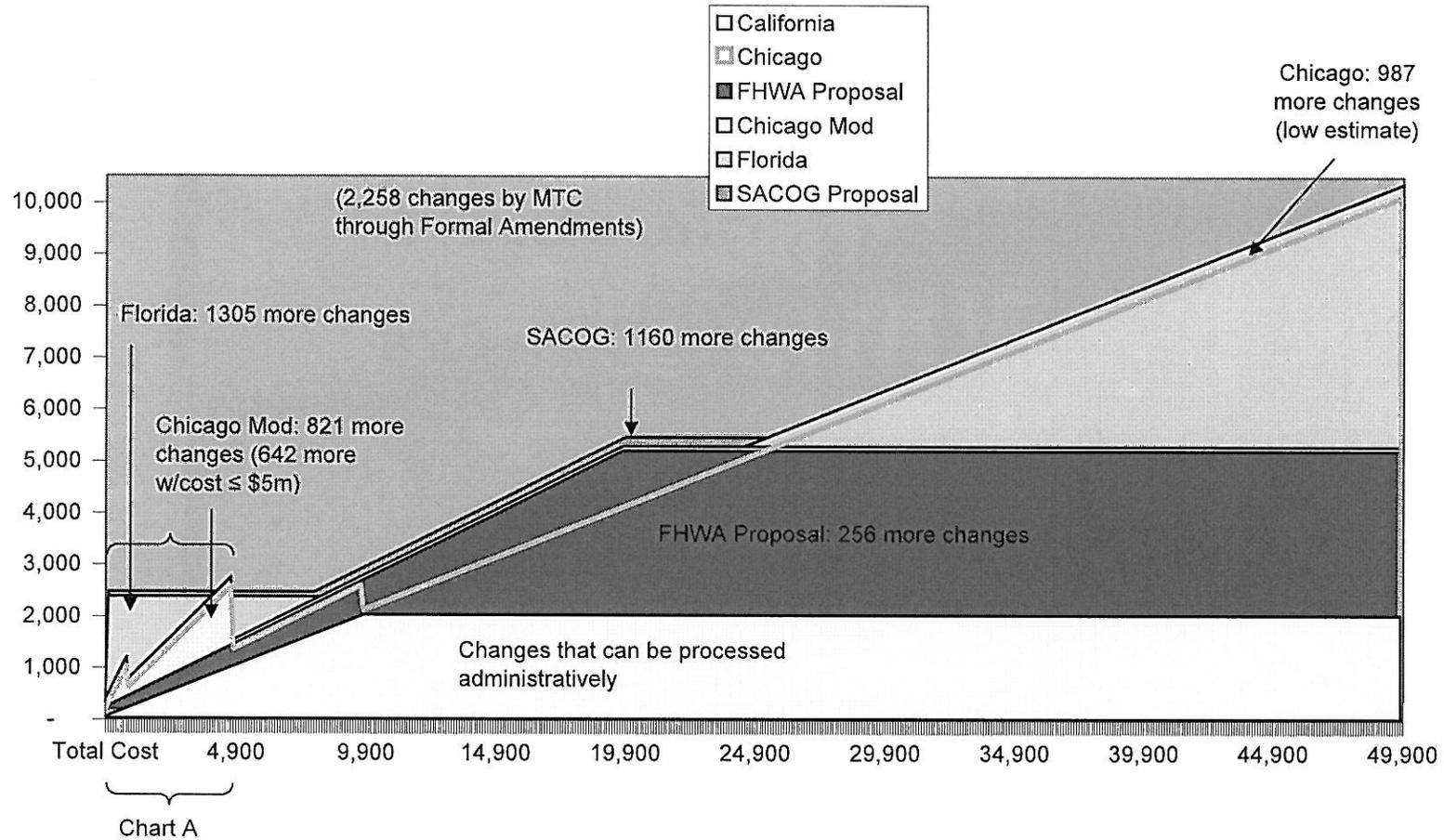
Florida (at least 1172 more--should be 1305)*

Chart A Modification Criteria for Projects ≤ \$5 Million



*The numbers are for illustrative purposes. The exact number of projects that could be amended under the various thresholds is difficult to determine using the MTC Chart.

Chart B Modification Criteria for Projects ≤ \$50 Million



Draft Final Report

CFPG Task Force on FSTIP/FTIP Modifications

Background

The California Federal Programming Group (CFPG) Task Force on Federal Statewide Transportation Improvement Program (FSTIP)/Federal Transportation Improvement Program (FTIP) Administrative Modifications & Amendments convened December 17, 2007. It began by approving the following charter: Update or modify existing FTIP/FSTIP modification guidelines to be consistent with SAFETEA-LU while providing clarification and flexibility. The Task Force selected a chair and set March 1, 2008 as its target date for a proposal.

Membership

The Task Force consisted of volunteer participants from the CFPG. The goal was to include Caltrans, FHWA, FTA, and MPOs of various sizes.

Abhijit Bagde	Caltrans Federal Programming
Cathy Gomes	Caltrans Federal Programming
David Ghiorso	SACOG
Jody Swanson	SJCOG
José Luis Cáceres (Chair)	SACOG
Liqun Ke	Caltrans Local Assistance
Muhaned Aljabiry	Caltrans Federal Programming
Penny Gray	Caltrans Federal Programming
Randy Ronning	Caltrans Local Assistance
Renée Devere-Oki	Fresno COG
Rosemary Ayala	SCAG
Scott Carson	FHWA
Sri Srinivasan	MTC
Steve Luxenberg	FHWA
Ted Matley	FTA
Wade Hobbs	FHWA

Key Findings

The Task Force began by brainstorming a list of issues to clarify and types of changes which should have more flexibility. Questions arose such as, “What is a minor cost change?” “Why should the Highway Bridge Program grouped project listing require a formal amendment?” The following are some key findings:

1. Revise project cost – change the 20% and \$2m rule to something that allows for a higher percentage for low cost projects and a higher dollar figure for high cost projects. The current rule is too limiting at the high and low cost extremes.

2. FHWA and Caltrans expressed concern that too much flexibility in cost changes would impact financial constraint and encourage poor cost estimates.
3. Obvious errors – Caltrans and MPOs would like to continue having the ability to make technical adjustments to obvious errors such as typos without amending projects. MPOs and Caltrans currently fix typos after a simple telephone conversation and the proposed process should continue to allow for this. In addition, the Administrative Modification process should also allow for typo fixes.
4. Minor scope changes –MPOs and Caltrans would like to the ability to make minor adjustments to the post miles as an Administrative Modification
5. Adding a phase - Question as to why MPOs cannot add a non-capital prior phase through an Administrative Modification. Currently, a minor amendment does not allow adding a phase to a project, even if it is a prior phase or a future ROW phase.
6. Carrying funds over from a prior year outside the FTIP is not allowed in the current guidelines and should be.
7. Allow for cost decreases – This is not allowed in the current guidelines and should be.
8. We should use the new SAFETEA-LU terms, “Administrative Modification” and “Amendment” and eliminate the terms “Administrative Amendment” and “Formal Amendment.”
9. There was frustration interpreting what is a “minor change” in fund type vs. a major change in fund type.

Approach & Early Draft Proposals

The Task Force, naturally, focused on the top issue: changing the Administrative Modification cost change thresholds. Several proposals were made, however the group did not vote on either of them, preferring to accomplish the entire charter rather than agreeing early to a cost change proposal.

SCAG began by proposing different rules for non-exempt projects and exempt projects, allowing more flexibility for changing exempt projects. The rationale was that cost changes to exempt projects do not affect air quality conformity. Also, exempt projects tend to be included in group project listings which have added flexibility under current guidelines. The argument against the proposal was that a cost change to a non-exempt project would by definition also not affect air quality conformity since no changes may be processed through Administrative Modification which affect air quality conformity.

Next, MTC presented a proposal which tiered projects by size so that those under \$2 million had one percentage and those from \$2 million to \$500 million had another percentage. The rationale was that a minor change in cost can appear as major (when it isn't) when dealing with large projects. For instance, a \$500 million project that changed in cost by 2% experiences a \$10 million cost change. While \$10 million sounds major, it's really an insignificant cost change. Also, while it may sound like a major impact to the financial capacity of an MPO, if an MPO can afford a \$500 million project, it should be able to handle a cost increase of \$10 million without impacting financial constraint.

The argument against the proposal was that \$10 million is too much flexibility, and that while a large MPO like MTC may be able to handle that flexibility, smaller MPOs wouldn't.

Caltrans followed up with a more complicated tiered system that allowed for variation in flexibility by MPO sizes (large, medium, small). The rationale was that an Administrative Modification should only allow those cost changes that would not impact financial constraint. And since MPOs with larger programs can handle larger cost increases without impacting financial constraint, they should have higher limits for Administrative Modifications. The proposal also tiered projects by cost, but used six tiers instead of two and dollar caps (instead of percentages) for changes within those tiers. The rationale here was that smaller projects needed more flexibility than 20% and larger projects needed more flexibility than \$2 million. The argument against the proposal was that it would be too difficult to classify MPOs, it would be too complicated, and that a small MPO with a \$500 million project, may still be able to handle a \$10 million cost increase.

Next, Caltrans made another proposal which allowed for tiered changes by phase. The proposal allowed for phases under \$10 million to increase by \$3 million and phases above \$10 million to increase by 30%, up to \$5 million. The rationale here was that the rules should be by phase since SAFETEA-LU describes Administrative Modifications as minor changes to projects or project phases. Also, in some ways, FHWA treats phases as individual projects. In addition to the tiered approach, Caltrans proposed that MPOs should be allowed to add or delete projects so long as the addition or deletion did not impact conformity or fiscal constraint. Caltrans also proposed allowing programming of PE administratively if other phases had already been programmed. Also, Caltrans proposed an allowable increase of 20% in capacity for capital purchases. The argument against the proposal was that it would be complicated to test whether and demonstrate that project changes meet these thresholds.

It was after this latest proposal that the Task Force decided some research was needed before it agreed on an Administrative Modification cost change threshold proposal.

Proposals Based on Research

Part of the reason the proposals were not accepted immediately was that the Task Force had several questions it needed to answer:

1. How much more flexibility is needed and for what types of projects?
2. How many more projects could be modified administratively under various proposals?
3. What Administrative Modification procedures do other states and MPOs use?

Once these questions were answered, the Task Force could propose thresholds that:

1. Are already accepted by other states and the local FHWA and FTA.
2. Would target those areas in need of additional flexibility.
3. Demonstrate the number of projects reduced from Amendment review.

Research Findings from Other MPOs

There is some variation in the Administrative Modification procedures across the country. Some MPOs have more flexible rules than California. Florida Department of Transportation processes Administrative Modification provided that the project change is below \$2 million or 20% with no cap. This would allow a \$500,000 project to increase by 100% to \$1 million since the change is below \$2 million. It would also allow a \$20 million project to increase by \$3 million since the change is below 20%. Georgia Department of Transportation has a similar rule of \$2 million or 20%, except that it places a \$10 million cap on changes. Washington Department of Transportation uses a similar rule, except that it allows 20% or \$250,000, whichever is greater and no cap.

Chicago Metropolitan Agency for Planning uses a tiered system that allows for 100% cost increases to projects under \$1 million and 20% cost increases for more expensive projects with a \$10 million cap. Denver Council of Governments even allows the programming of new individually listed projects as long as the funding is less \$3 million in the 4 years of the FTIP and the addition does not affect the air quality conformity analysis.

In contrast, some MPOs had less flexible rules. However, even though the rules are less flexible in some ways, they are more flexible in others. For example, Pennsylvania Department of Transportation limits cost increases to \$1 million for MPOs (which are small in Pennsylvania). While this is a lower cap than California has, it is a higher percentage for small projects than California has. For instance, it would allow a \$500,000 project to triple in cost to \$1.5 million, which would not be allowed under California's current rules. Also interesting is that Pennsylvania has higher caps for other regional agencies: \$5 million for regional planning agencies and \$2 million for statewide programs. Essentially, it is a system tiered by MPO size with have higher caps for larger MPOs.

Research Findings from California MPOs

In an effort to evaluate where the need for more flexibility is and to evaluate how proposals would affect the number of projects amended, all five MPOs on the Task Force collected information from Formal Amendments over the last 2-3 years. MTC, SACOG, Fresno COG, SJCOG, and SCAG all researched projects that experienced cost changes. Projects which had other significant changes, such as scope change or completion year changes were not included, since such projects would have required a Formal Amendment anyway. The Task Force wanted to isolate just those projects that could have been administratively modified had more flexible rules been in place.

Task Force found a general need for more flexibility for low cost projects (projects under \$10 million) and very low cost projects (under \$2 million) experiencing cost increases above 20%. On the other end of the spectrum the Task Force found a need for more flexibility for high cost projects (projects greater than \$10 million) and very high cost projects (projects greater than \$20 million) experiencing cost changes below 20% yet above \$2 million. MTC was a good case study, since it had a high volume of projects in its survey sample (2258 cost changes requiring a formal amendment). MTC's research

revealed that increasing the cap from \$2 million to \$3 million would allow 77 more projects to be processed administratively and that an increase to \$5 million would allow 151 more projects, which would provide a 7% increase in flexibility. These would be expensive projects ranging in cost from \$10 to \$25 million.

While changing the cap to \$5 million could increase flexibility by a modest 7%, the research showed that a higher percentage cap for smaller projects dramatically improved flexibility. For instance, simply increasing the percentage from 20% to 25% (yet capping it at \$2 million) allowed 89 more projects to be administratively modified. Increasing the cap to 50% (while keeping the \$2 million cap) allows 356 projects, which is a 16% increase. If MTC had used Georgia's policy of \$2 million or 20% with a \$10 cap, it would have been able to administratively modify 1215 of its 2258 formal amendments, a reduction of 54%.

The research showed dramatic decreases in the number of formal amendments that could be achieved by adopting policies similar to other MPOs. These decreases would result in decreases to administrative costs, since FHWA and FTA would not have to review as many formal amendments. Also, project sponsors would experience fewer delays to project delivery.

More Proposals

After considering the research, FHWA made the following proposal: A project may be administratively modified if the cost change is below both 25% and \$5 million. The rationale to not allow more was the perception that a decision needed to be made quickly and that anything greater might be considered as impacting financial constraint and would require a more thorough examination. FHWA perceived that the Task Force needed to hurry and agree to a proposal in time for spring 2008 FTIP adoptions. Had MTC been able to use this rule it would have been able to administratively modify 256 more projects, or 11% of the formally amended projects.

While this proposal would add a little more flexibility, the argument against it is that it falls short of the flexibility other MPOs share, especially for small projects that experience high percentage increases. Also other MPOs have either a \$10 million cap or none at all. As a result, the Task Force is reviewing alternative proposals such as a modified Florida policy or a modified Chicago policy.

The most recent proposal comes from SACOG. After reviewing FHWA's proposal and considering the research SACOG has proposed a hybrid of FHWA's proposal and the thresholds of Florida and Georgia. The proposal is 25% or \$2 million, whichever is greater, with a \$5 million cap. The rationale is that financial constraint is determined by whether the MPO has the revenues to support a cost increase. The cap is proposed because FHWA, FTA, and Caltrans may not be ready to accept a policy which has no cap at all. However, perhaps the cap could be raised to \$10 million or even higher after this new policy is tested. The percentage increase matches what FHWA has proposed. While improving on FHWA's policy by providing added flexibility for smaller projects. Had MTC been able to use this policy, it would have been able to administratively modify

1160 more projects, or 51% of the formally amended projects.

The Task Force has not yet discussed this proposal. The arguments against it are that it permits too much flexibility for small projects. Also the cap could be higher since other MPOs have either a \$10 million cap or none at all.

Reasons Against Additional Flexibility

While the Task Force may appear intent on attaining additional flexibility for cost changes, it acknowledges that there are some good reasons for restricting the flexibility of Administrative Modifications. However, these reasons have tended into misplaced intentions. The reasons include:

1. Public Review
2. Financial Constraint
3. Controlling Cost Estimates

1. Public Review

Congress legislated that the public should be notified of significant changes to the FTIP using the Public Participation Plans adopted by MPOs. Also, the public should be notified of significant changes to the FSTIP using the Public Participation Procedures adopted by Caltrans.

Some might argue that when more projects are allowed to be administratively modified the public unfairly loses the opportunity to comment on the decision to approve those changes. However, the Task Force's recommendation is to reduce the number of *insignificant* changes from public review. The Task Force seeks to improve the public review process because the more MPOs circulate administrative-level changes to the public, the harder it is for the public to filter the significant changes from the insignificant. As a result, MPOs lose the public's attention to the detriment of public involvement.

Connecticut MPO requires that all administrative modifications retain the original intent of the project, when changing the scope or cost. The rationale is that if the project is still accomplishing the same intent as it was originally programmed, then the public does not care about the change. This is confirmed by the fact that California MPOs do not typically receive comments regarding cost changes in formal amendments.

2. Financial Constraint

a. Definition

Administrative Modifications should not impact financial constraint and by definition do not require a demonstration of financial constraint. This simple statement can be difficult to interpret. In Task Force meetings FHWA has stated that an increase in \$10 million to a project cost would impact financial constraint and therefore should not be allowed in an Administrative Modification. However the impact on financial constraint is not so straightforward to determine.

According to federal regulations, financial constraint (or fiscal constraint) is the demonstration that the revenues, (federal, state, local, and private) identified by year in the FTIP will cover the anticipated costs of the projects by year. In addition, financial constraint involves the reasonable assurance that the federally supported transportation system remains adequately operated and maintained. Funding needs to be committed, available, or reasonably available, and, for air quality nonattainment and maintenance areas, the funds in the first two years must be available or committed.

b. Impacting Financial Constraint

How does one impact financial constraint? As noted above, FHWA has said that a simple \$10 million cost change would do it, however FHWA has not fully explained this puzzling assertion. For instance, why has FHWA allowed other states and MPOs to adopt policies allowing for project costs to change by \$10 million? Also, if the definition of financial constraint speaks to having financial capacity, shouldn't the rule speak to the financial capacity of an MPO rather than the size of the change to the project?

One way to impact financial constraint is to program more projects and revenues in a year than can be supported by committed, available, or reasonably available funding in the FTIP. Conceivably, this is why FHWA would seek to limit cost increases to lower than \$10 million, since increasing a project cost by \$10 million in year three could easily exceed the available funding in an FTIP in year three. In the same way, a \$2 million increase could produce the same result. Similarly, an MPO could make 50 individual \$1 million project increases. Even though the least of these changes could impact financial constraint, both \$1 and \$2 million increases are allowed administratively under current California FTIP modification rules.

c. Allowing Changes that Could Potentially Impact Financial Constraint

The reason MPOs have Administrative Modification thresholds is to streamline administrative changes and avoid a lengthy Amendment process. Administrative changes are clerical, inconsequential, unimportant, trivial, and of no great concern. FHWA, FTA, and state departments of transportation across the U.S. trust MPOs to make these clerical changes without impacting financial constraint. Also, because MPOs demonstrate financial constraint regularly through FTIP amendments and adoptions, FHWA and FTA rest assured because MPOs are regularly demonstrating financial constraint. In fact, under SAFETEA-LU, an MPO can still obligate and administratively modify projects in an FTIP that is *not* financially constrained. The regulations state that if a revenue source is removed or substantially reduced in the FTIP, FHWA

and FTA may not withdraw the original determination of fiscal constraint. Instead, they must wait for the next updated or amended FTIP for a redemonstration of financial constraint (23 CFR 450.324 (o)).

d. **Demonstrating Financial Constraint without Redemonstrating Financial Constraint**

During interviews with various MPOs and state DOTs, they explained that they only do an Administrative Modification to increase a project cost if they have the financial capacity to make the changes. Essentially, they consult their books to verify that they are still financially constrained. When asked how they assure FHWA and FTA that that the financial capacity exists, they responded saying FHWA and FTA refer to the most recent financial plan to verify financial capacity. Also, FHWA and FTA wait for the next financial plan to confirm the MPO is fiscally constrained.

Research shows that other MPOs are still checking to make sure Administrative Modifications do not impact financial constraint. Also, MPOs are still showing reviewing agencies that they are fiscally constrained. However, MPOs are not reproducing an entire financial plan each time an Administrative Modification is processed. In other words, they are demonstrating financial constraint without redemonstrating financial constraint.

3. Controlling Cost Estimates

A third reason to limit the Administrative Modification thresholds for cost changes is to manage the accuracy of cost estimates. The rationale is that if project sponsors are experiencing changes in cost estimates, they need to improve their cost estimates and explain their changes in cost estimates to the public.

This is a compelling reason for significant cost changes, but not for insignificant changes. The regulations governing the FTIP modifications focus on impacts to air quality conformity, financial constraint, and the test of minor vs. major. They do not focus on the accuracy of cost estimates. In fact, the allowance of an Administrative Modification process is evidence that Congress intended minor changes in cost estimates to be allowed without amendment.

The rationale here is that projects experiencing 20% cost increases should have budgeted 20% for contingencies. Project sponsors already budget varying amounts for contingencies. Sometimes the contingency exists within the budget for each project and sometimes it exists as a reserve within the project sponsor's entire capital budget. The California transportation industry has experienced fluctuating growth and rapidly increasing material costs which has wreaked havoc on the ability to accurately estimate the cost of transportation projects. The federal government can't expect project sponsors to accurately predict the transportation market.

Instead, MPOs plan for contingencies by programming a reserve of local, state, and federal transportation funds to cover minor cost increases. So long as the MPO does not deplete these reserves, its FTIP remains financially constrained.

Remaining Administrative Modification Issues

Although the Task Force is currently debating various cost change threshold proposals, multiple issues remain regarding other changes which could be processed through an Administrative Modification. California's policy does not yet allow, while other MPOs have rules and SAFETEA-LU has regulations that allow for the following changes to be processed as administrative modifications:

1. Adding a prior PE phase,
2. Adding any additional phase,
3. Adding small individual projects (including transit projects or exempt projects),
4. Minor change in scope,
5. Allowing any cost decrease,
6. Carrying over prior year unobligated funds,
7. Minor change in completion year within milestones,
8. Any change in an exempt project's completion year.
9. Programming Caltrans managed Grouped Project Listings administratively.

The Task Force is currently deciding whether to agree to a cost change threshold proposal and put off addressing the above issues, or instead create a final proposal that includes thresholds as well as a consideration of the above issues.



U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

CALIFORNIA DIVISION

650 Capitol Mall, Suite 4-100

Sacramento, CA. 95814

May 30, 2008

IN REPLY REFER TO

HDA-CA

Document #: S51701

Mr. Will Kempton, Director
California Department of Transportation
1120 N Street
Sacramento, CA 95814

Attention: Federal Resources Office, M.S. #82
For Rachel Falsetti, Transportation Programming

Dear Mr. Kempton:

SUBJECT: DRAFT Revised Federal – Statewide Transportation Improvement Program (FSTIP)
Amendment and Administrative Modification Procedures

For the past few months, a subcommittee of the California Federal Programming Group (CFPG) consisting of representatives from the California Department of Transportation (Caltrans), the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA) and Metropolitan Planning Organizations (MPOs) throughout the State have collaborated on revisions to the current FSTIP/FTIP amendment and administration modification procedures. These revisions were necessitated by the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which explicitly defined an administrative modification.

Attached are the revised procedures detailing what specific types of programming changes to the FSTIP/FTIPs may be made as administrative modifications, for which approval has been delegated to the State, and what changes must be submitted to FHWA and/or FTA for approval as amendments (per the July 15, 2004 MOU between FHWA – CA and FTA Region 9). The CFPG has agreed that these procedures will be adopted by MPO Boards of Directors prior to use and utilized in making future changes to the FSTIP/FTIPs.

If you have any questions regarding the attached procedures, please contact Ray Sukys, FTA, at 415-744-2803 (Raymond.Sukys@dot.gov) or Sue Kiser, FHWA, at 916-498-5009 (Sue.Kiser@fhwa.dot.gov).

Sincerely,

Leslie Rogers
Regional Administrator
Federal Transit Administration, Region IX

For
Gene K. Fong
Division Administrator
Federal Highway Administration, CA Division

Enclosure
SRL/ac:

cc: (electronic)
CA MPOs
Muhaned Aljabiry, Caltrans

MOVING THE
AMERICAN
ECONOMY



Procedures for Federal – Statewide Transportation Improvement Program (FSTIP) Amendments and Administrative Modifications

The following procedures are applicable for processing amendments and administrative modifications to the Federal – Statewide Transportation Improvement Program (FSTIP). In accordance with the provisions of 23 CFR 450, Federal Transportation Improvement Programs (FTIP) developed by Metropolitan Planning Organizations (MPOs) are incorporated into the FSTIP and, as such, these procedures are also applicable to FTIPs.

In accordance with 23 CFR 450.216(c), projects in the recognized four-year period of the FSTIP may be delivered in any of the FSTIP program years subject to the project selection requirements of 23 CFR 450.222. Such modifications do not require approval, provided expedited project selection procedures have been adopted in accordance with 23 CFR 450.332 and the required interagency consultation or coordination is accomplished and documented. These changes should be accounted for through subsequent amendments or modifications to the FSTIP/FTIPs. Changes to illustrative projects or others that have been included for informational purposes only do not require administrative modifications or amendments.

1. Definitions:

- A. Administrative modifications are minor changes to the FSTIP/FTIP that do not require a conformity determination, a demonstration of fiscal constraint or a public review and comment period. Administrative modifications can be processed in accordance with these procedures provided that they:
 - i. Revise a project description without changing the project scope or conflicting with the environmental document;
 - ii. Revise the funding amount listed for projects or project phases. Additional funding is limited to the lesser of 25 percent of the total project cost or \$5 million;
 - iii. Change sources of funds;
 - iv. Change a project lead agency;
 - v. Split or combine individually listed projects, provided cost, schedule and scope remain unchanged;
 - vi. Change required information for grouped or lump sum project listings; or,
 - vii. Add or delete projects from grouped or lump sum project listings provided the funding amounts stay within the funding change guidelines above (see Section ii).

- B. Amendments are major changes to FSTIP/FTIP that require a demonstration of fiscal constraint, a public review and comment period and may require a conformity determination for nonexempt projects in a nonattainment or maintenance area. These changes to the FSTIP/FTIP:
 - i. Add or delete individually-listed projects;
 - ii. Change total project costs by greater than the lesser of 25% or \$5 million;
 - iii. Change project or project phase initiation dates, or move project open-to-traffic dates across a conformity analysis year; or,
 - iv. Make major changes in project design concept or design scope.

2. Procedures:

A. Administrative Modifications

Each MPO-approved administrative modification will be forwarded to Caltrans Division of Transportation Programming for approval on behalf of the Governor. If the MPO Board has delegated approval of administrative modifications to the MPO Executive Director, the MPO will need to provide copies of the delegation to Caltrans, FHWA, and FTA.

The MPO will provide copies of administrative modifications submitted to Caltrans for approval to FHWA and/or FTA for informational purposes. Once approved by Caltrans, on behalf of the Governor, the administrative modification will be incorporated into the FSTIP and no Federal action will be required. Caltrans will notify the MPO, FHWA and FTA of the approved administrative modification.

B. Amendments

Amendments to the FSTIP must be developed in accordance with the provisions of 23 CFR 450.326 and/or 23 CFR 450.216, and approved by the FHWA and/or FTA in accordance with 23 CFR 450.218, 23 CFR 450.328 and the July 15, 2004 MOU between FHWA – CA and FTA Region 9. Each MPO-approved amendment will be forwarded to Caltrans Division of Transportation Programming for approval on behalf of the Governor. To expedite processing, the MPO will also forward a copy of the submitted amendment to FHWA and FTA at the same time the amendment is sent to Caltrans. Once approved by Caltrans on behalf of the Governor, Caltrans will forward the amendment to FHWA and/or FTA for Federal approval. Once approved by FHWA and/or FTA, the amendment will be incorporated into the FSTIP. The FHWA and/or FTA approval letter will be addressed to Caltrans, with copies sent to the MPO.

3. Dispute Resolution

If a question arises on the interpretation of what constitutes an administrative modification or amendment, Caltrans, the MPO, FHWA and FTA will consult with each other to resolve the question. If after consultation, the parties disagree regarding what constitutes an administrative modification or amendment, the final decision rests with the FTA for transit projects and FHWA for highway projects.

HANDOUT NO. 4

Fund Table Manager



Edit Fund Type

Browse All Funds

Fund Type Details

Fund ID: Fund Name:

Detailed Fund Description ('Huh?' Button)

Blended Fund Type
Match %: Match Fund:

Type
 Federal
 State
 Local

Archived Fund Type State Highway Account

Program Category(s) Containing this Fund Type

Select Category to Add

MPO Filter - This Fund Type Applies to

- AMBAG BCAG COFCG KCOG MCAG
- MTC SACOG SBCAG SCAG SANDAG
- Shasta SJCOG SLOCOG STANCOG TCAG
- Kings TRPA Madera Rural Non-MPO

HANDOUT NO. 5

Background

The 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU established a new core Highway Safety Improvement Program that is structured and funded to make significant progress in reducing highway fatalities on all public roadways. As required under SAFETEA-LU, the California Department of Transportation led the effort to develop California's Strategic Highway Safety Plan (SHSP) to identify key safety needs of the State, and strategies that address these needs. California's SHSP was approved by the Secretary of the Business, Transportation and Housing Agency (BTH) on September 26, 2006.

Implementation of the SHSP

Nearly 300 safety stakeholders representing 80 different agencies and organizations are working together to implement and monitor the effectiveness of the SHSP. This collaborative effort is led by: Jesse Bhullar, Department of Transportation (Caltrans); Chris Murphy, Office of Traffic Safety (OTS); Steve Lerwill, California Highway Patrol (CHP); and Pat Minturn, Shasta County of Public Works (representing local agencies).

The SHSP Steering Committee is comprised of 13 members from various agencies and organizations to provide guidance to each of the 16 Challenge Area Teams. Each Challenge Area Leader guides their team in analyzing collision data, and in identifying and prioritizing strategies and actions to implement the SHSP. The SHSP Steering Committee consolidated the most effective strategies and countermeasures from each Challenge Area into the Implementation of the SHSP document (152 actions). The Secretary of BTH approved the Implementation of the SHSP document on April 4, 2008. The SHSP Steering Committee will monitor the implementation and performance of these actions for the duration of the SAFETEA-LU. For more information on the SHSP organization, teams, committees, timelines and other details, please see the SHSP website provided below.

Implementation of the SHSP will include the most effective behavioral and infrastructure strategies, countermeasures, and actions for each of the Challenge Areas listed below.

- Challenge 1: Reduce Impaired Driving Related Fatalities
- Challenge 2: Reduce the Occurrence and Consequence of Leaving the Roadway and Head-on Collisions
- Challenge 3: Ensure Drivers are Licensed and Competent
- Challenge 4: Increase Use of Safety Belts and Child Safety Seats
- Challenge 5: Improve Driver Decisions about Rights of Way and Turning
- Challenge 6: Reduce Young Driver Fatalities
- Challenge 7: Improve Intersection and Interchange Safety for Roadway Users
- Challenge 8: Make Walking and Street Crossing Safer
- Challenge 9: Improve Safety for Older Roadway Users
- Challenge 10: Reduce Speeding and Aggressive Driving
- Challenge 11: Improve Commercial Vehicle Safety
- Challenge 12: Improve Motorcycle Safety
- Challenge 13: Improve Bicycling Safety
- Challenge 14: Enhance Work Zone Safety
- Challenge 15: Improve Post Crash Survivability
- Challenge 16: Improve Safety Data Collection, Access, and Analysis

SHSP Implementation Timeline

October 2005 – September 2006	Develop Strategic Highway Safety Plan (Completed and Approved)
October 2006 – April 2008	Develop Implementation of the SHSP Document (Completed and Approved)
May 2008 – December 2010	Implement the SHSP Actions
January 2009	Begin Performance Monitoring of the SHSP Actions

Website and Contact Information

Please visit the SHSP website for more information: <http://www.dot.ca.gov/SHSP/>

For more information contact: Jesse Bhullar
(916) 654-5026
Jesse.Bhullar@dot.ca.gov

Examine project development of Local Agency safety projects

- Work plan signed May 2, 2007
- Final report signed November 13, 2007

<http://www.dot.ca.gov/hq/LocalPrograms/FinalReportonDeliveryofSafetyProjects11-13-07.pdf>

- o Pgs. 16 - 21: Summary of findings/recommendations
 - o Pg. 18: FTIP process finding/recommendation
- Final implementation action plan signed May 2008
 - o Four actions from interagency meeting between Caltrans and FHWA:
 - 1) DLA to work directly with MPOs and request to be included on their notification list for their FTIP amendment process schedule.
 - 2) DLA to notify each MPO in advance of its FTIP amendment process to ensure that its approved safety projects are included in the amendment.
 - 3) Verify at the next California Federal Programming Group (CFPG) meeting on May 20, 2008, if MPOs are notifying their agencies once their FTIP amendments are approved.
 - 4) FHWA to give short presentation at CFPG meeting on May 20, 2008, on MPO consideration of FTIP amendment in certain situations, i.e., large pool of safety projects submitted at once.
 - o Conduct discussions with MPOs on preliminary actions and agree on final actions.
 - o Follow-up with MPOs on final corrective actions and make any adjustments as needed.

HANDOUT NO. 6

Delegated Authority for Amending the FTIP Survey of California MPOs

Survey Question

California MPO Transportation Programming Colleagues:

I'm exploring ways to stream line formal amendments, such as by delegating approval of formal amendments to our Executive Director. To do so, I'm trying to get a feel for how many other California MPOs have tried something similar. Could you please take a moment answer this survey? Short answers are fine.

1. Does your MPO Board of Directors delegate approval of FTIP formal amendments or FTIP adoptions to the Executive Director?

If so, how much authority is delegated? For instance, can the Executive Director approve all formal amendments, regardless of whether there is an air quality conformity analysis?

2. Does your MPO have a Participation Plan (PPP) that has a public review period of fewer than 30 days? If so, what is the policy? Does it apply for amendments with conformity determinations?

3. How has delegated authority and shorter public review period been received? For example, was your Board happy to be done constantly reviewing FTIP amendments? Or has your Board preferred to review all FTIP amendments?

4. Any other comments?

Survey Responses

SCAG, Rosemary Ayala AYALA@scag.ca.gov

1. Response: SCAG's Executive Director has authority to approve formal amendments that do no impact the existing conformity determination.

2. Response: Public review of formal amendments consistent with the existing conformity determination is 15 days. Public review for FTIPs requiring a new conformity determination is 30 days.

3. Response: The Executive Director has always had the authority to approve amendments that do not impact the existing conformity determination.

4. The above practice helps in shortening the amendment process for the SCAG region.

Fresno COG, Renée Devere <rdevere@fresnocog.org>

1. Not yet. We plan to implement SCAG's policy as part of our 2009 FTIP. If not, we will take it through this summer. Right now we're examining SCAG's language.
2. We plan to ask the Board to delegate Type 2 and 3 to the Director.
3. -Type 1: Administrative no public review
-Type 2: Formal-Funding Changes-COG web 14 days prior to action
-Type 3: Formal-Exempt projects- COG web 14 days prior to action
-Type 4: Formal-Conformity Determination with previous regional emissions analysis- Legally noticed meeting and 30 day comment period
-Type 5: Formal- Conformity Determination with new regional emissions analysis- Legally noticed meeting and 30 day comment period

3. We've only done a Type 3 amendment so far under the new shorter public review period. From a staff perspective it was great to make the change relatively quickly and not worry about the paper.

Madera CTC, Derek Winning derek@maderactc.org

1. The MCTC Executive Director is not authorized to approve formal amendments only administrative amendments.
2. The PPP mandates a 14 day public review period for formal amendments; 30 day review with conformity determination.
3. Although, delegated authority would significantly streamline the process; it is possible that local agencies may not provide accurate project information during the initial FTIP development process and would need a public review period. Also, were the Director to approve a politically sensitive amendment, a controversy may arise which would hurt the Director politically. However, I believe those considerations should be subordinate to efficient project delivery.

Kern COG, Joe Stramaglia JStramaglia@kerncog.org

- 1 - No. The Board our policy requires the Board to vote and approve the formal amendment. A resolution is prepared as well.
- 2: - No. Our public participation plan requires a minimum of 30 days. When the entire FTIP is developed, 45 days are required.
- 3: - I don't believe we've ever delegated that to the Executive Director, so we don't have a history.

Other comments: There should be a core-element of the FTIP procedures that all regional agencies adhere too. Variations with air quality conformity analysis seems to drive when we're allowed to do amendments.

MTC, Sri Srinivasan ssrinivasan@mtc.ca.gov

1. The Executive Director has the delegated authority for administrative modifications only.

Most of the time, all formal amendments go to both our programming and allocations committee as well as the Metropolitan Transportation Commission. Occasionally it will go in front of our planning committee. Hence it goes through two public meetings.

2. We have a PPP and the 30 day review period exists for amendments with conformity determinations.

3. Generally prefers to review the Summary of Changes for all amendments

4. Great idea. But I have additional questions- if delegated authority exists how do you manage the comments? and public hearing? If there are limitations - are they dollar thresholds or like you mentioned air quality determinations that tip the balance?

Butte CAG, Iván García IGarcia@bcag.org

1. No.....but I wouldn't mind this....I suppose it depends on the formal amendment and the requirements for public involvement, AQ requirements etc...

2. We have a PPP with standard language on review period

3. Anything that accelerates the red tape is well received....provided we are not circumventing the public review process.

4. I wouldn't mind supporting accelerated anything with the TIP especially since projects are already taken through public review as part of the RTP process.

Shasta County RTPA, Thomas L. Hays thays@co.shasta.ca.us

1. No, FTIP amendments take a board action for Shasta MPO.

Shasta County is in attainment presently. We do recommend in our board reports that the Board authorize the executive director to make subsequent minor corrections in response to Caltrans and FHWA review.

2. Our PPP sets 30 days as our policy; conformity determinations are not in play due to being in attainment

3. N/a.

4. We have amended the current FTIP 9 times, two actions were informal. We meet 5 times a year.

San Joaquin COG, Jody Swanson jswanson@sjcog.org

1. Yes, for certain formal amendments.

Our Executive Director can approve all formal amendments including air quality conformity analysis EXCEPT for formal amendments that ADD or DELETE entire FTIP or RTP projects, and/or result in a net reduction in funding on a project. See attached resolution regarding this authority.

2. Yes, for Types 2 and Types 3 we have a 14-day review period without a legal notice to the paper. It does not apply to types 4 or 5 that deal with conformity determinations. See attached PPP procedures for each type of amendment.

3. We approached our board regarding delegated authority for all formal amendments. They did not receive that well at first. They thought that was too much power to our Executive Director. Our board eventually compromised and allowed all amendments except those that added new projects or deleted projects, or projects that resulted in a net funding reduction. The downside is I have not been able to use this new authority since we adopted it last year. Almost all of our formal amendments add new projects to the FTIP. Therefore this delegated authority does not apply. I would have a Plan B ready in case your board does not want to give full delegated authority to all amendments. The process took several months of discussions in committee meetings. The limited delegated authority has not proven to be helpful yet. The only part that is helpful is the reduced public comment period for Types 2 and 3. That has really been beneficial.

Tahoe RPA, Scott Forsythe sforsythe@trpa.org

1. No

2. No

3. Although TMPO does not have this delegated process in place, I believe that the TMPO Board would agree to this shortened process.

StanCOG, Vince Angelino VANGELINO@Stancog.org

1. Approval is only delegated to the Executive Director for a Type 1 amendment.

2. No

3. Type 1 amendments have always been part of our process, so the PB members are quite familiar with amendments, and have not commented one way or the other.

SANDAG, Sookyung Kim ski@sandag.org

1. No

2. 15 day review period for amendments (yes to conformity only if refers to prior conformity findings); re-determination of conformity only happens with update to the FTIP or RTP and goes thru. conformity review period (min. 30 days)

3. Board has not commented on frequent amendments; our Executive Director has made it clear all amendments, however minor be approved at the Transportation Committee (subset of BOD) level, not staff (himself)

Outreach for RTP Updates

- Public Meetings, workshops, and surveys during the RTP development period to solicit public dialogue and comment on the RTP process including, but not limited to issues such as:
 - Overview of the planning process
 - RTP goals, objectives, performance indicators
 - RTP project lists
 - RTP funding scenarios

- Legally noticed public comment period on the Draft RTP Update. The length of the public comment period is aligned with California Environmental Quality Act requirements, which are generally:
 - 30-days if RTP Update does not include a new Programmatic Environmental Impact Report.
 - 45-days if the RTP Update includes a new Programmatic Environmental Impact Report.

- Legally noticed public hearing held at a SJCOG Board meeting.

RTP Updates also generally require an amendment to the Federal Transportation Improvement Program (FTIP) and a new Air Quality Conformity Analysis. The outreach and public comment period for these documents follow the same schedule and timeframes as the RTP Update.

Outreach for RTP Amendments

RTP Amendments are generally triggered by a project-specific need to be consistent either with the project's environmental document or the Federal Transportation Improvement Program (FTIP). As such, the public participation process for RTP amendments follow the requirements as outlined for the FTIP below, as applicable.

Federal Transportation Improvement Program. The FTIP is updated every two years, with amendments occurring as needed. FTIP updates are generally considered similar to the Type 5 amendment (see below), and follow a similar public participation process. For FTIP Amendments, FHWA identifies six types, each with specific participation requirements, as indicated below.

Expedited Project Selection Procedures (EPSP). EPSP allows eligible projects to be moved between FTIP fiscal years as long as the project cost and scope do not change. SJCOG staff is federally authorized to utilize EPSP without additional State or federal approval action. SJCOG does not require a formal public participation process for EPSP actions. A more detailed description of the EPSP is available from SJCOG staff upon request.

Amendment Type 1. Administrative.

Administrative amendments include minor changes to project cost, schedule, scope, or funding sources. Administrative amendments require action by SJCOG and approval by Caltrans. Federal agencies are notified, but do not take approval action on Type 1 amendments. Public notification of an administrative amendment is posted on SJCOG's website at the time of SJCOG action, and subsequently posted on Caltrans website after Caltrans' approval.

Amendment Type 2. Formal Amendment – Funding Changes.

Type 2 amendments primarily include project cost changes that are greater than 20% of the total project cost or \$2 million, whichever is higher. Type 2 amendments require approval by SJCOG, Caltrans, and FHWA. Publicly accessible notification of a Type 2 formal amendment is posted on SJCOG's website at least 14 days prior to SJCOG action, and distributed to local agency partners through SJCOG's standing Technical Advisory Committee. SJCOG will consider public comments on the amendment prior to approval action.

Amendment Type 3. Formal Amendment – Exempt Projects.

Type 3 amendments primarily include adding or deleting projects that are exempt from regional air quality emissions analyses. These amendments typically include transit or safety projects. Type 3 amendments require approval by SJCOG, Caltrans, and FHWA. Public notification of a Type 3 formal amendment is posted on SJCOG's website at least 14 days prior to SJCOG action, and distributed to local agency partners through SJCOG's standing Technical Advisory Committee. SJCOG will consider public comments on the amendment prior to approval action.

Amendment Type 4. Formal Amendment – Conformity Determination that Relies on a Previous Regional Emissions Analysis.

Type 4 amendments primarily include adding or deleting projects that have already been appropriately modeled for air quality purposes as part of the RTP. In this case, the federal approving agencies can use a previous analysis of the project's impact on air quality for approval purposes. Type 4 amendments may be accompanied by an RTP amendment to maintain consistency. The FTIP amendment and RTP Amendment (if applicable) follow the same public process. Type 4 amendments require approval by SJCOG, Caltrans, and FHWA. Public notification of a Type 4 formal amendment includes:

- Legally noticed 30-day public comment period.
- Legally noticed public meeting.
- Posting of amendment information on SJCOG's website during public comment period.

- Publishing amendment information as part of the following publicly available SJCOG agendas: Technical Advisory Committee, Citizen's Advisory Council, Managers and Finance Committee, Executive Committee, and SJCOG Board.
- Consideration and response to public comments received during comment period.

Amendment Type 5. Formal Amendment – Conformity Determination and New Regional Emissions Analysis.

Type 5 amendments are the highest level amendment and primarily involve adding or deleting new projects that must be modeled for their air quality impacts, or significantly changing the design concept, scope, or schedule of an existing project. Type 5 amendments are accompanied by a new Air Quality Conformity Document that demonstrates conformity with applicable air quality requirements, and if applicable, an RTP amendment to maintain consistency. The FTIP amendment, Air Quality Conformity Document, and RTP Amendment (if applicable) follow the same public process. Type 5 amendments require approval action by SJCOG, Caltrans, and FHWA. Public notification of a Type 5 formal amendment includes:

- Legally noticed 30-day public comment period.
- Legally noticed public meeting.
- Posting of amendment information on SJCOG's website during public comment period.
- Publishing amendment information as part of the following publicly available SJCOG agendas: Technical Advisory Committee, Citizen's Advisory Council, Managers and Finance Committee, Executive Committee, and SJCOG Board.
- Consideration and response to public comments received during comment period.

Measure K Expenditure Plan or Ordinance. The public participation process for amendments to the Measure K Expenditure Plan or Ordinance includes a 45-day public review period and public hearing.

SJCOG Public Participation Plan. Major revisions or updates to the SJCOG Public Participation Plan include a 45-day public review period and public hearing. In addition, in response to federal requirements under SAFETEA-LU, the on-going expansion of the Public Participation Plan includes outreach efforts as described in **Appendix E.**

The drafts of the documents described above are also posted on www.sjco.org and mailed and repositied in a public library in each city (San Joaquin County) for public review.



RESOLUTION
SAN JOAQUIN COUNCIL OF GOVERNMENTS

R-07-24

**RESOLUTION OF THE SAN JOAQUIN COUNCIL OF GOVERNMENTS
AUTHORIZING THE DELEGATION TO APPROVE RTP/FTIP AMENDMENTS AND
THE ASSOCIATED AIR QUALITY CONFORMITY DOCUMENTS TO THE
EXECUTIVE DIRECTOR OR DESIGNEE**

WHEREAS, the San Joaquin Council of Governments (SJCOG) is a Regional Transportation Planning Agency and a Metropolitan Planning Organization, pursuant to State and Federal designation; and

WHEREAS, federal planning regulations require Metropolitan Planning Organizations to prepare and adopt a long range a Regional Transportation Plan (RTP) for their region; and

WHEREAS, federal planning regulations require that Metropolitan Planning Organizations prepare and adopt a short range Federal Transportation Improvement Program (FTIP) for their region; and

WHEREAS, SJCOG is responsible for processing amendments to the RTP and FTIP; and

WHEREAS, the Federal Highway Administration has provided guidelines identifying five separate types of RTP and FTIP amendments; and

WHEREAS, the SJCOG Board identifies that it is appropriate for RTP and FTIP amendment actions to be delegated to the Executive Director of SJCOG or Designee.

NOW, THEREFORE, BE IT RESOLVED, that San Joaquin Council of Governments delegates approval of RTP/FTIP amendments and the associated Air Quality Conformity Documents to the Executive Director or Designee for all types of amendments *except* for formal amendments as defined by Federal Highway Administration guidelines that either (a) add new projects to or delete existing projects from the FTIP and/or RTP, or (b) result in a net reduction in funding on a project;

BE IT FURTHER RESOLVED, that any formal amendment to the FTIP and/or RTP that (a) adds new projects to or deletes existing projects from the FTIP and/or RTP or (b) results in a net reduction in funding for a project must be affirmed by the SJCOG Board prior to the exercise of this delegation by the Executive Director or designee; and

BE IT FURTHER RESOLVED, that under this delegation SJCOG Board affirmation of an RTP or FTIP amendment does not constitute official action on the amendment, and therefore may be made prior to the close of any applicable public comment period.

THE FOREGOING RESOLUTION was passed and adopted by San Joaquin Council of Governments this 24th day of May, 2007.

AYES: Mayor Chavez, Stockton; Councilman Harris, Manteca; Mayor Haskin, Escalon; Mayor Ives, Tracy; Councilman Lee, Stockton; Supervisor Mow, San Joaquin County; Supervisor Ornellas, San Joaquin County; Mayor Sayles, Lathrop; Supervisor Vogel, San Joaquin County; Vice Mayor Winn, Ripon.

NOES: none

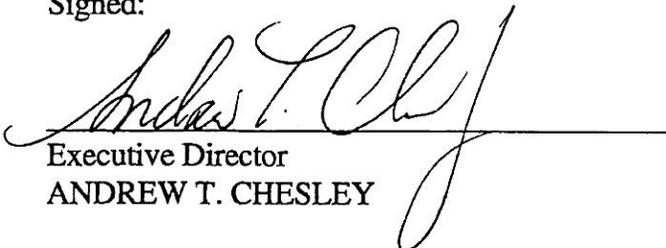
ABSENT: Councilman Chapman, Stockton; Councilman Hansen, Lodi.



Chairman
JOHN W. HARRIS

I hereby certify that the foregoing is a true copy of a resolution of the San Joaquin Council of Governments duly adopted at a regular meeting thereof held on the 24th day of May, 2007.

Signed:



Executive Director
ANDREW T. CHESLEY

HANDOUT NO. 7

California Federal Programming Group

Surface Transportation Program and Congestion Mitigation and Air Quality Program

Federal Fund Distribution

John W. Taylor, Chief
Federal Funds Management

May 20, 2008

United States

- Monies collected for federal gas tax and returned to States in the form of federal fund programs (ie.apportionment) and obligation authority (OA)
- Major Apportionment Categories
 - Interstate Maintenance
 - National Hwy System,
 - Surface Transportation Program
 - Congestion Mitigation and Air Quality
 - Bridge, Safety, and
 - Equity Bonus
- The state-by-state distribution of the apportionments is based on a variety of statistical data a proportion of each state's share of the variables used



State of California

The distribution of federal funds within California are based on the combination of:

- Federal law,
- State law,
- CTC resolutions, and/or
- State/Local agreements



Surface Transportation Program (STP)

% Share

25%	Lane Roads	+	
40%	VMT	+	
35%	HTF	+	
EQUALS		=	STP

Congestion Mitigation & Air Quality (CMAQ)

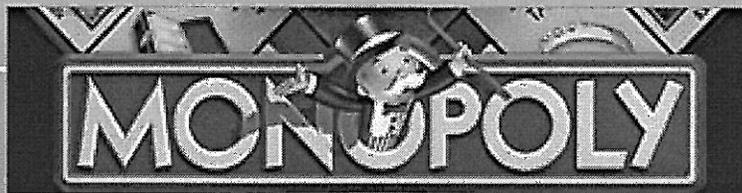
- Population 
- Severity of pollution 
- Includes weighting factors for pollutants (ie. ozone, carbon monoxide, particulate matter, etc.) 
- Designates air basin as nonattainment and/or maintenance areas

Adjustments

- Penalties that reduce apportionment
 - Section 164 – repeat offense for driving while intoxicated
- Set-asides that reduce apportionment
 - 2% for State Planning and Research – SPR
- Equity Bonus (FY 2008 and 2009)
 - is based on making sure all states receive at least 92% of their attribution share of the hwy trust fund contributions in combined apportionments, with a portion of these funds being **added** proportionately to the aforementioned designated major program funds

Obligation Authority

Annual limit on actual spending
as a percent of the apportionments
provided



QUESTION & ANSWER

John.Taylor@dot.ca.gov

(916) 654-6916

1120 N Street, Sacramento, Ca. 95814



UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TABLE 2, PART 1
PAGE 1 OF 3

COMPUTATION OF APPORTIONMENT OF SURFACE TRANSPORTATION PROGRAM FUNDS
AUTHORIZED FOR FISCAL YEAR 2008

STATE	FEDERAL-AID LANE MILES		FEDERAL-AID VEHICLE MILES TRAVELED		HIGHWAY ACCOUNT CONTRIBUTIONS		FACTOR	ADJUSTED PERCENT 1/2% MINIMUM	STP APPORTIONMENT
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT			
ALABAMA	54,948	0.587562009	44,172	0.696158967	660,130	0.685932304	1.969653280	1.935101816	123,301,157
ALASKA	9,106	0.097370963	4,050	0.063828756	119,894	0.124580261	0.285779980	0.500000000	31,859,088
ARIZONA	35,033	0.374609810	51,237	0.807504686	707,320	0.734966805	1.917081301	1.883452051	120,010,128
ARKANSAS	46,053	0.492447281	28,370	0.447116497	425,049	0.441662763	1.381226541	1.356997201	86,465,386
CALIFORNIA	148,412	1.586977740	305,225	4.810402984	3,376,775	3.508761995	9.906142719	9.732370142	620,128,866
COLORADO	41,759	0.446531301	42,421	0.668562880	503,241	0.522911030	1.638005211	1.609271486	102,539,843
CONNECTICUT	15,103	0.161497216	28,106	0.442955807	339,201	0.352459248	0.956912271	0.940126211	59,903,127
DELAWARE	4,104	0.043884299	7,808	0.123055538	89,414	0.092908898	0.259848735	0.500000000	31,859,088
DIST. OF COL.	1,432	0.015312455	2,983	0.047012637	28,484	0.029597346	0.091922438	0.500000000	31,859,088
FLORIDA	74,551	0.797177974	154,883	2.440984996	1,839,725	1.911633781	5.149796751	5.059459525	322,379,530
GEORGIA	74,526	0.796910648	87,965	1.386344823	1,324,981	1.376770136	3.560025607	3.497575989	222,859,160
HAWAII	3,886	0.041553213	7,511	0.118374762	83,576	0.086842710	0.246770686	0.500000000	31,859,088
IDAHO	24,313	0.259980256	11,575	0.182424161	174,310	0.181123203	0.623527620	0.612589760	39,033,102
ILLINOIS	82,716	0.884486772	94,185	1.484373184	1,270,327	1.319979892	3.688839847	3.624130583	230,922,988
INDIANA	51,119	0.546618300	59,199	0.932987292	929,679	0.966017085	2.445622677	2.402721806	153,097,050
IOWA	58,411	0.624592060	26,770	0.421900198	429,483	0.446270074	1.492762331	1.466576442	93,447,575
KANSAS	74,898	0.800888465	25,693	0.404926477	336,280	0.349424076	1.555239017	1.527957168	97,358,643
KENTUCKY	33,641	0.359725077	39,398	0.620919835	618,546	0.642722923	1.623367835	1.594890877	101,623,537
LOUISIANA	33,068	0.353597957	39,563	0.623520266	570,683	0.592989116	1.570107339	1.542564671	98,289,406
MAINE	13,693	0.146420008	12,200	0.192274278	169,306	0.175923613	0.514617898	0.505590522	32,215,306
MARYLAND	21,670	0.231718511	50,308	0.792863472	586,076	0.608983777	1.633565761	1.604909911	102,261,931
MASSACHUSETTS	26,269	0.280895873	47,373	0.746607324	558,798	0.580639570	1.608142767	1.579932886	100,670,441
MICHIGAN	84,048	0.898729922	93,993	1.481347228	1,042,640	1.083393358	3.463470508	3.402714650	216,814,769
MINNESOTA	70,790	0.756961393	48,738	0.768119979	615,227	0.639274194	2.164355566	2.126388654	135,489,605
MISSISSIPPI	47,874	0.511919335	29,980	0.472490397	444,328	0.461695316	1.446105048	1.420737616	90,526,809
MISSOURI	68,431	0.731736475	57,201	0.901498439	827,700	0.860052062	2.493286977	2.449549983	156,080,856
MONTANA	32,104	0.343289851	9,285	0.146333333	153,906	0.159921678	0.649544862	0.638150611	40,661,792
NEBRASKA	43,992	0.470408894	16,830	0.265243942	257,528	0.267593920	1.003246756	0.985647900	62,803,686
NEVADA	16,141	0.172596607	17,100	0.269499192	288,552	0.299830546	0.741926346	0.728911547	46,444,914
NEW HAMPSHIRE	7,818	0.083598307	11,672	0.183952899	139,570	0.145025331	0.412576537	0.500000000	31,859,088
NEW JERSEY	27,417	0.293171500	62,559	0.985941519	950,270	0.987412919	2.266526939	2.226766765	141,885,515
NEW MEXICO	28,985	0.309938211	19,929	0.314084761	304,666	0.316574389	0.940697361	0.924097495	58,881,806
NEW YORK	68,361	0.730987961	110,773	1.745803161	1,323,492	1.375222936	3.852014058	3.784442408	241,137,765
NORTH CAROLINA	54,109	0.578590536	75,259	1.186095890	1,016,722	1.056462309	2.821148735	2.771660422	176,605,145
NORTH DAKOTA	38,570	0.412431147	6,344	0.099982624	107,620	0.111826511	0.624240283	0.613289921	39,077,715
OHIO	73,260	0.783373240	89,404	1.409023731	1,317,878	1.369389503	3.561786474	3.499305968	222,969,392
OKLAHOMA	71,180	0.761131685	39,861	0.628216802	525,055	0.545577668	1.934926154	1.800983871	121,127,224
OREGON	39,860	0.426225189	30,574	0.481851948	410,792	0.426848504	1.334925641	1.311508507	83,566,929
PENNSYLVANIA	66,311	0.709067198	91,237	1.437912154	1,302,050	1.352942839	3.499922190	3.438526901	219,096,660
RHODE ISLAND	4,187	0.044771823	7,955	0.125372285	81,237	0.084412286	0.254556395	0.500000000	31,859,088
SOUTH CAROLINA	48,899	0.522879717	44,921	0.707963347	596,456	0.619769497	1.850612561	1.818149298	115,849,156
SOUTH DAKOTA	41,986	0.448958625	7,523	0.118563885	123,133	0.127945863	0.695468372	0.683268534	43,536,624
TENNESSEE	44,860	0.479690466	58,935	0.928826603	818,963	0.850973562	2.259490631	2.219854869	141,445,102
TEXAS	196,718	2.103516475	216,149	3.406548594	2,952,274	3.067668651	8.577733720	8.427263963	536,969,884
UTAH	20,477	0.218961696	20,591	0.324518004	286,014	0.297193344	0.840673044	0.825926040	52,626,500
VERMONT	8,534	0.091254535	5,977	0.094198636	72,054	0.074870353	0.260323524	0.500000000	31,859,088
VIRGINIA	54,689	0.584792508	71,631	1.128917933	960,353	0.997890031	2.711600471	2.664033844	169,747,376
WASHINGTON	45,238	0.483732441	48,951	0.771476899	618,937	0.643129205	1.898338545	1.865038078	118,836,823
WEST VIRGINIA	22,796	0.243758891	18,373	0.289561910	225,074	0.233871400	0.767192202	0.753734192	48,026,567
WISCONSIN	64,138	0.685831188	48,109	0.758206822	612,349	0.636283702	2.080321712	2.043828914	130,229,049
WYOMING	17,482	0.186935995	7,192	0.113347263	167,308	0.173847518	0.474130775	0.500000000	31,859,088
TOTAL	2,337,966	25.000000000	2,538,041	40.000000000	33,683,426	35.000000000	100.000000000	100.000000000	6,371,817,545

UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TABLE 2, PART 1
PAGE 2 OF 3

COMPUTATION OF APPORTIONMENT OF SURFACE TRANSPORTATION PROGRAM FUNDS
AUTHORIZED FOR FISCAL YEAR 2008

STATE	BASE STP APPORTIONMENT	PENALTY PURSUANT TO 23 USC; SEC. 154	PENALTY PURSUANT TO 23 USC; SEC. 164	SUBTOTAL STP APPORTIONMENT	EQUITY BONUS DIST. PURSUANT TO 23 USC; SEC.105(d)	PENALTY PURSUANT TO 23 USC; SEC. 154	PENALTY PURSUANT TO 23 USC; SEC. 164	NET EQUITY BONUS DISTRIBUTION	TOTAL STP PROGRAM
ALABAMA	123,301,157	-	-	123,301,157	49,627,826	-	-	49,627,826	172,928,983
ALASKA	31,859,088	955,773	955,773	29,947,542	33,518,945	1,005,568	1,005,568	31,507,809	61,455,351
ARIZONA	120,010,128	-	-	120,010,128	52,082,635	-	-	52,082,635	172,092,763
ARKANSAS	86,465,386	2,593,962	-	83,871,424	24,035,091	721,053	-	23,314,038	107,185,462
CALIFORNIA	620,128,868	-	18,603,866	601,525,002	111,657,801	-	3,349,734	108,308,067	709,833,069
COLORADO	102,539,843	-	-	102,539,843	17,723,086	-	-	17,723,086	120,262,929
CONNECTICUT	59,903,127	1,797,094	-	58,106,033	13,970,176	419,105	-	13,551,071	71,657,104
DELAWARE	31,859,088	955,773	-	30,903,315	4,397,684	131,931	-	4,265,753	35,169,068
DIST. OF COL.	31,859,088	-	-	31,859,088	-	-	-	-	31,859,088
FLORIDA	322,379,530	-	-	322,379,530	177,179,875	-	-	177,179,875	499,559,405
GEORGIA	222,859,160	-	-	222,859,160	117,378,280	-	-	117,378,280	340,237,440
HAWAII	31,859,088	-	-	31,859,088	3,119,609	-	-	3,119,609	34,978,697
IDAHO	39,033,102	-	-	39,033,102	16,006,260	-	-	16,006,260	55,039,362
ILLINOIS	230,922,988	-	-	230,922,988	60,503,803	-	-	60,503,803	291,426,791
INDIANA	153,097,050	-	-	153,097,050	77,499,445	-	-	77,499,445	230,596,495
IOWA	93,447,575	-	-	93,447,575	8,157,926	-	-	8,157,926	101,605,501
KANSAS	97,358,643	-	-	97,358,643	4,346,552	-	-	4,346,552	101,705,195
KENTUCKY	101,623,537	-	-	101,623,537	26,326,348	-	-	26,326,348	127,949,885
LOUISIANA	98,289,406	2,948,682	2,948,682	92,392,042	10,836,525	325,096	325,096	10,186,333	102,578,375
MAINE	32,215,306	-	-	32,215,306	-	-	-	-	32,215,306
MARYLAND	102,261,931	-	-	102,261,931	15,503,993	-	-	15,503,993	117,765,924
MASSACHUSETTS	100,670,441	-	-	100,670,441	5,215,781	-	-	5,215,781	105,886,222
MICHIGAN	216,814,769	-	-	216,814,769	52,754,828	-	-	52,754,828	269,569,597
MINNESOTA	135,489,605	-	4,064,688	131,424,917	36,145,160	-	1,084,355	36,060,805	166,485,722
MISSISSIPPI	90,526,809	2,715,804	-	87,811,005	14,752,548	442,576	-	14,309,972	102,120,977
MISSOURI	156,080,856	4,682,426	-	151,398,430	42,881,890	1,286,457	-	41,595,433	192,993,863
MONTANA	40,661,792	-	-	40,661,792	19,025,237	-	-	19,025,237	59,687,029
NEBRASKA	62,803,686	-	-	62,803,686	5,898,979	-	-	5,898,979	68,702,665
NEVADA	46,444,914	-	-	46,444,914	13,167,171	-	-	13,167,171	59,612,085
NEW HAMPSHIRE	31,859,088	-	-	31,859,088	5,031,080	-	-	5,031,080	36,890,168
NEW JERSEY	141,885,515	-	-	141,885,515	40,535,758	-	-	40,535,758	182,421,273
NEW MEXICO	58,881,806	-	1,766,454	57,115,352	14,916,764	-	447,503	14,469,261	71,584,613
NEW YORK	241,137,765	-	-	241,137,765	30,877,364	-	-	30,877,364	272,015,129
NORTH CAROLINA	176,605,145	-	-	176,605,145	59,661,530	-	-	59,661,530	236,266,675
NORTH DAKOTA	39,077,715	-	-	39,077,715	4,413,959	-	-	4,413,959	43,491,674
OHIO	222,969,392	-	6,689,082	216,280,310	70,040,659	-	2,101,220	67,939,439	284,219,749
OKLAHOMA	121,127,224	-	-	121,127,224	23,650,154	-	-	23,650,154	144,777,378
OREGON	83,566,929	-	2,507,008	81,059,921	8,665,520	-	259,966	8,405,554	89,465,475
PENNSYLVANIA	219,086,660	-	-	219,086,660	42,642,330	-	-	42,642,330	261,738,990
RHODE ISLAND	31,859,088	-	955,773	30,903,315	-	-	-	-	30,903,315
SOUTH CAROLINA	115,849,156	-	-	115,849,156	41,354,472	-	-	41,354,472	157,203,628
SOUTH DAKOTA	43,536,624	-	1,306,099	42,230,525	9,229,259	-	276,878	8,952,381	51,182,906
TENNESSEE	141,445,102	4,243,353	-	137,201,749	46,266,779	1,388,003	-	44,878,776	182,080,525
TEXAS	536,969,884	-	-	536,969,884	226,728,501	-	-	226,728,501	763,698,385
UTAH	52,626,500	-	-	52,626,500	9,235,935	-	-	9,235,935	61,862,435
VERMONT	31,859,088	-	955,773	30,903,315	42,659	-	1,280	41,379	30,944,694
VIRGINIA	169,747,376	5,092,421	-	164,654,955	56,589,839	1,697,695	-	54,892,144	219,547,099
WASHINGTON	118,836,823	-	-	118,836,823	7,390,205	-	-	7,390,205	126,227,028
WEST VIRGINIA	48,026,567	1,440,797	-	46,585,770	13,967,115	419,013	-	13,548,102	60,133,872
WISCONSIN	130,229,049	-	-	130,229,049	62,135,834	-	-	62,135,834	192,364,883
WYOMING	31,859,088	955,773	955,773	29,947,542	4,996,825	149,905	149,905	4,697,015	34,644,557
TOTAL	6,371,817,545	28,381,858	41,708,971	6,301,726,716	1,792,085,995	7,986,402	9,001,505	1,775,098,088	8,076,824,804

UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TABLE 2, PART 1
PAGE 3 OF 3

COMPUTATION OF APPORTIONMENT OF SURFACE TRANSPORTATION PROGRAM FUNDS
AUTHORIZED FOR FISCAL YEAR 2008

STATE	TOTAL STP PROGRAM	PENALTY SHIFT TO OTHER PROGRAMS		TOTAL STP PROGRAM NET OF PENALTIES	2% SPR	TOTAL PROGRAM EXCLUSIVE 2% SPR
		PURSUANT TO 23 USC; SEC. 154	PURSUANT TO 23 USC; SEC. 164			
ALABAMA	172,928,983	-	-	172,928,983	3,458,580	169,470,403
ALASKA	61,455,351	-	-	61,455,351	1,229,107	60,226,244
ARIZONA	172,092,763	-	-	172,092,763	3,441,855	168,650,908
ARKANSAS	107,185,462	3,315,015	-	110,500,477	2,210,010	108,290,467
CALIFORNIA	709,833,069	-	21,953,600	731,786,669	14,635,733	717,150,936
COLORADO	120,262,929	-	-	120,262,929	2,405,259	117,857,670
CONNECTICUT	71,657,104	-	-	71,657,104	1,433,142	70,223,962
DELAWARE	35,169,068	1,087,704	-	36,256,772	725,135	35,531,637
DIST. OF COL.	31,859,088	-	-	31,859,088	637,182	31,221,906
FLORIDA	499,559,405	-	-	499,559,405	9,991,188	489,568,217
GEORGIA	340,237,440	-	-	340,237,440	6,804,749	333,432,691
HAWAII	34,978,697	-	-	34,978,697	699,574	34,279,123
IDAHO	55,039,362	-	-	55,039,362	1,100,787	53,938,575
ILLINOIS	291,426,791	-	-	291,426,791	5,828,536	285,598,255
INDIANA	230,596,495	-	-	230,596,495	4,611,930	225,984,565
IOWA	101,605,501	-	-	101,605,501	2,032,110	99,573,391
KANSAS	101,705,195	-	-	101,705,195	2,034,104	99,671,091
KENTUCKY	127,949,885	-	-	127,949,885	2,558,998	125,390,887
LOUISIANA	102,578,375	3,273,778	3,273,778	109,125,931	2,182,519	106,943,412
MAINE	32,215,306	-	-	32,215,306	644,306	31,571,000
MARYLAND	117,765,924	-	-	117,765,924	2,355,318	115,410,606
MASSACHUSETTS	105,886,222	-	-	105,886,222	2,117,724	103,768,498
MICHIGAN	269,569,597	-	-	269,569,597	5,391,392	264,178,205
MINNESOTA	166,485,722	-	-	166,485,722	3,329,714	163,156,008
MISSISSIPPI	102,120,977	3,158,380	-	105,279,357	2,105,587	103,173,770
MISSOURI	192,993,863	-	-	192,993,863	3,859,877	189,133,986
MONTANA	59,687,029	-	-	59,687,029	1,193,741	58,493,288
NEBRASKA	68,702,665	-	-	68,702,665	1,374,053	67,328,612
NEVADA	59,612,085	-	-	59,612,085	1,192,242	58,419,843
NEW HAMPSHIRE	36,890,168	-	-	36,890,168	737,803	36,152,365
NEW JERSEY	182,421,273	-	-	182,421,273	3,648,425	178,772,848
NEW MEXICO	71,584,613	-	-	71,584,613	1,431,692	70,152,921
NEW YORK	272,015,129	-	-	272,015,129	5,440,303	266,574,826
NORTH CAROLINA	236,266,675	-	-	236,266,675	4,725,334	231,541,341
NORTH DAKOTA	43,491,674	-	-	43,491,674	869,833	42,621,841
OHIO	284,219,749	-	8,790,302	293,010,051	5,860,201	287,149,850
OKLAHOMA	144,777,378	-	-	144,777,378	2,895,548	141,881,830
OREGON	89,465,475	-	2,766,974	92,232,449	1,844,649	90,387,800
PENNSYLVANIA	261,738,990	-	-	261,738,990	5,234,780	256,504,210
RHODE ISLAND	30,903,315	-	-	30,903,315	618,066	30,285,249
SOUTH CAROLINA	157,203,628	-	-	157,203,628	3,144,073	154,059,555
SOUTH DAKOTA	51,182,906	-	-	51,182,906	1,023,658	50,159,248
TENNESSEE	182,080,525	(1,255,749)	-	180,824,776	3,616,496	177,208,280
TEXAS	763,698,385	-	-	763,698,385	15,273,968	748,424,417
UTAH	61,862,435	-	-	61,862,435	1,237,249	60,625,186
VERMONT	30,944,694	-	957,053	31,901,747	638,035	31,263,712
VIRGINIA	219,547,099	-	-	219,547,099	4,390,942	215,156,157
WASHINGTON	126,227,028	-	-	126,227,028	2,524,541	123,702,487
WEST VIRGINIA	60,133,872	-	-	60,133,872	1,202,677	58,931,195
WISCONSIN	192,364,883	-	-	192,364,883	3,847,298	188,517,585
WYOMING	34,644,557	1,105,678	1,105,678	36,855,913	737,118	36,118,795
TOTAL	8,076,824,804	10,684,806	38,847,385	8,126,356,995	162,527,141	7,963,829,854

UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TABLE 4, PART 1

COMPUTATION OF APPORTIONMENT OF CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT FUNDS
AUTHORIZED FOR FISCAL YEAR 2008

STATE	WEIGHTED POPULATION		ADJUSTED PERCENT 1/2% MINIMUM	CMAQ APPORTIONMENT	EQUITY BONUS DISTR. PURSUANT TO 23 USC; SEC. 105(d)	TOTAL CMAQ PROGRAM	2% SPR	TOTAL PROGRAM EXCLUSIVE 2% SPR
	NUMBER	PERCENT						
ALABAMA	834,882.00	0.004020125	0.500000000	8,636,176	3,475,998	12,112,174	242,243	11,869,931
ALASKA	365,454.00	0.001769734	0.500000000	8,636,176	9,666,086	18,302,262	366,045	17,936,217
ARIZONA	4,792,806.60	0.023078326	2.097380821	36,226,697	15,721,855	51,948,552	1,038,971	50,909,581
ARKANSAS	52,083.00	0.000250790	0.500000000	8,636,176	2,474,875	11,111,051	222,221	10,888,830
CALIFORNIA	48,142,465.28	0.231815640	21.067631515	363,887,523	67,546,453	431,433,976	8,628,680	422,805,296
COLORADO	3,748,781.00	0.018051133	1.640504621	28,335,371	4,897,513	33,232,884	664,658	32,568,226
CONNECTICUT	4,356,757.90	0.020978664	1.906561484	32,930,798	7,917,405	40,848,203	816,964	40,031,239
DELAWARE	938,823.60	0.004520624	0.500000000	8,636,176	1,228,968	9,865,144	197,303	9,667,841
DIST. OF COL.	767,619.60	0.003696243	0.500000000	8,636,176	-	8,636,176	172,724	8,463,452
FLORIDA	0.00	0.000000000	0.500000000	8,636,176	4,746,445	13,382,621	267,652	13,114,969
GEORGIA	5,348,306.00	0.025753168	2.340472998	40,425,470	21,291,798	61,717,268	1,234,345	60,482,923
HAWAII	0.00	0.000000000	0.500000000	8,636,176	845,646	9,481,822	189,636	9,292,186
IDAHO	0.00	0.000000000	0.500000000	8,636,176	3,541,427	12,177,603	243,552	11,934,051
ILLINOIS	10,035,781.80	0.048324305	4.391759992	75,856,019	19,874,928	95,730,947	1,914,619	93,816,328
INDIANA	4,136,773.70	0.019919396	1.810294165	31,268,035	15,828,230	47,096,265	941,925	46,154,340
IOWA	0.00	0.000000000	0.500000000	8,636,176	753,934	9,390,110	187,802	9,202,308
KANSAS	0.00	0.000000000	0.500000000	8,636,176	385,560	9,021,736	180,435	8,841,301
KENTUCKY	1,297,853.00	0.006249423	0.567953648	9,809,894	1,541,327	12,351,221	247,024	12,104,197
LOUISIANA	696,650.00	0.003354510	0.500000000	8,636,176	1,012,924	9,649,100	192,982	9,456,118
MAINE	790,031.00	0.003804158	0.500000000	8,636,176	-	8,636,176	172,724	8,463,452
MARYLAND	6,026,284.04	0.029017768	2.637163070	45,550,005	6,905,863	52,455,868	1,049,117	51,406,751
MASSACHUSETTS	7,698,975.68	0.037072114	3.369149912	58,193,139	3,015,013	61,208,152	1,224,163	59,983,989
MICHIGAN	7,863,779.00	0.037865675	3.441269518	59,438,814	14,462,504	73,901,318	1,478,026	72,423,292
MINNESOTA	3,077,805.00	0.014820249	1.346878712	23,263,761	6,398,120	29,661,881	593,238	29,068,643
MISSISSIPPI	0.00	0.000000000	0.500000000	8,636,176	1,450,907	10,087,083	201,742	9,885,341
MISSOURI	2,203,240.60	0.010609046	0.964160452	16,653,317	4,716,864	21,370,181	427,404	20,942,777
MONTANA	101,417.00	0.000488343	0.500000000	8,636,176	4,040,778	12,676,954	253,539	12,423,415
NEBRASKA	0.00	0.000000000	0.500000000	8,636,176	811,172	9,447,348	188,947	9,258,401
NEVADA	2,529,474.80	0.012179929	1.106923850	19,119,177	5,420,303	24,539,480	490,790	24,048,690
NEW HAMPSHIRE	1,063,844.10	0.005122623	0.500000000	8,636,176	1,363,796	9,999,972	199,999	9,799,973
NEW JERSEY	10,441,048.64	0.050275746	4.569108875	78,919,251	22,546,711	101,465,962	2,029,319	99,436,643
NEW MEXICO	615,099.00	0.002961825	0.500000000	8,636,176	2,255,502	10,891,678	217,834	10,673,844
NEW YORK	20,574,717.26	0.099071396	9.003705133	155,515,154	19,913,505	175,428,659	3,508,573	171,920,086
NORTH CAROLINA	4,867,415.90	0.023437585	2.130030608	36,790,635	12,428,775	49,219,410	984,388	48,235,022
NORTH DAKOTA	0.00	0.000000000	0.500000000	8,636,176	975,485	9,611,661	192,233	9,419,428
OHIO	9,537,413.12	0.045924560	4.173668798	72,089,071	23,345,473	95,434,544	1,908,691	93,525,853
OKLAHOMA	0.00	0.000000000	0.500000000	8,636,176	1,686,218	10,322,394	206,448	10,115,946
OREGON	1,915,150.00	0.009221832	0.838089081	14,475,768	1,547,498	16,023,266	320,465	15,702,801
PENNSYLVANIA	11,639,637.18	0.056047191	5.093623387	87,978,850	17,123,141	105,101,991	2,102,040	102,999,951
RHODE ISLAND	1,174,371.00	0.005654832	0.513916671	8,876,548	-	8,876,548	177,531	8,699,017
SOUTH CAROLINA	218,938.50	0.001054233	0.500000000	8,636,176	3,082,841	11,719,017	234,380	11,484,637
SOUTH DAKOTA	0.00	0.000000000	0.500000000	8,636,176	1,887,391	10,523,567	210,471	10,313,096
TENNESSEE	3,276,870.60	0.015778790	1.433991839	24,768,410	8,352,332	33,120,742	662,415	32,458,327
TEXAS	13,596,804.90	0.065471347	5.950099849	102,772,212	43,394,220	146,166,432	2,923,329	143,243,103
UTAH	678,007.00	0.003264740	0.500000000	8,636,176	1,515,646	10,151,822	203,036	9,948,786
VERMONT	0.00	0.000000000	0.500000000	8,636,176	11,921	8,648,097	172,962	8,475,135
VIRGINIA	5,231,943.40	0.025192858	2.289551543	39,545,937	13,591,442	53,137,379	1,062,748	52,074,631
WASHINGTON	4,123,141.00	0.019853752	1.804328357	31,164,992	1,938,084	33,103,076	662,062	32,441,014
WEST VIRGINIA	603,150.00	0.002904288	0.500000000	8,636,176	2,589,256	11,225,432	224,509	11,000,923
WISCONSIN	2,312,060.40	0.011133035	1.011781101	17,475,838	8,338,199	25,814,037	516,281	25,297,756
WYOMING	0.00	0.000000000	0.500000000	8,636,176	1,440,968	10,077,144	201,543	9,875,601
TOTAL	207,675,656.60	1.000000000	100.000000000	1,727,235,086	420,301,300	2,147,536,386	42,950,728	2,104,585,658

UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TABLE 4, PART 2

COMPUTATION OF APPORTIONMENT OF CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT FUNDS
AUTHORIZED FOR FISCAL YEAR 2008

STATE	FORMULA CMAQ APPORTIONMENT	MANDATORY PURSUANT TO 23 USC; SEC. 149(c)	FLEXIBLE PURSUANT TO 23 USC; SEC. 149(c)	RATIO TO CMAQ APPORTIONMENT		TOTAL CMAQ PROGRAM INCLUSIVE OF 2% FOR SPR	MANDATORY PURSUANT TO 23 USC; SEC. 149(c)	FLEXIBLE PURSUANT TO 23 USC; SEC. 149(c)
				MANDATORY	FLEXIBLE			
ALABAMA	8,636,176	6,943,701	1,692,475	80.938713755	19.061286245	12,112,174	9,738,490	2,373,684
ALASKA	8,636,176	3,039,475	5,596,701	35.216381184	64.781618816	18,302,262	6,441,424	11,860,838
ARIZONA	36,226,697	36,226,697	-	100.000000000	0.000000000	51,948,552	51,948,552	-
ARKANSAS	8,636,176	433,173	8,203,003	5.056432682	94.943567318	11,111,051	557,308	10,553,743
CALIFORNIA	363,887,523	363,887,523	-	100.000000000	0.000000000	431,433,976	431,433,976	-
COLORADO	28,335,371	28,335,371	-	100.000000000	0.000000000	33,232,884	33,232,884	-
CONNECTICUT	32,930,798	32,930,798	-	100.000000000	0.000000000	40,848,203	40,848,203	-
DELAWARE	8,636,176	7,808,181	827,995	89.701488641	10.298511359	9,865,144	8,919,321	945,823
DIST. OF COL.	8,636,176	6,384,280	2,251,896	71.754319172	28.245680828	8,636,176	6,384,280	2,251,896
FLORIDA	8,636,176	-	8,636,176	0.000000000	100.000000000	13,382,621	-	13,382,621
GEORGIA	40,425,470	40,425,470	-	100.000000000	0.000000000	61,717,268	61,717,268	-
HAWAII	8,636,176	-	8,636,176	0.000000000	100.000000000	9,481,822	-	9,481,822
IDAHO	8,636,176	-	8,636,176	0.000000000	100.000000000	12,177,603	-	12,177,603
ILLINOIS	75,856,019	75,856,019	-	100.000000000	0.000000000	95,730,947	95,730,947	-
INDIANA	31,268,035	31,268,035	-	100.000000000	0.000000000	47,096,265	47,096,265	-
IOWA	8,636,176	-	8,636,176	0.000000000	100.000000000	9,390,110	-	9,390,110
KANSAS	8,636,176	-	8,636,176	0.000000000	100.000000000	9,021,736	-	9,021,736
KENTUCKY	9,809,894	9,809,894	-	100.000000000	0.000000000	12,351,221	12,351,221	-
LOUISIANA	8,636,176	5,794,027	2,842,149	64.799032633	35.200967367	9,649,100	6,473,600	3,175,500
MAINE	8,636,176	6,570,676	2,065,500	77.190484603	22.809515397	8,636,176	6,570,676	2,065,500
MARYLAND	45,550,005	45,550,005	-	100.000000000	0.000000000	52,455,868	52,455,868	-
MASSACHUSETTS	58,193,139	58,193,139	-	100.000000000	0.000000000	61,208,152	61,208,152	-
MICHIGAN	59,438,814	59,438,814	-	100.000000000	0.000000000	73,901,318	73,901,318	-
MINNESOTA	23,263,761	23,263,761	-	100.000000000	0.000000000	29,661,881	29,661,881	-
MISSISSIPPI	8,636,176	-	8,636,176	0.000000000	100.000000000	10,087,083	-	10,087,083
MISSOURI	16,653,317	16,653,317	-	100.000000000	0.000000000	21,370,181	21,370,181	-
MONTANA	8,636,176	843,484	7,792,692	9.724172229	90.275827771	12,676,954	1,238,141	11,438,813
NEBRASKA	8,636,176	-	8,636,176	0.000000000	100.000000000	9,447,348	-	9,447,348
NEVADA	19,119,177	19,119,177	-	100.000000000	0.000000000	24,539,480	24,539,480	-
NEW HAMPSHIRE	8,636,176	8,636,176	-	100.000000000	0.000000000	9,999,972	9,999,972	-
NEW JERSEY	78,919,251	78,919,251	-	100.000000000	0.000000000	101,465,962	101,465,962	-
NEW MEXICO	8,636,176	5,115,769	3,520,407	58.311346382	41.688653618	10,891,678	6,451,850	4,439,828
NEW YORK	155,515,154	155,515,154	-	100.000000000	0.000000000	175,428,659	175,428,659	-
NORTH CAROLINA	36,790,635	36,790,635	-	100.000000000	0.000000000	49,219,410	49,219,410	-
NORTH DAKOTA	8,636,176	-	8,636,176	0.000000000	100.000000000	9,611,661	-	9,611,661
OHIO	72,089,071	72,089,071	-	100.000000000	0.000000000	95,434,544	95,434,544	-
OKLAHOMA	8,636,176	-	8,636,176	0.000000000	100.000000000	10,322,394	-	10,322,394
OREGON	14,475,768	14,475,768	-	100.000000000	0.000000000	16,023,266	16,023,266	-
PENNSYLVANIA	87,978,850	87,978,850	-	100.000000000	0.000000000	105,101,991	105,101,991	-
RHODE ISLAND	8,876,548	8,876,548	-	100.000000000	0.000000000	8,876,548	8,876,548	-
SOUTH CAROLINA	8,636,176	1,820,908	6,815,268	19.851206914	80.148793086	11,719,017	2,470,914	9,248,103
SOUTH DAKOTA	8,636,176	-	8,636,176	0.000000000	100.000000000	10,523,567	-	10,523,567
TENNESSEE	24,768,410	24,768,410	-	100.000000000	0.000000000	33,120,742	33,120,742	-
TEXAS	102,772,212	102,772,212	-	100.000000000	0.000000000	146,166,432	146,166,432	-
UTAH	8,636,176	5,638,974	2,997,202	60.100660483	39.899339517	10,151,822	6,628,612	3,523,210
VERMONT	8,636,176	-	8,636,176	0.000000000	100.000000000	8,648,097	-	8,648,097
VIRGINIA	39,545,937	39,545,937	-	100.000000000	0.000000000	53,137,379	53,137,379	-
WASHINGTON	31,164,992	31,164,992	-	100.000000000	0.000000000	33,103,076	33,103,076	-
WEST VIRGINIA	8,636,176	5,016,389	3,619,787	59.895306710	40.104693290	11,225,432	6,520,378	4,705,054
WISCONSIN	17,475,838	17,475,838	-	100.000000000	0.000000000	25,814,037	25,814,037	-
WYOMING	8,636,176	-	8,636,176	0.000000000	100.000000000	10,077,144	-	10,077,144
TOTAL	1,727,235,086	1,575,375,899	151,859,187			2,147,536,386	1,958,783,208	188,753,178

UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

TABLE 4, PART 3

COMPUTATION OF APPORTIONMENT OF CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT FUNDS
AUTHORIZED FOR FISCAL YEAR 2008

STATE	WEIGHTED POPULATION		ADJUSTED PERCENT 1/2% MINIMUM	CMAQ APPORTIONMENT AUTH. AT \$1.35b	TOTAL CMAQ PROGRAM INCLUSIVE OF 2% FOR SPR	DELTA	TRANSFERABILITY PURSUANT TO 23 USC; SEC. 126(c)
	NUMBER	PERCENT					
ALABAMA	834,882.00	0.004020125	0.500000000	6,665,625	12,112,174	5,446,549	2,723,275
ALASKA	365,454.00	0.001759734	0.500000000	6,665,625	18,302,282	11,636,637	5,818,319
ARIZONA	4,792,806.60	0.023078326	2.097380821	27,960,708	51,948,552	23,987,844	11,993,922
ARKANSAS	52,083.00	0.000250790	0.500000000	6,665,625	11,111,051	4,445,426	2,222,713
CALIFORNIA	48,142,465.28	0.231815640	21.067631515	280,857,863	431,433,976	150,576,113	75,288,057
COLORADO	3,748,781.00	0.018051133	1.640504621	21,869,977	33,232,884	11,362,907	5,681,454
CONNECTICUT	4,356,757.90	0.020978664	1.906561484	25,416,848	40,848,203	15,431,355	7,715,678
DELAWARE	938,823.60	0.004520624	0.500000000	6,665,625	9,865,144	3,199,519	1,599,780
DIST. OF COL.	767,619.60	0.003696243	0.500000000	6,665,625	8,636,176	1,970,551	985,276
FLORIDA	0.00	0.000000000	0.500000000	6,665,625	13,382,621	6,716,996	3,358,498
GEORGIA	5,348,306.00	0.025753168	2.340472998	31,201,431	61,717,268	30,515,837	15,257,919
HAWAII	0.00	0.000000000	0.500000000	6,665,625	9,481,822	2,816,197	1,408,099
IDAHO	0.00	0.000000000	0.500000000	6,665,625	12,177,603	5,511,978	2,755,989
ILLINOIS	10,035,781.80	0.048324305	4.391759992	58,547,650	95,730,947	37,183,297	18,591,649
INDIANA	4,136,773.70	0.019919396	1.810294165	24,133,484	47,096,265	22,962,781	11,481,391
IOWA	0.00	0.000000000	0.500000000	6,665,625	9,390,110	2,724,485	1,362,243
KANSAS	0.00	0.000000000	0.500000000	6,665,625	9,021,736	2,356,111	1,178,056
KENTUCKY	1,297,853.00	0.006249423	0.567953648	7,571,532	12,351,221	4,779,689	2,389,845
LOUISIANA	696,650.00	0.003354510	0.500000000	6,665,625	9,649,100	2,983,475	1,491,738
MAINE	790,031.00	0.003804158	0.500000000	6,665,625	8,636,176	1,970,551	985,276
MARYLAND	6,026,284.04	0.029017768	2.637163070	35,156,680	52,455,868	17,299,188	8,649,594
MASSACHUSETTS	7,698,975.68	0.037072114	3.369149912	44,914,980	61,208,152	16,293,172	8,146,586
MICHIGAN	7,863,779.00	0.037866575	3.441269518	45,876,424	73,901,318	28,024,894	14,012,447
MINNESOTA	3,077,805.00	0.014820249	1.346878712	17,955,577	29,661,881	11,706,304	5,853,152
MISSISSIPPI	0.00	0.000000000	0.500000000	6,665,625	10,087,083	3,421,458	1,710,729
MISSOURI	2,203,240.80	0.010609046	0.964160452	12,853,484	21,370,181	8,516,717	4,258,359
MONTANA	101,417.00	0.000488343	0.500000000	6,665,625	12,678,954	6,011,329	3,005,665
NEBRASKA	0.00	0.000000000	0.500000000	6,665,625	9,447,348	2,781,723	1,390,882
NEVADA	2,529,474.80	0.012179929	1.106923850	14,756,678	24,539,480	9,782,802	4,891,401
NEW HAMPSHIRE	1,063,844.10	0.005122623	0.500000000	6,665,625	9,999,972	3,334,347	1,667,174
NEW JERSEY	10,441,048.64	0.050275746	4.569108875	60,911,933	101,465,962	40,554,029	20,277,015
NEW MEXICO	615,099.00	0.002961825	0.500000000	6,665,625	10,891,678	4,226,053	2,113,027
NEW YORK	20,574,717.28	0.099071396	9.003705133	120,030,644	175,428,659	55,398,015	27,699,008
NORTH CAROLINA	4,867,415.90	0.023437585	2.130030608	28,395,970	49,219,410	20,823,440	10,411,720
NORTH DAKOTA	0.00	0.000000000	0.500000000	6,665,625	9,611,661	2,946,036	1,473,018
OHIO	9,537,413.12	0.045924560	4.173668798	55,640,222	95,434,544	39,794,322	19,897,161
OKLAHOMA	0.00	0.000000000	0.500000000	6,665,625	10,322,394	3,656,769	1,828,385
OREGON	1,915,160.00	0.009221832	0.838089081	11,172,775	16,023,266	4,850,491	2,425,246
PENNSYLVANIA	11,639,637.18	0.056047191	5.093623387	67,904,367	105,101,991	37,197,624	18,598,812
RHODE ISLAND	1,174,371.00	0.005654832	0.513916671	6,851,152	8,876,548	2,025,396	1,012,698
SOUTH CAROLINA	218,938.50	0.001054233	0.500000000	6,665,625	11,719,017	5,053,392	2,526,696
SOUTH DAKOTA	0.00	0.000000000	0.500000000	6,665,625	10,523,567	3,857,942	1,928,971
TENNESSEE	3,276,870.60	0.015778790	1.433991839	19,116,904	33,120,742	14,003,838	7,001,919
TEXAS	13,596,804.90	0.065471347	5.950099849	79,322,269	146,166,432	66,844,163	33,422,082
UTAH	678,007.00	0.003264740	0.500000000	6,665,625	10,151,822	3,486,197	1,743,099
VERMONT	0.00	0.000000000	0.500000000	6,665,625	8,648,097	1,982,472	991,236
VIRGINIA	5,231,943.40	0.025192858	2.289551543	30,522,584	53,137,379	22,614,795	11,307,398
WASHINGTON	4,123,141.00	0.019853752	1.804328357	24,053,952	33,103,076	9,049,124	4,524,562
WEST VIRGINIA	603,150.00	0.002904288	0.500000000	6,665,625	11,225,432	4,559,807	2,279,904
WISCONSIN	2,312,060.40	0.011133035	1.011781101	13,488,307	25,814,037	12,325,730	6,162,865
WYOMING	0.00	0.000000000	0.500000000	6,665,625	10,077,144	3,411,519	1,705,760
TOTAL	207,675,656.60	1.000000000	100.000000000	1,333,125,000	2,147,536,386	814,411,386	407,205,708

STATE OF CALIFORNIA

FFY 2007/08 DISTRIBUTION OF STP and CMAQ (including Equity Bonus ¹⁾)

	<u>California</u>	<u>United States</u>	<u>%</u>	
SURFACE TRANSPORTATION PROGRAM (STP)	\$ 620,128,868	\$ 6,371,817,545	10%	
Equity Bonus	\$ 111,657,801	\$ 1,792,085,995	6%	
TOTAL	\$ 731,786,669	\$ 8,163,903,540	9%	
CONGESTION MITIGATION & AIR QUALITY (CMAQ)	\$ 363,887,523	\$ 1,727,235,086	21%	
Equity Bonus	\$ 67,546,453	\$ 420,301,300	16%	
TOTAL	\$ 431,433,976	\$ 2,147,536,386	20%	
Equity Bonus distributed to "major" Highway Programs	\$ 458,203,230	\$ 6,542,494,169	7%	
STP	\$ 111,657,801	24%	\$ 1,792,085,995	27%
CMAQ	\$ 67,546,453	15%	\$ 420,301,300	6%