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# CHALLENGES IN SELECTING, ADMINISTERING AND MANAGING LOCAL-STATE TRANSPORTATION PROGRAM PROJECTS IN CALIFORNIA, WITH SACRAMENTO COUNTY PROJECTS AS CASE STUDY

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16. Abstract: There are 43 Regional Transportation Planning Agencies in California and a total of 87 Interregional Road System (IRRS) routes in California's 255 state highway routes. The California Department of Transportation (Caltrans) coordinates regional and local plans and programs in the state. Federal and state laws require that Urban Metropolitan Organizations (MPO's) and non-urban Regional Transportation Planning Agencies (RTPA's) conduct continuous, cooperative and comprehensive (3-C) transportation planning throughout California. There are always constant changes in the relationship between all above mentioned transportation agencies that culminates more from political winds of the particular era than from the competing projects.

Project delivery is not necessarily the issue; project priority selection and the control of the fund is, because contrary to the public perception that Caltrans has a lazy and less productive work force, prior to the new rule, Caltrans has delivered *all* programmed projects, most of them within budget and on time. All available funds have been used and judiciously accounted for. On the other hand, the recent funding equation is turning out to be one of the most beneficial transportation decision made in recent years, although it has some challenges. In this new dispensation as always, politics rather than the process plays a greater role in dealing with execution of the local-state transportation improvement program projects.

This paper will deal with challenges in selecting, administering and managing local-state Transportation Improvement Program projects in California, with Sacramento County projects used as the case study. So far, the process seems to be working the way it is intended to. With some modifications, the system would even be better.

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# EXECUTIVE SUMMARY

There are 43 Regional Transportation Planning Agencies in California and a total of 87 Interregional Road System (IRRS) routes in California's 255 state highway routes. The California Department of Transportation (Caltrans) coordinates regional and local plans and programs in the state. Federal and state laws require that Urban Metropolitan Organizations (MPO's) and non-urban Regional Transportation Planning Agencies (RTPA's) conduct continuous, cooperative and comprehensive (3-C) transportation planning throughout California. There are always constant changes in the relationship between all above mentioned transportation agencies that culminates more from political winds of the particular era than from the competing projects.

In 1996, Caltrans had 17,000 employees. By 2000, their work force had grown to 22,000, most of whom are engineers. Caltrans is primarily charged with the transportation needs of the state, and an organization like Caltrans that is a monopoly provider of a statutory service cannot be subjected to the test of political forces and maneuvers. Consequently, Caltrans finds it much more difficult to fully compete with their regional transportation agencies counterpart on tough and political issues. Regional agencies are usually able to make far-reaching decisions and are not required to undergo too many bureaucratic layers before making major decisions.

By contrast, the degree of discretion given to Caltrans managers is usually very limited and in most cases non-existent. Caltrans' managers, like any other state governmental organization, are accountable to a wider constituency of interest. They are further constrained by the state constitution from providing services beyond specified criteria, while regional transportation agencies decisions or authorities are tailored to meet needs of specific groups–their communities and powerful politicians.

As a result, in 1997 local agencies and private sector mounted pressure to the state through the public by introducing Proposition 45 to change the way transportation funds are controlled. The bill radically changed the funding rules for transportation projects in the state. It revised the 1990 Transportation Improvement Program Project (STIP) process from a seven-year to a four-year program while modifying and realigning programming and implementation responsibilities between the state and local agencies. STIP includes Regional Improvement Program (RIP) funds, which are allocated to regional agencies. Projects for RIP funding are identified in the Regional Transportation Improvement Program (RTIP) and submitted to the California Transportation Commission (CTC) for their approval and programming in the STIP. The regional agencies now control 75 percent of all state funding (STIP) that falls under RIP funds while the remaining 25 percent is allocated to Caltrans for Interregional Transportation Improvement Program (ITIP) projects.

Each local transportation agency identifies and selects its specific transportation planning needs but must comply with the regional, state and federal planning, programming, and air quality requirements. However, project selection criteria differ from one agency to the

other. Local transportation agencies prioritize and rank their projects. At the same time, projects may be taken out of order due to funding availability, deliverability, and partnership with other agencies or simply a political decision.

Local-state projects are either state administered or locally administered. According to Caltrans' *Construction Manual*, whenever Caltrans advertises for bids, opens bids, and awards the contract, the project including construction engineering is considered "state administered." Reverse is the case when local agency advertises for bids, opens bids and awards the contract.

Project delivery is not necessarily the issue; project priority selection and the control of the fund is, because contrary to the public perception that Caltrans has a lazy and less productive work force, prior to the new rule, Caltrans has delivered *all* programmed projects, most of them within budget and on time. All available funds have been used and judiciously accounted for. On the other hand, the recent funding equation is turning out to be one of the most beneficial transportation decision made in recent years, although it has some challenges. In this new dispensation as always, politics rather than the process plays a greater role in dealing with execution of the local-state transportation improvement program projects.

This paper will deal with challenges in selecting, administering and managing local-state Transportation Improvement Program projects in California, with Sacramento County projects used as the case study. So far, the process seems to be working the way it is intended to. With some modifications, the system would even be better. The following modifications are recommended:

**Relax restrictions on state-only funding requirements**
California Transportation Commission requires that all projects meet federal requirement except when state-only funding is being used. Federal requirements by their nature take a long process to complete, and sometimes local agencies may be delayed do to some stringent federal requirements. The project total cost should be limitless and construction and right of way activities should be included as covered costs.

**Large metropolitan counties should have in-house structures/bridge department.**
Almost all the Local Transportation Agencies currently do not have any bridge personnel in their unit. This has resulted in contracting out all bridgework to private contractors no matter how easy or complex the project may be. While contracting out is good business decision, sometimes not all project are candidates for private execution. Some projects have been delayed due to the contracting out process and shortcomings. Therefore local transportation agencies should have staff with bridge experience even if it is for just structure submittal review.

**Reduce number of Caltrans transportation project employees**
It is true that the state still oversees and sometimes performs design and engineering work if asked by the local transportation agencies. More and more local agencies prefer contracting out the same type of work to the private agencies. Since the funding level has

been significantly reduced, the number of state employees that normally would do the project should reflect the workload at hand. Available funds do not justify maintaining the status quo staff level. The excess or reduced Caltrans staff could gain employment with the local agencies or private consultants to the local agencies where their expertise would be used efficiently.

**Contract-out to private businesses**
Give local transportation agencies total control of some projects within their physical boundaries. Some of functions that Caltrans would normally perform should be contracted out to the private industries.

**Do not combine multiple projects into one**
It is becoming common practice for local agencies to combine more that one project into one big project. The result is nearly always a delayed project because when any component project is delayed, the entire project is delayed.

**Streamline Construction Inspection Duties.**
When local agency is administering construction projects, the executing private contractor should receive instructions from the local agencies. The same rule should also apply to local agency when Caltrans is the administrative agency for the project.

**Have One Project Report**.
Two-project report documents are still being used namely Project Study Report (PSR) and the Plans Specifications and Estimate (PS&E), both of them identical. One report document should be eliminated.

**Trade STIP fund for State only Fund at a Discount Rate**
STIP funds come with federal requirements that sometimes are time consuming. Some local agencies would like to have State-Only Fund just "to go on with their lives," even if it involves receiving less money.

**Develop and Maintain a Regional-Statewide Quarterly Tracking and Progress Reporting System**
Currently, Caltrans is required to develop, upgrade and maintain an electronic database record of the adopted STIP. There is no single statewide organized tracking record for ongoing construction projects. Each local agency and Caltrans District office should track and report all programmed and ongoing projects progress, and report the findings of fact to the statewide database for all to see.

**Perform Joint Value Analysis**
During design and before any project goes out for construction, there ought to be a state-local transportation agencies joint-value analysis on all projects. The purpose of the analysis will be to identify value-enhancing opportunities and to consider modifications to the plan and specifications that will reduce either the total cost or time of construction without impairing, in any manner, the essential functions or characteristics of the project.

To get it right, some of the recommendations may require some iteration. Transportation process evolves so rapidly, and what seems to work today may be useless tomorrow. But one thing is certain, politics in transportation is as important as the process. Sometimes the gamble pays off. With the right approach, the local transportation agencies and Caltrans can effectively manage transportation issues within their various jurisdictions, or at least transportation projects should be seen as inevitable tasks that could be achieved with understanding and cooperation between the state and the locals. Issue of fund control will always be there, regardless of the mathematical permutations or formulas used. Effort should be made to strengthen coordination and cooperation between agencies to avoid interagency conflicts. The current process needs to be fine-tuned.

# CHAPTER 1: INTRODUCTION AND BACKGROUND

The journey on how Caltrans, Regional and Local Transportation agencies deliver transportation projects in California started many years ago, but went through major changes in 1990 as amended in the California Transportation Blueprint Legislation. This legislation established a 10-year transportation-funding plan, and changed the State Transportation Improvement Program (STIP) from a five-year annual program to seven-year biennial program.

In 1997, legislature again changed the Transportation Improvement Program Project (STIP) process from a seven-year to four-year program while modifying and realigning programming and implementation responsibilities between the state and local agencies. This milestone legislature simplifies the way transportation decisions, funding and implementations are made in California. It shifted programming decisions from the state to regions and reduced funding categories from nine to two. By doing so, it provides funding flexibility and simplicity at the same time increased accountability of expenditures as decision making are brought closest to the local/problem source. The new objective is to provide the statewide connectivity and increase deliverability of projects. Timely use of funds is required, and projects are selected for 25 percent of funds based on interregional criteria and 75 percent on the regional level. The two programs are the Regional Transportation Improvement Program and Interregional Improvement Program. The local agencies now control 75 percent of all state (STIP) funds while the remaining 25 percent is controlled by Caltrans. Caltrans and local transportation agencies develop a strategy for the regions project selection.

Caltrans has the discretion for project selection under ITIP with the following restrictions: at least 15 percent of the funds must go to intercity rail improvements and highway projects outside urbanized areas, with at least 2.25 percent of these funds (15 percent of the 15 percent) used for intercity rail projects. The remaining 10 percent in the ITIP is for the intercity rail and interregional road projects anywhere in the state, including urbanized areas. Caltrans nominates projects for funding to the CTC in their ITIP.[1]

Regardless of the programming method or agency, California Transportation Commission (CTC) receives all the programming documents mostly for recommendation or approval, and in some instances for informational purposes only. As a result, Caltrans, regional and local agencies, and the California Transportation Commission (CTC) are the principal actors involved with the developing State Transportation Improvement Program (STIP) documents. Projects are proposed for STIP programming in either the Proposed STIP (PSTIP), or in the Regional Transportation Improvement Program (RTIP), or in both types of documents. Regardless of the programming document used, it must contain the following six funding elements: Interregional Road System (IRRS), Flexible Congestion Relief (FCR), Noise Barriers/Sound Walls (SW), Intercity Rail (IRR), Commuter Rail (CRR) and Urban Rail Transit (URR).

[1] Butte County, 2001 Regional Transportation Plan

ITIP is prepared by Caltrans while RTIP is by Regional Transportation Planning Agencies, which includes County Transportation Commission. STIP is limited to projects submitted or recommended through the Caltrans Interregional Transportation Improvement Program (ITIP) or a region's Regional Transportation Improvement Program (RTIP). The state law provides that neither ITIP nor RTIP or both may include a project without a Project Study Report (PSR) or project report equivalent. Projects that are 100 percent locally funded are not included in the STIP; neither are the projects that are funded through the State-Local Partnership program included.

The local agency completes a Project Study Report or equivalent. Major revisions to the PSR (PDS) outline are:[2]

- Expanded description of the contents for each section
- Improved title page which clearly defines the PSR (PDS) as a document for only programming resources and not capital
- Use of cost ranges for the cost estimate.
- Inclusion of boilerplate language for the cost estimates.
- Standardized tables for resource estimate, cost estimate and schedule.
- Documentation Matrix
- Project Evaluation Checklist

The local agency completes and submits Project Nomination (Fact & Funding) sheets to the regional agency. The regional planning agency adopts the project in the Regional Transportation Improvement Program (RTIP). California Transportation Commission adopts the project into the STIP.

There are constrains attached to the new process. The "Timely Use of Funds" clause requires that the following deadlines be met:

- Allocation: Projects components must be allocated in the year in which they are programmed.
- Expenditure: Project expenditures must occur by the end of the 2nd fiscal year following allocation.
- Award: Construction contracts must be awarded within 12 months of construction allocation.
- Completion: Full project completion must occur within three years of the construction award date.

Another change worth mentioning is AB 1012, Chapter 783 of the Statutes of 1999. One of the objectives of AB 1012 was to facilitate project development work on needed transportation projects to produce a steady flow of construction work by adding an Advanced Project Development Element (APDE) to the fund estimate. This law augments the 1997 transportation bill.

After sorting out details and qualifications of individual projects for programming comes another challenges of selecting, administering, and managing qualified projects. It is true that roles of transportation projects stakeholders have change, however, both local and

[2] http://www.dot.ca.gov/hq/oppd/design/m080901.htm

state transportation agencies continue to thrive for better and efficient roadway facilities. A look at the State Transportation Improvement Program process reveals that the procedure is cumbersome regardless of the funding equation. The fund distributions are totally different from the State Highway Operation and Protection Program, which is another program that covers major capital improvements that are not included in the STIP.

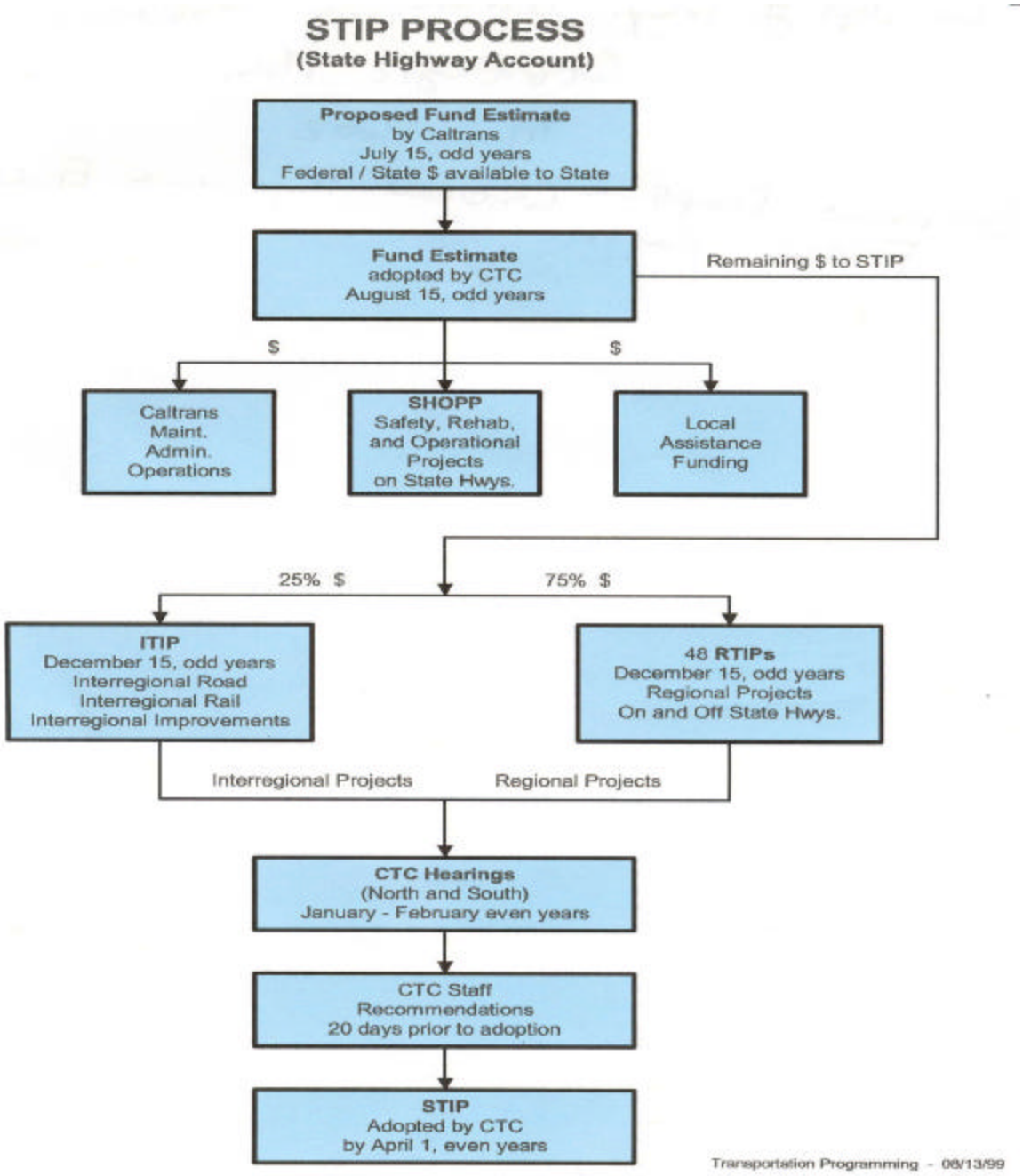



**Figure 1-1 State Transportation Improvement Program Process (courtesy Caltrans)**

It is under this background (see Figure 1-1 above) that state and local transportation agencies select administer and manage transportation projects within their area of jurisdictional mandate and control. The challenges are numerous but not insurmountable. However, the process is still going through learning curve and will improve with time. The function is a statutory obligation that must be fulfilled.

# CHAPTER 2: SELECTION PROCESS

Programming project components sequentially is one of the STIP requirements that have considerably help the local-state transportation project selection. This provision allows project component to be programmed sequentially, which means that project may be programmed for environmental work only, without being programmed for plans, specifications and estimates. A project may be programmed for design without being programmed for right-of-way or construction. Conversely, a project may be programmed for right-of-way without being programmed for construction.[3] Environmental documents usually take long time to complete. With this new rule, project selection time is reduced because previously, project cannot be programmed until all environmental documents are evaluated and cleared.

To understand the complexities on how projects are selected, a review of the project programming process will be in order. Programming is the process by which a public agency or a private company identifies specific funds for a project, based on a projection of revenue expected to be available at a specific time in the future. Most state and federal revenues are programmed into the following documents:

1. State Transportation Improvement Program (STIP)
2. Traffic System Management (TSM Plan)
3. State Highway Operational and Protection Program (SHOPP)
4. Toll Bridge Program.

County sales-tax authorities program their projects in Expenditure Plans, Strategic plans, Plans of Finance, or other documents that are similar to the STIP. Whereas, local agencies program their projects through a variety of documents.[4]

Caltrans project procedures are:[5]

- Identify Project Need: This is a joint planning effort by Caltrans District offices and their local agency counterparts. Each agency accesses its existing transportation system, and then jointly plans for the future in accordance with the regional and interregional needs.
- Prepare Initiation Document: Analysis of such issues as financing is made at this stage.
- Form Project Development Team: Project team which comprises of different disciplines are formed and charge with developing, evaluating, and recommending projects for further advancement to the next level.
- Prepare Project Report: Generally, Project Study Report (PSR) is for the larger and more complex projects while Project Scope and Summary Project Report (PSSR) are for the smaller projects. Each document contains a detailed alternative analysis, a preferred alternative, cost, and schedule and scope information.

[3] California Transportation Commission, Amendment of STIP Guidelines. RESOLUTION G-00-20, July 2000
[4] Caltrans *Project Development Manual*, 1999
[5] " How Caltrans Builds Projects," *Project Development Manual* 1998

- Secure Project Programming: Selected projects are programmed at this stage. Senate Bill 45, passed in 1997, placed 75 percent of STIP funds under the control of the regional agencies while the remaining 25 percent is controlled by the state department of transportation (Caltrans).
- Prepare Draft Project Report: This document builds on the Project Report prepared earlier. It goes into scope and engineering details and studies of the projects.
- Perform Environmental Studies: All the environmental laws and requirements are evaluated. Permit or clearance to proceed with the projects is sought from the environmental statutory agencies.
- Secure Project Approval: Preferred alternative is selected and the final environmental document is completed. Projects are sent to CTC for approval.
- Obtain Approvals, Agreements, Plans Specifications and Estimate (PS&E), and Acquire Right of Way: Once all environmental approvals are obtained, projects are moved for preparation of detailed plans, specifications and estimates. If needed acquiring of right of way or encroachment permits can go on concurrently.
- Complete Project Design: This is the final design phase. Plans, specifications and estimate are fine-tuned and the final design sent to the Office of Engineer.
- Prepare and Advertise Contract: The Office Engineer assembles the project documents and bid packages and advertise the contract. The contract is awarded to the lowest responsible bidder.
- Conduct and Complete Construction Project: Once Attorney General has approved the contract construction work starts. This is the last phase until the project is closed out.

The PSR (PDS) is a project initiation document, which is used to program the project development support for State Transportation Improvement Program (STIP) candidates. The PSR (PDS) describes the transportation problem, identifies the scope of the viable alternatives, and provides an estimate of the project development support resources required for the specific project. Support resources may be programmed in the following sequential components: (1) Project Approval/Environmental Document (PA/ED); (2) Plans, Specifications and Estimate; (3) Acquisition of Right of Way; and (4) Construction Management and Engineering.

Because PSR is for larger and more complex projects, Caltrans spend more time and energy to produce the project report. In fact, on project initiation/selection phase, PSR takes a great percent of time just as in implementation phase construction is the most time consuming part of the project. The PSR (PDS) is necessary for all new STIP projects either requiring an environmental document (Negative Declaration or Environmental Impact Report) or applying for Programming under the APDE.

## How Caltrans Selects Their Projects

There are four basic overall common criteria in the state STIP project selection namely,

- Benefit cost ratio;
- Reduce delay;
- Improve safety; and

- Overriding statewide interest.

In addition to the common criteria, Caltrans uses the following six objective linked criteria to select Interregional Transportation Improvement Program for its 25 percent funding share:

**Table 2-1 Caltrans Project Ranking Process**

| Objective | Criteria | Rank |
|---|---|---|
| Complete a trunk system of higher standard state highways. | On High Emphasis Route<br>On Focus Route<br>Completes Key Segment | 15% |
| Link rural and smaller urban centers to trunk system | On High Emphasis Route<br>On Focus Route<br>Completes Key Segment | 15% |
| Connect urbanizing centers and high growth areas to the trunk system. | On High Emphasis Route<br>On Focus Route<br>Completes Key Segment | 15% |
| Connect urbanized areas, major metropolitan centers, and Gateways to the system. | On High Emphasis Route<br>On Focus Route<br>Completes Key Segment<br>Connects to Gateway<br>Significant "through you" Improvement<br>Addresses larger travel conflicts between region/local and interregional movement | 15%/<br>10% |
| Improve level of service through Gateways to the key commercial facilities. | Connects to Gateway<br>Significant "through you" Improvement<br>Addresses larger travel conflicts between region/local and interregional movement | 15%/<br>10% |
| Preserve and improve intercity rail service | Improve Service Reliability<br>Reduce Running Times<br>Reduce Per Passenger Farebox Subsidy<br>Protect States Rolling Stock Investment<br>Ensure Compliance with Appropriate Regulations | 15% |
| | Primary Program Category | 15%/<br>10% |

Source: Caltrans Interregional Transportation Strategic Plan, June 1997

A project may meet one or several of the criteria under the common or objective linked criteria. The primary program category (15 percent or 10 percent) is identified under which the project would typically be considered. A mix of program categories may apply to a particular project or series of projects in a corridor.

## How Local Agencies Select Their Projects

Project selection criteria vary from one agency to the order and from one county to the other. The process is as varied as number of metropolitan organization and regional transportation agencies. (See figure 1-2 below for the list of California's MPO's and Regional Transportation Agencies.)


**Figure 2-1 California's MPO's and RTPA's (Caltrans Transportation Programming Document)**

In Sacramento Council of Government (SACOG), which is the designated Metropolitan Planning Organization for the region, there is no cookbook set down criteria. However, the boundaries cities (like City of Sacramento) that send their selected projects from which SACOG will chose from uses the following criteria.

**Table 2-2 City of Sacramento Ranking Process**

| Objective | Criteria | Rank: Max. Points |
|---|---|---|
| Public Safety | Average accident rate for the last three years:<br><br>3 Year Average Accident Rate of Project / highest Accident Rate of Projects Considered X 20= | 20 |
| Congestion | Volume to capacity ratio<br>Average daily traffic (ADT)<br>20 year traffic volume<br><br>Existing V/C of project / Highest Existing V/C of Projects Considered X 15 =<br><br>20 Year V/C of Project / Highest 20 Year V/C of Projects Considered X 10 = | 25 |
| Economic Development | Can development (residential or commercial) be directly tied to the project? Yes = 5 points, No= 0 points<br><br>Is the project in a Sacramento Housing and Redevelopment Agency redevelopment area? Yes = 5 points, No = 0 points<br><br>Is the project in a City-designated residential infill area?<br>Yes = 5 points, No = 0 points | 15 |
| Cost | Points are assigned inversely proportional to the cost of the project that will be borne by the City:<br><br>Lowest Cost Project / Project Cost X 5 = | 5 |
| Deliverability/ Readiness | Estimated project delivery time<br><br>Estimated Project Delivery Time Points | |

| Objective | Criteria | Rank: Max. Points |
|---|---|---|
| | Within 3 years 9<br>Between 3 and 5 years 6<br>Between 5 and 10 years 3<br>Over 10 years 0<br><br>Has the Environmental Determination been approved?<br>Yes = 5 points, No = 0 points<br><br>Has a Project Study Report been approved?<br>Yes = 5 points, No = 0 points<br><br>Is the Preliminary Design (30%) complete?<br>Yes = 3 points, No = 0 points<br><br>Is other Project Funding available?<br>Yes = 2 points, No = 0 points | 15 |
| Volume | Existing volumes<br><br>Existing ADT of Project X 10 =<br>Highest Existing ADT of Projects Considered | 10 |
| Gap Closure | If a project will either close a gap or connect missing links in a route. | 10 |

Source: Transportation Programming Guide. City of Sacramento Department of Public Works.

# CHAPTER 3: PROJECT ADMINISTRATION AND MANAGEMENT

Previously, Caltrans was generally perceived as a sole agency that has users rather than customers, and its workers see themselves as providing a necessary public service rather than seeking to maximize user benefits. But not anymore. The fact that Caltrans has very little control over the elements of its statutory obligations or the manner in which it makes services available to public user poses major barriers to the emergence of a true managerial ingenuity.

SB 45, added by Chapter 622 of the Statutes of 1997, defines the STIP as a resource management tool. SB 45 established the framework for project development support components to be programmed prior to the programming of right-of-way and construction capital components.

In every project, Caltrans or the local agency manages the preparation of the Project Approval & Environmental Document (PA&ED) by acting as the Lead Agency, with the other playing the oversight role. On most of the projects, Caltrans has performed more lead agency role than the local agency. When local agency assumes the lead agency role, it undertakes the following tasks:

- Develop and review scope of work with Caltrans for drafting of a consultant Request for Proposals (RFP)
- Circulate RFP through consultant services to solicit qualified transportation firms
- Review proposals and conduct interviews
- Select consultant and initiate contract
- Execute cooperative agreement with Caltrans
- Conduct Initial Project Development Team (PDT) meeting to review project scope and schedule
- Conduct Project Development Team (PDT) meetings as needed to review project progress and scheduling.
- Monitor consultant contract and prepare progress reports
- Prepare invoices and progress reports for Caltrans review and STIP reimbursement.

The end results for the above tasks are:

- Consultant contract
- Cooperative agreement with Caltrans
- Preliminary surveys
- Traffic studies
- Draft project report
- Environmental documentation

Caltrans provides sufficient oversight to assure that the contracts are administered in accordance with their Construction Manual and the Local Assistance Procedures Manual (for local federal aid projects) and that the work is completed in conformance with approved plans and specifications. Caltrans further stated that delegation of the administration of the project to others does not relieve the Department of its responsibility to oversee the contract administration and construction inspection of the project.

Project oversight includes providing general policy and procedural direction, including:

- Evaluating the local agency's contract administration and construction inspection capabilities or consultant selection.
- Performing periodic on-site field reviews and consultations.
- Reviewing and providing written concurrence of change orders that modify the plans or specifications or impact public safety and convenience.
- Reviewing contract progress pay schedules without assuming responsibility for the accuracy of itemizations on progress pay schedules.

Cooperative agreements are another area where both local and state transportation agencies are having difficulties executing. Locals have argued that Caltrans are more concerned with the legalese than with technical details when it comes to writing cooperative agreements. Caltrans District offices have cooperative agreement focus unit. However most of them are still struggling on quality of their products.

It takes about two to three local agency staff to perform the lead agency task because the work is contracted out to the private sector. With Caltrans, the same project may take same two to three staff to complete. Efforts are on making sure that the consultant work complies with the state and federal standards. Triangular effects exist between the consultant- local agency–Caltrans. Sometimes it becomes cyclical. Almost every changes or correction made to the plan comes with a price tag because consultant will not perform the task without charging for it. Most importantly, time is wasted in the process. In addition, discussion on conflicts with regards to projects getting to the construction stage that cannot be built according to plans often ends up in finger pointing among the agencies.

The Caltrans Project Manager has full authority, to produce the results that were intended, meet schedules milestones, stay within budget and keep the sponsors and customers satisfied is often frustrated when acting as an oversight agency. In principle the project manager retains these responsibilities over the entire life of the project, and is the primary point of contact for the project sponsor. As an oversight staff, the project manager can only monitor project performance but cannot take any corrective action because its function is relegated to an observer. He cannot lead the project team in the development of a management plan that defines the project scope. Moreover, he has no control of the project.

When acting as a lead agency, Caltrans managers could improve positively on the way they do business with the regional transportation agency. On other instances, Caltrans

should emphasis on building and cultivating good, long-term relationships with the local agencies. The highly effective manager should realize that nothing is more important to the continued success of the organization than good customer relations.

Other area of conflicts is claim resolution. When Caltrans administers a construction contract, they use the Caltrans claims process in consultation with the fund provider. All disputes in the project are resolved by the outlined procedures, which are sometimes in conflict with the funding local agency methods. Although the agreement normally states that the fund provider will abide by the outcome of the Caltrans claims process.

Caltrans recognizes the problem and advises its staff, that the other areas that would help improve the quality of the designed work being produced by the participating transportation agencies is to continue to strive for consistency between the different types of work being done by all participants. They should be provided with clear and accurate information regarding projects to be able to modify any changes and their schedule accordingly. Perhaps, on bigger projects, a full time designer should be placed at the construction sites. This technique has worked very well in State projects where it has been tried and has helped developed better communication between construction and design departments. Better partnering between participating transportation agencies would also be beneficial.

# CHAPTER 4: CASE STUDY, SACRAMENTO COUNTY PROJECTS

**Sacramento/Placer County I-80 HOV Lanes STIP Project**

Sacramento Area Council of Government (SACOG) is charged by the state and federal law to be the regional transportation planner for the six-county region comprising of Sacramento, Yolo, Placer, El Dorado, Yuba and Sutter counties. Sacramento County High Occupant Vehicle lane projects are contained in the region's Metropolitan Transportation Plan prepared by SACOG. One of these projects is the Sacramento/Placer County HOV lane.

This project was initially proposed in the general plan to include high occupancy vehicle lanes on Interstate 80 from Sacramento County (eight miles in Sacramento County) to five miles into Placer County, the adjacent county. Caltrans preferred to execute this project as one big project but because of the local fund control, Placer County decided to opt out of the project for a later season (see Placer County HOV project below). Thus the project was programmed for the Sacramento County sections only.

To further complicate the process even further, Sacramento County added about four more relatively small projects into the Sacramento County HOV project namely, state route 80 HOV lanes, state route 80/Madison Avenue Interchange, Construct Median Barrier and Construct Gore Paving, none of them extending beyond the county line.

Madison Avenue and highway I-80 interchange currently operates at LOS E during the a.m. peak hours and at a LOS F during the p.m. peak hours. In 1997, Sacramento County Public Works Agency initiated a Project Study Report for this interchange to identify improvements to alleviate unacceptable existing peak hour congestion. SACOG, a Regional Transportation Plan and Metropolitan Plan recommended the proposed improvements to the Madison Avenue/I-80 interchange. The project is scheduled to be completed in 2003.

In 1997, Caltrans produced a PSR for the highway portion of this intersection. On I-80 mainline, the LOS F is recorded during the a.m. peak hours for the westbound traffic and LOS D for the eastbound traffic during the p.m. peak hours. This project is proposed for the inclusion in the 1998 STIP. It is the highest priority project proposed for STIP nomination, through the RTIP, by Caltrans in Sacramento County. This project is scheduled for construction in the 2001/2002 fiscal years. The general schedule is:

**Table 4-1 Sacramento/Placer County I-80 HOV Lanes Schedule**

| MILESTONE | DATE |
|---|---|
| Approved PSR | 10/97 |
| Begin PR | 3/98 |
| Project Approved and ED | 7/99 |
| Bridge PS&E | 9/00 |
| District PS&E | 11/00 |
| Right of Way Certification | 1/01 |
| Advertise for Bid | 7/01 |
| Complete Construction | 6/03 |

This project is behind schedule by 18 months. It went to bid on February 2002 and was delayed for yet another month for the award due to fund transfer from the local to state account. As of July 2002, construction has not started. It is estimated that the construction will be completed in fall 2005.

The fund for the highway portion of the I-80 project is from the regional transportation partner, Sacramento Council of Government (SACOG) and from the interregional sponsor, Caltrans. Madison Avenue interchange fund comes from the county of Sacramento. All four projects were combined into one. During the design stage, on the highway section of the project, Caltrans is the lead agency and on the local portion county is the lead agency. However, during the construction phase, Sacramento County becomes the oversight agency while Caltrans acts as the lead agency.

Selection of this project is unanimous among all participating agencies, but each slightly differs on its administration and management. Since the project has a bridge over crossing, Caltrans preferred to do the design because it has very good bridge design branch. But the county decided to contract out design of the bridge because it is their policy to contract out all bridgework to private consultant. Caltrans then acts as an oversight agency on the bridge design. The county has no single staff with bridge design experience. This is neither an omission nor a mistake; it is a business decision.

**Caltrans Construction Project**


**Figure 4-1 Caltrans Construction Project in Sacramento**

Source: Caltrans Project Report

**Placer County I-80 HOV Lanes STIP Project**

Even though this project could have been constructed in conjunction with the Sacramento County HOV lanes project mentioned above, it is now in design phase scheduled to begin construction in 2005 with completion date four years later. The original study showed that the level of service within this limit is below the acceptable standard. The new funding formula made this arrangement possible because Placer has placed other projects above the HOV lanes project. As a result adjacent and adjoining HOV lanes in Sacramento County lines will soon have five lanes in both directions that stops at the county line while Placer county will continue to be four lanes till 2009 or when the project is completed.

The capacity improvements are intended to reduce the current congestion and slow the deteriorating of level of service. Initial project report stated that by 2005, demand would exceed capacity at all locations within the project limit. There is no doubt that there will exist bottleneck near and around the Sacramento/Placer County boundary. This is more true as the project has been delayed for about eighteen months and could be further delayed before final completion.

**Table 4-2 Placer County I-80 HOV Lanes**

| MILESTONE | DATE |
|---|---|
| Approved PID | 12/1/00 |
| Program | 12/1/00 |
| Begin PR | 7/01/00 |
| Updated milestone: | |
| P&E | 9/1/03 |
| Bridge PS&E | 8/1/03 |
| HQ PS&E | 3/1/04 |
| Right of Way Certification | 10/1/04 |
| Advertise for Bid | 9/1/04 |
| Complete Construction | 4/1/08 |

Through Transportation Concept Report and the District System Management Plan, Caltrans studied and recommended the use of HOV lanes on this segment of Interstate 80 in early 1988. And in 1991, the Sacramento Transportation Authority's (STA) Congestion Management Program recommended HOV lanes on the I-80 segment from Sacramento County to the Placer County. Also, SACOG's Regional Transportation Plan and the Metropolitan Transportation Plan recommended the HOV lanes in the above-mentioned segment. Caltrans, SACOG and the Placer County Transportation Planning Agency (PCTPA) developed the I-80 corridor plan within their jurisdiction. All area transportation agencies agreed on the need for the project but one did not follow up with the original set schedule.

**Sacramento/El Dorado County HOV lanes Project**

This nine mile HOV project on Route 50 although similar to Sacramento/Placer County HOV lanes in scope, has a different outcome. El Dorado County was more enthusiastic to

see the project move even ahead of the schedule. Even though the project extended into El Dorado County for less than a mile yet they contributed more fund to the project than the Sacramento County that has the majority of work in its boundary. Portions of the project segment currently operate at Level of Service (LOS) E to F during the peak hours on both direction of travel–westbound in the morning commute and eastbound in the evening commute.

The ongoing project is to add High Occupancy Vehicle Lanes in the median of Route 50 from Sacramento to El Dorado County. The project is needed to improve existing operations, increase the roadway capacity while providing additional opportunity and incentive for ridesharing. The project is identified in the 1996 Metropolitan Transportation Plan and was included in the Route 50 Major Investment Study (MIS) published in 1997 and approved by the Sacramento Area council of Government on 1997. Already in 1992, the State Department of Transportation District 3 System Management Plan identified Route 50 as a high travel service priority.

"This project is included in the 1998 STIP (RIP) as a jointly funded project, with participation by Sacramento County. Approximately $7.8 million is allocated from the County share of Regional Improvement Program funds. To fully fund the project's capital and support costs, the remaining portion of the project (approximately $3.8 million) will be funded by local sales tax (measure) funds. Details of funding will be included in a separate cooperative agreement between the State and Sacramento County."

The project was programmed as follows:

**Table 4-3 Sacramento/El Dorado County HOV Lanes Fund Allocation**

| Project Component Costs | STIP | Local | Totals | Responsible Agency |
|---|---|---|---|---|
| Environmental Documentation | 0 | $251,000 | $251,000 | county |
| Plans, specs and estimate | $1,127,000 | 0 | $1,127,000 | Caltrans |
| R/W engineering | 0 | $85,000 | $85,000 | county |
| R/W capital costs | 0 | $12,000 | $12,000 | county |
| Construction capital costs | $5,987,000 | $3,079,000 | $9,066,000 | county |
| Construction engineering | $741,000 | $356,000 | $1,097,000 | County/Caltrans |
| TOTALS | $7,855,000 | $3,784,000 | $11,638,000 | |

**Table 4-4 Sacramento/El Dorado County HOV Lanes Project Milestone**

| Proposed Project Milestones | Quarter/Year |
|---|---|
| Start Environmental Studies | 2Q/1998 |
| Draft Environment Document | 4Q/1998 |
| Final Environmental Document | 2Q/1999 |
| Begin Design Engineering | 2Q/1999 |
| Plans, Specs, and Estimate | 4Q/2000 |
| Start R/W Acquisition | 4Q/2000 |
| Right of Way Certification | 4Q/2000 |
| Ready to Advertise | 1Q/2001 |
| Start Construction (award) | 2Q/2001 |
| Project Completion (open for use) | 4Q/2002 |

The project was awarded and approved for construction in 2001 and will be completed in 2002. It is on schedule.

One of the challenges in administering the route 50 project is correction of design errors. More than 60 contract change orders for bridge items were written and executed. This many change orders is unprecedented for work of a simple short two-span bridge.

Lesson learned from these projects is that local-state transportation programs will work to the extent to which all keen participants are willing to go. Each authorized and delegated local transportation agency can decide to embark on the planned regional transportation schedule or may decide to back out of the timetable for a later date without necessarily opting out of the originally adopted regional transportation plan. Example of this behavior is demonstrated in the Sacramento region between Sacramento and Placer County Interstate 80 corridor.

# CHAPTER 5: RECOMMENDATIONS AND CONCLUSIONS

Every Caltrans project development starts with feasibility studies and ends with a completed project. So also do the local transportation agencies projects. Each use standard engineering requirements, public involvement and federal and state approval steps, which are governed by a host of laws and regulations pertaining to programming, environmental effects, right of way acquisition and contracting for construction. The cycle is:

- **Project Initiation Document (PID) Phase**: Alternative solutions to a transportation need or problem are identified. The highest-level deliverable completed during this phase is the Project Initiation Document (PID). This document contains a defined project scope, a reliable capital and support cost estimate and a project schedule suitable for programming the project.

- **Programming Phase:** The project is placed in a program of projects (STIP, etc.) and funding is secured. The highest-level deliverable completed during this phase is a Programmed Project.

- **Project Approval Phase:** Studies of the identified alternatives are performed to determine the preferred alternative. The highest-level deliverables completed during this phase are the Final Project Report / Final Environmental Document.

- **Plans Specifications & Estimate (PS&E) Phase:** Design details, quantity calculations, right of way requirements and contract specifications are developed and right of way and permits are secured for the chosen alternative. The highest level deliverable completed during this phase is the PS&E Package.

- **Project Construction Phase:** Construction contract administration and other activities to construct the project are performed. Products produced during this phase are contract change orders, contract payments and contract records. The highest level deliverable completed during this phase is the constructed physical improvement.
- **Project Wrap Up Phase:** All remaining project activities are completed. Products produced during this phase include Final Estimate, As-Built plans and the project history file.

Planning, Project Development and Construction are the major branches entrusted with physical improvement to the transportation system in the state. Of all these branches, Construction Department could be said to represent Caltrans because the traveling public see construction staff on daily bases. Caltrans Resident Engineers, who reported to the Senior Transportation Engineer/Construction Engineer, are in charge of the project administration. Their duties included answering all questions that may arise as to the quality or acceptability of materials furnished and work performed; answering all questions which developed as to the interpretation of plans and specifications, and writing contract change orders when there are need to do so.

There is no surprise that most challenges of selecting, administrating and managing local-state transportation improvement program projects are noticeable in planning, project development and construction departments. But as the transportation decisions move from the state agencies to the customer, local agencies exercise more control over transportation decisions. Thus, there is a fundamental shift in relationships between state-local transportation agencies. The shift has resulted in a partnership of shared information and decision-making, which has yielded collaborative problem definition and solutions. Some of the reoccurring issues include:

**Construction Contract Administration**
Internally within the state transportation agency and within the local or regional transportation agencies there are still confusion on how to fully administer the new fund allocation projects. There are no clearinghouse for questions arising on such issues as standard plans for simple structures like curb and gutter. Each city has its unique roadway element. Just as Caltrans has one fit-all standard plans for the whole state. Although, opinions are diverse and varied within Caltrans, some people believe that construction contract administration needed some changes as some construction projects are delayed in part due to conflicting roles of local and Caltrans resident engineers. Caltrans resolved that resident engineers should no longer be the first line supervisors and should have no contract change order approval authority. Instead this authority was delegated to Senior Transportation Engineer (first line supervisor). It will be prudent to add that the new funding formula is not the only season the change was made, however it helped facilitate the implementation.

**Road Relinquishment**
With the bloated county budget caused by the new sharing formula, some cities want to relinquish some of their roads to their counties or region for upkeep. However, counties/regions will not accept the roads in "as is" condition until the cities upgrade the roads to the acceptable standard. Cities are not willing to bring their roads to standard before giving them up to the counties. Cities think that with the increased funding to MPO, MPO, s should be able to bring the city roads to the standards.

The new transportation funding formula between the state and local transportation agencies has helped expose stakeholders' strengths and weaknesses at the same time a new partnership is formed. The program still needs some improvement. It is recommended that:

**Relax Restrictions on State-Only Funding Requirements.**
California Transportation Commission requires that all projects meet federal requirement except when state-only funding is being used. Federal requirements by their nature takes a long process to complete and sometimes some local agencies may be delayed do to some stringent federal requirements. On August 23, 2001 CTC approved the use of State-Only Funding Policy with the following conditions:

- Project with a total cost of $750,000 or less;
- Planning, programming, and monitoring activities;
- Regional rideshare and traffic demand management activities;

- Match for local federal funds; and
- Reason why federal funds should not be used on the project.

It is recommended that the project total cost should be limitless and construction and right of way activities be included as covered costs. The locals need not state any reason why federal funds should not be used on the programmed projects as long as the fund is available and there is need for the project(s).

**Large Metropolitan Counties should have in house Structures/Bridge Department.**
Almost all the local transportation agencies currently do not have any bridge personnel in their unit. This has resulted to contracting out all bridgework to the private contractors no matter how easy or complex the project may be. While contracting out is good business decision, some times not all project are candidate for private execution. Some project has been delayed due to the contracting out process and shortcomings. Therefore local transportation agencies should have staff with bridge experience even if it is for just structures submittals review.

**Reduce Number of Caltrans Transportation Project Employees.**
It is true that the state still oversees and sometimes performs design and engineering work if asked by the local transportation agencies. More and more local agencies prefer contracting out the same type of work to the private agencies. Since the funding level has been significantly reduced, the number of state employees that normally would do the project should reflect the workload at hand. Available funds do not justify maintaining the status quo staff level. The excess or reduced Caltrans staff could gain employment with the local agencies or private consultants to the local agencies where their expertise would be used efficiently.

**Do Not Combine Multiple Projects Into One.**
It is becoming common practice, where local agencies combine more that one projects into one big project. The result is always nearly a delayed project because when any component project is delayed, the entire project is delayed. When there is an obvious reason to combine projects effort should be made to have as little as two but no more than three projects combined. The case in point is the Sacramento County HOV lane project where four projects were combined into one project. The project was delayed not solely because of multiple projects but certainly it has significant delayed associated with it. At times project coordination was incoherent because of too many players involved.

**Streamline Construction Inspection Duties.**
When local agency is administering construction projects, the executing private contractor should receive instructions from the local agencies. There have been many incidences where Caltrans has given contrary expensive instructions to the contractor without going through the administering local agency. The same rule should also apply to local agency when Caltrans is the administrative agency for the project.

**Have One Project Report**.

Two-project report documents are still being used namely Project Study Report (PSR) and the Plans Specifications and Estimate (PS&E), both of them identical. One report document should be eliminated. After all, it is the intention of the new law to simplify and streamline the project process.

**Trade STIP fund for State only Fund at a Discount Rate**

STIP funds come with federal requirements that sometimes are time consuming. Some local agencies would like to have State-Only Fund just "to go on with their lives," even if it involves paying for more. Some suggested receiving eighty cents per dollar due them.

**Develop and Maintain a Regional-Statewide Quarterly Tracking and Progress Reporting System**

Currently, Caltrans is required to develop, upgrade and maintain an electronic database record of the adopted STIP. There is no organized tracking record for ongoing projects. Each local agency and Caltrans District offices should track and report all programmed and ongoing projects progress and report the findings of fact to the statewide database for all to see. Effort should be made to catch up on the projects that are lagging behind and the reason for not meeting the milestone stated so that all could learn from the experience. Funding for delayed projects that have gone beyond recovering should be made availably to other needy projects to avoid discovering the anomaly too late in the process, which will result in scrambling for substitute projects, which are sometime not the best selections.

**Perform Joint Value Analysis**

During design and before any project goes out for construction, there ought to be a state-local transportation agencies joint value analysis on all projects. The purpose of the analysis will be to identify value enhancing opportunities and to consider modifications to the plan and specifications that will reduce either the total cost or time of construction without impairing, in any manner, the essential functions or characteristics of the project. Experts not directly attached to the project should do the joint value analysis. Apart from ratifying past assumptions and decisions the study should define areas of agreement and disagreement while recommending for better alternatives or solutions if any exist at the time.

**Contracting Out**

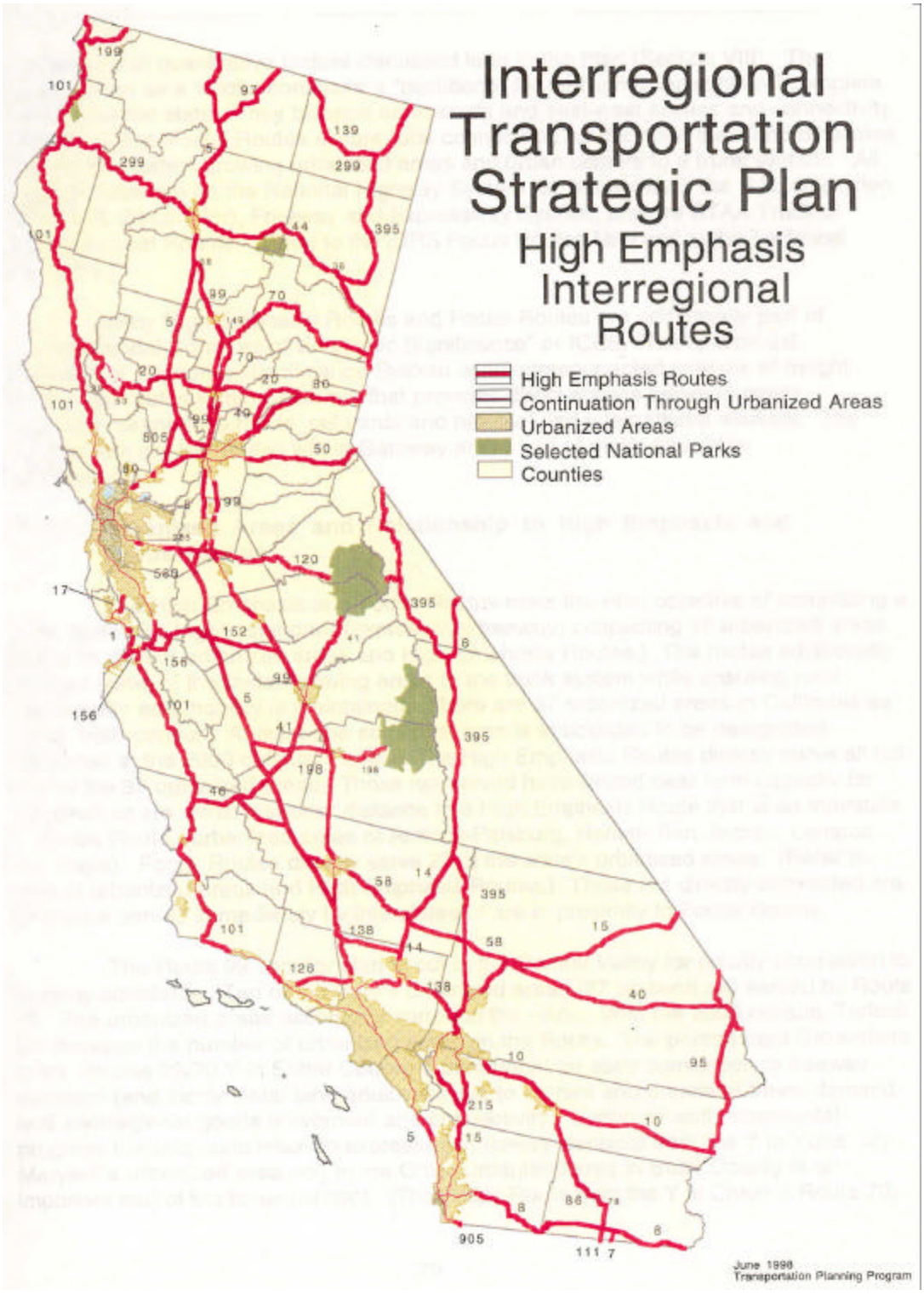
As local transportation agencies exercise more control of projects within their physical boundaries vis-à-vis funding control, contracting out some of their workload should be encouraged.

To get it right, some of the recommendations may require some iteration. Transportation processes evolve so rapidly. What seems to work today may be useless tomorrow. But one thing is certain, politics in transportation is as important as the process. Sometimes, the gamble pays off. With the right approach, the local transportation agencies and Caltrans can effectively manage transportation issues within their various jurisdictions. Or at least the transportation projects should be seen as an inevitable task that could be achieved with understanding and cooperation between the state and the locals. Issue of

fund control will always be there, regardless of the mathematical permutations or formulae used. Effort should be made to strengthen coordination and cooperation between agencies to avoid interagency conflicts. The current process needs to be fine-tuned.

# Appendix A: Statewide and Regional Planning and Program Cycle

# APPENDIX B:
# Interregional Transportation Strategic Plan/High Emphasis Interregional Routes



# ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| **CCO** | Contract Change Order |
| **COG** | Council of Governments. It is a voluntary association of officials of local governments charged by state and federal law to be the regional transportation planner. They staple together the project wish lists of member counties and cities transportation plans. COG can function as RTPA and MPO. |
| **Cooperative Agreements** | Cooperative Agreements are executed documents that specify the respective roles and responsibilities of Caltrans and local governmental entities involved in developing a State Highway project. |
| **CTC** | California Transportation Commission |
| **ED** | Environmental Document |
| **FSTIP** | Federal State Transportation Improvement Program |
| **FTIP** | Federal Transportation Improvement Program |
| **HOV** | High-Occupancy Vehicle is term used for multi-occupant highway vehicles such as buses, vans, and carpools. |
| **HOV LANE** | High-Occupancy Vehicle Lane is a preferential or exclusive lane for high occupancy vehicles. |
| **HQ** | Headquarter |
| **IPR** | Initial Project Report ties together the preliminary concepts of the Project Study Report, legislation, and current engineering and fiscal constraints into a programmable project. |
| **IRRS** | Interregional Road System is the highway system that connects all economic centers in the state. |
| **IRRSP** | Interregional Road System Program |
| **ITIP** | Interregional Transportation Improvement Program |
| **Lead Agency** | Lead Agency is agency with general government powers responsible for project development activities. |
| **LOS** | Level of Service describes the operating conditions a driver will experience while traveling on a particular roadway. |
| **LTC** | Local Transportation Commission |
| **MIS** | Major Investment Study |
| **MPO** | Metropolitan Planning Organizations are designated in each urbanized area to carry out Federal planning requirements. |
| **PCTPA** | County Transportation Planning Agency |
| **PID** | Project Initiation Document |
| **PIR** | Project Information Report is the programming document used for development of the traffic system management list. |
| **PR** | Project Report summarizes detailed feasibility studies of the needs, alternatives, costs and overall impacts of a proposed highway project. |
| **PS&E** | Plans, Specifications, and Estimate are the products of final design, |

| | |
|---|---|
| | which are used for contract advertising and construction. |
| **PSR** | Project Study Report is feasibility study to develop project concept, cost, and scope that are used to obtain management conceptual approval |
| **PSSR** | Project Scope Summary Report is a streamlined process for determining the scope and estimated cost of proposed roadway projects. It combines the Project Study and Project Report requirements together. |
| **PSTIP** | Proposed State and Transportation Improvement Program prepared by Caltrans. |
| **RE** | Resident Engineer |
| **RIP** | Regional Improvement Program |
| **RSTP** | Regional Surface Transportation Program |
| **RTIP** | Regional Transportation Improvement Program is the annual program of transportation improvement for urban areas that is adopted by regional agencies responsible for area wide transportation planning. |
| **RTP** | Regional Transportation Plan is prepared by Regional Transportation Agencies to achieve a coordinated and balanced regional transportation system. |
| **RTPA** | Regional Transportation Planning Agency is local entity responsible for preparation and submission of Regional Plans. |
| **STA** | Sacramento Transportation Authority |
| **SACOG** | Sacramento Area Council of Government |
| **SHOPP** | State Highway Operation and Protection Program |
| **STIP** | State Transportation Improvement Program |

# BIBLIOGRAPHY

Butte County Association of Governments. "2001 Regional Transportation Plan 2001-2025." Chico, California.

California Department of Transportation. *2000 SHOPP State Highway Operation and Protection Program 2000-01 Through 2003-4*.
http://www.dot.ca.gov/hq/transprog/shopp.htm

California Department of Transportation. *Caltrans Construction Manual*. Approved July 2001

California Department of Transportation. *Guidelines for Preparation of Project Study Reports*. Adopted December 08,1999

California Department of Transportation. *How Caltrans Builds Projects*. October 1998

California Department of Transportation. Interregional Transportation Strategic Plan, "A Plan to Guide Development of the Interregional Transportation System." June 1998

California Department of Transportation. *Procedures For Administering Local Grant Projects in the State Transportation Improvement Program (STIP). Highway, Rail and Transit Projects, Planning, Programming & Monitoring Funds*. April 1999.

California Department of Transportation. *Project Development Procedures Manual*. July 1999

California Department of Transportation. Project Report on Route 80. "In Sacramento County, in and near the city of Sacramento, from the Del Paso Park Overhead and Separation (Bridge No. 24-193) to the Placer County Line." September 1999.

California Department of Transportation. Project Report on Route 80. "In Sacramento and Placer Counties, in and near the cities of Sacramento, Citrus Heights, and Roseville, from the Del Paso Park Overhead and Separation (Bridge No. 24-193) to Cirby Way Overcrossing (Bridge No. 19-134)." March 2001.

California Transportation Commission. "2002 State Transportation Improvement Program." March 2002.

California Transportation Commission. "STIP Guidelines." July 2000.

California Department of Transportation. *Traffic Operations Strategic Plan 1999*. "Managing for Safety and Mobility." September 1, 1999.

California Department of Transportation. Transportation System Information Program, Office of Travel Forecasting & Analysis, Highway Inventory & Performance Branch

California Department of Transportation. Environmental Compliance Continous Improvement Quality Team Final Report. "Environmental Commitment Strategic Plan." May 2002.

Caltrans, Division of Transportation Planning, Office of State Planning. "California Transportation Investment System (CTIS) Tool." http://www.dot.ca.gov/hq/tpp/offices/osp/ctis.htm

Caltrans, Division of Transportation Planning. "California Transportation Plan 20025 CTP Themes – Final Draft." http:/www.dot.ca.gov/hq/tpp/offices/osp/2002ctp/ctpthemes.htm

Caltrans UPDATE 3 NEWS Newsletter Volume 2, Issue 6. "Caltrans Works 'Hand in Hand' with Partners."

City of Sacramento, Department of Public Works. "Transportation Programming Guide. A Tool for Understanding City Transportation Needs." August 1998.

County of Sacramento, Public Works Agency Department of Transportation. "2001 Project Priority List." December 2001.

Department of Transportation, Office of Local Programs. "Guidelines for Implementation of the Timely Use of Funds Provisions of AB1012."

Legislative Analyst's Office. "After the Transportation Blueprint: Developing and Funding an Efficient Transportation System." http://www.lao.ca.gov/030598_after_transportation_blueprint.html (28 June 2002).

Legislative Analyst's Office. "Funding Outlook for State Transportation Programs 1998-99." http://www.lao.ca.gov/analysis_1998/transportation_crosscutting_anl98.html#_1_1 (28 June 2002).

Legislative Analyst's Office. "Governor's Transportation 2000 Initiatives." http://www.lao.ca.gov/analysis_2000/transportation/tran_2_gov_init_anl00.htm#_1_1 (24 August 2002)

Legislative Analyst's Office. "Perspective on California's Transportation Challenges." http://www.lao.ca.gov/Presentations/10_2000_san_diego_transportation/san_diego_trans_files/v3_document.htm (28 June 2002).

Legislative Analyst's Office. "What the New Federal Act Means for California Transportation Equity Act for the 21st Century." http://www.lao.ca.gov/082698_tea_21.html (28 June 2002).

Sacramento Area Council of Governments. *1999 Metropolitan Transportation Plan*, Adopted July 1999.

State of California-Department of Transportation. "Draft Project Report For Route 50/Sunrise Boulevard Interchange Modification." October 1998.

State of California-Department of Transportation. "Initial Study/Environmental Assessment for the Proposed U.S. Highway 50 Sunrise Boulevard to El Dorado Hills Boulevard HOV Lanes Project, in Sacramento and El Dorado Counties, California." September 1998.

State of California, Department of Transportation: *State and Federal Funds Available for Local Agency Projects.* "Transportation Funding Opportunities Guidebook." March 2001.

State of California-Department of Transportation. "Notice to Contractors and Special Provisions For Construction of State Highway in Sacramento and Placer Counties, Citrus Heights, and Roseville on Route 80 from Del Paso Park Overhead and Separation to Cirby Way Overcrossing and at Route 80,51,244 Separation." April 2002.

# ABOUT THE AUTHOR

# PRE-PUBLICATION PEER REVIEW

San José State University, of the California State University system, and the MTI Board of Trustees have agreed upon a peer review process required for all research published by MTI. The purpose of the review process is to ensure that the results presented are based upon a professionally acceptable research protocol.

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