California Department of Transportation

Project Development Procedures Manual

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STATE OF CALIFORNIA
Department of Transportation
Division of Design

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Foreword

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The *Project Development Procedures Manual* (PDPM) provides the functional framework of policies and procedures for the structured task, sub-task approach described in the *Project Development Workflow Tasks Manual*.

The PDPM describes the procedures for State highway project development. These instructions, with references contained herein, supersede all previously issued instructions.

The manual was prepared primarily for the Project Engineer (PE) and the Project Manager (PM), or other professional, as appropriate in the various functional areas, in "responsible charge" of project development. Although this manual and other manuals and policies provide standards and guidelines, projects must be developed by the proper application of these standards and procedures, guided by good judgment.

The PDPM consists of three Parts and Appendices. Part 1 contains general information. Part 2 describes the project development process in a chronological manner. Part 3 contains specific project development procedures of specialized nature. Appendices A through X contain guidelines for various project development reports while Appendices AA through OO contain all other items that do not conveniently fit in the text of the manual.

The PDPM will be updated on the Internet and can be accessed through the Caltrans home page. Manual holders can subscribe, on the Internet, and receive notification of any changes when they occur. Paper copies of changes will not be available, although anyone who access the PDPM on the Internet can arrange on their own to have a paper copy made.

If a paper copy is maintained by the manual holder, it is important for the manual holder to maintain and use an up-to-date manual. This will insure proper reference to the latest policies and procedures. Responsibility for keeping the manual current belongs to the holder of the manual. One type of update is used - a "Manual Change Transmittal" - published with each change to this edition and will be available on the Internet. This form should be kept in the front of the manual, immediately after the title page.

When using this new manual you may find that additional information is desired on certain specific topics. If this is the case please bring this to the attention of the Division of Design. Suggestions are invited for improvement of the instructions and the economy of the work. The form, "Proposed Revision to Project Development Procedures Manual", should be used for this purpose.

Project Development Procedures Manual

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Part 1

General Information

CHAPTER 1 - Introduction

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CHAPTER 1 - Introduction

ARTICLE 1 Project Development Philosophy

Balanced Transportation Projects

The goal of the Caltrans project development process is to provide the people of California with mobility that is in balance with other values. These values can include the economic, social, and environmental effects of a transportation project, as well as the technical issues involved in planning the project. The project development process must ensure that the public good is served by considering the following issues: (C1, S5, 1)

- The safe and efficient transportation of people and goods.
- Community goals and objectives.
- The transportation needs of low-mobility and minority groups.
- The State's economic development goals.
- Potential effects on the environment, natural resources, and public services.
- Realistic financial estimates.
- Maintenance and management costs.
- Cost-effectiveness. (C1, S5, 2)

Individual projects are selected for construction on the basis of overall system benefits; community goals, plans, and values; and multi-modal transportation goals. (C1, S5, 3)

Various Perspectives Considered

A proposed project should be considered from all perspectives. Travelers are concerned with efficient and safe travel. The community is often more interested in a project's visual, social, and economic impacts. The general public is usually concerned with the cost of a project and how successfully it fits within the overall transportation system. (C1, S5, 4)

ARTICLE 2 Overview

The Project Development Procedures Manual (PDPM) describes the framework that is necessary to complete transportation projects. Caltrans developed the manual using policies and procedures based on federal and State regulations including:

- United States Code or law.

- Executive Orders.
- U.S. Department of Transportation regulations.
- Federal Highway Administration (FHWA).
- Caltrans Director's Policy Memoranda.
- Caltrans Deputy Directives. (C1, S1, 6)

The PDPM helps the project team identify, understand, and explain the intended outcome of a project's activities and deliverables. Anyone involved in project development activities on the State Highway System (SHS) should use this manual.

Many of the processes and procedures in the PDPM are subject to change. Special situations may call for a variation from a requirement, which is subject to approval by the District Director, by the Division of Design (DOD) Division Chief (if required), or by some other approval authority (where indicated). (C1, S1, 10)

The Office of Project Development Procedures and Quality Improvement in Headquarters DOD maintains the PDPM. The online manual replaces all previous versions of the PDPM.

ARTICLE 3 Historical Background

The California Action Plan for Transportation Planning and Development (published June 1973), set out guidelines for the State highway development process. Caltrans created the original Project Development Procedures Manual (PDPM [Gold Book]) as an outline for implementing the action plan.

The action plan was developed in compliance with federal requirements stated in Section 109 (h) Title 23 of the U.S. Code. It also provided guidelines and procedures for implementing the following legislation:

- The National Environmental Policy Act (NEPA) of 1969
- The California Environment Quality Act (CEQA) of 1970.

Although the basic requirements are still in force and included in the PDPM, this action plan is no longer in effect as an official document. (C1, S1, 4)

ARTICLE 4 Improvements Instituted in 2007

The Project Development Procedures Manual (PDPM) is changing from an instructional how-to manual to a manual that describes the requirements necessary to plan, develop, and construct projects on the State Highway System (SHS).

The roles and responsibilities of those involved in the project development process significantly changed with the passage of SB45 in 1997 and Proposition 35 in 2000. These laws have two major impacts:

- Primary responsibilities for sponsoring and implementing projects on the SHS shifted from Caltrans to partnerships between Caltrans and local agencies. Today, regional transportation agencies are the sponsor for 75 percent of the State Transportation Improvement Program (STIP).
- Private engineering and architectural contractors can now work on the design, development, and construction of public works projects on the SHS.

Regardless of who sponsors or implements a project, Caltrans is responsible for ensuring that projects on the SHS meet the State, federal and Caltrans standards and requirements. Revision to the PDPM are designed to help project teams, Caltrans or otherwise, identify requirements for projects.

Because policies are constantly changing, the Division of Design (DOD) will update the manual on a chapter-by-chapter basis. "Editions" will no longer be used to reference a particular manual.

There will be two types of chapter revisions:

- Partial revisions focused on new or revised policies or procedures. Such revisions do not reorganize the chapter.
- Complete revisions of the individual chapters. These revisions update all of the information in the chapter, reorganize the information into the new outline, and delete discussions of best practices. Chapter 9 – Project Initiation was the first chapter revised into the new form.

Each change to the manual is included in a published change transmittal. The latest change transmittal is available on the Internet.

ARTICLE 5 Using the Manual

Where Can I Find the Latest Version?

The official version of the manual is online.

The Project Development Procedures Manual (PDPM) is continually and incrementally updated to reflect changes in policy and procedures. Each chapter has a version date at the bottom of the page. Edit bars in the outside margins indicate revisions within the chapter. An alphabetic character in the footer date indicates that a minor correction has been made to the chapter. These types of corrections do not include a policy change, but rather correct typographic errors and update names of units or documents. The “Last Updated” date on the website may include an alphabetic character indicating this is a later version with minor corrections. Minor corrections and updates to office or document names do not have edit bars in the margins.

If you opt to maintain a paper copy, it is important to keep this copy up to date. This will ensure proper references to the latest policies and procedures. It is your responsibility to keep the paper copy current.

How is the Manual Organized?

The manual's organization starts the user with a broad view of the process. If you are new to the project development process, consider reading Chapter 8 – Overview of the Project Development. Once you understand where you are in the process and the phase or activity that you are working on, look up information by topic. Keep in mind that the project development process is an iterative process; there are overlapping processes, some processes happen simultaneously, and these processes may affect each other. You may need to research several activities before getting an answer to your question.

The following breaks down the manual's organization and provides tips for using it.

Part 1 – General Information

Part 1 contains general information about the manual; roles and responsibilities of the people, Caltrans units, and agencies involved in the project development process. It also covers key elements that must be understood when developing a project on the State Highway System (SHS). This includes the uniform filing system, planning roles, and responsibilities.

Part 2 – The Project Development Process

Part 2 describes the project development process in a chronological manner. In particular, Chapter 8 provides an overview of the project development process with respect to the major milestones. Chapter 8 also provides in-depth discussions of key concepts that drive decisions during the process.

The remaining chapters in Part 2 briefly cover major events or phases in the process.

Chapters_*that have been revised will be inserted when chapter is finalized* are organized in the following manner:

- A brief introduction and key terminology used in the specific chapter.
- The laws that form the basis of the policy.
- The policy statement.
- Essential procedures required to carry out the policy.

User Tips:

- Chapter 8 is a must-read chapter for anyone who wants to understand the overall process and identify where their project is in the process. You can learn basic Caltrans terminology and key concepts that apply throughout the life of a project.
- When reading the manual, ask yourself these questions:
  - What are the policy requirements for project development?
  - What are the legal bases and the intended outcome of the requirements? The manual provides designers, project teams, and stakeholders with a discussion of the core laws. This discussion makes certain that those involved in the project development process are aware of and understand the requirements.
  - Is there an exception process? What are the criteria and who has authority to approve the exception?
  - What steps, documentation, or actions are required?
  - What are the roles and responsibilities of team members and decision makers?
- Use information from these chapters to establish work plans and schedules.
- Read expectations for activities from a previous phase to determine the true status of a project. At each project, hand-off project developers must verify that the work done to date is complete and current.
- Use links to functional unit manuals for more detailed explanations of specific procedures or guidance on how to complete those tasks.

Part 3 – Specific Project Development Procedures

Each chapter in Part 3 provides details on project development procedures applicable to specific projects, depending on the scope of that project.

The information in these chapters ___list chapters that are in the new format____ are organized in the following manner:

- A brief introduction and key definitions specific to that chapter.
- Laws that form the basis of the policy.
- The policy statement.
- Essential procedures required to carry out the policy.

User Tips:

- Understand the legal requirements and policy intent of project-specific requirements. This enables you to make quality project decisions, communicate credible explanations to justify decisions, and develop realistic schedules (that take into account all the applicable required activities).
- This manual does not have an index. You may use the search feature on the complete manual .pdf file to find all references to a specific activity. This action allows you to see how a specific process applies at various stages in the project development process. In addition, references can help a reader understand the interaction of one specific activity with another activity. For instance, _____.

Appendices A-X

Appendices A-X contain the preparation guidelines and report outlines or forms for the various project reports. The reports serve as either project initiation documents or project approval documents, or both. These documents are referenced in Part 2 of the manual.

User Tips:

- No matter which project initiation document (PID) form you are using, read Appendix L – Project Study Report (PSR). All other project initiation documents have outlines that are modifications of the PSR. This appendix contains basic information about the purpose of PIDs and actions needed to prepare these documents.
- Blank templates for these report forms, are available for download from the PDPM website. The forms are in either Microsoft Word or Excel format.

Appendices AA-QQ

Appendices AA-QQ contain project development forms, letters, and miscellaneous policy and procedure documents. These documents are referenced in Parts 2 and 3 of the manual.

User Tips:

- Blank templates for Division of Design (DOD) forms are available for download from the PDPM website.
- If the DOD does not develop the form, contact the functional unit responsible for guidance on completion of the form.

Back Matter

The back of the manual contains a list of acronyms and a glossary. The glossary defines words, specialized phrases, and names as they apply to the PDPM.

User tip:

- The first time uses of specialized phrases or names within the chapter are in bold type. For a definition of these terms, check the glossary or the list of definitions at the beginning of the chapter.

Proposed Changes to the Manual

You may submit suggestions to improve the manual to the DOD. Use the form: "Proposed Revisions to Project Development Procedures Manual." This form is available on the Internet at http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm#pdpm.

ARTICLE 6 Disclaimer

It is not intended that any standard of conduct or duty toward the public shall be created or imposed by this manual.

Statements specifying duties and responsibilities of any given classification of officers or employees mentioned herein refer solely to duties or responsibilities of such classification to their management, various members of the project development team, or their relationships with organizational units in Caltrans. (C1, S1, 8)

There is no intent to impose organizational requirements on any Caltrans district beyond that which is already established by the Caltrans Policy process. (C1, S1, 9)

The project development process is defined as spanning those activities and that period that commence with project initiation and end with the assembly of the final project records after project construction. (C1, S1, 2)

The Project Development Procedures Manual (PDPM) is not intended to establish legal standard for these functions, nor does it impose legal requirements different from, or in addition to, those imposed by law. In many cases, specific statutes have been quoted; however, there has been no attempt to include a complete listing of all applicable laws or regulations. (C1, S1, 6)

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CHAPTER 2 – Roles and Responsibilities

SECTION 1 – Division of Design

Division of Design (DOD)

The Division Chief of the Division of Design (DOD) is responsible for the development and consistent application of Caltrans' policies during the project development process. This responsibility covers all projects on State highways, regardless of funding, and projects involving state or federal programs on local facilities. The DOD Division Chief reports to the Deputy Director for Project Development.

DOD provides guidelines and procedural directives for carrying out the project development process. DOD reviews and monitors the process to ensure that Caltrans' goals are being accomplished, and to evaluate the need for changes. DOD is comprised of the state landscape architecture function, the local programs function, and the various project planning and design functions.

State Landscape Architecture Function

Landscape Architecture Program

The Chief of the Landscape Architecture Program is responsible for the development of Caltrans' policies, programs, procedures, and standards for all aspects of landscape architecture (highway planting, highway planting restoration, replacement planting, revegetation, vegetative erosion control), safety roadside rest areas, vista points, scenic corridors, and noise barriers. For further details on these subjects, see the *Highway Design Manual* and Chapter 29 of this manual.

Local Programs Function

Office of Local Programs, Procedures Development

The Chief of the Office of Local Programs, Procedures Development (OLPPD) is responsible for Caltrans' policy, procedures, and program administration for Federal and State Local Assistance on local agency transportation systems. OLPPD is also responsible for development of Caltrans policy for projects-funded-by-others. See the *Local Assistance Manual* for further details.

Office of Local Programs, Project Implementation

The Office of Local Programs, Project Implementation (OLPPI) is a liaison between FHWA and the local agencies for Federal local assistance programs. OLPPI is responsible for project implementation steps that cannot be fully delegated to local agencies, including authorization to proceed, federal funds obligation, agreement execution, and approval of environmental documents, right of way documents, and payments from the State Controller and others. OLPPI also provides assistance to local agencies in interpreting regulation, manuals and guidelines.

Office of Local Programs, Program Management

The Office of Local Programs, Program Management (OLPPM) is responsible for distribution, management and oversight control of each specific local assistance program. OLPPM insures that the funds are expended to meet the program goals and that allocations and budget authority are not exceeded.

Project Planning and Design Functions

DOD's primary mission in its project planning and design function is to promote Statewide consistency in the project development and design process, in support of Caltrans' mission of developing transportation projects. See Section 2 for further details on how DOD accomplishes its project planning and design mission.

SECTION 2 – Project Planning and Design Function of DOD

ARTICLE 1 - General

Mission in Project Planning and Design

DOD's primary mission in project planning and design is to promote statewide consistency in the project development and design process, in support of Caltrans' mission of developing high-quality transportation projects. DOD accomplishes this by providing the following activities and services:

Office of Project Development Procedures and Quality Improvement

Develops and maintains project development processes, procedures, policies and agreements that are used statewide for project planning, approval, and design and improving the quality and cost effectiveness of projects through the use of Value Analysis.

Office of Geometric Design Standards

Develops and maintaining design standards, policies, procedures and practices that are used Statewide for highway geometric design.

Office of Highway Drainage Design

Develops and maintains design standards, policies, procedures and practices that are used statewide for hydraulic and drainage design.

Office of Pavement Design

Provides training related to the project development and design process in an effort to enhance and improve Caltrans engineering staff's technical expertise.

Develops and maintains design standards, policies, procedures and practices that are used statewide for project pavement structural section design.

Office of CTC Highway Appearances, Encroachments Exceptions and Resource Conservation

Investigates and represents Caltrans before the CTC when property owners appear to protest the taking of their property, develops and maintains policies and practices that are used statewide for highway encroachments, high-low risk utility facilities, conservation of resources and technology transfer.

Office of Computer Aided Drafting Design and Engineering Geographic Information Systems

Provides training for roadway design software and drafting software. Develops and maintains CADD standards and sets guidelines and standards for the preparation of project plans. Archives the electronic as-built files in the Document Retrieval System (DRS) and arranges for the preparation and storage of microfilm copies.

Design Coordinators

Provides technical expertise and assistance to district engineering staff.

Relationships with Others

While DOD's responsibility for project planning and design is limited to the State Highway System, many local agencies and consultants in California utilize the manuals and policies of Caltrans for their work or when they do work on the State Highway System. Such utilization of Caltrans' manuals and policies requires DOD to maintain liaison with, and develop overall policies and procedures in coordination with, the district and headquarters offices, local agencies, FHWA, AASHTO and other state and federal agencies and organizations. In addition, DOD represents Caltrans on national committees for the Transportation Research Board (TRB), the American Association of State Highway and Transportation Officials (AASHTO), and the Western Association of State Highway and Transportation Officials (WASHTO), etc., to assure that California's interests are represented and protected in the formulation of national design policies and standards.

DOD Division Chief

The DOD Division Chief is responsible for developing and maintaining procedures, policies, practices and standards for the overall project development process. In order to maintain statewide consistency in the project development and design of projects the DOD Division Chief has been delegated responsibility for approval and/or execution of the following project planning and design documents:

- Freeway agreements (execution authority)
- Exception to policy on encroachments into access-controlled highways (delegated to Chief, Office of CTC Highway Appearances, Encroachment Exceptions, and Resource Conservation)
- Denominations as Controlled Access Highway

- Nonstandard cooperative agreements
- Exceptions to mandatory design standards (delegated to the Project Development Coordinators)
- Exceptions to project development policy, practices and procedures
- Exceptions to policy on hazardous waste removal during design
- Route adoption maps
- Exceptions to Policy on High and Low Risk Underground Facilities within Highway Rights of Way (delegated to Chief, Office of CTC Highway Appearances, Encroachment Exceptions, and Resource Conservation)
- Approval of experimental or research features

In this role, the Division Chief works closely with the Environmental Division Chief, who is responsible for environmental, social, and economic aspects as they relate to the project development process.

ARTICLE 2 – Design Coordinator

District Liaison

To facilitate project planning and design liaison with the districts, the DOD Division Chief is assisted by Design Coordinators each assigned to one or more of the districts. The primary purpose of the Design Coordinator is to facilitate the project planning process through early preliminary review, liaison and coordination. The Design Coordinator is the district's main contact with the DOD on overall project development matters and procedures pertaining to planning, design, traffic, and environmental issues. The Design Coordinator also provides a channel through which any problem in a district can be brought to the attention of the proper party in Headquarters.

The success of this undertaking depends to a great extent on cooperation and communication between the Design Coordinator and the district. The district is encouraged to bring to the attention of the Design Coordinator, at the earliest possible time, all project development issues or project design features about which controversy or schedule delay may develop, so that these problems may be resolved in a timely manner without loss of project development effort.

Specialists from other units are called upon by the Design Coordinator as the need arises: from DOD, these may include a Design Reviewer or a Project Development Procedures Engineer; from other divisions, these may include a Traffic Operations Liaison Engineer, an Engineering Service Center Project Functional Manager, or an Environmental Coordinator.

Exception Approvals

Design Coordinators have been delegated approval authority by the DOD Division Chief for all exceptions to Mandatory Design Features on all State Highway projects (See PDPM Chapter 21 and Index 82.3(2) of the *Highway Design Manual*). The Design Coordinator also reviews requests for exceptions to Advisory Design Standards and

requests for State-only funding in the district prior to submittal to the Programming Division (the Programming Division coordinates approval of current and budget year State-only funding requests with the Budgets Division). See Section 7 of this chapter for FHWA involvement.

Project Scope, Schedule, and Cost Changes

The Design Coordinator plays an integral role in the project scope, schedule, and cost change process (See Chapter 6). Cooperation and communication between the Design Coordinator and the district is essential when project changes are proposed. The Design Coordinator must be brought into the process at an early stage to explore the use of Value Analysis as a means for assessing alternative solutions to the problems causing project changes. Preferably, this should be done during the Design Coordinator's visit to the district, so that details can be accurately ascertained. After exploring the alternatives, the district and the Design Coordinator recommend the appropriate course of action.

ARTICLE 3 – Other Support Services

DOD Documents

DOD Office Chiefs are responsible for developing and maintaining design standards, policies, procedures, and practices. These are contained in the DOD manuals and guidelines listed in Chapter 1, Section 2, in this manual.

Project Development Guidance

The Office of Project Development Procedures and Quality Improvement of DOD has the following responsibilities: (1) establishing and maintaining project planning policy, (2) reviewing and approving freeway agreements, and (3) developing and maintaining policies and procedures on community relations and public hearings for transportation projects. In addition, this office is involved in seeking CTC approval of route matters. This office either prepares or helps the district prepare the following items, as appropriate:

- Requests for CTC approval of new public-road connections to freeways and expressways
- Recommendations to the CTC for route adoptions, rescissions, and redesignations
- Reports denominating freeways to controlled access highways
- Freeway and controlled access highway agreements
- Appearance information sheets, when CTC condemnation actions (Resolutions of Necessity) are required
- Issue papers, fact sheets, and special study reports on sensitive projects or issues for Caltrans management, the CTC, and the Legislature

The Office of Cooperative Agreements in DOD reviews and approves the following items, as appropriate:

- Cooperative Agreements
- Master Agreements
- Interagency Agreements

The Office of Special Projects in DOD has the following responsibilities: (1) developing and coordinating the Annual VA Program, (2) maintaining expertise in conducting VA studies, (3) maintaining the VA consultant contract, and (4) assuring compliance with the federal requirement for VA Studies on all federally funded National Highway System projects costing. The VA Branch in DOD either prepares or helps the district prepare or provides the following items, as appropriate:

- District Annual VA Program
- Statewide VA Program
- Assistance conducting VA studies
- Independent external peer reviews using VA studies
- Assistance conducting "life cycle cost analysis"
- Annual reports and VA program analysis submittals to FHWA

The Office of CTC Highway Appearances, Encroachment Exceptions and Resource Conservation of DOD has the following responsibilities within the State highway right of way: (1) developing and maintaining policy and procedures on non-highway facilities within controlled access right of way, and (2) developing and maintaining policy and procedure on work around high risk and low risk utility facilities. This office prepares responses to requests concerning exceptions in the following areas:

- Accommodation of utility facilities within controlled access right of way
- Accommodation of other non-highway facility encroachments
- Exceptions to the High and Low Risk Policy.

Design Guidance

Other offices and specialists within DOD have the role of establishing and maintaining standards, policies, procedures, and practices in the following areas:

- Highway geometric design features
- Pavement structural-section design elements
- Drainage design features
- Noise abatement and accessibility design elements

Technical Expertise & Assistance

DOD provides technical expertise and assistance to the districts in the following areas:

- State and federal laws, regulations, policies, standards, guidelines and practices
- Design for safety
- Development of quality, cost-effective projects
- Geometric design during project development
- Project development process
- Design of structural section and drainage facilities
- Hydraulics and hydrology
- Project cost and scope
- Procedures for uniform cost estimating and control
- Issue resolution and coordination with other headquarters functional units and the FHWA
- Second-level right of way reviews for resolutions of necessity to initiate condemnation cases
- Exceptions to mandatory and advisory design standards
- Value analysis
- Resource conservation
- Exceptions to encroachment policy and high and low risk policy
- Developing work plans for experimental features
- Storm Water

Training Academies

DOD provides professional development academies at which district and agency employees can receive instruction from experts in various transportation-related fields. The following academies are currently available:

- Project Engineer (PE) Academy
- Project Management (PM) Academy
- Senior Design Academy

Specialized Training

Specialized training is also provided. DOD staff will present this training to district management and district staff as appropriate. Such training will be implemented in the following areas, as new policies and procedures are issued:

- Project development process and design policies, standards and practices
- Highway geometric design
- Pavement structural section design
- Highway drainage design
- Value analysis

On-the-Job Training

On-the-job training (OJT) modules have also been developed by the project planning and design function of the DOD. These modules are updated periodically to incorporate the latest state-of-the-practice. The OJT modules are designed so that classes can be held at the trainee's job location and can be taught by individuals from the district or Headquarters Unit that the trainee is sourced to. A list of available OJT modules follows:

- Basic Design Policies
- Geometric Design I - Alignment and Grade
- Geometric Design II - Cross Section Elements
- Geometric Design III - Intersections At- Grade
- Geometric Design IV - Interchanges
- Highway Drainage Design I - Hydrology
- Highway Drainage Design II - Open Channels
- Highway Drainage Design III - Cross Drainage
- Highway Drainage Design IV - Roadway Drainage
- Structural Roadbed Design I - Subgrade Soils
- Structural Roadbed Design II - Pavements
- Structural Roadbed Design III - Pavement Rehabilitation

SECTION 3 – District

Coordination with Outside Entities

The districts are Caltrans' contacts with outside entities and the public. (See Figure 1 for a map of the 12 Caltrans districts.) In those instances where an outside entity initiates a project on a State highway, the district is responsible for coordinating processes with the outside entity to ensure compliance with project development procedures. (See Sections 5 and 6 of this chapter.)

District Director

District Directors have been assigned the responsibility, approval authority, and accountability for those project development decisions within their district that will lead to the timely delivery of projects - within budget. District Directors are accountable for ensuring that their district follows the policies and guidelines contained in this manual. This includes setting project goals, priorities, staffing plans, project delivery milestone dates, and capital cost budgets. Within tailored districts much of this responsibility resides with the District Director of the regional district, and is spelled out in the delegation of authority document applying to the particular district.

Deputy District Director Design

The Deputy District Director - Design supervises and monitors the work of the Design and related support Units. This Division Chief is the functional manager for this function, and negotiates and comes to agreement with Project Managers to provide needed services. This function does not exist in tailored districts.

Deputy District Director Project Management

The Deputy District Director - Project Management, also known as the Single Focal Point, supervises and monitors the work of the Project Managers. The Division Chief has overall responsibility for project delivery consistent with each project's scope, cost and schedule. This function does not exist in tailored districts.

Deputy District Director Project Coordination

The Deputy District Director - Project Coordination provides district coordination for the Project Managers in the regional district. This function only exists in the tailored districts.

Project Manager

A single Project Manager is to be assigned to coordinate and monitor all elements of the project development process for a specific project, including the timely delivery of the project - within budget. (See the *Project Management Procedures Manual*.)

Project Control Specialist

A Project Control specialist handles a project or group of projects. On request, the specialist consults with the Project Manager and Project Engineer to forecast project activities and milestone dates; monitor progress; and update schedules and costs as necessary. The specialist provides a service to the Project Manager on any given project.

Design Senior

A Design Senior assures the quality of the engineering products turned out by the unit. Quality can be achieved through thoughtful adherence to Caltrans policies and procedures, and willing participation with other disciplines, agencies and community representatives. A quality design is one that is delivered within the project's scope, schedule and cost, and is biddable and buildable as submitted. It is one that meets the project's stated need and purpose, incorporates safety for the traveling public and Caltrans maintenance forces, has an acceptable environmental impact, and is compatible with the values of the communities in which it lies.

Project Engineer

The Project Engineer is the lowest-level registered civil engineer in "responsible charge" of appropriate project development documents (PSR, Project Report, etc.) and project design. The Project Engineer is a member of the Project Development Team.

"Responsible charge of the work" is defined in Section 6703 of the Professional Engineers Act of the California Business and Professions Code as "the independent control and direction, by use of initiative, skill and independent judgment, of the investigation or design of professional engineering work or direct engineering control of such projects."

The Project Engineer coordinates closely with other functional units throughout the project development process and notifies other functional managers and staff of design changes as soon as feasible. Likewise, other functional units must communicate and coordinate closely with the Project Engineer whenever technical questions arise regarding the overall engineering effort. Additionally, each functional unit must keep the Project Manager informed of those technical issues that will affect the overall cost, scope, schedule or quality of the project. The Project Engineer, however, as the individual signing the title sheet, is responsible for the integration of all the engineering elements needed to make up a complete and comprehensive, quality PS&E package. Only in this way can the Project Team continue to succeed in meeting their project delivery commitments.

Managing a Specific Project

Specific projects are guided and developed by a Project Development Team, managed by a district Project Manager who is usually the Team Leader. Applicable functional managers and functional units support the Project Development Team. Section 4 of this chapter describes these roles and responsibilities in detail.

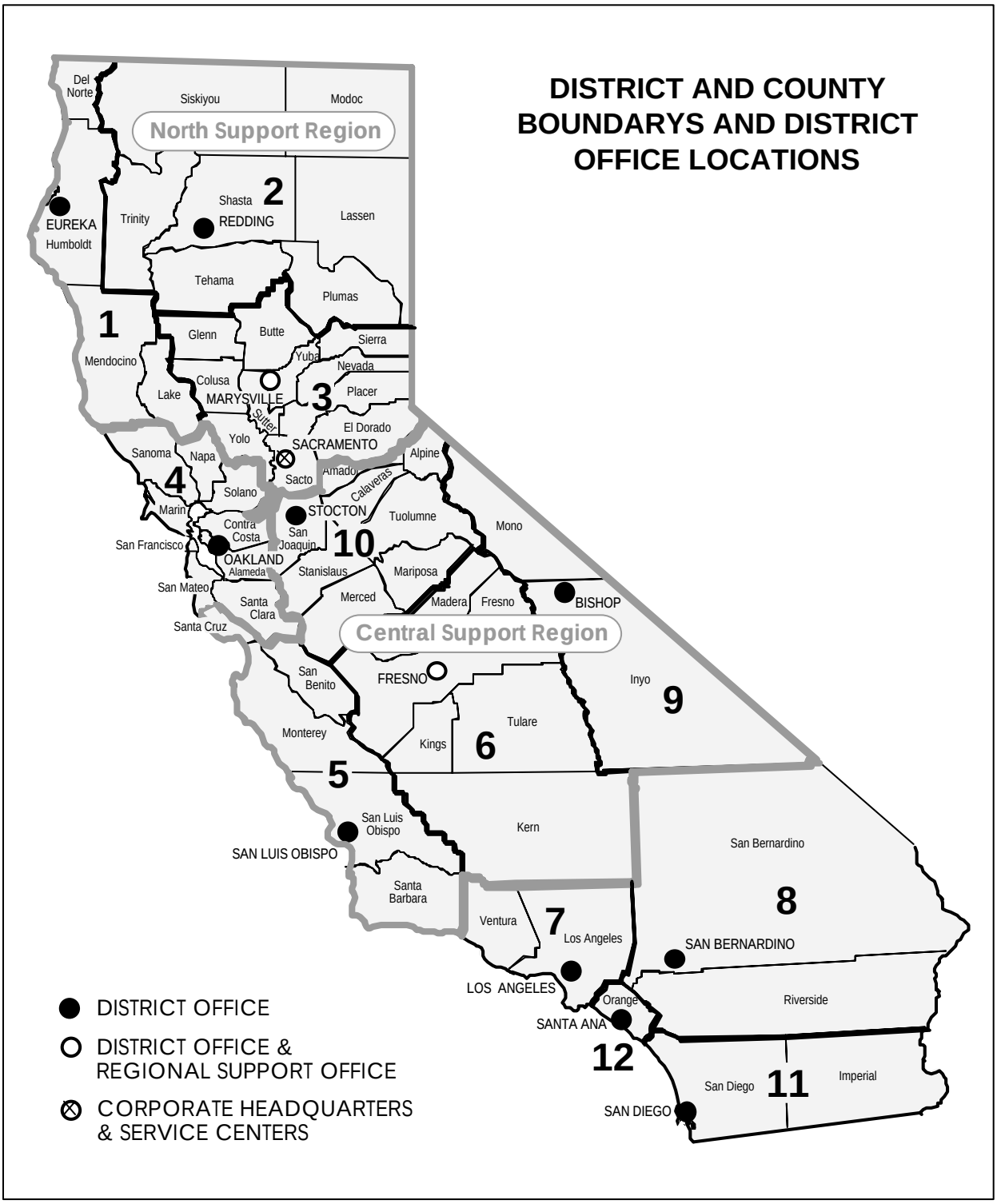
Responsibility for State Highway Improvements

All improvements to State highways are considered to be Caltrans projects. This applies even if the project will be financed by others. As owner-operator of these transportation facilities, Caltrans is responsible for operation, maintenance, and tort liability after construction. Caltrans is also responsible for providing for the authorized expansion of the system and for assessing the impact of improvements proposed by others to the existing system.

To ensure that transportation facilities are well designed, safe, and properly constructed, all project planning, design, right-of-way acquisition, and construction should be performed in accordance with Caltrans standards and practices and according to Caltrans project development process.

The district provides staffing to the normal planned program outlined in the various State programming documents. (See Section 5 of this chapter for staffing of projects-funded-by-others.)

FIGURE 1 - District Numbers and District Office Locations



SECTION 4 – Project Management

Philosophy

Project Management has been implemented by Caltrans to enhance project control and maximize the use of limited resources. The objective is to establish realistic project goals and then to control the progress of work such that quality projects are delivered within planned budgets and schedules.

According to this philosophy, a single Project Manager is assigned to control all elements of the project development process for a specific project.

The requirements of a specific project take precedence over other requirements of the functional organization that supports it. Functional managers should consider project work as top priority in accordance with agreements established with Project Managers.

Coordination Among Project Management Personnel

Continual and close coordination must be maintained between top district management and the personnel assigned to manage the specific project: the Project Development Team (PDT), the Project Manager (PM), and the Project Engineer (PE). District management is responsible for development and timely delivery of all district projects.

Project Manager

The Project Manager is responsible for all project development steps from project initiation to close out of the construction contract. With project responsibility clearly assigned to a single PM, the project can be more successfully planned, managed, and delivered.

A PM will normally be assigned before the project initiation process begins. This also applies to projects developed by other Caltrans functional units such as Planning or Traffic.

Resources should be assigned to a project based on the Project Work Plan developed by the PM and the PDT (see Chapter 1, Section 5). The PM should have the authority to control the designated resources and schedules. The PM must use resources wisely and develop the project using accepted engineering standards and policies. The PM should exercise appropriate authority to manage the allocated project resources and schedule and is held accountable for delivering a quality product on-schedule and within budget.

For additional information and discussion, please refer to the *Project Management Procedures Manual*.

Project Engineer

The PE is in "responsible charge" of preparation of appropriate project development documents (PSR, Project Report, etc.) and the project design effort. Manuals and policies provide standards and guidance, but the PE must develop the project by proper application of these policies and standards.

Functional Managers

The functional managers supervise the Caltrans functional units that provide technical data and plans to the PE and schedule and resource data to the PM.

District functional units may operate in the traditional manner, but the functional-unit resources required for the project must be committed to the PM to ensure that schedule obligations are fulfilled.

For more information on the "Involvement of Caltrans' Functional Units, " see Chapter 3.

SECTION 5 – Special Funded Projects and Related Projects

Special Funded Projects

A special funded project is any project located on the State Highway System that (1) is developed and constructed using local or private funds, and (2) that has a construction cost over $1,000,000 for work within the existing or future State highway right of way. There are four types of projects-funded-by-others, described below.

Local Sales Tax Measure Projects

These are State Highway System projects identified in an approved Sales Tax Measure Expenditure or Strategic Plan - funded 50% or more from local sales tax revenues - and having no funding in State programming documents. See Chapter 4, Programming for more information.

Funds are generated from a voter-approved county-wide sales tax increase for transportation. Sales tax measure projects can utilize State/Local Transportation Partnership Program (SLTPP) funds and still be considered sales tax measure projects. Typically, sales tax measure projects are highway capacity improvement projects of county-wide significance that expand the transportation system: new routes, lane additions, major interchange improvements, transit projects in shared right of way, etc.

As owner-operator responsible for providing for expansion of the State Highway System, Caltrans is responsible for performing and funding all project development work through the environmental document (ED) and project approval phase. If Caltrans cannot comply with the schedules established by the sales tax measure authority for the approval of the Project Study Report (PSR) and the environmental document approval, then the Authority may undertake this work at Authority expense - with appropriate oversight provided and funded by Caltrans.

The sales tax measure authority is responsible for funding and performing all project development, right of way, and construction following approvals of the environmental document and the project. Caltrans provides oversight of such activities at Caltrans expense. If requested by the sales tax measure authority, Caltrans may perform some of the services the Authority is responsible for - on a reimbursed basis - if Caltrans has sufficient reimbursed budget authority.

To set forth the responsibilities and funding for the various phases of project development and construction for sales tax measure projects on the State Highway System, one or more Cooperative Agreements between the State and the sales tax authority will be required. (See the *Cooperative Agreements Manual* for more information.)

Locally Funded Projects

These are defined as local-agency sponsored, non-sales-tax-measure projects on the State Highway System - having no funding in a State programming document.

Funds may be generated from developer fees and contributions, assessment districts, local share of State gas taxes, local property taxes, local federal aid, non-highway federal programs, and SLTPP. Funds may also include sales tax measure revenue, if the total is less than 50% of the total construction cost and is included in a Strategic or Expenditure Plan, or the total is more than 50% of the total construction cost and is not included in a Strategic or Expenditure Plan.

Locally funded projects are typically highway projects of local significance, such as relatively minor interchange improvements, intersection improvements, over - crossing improvements, and signalization projects: projects that do not expand the transportation system.

As owner-operator responsible for assessing the impact of improvements on the existing State Highway System, Caltrans is responsible for the preparation of the PSR, at Caltrans expense. It is the responsibility of the local agency to provide suitable engineering data, as well as technical and financial information needed for Caltrans to prepare the PSR. The local agency may prepare and submit a draft PSR, at its own expense, to expedite the project development process. All subsequent project development, right of way, and construction activities are to be performed and funded by the local agency, with Caltrans providing oversight at Caltrans expense. If requested by the local agency, Caltrans may perform some of the services for which the local agency is responsible, on a reimbursed basis - if Caltrans has sufficient reimbursed budget authority.

To set forth the responsibilities and funding for the various phases of project development and construction, one or more Cooperative Agreements between the State and the local public agency will be required for all locally funded projects on the State Highway System. (See the *Cooperative Agreements Manual* for more information.)

Privately Funded Projects

These are defined as projects on the State Highway System that are sponsored by a private, non-public entity - having no funding in a State programming document.

Once a proposed privately funded project is identified, a decision must be made in designating the project sponsor. Caltrans strongly encourages local public agencies to sponsor privately funded projects to demonstrate community acceptance of the project and to improve coordination with other local agencies. If a proposed privately funded project is sponsored by the local public agency, then it will be processed as a locally funded project. Caltrans will work directly with the private sponsor if a local public agency does not sponsor the privately funded project.

As owner-operator responsible for assessing the impact of improvements on the existing State Highway System, Caltrans is responsible for the preparation of the PSR at Caltrans expense. It is the responsibility of the private project sponsor to provide suitable engineering data, as well as technical and financial information needed for Caltrans to prepare the PSR. The private project sponsor may prepare and submit a draft PSR, at its own expense, to expedite the project development process. The private project sponsor is responsible for performing all subsequent project development, right of way, and construction activities, with Caltrans providing oversight at the private project sponsor's expense. If requested by the private project sponsor, Caltrans may do some of the services for which the private project sponsor is responsible, on a reimbursed basis - if Caltrans has sufficient reimbursed budget authority.

A Highway Improvement Agreement accompanied by an Escrow Agreement, if applicable, will be required for all privately funded projects. If Caltrans will do the work on a reimbursed basis, an additional Agreement is required to provide for the reimbursement.

Public Toll Road Facilities

These (not the "Privatization" Toll-Road Projects) are defined as projects authorized under Sections 531, 541, and 561 of the Streets and Highways Code. These Sections authorized the creation of specific locally funded toll road facilities in Orange County which are to become part of the State Highway System and maintained as authorized under Section 188.4 of the same Code.

As future owner-operator of the "Public Toll Road Facilities," Caltrans is responsible for providing oversight of the local toll road project development (including compliance with Caltrans design standards) through construction. If requested by the toll road authority, Caltrans may do some of the work for which the toll road authority is responsible, on a reimbursed basis - if Caltrans has sufficient reimbursed budget authority. One or more Cooperative Agreements between the State and the toll road Authority will be required to cover responsibilities and funding, including maintenance, operation, and acceptance into the State Highway System.

Complementary Programs

Listed below are definitions of other types of projects that are complementary to special funded projects.

Encroachment Permit Projects

These are defined as projects on the State Highway System sponsored by either a local public entity, a local sales tax measure authority, or a private entity - with construction costs of $1,000,000 or less - within the existing or future State Highway right of way. Such projects will follow established State policy and procedures for encroachment permits, including the preparation of the Permit Engineering Evaluation Report (PEER) or any other appropriate report, such as a Combined PSR/PR format or a Project Report. A Cooperative Agreement or a Highway Improvement Agreement will normally not be required for Encroachment Permit projects. However, certain types of Encroachment Permit projects may require some type of an Agreement. These types could include signal construction, landscaping construction, and noise barrier construction.

The State representative responsible for overseeing the project construction will be provided by the Construction Unit if construction cost exceeds $300,000. Projects with construction costs of $300,000 or less, may be overseen by either the Construction Unit or the Permits Unit.

All projects-funded-by-others, not just those that are called "encroachment permit projects", require an encroachment permit whenever the project sponsor, its consultants, or its contractors work within the existing State highway right of way.

Jointly Funded Projects or Cooperative Projects

These are defined as projects that involve combinations of special funds (local, sales tax, or private) and funding contained in State programming documents. Roles, responsibilities, and funding must be defined in one or more Cooperative Agreements, regardless of the amount contributed by the project sponsor or Caltrans.

For projects where Caltrans is performing project development, right of way, or construction support, the project sponsor shall reimburse Caltrans for their support costs in the same proportion as the project sponsor's share of the total project capital cost - unless other equitable arrangements are specified in the Cooperative Agreement. (See the *Cooperative Agreements Manual* for more information.)

Project Development Appeal Process

The process described below is used to address disagreements between local funding sponsors and the Caltrans District or FHWA on projects proposed on the State Highway System. The appeal process enables the project sponsor a means to resolve disputes concerning the project concept, scope, or design standards.

On projects funded by others, disagreement over scope and design standards should be resolved early in the project development process and documented through a PSR and Cooperative Agreement.

When there is disagreement on project concept, scope or exceptions to mandatory and advisory standards the project sponsor may request review of the District's decision by the Caltrans Deputy Director, Project Development. A request for a review of the District's decision is prepared by the project sponsor and submitted to the District Director for use in discussions with the Deputy Director, Project Development. This request is the local sponsor's final recourse.

The request must include the background of the project, nature of the concept or scope disagreement or requested design standard exception, and the purpose and justification for the requested concept or scope change or design exception. The justification should include all pertinent reasons why the sponsor is requesting or disputing the concept or scope change or requesting the design exception, including but not limited to cost increases, schedule delays, unavailability of right of way, or environmental issues. Alternatives to the exception must be addressed and the reasons for dismissal of the alternatives must be documented. Where a concept or scope change is involved, there must be a discussion on how this change affects the project contained in the RTP and Federal TIP air quality conformity analysis.

The District Director reviews the request for completeness and accuracy and obtains any additional information which may be needed from the project sponsor. The District Director also prepares information on why the project sponsor's request was denied.

Both the project sponsor's request for review and the District Director's reasons for denial must be submitted to the Deputy Director, Project Development, prior to discussion of the issue with the Deputy Director, Project Development. The discussion, with all of the involved parties, including the project sponsor and FHWA, will consider both sides of the issue, following which the Deputy Director, Project Development, will make the final decision on the matter. The project sponsor will be informed of the decision by the District Director.

All reviews and discussions of the issue should be timely to avoid jeopardizing the project's scheduling and funding.

Cooperative Agreement Considerations

A Cooperative Agreement must be executed by the person that was authorized by resolution of the city council or the board of supervisors that approved the Agreement. To expedite project delivery, a draft Cooperative Agreement may be submitted with the PSR. A preapproved Cooperative Agreement should be used if appropriate.

A subsequent Cooperative Agreement may be needed to reimburse Caltrans for contract administration during the construction phase. Such an Agreement is usually negotiated when the PS&E is nearing completion and construction costs and special contract provisions have been more clearly defined.

Caltrans does not use Cooperative Agreements with private parties. Every effort should be made to work through the local entity rather than directly with a private party. Should this fail, the district must then enter into either a Highway Improvement Agreement (described above under "Privately Funded Projects") or some other type of Agreement with the private party.

For additional information, refer to Chapter 16 of this manual, as well as the *Cooperative Agreement Manual.*

Local Use of Consultants

Local entities have the prerogative to use consultants for any work on a Special Funded Project that is their responsibility and that was provided for in the Cooperative Agreement. However, Caltrans will monitor and participate in the consultant selection process and must also review the work they do on State highway improvement projects. (See 1-20.80.)

Local Acquisition of Right of Way

All right of way acquisition costs that are incurred after the identification of a Special Funded Project or the passage of sales tax measures are the responsibility of the local entity. However, certain in-progress acquisitions may be completed at State expense: for instance, acquisition of hardship or protection parcels commenced prior to passage of the tax measure. If a Cooperative Agreement has been executed, hardship and protection acquisitions should be made on a reimbursement basis, if in accordance with the Agreement.

Contract Administration

For all projects, the responsibilities of advertising, awarding, and administering are viewed as a single process: whoever advertises, generally, also awards and administers.

In the traditional program, construction contract administration is a State-only process. In the Special Funded Program, advertising, contract award, and contract administration may be managed by the project sponsor or by Caltrans if reimbursement work is authorized.

The importance and complexity of most Special Funded State Highway Projects dictates the need for Caltrans to maintain a strong oversight of work on the existing and future State Highway System, regardless of how the work is to be financed. Caltrans makes use of local agency staffs and private consultants, while assuring compliance with Caltrans' construction standards and practices, and consistency in the administration of all construction contacts.

For all projects financed entirely with funds other than State and federal highway funds, responsibility for construction contract administration is borne by the local entity. In rare cases, a private sponsor may be responsible for contract administration. If the construction costs are $1,000,000 or less, or if the work is routine utility or drainage work, the Encroachment Permit process is followed.

On sales tax measure projects, if reimbursed work is authorized, Caltrans may advertise, award, and administer the tax measure authority's construction contracts, at the discretion of the District Director - if the Authority is willing to accept normal Caltrans processing,

procedures, and scheduling - so that the project may be processed with regular STIP projects.

On other locally and privately funded projects, if reimbursed work is authorized, Caltrans should consider doing the advertisement, award, and administration on the following types of projects:

- Those involving major urban freeway or expressway construction with heavy public traffic moving through construction areas
- Where extensive night work will be required
- Those with long or unusual structures
- Where the FHWA requires State administration

Projects on conventional highways, and projects having minimum interference with traffic on the State highway, are normally administered by local entities or private sponsors. District Directors are responsible for making the final determination and for requesting reimbursed work authority during the budget process.

Reimbursing Construction Administration

The local entity or private sponsor pays for 100% of the direct and indirect advertising and administration costs for all locally or privately funded construction contracts advertised and administered by Caltrans. This includes the cost of Headquarters Office of Office Engineer of the Engineering Service Center (OOE-ESC) for advertising, opening and reviewing bids, and awarding the construction contract; the cost of Caltrans' construction engineering personnel (Structures engineers, other staff and specialty personnel); and the cost of Caltrans' consultants. Time and effort expended by the District Office Engineer (DOE) and the Resident Engineer shall be classified as oversight costs, to be paid for by Caltrans. The local entity or private sponsors should provide and pay for any of the remaining construction engineering team (construction field engineers, lab personnel and office engineers).

For jointly funded projects, the local entity or private sponsor reimburses Caltrans for the contract administration cost in the same proportion as their share of the total actual construction contract costs, unless other equitable arrangements are specified in the Cooperative Agreement.

Agreements for Construction Administration

For projects-funded-by-others, Caltrans enters into a Cooperative Agreement or a Highway Improvement Agreement to cover the cost of the construction phase. The Agreement specifies responsibility for construction contract advertisement, award, administration, and construction engineering. Note that landscape projects require an agreement regardless of value. Those costing $1 million or less are considered to be Encroachment Permit Projects and require a general agreement. Refer to Chapter 29, Section 2.

There are three ways for the local entity or private sponsor to interact with Caltrans for contract administration on State highway right of way. All require an Agreement:

- Caltrans administers the project and provides a Resident Engineer and other staff and specialty personnel under reimbursement work authority. The local entity or private sponsor provides any remaining personnel required for the construction engineering team.

- The local entity administers the project under an encroachment permit, provides the Resident Engineer and construction engineering team, and uses Caltrans' Local Agency Automated Pay System (LAAPS) to pay the contractor. This is a local entity option; however, it requires that the Resident Engineer for the local entity be trained in Caltrans' LAAPS and estimate system. Caltrans provides oversight.

- The local entity or private sponsor administers the project under an encroachment permit, provides the Resident Engineer and construction engineering team, and uses their own system of contractor payment. Caltrans provides oversight.

The Agreement for construction will normally be prepared and executed during the design stage. Sufficient time should be allowed for negotiations and reviews. Duties for the local entity or consultant providing construction contract administration are covered in the Agreement. Agreements will include, but not be limited to: detail funding and requirements for advertisement, award, administration and construction engineering, state furnished materials, materials testing, change orders, claims resolution, maintenance during and after construction, insurance, liability, bonding, advance deposits and escrow accounts, audits (if State or federal money is funding part of the cost), microfilm, and as-built plans.

Once the design plans are acceptable to the district, the local entity or private project sponsor should submit a request for an encroachment permit. To ensure that all real estate interests (right of way or utility easements) have been appropriately dealt with, a Right of Way Certification is required of the local entity or private sponsor before the granting of an encroachment permit. Prior to commencement of construction work, the construction contractor for a local entity must obtain an encroachment permit. The Agreement should discuss the determination of fees charged to the contractor.

Generally, encroachment permit services should be considered as oversight. Refer to the *Encroachment Permits Manual* for further information.

All work on the State right of way is considered a Public Works Project, unless it is work performed solely to allow private encroachments onto the state highway or for utility or drainage encroachments within the State highway. Public Works Projects come under Prevailing Wage and related provisions.

Encroachment Permit Considerations

Encroachment permits are required in those instances where an outside party performs work within existing State right of way. The primary encroachment permit should not be issued to a public entity for private development work. It should be issued to the developer or contractor and the applicable inspection fees charged.

When the encroachment (or a portion) is to be later maintained by a public entity, a second permit or Maintenance Agreement is required of the public entity.

When a public entity performs contract administration, an encroachment permit is also required. Under Section 671.1 of the Streets and Highways Code, public entities are not charged fees for an encroachment permit.

For additional information, refer to the *Encroachment Permits Manual.*

Subsequent Agreements

Cooperative Agreements are entered into for any applicable maintenance and operations costs that will arise after the project has been accepted into the State Highway System, regardless of the project's construction cost. Caltrans prepares and processes any necessary Cooperative Agreements. Maintenance Agreements are also entered into or amended as necessary to cover any changes in maintenance responsibilities.

Review, Coordination and Oversight

Although local entities and private entities are responsible for performing the work on projects-funded-by-others, Caltrans staff will still be involved in performing various activities, which may include the following: design advise or comment, environmental review or studies - issuance of notices - right of way processing - reviews and approvals (particularly securing of federal approvals) - consultation from Maintenance and Operations - and furnishing project consultants with Caltrans' standards and processes.

Early Relationship

It is important to establish a cooperative and communicative relationship with the local entity or developer at the earliest possible point in the development process. A district representative should be assigned to work with the local entity or developer. This representative will serve as both the Caltrans point of contact and the Caltrans Project Manager.

A processing assessment will be made, an initial meeting will be held, and processing will be started, as appropriate, per this manual (for Encroachment Permit projects see Chapter 9, Article 8). Processing as a Combined PSR/PR may be agreed to at this time, if appropriate (see Chapter 9, Article 9) or as a PEER (see Chapter 9, Article 8).

Single Liaison

This district representative provides a single contact point through which the outside entity will work. There should however, be flexibility to provide for direct interaction with area project development personnel as appropriate. The single contact point would also act as an ombudsman for outside entity problems or complaints.

To prevent a breakdown in communication, the assigned district representative should contact the outside entity whenever a significant lapse in communication has occurred. Each contact should be documented and copies sent to the various involved parties.

Focal Points

The following project development items require review and coordination:

- Concept approval will be established via approval of a PSR, a Combined PSR/PR, or a PEER. Chapter 9 of this manual identifies the circumstances that dictate the preparation, reviews, and approvals required.

- The PSR should make clear recommendations for staffing responsibilities that are to be in effect for a period extending from the execution of the Cooperative Agreement (after approval of the PSR) until the approval of the environmental document. Staffing responsibilities for the design, right of way, and construction phases should be covered in the PSR in general terms.

- Earlier confirmation (by approval of a PSR - New Connection) is required if a new connection to an expressway is proposed. See Chapter 9, Article 2, and Chapter 27, for required reviews and approvals.

- The goal on locally funded interchange projects is to determine the design concept in considerable detail. The concept should be reviewed by the district's Headquarters Design Reviewer. No firm commitments can be made to local entities until Caltrans' conceptual approval is given, and FHWA approval if on the Interstate system.

- Although the design concepts contained in a PSR contain considerable detail, they are still conceptual in nature and subject to further revision later in the project development process and therefore should not be used to identify final right of way requirements. If it is likely that the maps attached to a PSR will become the basis for identifying the right of way line, such as could occur to allow a development to proceed, all studies necessary to identify adequate right of way requirements need to be completed prior to PSR approval.

- Clear recommendations on staffing responsibilities for subsequent design, right of way activities, and construction should be included in the Project Report and any Draft Project Report.

- The time schedule should be realistic. Both the local entity and the funding sponsor should be sent written confirmation of the scheduling.

- Project Development Team meeting minutes should be taken. Copies should be sent to the involved parties.

- The district must track progress. It must inform the local entity, funding sponsor, and consultants when schedule slippage occurs and a revised schedule should be prepared and agreed upon.

- A typical section should be developed and approved early in the development process by the project proponent and Caltrans. Bridge widths should also be shown and agreed upon.

- Geometric features should be carefully studied. Formal approval must be obtained for all exceptions to design standards. Documentation is an extremely important resource for later questions by either party.

- All design plans should be carefully reviewed by the district for Caltrans requirements and standards. The Caltrans Project Manager will coordinate all reviews by other Caltrans units. To optimize communication, local agencies and consultants should use the Caltrans Project Manager as their liaison to Caltrans personnel.

- Prior to beginning detailed design, a General Plan for each bridge should be submitted to the district and the Office of Structure Design for review and comment.

- Prior to preparation for advertising, the PS&E must be checked by Caltrans district personnel for adequacy and compliance with standards and approved exceptions. Caltrans Standard Specifications, Standard Special Provisions, and test methods should be used. (It is acceptable for locally administered projects to use local specifications and standard plans.)

SECTION 6 – Lead Agency

General

Since the term "Lead Agency" is used by a variety of different programs, its definition must be clarified within the context of the associated program. For example, a Lead Agency is used with respect to implementation of the Surface Mining and Reclamation Act (SMARA) as well as with respect to the Construction Contract Claims process for projects-funded-by-others. For project development purposes, reference to a Lead Agency is made with respect to its role in fulfilling the requirements of the California Environmental Quality Act (CEQA):

- If the project will be carried out by a public agency, that agency must be the Lead Agency.
- For private projects, the Lead Agency must be the public agency with the greatest responsibility for approving the project as a whole - normally, the agency with general governmental powers, as opposed to one with a single or limited purpose.
- If more than one public agency qualifies, the Lead Agency is the one to act first on the project.
- If two or more have substantial claim, they may designate the lead by agreement.

In federal environmental terminology, the lead agencies are the agencies having the primary responsibility for preparing an Environmental Impact Statement, one of which must be a federal agency. Normally Caltrans and FHWA are joint lead agencies under the National Environmental Policy Act (NEPA).

Caltrans as Lead Agency for CEQA

Caltrans will normally be the Lead Agency for CEQA for State highway projects sponsored by Caltrans, as well as for locally sponsored projects that involve new mainline development, new mainline capacity, or relief of existing highway traffic safety or congestion problems. This would include projects like mainline improvements, new interchanges, conversion of expressways to freeways, adding new lanes, traffic relief improvements such as auxiliary lanes and ramp revisions that are not related to local improvements. Caltrans may also be the Lead Agency if several CEQA documents are prepared by different local agencies to cover individual segments of a complicated project.

The general rule is that only one public agency will prepare an environmental document for a project.

Caltrans is responsible for the adequacy and objectivity of the Draft environmental document, which must reflect the independent judgment of Caltrans. However, if another agency is the project sponsor, Caltrans can use information prepared by the sponsor. The local entity may draft the environmental document, but Caltrans must still review and analyze the content of the draft. In addition, Caltrans will usually handle all required public notices.

Local Agency as Lead Agency for CEQA

For other locally sponsored projects, the local entity may be the Lead Agency for CEQA. Examples of these include: a local road overcrossing of a freeway; new construction or substantial upgrading of a major element of the local road system, where a portion of the project involves a freeway interchange or State highway widening; work on the State highway that was required to improve circulation and access in order to mitigate the impacts of a large local development proposal.

Caltrans must determine that the Final environmental document (FED) has been completed in compliance with CEQA; certify that it was presented to the Caltrans decision maker; and certify that the decision maker reviewed and considered the information contained in the FED prior to approving the project. All other environmental work and public involvement activities can be done by the sponsor or by Caltrans (within the limits of available resources and under a reimbursable contract for services).

Caltrans as Lead State Agency for NEPA

When the local entity is Lead Agency for CEQA, and there is any FHWA involvement, Caltrans will be the lead State agency for NEPA compliance. This means that Caltrans and FHWA must be involved at the early stages in determining the requirements for environmental compliance under federal law.

If there are significant impacts involved in the portion of the project under FHWA decision authority, then (1) a Draft Environmental Impact Statement (DEIS) must be prepared and approved for circulation by Caltrans and FHWA and (2) a Final Environmental Impact Statement (FEIS) must be prepared and approved by Caltrans and FHWA. If FHWA is the sole federal agency involved in a local entity or private development project that is predominantly a non-federal action, it will not accept the CEQA document for purposes of NEPA. Consequently, a concurrent or subsequent NEPA document usually needs to be prepared that solely addresses the highway-related impacts.

If there are no significant effects involved within the FHWA scope of decision authority, and if the proposed work is not a Categorical Exclusion under FHWA regulations, then an Environmental Assessment needs to be prepared that addresses highway-related impacts. This assessment must be made available to the public. Following these events, FHWA can issue a Finding of No Significant Impact (FONSI). This can be done concurrently with CEQA processing.

SECTION 7 – Federal Government

ARTICLE 1 – Federal Highway Administration

Authority

The Federal Highway Administration (FHWA) is the federal agency most typically involved with transportation projects or actions taken by the Department on the State Highway System and as such has the authority and responsibility for implementing and monitoring federal laws, regulations and executive orders. When a project (or action) involves Federal-aid funding, requires FHWA approval action or is on the federal-aid system, FHWA shall become involved pursuant to Title 23, United States Code (U.S.C.), Section 106(c) as amended by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and to the stewardship and delegation of authority agreements signed with the Department.

When a federal permit is required as part of FHWA's NEPA clearance, FHWA becomes involved in the process as either the lead federal agency or as a co-lead agency. Because of these varied roles and responsibilities FHWA works with the Department through several Project Delivery divisions or office such as Right of Way, Environmental, Construction, Office engineer, Design and then through other Divisions such as Local Assistance. For a thorough and precise description of all of the Department's communications with FHWA, contact these functions for additional information and guidance.

Stewardship and Delegation of FHWA Authority –State Authorized Projects

Stewardship is the process by which federal program responsibility and accountability are delegated to state transportation agencies to act as stewards over those federal functions. FHWA defines Stewardship as the efficient and effective management of the public funds that have been entrusted to the FHWA.

Federal legislation allows FHWA to delegate to the Department FHWA's review and oversight for certain engineering activities on federal-aid projects and to delegate additional authority for approval and administration of the federal-aid transportation program. The Stewardship Agreement executed December 2002 consolidates and revises previous Stewardship Agreements to be consistent with Title 23, United States Code, Section 106(c). The Department, by accepting the additional responsibilities on projects for which authority has been delegated, referred to as "State-Authorized projects" (previously recognized as "exempt projects"), assures that the State-Authorized projects are developed and administered to meet federally required laws, regulations, policies, procedures and standards.

FHWA monitors the Department's Stewardship responsibilities through annual process reviews and program evaluations to ensure compliance with applicable federal requirements.

Noncompliance with federal requirements risks the loss of delegations and possibly federal funds. This manual and the following manuals and documents describe the methods and procedures to be followed for State-authorized projects: Highway Design Manual; Traffic Manual/California MUTCD; Ready To List and Contract Award Guide: the Standard Environmental Reference; the Right of Way Manual; Construction Manual; Bridge Construction Records and Procedures Manual; Standard Specifications and Standard Plans. Methods and procedures for projects not on the state highway system and under the jurisdiction of a county, city, or other local public agency are included in the Local Programs Manual. Methods and procedures for any State highway project, if the project is administered by a local agency, are included in this manual and the Local Programs Manual. Revisions to these manuals and new issuance of specifications and standard plans are made as necessary and are submitted to FHWA for review and approval.

Delegation Withheld

There are number of engineering activities over which FHWA retains authority. The following is a list of a few of them. The remaining issues are described in the manuals listed in the previous paragraph.

- Development of certain Interstate system projects (as described in following pages).
- Changes in connection points to the Interstate System (See Chapter 27, ARTICLE 5).
- Exceptions to the 4.9 m vertical clearance on the Rural and Single Interstate Routing System (See Chapter 21, Section 2, and Appendix BB)
- Special project features on the National Highway System (as described in following pages).
- Deviations from the Manual on Uniform Traffic Control Devices (MUTCD).
- Air quality conformity.

FHWA delegation of authority does not apply to non-Title 23 USC activities (environmental, right of way, civil rights, etc.). FHWA retains project approval and oversight responsibilities for activities required under the National Environmental Policy Act of 1969, and other related environmental laws and statues, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, and the Civil Rights Act of 1964 and related statues.

FHWA Oversight of Engineering Activities

For all projects on the state highway system regardless of who is the implementing agency, the FHWA involvement shall begin as early in the project development as possible since the FHWA has responsibility for all non-Title 23 USC activities (National Environmental Policy Act and other Federal environmental laws and regulations). The FHWA will be actively involved up front, as a partner, in the environmental process and determining those engineering features affecting the environment. Early FHWA involvement, in the project initiation document (PID) phase for example, is important where project alternatives or costs are dependent on exceptions to mandatory design standards, or where a change in access could be an issue. For State-Authorized projects, this major partnership involvement will begin before the environmental activities and

extend through the FHWA's approval of the appropriate environmental documentation. For Interstate System projects considered Full-Oversight projects, the FHWA involvement will continue through final design, advertisement, construction, and final acceptance.

Determining the Level of FHWA Oversight of Engineering Activities

The degree of FHWA review and oversight for a specific project should be established as soon as possible. At the time of project initiation, the Department and/or the transportation project sponsor must decide whether or not they wish to preserve the option to federally fund a project. Once the option to preserve federal funding has been selected and federal involvement has been determined, the project will then, from that point on, be subject to all aspects of federal involvement as detailed in the stewardship agreement (and any clarifying letters). The level of oversight or involvement shall be documented in PID's, PR's, and the PS&E. The degree of review and oversight by FHWA on a specific project is determined by Route designation, cost, and type of work. Two tools were developed to determine the review and oversight category, to document that decision, to identify the project documents FHWA needs to review before project advertisement and to record when the documents were sent to FHWA. The first tool is Figure 2. The second tool is the Record of FHWA Involvement in Appendix NN. From Figure 2 it is apparent that most projects will be State-Authorized; however, these projects must still use the Record of FHWA Involvement to document the review and oversight category decision. Instructions to complete the form are in Appendix NN. This form must be completed for every project on the State Highway System regardless of the source of funding.

Route Designation

To determine the level of FHWA involvement, one must identify the Highway System Route Designation for the highway facility. The National Highway System (NHS) includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility. The Department of Transportation (DOT) in cooperation with the states, local officials, and metropolitan planning organizations (MPOs) developed the NHS. The NHS includes all Interstate routes, Principal Arterials in rural and urban areas which provide access between an arterial and a major port, airport, public transportation facility or intermodal transportation facility. NHS routes in California can be found at http://www.fhwa.dot.gov/hep10/nhs/index.html. All other routes are considered to be Non-NHS routes but may still be eligible for Federal-aid funding.

The District Program Management Unit or the FHWA Field Operations or Project Development and Environment Sections, should also be able to provide highway system information. See Chapter 1, Section 4, ARTICLE 2.

Project Costs

On a project-by-project basis, the Department and the FHWA will cooperatively develop Interstate System projects with a construction cost of $1 million or more that are either New Construction or Reconstruction projects. The estimated total capital construction cost for the project should be established, as soon as possible, to determine the proper degree of FHWA involvement and oversight. Unless there is a major change in the estimated construction cost, the initial determination will continue throughout the project development process. These projects are considered to be Full-Oversight projects and FHWA has the responsibility to ensure compliance with all federal requirements.

Type of Work

New Construction:
"New Construction" is defined as a new transportation facility that did not previously exist in the corridor or as the addition of an interchange.

Reconstruction

- Addition of a mainline through lane (except climbing and auxiliary lanes)
- Significant change in horizontal and/or vertical alignment
- Reconstruction of an interchange by adding moves or relocating ramps (widening ramps for storage or turning movements are not included)
- Replacement of an entire bridge or the major parts of an existing bridge (in such a manner that it is equivalent to a new bridge)
- Seismic retrofit projects for the following:

    1) Major or unusual structures as defined by FHWA are listed in Highway Design Manual Topic 805, or
    2) Construction costs in excess of $5 million per structure (work will be considered to have a substantial effect on the structural capacity of the structure).
- Major modifications to Traffic Management Centers

Resurfacing, Restoration and Rehabilitation (3 R) Projects
All other work that does not fall under the definition of reconstruction and is not classified as new construction is considered to be a 3R type project. Such projects include but are not limited to:

- Pavement and structure rehabilitation projects
- Operational improvement projects such as signing, striping, changeable message signs, signalization, channelization, ramp metering (including widening for HOV bypass lanes or storage), truck climbing and auxiliary lanes, and minor widening to accommodate turning movements
- Safety improvement projects such as highway lighting, installation or upgrade of guardrail or median barrier, shoulder widening, and bridge rail upgrades or shoulder widening.
- Environmental mitigation projects such as landscaping and noise barriers
- Storm damage and emergency repair projects

Special Categories of Projects

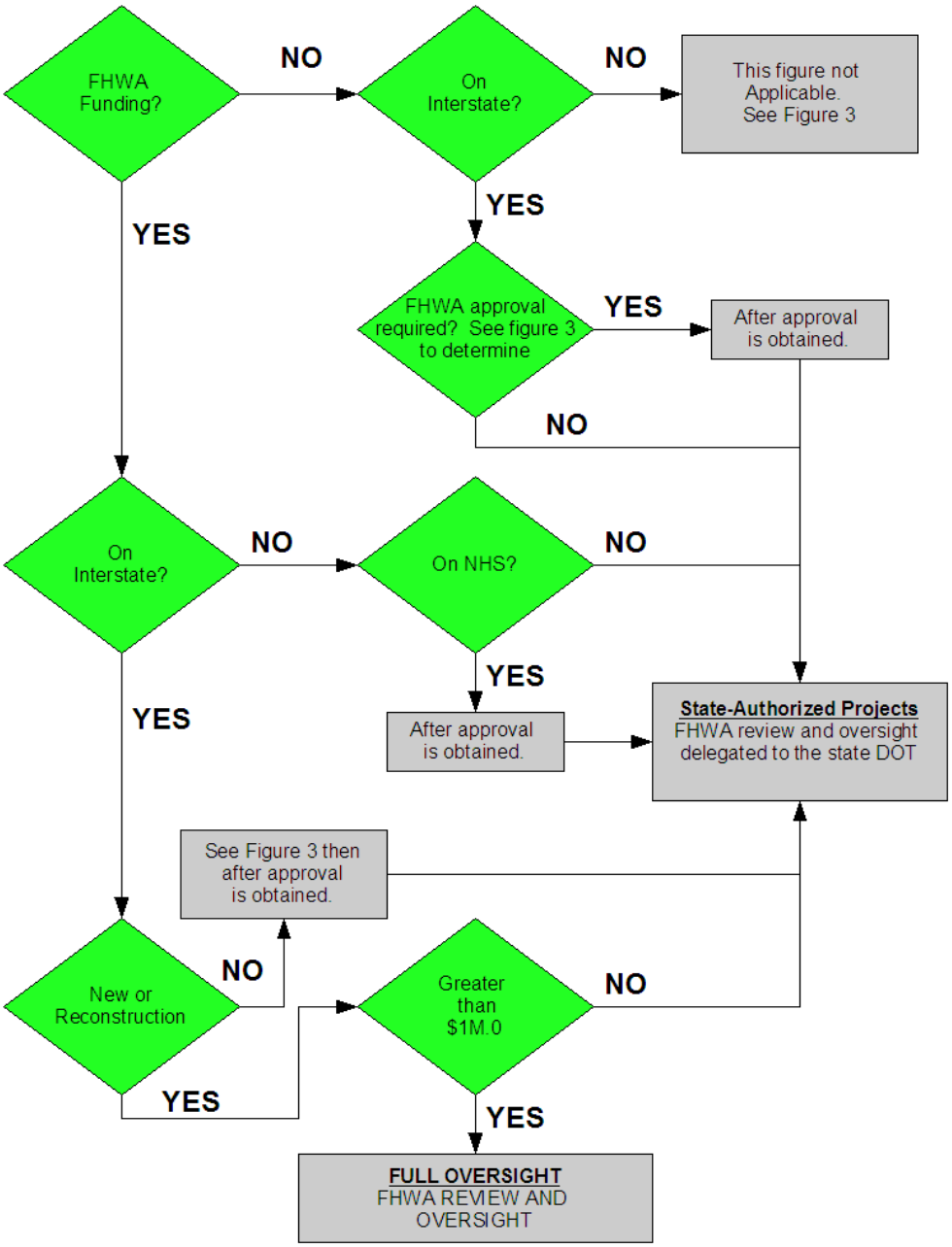
Intelligent Transportation Systems (ITS) Projects
FHWA will provide oversight and review of major ITS projects on a Full-Oversight basis. A description of major ITS can be found in the 23 Code of Federal Regulations (CFR) Section 940.3. FHWA will be consulted prior to beginning Systems Engineering Analysis and Design to determine if FHWA approval is required.

Major Projects
Section 1904 of SAFETEA-LU amended 23 U.S.C. 106 and made several significant changes to the requirements for Major Projects receiving any amount of federal financial assistance. The monetary threshold for classification as a Major Project was lowered from an estimated total cost of $1 billion to $500 million or greater. This monetary threshold includes all support costs and the capital costs for R/W and construction. In addition to the dollar threshold change, a Project Management Plan (PMP) and a Finance Plan are required for all Major Projects. Projects with a total cost between $100 million and $500 million, while not classified as Major Projects, require the preparation of Finance Plans that must be made available to FHWA upon request.
For projects off the Interstate system, the project sponsor will comply with reporting requirements as determined by FHWA, including, but not limited to, updates on project's milestones, major changes impacting the project, and all other information necessary to provide timely status reports on the project's progress.

FHWA Actions

Although a project may be State Authorized and is not federal funded, it may still require FHWA involvement and approval actions. Figure 3 is specifically for projects that are on the National Highway System and are not federally funded.

FIGURE 2: State-Authorized Project vs. Full FHWA Full-Oversight Project



* Design exceptions that decrease any of the thirteen controlling criteria or any change in access control on the Interstate require FHWA approval. See *HDM Topic* ***82*** for the thirteen controlling criteria.

FIGURE 3- FHWA Involvement in Projects and Actions on the NHS Regardless of Funds

	INTERSTATE PROJECTS*	NON-INTERSTATE PROJECTS
CHANGE IN ACCESS CONTROL • New connection to mainline freeway lanes • Addition of entrance or exit ramps that complete basic existing interchanges • Major reconstruction where existing interchanges are being modified and/or dislocated ramps are being added or deleted • Removal of existing connection points	FHWA Conceptual Acceptance and NEPA approval required.	NO FEDERAL INVOLVEMENT
DESIGN EXCEPTIONS	Exceptions that reduce any of the 13 controlling criteria (see HDM Topic 82) on the Interstate require FHWA approval as well as a nexus for NEPA approval.	
Vertical Clearance for Rural and Single Interstate Route System	FHWA approval required	Non Applicable
RIGHT OF WAY Where federal funds were used to acquire the right of way &/or for construction but not for support costs.	- FHWA approval required for: • Relinquishment of right of way - FHWA and NEPA approval required for: • Disposal of right of way • Airspace Agreements • Non highway use of right of way • Occupancy of right of way • Disposal of Access Control	

*FHWA Involvement required for State-Authorized Projects

ARTICLE 2 – Other Federal Agencies

Authority

Federal agencies have approval or permit authority over activities on federal lands and over certain resources (i.e. air and water quality, wildlife, navigable waters, etc.) when federal actions are undertaken. Federal laws, regulations and Executive Orders may have a bearing on a specific transportation project and may require approvals, permits or communication with federal agencies other than FHWA. See Figure 4 to determine which federal agencies may need to be involved due to the location, resources which are affected, or the activities that are involved in the project.

NEPA Compliance

All federal actions require compliance with the National Environmental Policy Act (NEPA). When FHWA is involved, other permitting or approving federal agencies will normally accept FHWA's NEPA determination. When FHWA is not involved in a project that requires federal action, the permitting or approving federal agency must comply with NEPA. Caltrans may be asked to prepare the Draft NEPA document. See the *Standard Environmental Reference* for details.

MOU Integrating the NEPA and Section 404 Processes

The U.S. Department of Transportation, U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency have adopted as policy (1) procedures to improve interagency coordination and (2) procedures to integrate the NEPA and the Clean Water Act, Section 404 processes. A Memorandum of Understanding (MOU) was signed to implement those procedures on transportation projects in California (as well as in Arizona and Nevada).

The MOU applies to all projects needing both FHWA/Federal Transit Administration (FTA) action under NEPA and a U.S. Army Corps of Engineers individual permit under Section 404 of the Clean Water Act. The MOU is limited to issues pertaining to waters of the United States and associated sensitive species. Nothing in the MOU or its Appendices is intended to diminish, modify, or otherwise affect the statutory or regulatory authorities of the agencies involved.

The signatories to the MOU are committed to integrating NEPA and Section 404 of the Clean Water Act in the transportation planning, programming and implementation stages of a project. They are committed to ensuring the earliest possible consideration of environmental concerns pertaining to waters of the U.S., including wetlands, at each of these three stages and place a high priority on the avoidance of adverse impacts to waters of the U.S. and associated sensitive species, including threatened and endangered species. Whenever avoidance of waters of the U.S. is not practicable, minimization of impacts must be achieved, and unavoidable impacts must be mitigated to the extent reasonable and practicable.

The MOU signatories have integrated the compliance process for the Section 404 (b) (1) Guidelines with the compliance process for NEPA to improve interagency cooperation and consultation at all levels of government throughout the process. Contact the District Environmental Unit if further information is needed.

FIGURE 4 - Federal Statutes, Regulations and Executive Orders That May Affect Transportation Projects*

Resource, Geographic Area, or Activity	Other Federal Agencies (Besides FHWA) Potentially Involved	Federal Statute, Regulation or Executive Order
Air	U.S. Environmental Protection Agency (EPA)	Clean Air Act (42 USC 1857 et seq) Clean Air Act Amendments of 1990 (42 USC 7401 et seq) Code of Federal Regulations: Review of New Sources and Modifications, 40 CFR 51.18; Emission Offset Interpretative Ruling, 40 CFR Part 51, Appendix S; Prevention of Significant Deterioration, 40 CFR 51.24
Fish and Wildlife Habitat	U.S. Fish and Wildlife Service; U.S. Forest Service; National Park Service; National Marine Fisheries Service	Endangered Species Act (Section 7)
Water	U.S. Army Corps of Engineers; U.S. Environmental Protection Agency (EPA); U.S. Bureau of Reclamation; U.S. Fish and Wildlife Service; National Marine Fisheries Service	Federal Clean Water Act (Section 404) Regulations Concerning the National Pollutant Discharge Elimination System (40 CFR)
Navigable Waters	U.S. Army Corps of Engineers; U.S. Coast Guard	Rivers & Harbor Act
Federal Lands	U.S. Forest Service; U.S. Bureau of Land Management; National Parks Service	
Historic Properties	Advisory Council on Historic Preservation	National Historic Preservation Act (Section 106)
Coastal Zone	U.S. Army Corps of Engineers; U.S. Fish and Wildlife Service; National Oceanic and Atmospheric Administration	
Wild and Scenic Rivers	National Parks Service	Code of Federal Regulations: 36 CFR 297; 43 CFR 8350
Wetlands	U.S. Army Corps of Engineers; U.S. Environmental Protection Agency (EPA)	Executive Order 11990 (Protection of Wetlands)
Floodplains	Federal Emergency Management Agency	Executive Order 11198 (Floodplains Management)
Hazardous Waste	U.S. Environmental Protection Agency (EPA)	Code of Federal Regulations (Title 40 CFR Part 261)
Dredging	U.S. Army Corps of Engineers; U.S. Coast Guard	
Airport Airspace	Federal Aviation Administration	Federal Aviation Regulations, Part 77
Farmland	U.S. Soil Conservation Service	Farmland Protection Policy Act

* Note that this Figure is not intended to be all -inclusive.

SECTION 8 – Use of Consultants

General

As authorized by Section 14131, 19130, and 14101 of the Government Code, Caltrans uses consultants for some professional and technical services, such as architectural, landscape architectural, engineering, environmental, land surveying and material testing. Professional service contracts are awarded on the basis of qualification and negotiated costs, while some of the technical service consultants are evaluated on the basis of qualification and awarded on the basis of the lowest bid from those that meet the minimum qualification. Refer to the *A&E Consultant Services Manual* for details.

Methods for Contract Services

Professional and technical service contracts are written for either a specific project or for "on-call" basis. There is no dollar limit for specific contracts, but there is a maximum of $500,000 for on-call contracts. On-call contracts are used where scope of work cannot be well defined. Work is done under task orders when specific parts of the work can be defined sufficiently to estimate costs.

Contractors License

Appropriate and valid professional California license is required for the type of work being contracted.

Consultant Selection Methods

There are two consultant selection methods used when contracting out for consultant services. These two methods are the "one step" and the "two step".

"One Step" Method

The "One Step" process is appropriate for projects where the consultant is given little or no flexibility as to how the work is to be performed. The process consists of six phases as follows:

- Project Initiation
- Requests for Qualifications (RFQ)
- Final Selection
- Contract Negotiations
- Contract Award
- Contract Administration (monitoring)

"Two Step" Method

The "Two Step" selection process is appropriate for projects that could be approached in more than one way. On such a project, it is necessary that the approach to the project be carefully considered and that the consultants are invited to describe their proposed project methodologies. This is a rarely used process; when used the process consists of seven phases as follows:

- Project Initiation
- Request for Qualifications (RFQ)
- Request for Proposal (RFP)
- Final Selection
- Contract Negotiations
- Contract Award
- Contract Administration (monitoring)

Guidelines and Procedures

For processing a contract for consultant services, the guidelines and procedures of the *A&E Consultant Services Manual* should be followed. In addition, the *Service Contracts Manual* contains procedures for preparing contracts, and the *Service Contracts Managers Manual* contains procedures for administering contracts.

Consultant Oversight

For guidelines on the oversight of work by others on state facilities to ensure that the work conforms to Caltrans standards and practices refer to the *Guidelines for Consultant Oversight*.

SECTION 9 – Signatures on Technical Reports

Business and Professions Code

Although this section deals specifically with civil engineering requirements, reports prepared by other professionals should comply with any similar requirements specified by that profession.

Section 6735 of the Business and Professions Code requires that all civil engineering reports be prepared by either a registered civil engineer (RCE) or a subordinate under the direction of the RCE, and that all reports be signed by the RCE as an indication of responsibility for the reports. Civil engineering reports should also bear the RCE's seal or stamp – with registration number and expiration date of the registrant's certificate.

Consultants and Local Entities

The procedures that follow also apply to final engineering reports developed by consultants and local entities. A Caltrans RCE would not normally sign and seal a report prepared by others. The local agency engineer or consultant in "responsible charge" would normally sign and seal the report.

Responsible Charge

As used in the Professional Engineers Act, the term "responsible charge" refers to both the span or degree of control an RCE is required to maintain when exercising independent control and direction of civil engineering work, as well as to the specific technical engineering decisions that may only be made by an RCE.

Span of Control

The span of control necessary to be in "responsible charge" requires that the RCE:

- Personally makes all engineering decisions or at least reviews and approves proposed decisions prior to their implementation, whenever engineering decisions are made that could affect life, health, property, or public welfare. In making engineering decisions, the RCE must be physically present or, through the use of communication devices, be available in a reasonable period of time.

- Judges the qualifications of technical specialists and the validity and applicability of their recommendations before such recommendations are incorporated into technical engineering reports.

Engineering Decisions

The term "responsible charge" relates to engineering decisions within the purview of the Professional Engineers Act and does not refer to management control in a hierarchy of registered civil engineers, except where an individual in the hierarchy exercises independent engineering judgment – which would consequently constitute the exercise of "responsible charge." Engineering decisions which must be made by – and are the responsibility of – the engineer in "responsible charge," include permanent or temporary work that would create a hazard to life, health, property, or public welfare. Such decisions may include, but are not limited to, the following:

- The selection of engineering alternatives to be investigated, as well as the comparison of alternatives for engineering works.
- The selection or development of design standards or methods, and materials.
- The selection or development of techniques or methods of testing to be used in evaluating materials or completed works, either new or existing.
- The review and evaluation of manufacturing, fabrication, or construction methods or controls to be used, including the evaluation of test results, materials, and workmanship insofar as they affect the character and integrity of the completed work.
- The development and control of operating and maintenance procedures.

Evaluating "Responsible Charge"

As a test to evaluate whether an RCE is in "responsible charge," the following must be considered:

- The RCE who signs technical engineering reports must be capable of answering questions asked by equally qualified engineers. These questions would be relevant to the engineering decisions made during the individual's participation in the project and in sufficient detail to leave little question as to the RCE's technical knowledge of the work performed. Appropriate questions could address the criteria for design, methods of analysis, methods of construction, the basis for selection of materials, economics of alternative solutions and environmental considerations.
- The RCE in "responsible charge" should be able to clearly define the span of control and how it is exercised within the organization to demonstrate that he or she is accountable within the controls stated above.

Reports that Require Professional Engineering Conformance

The following final technical reports must bear the signature, stamp or seal, registration number, and registration certificate expiration date of the RCE most directly in "responsible charge" – or where applicable – bear similar data required of other registered or certified professional working on the report.

- Project Study Report (PSR)
- Facility PSR
- Noise Barrier Scope Summary Report (NBSSR)
- Project Scope Summary Report (PSSR)
- PSSR-Seismic Retrofit
- Draft Project Report (DPR)
- Project Report (PR)
- PR-Safety Roadside Rest Area
- Combined PSR/PR
- Permit Engineering Evaluation Report (PEER)
- Drainage Report
- Materials Report
- Structural Section Recommendation Report
- Fact Sheet - district prepares request for exceptions from mandatory and advisory design standards (signature and stamp or seal applies to the engineer in "responsible charge")
- Preliminary Report (prepared by Division of Structures)
- Structures Site Data Submittals (bridge, retaining walls, noise barriers)
- Bridge Inspection Report (prepared by Division of Structures)
- Hydraulic Report (prepared by Division of Structures)
- Geotechnical Report (can include pre-remedial report concerning hazardous and toxic materials sites)
- Reports issued by the Office of Materials Engineering and Testing Services of the Engineering Service Center (applies to reports that go beyond the tabulation of test data: e.g., reports making recommendations and conclusions)

Application Procedures

Only one registrant's stamp or seal, and number with signature, are normally necessary on the final civil engineering reports listed above. That stamp or seal and number with signature should be of the appropriate lowest classification of RCE in "responsible charge" for developing the final engineering report. This registrant's stamp or seal and number with signature need only appear on the original title sheet of most reports; however, for the PSR, DPR, and PR, the registrant's stamp or seal and number with signature can be placed on a separate sheet that must be a part of the report. This separate sheet must state that the RCE is attesting to the technical information contained therein

and the engineering data upon which recommendations, conclusions, and decisions were based.

Coordination with Environmental Documents

Environmental documents serve as public disclosure documents, explaining the effects of a proposed project on the environment; they do not require the seal or signature of an RCE. However, technical civil engineering reports that will be used in, or which will control the detailed design and construction of, a proposed project must be signed by an RCE.

CHAPTER 3 – Involvement of Caltrans Functional Units

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CHAPTER 3 – Involvement of Caltrans Functional Units

SECTION 1 - Transportation Planning

General

The districts' Transportation Planning Unit is responsible for the implementation of Caltrans policies, programs, and procedures for regional and systems planning, and for travel forecasting and analysis. Transportation Planning is known by various names in different districts, including, but not limited to, Transportation Planning, Regional Planning, Systems Planning, Transportation Studies and Transportation Analysis.

The Transportation Planning Unit is the liaison to Headquarters' Division of Planning for regional and system planning issues, and the liaison to Headquarters' Office of Traffic Forecasting and Analysis of the Division of Transportation System Information for matters pertaining to travel forecasting and analysis.

Reference

Refer to Chapter 1, Section 4, for more information on Transportation Planning. See also the *System Planning Guidelines* and the *Regional Planning Delegation Handbook.*

System Planning Products

System Planning is Caltrans long-range planning process that identifies deficiencies on the state highway system, prioritizes improvements for programming funds for implementation, and manages each district's overall state highway network. Each stage of the process corresponds to a system planning document. The deficiency and improvement identification stage is through the Route Concept Report (RCR); prioritization of funding (20 years) and implementation strategies occur through the Transportation System Development Program; communication of Caltrans priorities and strategies for route and system development to local agencies, and within the department occur through the District System Management Plan.

The need and purpose for a project will often result from the system planning process. The Design or Advance Planning Unit uses information contained in System Planning products as a starting point in initiating the project development process. System planning processes are described in more detail in Chapter 1, Section 4, of this manual.

Regional Planning Coordination

Coordination with the Regional Transportation Planning Agencies (RTPAs) and the Metropolitan Planning Organizations (MPOs) is done by the Transportation Planning Unit. This includes monitoring their compliance with federal and State legal requirements and input into their planning and programming process with system planning data. This Unit should provide project development with all necessary data concerning the Regional Transportation Plans (RTPs), Regional Transportation Improvement Programs (RTIPs), Air Quality conformity, Major Investment Studies, and other regional planning information. The regional planning process along with areas for coordination are discussed in Chapter 1, Section 4.

Transportation Studies Services

Traffic forecasting is usually performed in the districts by the Transportation Studies Unit. The forecasts are essential for all project studies that propose to increase the capacity or improve the operations of a facility to carry traffic. The following information is included in traffic forecasting:

Traffic Volumes

- Current Traffic
  - average annual daily traffic
  - peak hour and directional split for each alternative
  - level of service for existing conditions

Traffic Forecasts

- Forecasted Traffic (20 years beyond last stage of construction)
  - average annual daily traffic for each alternative
  - peak hour and directional split for each alternative
  - turning movements at proposed interchanges or intersections
  - level of service for each alternative

SECTION 2 - Environmental

General

Since all transportation projects in California must comply with CEQA, and other environmental laws, regulations, and executive orders, the project development process requires close coordination between the Project Engineer (PE), the Project Manager (PM), and the Environmental Unit representative to determine project schedules and to identify project issues, criteria, constraints, and impact mitigation.

The district's Environmental Unit is responsible for the implementation of Caltrans policies, programs and procedures concerning environmental considerations, analysis and compliance with environmental laws and regulations. This function is known by various names in different districts, including, but not limited to, Environmental, Environmental Planning, Environmental Analysis, Environmental Testing, Environmental Technical Studies, Environmental Engineering, Environmental Oversight, and Environmental Reports.

The Headquarters Division of Environmental Analysis develops environmental policy and procedure, recommends training to implement an enhanced environmental awareness in all employees, and provides direct project assistance in the areas of biology and cultural studies.

Reference

Refer to Chapter 2, Section 6, and Chapter 10, Section 3, of this manual for more information.

Refer to the *Standard Environmental Handbook, Volume 1* for a full description of environmental involvement in the project development process.

Project Development Team Member

A representative of the Environmental Unit is a required member of the Project Development Team.

Preliminary Environmental Evaluation

The Preliminary Environmental Evaluation (PEE) is performed and prepared by the Environmental Unit when requested by the Design Unit as input to a project initiation document. It identifies environmental issues that could impact the project cost and schedule.

Environmental Studies, Reports, & Documents

The Environmental Unit is very deeply involved during the project planning phase of project development in those projects that require an environmental document, and is involved to some degree on projects that are Categorically Exempt and Categorically Excluded. Upon request of the Design Unit, the Environmental Unit publishes notices, conducts a number of environmental studies, and prepares reports on them, prepares a Draft environmental document, and following public input prepares the Final environmental document.

For those projects not exempt under CEQA or excluded under NEPA (where applicable) an initial level of environmental study was completed at the Project Study Report (PSR) stage which resulted in the preparation of a PEE. The results of this evaluation dictate the next level of documentation necessary. Under CEQA, for those projects with no potential for significant impact, or which exhibit potential for modification such that the project as proposed will reduce any potential significant impacts to a level of insignificance, an Initial Study (IS) is prepared. The results of this effort provide the administrative record to substantiate issuance of a Negative Declaration (ND). Projects which clearly exhibit potential for residual or unmitigable significant impacts will require an EIR. Under NEPA, projects with significant impacts, as concluded under the concept of context and intensity (see Section 2-3.6 of the *Standard Environmental Handbook*), require the preparation of an EIS. All other projects can be determined to be categorically excluded. Depending upon the nature and degree of a project's potential impacts, a Finding of No Significant Impact (FONSI) which is the CEQA Negative Declaration equivalent, may be prepared by FHWA.

If a project is determined to be Categorically Exempt under CEQA, it will usually be Categorically Excluded under NEPA. However, exempt/excluded CEQA/NEPA projects may still be subject to other State and federal environmental laws, and may still require permits from regulatory agencies.

Public Participation

The Environmental Unit participates in most public participation activities conducted during the project planning phase of project development, including any public hearing that is held. The environmental review processes are an outgrowth of the demand that environmental concerns be fully considered in project decisions and that the public have an opportunity to be involved.

Permits

The Environmental Unit may obtain permits that are required by environment laws, regulations, and executive orders. See Chapter 13 for a listing.

Environmental Reevaluation

The Environmental Unit conducts an Environmental Reevaluation when needed prior to advertising for construction.

Continuous Involvement

The Environmental Unit is involved throughout the project development process, even through construction, and beyond during maintenance and operation, whenever environmental issues arise. They must review any changes that might affect the environment and they must ensure that all environmental commitments are met.

SECTION 3 - Surveys

General

The project planning and the design phases of project development both require appropriate mapping and field surveys. These services provide for all project land controls and base maps for development of contract plans and the acquisition of right of way.

The district's Surveys Unit is responsible for the implementation of Caltrans policies, and procedures concerning surveys and for conducting the surveys. This function is known by various names in different districts, including, but not limited to, Surveys, Right of Way Engineering and Surveys, and Engineering Services.

The Surveys Unit is a liaison between the Office of Lands Surveys in the Division of Right of Way and Land Surveys, which is the headquarters functional unit with responsibility for the development of Caltrans policies, programs and procedures in this areas, and the Design Unit.

Reference

Refer to-Appendix L of this manual for a discussion of mapping requirements for project initiation, to Chapter 10, Section 2, of this manual for a discussion of mapping during formal engineering studies during project planning, and to Chapter 14, Section 1, of this manual for a discussion of the development of geometric base maps during the design phase. Refer to the *Surveys Manual* for more detailed information on the surveys function.

Project Development Team Member

A representative of the Surveys Unit serves on the Project Development Team to provide input on mapping and surveying issues.

Photogrammetry and Mapping

Caltrans Photogrammetry includes the Photogrammetry Section of the headquarters Office of Photogrammetry in the Division of Engineering Services (DES), and the district Photogrammetry Coordinator, with assistance from private photogrammetry contractors. Caltrans Photogrammetry provides a wide range of photogrammetric services to Units within Caltrans. The primary focus of Caltrans Photogrammetry is to provide engineers with mapping services for project development, but they also provide reproduction products and services using Caltrans' extensive film library. The responsibilities of these Units are listed next.

District Surveys Unit

- Field control surveys
- Field digital terrain model surveys

District Photogrammetry Coordinator

- Liaison with project engineers
- Photogrammetric project planning (with DES assistance)
- Orders and checks photography
- Assists DES in map checking (visual)
- Performs map digitizing checking (visual, CADD)
- Assists DES in contract administration of photogrammetry contracts

Headquarters Photogrammetry Section

- Photogrammetry expertise and assistance
- Project management
- Photogrammetry contract execution and administration
- Densifies control through aerotriangulation
- Performs map checking (accuracy and visual at district request)
- Performs all photogrammetric cross-sectioning
- Performs all photogrammetric DTM (Digital Terrain Model) data capture
- Compiles in-house mapping when required for complex, difficult to contract projects
- CADD digitizing on a limited basis
- CADD DTM preparation on a limited basis

Private Photogrammetry Contractors

- Perform all aerial photography
- Perform most laboratory and reproduction work, with HQ Reprographics
- Performs most of the map compilation
- Performs CADD digitizing

Refer to the *User's Guide to Photogrammetric Products and Services* for further information.

Survey Requests

Survey needs should be evaluated and identified early in the project initiation phase and throughout the entire project development process when needed. After the first evaluation of survey needs, the PE should submit the initial survey request accompanied by a strip map. The extent of the survey will depend on the type of project, existing information available, sensitivity of the area of potential effect, and the number of viable project alternatives.

The Right of Way Branch and the Environmental Unit require accurate mapping in order to properly carry out their functions, so their needs need to be carefully considered when evaluating survey needs.

Survey File

During the Design phase the PE should assemble the survey data and compile a Survey File and transmit it to the Surveys Unit for use in construction surveys. The PE should contact the Construction and Surveys Units and discuss what information should be included. See the Survey File Checklist in Appendix QQ.

SECTION 4 - Right of Way

General

Since most transportation projects in California require right of way, utility easements, rights of entry, or some other right of way activity, the project development process requires close coordination between the Project Engineer (PE), the Project Manager (PM), and representatives of the Right of Way Engineering Unit and the Right of Way Branch to determine project schedules and cost estimates, and to assure the acquisition of all necessary property rights.

The district's Right of Way Branch is responsible for the implementation of Caltrans policies, programs and procedures concerning right of way and utility considerations and compliance with State and federal laws and regulations. This function consists of various branches in the districts under a District Division Chief for Right of Way, except for the Right of Way Engineering Unit which is generally located under another Deputy District Director. (Refer to Chapter 3, Section 13, for Utilities, and Section 5 for Real Property Asset Management.)

The Right of Way Branch is a liaison between Headquarters Division Right of Way, the headquarters functional Unit with responsibility for the development of Caltrans policies, programs and procedures in this area, and the Design Unit.

Right of Way lead times frequently control the project design schedule. Generally, the preparation of project plans, calculation of quantities, and development of the PS&E require less time than obtaining the Right of Way Certification.

Reference

Refer to the *Right of Way Manual* for a full description of right of way involvement in the project development process.

Also refer to page 11 of the CTC approved *Guidelines for the Preparation of Project Study Reports* included in Appendix L of this manual; Chapter 10, Section 5; Chapter 13, Section 1, Article 4, and Section 2, Article 2, and Section 3, Article 4; Chapter 25; Chapter 26; and Chapter 28 of this manual for more information.

Project Development Team Member

A representative of the Right of Way Branch is a required member of the Project Development Team (PDT).

Project Planning

The Right of Way Branch provides valuable information at the initiation of studies. Once the project limits have been tentatively determined, property ownership maps can be developed by the Right of Way Engineering Unit. Preliminary right of way estimates are required to properly develop and analyze project alternatives. Adequate mapping is required, as well as a realistic project scope.

The R/W Data Sheet (See Appendix JJ for an example) should be requested as soon possible after project alternatives have been developed. The R/W Data Sheet is prepared during the project initiation phase and also during the formal project studies phase, and is required attachment to the PSR, the PR, and most other project initiation and project approval documents. The information in the R/W Data Sheet is vital to the process since it details all types of parcel information and the right of way estimate.

The Right of Way Branch participates in most public participation activities conducted during the project planning phase of project development if right of way acquisition is involved.

Design

The PE and the Right of Way Engineering Unit work closely together in establishing the right of way lines. Once the geometric base maps are completed, the PE sets the lines (including permanent and temporary easements) and delineates access lines if appropriate. A Certificate of Sufficiency is requested by the Right of Way Appraisals Unit when each appraisal report is completed stating that all right of way and access control needs are required for the project and correctly shown on the appraisal maps and that all properties have been cleared of hazardous waste. The PE, PM, and Deputy District Director for Design must sign this certification.

Acquiring the Needed Property

Identifying the right of way needs and completion of the R/W Parcel map allows the R/W Branch to appraise the property, negotiate with the property owner for acquisition, conclude the acquisition by purchase or by starting the condemnation process, and to provide for relocation assistance for the occupants and clearance of the property for construction. During this process there should be active coordination between the PE and the R/W Agent for each parcel required for the project. The acquisition agent will need to explain the project to the property owner and the need for that particular parcel. If the parcel is a partial acquisition of the property or an easement over the property, the R/W Agent will need to explain how the property owner's remaining property will be affected by the project. The R/W Agent may call upon the PE to join in meeting with the property owner to assist in explaining the project.

If the acquisition is not successfully accomplished by purchase, a Resolution of Necessity will have to be submitted to the CTC requesting authority to initiate condemnation action in court. If the property owner chooses to challenge the Resolution of Necessity by appearing before the CTC to protest the need for the project or the parcel, then both the PE and the R/W Agent will be involved in providing information for the Appearance

Information Sheet and participating in the First and Second Level Review procedures required by Caltrans policy (see Chapter 28 and Appendix JJ).

The acquisition may also require work to be accomplished to make adjustments to the property. These obligations should be placed in the R/W Contract by the R/W Agent and a method of accomplishing them must be agreed upon between the R/W Agent and the PE. If they are to be included in the construction contract, the PE must assure that the work is included in the contract and documented in the RE Pending File. If they are to be done by service contract, the PE will need to assure that they are accomplished in a timely manner and will not interfere with the construction contract. If they are included by payment to the property owner, then this must also be documented in the RE Pending File.

Other R/W Involvement

The PE and the Right of Way Branch work closely together in many other project development tasks. In addition to the PDT, there is team participation for hazardous waste cleanup, value analysis studies and asset management. Materials agreements involve the Right of Way Branch. Fence review, excess land review, identifying water wells to be abandoned, disposal of operating right of way, and use of airspace are other areas of involvement.

Right of Way Certification

Right of way acquisition and the relocation of displacees lead to a Right of Way Certification, which must be provided by Right of Way before a project can be advertised. These activities involve legally mandated lead times. Changes in right of way requirements for a project can delay the date by which a Certification can be provided if they occur late in the project development process.

SECTION 5 - Real Property Asset Management

General

The Asset Management Program in the Division of Right of Way is responsible for ensuring optimum use of current real property assets and for obtaining informed investment decisions for transportation support facilities. Right of Way's goal is to improve support operations and generate revenue from joint development, shared facilities, exchanges, privatization, or other innovative approaches utilizing Caltrans' real property assets. RWP is also the liaison with other State agencies in coordinating joint asset management activity to meet legal requirements and to comply with the Governor's Executive Order to improve the State's management of its real estate portfolio.

Input During Planning & Design

During the planning and design stages it is important that the Project Engineer contact the District Asset Manager for input on support facility needs such as park-and-ride lots, traffic operations centers, offices, maintenance stations, etc.

The District Asset Manager would normally not be a member of the Project Development Team, but should be invited to team meetings to assess potential real estate uses and address any facility needs based on master plans.

SECTION 6 - Materials

General

Materials and geotechnical information is needed for every project. The Project Engineer (PE) uses this data to develop and analyze alternatives and estimate costs for use in project initiation and approval documents, and to prepare detail design and specifications for both new construction and rehabilitation projects. The District Materials Unit is involved throughout the project development process.

Reference

Refer to the *Standard Test Methods* and the *Engineering Service Center Service Directory*.

Project Planning

At the Project Initiation stage, materials and geotechnical information is needed to adequately develop and assess project alternatives. This early information can usually be acquired from reports or data prepared for previous similar projects at the same location or for nearby projects currently under study. If there are critical unanswered concerns such as stability of slopes, foundation problems, seismic, percolation, availability of materials, etc., preliminary studies should be performed by the District Materials Unit. Deflection tests are required for all flexible pavement rehabilitation work.

After the project has been initiated, requests are made of the District Materials Unit to update materials information and provide other useful information, such as side slope recommendations, wetland locations, slide locations, etc. Some services from the Office of Materials Engineering and Testing Services (METS), of the DES may also be needed. Refer to the *DES Service Directory* for a listing of services available. As studies progress, additional materials investigations may be needed to expand previously identified alternatives or to develop new alternatives. It is essential that enough materials information is available so that all viable project alternatives are evaluated equally in the Draft Project Reports and Project Reports.

A final report on materials and geotechnical issues is not required at this stage, but a draft report would be appropriate.

Design

Following selection of the Preferred Alternative and approval of the project, a Geotechnical Design or Materials Report, as appropriate, is requested from the Materials Unit. It should cover pavement structural section recommendations and all other geotechnical and materials information required to construct the project, such as: geology, soils, seismic, slope stability, foundation, percolation, drains, type and availability of materials, solid waste disposal, borrow sites, disposal sites, etc. (See

Highway Design Manual Topics 113 and 114 for Geotechnical Design Report and Materials Report policy and Chapter 600 for design of pavement structural sections. See "California Test Method 130" in the *Standard Test Methods - Volume 1* for content of Material Reports.)

Surface Mining and Reclamation Act (SMARA)

Design of a cost-effective project usually requires balanced earthwork quantities. In some cases commercial material must be used or an offsite borrow source acquired for imported borrow. Materials for the structural section must also be investigated to determine source locations and availability. Coordination with the Environmental Unit and the SMARA coordinator is needed to ensure that sites are environmentally approved and that SMARA requirements are met. The SMARA coordinator should have the current edition of the Department of Conservation's AB 3098 list of SMARA compliant operations, which is updated and published quarterly. In many areas, only commercial material or contractor-cleared materials sites are available. (For policies and procedures concerning material and disposal sites, see Topic 111 in the *Highway Design Manual.)*

SECTION 7 - Traffic

General

The Traffic Unit's major role in the project development process is providing expertise and guidance to ensure that a project will adequately move traffic safely and efficiently, both during and after construction. This is primarily accomplished by incorporating safety features and upgrades, developing traffic handling plans delineating signing, striping and other traffic control measures and developing transportation management plans (TMP). The Traffic Unit's input should begin at the conceptual phase of the project to determine if a TMP is necessary.

The Traffic Units are known by various names in different districts including, but not limited to Traffic, Traffic Safety, Traffic Operations, Traffic Engineering, Traffic Design, Traffic Management, Electrical Design, and Freeway Operations.

Reference

Refer to the *Traffic Manual*, the *High Occupancy Vehicle (HOV) Guidelines*, the *Highway Capacity Manual*, the *Ramp Meter Design Guidelines*, and the *Transportation Management Plan (TMP) Guidelines*.

Project Development Team Member

A representative of the Traffic Unit serves on the Project Development Team to provide input on traffic-related issues.

Project Planning

The Traffic Unit provides capacity studies and operational analyses and develops safety and delay indices. It is imperative that they determine whether the project alternatives will function adequately if constructed. Questions to be answered by the Traffic Unit include the following:

- Can the project be signed?
- Is there sufficient room for sign structures, electrical facilities, etc.?
- Should traffic signals - storage - striping be considered?
- Is a TMP needed?
- Have results of field safety review been incorporated when appropriate?

For projects that propose HOV lanes, Section 149 (Carrell Act) of the Streets and Highways Code and Section 21655.5 of the Vehicle Code requires Caltrans to conduct competent engineering estimates of the effect of HOV lanes on safety, congestion, and highway capacity - prior to construction. This is reported in the Project Report. The

HOV information is normally prepared by the Traffic Unit and is provided for inclusion in the Project Report. See the *HOV Guidelines*.

Design

The Traffic Unit is requested to review the geometric layouts to ensure that signing requirements, stage construction, intersection operation, end of freeway plan, temporary connection plans, etc., are adequate for the safety of the motorists and of the construction and maintenance workers.

The Traffic Unit is provided with skeleton layouts and requested to prepare the traffic-related portions of the PS&E and related project items. This normally consists of the following elements:

- Traffic signing and striping plans
- Lane closures and lane requirement charts
- Traffic electrical plans including stage construction
- Traffic contract items and quantities
- Signing and striping for Traffic Handling Plans
- Transportation Management Plans
- Special considerations such as railroad signing, etc.

Input During Construction

The Traffic Unit's involvement in project development does not end with the award of a construction project. At various times throughout the construction project, the Unit is expected to review closure schedule change requests, proposed traffic control measures and signing and safety elements to ensure that public safety and convenience are considered. Stage construction, detours, and temporary connections may require modification to the TMPs in cooperation with the district TMP coordinator. Traffic should be consulted prior to making changes in the TMP.

SECTION 8 - Structure Design

General

The Office of Structure Design (OSD) of the Division of Engineering Services (DES) is a partner in the project development process. Their responsibilities include the following:

Bridges:

- New overcrossing, undercrossing, separation and connector structures
- Bridges over waterways
- Railroad underpasses and overheads and mass transportation structures
- Pedestrian and bikeway bridges
- Widening or lengthening of existing structures
- Seismic retrofitting of existing structures

Special Structural Design:

- Retaining walls exceeding standard heights
- Noise barriers exceeding standard heights
- Box culverts and other underground structures not covered by Standard Plans
- Pumping plants
- Earth retaining structures
- Signs and overhead structures
- Maintenance Stations and equipment shops
- Structures at Roadside Rests, Transit Stations and Truck Inspection and Weigh Stations
- Other highway and transit related structures

Special Functions:

- Special studies, such as calculating capacity of major waterways
- Railroad approvals
- Public Utilities Commission (PUC) approvals
- STRAIN (Structure Replacement And Improvement Needs) Report

OSD has assigned a DES Project Functional Manager to each district who should be contacted prior to any direct dealings with OSD.

Reference

Refer to the series of *Bridge Manuals* for specific Bridge Design information.

Representative on PDT

A representative from OSD should be on the Project Development Team (PDT) for projects with extensive structure involvement. In this capacity, the representative will assist in the development and analysis of project alternatives. This includes developing architectural treatments and providing cost estimates for each viable alternative.

Project Planning

OSD is responsible for preparing Advanced Planning Studies as part of the Project Study Report (PSR) process. These studies should encompass all aspects of structure work, such as new structures, widening or lengthening of existing structures, raising existing structures, rehabilitating and/or retrofitting existing structures, removing existing structures, etc. These studies can be extensive, as they have to be performed for all viable project alternatives. Efforts should be made to submit to OSD as much accurate data as possible to help achieve a reasonable assessment of cost and constructability.

The district submits profiles, typical cross sections, and span and clearance controls for all project alternatives. OSD responds with alternative structural solutions and cost estimates.

OSD continues to be involved during the remaining phases of obtaining project approval. This involvement consists of continuing membership in the PDT, the preparation of advanced studies to address additional project alternatives developed during the environmental studies stage, and the updating of structures data for the Preferred Alternative during the project approval process.

Design

The design process for structures involves continuous communication between the districts and OSD. The district starts the process by submitting a Bridge Site Data Submittal (see Chapter 14, Section 1, Article 3, and Appendix KK). This submittal occurs after geometrics are finalized. Other site submittals may also be required for retaining walls and noise barriers (see Appendix KK).

OSD will develop a Bridge Preliminary Report when bridge work is required. This Report translates the bridge site data submittal into a technical report that is used by the structure design engineer, and into a map showing the proposed site, contours, and structure control data. The PE should review this report very carefully to ensure that it accurately depicts project requirements.

After OSD finalizes the Bridge Preliminary Report, the Bridge General Plan is prepared for the proposed structure. The General Plan should be reviewed by the PE, including for traffic, right of way, and utility requirements. The District Right of Way Branch should be contacted, as appropriate. Foundation Studies and a Foundation Report are also a part

of the process at this time. After district concurrence with the Bridge General Plan, OSD may proceed with the detail design.

During PS&E development, OSD will submit Bridge Unchecked Details to the district. These have been prepared by one structures designer but have not been checked by a second designer. This gives the district a chance to review, check, or revise the details.

Just prior to completion of Structures PS&E, OSD will submit Bridge Checked Details to the district. This is the final chance to review and revise the details.

The last step in the process is for OSD to transmit their PS&E package to the district. The district combines the Structures PS&E with the district PS&E, which is then submitted to the Office of Office Engineer in the DES to develop into a bid package.

Other Services

OSD performs many additional services, including the following:

Liaison with Railroad Companies

OSD performs the direct liaison work with the various railroad companies. The District Railroad Liaison Agent helps coordinate this work, but the majority of the work and ultimate approval comes from OSD.

Negotiations with railroad companies are usually long and involved. Therefore, it is necessary to determine the extent of involvement as soon as practical. The District Railroad Liaison normally sends a strip map to the OSD for projects in the vicinity of railroads to determine potential involvement. This is then followed by a submittal showing preliminary alignment plans at crossing locations. The OSD identifies the railroad involvement and obtains verification from the railroad. It is also appropriate to obtain railroad approval of the geometrics at this stage.

PUC Approvals

OSD serves as a liaison for obtaining approvals from the PUC. There are usually two types of approvals: (1) changes in at-grade crossings with railroads (district prepares the exhibit maps); and (2) underpasses/overheads (OSD prepares the exhibit maps). OSD submits the proposals to the PUC and notifies the district when approvals have been received. After approval, estimates are prepared showing the breakdown in costs between the Railroad and the State.

SECTION 9 - Hydraulics

General

The responsibility for hydraulic design policies and procedures rests with the Division of Design; the unit that performs the project drainage design is responsible for their implementation. District organizations differ, but for the purpose of this manual, it is assumed that the Project Engineer (PE), under the direction of the Project Manager, is responsible for assuring that proper project drainage design is performed. This will typically require the active participation in, or the review of, the design by the Hydraulics Unit.

Reference

Refer to Chapters 800 through 890 of the *Highway Design Manual* for information on Highway Drainage Design. Refer to the *Caltrans Storm Water Quality Handbooks Planning and Design Staff Guide* for information on incorporating storm water quality controls into a project.

Project Planning

Detailed drainage design, such as accurate sizing and location of culverts, storm drains and roadway drainage, does not begin until after selection of the preferred alternative and approval of the project. However, the Hydraulics Unit should be involved during the project planning phase. Their input in the Project Study Report process is invaluable, particularly in recommending facility types and estimating costs of large facilities.

The Hydraulics Unit also should be involved in the environmental studies. Early coordination between the two functional groups is important. Many projects, by necessity, will include water quality enhancement features or encroach on wetlands, floodplains, etc. When flood plain encroachment is involved the Hydraulic Unit should be involved in preparing the location hydraulic studies. Historical drainage maps often depict the extent of the encroachment and help determine which project alternatives should be considered. Documentation of these features must be included in the Draft Project Report.

Design

Preparation of the Drainage Report by the Hydraulics Unit following project approval usually signifies the start of detailed drainage design. This report covers rainfall, runoff, existing flood records, gauging stations, debris and any other pertinent drainage information. The report is transmitted to the PE so that pertinent drainage design can be started. See Chapter 14, Section 1, Article 1.

Inclusion of necessary drainage information in the PS&E is the responsibility of the PE. To effectively carry out this responsibility, the PE should maintain communication with,

and involvement by, the Hydraulics Unit in the various elements of the drainage design. Although it may not be feasible for the Hydraulics Unit to perform the drainage design, the more complex types of analyses should, at a minimum, be thoroughly reviewed by the Hydraulics Unit. Some of the items that necessitate Hydraulics Unit involvement are:

- Storm drain design and calculations
- Drainage basins exceeding 130 hectares
- Hydrograph development or routing
- Open channel modification or realignment
- Retention or detention basins
- Backwater analysis
- Situations with high potential for flood damage litigation
- Scour analysis or sediment transport
- Culvert designs greater than 900 mm in diameter
- Encroachments onto FEMA floodplains
- Modifications to inlet or outlet capacities on existing culverts or drainage inlets (e.g., placement of safety end grates, modification of side opening inlets to grated inlets, etc.)
- Unique hydraulic design features (e.g., energy dissipater design, pumping stations, siphons, etc.)

Hydraulics Unit involvement in the design process will ensure that proper drainage design methodology and material are utilized, that the design conforms to policy, and that other specialty units such as Structures Hydraulics are involved as necessary.

To facilitate this involvement, the Hydraulics Unit should comment on proposed geometrics, typical sections, contour grading, erosion control, bridge or drainage structure General Plans, etc., as they are developed. The Drainage Report, when finalized by the Hydraulics Unit, should be included by the PE in the Resident Engineer's File.

Structures Hydraulics

The Hydraulics Unit in the Division of Engineering Services (DES) evaluates hydraulic issues (scour potential, waterway adequacy, etc.) as they relate to bridges. They typically should become involved on a project at the time of the Advance Planning Study (APS) for the bridge. Lead time is crucial for completion of their studies. Not every APS requires a complete hydraulic analysis. Contact the DES Project Functional Manager as early as possible for assistance when a hydraulic evaluation is required to determine the scope of the hydraulic evaluation.

SECTION 10 - Construction

General

The Construction Unit is responsible for administering a construction contract for the construction of the project by a contractor to ensure that the final product is in accordance with the plans and specifications, and to deal with any problems that arise in the process.

Reference

Refer to the *Construction Manual* for information on the construction phase.

Project Development Team Member

The Construction Unit is included as a member of the Project Development Team to ensure that construction issues and safety design are considered from project initiation through project design.

Project Planning

The Construction Unit should review the alternatives during the project initiation phase to determine if they are buildable.

During environmental and project studies the Construction Unit should be involved in the determination of measures to reduce or mitigate construction impacts.

Design

During the design stage the Construction Unit should review the project plans and specifications for such things as construction safety, logical staging, the analysis of the number of working days, and special provision usability. If there is a Transportation Management Plan (TMP), the Construction Unit will be heavily involved in its implementation.

It is prudent to review traffic handling design plans with an experienced Resident Engineer (RE) for projects in areas subject to extreme weather.

Prior to the start of construction the Project Engineer (PE) finalizes the RE Pending File. See Chapter 15, Section 2, and Appendix GG.

Preconstruction Consultation

Prior to start of construction, the PE, along with other involved district units, will go over the project with the RE. The review at this stage will aid in clearing up reasons for design decisions and commitments such as: - right of way obligations - signing and traffic handling - materials sites - selected material - foundation treatment - potential slides -

environmental commitments - drainage - potential maintenance problems - erosion control - public notification - proprietary materials - special considerations in contract provisions - etc.

Contract Design Changes

On almost all construction projects, developments in the field will necessitate some design changes. For early resolution of these changes, it is essential that there be timely and effective coordination between the RE, the Project Manager (PM), the PE, and other district units that have a direct interest in the project. It is Caltrans' policy to allow only those changes that are required to complete the work as contemplated at the time the plans and specification were approved. The Design Coordinator must still approve any exception to mandatory design standards.

Project History File

After completion of the construction contract the PM is responsible for gathering the construction contract records from the RE and the project planning and design data from the PE to put in the Project History File.

SECTION 11 - Maintenance

General

The Maintenance Unit will be responsible for maintaining the highway facility once the project is complete. It is essential that the Maintenance Unit be involved in the project development process from conception through construction.

Division of Maintenance is the lead program and "first responder" for disaster response and emergency projects. Emergency projects are initiated in Maintenance and if restoration design is needed, the projects are transferred to Design.

Reference

Refer to the *Maintenance Manual* and the *Major Damage Restoration Handbook* for details on maintenance of the facility.

Project Development Team Member

A Maintenance representative must be assigned to all Project Development Teams (PDTs) to insure that maintenance issues and safety design are considered. Preferably, the representative should be the field person most familiar with the project site.

Project Planning

Typical Maintenance involvement would be to comment on features such as the following:

- Drainage patterns - particularly known areas of flooding, debris, etc.
- Stability of slopes and roadbed: Can the project be built and maintained economically?
- Possible material sites
- Concerns of the local residents
- Potential erosion problems
- Facilities within the right of way that would affect alternative designs
- Special problems such as deer crossings, endangered species, etc.
- Traffic operational problems such as unreported accidents, etc.
- Facility that is safe to maintain

In addition to participation on the PDT, the Maintenance Unit should review all major engineering reports such as the Project Study Report, Draft Project Report, Project Report, etc. The Unit should address the previously listed concerns, plus known environmentally sensitive areas.

Maintenance generates DAF's for emergency work.

Design

The Maintenance Unit should also review the proposed geometric layouts, typical sections, and final plans. Maintenance Units may have input on shoulder backing materials, drainage, erosion problems, access to buildings, access for landscape facilities, access to encroachments for utility facilities, access for maintenance of noise barriers, fence and excess land review, etc. Maintenance Units should also participate in the preparation of maintenance agreements (setting maintenance control limits).

The Maintenance Unit field representatives have a unique insight to local problems and maintenance and safety concerns. This insight must be utilized in the project development process. As the last link in the process, give the Maintenance Unit a chance to minimize future maintenance problems and potential lawsuits.

SECTION 12 - Landscape Architecture

General

The district's Landscape Architecture Unit is responsible for the implementation of Caltrans' policies, procedures, and programs for Highway Planting and Restoration, Safety Roadside Rests, Roadside Enhancements (e.g., Vista Points, Historical Markers), erosion control, revegetation, wetlands/habitat restoration, and may in some cases be responsible for implementing policies, procedures, and programs for Transportation Enhancement Activities (TEA), Environmental Enhancement and Mitigation (EEM), Transportation Art, Scenic Highways, and Blue Star Memorial Highways.

In addition, the district's Landscape Architecture Unit provides functional support to the Project Development Team for a wide variety of projects that include, but are not limited to, highway construction, multi-modal transportation facilities, Park-and-Ride lots, noise barriers, maintenance stations, toll plazas, and other projects requiring expertise in scenic resource evaluation, visual impact assessment, aesthetics, natural resource protection and mitigation, roadside vegetation management, water conservation, storm water quality requirements, and community involvement.

Reference

Refer to Chapter 29 of this manual for more information on Landscape Architecture and policies and procedures regarding Highway Planting and Restoration, Safety Roadside Rests, Vista Points, Aesthetics, Transportation Art, and Blue Star Memorial Highways.

Project Development Team Member

A representative of the Landscape Architecture Unit is offered the opportunity to serve as a member of the Project Development Team on all projects and is a required member for planting, roadside rest and noise barrier projects.

Project Planning

Early and continuous involvement by the Landscape Architect is essential for identifying and resolving project issues that can affect project schedules and estimates, construction, and maintenance considerations.

It is essential that the Project Manager and the Project Engineer be aware of potential involvement by the District Landscape Architect (LA) on all projects, except for routine maintenance and repair projects. During the project study phase, at a minimum, the District LA is given an opportunity to review the aesthetics of a project design and potential changes to the visual environment. Major involvement includes consideration for new highway planting, replacement planting and irrigation modification, and erosion control required as a result of highway construction, and environmental mitigation involving native planting revegetation and wetlands/habitat restoration.

The LA should provide consultation on access and safe working conditions for vegetation management, site planning, and pedestrian accommodation. The LA will be responsible for coordinating initial highway planting and aesthetic reviews, assessing visual impact, and for providing input to the project study process.

The scope of aesthetic reviews and visual impact assessments should include, but is not limited to, consideration of the following:

- Preservation of the natural environment
- Scenic resource determination
- Location, alignment, and profile of the highway or interchange
- Structures such as bridges, buildings, and noise barriers
- Utility hardware
- Contour grading, drainage, slope treatment, and planting.

During preparation of environmental documents, the district's Landscape Architecture unit participates in the development of environmental mitigation, focusing on suitability, constructability, cost effectiveness, and maintainability. This is particularly important when Caltrans' mitigation proposals have been developed to satisfy permit requirements established by federal, State, or local agencies.

The Landscape Architecture Unit takes part in public participation activities for the purpose of receiving public input and communicating Caltrans' policies regarding programs and issues identified under the heading "General" above.

Design

During the design phase of highway projects the Landscape Architecture Unit reviews the proposed geometrics and provides information on prevention of storm water pollution, replacement planting, irrigation system modifications, and erosion control. The Landscape Architecture Unit also conducts an aesthetics review of the project when requested and a summary of recommendations and actions.

The Landscape Architectural Unit prepares the final Plans, Specifications & Estimate to be submitted with the engineering package or as a separate project for contract advertisement.

SECTION 13 - Utilities

General

Most transportation projects affect existing utilities or are constructed close to them. These utilities must be identified and located, and may need to be relocated prior to construction or protected during construction. The Utilities Relocation Unit in the district Right of Way Branch, through the assigned Utilities Coordinator, is responsible for coordination and negotiation with the Utility Companies involved to determine the location of facilities and to determine responsibility for relocation costs, to decide who does the relocation, to identify design requirements for any work that must be included in the project's contract plans, and to negotiate utility agreements with the companies.

Reference

Refer to Chapter 17 and Appendix LL for the treatment of utilities within the right of way. See the *Right of Way Manual – Chapter 13 "Utility Relocation"* for details on utility relocation.

Project Development Team Member

If significant utility investigation and relocation are involved, a representative of the Right of Way Utilities Unit may be added to the Project Development Team.

Project Planning

The Utilities Unit provides utilities information and estimates for the R/W Data Sheet (see Appendix JJ for an example). If extensive Utility relocation may be required by any of the viable alternatives under consideration, a thorough investigation of the relocation requirements must be done during the project initiation phase to obtain realistic costs and schedules.

Design

The Right of Way Utilities Unit should assist the PE in verifying the location of all existing utilities. Under normal procedures, the PE plots all known utilities that can be identified from field inspection, as built plans, encroachment permits, files, etc. The Utility Unit then transmits the maps to the various utility companies for checking and for the addition of any facilities not shown on the maps.

The location of all utilities must be shown on the contract plans. If any of the utility facilities are to be relocated after award of the highway contract, both existing and proposed locations must be shown. This is necessary to protect the State in accordance with Section 4215 of the Government Code.

Any necessary coordination with Utilities Companies is done through the Utilities Unit and the Utilities Coordinator. Each district has appointed Utilities Coordinators to implement Caltrans policies on the relocation and removal of utility facilities to clear transportation projects.

When utilities are located within the limits of a project, a determination must be made whether relocation is required either outside of the right of way or within the right of way to avoid conflict with planned construction. Policy concerning utility encroachments within the right of way is discussed in Chapter 17.

Some responsibilities of the PE and the Utility Coordinator during the design phase of a project are discussed in the "Policy on High and Low Risk Underground Facilities Within Highway Rights of Way" in Appendix LL. The PE and Utility Coordinator must provide for a clear and safe right of way through proper placement, protection, relocation, abandonment or removal of underground utility facilities that may pose a safety risk to the highway worker or user.

The PE must be sure that copies of Utility Relocation Plans and Notices to Relocate are included in the RE Pending File. (Refer to Appendix GG.)

SECTION 14 - District Office Engineer

General

The District Office Engineer (DOE) Unit is responsible for insuring that the project design is complete, biddable and buildable. The DOE Unit is expected to ensure the completeness, quality and consistency of all Plans, Specifications and Estimates (PS&E)s submitted to the Division of Engineering Services (DES), Office of Office Engineer (OOE) for processing, regardless of their origin (e.g. District, DES Structures Design), consultant, local agency, etc.). The DOE Unit is also responsible for ensuring that PS&E submittals are prepared and processed in conformance with Caltrans policies, procedures and standards and with the *RTL Guide* issued by DES-OOE.

References

Refer to Chapter 14, Section 3; Chapter 15, Section 1; Chapter 20, Section 3, Article 7; and Appendix AA, Section 1, of this manual and the PS&E Guide for further information.

Project Planning

During the project planning phase, the DOE Unit advises the Project Engineer (PE) and Project Manager (PM) on the buildability and biddability of the various alternatives, and provides unit prices for estimates.

Design

The DOE Unit advises the PE and PM during the design phase concerning the preparation of the special provisions, identification of contract items, estimating of costs, and the establishment of schedules for completion of PS&E and advertising the project.

PS&E prepared for remediation of hazardous waste in accordance with a Remedial Action Design is processed by the DOE so that the work can be done in a preliminary contract prior to advertising the prime project.

Preparing Contract Documents

The DOE Unit is responsible for combining the structures PS&E package with the district PS&E package so as to have one combined PS&E package. The DOE Unit is responsible for notifying the DES-Structure Design two weeks prior to submitting a combined PS&E to DES-OOE.

The DOE Unit is responsible for the completeness, quality and consistency of PS&E submittals to DES-OOE and for verifying that the design is complete and the project is biddable, and buildable. Submitting all projects to DES-OOE as "qualified" projects is a goal of Caltrans for each district. "Qualified" projects are projects with PS&E that are

sufficiently complete and accurate that they can be used as final contract documents with minimal processing by DES-OOE.

The DOE Unit is responsible for submitting a current Right of Way Certification Letter, justification and approvals for deviations from adopted standards and policies; copies of permits and agreements with other entities, materials information, and other documents affecting the contractor's performance of the contract, all with the PS&E submittal, or at the earliest possible date following the PS&E submittal to DES-OOE.

DES-OOE's draft contract comments, and issues needing resolution, are sent to the DOE Unit for district review and response.

Preparing to Advertise

For all Caltrans projects except for Minor B projects, DES-OOE sets a "Ready to List for Advertisement" (RTL) date after determination that the contract documents have been prepared complete and accurate as to all engineering requirements (PS&E ready) and legal requirements (constraints cleared). If funding has been obtained DES-OE schedules the project advertisement.

After the contract documents are reproduced, DES-OOE returns a set of plans marked in red - "redline" plans - to the DOE Unit indicating any changes that have been made to the plans.

Addenda

Addenda are used to effect any changes to the contract requirements of advertised projects. They are used and distributed to all concerned parties prior to bid opening and should only correct significant errors, omissions, and conflicts. If the PE determines the need for an addendum, a request for approval to issue an addendum is prepared (see the *PS&E Guide*). Concurrence is obtained from the DOE Unit and the PM, and if appropriate from the Design Coordinator and FHWA and other appropriate organizations. Approval is by the Deputy District Director for Design. -OOE- DES issues the addendum after approval. The request for addendum must be received by OOE-DES a minimum of three weeks prior to bid opening, if there are plan sheet changes, and two weeks prior to bid opening for other changes, in order to avoid postponing bid opening and delaying the project.

After bid opening, changes can only be accomplished by readvertising as a new project or by contract change order during construction.

CHAPTER 4 - Programming

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CHAPTER 4 - Programming

ARTICLE 1 - General

Definition

Programming is the process by which a public agency or a private company identifies specific funds for a project, based on a projection of revenues expected to be available at a specific time in the future.

Programming Documents

Most State and federal revenues are programmed into the following documents:

- State Transportation Improvement Program (STIP)
- Traffic Systems Management (TSM Plan)
- State Highway Operation and Protection Program (SHOPP)
- Toll Bridge Program

Caltrans, regional and local agencies, and the California Transportation Commission (CTC) all have a role in developing these documents. The Programming Division submits some of these documents to the CTC for approval, some for adoption, submits recommendations to the CTC on others, and provides some documents to the CTC for informational purposes only.

County sales-tax authorities program their projects in Expenditure Plans, Strategic Plans, Plans of Finance, or other documents that are similar to the STIP.

Local agencies program their projects through a variety of documents; however, when their projects involve State highway work, funding is often based on a commitment of funds from developers, or on establishment of an assessment district.

Revenues

Revenues for transportation improvement projects are generated from a variety of sources. The primary traditional sources for Caltrans' projects are State gasoline and diesel fuel taxes, vehicle weight fees, and federal revenues. Additional sources include sales tax measures, local funds other than sales taxes, and private funds.

Fund Estimate

The Fund Estimate's statutory purpose is to project how much funding is reasonably expected to be available for adding projects to the State transportation programming documents. Most of the State and federal funding sources identified in the previous paragraph are used to prepare the Fund Estimate. The Fund Estimate covers all the State's transportation programs and statutory funds: State Highway Account, Passenger Rail and Clean Air Act Bond Fund, Transportation Planning and Development Account, Aeronautics Account, Clean Air and Transportation Improvement Bond Fund (Proposition 116), and the Toll Bridge Accounts.

State and federal resources are projected for each of the seven years covered by the Fund Estimate. A projection of non-capital expenditures and committed capital programming are subtracted from available resources, and the remaining resources in any given year, if greater than zero, are available for new programming.

ARTICLE 2 – State Legislation and Guidelines

Transportation Blueprint Legislation

The California Transportation Blueprint legislation (Chapter 105 and 106, Statutes of 1989) significantly changed the transportation programming process. A 10-year transportation funding plan was established that directed the distribution of new revenues (including proceeds of passenger rail bonds) to the various transportation program elements.

The legislation also changed the State Transportation Improvement Program (STIP) process by requiring adoption of a 7-year biennial program rather than a 5-year annual program.

Criteria for Funds Distribution

Section 188 of the Streets and Highways Code (the north-south split) legislates that 40% of certain defined funds be programmed for the 45 Northern California counties and the remaining 60% be programmed for the 13 southern counties. Section 188.8 of the Streets and Highways Code legislates that 70% of these same funds be distributed among the counties according to a formula based 75% on county population and 25% on State highway miles within the county. As defined in other statutes, these funding requirements apply to some of the transportation programs and fund types, but not to others.

Section 14529.6 of the Government Code prioritizes programming and funding of State highway projects in the following order:

1. Operation, maintenance, and rehabilitation of the State Highway System.

2. Safety improvement without adding new lanes.

3. Flexible congestion relief, traffic system management, interregional roads, and public guideways

4. Environmental enhancement and mitigation

5. Compatibility improvements, including landscaping and noise barriers.

Major vs. Minor Project Programming

The CTC has the authority to define the dollar amount that distinguishes a major project from a minor project. It uses this authority to change that amount as conditions require. Check with the Program Management Unit or the Design Coordinator for the most current limits.

Major State projects compete with each other on a statewide basis for prioritization by various programs and agencies. Priority Rating Sheets must be completed for Caltrans candidate projects. The sheets cover features such as cost, congestion, reduction in accidents, gap closures, public support, etc. Selected projects are ranked on respective program candidate lists. Candidate projects for STIP, Toll Bridge, SHOPP, and TSM Plans are prioritized and then programmed, after consideration has been given to the north-south split, county minimums, and other programming factors.

Minor State projects also compete with each other through priority lists. Each Caltrans district is given allotments each year; District Directors generally are authorized to decide which projects should be developed within these allotments, although some statewide minor programs are for specific purposes. Most Minor projects are classified as "Minor A" projects, and require CTC authorization for funding. Small Minor projects are known as "Minor B". The CTC has authorized Caltrans to match the "Minor B" limit to an amount equal to the lower limit of projects subject to the State Contract Act as set by the Director of the California Department of Finance.

CTC Project Delivery Strategy

By enacting Resolution #G-90-21, the CTC adopted a five-point strategy for project delivery, summarized as follows:

1. Highway projects must have a fully completed Project Report with project approval and a Final environmental document before they are eligible to be scheduled into the first two years of the STIP.

2. Transit projects must have a financial plan with a specific schedule for allocating funds before the project will be allowed to move into the first two years of the STIP.

3. If (a) Caltrans cannot deliver Project Reports within the schedule required for funding the first two years of the STIP or (b) is unable to deliver enough projects to utilize the funding estimated to be available in the first two years of the STIP: then regional and local agencies will be encouraged to submit STIP projects that can qualify as available for funding in the first two years

of the STIP and may be given access to available State project development funds, if appropriate.

4. Projects without a completed Project Report will be scheduled in years 3 through 7 of the STIP, with the understanding that they may be reintroduced into the first two years of the STIP when Criteria 1, 2, and 3 have been met and if the Fund Estimate still shows sufficient funding for allocation to those projects.

5. The commission will review projects in years 3 through 7 of the STIP during each off-year between STIP adoptions. to identify STIP projects that can be moved into the second year of the STIP in line for funding.

ARTICLE 3 – State, Regional, and Local Programs

STIP

The State Transportation Improvement Program (STIP) includes the six funding elements described in the titled paragraphs below. Projects are proposed for STIP programming in the Proposed STIP (PSTIP), in a Regional Transportation Improvement Program (RTIP), or in both types of documents.

The PSTIP is prepared by Caltrans and due by December 1 of odd-numbered years. The RTIPs are prepared by Regional Transportation Planning Agencies (see Figure 1 in Chapter 1) and are due at the same time. The STIP itself is adopted by the CTC by April 1 of even-numbered years.

The STIP does not include State highway projects that are 100% locally funded, nor projects funded through the State-Local Partnership Program described below.

A STIP project may not be carried forward to a succeeding STIP if its escalated cost exceeds 120% of the originally programmed amount — unless the CTC determines "that the project is the most cost effective of all the projects in the county that are not included in the program." Specific Caltrans approvals must be obtained in order to propose change to the cost, schedule, or scope of a project that is programmed. For a full discussion, see Chapter 6 of this manual. Changes to the STIP are approved by the CTC through the amendment process.

The six STIP funding elements are described below:

- Interregional Road System (IRS)

  This includes projects in the IRS plan, which was submitted to the Legislature by Caltrans in 1990. Projects must be on a system of specific routes defined in Sections 164.10 through 164.20 of the Streets and Highway Code and must be outside the boundaries of urbanized areas over 50,000 population or must meet the needs of interregional traffic, excluding needs

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generated by local growth. IRS projects are usually proposed in the PSTIP, not in the RTIPs.

- Flexible Congestion Relief (FCR)

  This includes capacity enhancing projects that are not part of the IRRS plan as well as TSM-type projects that are not included in the TSM plan. Projects on local roads and urban and commuter rail corridors, as well as on State highways, may be included. FCR projects on the State Highway System can be proposed in both the PSTIP and RTIP, but projects off the State Highway system are proposed only in the RTIPs.

- Retrofit Soundwalls (SND)

  This includes the retrofit noise barrier projects from a priority list identified by Caltrans in accordance with Section 215.5 and 215.6 of the Streets and Highways Code. Retrofit soundwall projects are proposed in the PSTIP and not in the RTIPs.

- Intercity Rail (IRR)

- Commuter Rail (CRR)

- Urban Rail Transit (URR)

These last three funding elements include rail corridor projects specifically identified in the legislation. Intercity Rail projects are included in the PSTIP, while the Commuter and Urban Rail Transit projects are included in the RTIPs.

The STIP also lists Transit Capital Improvement (TCI) program projects, Proposition 116 projects, and Transportation Enhancement Activities (TEA) projects.

The Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) established a separate new category of federal funding for transportation enhancement activities. The CTC has adopted guidelines to implement the TEA program in California, establishing a transportation enhancement activities sub-element of the Flexible Congestion Relief element of the STIP. These guidelines call for regional agencies to nominate projects of a regional nature in the RTIPs and for Caltrans to nominate projects of a statewide nature in the PSTIP. In the case of projects directly related to the State Highway System, the CTC may program the non-federal match from the State Highway Account.

TSM Plan

Caltrans prepares and submits the Traffic Systems Management (TSM) Plan to the CTC by December 1 of each year. It includes qualifying traffic systems management projects on State highways and local roads in major urbanized areas (including a consolidated priority list of projects submitted from local congestion management plans). The TSM Plan is not part of the STIP, but the CTC allocates the funds to projects on the TSM Plan priority list. Following passage of ISTEA, projects eligible for Congestion Mitigation & Air Quality Improvement Program (CMAQ) funding were made eligible for matching funds from funds appropriated for TSM purposes (see Article 4 of this chapter). Regional STP-funded TSM-type projects are also eligible for Sate matching funds.

SHOPP

The State Highway Operation and Protection Program (SHOPP) includes Rehabilitation and Safety (RAS) and Other Highway Construction (OHC) projects (non-capacity enhancing projects including TSM-type projects not included in the TSM plan). It also includes fund reservations for minor projects, seismic retrofit projects, and for other specific purposes. These projects are not included in the RTIPs.

The SHOPP is a 4-year biennial document prepared by Caltrans. It is prepared concurrently with the STIP. It is due no later than January 31 of even-numbered years and is approved by the CTC by April 1 of even-numbered years. The CTC only approves the level of funding in the SHOPP, not the individual projects submitted. Amendments to the SHOPP are approved by the Programming Division Chief and submitted to the CTC for information only.

Toll Bridge Program

The Toll Bridge Program is similar to the STIP, but it includes projects funded by toll revenues collected from the four toll bridge groups — North Bay, South Bay, Vincent Thomas, and Coronado. The Toll Bridge Program is submitted to the CTC as a special element of the PSTIP. Changes to the Toll Bridge Program are approved by the CTC through the amendment process.

Other State Funding Programs

State-Local Transportation Partnership Program

The State/Local Transportation Partnership Program (SLTPP) was implemented to encourage local agencies to use their own resources to fund and construct transportation improvements, both on and off the State highway system. Partnership projects are nominated by the local agencies, and all eligible projects are placed on a statewide reimbursement list. Reimbursement is based on when the local agency applies and when they award the construction contract for the project. Projects may not qualify for this program if they receive State funds from any other program.

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Environmental Enhancement and Mitigation Demonstration Program

The Environmental Enhancement and Mitigation (EEM) Demonstration Program uses funds allocated by the CTC for projects listed by the State Resources Agency. Projects may be proposed by local, State, and federal agencies, as well as nonprofit entities. Projects may include highway landscaping, acquisition or enhancement of resource lands for mitigation purposes, roadside rests, roadside recreational opportunities, and other projects for mitigating the impacts of transportation facilities.

RTIPs

Regional Transportation Planning Agencies (RTPAs) and/or County Transportation Commissions must prepare and submit Regional Transportation Improvement Program (RTIPs) for regions with urbanized areas. Some urbanized RTPAs coincide with the federal Metropolitan Planning Organizations (MPO). RTIPs are submitted to the CTC by December 1 of odd-numbered years, as input to the STIP process. For maps of MPOs and RTPAs, see Chapter 1, Figures 1 and 2, respectively.

Caltrans must prepare and submit district-based RTIPs as part of the PSTIP for the remaining RTPAs — unless an RTPA notifies Caltrans by July 1 preceding the date due that they intend to prepare their own RTIP.

Congestion Management Program

Every county that includes an urbanized area is required to have a Congestion Management Program (CMP) developed, adopted, and annually updated. The CMP for each county is prepared by an agency designated by the County Board of Supervisors and the City Councils representing a majority of the urbanized-area population. The CMP includes a 7-year capital improvement program and is included in the RTIP. State and local projects must be included in the CMP before they can be entered in the RTIP. See Figure 1 in this chapter for a map of the State's Congestion Management Agencies.

ARTICLE 4 – Federal Programs

ISTEA

The federal Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 changed federal funding categories, as well as many other aspects of federal involvement with the funding and approval of transportation projects.

Federal Funding Categories

ISTEA now classifies federal funding programs as follows:

- Interstate Completion (IC)
- Interstate Maintenance (IM)

- National Highway System (NH)
- Surface Transportation Program (STP)
- Congestion Mitigation & Air Quality Improvement Program (CMAQ)
- Highway Bridge Replacement and Rehabilitation (BR) or Discretionary BR (DBR)
- Hazard Elimination and Safety (HES)
- Emergency Relief (ER)
- Transportation Enhancement Activities (TEA)
- Other, such as Minimum Allocation, etc.

Old federal funding categories such as Federal Aid Secondary (RS) and Federal Aid Urban (FAU) are no longer used, except to complete projects with committed funding from these programs.

Nearly all federal funding requires State or local matching funds. The federal government limits the total amount of federal funds available to states on an annual basis as a control on federal spending, by specifying the authorized Obligation Authority (OA). Caltrans distributes the Obligation Authority between State and local federal-aid projects as equity and delivery dictate.

Regional Programming of Federal Funds

State and federal laws provide CMAQ and Regional STP federal funds to regional agencies and counties. The annual Caltrans budget provides matching funds for eligible projects. While regional agencies program most of these funds for the local system projects, some State highway projects have also been included in their programs.

These State highway projects are administered the same as any other Caltrans project. However, federal authorization to proceed must be received through the district Local Assistance Office before beginning preliminary engineering, right of way acquisition or advertising for construction.

Federal Programming Documents

Federal law calls for a different set of programming documents than State law. Each of the 15 Metropolitan Planning Organizations (MPOs) in California (see Chapter 1, Figure 1) is required to prepare and adopt a Transportation Improvement Program (TIP, federal TIP or FTIP). This is not to be confused with the RTIP required under State law to nominate projects for the STIP. Caltrans is also required to prepare a Federal State TIP (FSTIP), not to be confused with the STIP adopted by the CTC. The FSTIP incorporates each of the 15 MPO FTIPs and also covers the portions of the State that are not within the area of an MPO. Refer to Figures 2A and 2B.

The FTIPs and FSTIP must incorporate all projects to be funded with federal funds, including transit projects, whether programmed through the State STIP, SHOPP, or TSM Plan, or through the regional STP or CMAQ programming. For CTC-programmed projects, the State programming process defines the decision-making process, while the federal process documents compliance with federal law. Important programming

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requirements of federal law are that the federal TIPs must include evidence that they are constrained to the amount of funds reasonably expected to be available on an annual basis for a period of at least three years; they must include project priorities, at least on a fiscal-year basis; and they must be demonstrated to be in conformity with the air quality plan for the area. Due to air quality conformity requirements, locally funded projects are also listed in the federal documents. Federal funds will not be obligated for a project that is not included in a federally approved FTIP and FSTIP.

FIGURE 1 - Congestion Management Agencies (CMA)

FIGURE 2A - Plan and Program Relationships Under State and Federal Laws

PLANS

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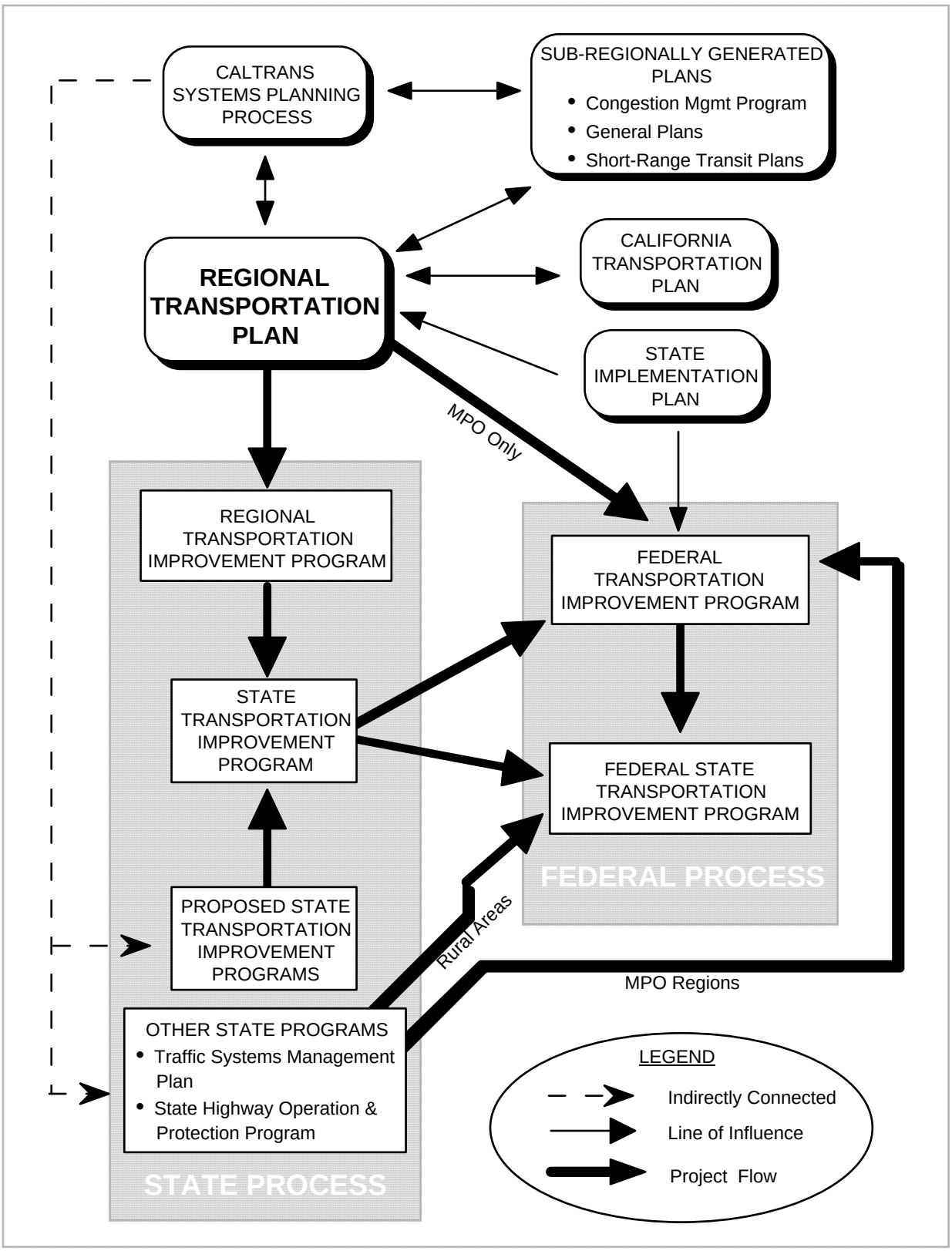
- **Caltrans System Planning Process:** Implemented by Caltrans Districts with input from other local and regional plans. Systems planning documents can become input to regional and subregional plans. They are also affected by changes in local plans and policies. Caltrans System Planning documents can include projects that are later listed in the PSTIP and other State programs.
- **Sub-Regionally Generated Plans**
  - ⇒ **Congestion Management Plans (CMP):** Required by State law and prepared by designated Congestion Management Agencies. CMPs affect and are affected by other local plans and the Regional Transportation Plan (RTP). CMPs must be consistent with RTPs and are a source for all projects listed in the RTIP.
  - ⇒ **General Plans:** Developed by cities and counties. They include a circulation element that incorporates information from CMPs, District Systems Management Plans, and RTPs. General Plans describe proposed land uses, goals, and strategies for quality-of-life issues.
  - ⇒ **Short-Range Transit Plans (SRTP):** Developed by transit agencies. They describe local transit conditions and needs. SRTPs can be input to an RTP. RTP goals and polices shape transit systems.
- **Regional Transportation Plans (RTP):** Developed by Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs) to provide a comprehensive long-range view of the transportation problems of a region and recommended solutions. RTPs have a 20-year horizon period and are required by State and federal law. For MPO RTPs, all projects in the Federal Transportation Improvement Plan (FTIP) must be described in the RTP. In nonattainment areas, MPO RTPs must conform to a State Implementation Plan.
- **California Transportation Plan (CTP):** Developed by Caltrans for all areas of the State. The CTP is a long-range plan submitted to the Governor.
- **State Implementation Plan (SIP):** Required by the Federal Clean Air Act of 1990 as amended. The SIP is an air quality plan developed by the California Air Resources Board in cooperation with local air districts for attaining federal clean air standards.

PROGRAMS

- **Regional Transportation Improvement Program (RTIP):** A seven-year list of proposed transportation projects submitted to the CTC by the RTPA as a request for State funding through the Flexible Congestion Relief and Urban and Commuter Rail Programs. Some RTIP projects may have federal funding components, in which case they will also appear in the FTIP once they have been selected for the STIP (see below).
- **Proposed State Transportation Improvement Program (PSTIP):** A seven-year program developed by the Caltrans, that includes projects developed through the Interregional Road System Plan, Intercity Rail, Soundwall, Toll Bridge, and Aeronautics programs.
- **State Transportation Improvement Program (STIP):** A seven-year list of transportation projects proposed in RTIPs and PSTIPs which are adopted by the CTC. Those projects that have federal funding components will also appear in the FTIP and FSTIP.
- **Other State Programs:**
  - ⇒ **State Highway Operation and Protection Program:** A program limited to projects related to State highway safety and rehabilitation..
  - ⇒ **Traffic Systems Management Plan:** A program of projects (e.g., restriping, metering, HOV, ridesharing, flexible work schedules, etc.) for better system utilization and operational efficiency.
- **Federal Transportation Improvement Program (FTIP):** A three-year list of all transportation projects proposed for federal funding under ISTEA within the planning area of an MPO. It is developed by an MPO and approved by the Director of Caltrans. In air quality nonattainment areas, the plan must conform to a State Implementation Plan.
- **Federal State Transportation Improvement Program (FSTIP):** A three-year list of transportation projects proposed for funding under ISTEA developed by the State in cooperation with MPOs and in consultation with local non-urbanized governments. The FSTIP includes all FTIP projects as well as other federally funded rural projects

FIGURE 2B - Plan and Program Relationships
Under State and Federal Laws



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ARTICLE 5 – State Budget Program Codes

Background

Since the 1987-88 fiscal year, the Caltrans annual budget has been controlled by the State legislature. Currently, the Legislature appropriates funds for Caltrans' use via the Budget Act, on a program-by-program basis. Programs are purpose-oriented goals: they are composites of activities that together result in a specific product or achievement for serving the public need. Each transportation project identified in a State programming document is tied to an appropriate program. Programs constitute the basis for Caltrans' annual budget and are major items in the Governor's Budget.

Code Definitions

The program-code structure was originally alpha-numeric; due to its familiarity, such a structure is still being used in many documents, although the State budget has for several years used a numeric coding structure that is maintained and updated annually by the Accounting Service Center. The program codes consist of ten numeric characters, as follows:

Positions 1, 2	Positions 3, 4	Positions 5, 6, 7	Positions 8, 9, 10
"Program"	"Element"	"Component"	"Task"

Positions 1 & 2 represent the Program.

20 = Highways

Positions 3 & 4 represent the Element.

10 = Capital Support
20 = Capital Projects

Positions 5, 6, &7 represent the Component. It reflects the Transportation Blueprint Legislation elements as follows:

101 = Flexible Congestion Relief (FCR)
102 = Interregional Road System (IRS)
103 = Retrofit Soundwalls (SW)
204 = Other Highway Construction (OHC)
205 = Rehabilitation and Safety (RAS)
207 = Environmental Enhancement and Mitigation (EEM)
300 = Traffic Systems Management (TSM)
400 = Locally Funded State Highway Projects (LOC)

Positions 8, 9, & 10 represent the Task. It reflects the old program codes, with some modifications:

Land, Buildings & Facilities Improvements (HA1)

111 = HA11 (Equipment Facilities)
112 = HA12 (Maintenance Facilities)
113 = HA13 (Office Facilities)
114 = HA14 (Toll Bridge Facilities)

Facility Restoration & Replacement (HA2)

221 = HA21 (Bridge Restoration & Replacement)
222 = HA22 (Roadway Rehabilitation & Restoration)
223 = HA23 (Major Damage Restoration and Emergency Opening)
225 = HA25 (Highway Planting Restoration)
226 = HA26 (Safety Roadside Rest Area Restoration)
227 = HA27 (Urban Freeway Median Barrier Retrofit)
228 = HA28 (Urban Freeway Off Pavement Access)

Protective Betterments (HA4)

310 = HA4S1 (Structures Seismic Retrofit - Phase 1)
311 = HA4S2 (Structures Seismic Retrofit - Phase 2)
312 = HA4S3 (Toll Bridge Seismic Retrofit)
320 = HA42 (Roadway Protective Betterments)

Safety Improvements (HB1)

400 = HB1 (Safety Improvements)

Compatibility Improvements (HB3)

511 = HB311 (Community Noise Program)
520 = HB32 (Highway Planting)
530 = HB33 (Safety Roadside Rest Areas)
540 = HB34 (Roadside Enhancements)

Operational Improvements (HB4)

610 = HB4C (Capacity Increasing Operational Improvements)
620 = HB4N (Noncapacity Increasing Operational Improvements)

HOV Facilities (HB5) or ADA (HB7)

700	=	HB5 (HOV Facilities)
711	=	HB711 (New Curb Ramp - ADA)
712	=	HB712 (Park and Ride Lot Modification - ADA)

Transit-Related & Ride Sharing Facilities

800	=	HB06 (Transit-Related & Ride Sharing Facilities)

New Highway Construction (HE1)

911	=	HE11 (New Connections/Cross Traffic Improvements)
912	=	HE12 (Upgraded Facilities)
913	=	HE13 (Lane Additions)
914	=	HE14 (New Highways)
920	=	HE2 (New Toll Bridge Construction)

The above examples are limited. See the *Coding Manual* for further program definitions and additional details.

CHAPTER 6 – Project Cost, Scope, and Schedule Changes

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CHAPTER 6 – Project Cost, Scope, and Schedule Changes

ARTICLE 1 – General

Caltrans' Goal

Caltrans' project delivery performance is judged on delivery of quality projects, on schedule, and within budget. Caltrans' goal is to excel at meeting these performance objectives, and to do so in a cost-effective manner.

Project managers shall ensure that each project has a documented review and update of the project's scope, cost and schedule, which is not more than one year old, included in the project's permanent history file. This documentation must be signed and dated by the project manager. The one-year requirement does not preclude the project manager from formally updating the scope, cost and schedule on a more frequent basis, such as at project milestones or if significant changes occur between milestones.

Also, any program change request (PCR) submitted to the Headquarters Division of Project Management for processing shall have a copy of this current documentation attached to the request.

Change Approval Authority

The Director has delegated departmental responsibility for approving changes in project scope, cost, and schedules to the Deputy Director for Finance. The Deputy Director for Project Development provides the necessary engineering evaluations of the district's proposed changes to guide these approvals. Approvals received through this process do not constitute a change in the programming documents. Changes in the programming documents occur either by amendments or through the normal programming process. It should be noted that only the CTC can change the programmed cost and programmed fiscal year for projects in most programming documents; the Division Chief of the Division of Programming approves amendments to the State Highway Operation and Protection Program (SHOPP).

District Responsible for Project Delivery

The Director has also delegated responsibility for project delivery to the District Directors. Caltrans has made a commitment to use a Project Management System to ensure that the individual projects are delivered on time and within budget.

Purpose of Procedures

The Scope, Cost and Schedule Management Procedures were developed to reflect Caltrans' commitment to deliver all programmed projects on schedule and within budget. They establish a process that ensures that decisions affecting delivery commitments are well documented and consider all possible alternatives. Value Analysis studies are recommended to avoid the need for a cost, scope, or schedule change. The procedures also establish delegation thresholds below which the District Director may approve changes.

Processing Change Requests

The *Project Management Handbook* and modifying memoranda provide details and format for requesting changes in project scope, cost, and schedule. Approvals delegated to the districts are also specified.

Procedures for Special Funded Projects

Procedures for management of the cost and schedule of special funded projects, which are not listed in a programming document, are provided for in the Cooperative Agreement for the project if done by Caltrans as reimbursed work, or otherwise is under the control of the local agency or private entity. Project scope must be in accordance with the project Cooperative Agreement.

ARTICLE 2 – Definition of Terms

Programming Documents

- State Transportation Improvement Program (STIP)
- State Highway Operation and Protection Program (SHOPP)
- Transportation System Management Plan (TSM Plan)
- Toll Bridge Program

Programmed Year

The State Fiscal Year (SFY) in which the project construction dollars are shown in a programming document or a subsequent amendment.

Programmed Cost

The sum of escalated construction and R/W costs as shown in a programming document or a subsequent amendment.

Current Project Cost

The most recent Right of Way (R/W) and Construction estimate for the project, as determined by the district. The estimate is unescalated and is tied to January 1 of the SFY in which the estimate is made.

Requested Project Cost

The current project cost — increased to account for inflation in future years. The Caltrans share of the current cost should be escalated as follows:

Construction Cost: Using escalation rates determined by the district, escalate the current project construction cost to the anticipated bid opening date. (This may be a different SFY than is indicated in the programming document.) The construction cost reflects the estimated cost to award the construction contract.

R/W Cost: The "Cost RW1-6" screens in the Project Management Control System provides escalated costs in the planned years of expenditure. The escalation rate indicated on the "Cost RW1" screen can be used to adjust costs should it be necessary to advance or delay the planned expenditure. For cost comparison purposes, sum the costs for the years included in the programming document.

Approved Cost

The programmed cost, or the requested project cost approved by the Deputy Director for Transportation Finance, or where delegated, by the District Director. This approved cost does not change the programmed cost. The approved cost provides input to the next programming cycle or is a basis for preparing amendments to existing programming documents.

Ready To List (RTL)

The date on which the Plans, Specifications, and Estimate (PS&E) is complete and all other requirements (such as certification of R/W, permits, and agreements) have been met. Achievement of the Ready to List (RTL) milestone is not affected by unavailability of funds or delayed advertisement for construction season windows.

Project Advertisement

The date on which the project is advertised for construction bids.

ARTICLE 3 – Scope Changes

Scope Approval

The District Director (or delegated Deputy District Director) approves the project scope, as defined in the Project Initiation Document (Chapter 9, identifies Project Initiation Documents). Once a project is programmed, any changes to the scope may require an amendment of the programming document.

Supplemental Project Development Reports

Any changes in scope should be discussed with the Design Coordinator and appropriate HQ program advisor prior to requesting approval. A determination should be made regarding the need for a supplemental project development report. Examples of minor and major scope changes follow:

Minor Scope Changes

Minor scope changes usually do not require amendments to the programming document.

- Small changes to project limits
- Eliminating work that is not required to solve the transportation problem
- Providing required shoulders or safety features
- A change in the engineering solution to the transportation problem. (e.g., for a pavement rehabilitation project: changing from crack, seat, and overlay — to overlay)

Major Scope Changes

Major scope changes may require amendments to the programming document.

- Large changes to project limits
- Adding work that is not required to solve the transportation problem
- Adding lanes
- Not providing project features as defined in the programming document
- Eliminating work that will need to be reprogrammed in the next programming document cycle

ARTICLE 4 – Cost Changes

Source of Funding

All cost increases greater than $300,000 must include a plan outlining how the required funds will be obtained. It should be noted that trade-offs can only be used between projects listed in the same programming document; in some cases the projects must be in the same county.

Right of Way Involvement

To ensure that current R/W costs are included in total project cost calculations, R/W staff should be contacted on all projects being reviewed for cost changes or where R/W requirements have changed.

Determination of Cost Change

A cost change approval is required if the requested project cost - the sum of the escalated construction and R/W cost - exceeds the sum of the programmed cost for construction and R/W as indicated in the latest adopted programming document or approved amendment. Approval should also be requested for project deletions and significant cost reductions.

General Rules

Cost management for the following programs is handled on a statewide basis by the Division of Programming:

- Lands and Buildings Program
- Retrofit Soundwalls Program (District 7 authorized to manage their own)
- Traffic Systems Management (TSM) Plan
- Toll Bridge Funded Program

The Regional Transportation Planning Agency position is needed when considering cost increases on STIP projects.

Due to county minimum requirements, it is best to exercise cost management within individual counties; however, it is recognized that this is not always possible. This should not be a problem for the large counties, but could be relevant in counties with small programs.

The following factors should be considered when applying savings from one project to cover increases on another:

- A transfer of savings should remain within the same programming document.

- Eligible savings are limited to the difference between programmed amount and request for funds (proposed vote by CTC). In cases where the source project is not ready for funding, the savings is the difference between the programmed amount and the requested project cost – the current project cost escalated to fiscal year of advertising. Both construction and R/W costs need to be evaluated to determine savings and a PCR must be processed.

- Savings between voted amount and contract award are not eligible for use in these cost management procedures. These savings are used to manage the cost increases after initial vote by the CTC. Districts have not been asked to identify funding sources related to bids being higher than the initial vote, or for changes that occur during the construction contract.

- Adoption of new programming documents establishes a new base and period for the transfer of savings. Savings on projects voted prior to the adoption of new programming documents are no longer eligible for application to other projects.

- Savings on an individual project of $300,000 or less are not eligible for applying to another project. This is because districts are not required to identify funding sources for cumulative cost increases below $300,000.

- Savings due to project deletions are available as funding sources. A project deletion request must be transmitted to the Programming Program for processing and approval purposes. See PDPM Chapter 9.

Cost Change Balance Sheet

District Program Management or Project Management are responsible for maintaining a separate balance sheet for the SHOPP and STIP programming documents. Individual projects are listed with their cost change indicated.

The balance sheet provides a continuous record of changes from the latest programming documents. A copy of the balance sheet should be submitted with each cost increase request.

ARTICLE 5 – Schedule Changes

Schedule Commitments

Caltrans' programming documents establish a fiscal year commitment for construction funding of individual projects. The CTC staff and others evaluate our ability to meet our construction commitment.

Another delivery commitment is the Annual Project Delivery Schedules Report (Operational Plan) which establishes dates for the "RTL" and the "Advertising" milestones. Programming documents and the Annual Project Delivery Schedules Report are used as a base for schedule control purposes.

The Annual Project Delivery Schedules Report was established to assist in managing individual project schedules. For a few projects, the Report's schedules may be earlier or later than the programmed year. In these instances, the commitment to the programming document takes precedence and Caltrans must fully justify late delivery of applicable projects. The Report represents departmentally approved schedules and is the base from which changes are to be requested.

If the current schedule for the "RTL" milestone dates is later than the delivery schedule dates, a schedule change must be approved by the district or Headquarters.

Monthly Report to District Directors

In order to track delivery accomplishments, a monthly report is distributed at the monthly District Director's management meeting. The report compares the target in the Annual Project Delivery Schedules Report against actual accomplishments for the "RTL" milestone.

ARTICLE 6 – Database Management

Timely Changes

It is important for the districts to keep the PMCS database current. HQ staff must be informed of district changes, including scope, cost, schedule, splits and combines, etc., so that the appropriate files and documents can be updated.

CHAPTER 7 – Uniform File System

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CHAPTER 7 – Uniform File System

SECTION 1 – General Guidelines

Overview

This section provides an overview and rationale for the Project Development Uniform File System. Chapter 7, Section 2, provides a directory and instructions for the project development records that are filed in the Uniform File System.

Responsibility for Managing the File System

The Uniform File System is to be used for all Caltrans projects – regardless of the size or type of project. The originating unit should start the file system as soon as preliminary studies can identify the project. The originating unit may retain copies of material needed for backup on their own studies, but the basic categorized file should be transferred to the Project Engineer (PE) at the appropriate time.

For projects that are transferred between districts or the Office of Central Design, the source district and the consulting unit should determine, at the time of transfer, how their respective units will maintain the project's file system. Local agencies and private consultants shall use the Uniform File System classification scheme for any records exchanged with Caltrans.

Filing Strategies

Many letters and reports cover more than one project issue. Consequently, items will be classified and filed according to the source that generated them, rather than by subject. (Filing by subject area would result in extensive duplication of materials because correspondence and reports would have to be updated for all relevant subject areas.)

The PE should use personal discretion when creating sub-categories for filing purposes. Large projects generate enough correspondence in some categories to require creation of subcategories. No master index will be required, as the categories in the Uniform File System provide adequate identification for timely retrieval.

Projects that are staged into separate contracts for construction (e.g., for grading, paving, or structures) should share the same project file. Material should be duplicated for the respective Resident Engineer's file, but the Project History File (permanent project file) should not be assembled until after completion of all stages.

Projects considered to be initial development for an ultimate future project (e.g., initial two-lane expressway to be expanded to full freeway) should have their own, completed

Project History Files. The files should include sufficient data to allow for the future project development – even if the work is not yet programmed.

Projects that are split from larger projects into more manageable segments, should stand on their own: a Resident Engineer's file and a permanent Project History File should be assembled for each segment. It is prudent to break out or duplicate material at an early date, for use as a working file for the PE, and as a source for subsequent files.

Project History File

A Project History File (the permanent project file) should be compiled for all completed projects. The file consists of selected project development records and final project construction records. These are to include all letters, memos, reports, etc. that document project decisions, or that would be useful (or required) to develop a subsequent project.

The Uniform File System Directory (Chapter 7, Section 2) indicates which project development records should be included in the Project History File. The Legal Division has approved these designated items, and the file should not be cluttered with routine records not officially designated for inclusion.

When the construction project is completed, the PE should initiate assembly of the Project History File by transmitting designated records to the Construction Unit. The Construction Unit should either compile the Project History File or transmit the data to the assigned district unit for compilation. The completed Project History File should be permanently filed in a convenient, central file location within the district.

As-Built Plans

Caltrans maintains as-built plans to assist in the development of future projects, and to minimize possible litigation involving construction claims and exposure to tort litigation. Electronic as-built plans will be archived in the Document Retrieval System.

SECTION 2 – Directory and Instructions

Overview

These instructions pertain to the directory for the project development records that should be filed in the Uniform File System. The directory follows these instructions.

"Category" Heading

The first heading in the directory is "CATEGORY." The Project Development Uniform File System has six major categories, as follows:

100	Project Control
200	Project Approval Process
300	External Project Design Correspondence
400	Intra-District Project Design Correspondence
500	Contract Preparation
600	Project Miscellaneous

These categories shall be used for all projects, regardless of size. Major projects shall use the complete system as shown. Smaller projects, with limited amounts of correspondence, may not require the total breakdown.

"Record Type" Heading

The second heading in the directory is "RECORD TYPE." This column describes the material to be included in each category.

"PHF" Heading

The third heading (PHF) stands for "PROJECT HISTORY FILE." This column indicates if the record should be filed in the Project History File.

Explanation of Categories

Category 100 covers project control.

Category 200 is a resource file covering the Project Approval Process. The file should contain only the specified documents and should not be cluttered with routine correspondence. All routine correspondence leading to the various project approval documents should be filed in Categories 300 and 400, as applicable.

Category 300 should contain correspondence between all district sources and external sources, except as noted above. Copies of project correspondence between HQ units should be filed under Category 310.

Category 400 is a source file to contain correspondence between district units.

Category 500 should contain all plans and calculations for design. Preliminary studies and plans should be filed in Category 200. All other plans, whether flat filed in drawers or rolled and placed in bins, are labeled with the appropriate Category 500 breakdown. Likewise, calculation sheets, whether in binders or file cabinet folders, should be labeled accordingly.

Category 600 covers miscellaneous items and is self-explanatory.

Oversized Materials

Attachments to letters that are too bulky for filing in regular files are referenced to the letter by date and category breakdown and then filed in separate envelopes or bins with the appropriate index label.

File Folders, Index Tabs, Filing Strategy

Index folders or index tabs are not furnished by Headquarters. The following file system directory pages may be reproduced and filed with the project file. Index tabs can be used to identify the six major Uniform File System categories. Copies of the file system directory can be used as dividers, providing a handy reference for correct filing and compilation of the Project History File.

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (100 - 143)		
CATEGORY	RECORD TYPE	PHF
100 PROJECT CONTROL		
110 EXPENDITURES		
111 Expenditure Authorizations	111.01 Planning phase (0)	X
	111.02 Design phase (1)	X
	111.03 Construction phase (3)	X
	111.04 Other phases as needed	X
	111.08 FNM-76 Requests	X
112 Personnel Costs	112.01 Project Design Costs	X
	112.02 Final Project Design Costs	X
	112.02 Other department costs, Final Project Costs	X
120 DESCRIPTION		
121 Project Description	121.01 Project Description and how determined	
122 Post Mile Determination	122.01 Calculations & backup data	
130 PROGRAMMING AND PROGRESS		
131 Programming Data	131.01 RTIP, PSTIP, STIP, SHOPP, TSM, etc. for project	
132 PYPSCAN	132.01 PYPSCAN milestone dates	
	132.02 Schedule Calculations	
	132.03 Schedule Change Approvals	X
133 Progress Reports	133.01 Monthly Project Progress Charts	
140 PROJECT COST ESTIMATES		
141 Project Cost Estimates	141.01 Log of Project Cost Estimates	
	141.02 Cost Estimate Backup Data	
142 Project Cost Increase	142.01 Cost Change Approvals	X
143 Miscellaneous Project Estimates	143.01 Study Estimates for Project Alternatives, etc.	

PHF = Project History File

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (200 - 223)		
CATEGORY	RECORD TYPE	PHF
200 PROJECT APPROVAL PROCESS		
210 PRELIMINARY STUDIES		
211 Project Initiation	211.01 Documents that identify the problem	X
	211.02 Feasibility, Justification or Concept Report	X
	211.09 Approvals to proceed	X
212 Project Authorization	212.01 PSR, PSSR, NBSSR, PSR/PR, etc.	X
	212.09 Concept Approval	X
	212.10 Scope Change Approval	X
	212.19 CTC Long Lead Time Concurrence	X
	212.29 Approval to Cease Work	X
213 Planning Studies	213.01 Written notice of Initiation of Studies	X
	213.02 Corridor or Route Location Studies	X
214 Alternatives	214.01 Preliminary Plan and Profile Studies of Alternatives	
	214.02 Impacts of Alternatives	
	214.09 Approval of Alternatives	
220 PROJECT DEVELOPMENT TEAM		
221 PDT Assignments	221.01 Authorizing Assignment Letter	
222 Project Category Assignment	222.01 Determination of Project Category, Major/Categorical Exclusion, Significant/Non-Significant	X
223 PDT Meeting Memos	223.01 Minutes or memos	
	223.09 Project Approval memos by PDT	X

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (230 - 244)		
CATEGORY	RECORD TYPE	PHF
230 ENVIRONMENTAL		
231 Draft Environmental Document	231.01 Environmental Assessment	X
	231.02 Circulated Draft & cover letter	X
	231.03 Written notice of EIS preparation	X
	231.04 Published technical reports	X
	231.05 Floodplain Evaluations	X
	231.06 Draft 4(f) Document	X
	231.09 Approval to Circulate	X
	231.10 Mailing list	X
232 Final Environmental Document	232.01 Distributed Final and Cover Letter	X
	232.09 Approval to distribute	X
	232.19 Findings and Notice of Determination	X
	232.29 Record of Decision or FONSI	X
	232.30 Mailing list	X
233 Public Notices of Availability	233.01 Public notices from newspapers	X
	233.02 Copy of Federal Register entry	X
234 Scenic Highway	234.01 Scenic Highway Study	X
	234.09 Approvals	X
240 PROJECT APPROVAL		
241 Project Work Plans	241.01 Copies of Project Work Plans	
242 Draft Project Report	242.01 Drafts with intradistrict comments	
	242.02 Draft Project Report	X
243 Preferred Alternative	243.01 Preferred Alternative Selection	X
244 Project Report	244.01 Project Report	X

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (245 - 262)		
CATEGORY	RECORD TYPE	PHF
245 Design Standard Exceptions	245.09 Documentation of Exceptions from Mandatory Design Standards	X
	245.10 Documentation of Exceptions from Advisory Design Standards	X
246 Route Adoption	246.09 CTC Report, Resolution, Map	X
247 New Connections	247.09 CTC Report and Resolution	X
	247.10 FHWA Approval	X
250 PUBLIC HEARING PROCESS		
251 Pre-Hearing Meetings	251.01 Initial Meeting documentation	X
	251.02 Scoping Meeting documentation	X
	251.03 Map Showings, Informational Meetings, other Pre-Hearing documentation	X
252 Hearing Arrangements	252.01 Notices of Hearing to HQ	
	252.02 Arrangements for Hearing Officer	
253 Public Hearing Notices	253.01 Public notices from newspapers	X
254 Record of Hearing	254.01 Transcript, comments, etc.	X
	254.02 Record of Hearing	X
260 PROJECT AGREEMENTS		
261 Cooperative Agreements and Reports	261.01 Cooperative Agreement Report	X
	261.09 Draft Agreements(s) and submittals to HQ	
	261.10 Approvals from HQ	X
	261.11 Executed Agreements	X
262 Freeway Agreements	262.01 Draft and submittals to HQ	
	262.09 Approvals from HQ	X
	262.10 Executed Agreements with map	X

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (263 - 274)		
CATEGORY	RECORD TYPE	PHF
263 Interagency Agreements	263.01 Drafts and submittals to HQ	
	263.09 Approvals from HQ	X
	263.10 Executed Agreements	X
264 Highway Improvement Agreements	264.01 Drafts and submittals to HQ	
	264.09 Approvals from HQ	X
	264.10 Executed Agreements	X
265 Maintenance Agreements	265.01 Drafts and submittals to HQ	
	265.09 Approvals from HQ	X
	265.10 Executed Agreements	X
270 PERMITS		
271 State Agency Permits	271.01 Drafts	
	271.09 Approvals	X
	271.10 Executed permits	X
272 Federal Permits	272.01 Drafts	
	272.09 Approvals	X
	272.10 Executed permits	X
273 Local Agency Permits	273.01 Drafts	
	273.09 Approvals	X
	273.10 Executed permits	X
274 Encroachment Permits	274.01 Drafts and submittals to HQ	
	274.09 Approvals by HQ and FHWA	X
	274.10 Executed permits	X

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (300 - 341)		
CATEGORY	RECORD TYPE	PHF
300 EXTERNAL PROJECT DESIGN CORRESPONDENCE		
310 HEADQUARTERS & DISTRICT CORRESPONDENCE		
311 Headquarters (except Division of Structures)	311.01 Memos between the district and various HQ units	
312 Districts	312.01 Memos between districts	
320 DIVISION OF STRUCTURES CORRESPONDENCE		
321 Structures	321.01 Memos to and from Structures Design	
	321.09 Approval memos from HQ	X
322 Structure Studies and Reports	322.01 Advanced Planning Studies	
	322.02 Bridge Site Submittal	
	322.03 Preliminary & Foundation Reports	X
	322.04 General Plans	
	322.05 General Details	
	322.06 Retaining Wall Site Submittal & Plans	
	322.07 Noise Barrier Site Submittal and Plans	
	322.08 Structural Adequacy Studies	X
	322.09 Special Studies	
330 FEDERAL AGENCY CORRESPONDENCE		
331 Federal Agencies	331.01 Letters to and from various federal agencies	
	331.09 Letters affecting project decisions	X
340 STATE AGENCY CORRESPONDENCE		
341 State Agencies	341.01 Letters to and from various State agencies	
	341.09 Letters affecting project decisions	X

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (350 - 382)		
CATEGORY	RECORD TYPE	PHF
350 LOCAL AGENCY CORRESPONDENCE		
351 Cities	351.01 Letters to and from various cities	
	351.09 Letters affecting project decisions	X
352 Counties	352.01 Letters to and from various counties	
	352.09 Letters affecting project decisions	X
353 Area-Wide Agencies	353.01 Letters to and from various area-wide agencies (COG, etc.)	
	353.09 Letters affecting project decisions	X
354 Other Agencies or Special Districts	354.01 Letters to and from various agencies or districts (school districts, assessment districts, etc.)	
	354.09 Letters affecting project decisions	X
360 ELECTED-OFFICIAL CORRESPONDENCE		
361 Elected Officials	361.01 Letters to and from elected officials	
	361.09 Letters affecting project decisions	X
370 PUBLIC CORRESPONDENCE		
371 Individuals	371.01 Letters to and from individuals	
	371.09 Letters affecting project decisions	X
372 Private Groups	372.01 Letters to and from Private Groups	
	372.09 Letters affecting project decisions	X
380 MEMOS TO FILE (EXTERNAL)		
381 Phone Call Documentation	381.01 Phone call documentation	
	381.09 Phone call documentation affecting project decisions	X
382 Informal Meetings/Discussions	382.01 Notes of informal meetings	
	382.09 Notes affecting project decisions	X

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (383 - 386)		
CATEGORY	RECORD TYPE	PHF
383 Headquarters Reviews	383.01 Notes of reviews	
	383.09 Notes affecting project decisions	X
384 FHWA Reviews	384.01 Notes of reviews	
	384.09 Notes affecting project decisions	X
385 CHP Reviews	385.01 Notes of reviews	
	385.09 Notes affecting project decisions	X
386 Other Agency Reviews	386.01 Notes of reviews	
	386.09 Notes affecting project decisions	X

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (400 - 453)		
CATEGORY	RECORD TYPE	PHF
400 INTRADISTRICT PROJECT DESIGN CORRESPONDENCE		
410 DRAINAGE		
411 Drainage Correspondence	411.01 Memos to and from Hydraulics Unit	
	411.02 Preliminary Drainage Report	X
	411.03 Justification of Alternatives	
	411.04 Final Drainage Review	
412 Drainage Studies	412.01 Design Discharge Calculations	X
	412.02 Floodplain encroachment	X
	412.03 Rock slope protection sizing	X
	412.04 Special Studies	X
420 ENVIRONMENTAL		
421 Environmental Correspondence	421.01 Memos to and from Environmental Unit	
430 LANDSCAPING		
431 Landscaping Correspondence	431.01 Memos to and from Landscaping Unit	
440 MATERIALS		
441 Materials Correspondence	441.01 Memos to and from Materials Unit	
	441.02 Materials Reports	X
	441.03 Pavement Deflection Studies	X
	441.04 Special Materials Studies	X
450 OPERATIONAL		
451 Maintenance Correspondence	451.01 Memos to and from the Maintenance Unit	
452 Construction Correspondence	452.01 Memos to and from the Construction Unit	
453 Traffic Operations Correspondence	453.01 Memos to and from Traffic Operations Unit	
	453.02 Final Operational Report	X

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (460 - 492)		
CATEGORY	RECORD TYPE	PHF
460 RIGHT OF WAY		
461 Right of Way Correspondence	461.01 Memos to and from R/W Branch	
462 Utilities Correspondence	462.01 Memos to and from Utilities Unit (including letters to utility companies)	
463 Railroad/Utility Agreements	463.01 Agreements with utility companies, railroads, etc.	
464 Utility Relocation Plans	464.01 Relocation plans for gas, power, etc.	
465 Determination of Liability	465.01 Studies for utility/non-utility prior rights	X
466 Right of Way Contracts	466.01 Contracts, obligations, etc.	
467 Right of Way Maps	467.01 Parcel, ownership, excess land, etc.	
468 Cost Estimates	468.01 Fences, driveways, etc.	
469 Resolution of Necessity	469.01 Resolution of Necessity data	X
470 SURVEYS		
471 Surveys Correspondence	471.01 Memos to and from Surveys Unit	
472 Survey Data	472.01 Aerial monuments, bench marks, etc.	
480 TRAFFIC		
481 Traffic Correspondence	481.01 Memos to and from Traffic Unit	
482 Traffic Forecasts	482.01 Present/design year ADT, peak hour, etc.	X
483 Warrants	483.01 Signal warrants, median barrier warrants, lighting warrants, etc.	X
490 MEMOS TO FILE (INTRA-DISTRICT)		
491 Phone Call Documentation	491.01 Phone call documentation	
	491.09 Phone call documentation affecting project decisions	X
492 Informal Meetings/Discussions	492.01 Notes of informal meetings	
	492.09 Notes affecting project decisions	X

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (500 - 524)		
CATEGORY	RECORD TYPE	PHF
500 CONTRACT PREPARATION		
510 PLANS		
511 Basic Plans	511.01 Contour mapping, skeletons, contour grading, interchanges, intersections, profiles, superelevations, etc.	
512 Drainage	512.01 Drainage plans, profiles, structure list, etc.	
513 Traffic	513.01 Signing, Pavement Delineation Plan, electrical plans	
	513.09 Approval of Pavement Delineation Plan	X
514 Traffic Handling	514.01 Staging and detour plans, traffic control, etc.	
515 Fencing	515.01 Types & locations, gates, etc.	
516 Erosion Control	516.01 Plans with erosion control details and locations	
517 Structures Plans	517.01 Final Structure Plans	
518 Landscape Plans	518.01 Landscape Plans	
519 Special Details	519.01 Construction notes, pavement markers, survey monuments, etc.	
520 CALCULATIONS		
521 Quantities	521.01 Checked contract items calculations	
522 Earthwork Computations	522.01 EDP printouts or quantity sheets	
	522.02 Terrain Lists	
	522.03 Template Notes	
	522.04 Staking Notes, superelevations, etc.	
523 Traverses	523.01 Computer printouts	
524 Profiles	524.01 EDP printouts or grade sheet	

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (530 - 538)		
CATEGORY	RECORD TYPE	PHF
530 PS&E PROCESSING		
531 PS&E Report	531.01 Report or Transmittal to Office Engineer for district or HQ	X
	531.02 Liquidated damage calculations	
532 Preliminary Estimate of Cost	532.01 BEES printout, bid price justification, segregations, etc.	
	532.02 Final Engineers Estimate	X
533 Special Provisions	533.01 Specifications	
534 Dummy	534.01 Proof special provisions, transmittal letters, etc.	
	534.02 Addenda	
535 Request for Funds	535.01 Request and Justification	X
	535.02 FNM-76 Approval	X
536 CTC Vote of Funds	536.01 Fund authorization by CTC	X
537 Resident Engineer Information	537.01 Copies of working data for Resident Engineer	

PROJECT DEVELOPMENT UNIFORM FILE SYSTEM (600 - 622)		
CATEGORY	RECORD TYPE	PHF
600 PROJECT MISCELLANEOUS		
610 SPECIAL STUDIES		
611 Bicycle	611.01 Completed studies and/or reports	X
612 Park and Ride	612.01 Completed studies and/or reports	X
613 Bus Loading Facilities	613.01 Completed studies and/or reports	X
614 Resource Conservation	614.01 Completed studies and/or reports	X
615 Value Analysis	615.01 Completed studies and/or reports	X
616 Hazardous Waste	616.01 Completed studies and/or reports	X
617 HOV Report	617.01 Completed studies and/or reports	X
620 PROJECT SAFETY		
621 Safety Analysis	621.01 Completed studies and/or reports	X
622 Design for Safety Recommendations	622.01 Recommendations, memos, etc.	X
	622.02 Decision documents, memos	X
623 Safety Reviews	623.01 Safety reviews and/or reports	X
630 PHOTOGRAPHS		
631 Project Photos	631.01 Preconstruction photos	X
632 Special Photos	632.01 Accidents, storm damage, etc.	X

Part 2

The Project Development Process

CHAPTER 8 - Overview of Project Development

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CHAPTER 8 – Overview of Project Development

SECTION 1 – General

Project Development Process

The project development process spans that period of time that begins with feasibility studies and ends with the completion of construction. The development process is tied to the legal requirements of environmental laws and regulations; it melds engineering requirements and Caltrans' management approval steps with the environmental process.

Planning

Considerable planning is done prior to project development. This results in the development of a planning concept and scope identifying the type or mode of the facility as well as other features relating to the location and length of the project, including the number of lanes and general interchange and intersection spacing. (See Chapter 1 for definitions of "planning concept" and "planning scope".) This planning work focuses on identifying and clarifying the specific transportation system problem, and then looking for practical solutions. Project goals, objectives, and preliminary scoping are established so that preliminary feasibility studies can begin. A Feasibility Planning Estimate may be prepared to validate the proposed project's objectives. (For more information, see Chapter 20, Section 2, "Project Development Cost Estimates".)

The determination of the appropriate transportation mode or modes should occur as part of the planning process for major urban improvements. This results from a Corridor Study and a Major Investment Study.

Project development follows system and regional planning or follows the various management systems and master plans that identify the need for a particular project. The planning concept and scope are reviewed, and updated if appropriate, to define the design concept and scope, including basic design features. (See Chapter 9, Article 2, for definitions of "design concept" and "design scope", as well as "basic design features".

Purpose & Need

A good statement of the proposed project's purpose & need should flow out of system planning. (For more information on the system planning process, see Chapter 1, Section 4.)

A project must satisfy a clearly defined need and purpose. It must meet State, regional, and local goals and objectives. For capacity-increasing projects, this includes air quality goals.

Alternative solutions are evaluated that avoid or reduce significant adverse environmental impacts. The alternative selected is the one that causes the least environmental damage while still serving the essential transportation need.

Decision to Prepare Project Initiation Document

Prior to committing district resources for the preparation of a project initiation document, a district may prepare a one or two-page decision document discussing the feasibility of initiating a project. This decision document may be called a "Project Proposal Report", a "Project Initiation Proposal", etc.

The decision document usually includes a strip map and a feasibility planning estimate. It is an internal district document; each district determines its own requirements for initiating projects, subject to various required considerations including the Regional Agency's PSR priority listing.

Project Initiation

The project development process is initiated by the designation of a Project Manager (PM). The PM secures an Expenditure Authorization (EA) (Chapter 8, Section 3) and then begins preparing a Project Work Plan (see *Project Management Procedures Manual*). The initial Project Work Plan will usually cover only the project initiation process in any detail; following approval of the project initiation document, further development of the Work Plan will take place.

The PM determines the composition of the Project Development Team (PDT) by determining which internal functional disciplines and external representatives are required to plan and carry out the development of the project (see Chapter 8, Section 4). At its first meeting, the PDT determines the tentative Project Development Category (See Chapter 8, Section 5). The PM uses the Project Development Category to prepare the Project Work Plan.

Special Considerations

The following types of projects need concept studies and review prior to inclusion in the Project Delivery Schedule or the programming document:

- State highway projects-funded-by-others, including locally funded, sales tax funded, or privately funded projects affecting State highways (See Chapter 2, for more information.)

- Projects for new public road connections to freeways or expressways, requested by local agencies (See Chapter 27.)

The various project initiation processes and documents are described in Chapter 9.

Programming Precedes Formal Project Studies

Before formal project studies can commence for State-funded projects, the project initiation document must be approved and the project must be programmed in a State programming document (See Chapter 4, "Programming") for projects-funded-by-others, an executed Cooperative Agreement or Highway Improvement Agreement must exist (see Chapter 2, Section 5).

Exceptions

Formal project studies may begin earlier when an approved project initiation document contains specific language granting exception to the normal procedures.

In addition, long-lead-time projects may commence prior to programming if they meet all seven steps outlined below. The California Transportation Commission (CTC) and Caltrans limit the number of such projects to an absolute minimum, consistent with availability of funds and project development staff available to Caltrans. CTC verifies that all of the following conditions are met.

1. Due to project complexity, estimated project development time exceeds seven years.

2. There are demonstrable practical reasons why certain phases of the project development work should be done early.

3. Substantial cost savings will be realized as a result of early start on the project development work.

4. Work is limited to what is necessary to make the project eligible for inclusion in a subsequent programming document.

5. The work does not interfere with or delay work on projects included in an adopted programming document.

6. Funding for the work is provided in the Budget Act.

7. A request to perform the project development work is submitted to the CTC, along with supporting documents.

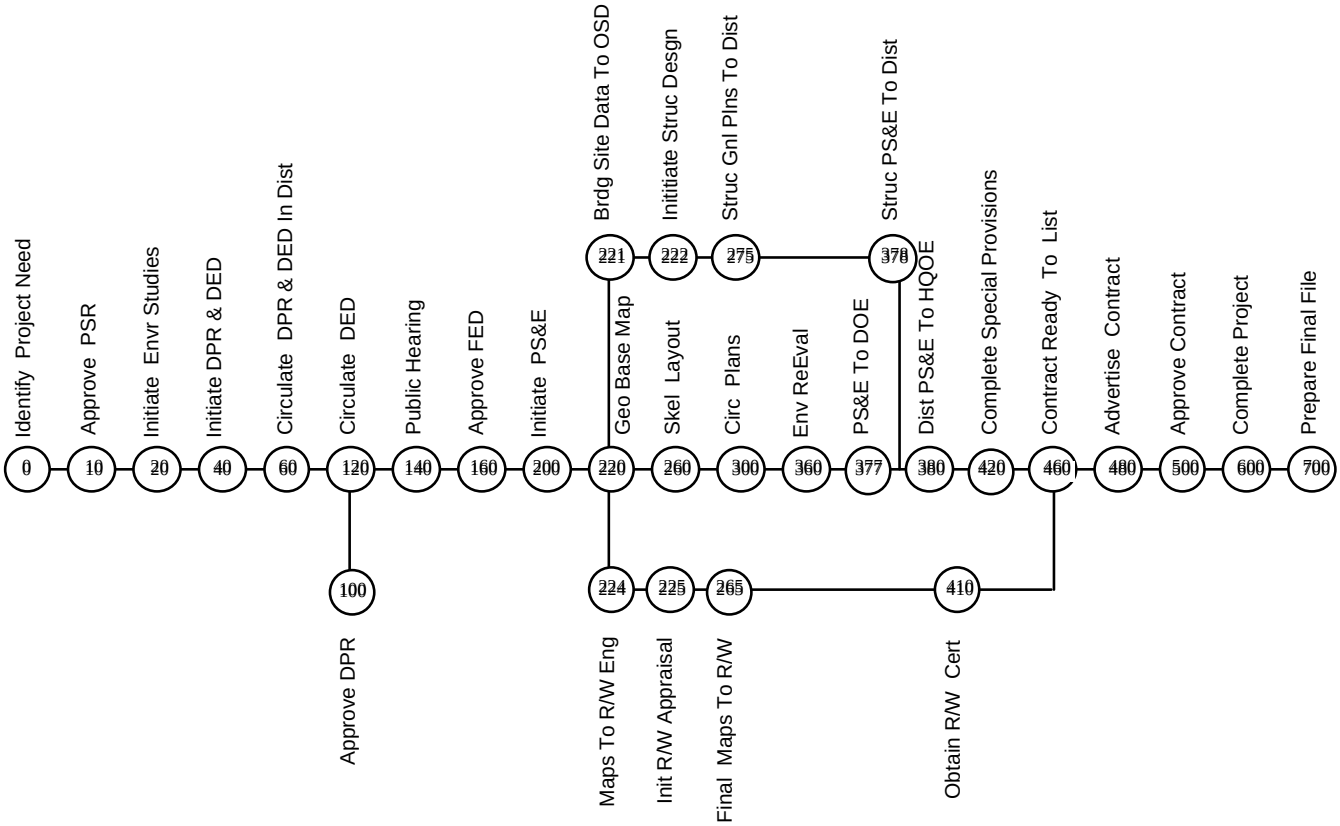
Project Delivery Scope, Cost and Schedule

Schedules for all major projects are listed in the Project Delivery Schedules. This Delivery Schedule is developed by the Office of Statewide Project Management and Control in the Division of Project Management. Note that it includes all major projects, not just those listed in the STIP.

PMs shall ensure that each project has a documented review and update of the project's scope, cost and schedule, which is not more than one year old, included in the project's permanent history file.

SECTION 2 – Project Development Overview Using PYPSCAN Milestones

This section provides an overview of the project development process with respect to the Major PYPSCAN Milestones illustrated in the flowchart below.



Each of the following chapters in Part 2 describes major events or phases in the project development process and is introduced by a brief explanation and flowchart illustrating where it fits in the sequence of PYPSCAN Milestones.

The individual tasks required to complete a project as it proceeds through the project development process are described in the *Project Development Workflow Tasks Manual*. The PDWTM tasks are based on these same PYPSCAN milestones.

In addition to the PDPM and *Project Development Workflow Tasks Manual*, other manuals are needed for reference throughout the project development process and are listed as a general reference.

The discussion in this section is a general guide through the project development process. This guide, for a specific project, needs to be modified depending on the specific

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circumstances of the project. To determine the details for completing a specific project, consult other chapters in this manual, the *Project Development Workflow Tasks Manual*, the other manuals referenced in Chapter 1, Section 2, and applicable district procedures.

Prior to Milestone 000

System and Regional Transportation Planning

The planning concept and scope for major transportation improvements are developed during the system planning process. The Regional Transportation Plan (RTP) presents the proposed improvements for the region after completing required Major Investment Studies (MIS), air quality conformity analysis, and a preliminary environmental evaluation. This is the first phase for screening project alternatives and it is documented in the CEQA environmental document that the Regional Transportation Planning Agency (RTPA) prepares for the RTP. Management Systems, Master Plans, and prioritizing processes identify other project needs.

Chapter 1, and Chapter 3, of the PDPM describe system and regional transportation planning in further detail. In addition, the following Caltrans manuals and guidance should be referred to: *System Planning Guidelines; Regional Transportation Plan Guidelines*; and *Highway Capacity Manual*.

Milestone 000 to Milestone 020

Determine Project Alternatives and Approve Project Study Report (PSR)

The PM begins the project development process by preparing a project workplan for the proposed project and by coordinating the designation of a PDT. The Project Engineer (PE) obtains preliminary data for the project engineering work. Projects with potential for significant environmental impacts requiring formal consideration of alternatives usually are initiated by documentation in a Project Study Report (PSR). However, other project initiation processes are available, depending upon the project type and specifics. Many of these optional processes provide project approval at this point - which allows the project to bypass subsequent milestones and proceed directly to Milestone 200 and the initiation of project design.

Prior to PSR approval (Milestone 010), sufficient information is needed to determine if project alternatives should be formally considered when the environmental document is prepared. If formal consideration is required, additional studies will be necessary to fully document the purpose and need and to identify the design concept and scope of the full range of possible project alternatives. A deliberate evaluation of the full range of project alternatives is required, to assure that alternate and multimode options are considered, that feasible avoidance alternatives are identified (if required), and that the costs of alternatives are evaluated. From these alternatives, the viable alternatives are studied in detail and are identified and documented in the PSR. One of the viable project alternatives is selected for programming the project's cost, design concept and scope, and schedule.

Following PSR approval and programming, and prior to initiating the environmental studies (Milestone 020), geometric plans and R/W maps should be prepared in greater detail to identify the areas of potential effects.

Chapter 9 of this manual provides details on the project development policies and procedures relating to project alternatives, PSRs, and other project initiation documents. Other information on project development tasks required between Milestones 000 to 020 may be found in the *Project Development Workflow Tasks Manual*. The following Caltrans documents should be referred to: *Standard Environmental Reference; Cooperative Agreement Manual; Procedures Manual for Special-Funded State Highway Projects*; *Encroachments Permit Manual*; *Project Management Procedures Manual*; *Highway Design Manual; Transportation Management Plan Guidelines*; *Major Damage Restoration Coordinator's Handbook; Photogrammetric Products and Services;* and *Project Candidate List Development Manual.*

Milestone 020 to Milestone 140

Complete Detailed Environmental & Engineering Studies for Project Alternatives (as needed)

After reviewing the project alternatives, and prior to Milestone 040 (initiation of Draft Project Report & Draft environmental document), impact mitigation measures are identified. Upon completion of the appropriate environmental studies and identification of potential significant adverse impacts, the need for additional alternatives should be determined.

When the environmental studies for the viable alternatives are complete, the Draft Project Report is finalized, approved (Milestone 100), and the Draft environmental document is circulated to the public (Milestone 120). A preferred alternative is not recommended at the Draft environmental document stage. However, if presented, the discussion of the preferred alternative should document factors considered in its selection.

The least environmentally damaging, practicable alternative (LEDPA) must be identified when a draft EIR is prepared. If the "no-project" alternative is identified as the LEDPA, the Draft EIR must identify a LEDPA from among the "build" alternatives.

Chapter 10 describes the project development policies and procedures relating to the completion of environmental and engineering studies for project alternatives. For the project development tasks required between Milestones 020 to 140, see the *Project Development Workflow Tasks Manual*. In addition, the following Caltrans manuals and guidance should be referred to: *Standard Environmental Reference; Project Management Procedures Manual; Highway Design Manual;* and *Surveys Manual.*

Milestone 140 to Milestone 160

Conduct Public Hearing (as needed)

Following circulation of the Draft environmental document (the public review period), a public hearing is held (Milestone 140). After analyzing the public hearing comments, a preferred Alternative is normally selected, which allows the preparation and approval of the Final environmental document (Milestone 160) which is attached to the PR.

Chapter 11 describes the project development policies and procedures relating to a public hearing. For the project development tasks required between Milestones 140 to 160, see the *Project Development Workflow Tasks Manual*. In addition, the following Caltrans manuals and guidance should be referred to: *Standard Environmental Reference; Project Management Procedures Manual;* and *Caltrans Media Handbook.*

Milestone 160 to Milestone 200

Approve the Preferred Project Alternative

Selection of the Preferred Alternative authorizes the completion of the PR for project approval. When an EIS has been prepared, an Environmentally Preferred Alternative is identified in the Record of Decision (ROD) that is published in the Federal Register.

Chapter 12 describes the project development policies and procedures for selecting and approving the Preferred Alternative and for project approvals. For the project development tasks required between Milestones 160 to 200, see the *Project Development Workflow Tasks Manual*. In addition, the following Caltrans manuals and guidance should be referred to: *Standard Environmental Reference* and *Project Management Procedures Manual.*

Milestone 200 to Milestone 260

Initiate Project Design

Once the preferred alternative has been chosen and the project has been approved, project design (preparation of PS&E) can be initiated. Data from the Materials Report, survey information, Preliminary Drainage Report, geometric base maps, and other sources are used by the PE for project design. Skeleton layouts and typical cross sections are developed (Milestone 260). Quantity calculations are started for contract items. Structure Site Submittals, Utility Plans for the utility companies, and Right of Way Maps are sent to the appropriate individuals for use in preparing their design contributions to the project.

Chapter 14 of the PDPM describes the project development policies and procedures for initiating the design of a project. For the project development tasks required between Milestones 200 to 260, see the *Project Development Workflow Tasks Manual*. In addition, the following Caltrans manuals and guidance should be referred to: *Highway Design Manual; CADD Users Manual; Plans Preparation Manual; Standard Plans; Standard Specifications; Ready to List Guide; Project Management Procedures Manual; Bridge Manuals;* and *Right of Way Manual.*

Milestone 260 to Milestone 300

Conduct Detailed Project Design

During this time frame, design details, plans, quantity calculations, and contract specifications for the project are developed by the involved functional units. The PE consolidates the work of functional units into a draft set of plans and specifications. Once all of the project data are consolidated, the project plans are circulated for review and comment in the District (Milestone 300).

Chapter 14 of the PDPM describes the project development policies and procedures relating to project design. For the project development tasks required between Milestones 260 to 300, see the *Project Development Workflow Tasks Manual*. In addition, the following Caltrans manuals and guidance should be referred to: *Highway Design Manual; CADD Users Manual; Plans Preparation Manual; Traffic Manual; High Occupancy Vehicle (HOV) Guidelines*; *Ramp Meter Design Guidelines; Standard Plans; Standard Specifications; Ready to List Guide;* and *Project Management Procedures Manual.*

Milestone 300 to Milestone 380

Complete Project Design

When all of the district comments are returned to the PE, the final design phase for the project begins. These comments are considered, a Safety Review is conducted, and the project Plans, Specifications and Estimate (PS&E) are finalized. An environmental reevaluation should be conducted to confirm that the project design is within the framework of the project approval document, which includes the environmental document for the project. The project PS&E is then submitted to the District Office Engineer Unit. After combining with Structures PS&E, it is sent to the Office of Office Engineer of the Engineering Service Center (Milestone 380).

Chapter 14 of the PDPM describes the project development policies and procedures for the completion of project design. For the project development tasks required between Milestones 300 to 380, see the *Project Development Workflow Tasks Manual*. In addition, the following Caltrans manuals and guidance should be referred to: *Highway Design Manual; Standard Environmental Reference; CADD Users Manual; Plans Preparation Manual; Standard Plans; Standard Specifications; Ready to List Guide;* and *Project Management Procedures Manual.*

Milestone 380 to Milestone 500

Prepare and Advertise Project Contract

Once the project reaches this stage, the design work should be complete. However, some additional details need to be completed prior to advertising the contract. Right of Way Certification and a CTC Funds Request approval must be obtained. The final project documents and bid package are then assembled to prepare the project for advertising. After the project has been advertised and the bids have been opened, the PE reviews the bidding process and recommends that the contract be approved (Milestone 500) and awarded, if appropriate.

Chapter 14 and Chapter 15 of the PDPM describes the project development policies and procedures concerning the preparation, advertisement and award of the project contract. For the project development tasks required between Milestones 380 to 500, see the *Project Development Workflow Tasks Manual*. In addition, the following Caltrans manuals and guidance should be referred to: *Ready to List Guide; Construction Manual;* and *Project Management Procedures Manual.*

Milestone 500 to Milestone 700

Conduct and Complete Construction Project

Contract approval authorizes construction of the project. The project is constructed and the contract is administered according to the PS&E that was developed by the PE. However, if any design changes are required during the construction of the project, the PE will be consulted and usually requested to prepare the engineering details and calculations required to adequately construct the project changes. The Resident Engineer for the project prepares the Final Construction Project Records when the project is complete (Milestone 600). The Final Contract Estimate, Project History File and the As-Built Plans for the project are completed before the project is complete (Milestone 700).

Chapter 15 of the PDPM describes the project development policies and procedures for project construction. For the project development tasks required between Milestones 500 to 700, see the *Project Development Workflow Tasks Manual*. In addition, the following Caltrans manuals and guidance should be referred to: *Construction Manual* and *Project Management Procedures Manual.*

SECTION 3 – Expenditure Authorizations

General

Project Development costs for personnel and support are captured by charging to the appropriate Expenditure Authorization (EA) and Subjob, with work activity breakdown details captured by Activity Codes, Management Systems Activities (MSA) codes, and Special Designation codes. EAs shall be issued for each project study prior to undertaking any work.

A general description of EAs is listed below. Further details may be found in the *Coding Manual, Volume 1, Chapter 11*.

EA Groups

Charges for owner-operator work, project overhead, and project-direct work are accounted for by the establishment of an EA in the Expenditure Authorization Table. A six-digit code identifies the EA. EA numbers are assigned to the following basic groups; with "X" representing either numeric or alpha characters:

0X00XX - 4X99XX	=	Multiphase Projects
5X0001 - 5X9999	=	Maintenance
600001 - 699999, RXXXXX, TXXXXX, CXXXXX	=	Special Projects
700001 - 899999	=	Prepayment and Receipt
900001 - 999999	=	Single Phase Expenditure Authorizations

Refer to the *Coding Manual, Volume 2*, for details on EA codes and procedures.

Project Coding

The District Project Control Unit assigns an EA number to each project. Projects are coded using multiphase EA numbers, as shown below:

XXXX X X

- X — Phase Code 0-9 or alpha character H, K, or R
- X — Segment Code 0 or 1-9 or alpha character (if divided into several construction projects)
- XXXX — Project Number 0X01-4X99

Project Number:

The first four digits of the EA number identify the basic project. The Project Number is assigned at the beginning of the Project Initiation process and is retained throughout the life of the project, involving all phases of work.

Segment Code:

Large projects may ultimately be segmented into several construction projects. The fifth digit of the EA number is used to identify individual construction projects derived from the basic project. For example, the beginning portion of a route would be segment "1", the ninth segment would be segment "9". EA number "244351" would be the fifth construction project. If a project is not segmented, the numeral "0" is used in the fifth position of the EA.

Phase Code:

The sixth digit of the EA is used to identify the phase of a project. The numbers "0" through "9" or the alpha characters "H", "K", or "R" are used to identify the functional phase within the work segment. The phases are described below:

CODE	PHASE
K	Begin Work Through Project Initiation Document Approval
0	Environmental Review and Project Approval (PR)
1	Design (PS&E)
2	Right of Way - Operations (Capital Outlay Support only)
3	Construction Engineering
4	Major Contract Capital Payments
5	Minor Contract Capital Payments
6	Vacant
7/8	Miscellaneous or Cooperative Agreements
9	Right of Way - Capital Outlay (Normal)
H	Right of Way - Hardship or Protection Capital
R	Right of Way - Rental Property Management - Support

Capital Outlay Support Phases

The following paragraphs describe capital outlay support activities that may be charged to the various phases of a multi-phase EA.

Phase K – Project Initiation Document

- All direct labor and operating expenses incurred in developing the Project Initiation Document (or equivalent).

- The costs of preliminary investigations (up to the point that it is decided that a PSR [or equivalent] is required) should be charged to the owner-operator

EA 910230. Such charges require County and Route coding in the Special Designation block.

- Indirect charges (organizational management and supervision) for directing overall Project Initiation activities and personnel should be charged to the appropriate overhead EA.

Phase 0 (zero) – Project Report (PR) Environmental Document

- All direct labor and operating expenses incurred in developing the PR — including the costs associated with producing required documents for compliance with environmental law.

- Indirect charges (organizational management and supervision) for directing overall PR activities and personnel should be charged to the appropriate overhead EA.

Phase 1 – Design

- All direct labor and operating expenses incurred from the date of the approval of the PR until the project is advertised — plus subsequent necessary re-design costs.

- Indirect charges (organizational management and supervision) for directing design activities and personnel should be charged to the appropriate overhead EA.

Phase 2 – Right of Way Operations

- All direct labor and operating expenses incurred by right of way operations for capital-outlay projects only. These operations include right of way engineering, appraisals, acquisitions, condemnation, utility relocations, relocation assistance, and clearances of improvements. Costs of Real Property services are not included.

- Indirect charges (organizational management and supervision) for directing overall capital-outlay right of way operations should be charged to the appropriate overhead EA.

Phase 3 – Construction Engineering

- All direct labor and operating expenses incurred in administering construction contracts - generally from the date of advertisement (and earlier if there is no Federal funding involvement) to the date of work completion and preparation of the final contract pay estimates. Such costs include construction staking and the Resident Engineer's office expense incurred.

- Indirect charges (organizational management and supervision) for directing overall construction engineering activities and personnel should be charged to the appropriate overhead EA.

EAs for General Supervision

General supervision is charged to overhead EAs. They are grouped by major work function, as follows:

- Capital Project Management
- Project Development
- Right of Way
- Construction Engineering.

See the *Single Phase EA Descriptions* provided to Resource Managers to determine the current EAs.

Approval Authority

District Directors have been delegated authority to approve and charge to EAs as follows:

- K-Phase EAs may be approved "as needed."

- 0-Phase EAs may be approved for all Minor projects and for Major projects included in an approved programming document.

- Charges should not be made to any EA until the District Project Control Unit authorizes use of the EA, because charges made prior to this can create errors and take extensive time and expense to correct.

- Where federal funds will be involved, approval of federal participation (FNM-76) is required before charging to an EA, because expenditures incurred prior to federal approval are not reimbursable by FHWA.

- Charges should not be made to a 1-Phase EA or a 2-Phase EA prior to obtaining project approval, because design work done prior to project approval can impact federal fund participation.

Early Assignment of EAs

Districts can assign 0-Phase EAs whenever a project has been authorized by the CTC and is included in an approved programming document (e.g., the STIP).

Districts can also obtain 0-Phase EAs for projects that have not been authorized by the CTC or Caltrans and are not in an approved programming document. To do so, the EA must be approved by the District Director. When the adopted programming document includes the project, the EA is activated without review, in the Caltrans accounting system (TRAMS) by the Accounting Service Center.

Charging Practices

Successful project management requires effective and precise exchange of information between all the personnel involved throughout all phases of a project. It is essential that individuals performing project work all charge their time in a consistent manner. This consistency is aided by the use of standards which provide a precisely defined structure used by all involved personnel to plan the project, exchange information, and organize reporting. Caltrans has developed three project management standards in the form of breakdown structures, breaking down Caltrans capital outlay support process by work done, resource need and organization structure.

The data generated by the use of these standards provides information that is consistent statewide and is needed to:

- improve charging practices
- develop project workplans
- accurately report and forecast results
- develop standardized reports providing meaningful comparisons
- monitor performance in meeting commitments
- provide the basis for continuous improvement

Work Breakdown Structure (WBS)

Personnel support charges made to project development EAs are to include all project-oriented activities from initiation of studies through close-out of the construction project. These activities are known collectively as the WBS. The WBS is simply a formal and systematic way of defining and identifying the component parts of a project and the work to be done on them. It is a product-oriented structure that organizes and defines the total Caltrans Capital Outlay project work. See the *Guide to Caltrans Capital Outlay Support Work Breakdown Structure* for a detailed description of the WBS and its use. A detailed listing of the activities is also included in the *Coding Manual*, Volume 1, Chapter 6. Many of the WBS activities used in project development work also correspond to the individual tasks described in the *Project Development Workflow Tasks Manual.* See that manual for details.

Resource Breakdown Structure (RBS)

In conjunction with the WBS, the RBS is used to record time expenditures. The statewide standardized RBS codes define personnel resources along functional (not organizational) lines and corresponds to the standard cost center coding structure. The

RBS is used to identify functionally who is charging the project EA. See the *Briefing Package on Capital Outlay Support Work Breakdown Structure and Resource Breakdown Structure* for more information.

Organizational Breakdown Structure (OBS)

In conjunction with the WBS and the RBS, the OBS is also used to record time expenditures. The OBS identifies specific organizational units and the structure is specific to the district or service center.

Other Accounting Codes

Other accounting codes used for project development activities, include Subjob Number, Special Designation, Management System Activities (MSA) Code, and Object Code. For further information, refer to the *Coding Manual*, Volume 1.

SECTION 4 – Project Development Team

General

The Project Development Team (PDT) is directly involved with the implementation of a transportation project. The original PDT concept was developed in response to the National Environmental Policy Act (NEPA) of 1969 which requires public agencies to "utilize a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man's environment".

Interdisciplinary Approach

The interdisciplinary approach uses interaction of different disciplines in the planning, developing, and evaluating alternatives. Caltrans uses a formal PDT meeting approach for projects in Project Development Categories 1, 2A, 3 and 4A. An informal approach without requiring attendance at meetings is usually used for Categories 2B, 4B and 5. (See Chapter 8, Section 5) for the definitions of Project Development Categories.)

The PDT advises and assists the PM in directing the course of studies, makes recommendations to the PM and district management and works to carry out the project workplan. Members of the PDT participate in major meetings, public hearings, and community involvement. The PDT also serves as the nucleus for a Value Analysis Team (see Chapter 19). The PDT is responsible for the conduct of studies and the accumulation of data throughout project development to PS&E.

PDT Functions

The primary functions of the PDT are listed below:

- To assess, at the outset, available preliminary engineering data to confirm that the study should continue. The PM requests the Transportation Planning Unit to validate previous systems planning recommendations for transportation improvements. The PDT participates in this reevaluation.

- To determine logical project limits.

- To determine the need for local, regional, State or federal agency members on the PDT, or the need for citizen advisory committees.

- To initiate environmental and material investigations for projects that require significant disposal, staging or borrow.

- To recommend studies, timetables, alternatives, type of environmental documentation, and the feasibility of project impact mitigation measures.

- To ensure thorough analysis of the social, economic, environmental (including visual and aesthetic) and engineering aspects of the project. The PDT calls upon representatives of various disciplines as needed.

- To initiate a program of community involvement to encourage citizen and local agency participation throughout the study, including public meetings and the public hearing. (See Chapter 22, "Community Involvement".)

- To ensure that State and federal requirements for project development studies have been met.

- To use information in reports (PSR, DPR-DED, etc.) together with input from the public hearing when recommending a Preferred Alternative to District Management for project approval.

- To ensure design of a quality project that can be safely and efficiently constructed and maintained within scope and budget and on schedule.

- To ensure that right of way is acquired and cleared on schedule.

- To provide advice during project construction on construction activities, contract changes and mitigation and right of way commitments.

- To ensure that project history is preserved by documenting project decisions and utilizing the Uniform File System (see Chapter 7).

PDT Team Leader Selection

The PDT Team Leader is typically designated by the District Deputy Director for Program/Project Management. If the Team Leader is to be from another functional unit, the appropriate functional District Deputy Director will designate the Team Leader. The person selected to be the Team Leader will also be the PM. Project assignments are based on project complexity and the ability, skill level, background, experience, past performance and existing workload of the PM.

The person selected to be the Team Leader (the PM) can be from any of the functional areas. Selection is based on the professional skills required to perform the planning and alternatives analysis that is specific to the assignments for that PDT. The Team Leader should have an overall understanding of the project development process, be able to

manage a team, and be able to work effectively with communities, groups, and the staff of local agencies.

Formation of the PDT, selection of the team leader (the PM), and all subsequent modifications to the team must be documented in the project file. (See Chapter 7.)

PDT Meetings

PDT meetings should be held as necessary. Regularly scheduled meetings assist in maintaining group dynamics and communication. More meetings are probably necessary during initial studies, with need decreasing during the technical studies, and increasing again during completion and analysis of results prior to making specific recommendations for the Draft Environmental Document. PDT members should attend meetings when their involvement is necessary.

MEETING Minutes

Minutes of team meetings are prepared and placed in the project file to document decisions. The detail of minutes varies according to the purpose of the meeting.

PDT Formation

Before starting project studies, the core of the PDT is formed for all projects, regardless of size or type of funding. The core PDT guides preliminary studies until the project is defined, which then determines the Project Development Category and the project development process requirements. At a minimum, a PDT is composed of the PM, a representative of the regional transportation planning agency (if involved), and representatives from District Design, Environmental, Traffic, Safety, Surveys, Construction, and Maintenance Units, and the Right of Way Branch. The program manager and/or program advisor should also be considered.

Note: This manual uses the term "Design Unit" to refer to the district functional unit primarily responsible for the development of engineering design features of the project. This includes those units responsible for monitoring or reviewing State-highway-project engineering design features that are developed by outside entities or that are directly contracted out.

The PDT should make the most efficient use of member's time. For instance, a PDT may be formed to handle all safety and operational improvement projects. This PDT should be able to act through individual review of reports, by Team Leader (PM) telephone contact, or by having one meeting to cover several projects at one time.

Representatives from Safety, Construction, Surveys, Traffic and Maintenance are included for all projects to ensure that appropriate consideration is given to design features that limit exposure of employees, contractor personnel, and the traveling public to traffic during construction, maintenance, and all other normal operations.

Full or Part-Time

Team members may be full-time or part-time, depending on the magnitude of the impacts or the fields in which they specialize.

Additional PDT Members

The selection of additional team members depends on the scope and complexity of the proposed project. The interdisciplinary skills of the district, Headquarters, FHWA, and local and regional agencies are requested as needed to ensure that engineering, social, economic, and environmental aspects are adequately assessed, and reasonable evaluations and decisions are made.

On locally funded projects, representatives from the project sponsor should be included on the PDT, as appropriate. The Caltrans PM should be provided a list of names from the project sponsor indicating the external participants they would like as PDT members (typically their PM and functional specialists or consultants). The Caltrans PM will then determine the appropriate composition of internal functional disciplines to complete the PDT.

The California Highway Patrol (CHP) Division Commander should be requested to assign a representative whenever the project could have an impact on CHP enforcement of public safety. Example projects include: striping right or left shoulders as auxiliary lanes, narrowing shoulders or lanes, striping any section of freeway or expressway for high occupancy vehicle (HOV) operation, noise barriers adjacent to shoulders, ramp meters, weigh stations, or paving a truck brake check area at the summit of a grade.

If significant utility investigation and relocation are involved, a representative of the Right of Way Utilities Unit may be used on the PDT.

For a project with extensive structure involvement, a representative of the Office of Structure Design should be on the PDT to assist in development and analysis of alternatives.

To ensure that aesthetics, visual impacts, conservation and management of roadside vegetation, and site planning are appropriately addressed, the District Landscape Architect (LA) or Project LA should be a member of the PDT for all projects which involve or affect planting, access and safe working conditions for vegetation management, roadside rest areas, noise barriers, and scenic highways; also the opportunity to participate on all other types of projects should be offered.

For projects with noise barriers or unique structures, a bridge architect should be considered for membership on the PDT to assist in development of architectural treatments. Assistance in the selection should be requested from the Engineering Service Center, Division of Structures, Office of Structure Design.

In addition, existing advisory groups established by local agencies should be consulted to ensure due consideration of aesthetic issues. Examples of such groups include: Architectural Review Boards, Design Review Committees, Community Advisory Boards, etc. Where such groups do not exist, consult the local agency as to the appropriate method for obtaining citizen participation on aesthetic issues.

The District Community Involvement Coordinator or Public Information Officer should be invited to participate on the PDT, as appropriate, to assist in developing an appropriate public participation and citizen involvement program. (See Chapter 22, "Community Involvement".)

Additional members may be selected from, but are not limited to, the following:

- Public members: may represent a particular expertise, geographic area, or affected group, etc.

- Local and Regional Agencies: When a proposed Caltrans project affects local and regional agencies, members of their staff should be included on the PDT.

- FHWA: The FHWA should be considered for team membership on non-exempt major federal-aid projects or projects that need coordination between federal agencies.

- Legal: Any legal problem, existing or anticipated, requires a representative from the Legal Division. Requests should be directed to the appropriate legal office.

- Ride Sharing: For major projects, the PDT consults with the District Ride Sharing Coordinator and may include the Coordinator on the team.

- Consultants: When consultants have been retained by Caltrans to provide specialized technical skills unavailable within Caltrans, they should participate on the PDT as necessary.

Representatives from District Real Property Asset Management are normally not members of the PDT, but should be invited to the PDT meetings. The District Asset Manager will attend Team meetings on those projects with potential for multiple use or special uses of right of way.

The Design Coordinator and the Environmental Coordinator (from the Division of Environmental Analysis), while usually not official members of the PDT, should be called upon as needed to provide liaison between the District and Caltrans Headquarters Units and FHWA.

Caltrans Advisory Committees

On projects that may potentially have environmental impacts, Advisory Committees may be used to obtain semi-formal, specialized community interaction. They serve as adjunct committees to the PDT. Committee types and typical roles are described as follows:

- A committee of elected or appointed officials provide overall policy guidance and direction.
- A committee of professional staff members of State, regional, or local agencies provide advice on technical aspects of studies being proposed or conducted.
- A committee of citizens provide representative views of special interests or community concerns.

Example of a Caltrans Advisory Committee

An example of an advisory committee might be an Aesthetic Advisory Committee composed of representatives from the local community's architectural review board, design review committee, other interested advisory boards, etc. and individual citizens.

Appointment of Caltrans Advisory Committee Members

When a timely study is needed, and when project funding appears to be available, advisory committees may be appointed by the local government. Such a committee is responsible to the appointing local government. The local government should be encouraged to appoint members that represent a broad spectrum of community interest, including those of the physically challenged and minorities. The local government should also devote adequate staff time to the committee. A subcommittee can be appointed for specific phases, such as traffic studies, analysis of project alternatives, etc.

Functions of a Caltrans Advisory Committee

Advisory committees, if used properly, can help to identify problems and clarify key issues. They are not and should not be considered decision-making bodies. They can be used to:

- Test public acceptance of the project
- Check the appropriateness of problem solutions
- Build a constituency for the project
- Reduce conflict between opposing interests

Any PDT contemplating use of an advisory committee should develop a written charter for the committee. The charter should indicate that the advisory committee's role is to provide advice to the PDT. The PDT should always consider this advice. Ignoring the advice risks creating a hostile relationship between the PDT and the advisory committee.

Advisory committees may attempt to assume a role beyond their role described in the charter. If this happens, it may be necessary to have the committee review its charter and refocus on its role and purpose. See Chapter 22 for more information on Caltrans Citizen Advisory Committees.

Need to Develop Working Relationship

When using an advisory committee, a close working relationship should be developed with the chair and members individually. Controversies and differences should be informally resolved (one-on-one) so that the advisory committee operates as smoothly as possible. An action contrary to the advice given by the committee may reflect badly on the project or compromise Caltrans' future relationship with the whole community.

Proper Use of Caltrans Advisory Committees

Advisory committees should be used properly. For instance, an advisory committee should not be used to inform the public of project activities and plans. A more practical method to inform the public of project activities, plans, and schedules is to use a project newsletter or a strong media program. See Chapter 22 for more details on providing the public project information.

SECTION 5 – Project Development Categories

General

It is recognized that all projects are not of the same magnitude, nor will they have similar effects due to differing geographic location, population densities, and other unique characteristics. The project development process must provide a methodology to address these economic, social, environmental, and transportation differences. It must also address applicable federal and State legal requirements.

Similar Projects Equal Similar Process

Project Development Categories have been established to assure that project-related differences and State and federal requirements are addressed in the project development process. Each category consists of groups of projects having similar characteristics and therefore similar development procedures. The following characteristics were selected for categorizing highway projects:

1. Whether or not there is access control
2. Whether or not the project is on new alignment
3. Whether or not substantial new right of way is required
4. Whether or not there is substantial increase in traffic capacity
5. Whether or not the project is initiated by, and is under the jurisdiction of, a local agency

Category Descriptions

By definition, Categories 1 through 4 apply only to State highways; Categories 5 and 6 apply to either State or local highways; Category 7 is limited to local highways.

Category 1 Projects

Projects requiring access control, new right of way, adoption of a route location by the CTC, and Freeway Agreements.

Examples: New freeways, expressways, and controlled access highways on new alignment - conversion of conventional highways (with no access control) to freeways - expressways or controlled access highways.

Category 2 Projects

Projects that require a route location adoption by the CTC, and new right of way, but do not require access control or freeway agreements.

Examples: New conventional highways or realignments of conventional highways.

For purposes of determining whether or not an initial PDT meeting will be scheduled, Category 2 projects will be informally classified as "2A" or "2B". The proper classification will be determined by the PDT. Guidelines for these classifications are not specific, but would generally be described as below:

2A Projects:

A major project which would normally be one of substantial realignment or providing a substantial increase in traffic capacity. Also, the project would be one of particular significance physically or environmentally, or may be located in an area of critical concern.

2B Projects:

A minor project which would not meet any of the requirements for a major project. Examples include minor safety curve corrections, temporary connections, and other small realignments requiring a route adoption.

Category 3 Projects

Projects on previously constructed access controlled routes requiring a new or revised freeway agreement, but not a route adoption. New right of way may or may not be required. This category does not apply to the subsequent stages of multistage projects. A Category 3 project may be Categorically Exempt.

Examples: New or revised interchanges — new connections — conversion of expressway to freeway — widening an existing expressway, freeway, or controlled access highway, if they involve changes to local roads.

Category 4 Projects

Projects that do not require a location adoption or a Freeway Agreement and do not meet the criteria of Categories 5 or 6.

Because a wide variety of projects will be classified as Category 4, a further classification is made into 4A projects and 4B projects. The purpose of this distinction is to make an early tentative identification of projects whose potential impacts are most likely to be of interest or concern to regional and local jurisdictions.

4A Projects:

Projects requiring substantial new right of way or substantially increasing traffic capacity.

Examples: Widening conventional highway — addition of freeway lanes — interchange reconstruction not requiring a revised freeway agreement — separate safety roadside rest areas

4B Projects:

Projects that do not require substantial new right of way and do not substantially increase traffic capacity.

Examples: Projects that could probably be Category 5 projects except for the fact that they require a Negative Declaration rather than being Categorically Exempt under CEQA.

Category 5 Projects

Projects of minimal economic, social, or environmental significance. These projects would include those Categorically Exempt under CEQA. The *Standard Environmental Reference* contains a complete listing of Categorical Exemptions, along with guidelines for their applicability to a project.

Category 6 Projects

Projects urgently needed because of a national emergency, natural disaster, catastrophic failure, or immediate threat to life or property. Caution should be exercised for projects lasting over 30 days that have potential Section 106 (National Historic Preservation Act) involvement.

Even though there are no specified procedures for State-administered emergency restorative work, projects should involve interested local agencies when practicable. For major permanent replacement work involving studies of alternative locations, development of plans, right of way acquisition, betterments, etc., the procedures of the appropriate project category will apply, unless otherwise approved by the FHWA.

Category 7 Projects

Federal-aid projects initiated by local agencies on highways under their jurisdiction, not classified as Category 5 or 6.

Category Assignments

The assignment of a particular category is usually a PDT function, but the responsibility rests with the District Director, or in the case of locally initiated projects, with the local agency.

As further data is gathered, the project category assignment is subject to change. Input into the determination will be provided by both the Design and Environmental Units.

As soon as the project category assignment is made, a comment should be entered in the next Status of Projects in the "Remarks" column.

It is possible that different project alternatives will call for different project categories; for example, a new alignment alternative would be Category 1 or 2, whereas a "fix-the existing" alternative for the same study might be Category 4A or 4B. In these cases, the highest-order category will be selected to assure that recycling of the process will not be required later should the higher-order project be selected. The category assignment is always subject to change as project alternatives are added or dropped. However, dropping down in order should only be done after very careful consideration.

Matrix to Project Planning Steps

The relationship between the project category and the key steps in the project planning portion of the project development process are shown on Figure 1. This Figure summarizes the requirements for each Caltrans project category as stated in other chapters of this Part of this manual, and relates them to the various program types. In addition, Figure 2 relates the various program codes to the different types of project initiation and project approval documents.

FIGURE 1 - Project Development Categories Matrixed to Key Project Planning Steps

KEY PROJECT PLANNING STEPS	PROJECT DEVELOPMENT CATEGORY [7]							
	1	2		3	4		5	6
		A	B		A	B		
Designate Project Manager (Chapter 8 Section 1)	YES	YES	YES	YES	YES	YES	YES	YES
Develop Project Work Plan (Chapter 8 Section 1)	YES	YES	YES	YES	YES	YES	YES	YES
Project Development Team (Chapter 8 Section 1)	Formal	Formal	Formal	Formal	Formal	Informal [1]	Informal [1]	NO
Preliminary Environmental Evaluation (Chapter 10 Section 2)	YES	YES	YES	YES	YES	YES	YES	YES
Project Initiation Document (Chapter 9)	PSR	PSR	PSR	PSR	PSR	PSR	PSR or [5]	PSR or [5]
Initial Public Meeting (Chapter 10 Section 3 and Chapter 22 Article 5)	YES	YES	optional	optional	optional	only if requested	NO	NO
Written Notice of Studies (Chapter 10 Section 3 and Chapter 22 Section 10)	YES	YES	YES	YES	YES	rarely [3]	NO	NO
Initiate Formal Environmental Studies (Chapter 10 Section 3) (EH)	YES	YES	normally [2]	normally [2]	YES	YES	NO	NO
Draft Project Report (Chapter 10 Section 5)	YES	YES	normally [2]	normally [2]	YES	YES	NO	NO
Environmental Document (EH)	YES	YES	normally [2]	normally [2]	YES	YES	NO	NO
Public Hearing (Chapter 11)	YES or opportunity	YES or opportunity	YES [2] or opportunity	normally [2] [4]	YES or opportunity	rarely [4]	NO	NO
Preferred Alternative Selection (Chapter 12 Section 2)	YES	YES	normally [3]	normally [3]	normally [3]	normally [3]	NO	NO
Project Approval Document (Chapter 12)	PR	PR	PR	PR	PR	PR	PR or [6]	PR or [6]
CTC Route Adoption (Chapters 13 and 23)	YES	YES	YES	NO	NO	NO	NO	NO
Freeway Agreement (Chapters 13 and 24)	YES	NO	NO	YES	NO	NO	NO	NO

(Chapter Section_) = *Project Development Procedures Manual* (SER) = *Standard Environmental Reference*

See Footnotes on next page.

Footnotes

[1] Formal PDT not required. The determination of significance of environmental impacts and of Project Category will be jointly made by District Project Management, Design, and Environmental Units.

[2] Not applicable if Categorically or Statutorily Exempt , and/or Categorically Excluded.

[3] Required for projects that present alternatives in an Environmental Document (EIR/EIS or IS/EA).

[4] If no federal Environmental Document is involved, the PDT evaluates and determines the need for a Public Hearing.

[5] The following Project Initiation Documents are applicable, depending on project type or program:

Program	Type Of Project	Document
various	Project-funded-by-others, non-complex, > $1M	Combined PSR/PR, PEER
HA1	Lands, Buildings, & Facilities Improvement	Facilities PSR
HA4S	Seismic Retrofit	PSSR-Seismic
HA21 / HA22	Bridge/Roadway R&R	PSSR
HA23	Major Damage Restoration	DAF
HA25 / HB32	Highway Planting or Restoration	PSR Data Sheet
HA28	Urban Freeway Off-Pavement Access	PSSR-UFOPA
HB4N	Operational Improvements (TSM projects)	PIR
HB5	HOV Operational Improvements (TSM projects)	PIR
HB6	Rideshare Facilities (TSM projects)	PIR
HB311	Community Noise Abatement	NBSSR

Note: Minor A, Minor B, Capital Preventive Maintenance, and other maintenance projects do not require a Project Initiation Document; therefore, a PR initiates a Minor A, a CAPM PR initiates Capital Preventive Maintenance projects, and an EA PR initiates the Minor B and other non-CAPM maintenance projects.

[6] The following Project Approval Documents are applicable, depending on project type or program:

Program	Type Of Project	Document
– – – – – – –	Encroachment Permit < $1M	PEER
various	Projects-funded-by-others, non-complex, < $3 M	PEER
various	Minor B or Maintenance Projects	EA PR
HA22	Capital Preventive Maintenance Projects	CAPM PR
HA25 / HB32	Highway Planting or Restoration	PR-HP&R
HA26 / HB33	Safety Roadside Rest or Restoration	PR-SRR

These Project Initiation Documents are equivalent to a PR if they have the following approved attachments:

Document	Attachments
NBSSR	CE (or ND if necessary) and Noise Study
Combined PSR/PR	Approved ED
PSSR	CE (or ND if necessary)
PSSR-Seismic	CE
PSSR-UFOPA	CE
DAF	CE

[7] Category 7 relates to local projects on local facilities only. (See *Local Programs Manual*.)

FIGURE 2 - Project Initiation and Approval Documents -- According to Program[10]

CMP = State Budget Program Component
PRG = State Budget Program Task (old program)

REPORT TYPES

CAPM PR	Capital Preventive Maintenance Project Report
CPSR/PR	Combined Project Study Report /Project Report
DAF	Damage Assessment Form
DO	Director's Order
DPR	Draft Project Report
EA PR	Expenditure Authorization Project Report
FPSR	Facility Project Study Report (Lands & Buildings)
NBSSR	Noise Barrier Scope Summary Report
PEER	Permit Engineering Evaluation Report
PIR	Project Information Report
PR	Project Report
PR-HP&R	Project Report - Highway Planting & Restoration
PR-SRRA	Project Report - Safety Roadside Rest Area
PSR	Project Study Report
PSRDS-HP	Project Study Report Data Sheet - Highway Planting
PSRDS-HPR	Project Study Report Data Sheet - Highway Planting Restoration
PSSR-BR	Project Scope Summary Report - Structure Rehabilitation
PSSR-PR	Project Scope Summary Report - Pavement Rehabilitation
PSSR-SR	Project Scope Summary Report - Seismic Retrofit
PSSR-UFOPA	Project Scope Summary Report - Urban Freeway Off-Pavement Access

See Footnotes at end of Section 5.

Key Project Planning Steps	PROJECT DEVELOPMENT CATEGORY								
	1	2		3	4		5	6	7
		A	B		A	B			
Access control Freeway Agreement	YES	NO	NO	YES	NO	NO	NO		
On new alignment Route Adoption	YES	YES	YES	NO	NO	NO	NO		
Substantial new	YES	YES	NO	M	YES	NO	NO		
R/W needed		YES	NO	YES	YES	NO	NO		
Substantial increase in traffic capacity									YES
Initiated by or under Local jurisdiction		YES	NO		M	YES	NO		
Environmental Significance								YES	
Emergency									

M = maybe (yes or no)

Projects Authorized in State Programming Documents

State Highway Operation & Protection Plan (SHOPP)				
CMP	PRG	DESCRIPTION	INITIATION	APPROVAL
RAS	HA11	Equipment Facilities	FPSR	PR[4]
	HA12	Maintenance Facilities	FPSR	PR[4]
	HA13	Buildings and Operation Centers	FPSR	PR[4]
	HA21	Bridge Restoration & Replacement	PSSR-BR	PSSR-BR[1]
	HA22	Roadway Reconstruction & Restoration	PSSR-PR	PSSR-BR[1]
	HA22	Capital Preventive Maintenance Projects	CAPM PR	CAPM PR
	HA23	Major Damage Restoration	DAF	DAF
	HA25	Highway Planting Restoration	PSRDS-HPR	PR-HP&R
	HA26	Safety Roadside Rest Area Restoration	PSR	PR-SRRA
	HA27	Urban Freeway Median Barrier Retrofit	PSR	PR
	HA28	Urban Freeway Off Pavement Access	PSSR-UFOPA	PSSR-UFOPA
	HB42	Protective Betterments	PSR[3]	PR[3,4]
	HA4S1	Phase 1 Structures Seismic Retrofit	PSSR-SR	PSSR-SR
	HA4S2	Phase 2 Structures Seismic Retrofit	PSSR-SR	PSSR-SR
	HB1	Safety Improvements	PSR[3]	PR[3,4]
OHC	HB32	Highway Planting	PSRDS-HP	PR-HP&R
	HB33	Safety Roadside Rest Areas	PSR	PR-SRRA
	HB34	Roadside Enhancement (Vista Points)	PSR[3]	PR[3,4]
	HB4N	Operational Improvements (non-capacity increasing)	PSR[3]	PR[3,4]
	HB711	New Curb Ramp (ADA)	PSR	PR
	HB712	Park & Ride Lot (ADA) Modifications	PSR	PR

See Footnotes at end of Section 5.

State Transportation Improvement Program (STIP)				
CMP	PRG	DESCRIPTION	INITIATION	APPROVAL
FCR	HB4N	Operational Improvements (non-capacity increasing)	PSR[3]	PR[3]
	HB4C	Operational Improvements (capacity increasing)	PSR[3]	PR[3,4]
	HB5	HOV Facilities	PSR[3]	PR[3]
	HB6	Transit-Related & Ridesharing Facilities	PSR[3]	PR[3]
IRS	HB4N	Operational Improvements (non-capacity increasing)	PSR[3]	PR[3]
	HB4C	Operational Improvements (capacity increasing)	PSR	PR[4]
	HE11	New Facilities: New Connections & Cross-Traffic Improvements	PSR[3]	PR[3,4]
	HE12	New Facilities: Upgraded Facilities	PSR[3]	PR[3,4]
	HE13	New Facilities: Lane Additions	PSR	PR[4]
	HE14	New Facilities: New Highways	PSR	PR[4]
SW	HB311	Community Noise Attenuation	NBSSR	NBSSR[1,2]

Traffic Systems Management Plan (TSM Plan)				
CMP	PRG	DESCRIPTION	INITIATION	APPROVAL
TSM	HB4N	Operational Improvements (non-capacity increasing)	PIR	PR
	HB5	HOV Facilities	PIR	PR
	HB6	Transit-Related & Ridesharing Facilities	PIR	PR

Toll Bridge Program				
CMP	PRG	DESCRIPTION	INITIATION	APPROVAL
TBF	HA14	Toll Facilities	FPSR	PR[4]
	HA21	Bridge Restoration & Replacement	PSSR-BR	PSSR-BR
	HA4S3	Toll Bridge Seismic Retrofit	PSSR-SR	PSSR-SR
	HB4N	Operational Improvements (non-capacity increasing)	PSR[3]	PR[3]
	HE11	New Facilities: New Connections & Cross-Traffic Improvements	PSR[3]	PR[3,4]
	HE14	New Facilities: New Highways	PSR	PR[4]
	HE201 to HE209	New Toll Bridge Facilities	PSR	PR[4]

See Footnotes at end of Section 5.

Projects Not Authorized in State Programming Documents

Other Caltrans-Funded Projects			
PROGRAM	DESCRIPTION	INITIATION	APPROVAL
HM1 to HM5	Maintenance	EA PR	EA PR
All programs	Minor B	EA PR	EA PR[11]
All programs	Minor A	PR	PR
All programs	Emergency or Urgent	DO/DAF[12]	DO/DAF

100% Locally Funded Projects[8]		
DESCRIPTION	INITIATION	APPROVAL
Projects-funded-by-others[6] that don't meet criteria	PSR[3,9]	PR[3,4]
Projects-funded-by-others[6] that meet criteria	CPSR/PR	CPSR/PR
Projects-funded-by-others[6] that meet PEER criteria	PEER[5,9]	PEER[5]
Encroachment Permit Projects[7] ($300K or less)	PEER[9]	PEER
Encroachment Permit Projects[7] ($300K to $1M)	PEER[5,9]	PEER[5]

Footnotes

[1] Must have Categorical Exemption or Final Environmental Document attached.

[2] Noise Study must be completed and approved.

[3] Combined PSR/PR could be used if criteria are met.

[4] DPR needed if Draft Environmental Document is prepared by Caltrans.

[5] PEER can be used unless district decides PEER provides inadequate justification and documentation and that a PR is needed. Combined PSR/PR form may be used for PR if criteria are met.

[6] 100 % locally funded projects costing over $1 million within State right of way.

[7] 100 % locally funded projects costing $1 million or less within State right of way.

[8] Jointly funded projects are Projects Authorized in State Programming Documents and are processed in the same manner.

[9] New public road connections: use PSR-New Connection for expressways; use PSR for freeways.

[10] PSR is standard project initiation document. PR is standard project approval document. If the specialized document does not provide adequate coverage, use the standard document.

[11] Traffic-signal projects require cover letter with technical justification, attachments, RE Stamp.

[12] Emergency Projects outside of HA23 program which will receive a Director's Order may follow the HA23 procedure.

SECTION 6 – Project Alternatives

Need for Alternatives

During the development of all projects, alternatives are considered to the extent necessary to (1) minimize costs and adverse environmental impacts, and to (2) maximize public benefits. In addition, a minimum fundable alternative and stageable alternatives need to be identified (see Chapter 7).

Generally, the concept and scope of project alternatives can include location, geometric features, mode, or mix of modes. However, mode or mix of modes should have been determined at an earlier stage, during the system planning process, and only review and documentation of that determination is needed during formal project studies. In addition, some location and geometric variations are not alternatives; instead, they are design variations.

Discussing project alternatives with community groups is an effective way to gain an improved understanding of the goals and objectives of various community interests. It can assist in determining which alternatives have the greatest potential for successful implementation.

Value analysis is the preferred method of developing alternatives, using a systematic application of analytical techniques to identify a project's function, identify alternatives, and analyze alternatives to identify the one that fully meets the project's function at the lowest overall cost.

Least Environmental Damage

It is Caltrans' policy to evaluate alternative solutions that reduce or avoid adverse environmental impacts, and to select the alternative that causes the least environmental damage while still accomplishing the transportation need.

Most Projects Have no Significant Impacts

Most projects do not have potential significant environmental impacts, thus no formal consideration of alternatives is needed. This would generally include traffic system management and rehabilitation projects, and other projects with minor impacts and little controversy. For these cases, project alternatives are considered on an informal basis; and are not required to be addressed in the project's environmental documentation. Viable alternatives would however, be discussed in the PR and the reason given for selecting the Preferred Alternative.

Thorough Study of Alternatives

Alternatives that are studied in detail, either formally or informally, must comply with legal and administrative requirements and must be technically and economically feasible. The depth of studies should be consistent with the scale of the proposed project and the significance of the project impacts. Additionally, the studies should reflect the need for permits and formal consultations with other agencies. They should also reflect the degree of community involvement.

Environmental Review Requirements

The consideration of alternatives must be consistent with the environmental review requirements. Project delivery frequently depends on the skill with which compliance with these laws is obtained. Therefore, it is important for the PDT and the PM to have a general knowledge of applicable environmental laws.

Permit compliance for the development of required disposal, staging or borrow sites may require comprehensive environmental studies and reclamation planning.

Full Range of Alternatives

When environmental laws require the formal consideration of alternatives within the environmental document, the full range of options are to be addressed. The document must list specific objectives outlining the project's "Need and Purpose," and the reasons why certain alternatives did not meet these objectives and were consequently set aside. All significant adverse effects of each reasonable alternative must be identified. For each such effect, all reasonable mitigation measures must also be identified. The environmental document provides a record of the decision-making process.

Constructability Reviews

The formal constructability review (CR) process is an iterative, multidisciplinary review of project quality to specifically identify and address potential barriers to construction. All major projects (except for projects funded by others) shall include the use of formal CRs during the project initiation and design phases of the project development process.

This requirement is aimed at improving project quality and overall constructability in an effort to reduce contract change orders and delay claims.

The approval authority for any exceptions to conducting CRs had been previously limited to the District or Region Director, however this authority may be delegated to the Deputy District Director for Design and Construction jointly.

Constructability Review Process

The PM is responsible for selecting the appropriate CR level, assuring that sufficient time and resources are allocated for the CR in the Project Workplan and that the CRs take place at the established times. It is appropriate to vary the number of reviews based on the size and complexity of the individual project. A "Level 1" CR, which includes reviews at the Project Initiation Document (PID) stage, and the 30%, 60%, and 95% design stages is appropriate for the following types of projects:

- Large, complex roadway/facility improvements (including new construction, widening, or realignment projects with significant staging and traffic handling requirements).
- Complex interchange construction or modifications.
- Large structure projects with complex or very high cost features.
- Large rehabilitation projects which include widening, major replacements of structures/drainage features, or significant utility involvement.

A "Level 2" CR which includes a PID stage and 30% and 95% design reviews is appropriate for:

- Less complex roadway/facility projects (including widening projects with minimal staging/traffic handling requirements).
- Less complex structure or interchange projects.
- Most rehabilitation projects which include structure rehabilitation, minor widening, drainage, or safety improvements.

A "Level 3" CR which includes a PID stage and 95% design review is appropriate for other simple project such as:

- Capital Preventive Maintenance (CAPM) overlay projects.
- Most non-complex Soundwall projects.

The PID review involves the review of the Draft PSR, PSSR, or other initiation document, prior to programming of the project. It is a "fatal flaw" –type review to assure that all alternatives are constructable based on the available level of detail. It includes a review of the proposed project workplan and schedule.

The 30% design review generally takes place after "project approval" (approval of the Final Environmental Document and/or PR) at the "Geometric Base Map" stage. It includes the review of traffic control, staging and right-of-way requirements. Available hydraulics and/or geotechnical information is included in this review as are any environmental restrictions or mitigation requirements**.** The review addresses any design modifications since the PID review.

The 60% design review is a more detailed review of final project geometrics, completed earthwork/grading plans, drainage layout and preliminary quantity calculations. Final right-of-way requirements are reviewed, as are traffic control, construction staging, and permitting agency commitments. The review addresses any design modifications or schedule or resource changes since the previous review.

The 95% design review incorporates the project Safety Reviews and builds upon prior reviews. It includes a check of final quantities, special provisions (including number of contract working days) and project cost estimate.

Life-Cycle Cost Analysis for Pavement Work

Life-cycle cost analysis is an effective and useful tool used nationwide to determine the best value for spending limited resources. A life-cycle cost analysis takes into account various current and future financial obligations and impacts of a particular design, including initial costs, future maintenance costs, future rehabilitation costs, and costs of the user (motorists and the movement of goods). The alternative with the lowest life-cycle cost is viewed as having the lowest impact to the State even if it has higher initial costs.

The Caltrans *Highway Design Manua*l *(HDM)* uses life-cycle cost analyses to determine the optimum pavement design life for new construction, widening, and rehabilitation projects. See Chapter 610 of the HDM, Topic 612, "Pavement Design Life," and Topic 619, "Life-Cycle Cost Analysis." Life-cycle analyses also can help determine the most cost-effective pavement type such, as rigid, conventional hot mixed asphalt, or rubberized asphalt concrete.

Life-cycle cost analyses shall be performed for all projects which include pavement work that is done on the State Highway System, regardless of funding sources, with the exception of the following projects?

- major maintenance.
- minor A and minor B.
- Project using permit engineering evaluation reports.
- Maintenance pullouts.
- Landscape paving.

For the above exempted projects, the Caltrans PM and the PDT will determine on a case-by-case basis if and how a life-cycle analysis should be performed and documented for each project development phase.

Pavement work is considered to be all the costs associated with providing material and constructing a pavement structure, including subbase, base, surfacing, and pavement drainage. Work can involve constructing, widening, rehabilitating, or overlaying lanes, shoulders, gore area, intersections, or parking lots, and other similar activities.

A life-cycle cost analysis must include a rubberized asphalt alternative whenever conventional hot mixed asphalt is considered for on the alternatives.

Life-cycle cost for all alternatives investigated shall be documented in project initiation documents, PRs, and project scope summary reports. For projects involving work on the SHS, a life-cycle cost analysis shall be performed prior to programming construction

capital. At a minimum, the project initiation document shall identify viable strategies for the pavement life-cycle cost analysis.

Life-cycle cost analysis for pavements shall follow the procedures found the *Life-Cycle Cost Analysis Procedures Manual* for pavements. Appendix OO provides the format and procedures for how to document these procedures in project initiation documents and PRs.

Formal Consideration of Alternatives

Alternatives must be formally considered within the environmental review process under any of the following circumstances:

- When an EIS or EIR is prepared
- When an adverse impact is expected on any of the following protected resources:
  - Endangered species
  - Public parks, recreation areas, or wildlife and waterfowl refuges
  - Historic sites
  - Aquatic ecosystems, including wetlands
  - Farmlands or Agricultural Preserves
  - Floodplains
- When a hazardous waste site is expected to be impacted

The PDT may find it most expedient to propose a project alternative that would avoid these circumstances. Conversely, there are situations where due to the public controversy surrounding a project, or due to a project's high public profile, the PDT may appropriately elect to address project alternatives in a formal manner — even though not required.

Defensible Alternative Selection Process

If project alternatives are formally considered, it is extremely important to embark upon a systematic and defensible alternative-selection process. It has been shown time and again that a quality process from the outset, carefully targeted to the community, will save delivery time and money and result in a better end-product.

Consider the following key points during this process:

- Early Identification of Impacts — the need for early identification of significant environmental impacts, uses of protected resources, and impacts on hazardous wastes.

- Project "Need and Purpose" — the need to develop a thorough and accurate description of the project's "Need and Purpose."

- Funding — Alternatives must take into account the flexible funding that is available for congestion relief projects.

- Close Cooperation — the project's engineering, environmental, and transportation planning staffs must work together as a team. This is best accomplished with frequent, informal interaction.

- Decision Maker — the preparer of the environmental document does not determine if the project is to proceed; that is the jurisdiction of the District Director or designee. The environmental document identifies the project's "pluses and minuses." As such, it can be used by the District Director as an informational tool that will help in making an informed project decision.

SECTION 7 – Topics to Consider During Project Development

Introduction

During the Project Development process there are many issues to consider. The following Chapters in Part 2 (7 through 15) give a chronological description of most items that may need consideration. Other topics that relate to the entire project development process, but are difficult to describe chronologically, are covered in this section and in Part 3. Part 3 topics describe policies that are specialized topics or reach beyond the considerations of a single project, such as topics of general application by project development personnel even if a project is not involved, or topics that apply to locations or limits that are not the same as those of a particular project.

This section provides information on topics that may affect specific projects throughout the project development process, and if overlooked may cause significant fiscal and scheduling problems. These topics need to be identified at the project initiation stage and incorporated into the proposed project as appropriate, with documentation as needed in the project initiation and approval documents.

Pedestrian Accessibility

Buildings and transportation facilities on all projects must be accessible within the State Highway rights-of-way in accordance to federal and State law. The *Americans with Disabilities Act (ADA) of 1990*, along with its implementing regulations, and the *California Government Code Sections 4450* et seq. prescribe that buildings and facilities shall be made accessible to persons with disabilities. Accessibility design standards for the State of California are prescribed in *Title 24 of the California Code of Regulations;* in *Part 2*, the *California Building Code*. The Department of General Services, Division of the State Architect (DSA), oversees California Building Code compliance.

Except for rail and transit stations, within the State Highway rights-of-way, Caltrans (in addition to DSA) is authorized by State law to certify, on a project-by-project basis, that a project complies with State pedestrian accessibility design standards for transportation facilities. *Design Information Bulletin (DIB) 82* provides design guidance on pedestrian accessibility for highway projects and how to comply with the various Federal laws and State codes. *TAEMWW Building Memo to Designers 7-7.1*, issued by the Division of Engineering Services, provides design guidance on how to comply with the various federal laws and State codes on accessibility for building projects.

DSA reviews and provides the required approval that a rail or transit station project complies with the State pedestrian accessibility code.

For additional discussion on pedestrian facilities, see the Chapter 31 of this manual.

Right of Way Considerations

Right of way issues can significantly affect the development, scope and cost of a project. If overlooked, right of way issues can delay or seriously impact the project schedule.

Relocation Impact Studies

Relocation Impact documents are prepared in accordance with the procedures outlined in Section 10.05 of the *Right of Way Manual*. These studies are required on all projects that displace any person or business. A Final Relocation Impact Study/Statement (FRIS) will be completed for the Preferred Alternative so that necessary revisions may be included in the Final Environmental Document.

Relocation Impact Studies are often complex and time-consuming; therefore, requests for the studies should be submitted to the District Right of Way Branch as early in the project development process as possible. This is particularly important if "Last Resort Housing" or "replacement of affordable housing" are involved. The importance of submitting good mapping and other base data to the District Right of Way Branch cannot be overemphasized. The quality of the information submitted directly relates to the validity of right of way impact studies.

Airspace Lease Areas

Streets and Highways Code Section 104.12(b) requires Caltrans to consider future lease potential of areas above or below a State Highway whenever planning a project. The PDT should determine whether the proposed project is in an area of high land values having potential for future airspace leases. If so, and if the geometric plan can accommodate or can be modified to accommodate airspace leases, the District Airspace Committee is requested to review the appropriateness of incorporating such provisions into the project.

Where the District Airspace Committee has determined that provision for future airspace leases is appropriate, the involved local agency is contacted to ascertain compatibility with local land-use plans and the agency's willingness to make a financial commitment for any added costs. Unless airspace lease provisions are required to mitigate project impacts, any added costs must be borne by others (either public or private sources).

Right of Way Cost Data

Right of way cost estimates and parcel data are prepared in accordance with the *Right of Way Manual*. The Right of Way Data Sheet (See Appendix JJ) is used by the District Right of Way Branch to provide this information when requested.

Development of right of way cost estimates are often complex and time consuming, so requests for such should be submitted to the District Right of Way Branch as early in the project development process as possible. Good mapping and other base data provided by Design are important as their quality directly impacts the validity of the right of way cost

estimates which are a component of the project cost estimate as described in Appendix AA.

Railroad Involvement

It is the Design Unit's responsibility to provide the District Right of Way Branch with approximate geometric maps, profiles, and cross sections for the purpose of determining railroad involvement and for use in subsequent negotiations, as necessary. Refer to Chapter 3, Sections 3 and 8.

Utility Involvement

It is the Design Unit's responsibility to provide the District Right of Way Branch with approximate geometric maps, profiles, and cross sections for the purpose of determining utility involvement and use in subsequent negotiations, as necessary. Refer to Chapter 3, Section 13.

Any exceptions to Caltrans' policy on encroachments must be submitted to the Division of Design (DOD) Division Chief, Attention: Encroachment Exceptions for approval. For more information, see Chapter 17, "Encroachments in Caltrans' Right of Way".

Disposal Staging and Borrow

Measures must be taken to ensure the availability of disposal, staging or borrow sites from or for transportation projects. Disposal, staging and borrow may or may not be contiguous with the project limits. Easements or acquisitions may be required to harvest, process or haul materials. See *HDM Topic 11* and *Design Information Bulletin 85* for further guidance.

Responsibilities of Utility Companies and Other Owners

A preliminary determination of the financial responsibilities of utility companies and other owners is needed to prepare a good estimate of State costs. Owners of non-Caltrans facilities located within the highway right of way may be required to participate in any relocation, reconstruction, or improvements required by proposed highway improvements.

At a very early stage in the project studies, a thorough investigation is made of all affected facilities to determine ownership. Particular attention should be paid to water carrying facilities, as they may appear to be highway related facilities, but may actually belong to an irrigation or reclamation district or may be part of a State Water Project. These facilities may have been installed under permit, which requires owner participation in subsequent modifications. The above investigations should reveal ownership, prior rights, permit obligations, etc.

State funds are not used to pay for obligations that have been incurred by others as a condition for placement of their facilities within Caltrans right of way.

- Public Utility Owned Facilities

  Public utility facilities, both publicly and privately owned, that are to be constructed as a part of a transportation project, require a determination of liability. The determination is prepared by the District Right of Way Branch and approved by the Division of Right of Way, prior to submittal of PS&E to the Headquarters Office of Office Engineer. The public utility company is notified to relocate their facilities by the district after this approval is given. Refer to Chapter 13 of the *Right of Way Manual* for details.

- Non-Utility Facilities

  – Non-Common Carrier Facilities

    Non-utility facilities (i.e., non-common carrier oil company pipelines) also require a determination of liability as described above.

  – Sidewalks

    Financial responsibility for construction of sidewalks is established in accordance with Index 105.1 of the *Highway Design Manual*. Also see Section 13.03 of the *Maintenance Manual*.

  – Private Access Openings

    Revisions to private access openings (such as driveways and road approaches) are covered in Chapter 26 of this manual and in Index 205.5 of the *Highway Design Manual*. For owner-initiated openings, see Section 25.02.6 of the *Maintenance Manual*.

  – Mailboxes

    Movement of mailboxes is at State expense, per Section 6-15 of the *Construction Manual*. Also see Section 25.02.8 of the *Maintenance Manual*.

Traffic Operation Considerations

HOV (Bus and Carpool) Lanes

Caltrans policy (refer to the *High Occupancy Vehicle (HOV) Guidelines* for more information) requires consideration of an HOV lane alternative for all capacity additions to metropolitan freeways or new metropolitan freeways, and to recommend HOV preferential lanes at ramp meters where appropriate. Districts with major metropolitan areas work with the Regional Transportation Planning Agencies to develop a region wide

HOV lane system, and these systems are included in the regional transportation plans by the regional agencies, providing the basis for programming HOV lane projects.

Depending on such factors as transportation demand, travel time, cost, safety considerations, maintenance considerations, enforcement requirements, funding availability, environmental considerations, and community support, the specific HOV design and operational features considered in project planning will vary. Since the goal is to optimize the people-carrying capability of the HOV lanes, transit should be given preference, with vanpooling following and then carpooling. Proposals for lane additions and new facilities should be analyzed for mixed-flow and HOV operation to identify the alternative that will ultimately result in less overall person delay or the most increase in person carrying capacity. Separate roadways for HOVs should be considered when travel demand, cost-effectiveness and operational needs justify those facilities. Convertibility to rail is required under certain conditions when a new alignment or new structures are proposed.

Section 21655.6 of the Vehicle Code states that approval by the affected transportation planning agency or county transportation commission must be obtained before Caltrans may implement exclusive or preferential use of highway lanes for high-occupancy vehicles. Section 21655.5 of the Vehicle Code and Section 149 of the Streets and Highways Code states that Caltrans, prior to constructing or establishing bus and carpool lanes, shall conduct competent engineering estimates of the effect of such lanes on safety, congestion, and highway capacity.

When considering HOV lanes it is important for the PM or the PE to consider the need to seek support from local legislators, the public and local governments, and for coordination with the California Highway Patrol concerning operation and enforcement.

The *HOV Guidelines* should be consulted for more detailed information on policy and on planning, operations, geometric design, ingress and egress, signing and delineation, and enforcement. Appendix B of the *HOV Guidelines* contains a sample table which should be used to summarize the analysis of the congestion, capacity and safety ramifications of the alternatives for inclusion in the DPR and PR.

Park-and-Ride Facilities

Park and Ride facilities must be considered for inclusion on all major transportation construction projects that include, but are not limited to, new freeways, interchange modifications, lane additions, transit facilities, and HOV lanes. Section 146.5 of the Streets and Highways Code contains specific legal requirements regarding the selection and funding of these facilities. It is important to consider Park and Ride facilities before setting right of way lines. The District Park and Ride Coordinator must be consulted as to the appropriateness of including Park and Ride facilities and for assistance in documenting compliance with the legal requirements in the project initiation and project approval documents. Full justification is required for proposals that are contrary to the Park and Ride Coordinator's recommendations.

Park and Ride facilities are not permitted within interchange areas except with the review and approval from the Design Coordinator and the Traffic Liaison Engineer. Generally,

these locations will be approved only if no other area is acceptable or economically justifiable.

Additional information on Park and Ride facilities can be obtained from the Headquarters Park and Ride Coordinator through the Traffic Liaison Engineer in the Division of Traffic Operations. For the design of complex park and ride facilities and specific planting or erosion control requirements, consult with the District Landscape Architect.

Transit Related Facilities

Transit related highway facilities, including bus turn-outs, passenger loading areas, passenger benches and shelters, and special traffic control devices, should be considered where appropriate. Section 148 of the Streets and Highways Code contains specific requirements concerning these facilities.

Transportation Management Plans

Transportation Management Plans (TMP), formerly called "traffic management plans", are required for all reconstruction, rehabilitation, and other projects (including projects on the State highway System not funded by the State), if significant traffic delays are anticipated. "Significant traffic delay" is any additional delay beyond the existing conditions normally experienced by travelers through the traffic corridor as determined by the District Traffic Engineer. Determination of "significance" should be made on a project-by-project basis. Factors involved in this decision should include: (1) cost-effectiveness, (2) safety, (3) public reaction, (4) expected delays, (5) availability of detours and alternate routes, and (6) duration of project. In general, a TMP is needed if construction work on an existing roadway already experiencing recurrent delays causes a significant increase in recurrent delays over an extended period of time. Some TMPs might be complex; others may be very simple, with one or two activities added to the traditional traffic-handling practices.

Additional information on TMPs can be obtained from the Headquarters TMP Coordinator through the Traffic Liaison Engineer in the Division of Traffic Operations, or by reference to the *Transportation Management Plan Guidelines*.

Prolonged Ramp Closures

Temporary ramp closures of more than 10 consecutive days require preparation of an economic impact study by the Environmental Unit. Closures of less than 10 days may require a study, depending upon circumstance. Refer to Volume 4 of the *Standard Environmental Reference* for further information.

Accommodation of Oversize Loads

In accordance with policy, State freeways must be designed to provide passage for vehicles of unrestricted height while moving in and out of the area; to or from airports, harbors, and testing sites; and to or from ultimate destination for use or assembly. Exceptions to this policy should only be considered when an existing city or county facility allows for bypass of a State facility that has restrictions preventing passage of overheight vehicles.

In those instances where it is impractical to follow this policy due to engineering controls, excessive costs, or community values considerations, the impacted industries should be contacted and a mutually satisfactory solution sought. Impacted industries are those presently engaged in manufacturing of extralegal-dimensioned articles or those industries who have notified Caltrans of their potential for such activity. (Aerospace represents a significant portion of the impacted industries.)

Refer to Chapter 21 of this manual for a discussion of the Department of Defense 42 000 km Priority Network of selected Interstate system routes for which a 4.9 m minimum vertical clearance is required.

Miscellaneous Considerations

Access to Navigable Waterways

Section 84.5 of the Streets and Highways Code requires consideration of the feasibility of providing a means of public access to any navigable river over which a new bridge is being constructed. The term "navigable river" is construed to mean any body of water that will require a U.S. Coast Guard permit to cross over.

It is necessary to discuss this subject at any public hearing and to justify and document the position taken on public access to waterways in the project approval document. All environmental and engineering aspects must be considered as well as the intent of the Legislature. The potential for this item should be considered in the project initiation document.

Section 147 of the 1976 Federal Aid Highway Act provides that certain federal funds (NHS, STP and CMAQ under ISTEA; see Chapter 4, Article 4) may be used to construct access ramps to public boat launching areas in conjunction with bridge projects on these systems. In addition, it is not the intention of Section 147 to provide an extended roadway system within publicly owned recreation areas, but rather to provide direct access from the highway right-of-way to the water traversed by such highway

Floodplains

Identify and discuss any impacts on or encroachment on base (100-year) floodplains. The PE is responsible for initiating the floodplain evaluation process. For further guidelines, consult the *Standard Environmental Reference* and the *Highway Design Manual*, Topic 804.

National Pollutant Discharge Elimination System (NPDES)

A copy of the NPDES stormwater permit and NOI, if required, must be included in the PS&E package submitted to Office Engineer before the project can be advertised.

The National Pollutant Discharge Elimination System (NPDES) was established by Congress as part of the original Federal Clean Water Act in 1972. Article 402 of the Act established a system of permits for discharge of wastes to surface waters of the United

States. Prior to 1990, these permits focused mainly on municipal and industrial discharges. After 1990, these permits also included provisions related to nonpoint sources - namely stormwater.

Until recently, Caltrans had both kinds of permits: those related to discharges of waste to surface waters of the United States, and those related to stormwater discharges. The former most often involved discharges of wastewater from maintenance stations and safety roadside rest areas. Since the advent of washrack conversions at Maintenance Stations, the Department has transitioned out of nonstormwater discharges to surface waters of the United States. The later type of NPDES permit - those associated with stormwater discharges - are currently the only type of NPDES permit within the Department, and because they are so recent, and their requirements are so specific, they are often problematic.

A general construction stormwater permit has been promulgated by the State Water Resources Control Board for all areas of the State not covered by RWQCB stormwater permits, and applies to all construction project proponents involving more than 5 acres of disturbed earth. For any project that requires a general permit, a Notice of Intent (NOI) must be filed with the SWRCB along with the appropriate filing fee. The general permit requires that a Storm Water Pollution Prevention Plan (SWPPP) be developed and implemented for each construction site. A SWPPP identifies pollutant sources and Best Management Practices (BMP's) to control those pollutants.
The general construction stormwater permit is superceded in areas where an individual stormwater permit has been issued to Caltrans by a RWQCB. Projects located in areas covered by these individual permits must follow procedures specified in the individual permit, and the district has the responsibility of coordinating with the Regional Board.

An approved Storm Water Data Report (SWDR) as described in *Storm Water Quality Handbook: Project Planning and Design Guide* shall be completed during the project initiation, project approval and PS&E phases. All SWDRs submitted for approval shall use the SWDR format.

The Caltrans publication entitled Caltrans Storm Water Quality Handbooks: Planning and Design Staff Guide" should be consulted for further information on procedures for completing and submitting an NOI. Efforts continue to try and bring all Department facilities under one permit which all Regional Water Quality Control Boards, the State Water Resources Control Board, and the federal EPA will accept. For the most current information, contact the District Stormwater Coordinator.

Use of Asphalt Concrete Grindings, Chunks and Pieces

Section 5650 of the Fish and Game Code states that it is unlawful to deposit asphalt, other petroleum products, or any material deleterious to fish, plant life, or bird life where they can pass into the waters of the State. In addition, Section 1601 of the Fish and Game Code requires notification to the California Department of Fish and Game (DFG) prior to construction of a project that will result in the disposal or deposition of debris, waste or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake designated by the DFG. When constructing transportation facilities, Caltrans frequently uses asphalt in mixed or combined materials

such as asphalt concrete (AC) pavement. Caltrans also uses recycled AC grindings and chunks. There is a potential for these materials to reach the waters of the State through erosion or inappropriate placement during construction.

The first step is to determine whether there are waters of the State in proximity to the project that could be affected by the reuse of AC. Waters of the State include: (1) perennial rivers, streams or lakes that flow or contain water continuously for all or most of the year; or (2) intermittent lakes that contain water from time to time or intermittent rivers or streams that flow from time to time, stopping and starting at intervals, and may disappear and reappear. Ephemeral streams, which are generally exempt under provisions developed by Caltrans and DFG, are those that flow only in direct response to rainfall.

The reuse of AC pavement grindings will normally be consistent with the Fish and Game Code and not require a 1601 Agreement when these materials are placed where they cannot enter the waters of the State. However, there are no set rules as to distances and circumstances applicable to the placement of asphaltic materials. Placement decisions must be made on case-by-case basis, so that such materials will be placed far enough away from the waters of the State to prevent weather (erosion) or maintenance operations from dislodging the material into State waters. Site-specific factors (i.e., steep slopes) should be given special care. Generally, when AC pavement grindings are being considered for placement where there is a potential for problems, DFG should be notified to assist in determining whether a 1601 Agreement is appropriate and what mitigation strategies are available to prevent the materials from entering the waters of the State. When in doubt, it is recommended that the DFG be notified.

If there is the potential for reused AC materials to reach waters of the State through erosion or other means during construction, such work would normally require a 1601 Agreement. Depending on the circumstances, the following measures should be taken:

- The reuse of AC pavement grindings as fill material and shoulder backing must conform to the Caltrans Standard Specifications, applicable manuals of instruction, contract provisions and the MOU described below.

- AC chunks and pieces in embankments must be placed above the water table and covered by at least one foot of material.

A Memorandum of Understanding (MOU) dated January 12, 1993, outlines the interim agreement between the DFG and Caltrans regarding the use of asphaltic materials. This MOU provides a working agreement to facilitate Caltrans' continued use of asphaltic materials and avoid potential conflicts with the Fish and Game Code by describing conditions where use of asphalt road construction material by Caltrans would not conflict with the Fish and Game Code.

Specific Understandings contained in the MOU are:

- Asphalt Use in Embankments

  Caltrans may use AC chunks and pieces in embankments when these materials are placed where they will not enter the waters of the State.

- Use of AC Pavement Grindings as Shoulder Backing

  Caltrans may use AC pavement grindings as road shoulder backing when these materials are placed where they will not enter the waters of the State.

- Streambed Alteration Agreements

  Caltrans will notify the DFG pursuant to Section 1601 of the Fish and Game Code when a project involving the use of asphaltic materials or crumbled, flaked, or ground pavement will alter or result in the deposition of pavement material into a river, stream, or lake designated by the DFG. When the proposed activity incorporates the agreements reached under Section 1601 of the Fish and Game Code, and is consistent with Section 5650 of the Fish and Game Code and this MOU, the DFG will agree to the use of these materials.

There may be circumstances where agreement between the DFG and Caltrans cannot be reached. Should the two agencies reach an impasse, the agencies enter into a binding arbitration process outlined in Section 1601 of the Fish and Game Code. However, keep in mind that this arbitration process does not exempt Caltrans from complying with the provisions of the Fish and Game Code. Also it should be noted that this process is time consuming, requiring as much as 72 days or more to complete. Negotiations over the placement of AC grindings, chunks and pieces are to take place at the District level as part of the 1601 Agreement process.

Interim Projects

Interim projects are subject to CTC policies. An interim project is any project on or improvement to an existing State highway which is planned to be superseded by construction of a new freeway facility, during the period of time between adoption of a freeway alignment and completion of the freeway construction (and subsequent relinquishment of the existing highway).

- CTC Policy:

  The current CTC policy resolution, adopted by the California Highway Commission on July 30, 1964, sets forth the following responsibilities on interim projects:

  A. Basic Responsibility for all Projects

     1. The correction of drainage conditions that are clearly local problems shall be the responsibility of the local agency.

     2. The financing of all new curbs and gutters, exclusive of those required for channelization, shall be the responsibility of the local agency.

3. The State shall be responsible for maintaining the structural adequacy of the facility.

B. Interim Projects Estimated to Serve all Traffic for a Minimum Period of Five Years

The State shall be responsible, subject to limitations in item A, for financing the construction of necessary highway widening (including replacement of existing curbs and gutters and the addition of channelization) and for the cost of right of way acquisition.

C. Interim Projects Estimated to Serve all Traffic for a Period of Less Than Five Years

1. For projects that will be under construction prior to budgeting of the freeway project, in addition to A, the purchase of necessary additional rights of way, and construction of new curbs and gutters shall be the responsibility of the local agency. Replacement of existing curbs and gutters will be by the State.

2. When the freeway project has been budgeted, the local agencies shall provide 50 percent of all other construction costs for State highway widening in addition to those items previously ascribed to them.

3. After the freeway is opened for traffic, State responsibility shall be limited to placing the existing highway surface in a state of good repair.

... nothing ... will preclude financial participation by local agencies in excess of the amounts indicated ... the Commission will consider variations from this policy ..."

- Implementation

  – Widening Criteria

    Implementation of the Interim Projects policy should be based on State participation only to the extent of meeting traffic requirements within the interim time period. Extra width of roadbed for medians or for pavement in excess of that needed for such traffic, etc., should be financed entirely by the local agency.

    Exceptions to the policy require CTC approval. Justification for extra width at State expense must be contained in the PR. It is expected that the local agency's request for an exception will normally be in the form of a resolution. DOD will handle the processing to the CTC.

– Relinquishment

Section 73 of the Streets and Highways, governs the relinquishment of the interim facility after the freeway is open to traffic. It requires that highways, as defined in Section 23 of the Code, be placed in a state of good repair prior to relinquishment for routes superseded by relocation. The section also specifies that Caltrans is not obligated for widening, new construction, or major reconstruction, except as the CTC may direct. (See Chapter 25 of this manual for discussion of relinquishment policies and procedures.)

– Traffic Signals and Intersection Lighting

The modification of existing traffic signals, intersection lighting, and channelization required by the freeway will be at State expense.

Local participation will be sought on the cost of new signals and lighting systems on the existing highway on the basis of the number of legs under each jurisdiction entering the intersection. If a new traffic signal or illumination system, or modification to an existing signal, signal system, or illumination system is urgently needed to improve safety of traffic flow on the State highway, and if local authorities are unable to finance their proper share of the cost, the State may accept a lesser participation (or even no participation) by local authorities. The determination of "urgently needed" will be made by the District Director.

Construction of traffic signal systems must begin before the freeway is open to traffic. After the freeway is opened, it will be necessary to obtain advance approval from the CTC for a variance from the policy resolution. If signals are to be in operation less than 12 months before the freeway is opened, traffic signal warrants (see Chapter 9 of the *Traffic Manual*) must continue to be met after the freeway has been opened to traffic.

Widening Adjacent to Existing Facilities

On widening projects such as lane additions, auxiliary lanes, uphill climbing or passing lanes, etc., it is necessary to thoroughly investigate the existing adjacent pavement condition for rehabilitation need. It is not cost-effective or desirable to widen a highway without correcting for bad ride and major structural problems in adjacent pavements if that work is needed. However, certain circumstances may justify deferring the pavement rehabilitation work and programming it as a separate project in the State Highway Operation and Protection Program (SHOPP). If it is believed such circumstances exist, the Design Coordinator should be consulted to discuss deferring the pavement rehabilitation work. Possible options to consider are: widening only - rehabilitation not needed; widening concurrent with pavement rehabilitation; widening with deferred pavement rehabilitation only; and stage construction.

A review of the current Pavement Management System Inventory and Report Data in conjunction with a field review of the widening project must be made to determine if pavement rehabilitation is needed in conjunction with the widening. This should be done during the project initiation phase and then reviewed again during the Draft PR stage because the pavement condition may have deteriorated during the intervening time.

For asphalt concrete (AC) pavements exhibiting alligator "B" cracking, a deflection study is needed to confirm rehabilitation need and the appropriate pavement rehabilitation strategy. (Refer to Chapter 7, Article 5.) If the deflection study supports rehabilitation, the appropriate strategy and cost of rehabilitation and other project considerations, such as traffic safety needs, must be included in the project and discussed in the project development report (i.e., PSR, DPR, PR, etc.) unless deferred.

When widening contiguous to portland cement concrete (PCC) pavement, if the PMS survey data and field review indicate rehabilitation of the PCC is not an immediate need but will be necessary within ten years, then widening should be done with AC for compatibility with the eventual PCC pavement rehabilitation strategy which typically is a 105 mm AC overlay. If the PMS survey data and field review indicate that rehabilitation will not be needed within ten years, a PCC pavement structural section should be used to widen the existing PCC pavement.

Converting Shoulders to Traffic Lanes

Converting shoulders to a traffic lane (or portion) should only be undertaken when it is the last available means to provide increased capacity and should be done in consultation with the Design Coordinator. The preferred solution is permanent widening in accordance with the design standards in the *Highway Design Manual* (HDM).

Once a decision has been made to convert an existing shoulder (typically asphalt concrete) to a traffic lane (or portion) a deflection study must be made to determine the structural adequacy of the in-place material. A field review should also be performed to evaluate the condition of the asphalt concrete for signs that indicate it will provide poor ride quality or require excessive maintenance and rehabilitation in a short period of time (i.e., has it become brittle and surface cracked; does it undulate in grade; is it raveling; is it rolled up at the PCC joint; etc.?). See HDM Indices 607.4, 607.5 and 608.5 for further shoulder structural section design information.

In addition, the need to modify adjacent landscape features should be determined by field review and study of as-built drawings. Consideration should also be given to maintenance of the roadside and how the conversion affects the safety of maintenance personnel.

Safety

- Safety Reviews

  A formal safety review must be initiated on all urban freeway projects and other major projects during the concept and scope development process, to ensure that design features that limit the exposure of employees and the traveling public to traffic are appropriately considered on all projects. All

projects must be reviewed by the District Safety Review Committee prior to the approval of the PSR. Safety concepts identified during the review process that limit the exposure of employees to traffic must be incorporated into the project unless deletion is substantiated, documented, and approved by the District Director. Refer to Index 110.7 of the *Highway Design Manual* for more discussion of Safety Reviews.

- Field Safety

  Safety is a critical concern for all Caltrans operations. The need for the PDT to conduct field reviews as an ongoing activity has been emphasized. The *Safety Manual*, Chapter 9, Safe Working Practices, should be consulted for an explanation of safe working procedures for employees who normally work in offices and are unfamiliar with Caltrans field work activities.

  Project planning and design actions also have a significant impact on the safety of required field efforts, such as Surveys. Requests for field-determined data should be made after considering the safety aspect and alternate means of obtaining the data. As an example, pavement elevations surveys expose surveyors to traffic and, at times, require lane closures. Although techniques are available to improve the safety of pavement elevation surveys, the best solution is to eliminate, when feasible, the need for field surveys. Improved photogrammetry equipment and techniques provide opportunities to achieve this goal and reduce the demand for field-determined pavement elevation surveys. Not only can the use of photogrammetry eliminate the need for field surveys, it also (a) reduces the survey costs, (b) avoids the creation of traffic congestion resulting from field surveys with required lane closures, and (c) eliminates the need to consider night surveys.

  Although photogrammetric elevations may be inadequate for many project planning and design situations, each reduction in the need for field surveys reduces the exposure of surveyors to traffic and improves safety. For additional information on pavement elevation surveys, refer to the *Surveys Manual* supplement entitled "Pavement Elevation Surveys".

Project Size (Dollar Value)

The basic objective in establishing the size (dollar value and kilometer post limits) of any project is to obtain the maximum service to public traffic at the earliest feasible date and at a minimum cost. Some reasons for developing large projects include: (1) economic balance of earthwork; (2) provision of a usable segment or segments that can be opened to traffic upon completion; (3) cost effective and safe handling of traffic through or around construction; (4) minimizing the time and costs of project development and construction engineering; (5) keeping the unit cost and overall project cost down; and (6) avoiding conflict between adjacent contractors.

There are, however, offsetting reasons for maintaining a balance of small, medium, and large projects. These include: (1) encouraging competitive bidding by enabling small, medium, and large contractors to compete for projects; (2) providing opportunities for

small businesses, including those owned by minorities and women; and (3) maintaining a viable highway contracting industry in California.

Another reason for maintaining a balance of project sizes is to take advantage of stage construction. Stage construction can result in earlier completion of a project and, under certain circumstances, more effectively utilize available funding. Examples where stage construction may be appropriate: (1) during embankment settlement periods, (2) for railroad separations, (3) for major stream crossings, and (4) for interchanges in urban areas in advance of major projects to minimize later interference with local and contractor's traffic. Breaking a large project into shorter segments should be considered whenever the earthwork balance can be maintained and where temporary transition problems are minor between staged segments.

CHAPTER 9 – Project Initiation

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CHAPTER 9 – Project Initiation

ARTICLE 1 – Introduction and Definitions

General

The project initiation phase is the first formal project phase in developing a solution for a specific transportation problem. The project initiation phase is subsequent to the System and Regional Planning process. The outcome of the project initiation process is a project initiation document (PID) that establishes a well-defined purpose and need statement, proposed project scope tied to a reliable cost estimate and schedule. The use of State funds for capital improvements on the State Highway System (SHS) requires an approved PID. Any major work on the SHS regardless of how it is funded requires an approved PID.

The PID documents Caltrans':

- Approval of the project (as defined by the scope, cost and schedule) to compete for State Transportation Improvement Plan (STIP) or State Highway Operation and Protection Program (SHOPP) funds; or
- Conceptual approval of projects-funded-by-others (as defined in this chapter).

With direction from the project development team and project sponsors, the project team:

- Defines the purpose and need for the project,
- Gets input from stakeholders,
- Systematically collects and analyzes existing information,
- Identifies alternatives,
- Develops a plan of action to deliver the project, and
- Estimates the project cost and schedule.

This chapter discusses the statutes, definitions, policies, and procedures that apply to the project initiation phase. This chapter should be used in conjunction with Appendices A-X. The appendices contain additional guidance on the preparation of PID documents, commonly used PID formats, input forms, and checklists.

Definitions

Conceptual Approval – is an assessment that there are no known fatal flaws and that the proposed project is viable for additional study. Adequate information must be provided in the PID for Caltrans to make this assessment. With conceptual approval the sponsor may proceed with the formal studies. Conceptual approval is not final approval of a project alternative.

Independent Quality Assurance – activities performed by Caltrans, as the owner operator of the SHS, to ensure that quality management practices are in place, functioning and effective, resulting in projects being developed in accordance with Caltrans standards, policies, and practices.

Project Initiation Document (PID) – an engineering document or technical report that documents the scope, cost, and schedule of a project. The PID is an outcome of the project scoping effort. The PID is a record of the purpose and need for the project, and the approach that will be taken to meet or reduce transportation deficiencies. It is a record of the existing information, initial assumptions, identified risks, and constraints that drove the development of the project workplan. PIDs are used to obtain approval for inclusion of a project into a programming document or to get conceptual approval of a project-funded-by-others.

PID Phase Workplan – a workplan that identifies tasks, resources, and the schedule required to complete the PID. The project manager is responsible for the development of the PID phase workplan. A high-level PID phase workplan is used to obtain, allocate, and manage resources used by various functional units. Refer to Headquarters Transportation Planning, Office of Plans/Project Coordination (OPPC) for more information about workplan development.

Project Scope – identifies the significant aspects of a project that are necessary to meet the project purpose and need. The scope is tied to realistic cost estimates and schedules. Ultimately the alternative recommended for programming or the proposal from an external entity must have a high probability of obtaining the various approvals required during the project development process. It is essential that all work incidental to the project be identified and included in the cost estimate. Examples of incidental work may be safety elements, upgrades, mitigation, and rehabilitation of existing features.

Programming – a process that prioritizes projects for state and federal funding. The two major state programming documents are the STIP and the SHOPP. The major federal programming documents are the Federal Statewide Transportation Improvement Program (FSTIP) and federal Transportation Improvement Programs (TIP).

Purpose and Need Statement – a statement of the transportation problem that will be met by the construction of the project. The statement has two major components:

Need – States the transportation deficiency.
Purpose – States the objectives that will be met to address the transportation deficiency.

Project Study Report (PSR) – a type of PID. The PSR is a format that meets statutory, California Transportation Commission (CTC), and Caltrans requirements for STIP candidate projects. The PSR format is the model for other PID documents.

Projects-funded-by-others – projects that are sponsored by a local agency or private developer, and does not use any funds that are programmed into the STIP or SHOPP.

Support – the personnel costs of performing project work.

Transportation Planning –
1. A continuing, comprehensive, and collaborative process that helps identify current and future transportation deficiencies, and that provides recommendations to meet mobility goals, or
2. The district unit that performs transportation planning.

ARTICLE 2 – Laws

General

By way of legislation, the Legislature provides Caltrans and the CTC with its expectations for managing projects on the SHS. This section lists key laws that apply to the project initiation process. Although much of the legislation specifically addresses the requirements for the STIP, Caltrans has incorporated similar procedures for scoping and managing the SHOPP.

California Government Codes

Section 65086 of the Government Code states that as the owner-operator of the SHS, it is Caltrans' responsibility to ensure that all projects on the SHS comply with applicable state and federal standards. Caltrans may also determine that an exception to the standard is appropriate. This legislation authorizes Caltrans to establish standards, procedures, and a review process to ensure compliance.

Section 65086.5 of the Government Code describes Caltrans' role with respect to the preparation, review, and approval of PIDs.

- It is Caltrans' responsibility to review and approve PIDs that are developed by others.
- It is Caltrans' responsibility to prepare guidelines for the preparation of PIDS by all entities.
- If Caltrans has the resources and the work does not jeopardize delivery, Caltrans can prepare a PID for a non-STIP capacity-increasing project for a local entity.
- If a local entity requests that Caltrans prepare a PID as a STIP candidate project, Caltrans shall have 30 days to determine whether it can complete the requested report in a timely fashion.
- If a local entity prepares the PID as a STIP candidate project, Caltrans shall have 60 days to complete the review and provide comments to the local agency. After the local entity submittal of the revised PID, Caltrans has 30 days to review and make a determination if the PID can be approved.

Section 14526 (b) and Section 14527 (g) of the Government Code (also known as Senate Bill 45, 1997) requires preparation of a PSR before a project on the SHS is programmed into the STIP. A PSR is a legislative term for a PID. These Government Code sections refer to a PSR-equivalent or a major investment study for programming non-state highway improvement projects into the STIP. The PSR-equivalent or major investment study are not applicable to projects on the SHS.

Section 14529 of the Government Code (also part of Senate Bill 45, 1997) establishes the STIP as a resource management document. The statute requires that the PSR for each project in the STIP identify the allocation or expenditure amount for the following four components: (1) environmental studies and permits, (2) preparation of plans, specifications, and estimates, (3) right of way, and (4) construction. In addition, right of way acquisition and construction may only be programmed if these two components can be completed in the STIP programming period. If it is estimated that all of the components (i.e., right of way acquisition and construction) cannot be completed during the proposed STIP programming period, the remaining components may be programmed upon completion of the programmed components.

Section 14530.1 contains the requirement that the CTC adopt guidelines for the development of the STIP. The CTC STIP Guidelines state that for each project proposed for programming in the Regional Transportation Improvement Program (RTIP) or the Interregional Transportation Improvement Program (ITIP), the PID shall list costs separately for each of four project components. In addition, right of way and construction components on Caltrans projects shall be further broken down into the costs for Caltrans support and capital outlay. Therefore, a total of six project cost components are required in a PID for projects on the SHS to be programmed in the RTIP or ITIP. The STIP components relate to the programming phases as follows in Table 1:

Table 1
STIP Components and Corresponding Project Development Programming Phases

CTC STIP Components	Corresponding Project Development Programming Phases
Support costs for environmental studies and permits	PA&ED
Support costs for preparation of plans, specifications and estimates	PS&E
Support costs for right of way acquisition	Right of Way – Support
Capital costs for acquisition of right of way	Right of Way – Capital
Support costs for construction	Construct Project – Support
Capital costs for construction	Construction Project – Capital

ARTICLE 3 – Policies

General

Projects shall be adequately scoped prior to approval for funding. The basis for scope, cost, and schedule shall be documented in a PID for all major projects on the SHS.

STIP

A PSR or project study report (project development support) [PSR-PDS] shall be approved by the District Director prior to listing any project in the STIP.

Legislation requires that each STIP component, as identified in Table 1, must be programmed and that the components may be programmed sequentially. To implement the legislation, Caltrans developed the PSR-PDS template to program support costs and capital costs separately. The PSR-PDS allows Caltrans and local agencies to:

1. Program only the support costs if the project life cycle is longer than the STIP programming period.
2. Maximize the use of finite PID resources by beginning detailed environmental studies and engineering studies without performing preliminary studies.
3. Proceed with engineering and environmental studies and evaluate the merits and feasibility of alternatives before a preferred alternative is selected for programming right of way and construction costs.
4. Accurately plan resources needed to complete the environmental document - project approval process.

5. To advance the programming of Project Approval and Environmental Document (PA&ED) elements of future STIP projects, if there are adequate funds in the State Highway Account.

It is Caltrans policy that a PSR-PDS shall be completed prior to listing any project in the STIP in the following cases:

1. If project approval, environmental document, right of way acquisition, and construction cannot be completed within the same STIP programming period, or
2. If an environmental document (e.g., negative declaration or environmental impact report) is anticipated.

This policy was implemented to ensure that project teams have sufficient information on project alternatives to develop reliable costs and schedules prior to programming funds necessary for construction and the purchase of right of way. The information needed to firmly establish permit, right of way and environmental requirements is generally not available until after the detailed studies are completed.

If a STIP project can be accelerated and construction can begin during the proposed STIP programming period, it may be appropriate to use the PSR format and program right of way and construction dollars at the end of the PID phase. Districts should work with their local partners to carefully consider the ability to deliver the project within the STIP programming period. Districts may request an exception to the PSR-PDS policy by submitting a "Fact Sheet Exception to the PSR-PDS Policy" to the Headquarters Design Coordinator. A copy of the fact sheet can be found at the following address: http://www.dot.ca.gov/hq/oppd/design/psr(pds).htm.

When a District Director (or Deputy District Director if identified in Caltrans Delegation of Authority) approves a PID, that action approves the project as a candidate project but does not ensure that the candidate will successfully compete with other projects for programming.

When a PSR-PDS is used to initiate the project; the project report not the PID, will be used to program the remaining support, right of way, and construction costs.

Refer to Appendix L of this manual for further guidance on the preparation of PSRs and PSR-PDS'.

This Chapter and Appendix L of this manual were developed to be consistent with the *CTC Guidelines for the Preparation of Project Study Reports*.

SHOPP

Caltrans requires development of a PID prior to:

1. Inclusion of a project's capital right of way and construction costs into the SHOPP, or
2. Approval to commence work on PA&ED when the timetable for the project exceeds the SHOPP programming period. In this case, the project report, not the PID will program the capital right of way and construction costs.

The SHOPP Program Managers establish the PID formats used.

Refer to Table 3, Article 4 for a list of the appropriate PID format for each SHOPP Program.

All SHOPP projects must include a list of SHOPP Project Outputs in the PID. Contact the individual Headquarters SHOPP program manager for the most current SHOPP project output format. A listing of the HQ SHOPP Program Managers organizational chart can be found at the following website:
http://www.dot.ca.gov/hq/transprog/shopp.htm.

For further discussion of SHOPP PIDs see Article 4 - Essential Procedures and Article 5 – Additional SHOPP Procedures

Protection of Public Investment

It is Caltrans' responsibility to protect the public's investment in the SHS; therefore a PID is required for any major project that is on the SHS regardless of the funding.

Whether Caltrans or entities other than Caltrans staff prepare the PID, Caltrans policy and procedures must be followed. Caltrans staff shall perform independent quality assurance and shall retain approval authority over those PIDs that are prepared by other entities. Further discussion of projects-funded-by-others can be found in the Article 4, Essential Procedures and Article 8 – Project Initiation Process for Projects-funded-by-others section of this chapter.

ARTICLE 4 – Essential Procedures

General

This article is a discussion of the essential procedures to complete a PID. They follow the order for common problem solving steps, project selection, project personnel, project statement, alternative development, mandatory reviews, estimating resource needs, securing funds, and starting capital work.

Project Selection

District Directors have discretion in prioritizing district projects for PID development. They also have the responsibility to ensure that the projects are consistent with planning procedures and programming criteria. District Directors (or Deputy District Director if identified in Caltrans Delegation of Authority) have authority to approve PIDs.

Annually, the districts identify projects that will require resources to develop PIDs. A list of proposed projects is submitted to the Caltrans Headquarters Division of Planning, Office of Plans/Project Coordination (OPPC), in the form of a proposed Work Program. Constrained by the budgeted PID support allocation, an annual PID Work Program includes a list of those PIDs that will be developed by district/region staff and a list of projects requiring independent quality assurance. Work can commence on a PID when a K phase Expenditure Authorization (EA) has been issued. The PID Work Program is managed by OPPC. Refer to OPPC for information about work program development and K-phase authorizations.

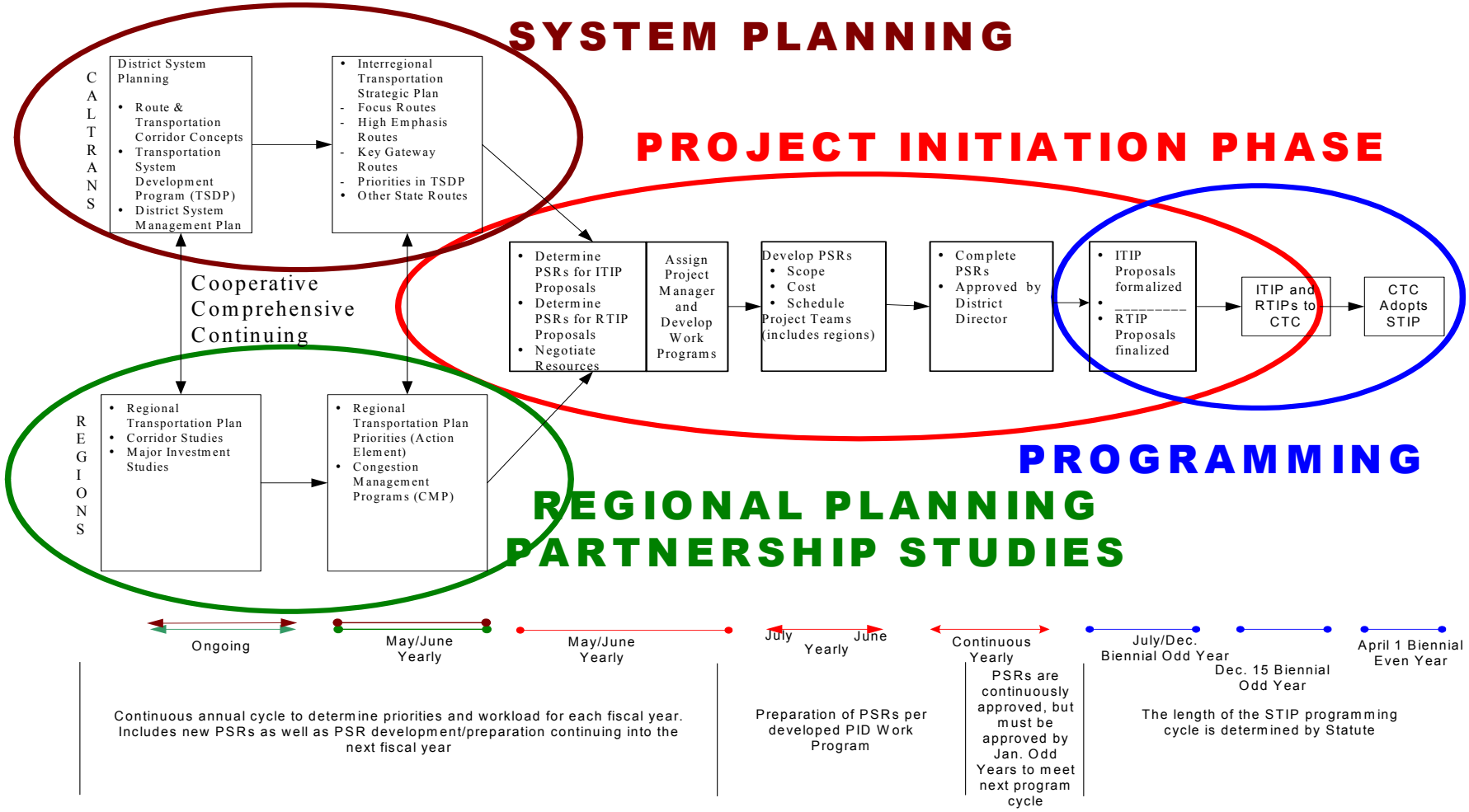
Except for district Minor Projects, the costs of the PID preparation should be charged to K phase EA. The K phase is used until the project is programmed, or for a project-funded-by-others when the Caltrans project manager requests the capital EA.

Candidate Projects for the STIP

The CTC and Caltrans are required to program, budget, and expend the funds in the State Highway Account in accordance with long range transportation planning. Figure 1 provides an overview of the transition from long-range transportation planning to a project's initiation and ending with the programming of funds for a project. This chapter does not contain a discussion of all of the long range planning elements shown in the Figure 1, however the graphic establishes the relationship between district system planning (in brown oval) and regional transportation planning (in green oval) and how long range planning processes influence the selection of projects for funding. The following paragraphs provide brief descriptions of district system planning and regional transportation planning. A brief description of the STIP program and the Federal programming process follows the discussion of transportation planning processes. The PID is the key point of linkage between planning and programming.

Simplified Statewide and Regional Planning and STIP Programming Cycle

Figure 1 - Project Initiation Document Links Planning to Programming



District System Planning

Section 65086 of the Government Code specifies that Caltrans shall carry out long-term SHS planning to identify future highway improvements in consultation with transportation planning agencies, county transportation commissions, and counties and cities. Caltrans district planning units work with local and regional agencies to identify long-range system and corridor needs. The system needs are determined by evaluating:

- Existing transportation facilities, including multi-modal transit, pedestrian and bicycle facilities.
- Existing and future deficiencies based on transportation system performance measures.
- Present operating conditions, such as the Annual Average Daily traffic (AADT), peak hour volume, and level of service (LOS).
- Pedestrian needs at controlled and uncontrolled crosswalks.
- Current land use.
- 20-year concept for land use, operational trends, and modal trends.

Information is compiled into route concept reports and transportation concept reports (RCRs/TCRs). Project selection is based on the system plans and broader statewide planning efforts such as the Interregional Transportation Strategic Plan (ITSP) and the overall policy framework established by the California Transportation Plan.

For a more in-depth discussion of this topic see Chapter 1 - Introduction Section 4 – Transportation Planning Leads to Project Development.

Regional Transportation Plans (RTPs)

Under Title 23--Highways Code, projects for agencies receiving federal-aid must be "consistent with long range plans. Like system planning within Caltrans, the Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs) perform analyses on multi-modal segments, corridors, and the system to identify projects for long-range transportation plans. The long-range plans that are prepared and cyclically updated by MPOs and RTPAs are known as RTPs. RTPs consist of policy, action, and financial elements, all leading to identification of projects. RTPs are federally mandated plans. Any project that receives federal funding must be in a long-range plan that is fiscally constrained and is consistent with the goals and guidelines of Regional Air Quality Plan.

For a more in-depth discussion of this topic see Chapter 1 - Introduction Section 4 – Transportation Planning Leads to Project Development.

STIP Program

Transportation programming is the public decision-making process that sets priorities, balances system performance outcomes, and funds projects envisioned in the long-range transportation plans. The STIP consists of two broad programs: (1) the Interregional Transportation Improvement Program (ITIP) that is funded from 25% of the new funds in the STIP and (2) the Regional Transportation Improvement Program (RTIP) that is funded from 75 percent of the new funds in the STIP. Caltrans submits the ITIP and RTPAs submit the RTIP to the CTC biennially. The CTC is responsible for adoption of the STIP.

The PID provides the required information that transforms transportation planning activities to project specific details for programming decisions. The district transportation planning unit has a key role in ensuring that the community needs and long-term transportation objectives are incorporated into the PIDs.

An approved PID will be used to program only the "environmental document and permit" component for any STIP project that requires an environmental document (i.e., negative declaration or environmental impact report). An approved project report will be used to program STIP support and capital components for right of way and construction. With the approval of HQ Programming, and if there is sufficient detail to firmly establish permit requirements, right of way requirements, and environmental impacts, a supplemental project study report can be used to program the right of way and construction components prior to approval of the project report.

For additional information on the requirements of the STIP program, see http://www.dot.ca.gov/hq/transprog/ocip/2008stipdev.htm.

Federal Program

Projects receiving federal transportation funds or are of regional significance must be programmed in the appropriate federal programming document. MPOs are responsible for developing and adopting federal TIPs. Caltrans is responsible for preparing the federal STIP.

Refer to Chapter 4, Programming, of the PDPM for additional information on federal programs.

Candidate Projects for the SHOPP

The CTC and Caltrans program, budget, and expend the funds in the State Highway Account in accordance with Ten-Year SHOPP Plan.

Ten-Year SHOPP Plan

Section 164.6 of the Streets and Highways Code sets forth the requirement that the Department prepares and transmits to the Governor and Legislature a ten-year plan for the rehabilitation and reconstruction of all state highways and bridges. The plan is updated every two years. The plan is submitted to the CTC for review and comment prior to submittal to the Governor and Legislature.

The plan, known as the Ten-Year SHOPP Plan, contains a compilation of statewide needs, performance goals, and a long-term schedule for meeting the goals. The Ten-Year SHOPP Plan is a tool to identify funding needs and prioritize projects within funding constraints.

The Ten-Year SHOPP has six major programs:

- Collision reduction.
- Bridge preservation.
- Roadway preservation.
- Roadside preservation.
- Mobility.
- Facilities that are related to the SHS.

The headquarters SHOPP program managers work with the districts to develop the Ten-Year SHOPP Plan. Biennially, each district is assigned district program target goals for the statewide Ten-Year Plan. The district uses this information to identify specific projects that contribute to meeting the district's target goals. If a district has identified program needs that are not within the prescribed goals, that district may provide justification for including the project as part of the district's submittal. The district's list is submitted to the headquarters SHOPP program managers. Once approved by SHOPP program managers, the district's projects are added to the statewide Ten-Year SHOPP Plan.

A copy of the current Ten-Year SHOPP Plan can be found on the Transportation Programming website: http://www.dot.ca.gov/hq/transprog/shopp.htm

SHOPP

Biennially, Caltrans submits a list of projects to the CTC that meets the goals of the SHOPP. The SHOPP is a list of projects that has been approved for delivery by the CTC for the four-year SHOPP timeframe. The Caltrans delivery commitment is defined by the scope, cost, and schedule presented by the PID. The program categories in the SHOPP are an extension of the program categories in the Ten-Year SHOPP Plan. A description of the program qualifications for each category can be found in the "Ten Year SHOPP Plan Instructions." A copy of the current SHOPP can be found on the Transportation Programming Website: http://www.dot.ca.gov/hq/transprog/shopp.htm.

Projects are selected from the Ten-Year SHOPP Plan and the districts/regions are resourced for PID development through the PID Work Program. The PID defines the project scope, cost, and schedule. The project competes with other SHOPP needs for inclusion in the SHOPP. The PID provides the decision-making link between the Ten-Year SHOPP Plan and commitment for the delivery of capital improvement through the SHOPP.

Federal Program

SHOPP projects that either receive federal funds or are regionally significant must be programmed into the FTIP. Projects that need to be in the regions air quality conformity model must be programmed in the FTIP. Refer to Chapter 4, Programming, Programming, of the PDPM for additional information on federal programs.

Project Initiation Document Templates

The funding source, the complexity, the issues, and the type of work will determine what type of information must be included in the PID.

Appendices A-X provide guidance and templates for various PIDs.

Appendix L – Preparation Guideline for Project Study Report provides basic information applicable to all PIDs and should be read in conjunction with any of the program-specific appendices. Appendix L includes the following information:

- Preparation guidelines.
- Description of information that should be contained in a PID.
- Scoping Tools.
- Standard PSR templates.

The PSR and PSR-PDS are the most common documents to initiate a project. A standard outline has been developed for the PSR. Templates using this standard outline and some fill-in-the-blank tables have been developed for the PSR and PSR-PDS.

In addition to the PSR, there are modified templates that have been tailored to meet the information needs of specific State programs or funding sponsors. Tables from any of specialty PIDs may be used to improve the presentation of project information.

STIP Projects:

There are two major PID types that are used to program projects into the STIP.

- The PSR is used to program all support, right of way acquisition, and construction costs.
- The PSR-PDS is used only to program the support costs needed to achieve project approval.

Both PID types use the same outline, however, the PSR-PDS does not require the same level of engineering detail as a PSR. The level of engineering detail and effort for developing a PSR-PDS should be limited to that effort needed to develop the workplan for the project approval and environmental document phase, and to develop a "ballpark" estimate of the construction cost. The construction estimate in a PSR-PDS is not a programming commitment; rather it is used to forecast long-range funding needs.

The type of PID document used to program STIP projects is determined by the criteria listed in Table 2:

Table 2
PID Templates for the STIP Program

If the Environmental Determination is:	Then the PID Type is:	Additional information can be found in:
Categorical Exception/Categorical Exclusion	PSR	Appendix L
Negative Declaration	PSR-PDS or PSR with an approved PSR-PDS Fact Sheet	Appendix L
Environmental Impact Report	PSR-PDS or PSR with an approved PSR-PDS Fact Sheet	Appendix L

A project programming request (PPR) as described in the STIP Guidelines shall be included as an attachment. The template for this request may be found on the Internet at http://www.dot.ca.gov/hq/transprog/ocip/2008stipdev.htm.

For SHOPP Projects:

Caltrans has developed fill-in-the-blank type PID templates for specific SHOPP programs to fulfill either urgency needs, such as emergency projects, or for programs that have well defined "purpose and need" and project scope. In the cases where solutions are not complex, activities during the project initiation phase are often sufficient to meet both the requirements for a PID and a project report. In addition, there may be programs that have specific PID requirements that must be incorporated into the document. Each specialty template contains a modified cost estimate table tailored for the specific program. Table 3 identifies the appropriate template for each SHOPP program. In addition, Article 5 – Additional SHOPP Program Procedures, discusses specific requirements for SHOPP projects.

As discussed in "Project Selection" of this article, projects for the SHOPP are planned and selected based on meeting program specific qualifications. A description of the Program Qualifications can obtained from the SHOPP program manager.

Table 3
PID Templates for the SHOPP Program

PROGRAM	ACCOUNT CODE [1]	TYPE OF PID	REFERENCES TO OTHER PDPM CHAPTERS AND APPENDICES
Emergency Response			
Major Damage Restoration	201.130	Damage Assessment Report or Memo [2], [3]	App. O
Collision Reduction			
Safety Improvements	201.010	PR or PSR or PSR-PR [4]	App. A, K, L
Collision Severity Reduction	201.015	PSR	App. L
Upgrade Median Barriers	201.020	PSR	App. L
Mandates			
Relinquishments	201.160	PSR	App. L
Noise Attenuation for Schools	201.270	PSR	App. L
Railroad/Highway At-grade Crossing	201.325	PSR	App. L
Hazardous Waste Mitigation	201.330	PSR	App. L
Storm Water Mitigation	201.335	PSR	App. L
ADA Curb Ramps	201.361	PSR	App. L
TEA – Caltrans Share from TEA 21 by Other Agencies	201.736	PSR	App. L
Bridge Preservation			
Bridge Rehabilitation	201.110	PSSR, PSR [5]	App. P
Bridge Scour Mitigation	201.111	PSSR, PSR [5]	App. P
Bridge Rail Replacement and Upgrades	201.112	PSSR, PSR [5]	App. P
Bridge Seismic Restoration	201.113	PSSR, PSR [5]	App. P
Trans Permit Requirements for Bridges	201.322	PSSR, PSR [5]	App P
Roadway Preservation			
Roadway Rehabilitation	201.120	PSSR	App G
Pavement Rehabilitation	201.121	CAPM PR	App. H
Long-Life Pavement Corridors	201.125	PSR	App. L
Roadway Protective Betterment	201.150	PSR	App. L
Drainage System Restoration	201.151	PSR	App. L
Signs and Lighting Rehabilitation	201.170	PSR	App. L

PROGRAM	ACCOUNT CODE [1]	TYPE OF PID	REFERENCES TO OTHER PDPM CHAPTERS AND APPENDICES
Mobility			
Operational Improvements	201.310	PSR	App. L
Transportation Management Systems	201.315	PSR	App. L
Weigh Stations & Weigh-In-Motion Facilities	201.321	PSR	App. L
Roadside Preservation			
Highway Planting Restoration	201.210	PSR Data Sheet HPR	Ch. 29, App. E
Freeway Maintenance Access	201.230	PSSR, PSR [5]	App. Q
Roadside Enhancement	201.240	PSR	Ch. 29, App. L
Beautification and Modernization	201.245	PSR	Ch. 29, App. L
Safety Roadside Rest Area Restoration	201.250	PSR	Ch. 29, App. X
New Safety Roadside Rest Areas	201.260	PSR	Ch. 29, App. X
Facilities			
Equipment Facilities	201.351	Facility PSR	Ch. 32, App. C, L
Maintenance Facilities	201.352	Facility PSR	Ch. 32, App. C, L, Maintenance Station Design Manual
Office Buildings	201.353	Facility PSR	Ch. 32, App. C, L
Materials Labs	201.354	Facility PSR	Ch. 32, App. C, L

Footnotes:

1. See the "10-Year SHOPP Plan Program Qualifications" in the current "10 Year SHOPP Plan Instructions" for a description of each SHOPP program.
2. Damage Assessment Form (DAF) constitutes the PID and the project approval document for federal and non-federal projects for the Major Damage Restoration Program. A PID, as described in Appendix L, and PR is only required when there are severe environmental impacts or an entirely new alignment is needed.
3. Projects eligible for Federal Emergency Management Agency Stafford Act Relief have separate approval documents. Contact the Headquarters program advisor in Headquarters Division of Maintenance for instructions.
4. If a Safety Improvement (010) project exceeds the Minor A funding threshold, use the PSR-PR as the standard programming document. If the work for project approval is above that required for a complex PID, the safety coordinator can grant an exception and a PSR, as described in Appendix L, may be used.
5. SHOPP projects that program only capital support resources for PA&ED require a PSR, as described in Appendix L of this manual. Program the remaining support, right of way and construction capital with a PR.

Small Capital Value SHOPP Reservation Projects

The small capital value projects (SCVP) project initiation document (PID) is the project planning, scoping, and programming document for SHOPP Reservation projects with a total construction cost up to the Minor A contract limit, but more than the Minor B contract limit. (The following subsections discuss the Minor A and Minor B limits). This template was developed to make best use of limited State resources, and to allow small capital value

SHOPP Reservation projects to be programmed and promptly proceed to the project report phase.

The SCVP PID template is the standard PID for this category of projects. Project delivery teams should use the SCVP PID template based on project-specific risks, constraints, and complexities. The SCVP PID must provide SHOPP program managers with sufficient information about the project's purpose and need, scope, cost, and schedule to make sound a programming commitment.

While SCVPs are typically lower risk and single alternative projects, the district has discretion to choose another PID template to scope a project for programming commitments when a small capital value SHOPP Reservation project is too complex and presents funding or scheduling risks. This determination does not require approval from the Headquarters SHOPP program managers or the Division of Transportation Planning, OPPC.

Upon completion and approval of the SCVP PID, small value SHOPP Reservation projects will be amended into the SHOPP and receive a Planning and Programming Number.

See Appendix R for an outline for SCVP PIDS.

SHOPP Minor A Projects:

The Minor A project construction cost limit is defined by the CTC in terms of state (including federal) funds used.

The District Minor Program allows districts to be responsive to low cost transportation needs, and therefore, Minor Program projects are not individually programmed.

Projects originally conceived as minor projects that have increased in cost to exceed the limit for Minor A projects must be reviewed by the HQ SHOPP program manager and compete with other candidates for SHOPP funds.

Under special circumstances, local funds may be combined with SHOPP funds (e.g., a local project and a SHOPP project are combined for either construction efficiencies or coordination). In this case the local funds are not included in the calculation to determine if the construction cost exceeds the minor limit.

The PR functions as the initiation document and the project approval for projects that meet the Minor A limit. Refer to Appendix K for an outline and preparation guidelines for project reports.

Contact the Headquarters SHOPP Minor Program Manager for the most current Minor A Limit.

SHOPP Minor B Projects:

The Minor B level is established to be consistent with the lower limit of the State Contract Act which is reviewed each even numbered year by the Department of Finance.

Contact the Headquarters SHOPP Minor Program Manager for the most current Minor B Limit.

An EA project report facilitates opening an EA and serves as the project report for a Minor B Project. Refer to Article 7 of this chapter and Appendix B of this manual for additional information.

Projects-funded-by-others:

Projects-funded-by-others will require an encroachment permit and either a permit engineering evaluation report (PEER) or a PID using the PSR template. Projects that have State Highway Account funds, as well as funds from other sponsors, will follow procedures for the specific Caltrans program. See Article 8 Project Initiation Process for Projects-funded-by-others of this chapter for further information.

Purpose and Need – Defining the Transportation Problem

All PIDs shall contain a statement of "Purpose and Need" for the transportation improvement. This statement of purpose and need must be based on needs and objectives identified in the planning process. The statement should be developed by and have the consensus of the project sponsor and members of the Project Development Team (PDT). The PID must present information in an organized manner to support the purpose and need statement. Supporting information to the purpose and need statement includes the background of the transportation problem, system and corridor planning, and data on transportation deficiencies that validate the need for the project.

A clear, well-justified purpose and need statement explains to the public and decision makers that the expenditure of funds is necessary and worthwhile, and that the priority of the project, relative to other transportation needs, is warranted. The purpose and need statement is the foundation of any project regardless of the funding source. The purpose and need drives the process for consideration of the range of alternatives to be studied, the analysis, and ultimate selection. The statement should be written so that the consequences of the "no build" alternative are self-evident.

A project "need" is an identified transportation deficiency. Typical transportation deficiencies are related to safety, congestion relief, connectivity of the highway system, multi-modal connectivity, access, operation, facility preservation, and legal mandates. A need must be supported by evidence that a problem exists.

A project's "purpose" is the objectives that will be met to address the transportation deficiency. Objectives should be quantified during the project initiation phase and measures should be used to develop, evaluate, and compare reasonable solutions.

The project's purpose and need statement must be as comprehensive and as specific as possible. Establishment of the appropriate breadth for the purpose and need promotes a suitable range of alternatives. If a statement is too vague, such as "provide a connection between City A and City B," then the range of alternatives could be very broad. The above statement could imply that alternatives for air transportation be considered when that alternative may be outside of the funding criteria. On the other hand, the purpose and need

statements must not be so narrow that it precludes studying reasonable alternatives that meet the underlying need.

The purpose statement should clearly describe both planned expectations for the State's transportation system and sponsor's goals. An example of providing specificity is to include a statement that identifies the purpose as "completion of the California Freeway and Expressway portion of a route for interregional truck traffic with a connection to the existing rail system and to improve the LOS." This is a positive statement (compared to "provide a connection between Cities A & B") that addresses a specific need for truck traffic capacity, the continuity with the freight system and an unacceptable LOS.

The purpose and need statement may need to be refined, as appropriate, until approval of the project. A key factor in the refinement of a purpose and need statement is the participation of a broad range of Department functional units, community representatives, and public stakeholders. As information is gathered about the project and corridor, one may find more information about the underlying cause of a problem. For example, it may be assumed that the cause of congestion is the commuter traffic to and from the downtown area; however, follow-up studies indicate that additional housing also generates numerous trips to and from the university within a specific segment of the commuter corridor. New information may lead to a refinement of the purpose and need statement so that it can include the improved connectivity to transit, pedestrians, and bicycles in the corridor.

The final design reflected in the construction documents and any modification to the design during construction must be consistent with the approved purpose and need of the project.

Additional information and resources on Purpose and Need statement development can be found at the following website: http://www.dot.ca.gov/hq/env/emo/purpose_need.htm.

The project scope may be refined as the project progresses through to project approval. The project scope shall remain consistent with the purpose and need of the project. Any changes to the programmed project scope will require a Program Change Request (PCR) and supporting engineering documentation. A PCR alone is not sufficient to adequately document the engineering decision to change the scope of a project and provide for design immunity protection in tort liability. Additional information on scope changes can be found in Chapter 6 – Project Cost, Scope, and Schedule Changes.

Design Scope and Design Concept

The PDT must establish consensus on the design scope and the design concept.

Design Concept

The design concept defines the type of highway project; e.g., freeway, expressway, conventional highway, major arterial, or mixed highway-rail transit facility. For highway facilities this is refined to freeway, expressway, or conventional highway. The design concept is an updated and more refined version of the planning concept developed during the system and regional planning process.

The establishment of the design concept will include a review of the TCR/RCR, existing route adoption documents, and freeway agreements. In addition, an evaluation of general plans, current land uses, and intergovernmental reviews of proposed developments should be performed to determine the appropriate design concept.

The development of the design concept shall reflect the appropriate functional classification of the facility as it relates to the transportation objectives of the corridor. To assess the appropriate functional classification one must consider the following questions:

- Does this facility serve a rural, urban, or urbanizing area?
- Does the facility primarily serve inter-regional, intra-regional, or intra-community travel?
- Does the facility provide system continuity?

Design Scope

The design scope describes aspects of the project that meet the project purpose and need. The design scope is an update of the planning scope that is used to assess how the project will impact the regional air quality emissions. Some of the features that relate to the people or vehicle carrying capacity of the facility and therefore may impact air quality include:

- The number of lanes including lanes for high-occupancy vehicle, pockets, and through lanes.
- The location and length of the project.
- Design standards.
- Right of way requirements.
- Interchange locations.

Examples of where the design scope may be considered neutral with respect to impact on air quality include:

- Pavement rehabilitation.
- Highway planting requirements.
- Roadside management features.
- Storm water management requirements.
- Seismic retrofit.

If applicable, the design scope of at least one viable alternative in the PID must match the RTP and the TIP project listing.

Refer to the Caltrans *Standard Environmental Reference (SER)* for additional guidance on project compliance with federal regulations on air quality conformity.

PID Alternative Formulation Strategies

The PDT shall develop viable alternative solutions that meet the project purpose and need. Alternatives need to be context sensitive and address other constraints such as funding. It is Caltrans' policy to evaluate alternatives that avoid, minimize, or mitigate adverse

environmental impacts. In the development of alternatives, the team should consider the following:

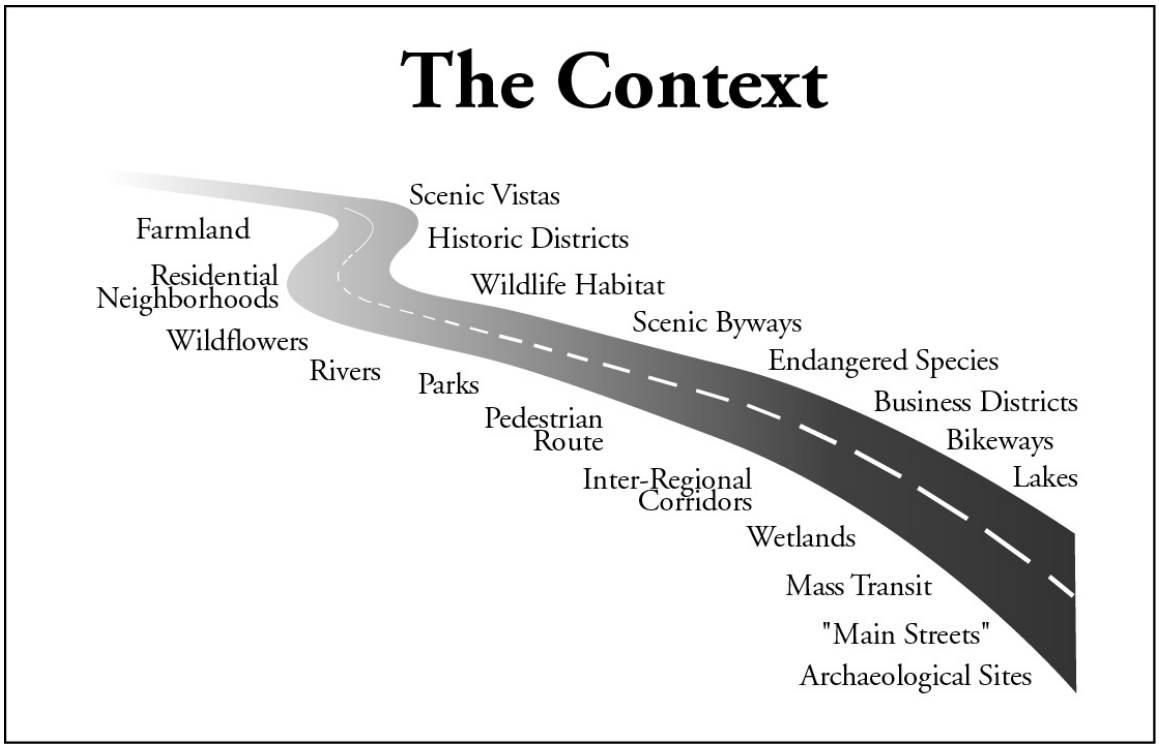
Context Sensitive Solutions

Caltrans shall use "Context Sensitive Solutions" (CSS) as an approach to plan, design, construct, maintain, and operate its transportation system. Steps shall be taken to ensure early recognition of the context of the facility by the PDT. Such steps promote the use of innovative and inclusive approaches to integrate and balance community aesthetic, historic, cultural, social, and other environmental values with transportation safety, maintenance, and performance goals. CSS is a collaborative, interdisciplinary approach involving all stakeholders.

The context of all projects and activities to obtain public input are key factors in reaching project decisions. Context is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context address issues including funding and maintenance feasibility, traffic demand, impact on alternate routes and safety, and relevant laws, rules, and regulations.

Figure 2 emphasizes that State highways are located within communities and provides some examples of the features and resources that a community may value. Each community will have its own characteristic features and values attached to those features. The PDT should work with the stakeholders to ensure these characteristics are considered when developing project alternatives.

FIGURE 2 – "The Context"
Based on graphic created by SRF Consulting Group Inc.
University of Minnesota Center for Transportation Studies



Below are a few examples of questions that help the team establish the context of the project:

- Are all stakeholders identified?
- How does the transportation system "fit" into its physical and cultural context?
- Is the highway appropriately classified?
- What are the economic values and concerns of the community?
- What are the physical characteristics of the corridor? Is it in an urban, urbanizing, or rural setting?
- Are there important view-sheds from the road?
- What type of vegetation exists along the corridor?
- Are there historic resources, animal habitats, or other environmentally sensitive features?
- Are there particular features or characteristics of the area that the community wants to change or preserve?
- How do the current traffic demands impact various users of the transportation system?
- Are pedestrian and bicycle users safely, efficiently, and comfortably accommodated? What are their needs?
- What are the transit demands?
- What are the vehicular and goods movement demands?

See Chapter 1 - Introduction Section 5 of this manual for more information on the Project Development Philosophy. See Chapter 22 - Community Involvement, of this manual for issues related to partnering with communities to get their input on projects as an integral part of the project development process.

See the *Highway Design Manual* and *Main Streets: Flexibility in Design and Operations* for additional information on context sensitive solutions. These documents can be found at http://www.dot.ca.gov/hq/oppd/context/index.htm.

See Caltrans Office of Community Planning's Public Participation website at http://www.dot.ca.gov/hq/tpp/offices/ocp/pp.htm for information regarding developing an effective public participation plan to gain public support on a project to meet the CSS goals of partnering.

See the *Project Communication Handbook* on Caltrans Office of Project Management Process Improvement's website: http://www.dot.ca.gov/hq/projmgmt/documents/pchb/project_communication_handbook.pdf for information regarding assisting the project team in identifying internal and external stakeholders, and enhancing communication among all parties involved on a project.

Minimum Project Alternative

All state-programmed PIDs need to include a minimum project alternative. This alternative must meet the project purpose and need. District program management branch should work with the project manager to establish a realistic funding expectation. The project manager should ensure that an alternative that fits funding constraints and addresses the most severe transportation problems outlined in the project purpose and need is developed.

The minimum project alternative must stand alone and must not depend on successive projects. The minimum project alternative need not contribute to the ultimate project and must not constitute a commitment to the ultimate project. A good illustration would be a corridor with an expressway as the ultimate project where significant interim relief could be achieved with strategically located passing lanes on a conventional highway. Another example would be a desired interchange on an expressway where interim improvement could be achieved by intersection signalization.

Stageable Alternatives:

Special emphasis should be placed on development of alternatives with staging characteristics. By developing alternatives with components of varying priorities, it is possible to stage the ultimate project or scale it back. The flexibility to quickly and logically adjust the scope of projects is most important at initial programming, but is necessary throughout the project development process.

Districts have a higher probability of getting a project programmed and of meeting at least some of the project needs if the PID includes stageable alternatives. Projects

that may be rejected on an "all or nothing" basis are more likely to be completed over a period of years if packaged in more reasonably sized increments. A good project for such an approach would be a rehabilitation project proposed for a long corridor. To be competitive, large projects should be packaged into a series of reasonably sized projects with independent utility.

No Build Alternative:

The “no build” alternative must explain the need for the project. The "no-build" alternative shall always be included in the PID.

Alternative Identified to Program Project Cost

If there is more than one “build” alternative, the PDT shall identify one viable project alternative to be used to estimate and program the project cost. The project schedule should be based on the timeline needed to study all viable project alternatives. The identification of the project alternative used for programming does not predetermine the identification of a preferred alternative during the environmental process.

Life-Cycle Cost Analysis for Projects with Pavement

Life-cycle cost analysis for pavement work shall be completed as discussed in Chapter 8 of this manual.

Consensus on the Study Area

The study area defines the boundary for any formal study of the project alternatives. Defining the study area boundary is key to forming a systematic approach for developing and evaluating alternatives, and can prevent unexpected project rework. The boundary of the study area is derived from the purpose and need of the project, alternatives, and logical termini. Constraints identified in previous technical studies, legal requirements, design standards, community input, funding limitations, and natural or man-made elements assist in the delineation of the study area. Consensus on the definition of the boundary of the study areas is the responsibility of the PDT.

The boundary of the study area shall be broad enough to ensure that all the viable alternatives can be evaluated. The boundary of the study area may delineate individual alternatives or delineate one area for the development of multiple alternatives. The study area should include anticipated route detours, material haul roads, and other areas that are indirectly impacted as a result of the project. Risk management activities can be incorporated into the development of the boundary of the study area and used to effectively sequence activities. For example, if there are alternatives that have a high potential for a “fatal flaw,” the boundary of the study area map should identify locations that have the high risk features and flag those areas to be studied first. Early verification of high-risk elements may eliminate the need to extensively study alternatives that are ultimately not viable. Early verification of high-risk elements also ensures that adequate resources are obtained and

accurate schedules are established. The boundary of the study area may be refined as information is gathered.

Identify Anticipated Environmental Determination/Document and Compliance

The preliminary environmental assessment report (PEAR) identifies the anticipated environmental determination/document, the need for preliminary environmental studies, and identification of known environmental constraints. The PEAR also includes estimates of the schedule and costs associated with completing environmental compliance. The information contained in the PEAR serves as the foundation for the environmental team to begin studies in the PA&ED phase, facilitating early consultation with federal and State resource agencies. For additional information regarding the PEAR, see http://www.dot.ca.gov/ser/pear.htm.

Value Analysis

The Department is mandated by law (SAFETEA-LU, title 23 USC 106) to perform a value analysis (VA) study on all projects on the Federal-aid system with a total project cost including support of $25 million or more regardless of whether Caltrans employees, local agencies, consultants, or others are accomplishing and/or funding the work. In addition, a VA will be performed on all bridge projects with a total cost of $20 million or more. The federal requirements for legislative compliance to perform a value engineering or VA study can be found in Chapter 19, Value Analysis.

The PDT should establish the timing of the analysis once it has been determined that a VA study is appropriate and/or required. The PDT should focus on the workplan, identify the information critical for effective analysis, set a study schedule, and allocate sufficient resources for staff participation during the value analysis study.

The formal VA should be completed as early in the process as possible, but only after adequate information has been generated to complete a high level evaluation of various alternatives.

Ideally, VA is performed to analyze proposed corridor improvements prior to narrowing the suite of alternatives (or phasing of project improvements) for further development. The intent of the federal legislation is to use VA to identify the solution with the best value for the majority of the project stakeholders. The VA study provides a quantitative and qualitative assessment to compare the performance attributes and costs of competing alternatives.

Exceptions to Design Standards

The District Director (or Deputy District Director if identified in Caltrans Delegation of Authority) is not authorized to approve a PID unless the alternatives are considered geometrically feasible for study. To ensure such feasibility, PIDs should not be approved without a full understanding and declaration of the identified risks of the project. As such,

with the exception of the PSR-PDS, known mandatory design exceptions for the alternative identified in the PID for the purpose of programming project costs or proposed by a local agency must be identified and approved by the Headquarters Design Coordinator prior to PID approval. However, if a PID contains more than one alternative to be carried forward for further study, the mandatory design exceptions for those alternatives must be identified and at the discretion of the Headquarters Design Coordinator, be approved by or documented in the PID that the Headquarters Design Coordinator concurs that the alternatives presented do not contain any fatal flaws and are worthy of further consideration. Any associated risks must be documented in the PID. A similar process should be established at the District level for advisory design exceptions.

PSR-PDS

Completion of a PSR-PDS does not require the engineer to investigate to the level of detail that is necessary to request an exception to design standards. However, it is expected that the PSR-PDS will include a full standard alternative. Where it is not reasonable to consider a full standard alternative, the Headquarters Design Coordinator may determine that due to project-specific constraints it may be appropriate to complete the design exception fact sheet for specified design elements in order to eliminate a "fatal flaw" in the project proposal.

Resurfacing, Restoration and Rehabilitation Projects

SHOPP projects that address resurfacing, restoration, and rehabilitation (RRR), and certain safety, storm damage, protective betterment, and operational improvement shall be consistent with the design criteria described *DIB 79-02*.

Capital Preventive Maintenance (CAPM) Projects

CAPM projects that are consistent with the scope and intent of the CAPM program rarely require a Fact Sheet for Exceptions to Mandatory Design Standards. All newly constructed project features are to be in conformance with current design and safety standards, policies, and practices.

For further policy and procedures on design exceptions, see Chapter 21 and Appendix BB of this manual.

Safety Review

All projects must be reviewed by the District Safety Review Committee prior to the approval of the PSR. The PID must incorporate the safety concepts that were identified during the safety review process unless deletion is substantiated, documented, and approved by the District Director. See Chapter 8, Section 7 of this manual and *the Highway Design Manual (HDM)* for more detailed information on Safety Reviews.

Constructability Review

All major projects (except for projects-funded-by-others) shall include the use of formal constructability reviews (CRs) during the project initiation and design phases of the project development process. The formal CR process is an iterative, multi-disciplinary review that

is conducted at various points during the project development process. During the project initiation phase, the draft PID is reviewed for any "fatal flaws" to assess whether all alternatives are constructible based on the available level of detail. The CR includes a review of the proposed project workplan and schedule. The PID shall summarize the results of the CR.

The District/Regional Director has the approval authority for any exceptions to conducting formal CRs.

The policy and checklist for CRs can be found in a *Memorandum: Constructability Reviews, date May 20, 1998.*

Assessment of FHWA Involvement

Approval of Plans, Specifications, and Estimates

All projects must be assessed to determine the level of federal involvement needed to approve the design and construction products. The Stewardship Agreement between Caltrans and the Federal Highway Administration (FHWA) provides the criteria used to determine this type of federal involvement. The Stewardship Agreement can be found at http://www.fhwa.dot.gov/cadiv/docs/stewardship.htm.

Other Types of Federal Involvement

In addition to assessing FHWA's involvement in approval of the plans, specifications, and estimates, other project features may require FHWA involvement or the involvement of other federal agencies. Examples of other federal agencies are: Army Corp of Engineers, Bureau of Land Management, Bureau of Indian Affairs, tribal governments, or U.S. Forest Service. Each functional unit must be involved in assessing the amount of federal involvement for their delivery product. As an example the Stewardship document states that it does not apply to the National Environmental Policy Act (NEPA). Therefore if FHWA actions are needed on a project, FHWA NEPA action is required.

The PID should identify all federal required involvement.

Chapter 2, Roles and Responsibilities, Section 7 provides the policies and guidance regarding FHWA involvement.

FHWA Engineering and Operational Acceptability Determination for New or Modifications to Access on the Interstate System

New connections or modifications to existing access points to the Interstate System require approvals by both Caltrans and FHWA. Obtaining FHWA approval is a two-step process. The first step in this process is obtaining FHWA "engineering and operational acceptability" determination previously referred to as "FHWA conceptual approval." For most projects, FHWA "engineering and operational acceptability" determination is obtained during the PID

phase. The second step occurs once the NEPA process is completed. FHWA will concurrently provide approval of the environmental document and final approval for the new or modified access.

Caltrans evaluates the project proposal for impacts on the LOS of the Interstate in terms of safety and mobility.

As discussed in Chapter 2 of this manual, Caltrans shall keep the FHWA Liaison Engineer informed of all proposed new connections or modification to the Interstate System as they are being developed and document these actions through the Caltrans-FHWA Record of Involvement.

For projects using a PSR, Caltrans shall submit a formal request for a FHWA "engineering and operational acceptability" determination of the new or modified access to FHWA. An unsigned draft PID and supporting documentation must be attached to the request. The evaluation, FHWA "engineering and operational acceptability" determination and Caltrans' conceptual approval is documented in the approved PID.

For a project that is initiated with a PSR-PDS or Long Lead SHOPP PSR, FHWA "engineering and operational acceptability" determination occurs during the PA&ED phase because the level of project detail in these documents is not sufficient for FHWA to make this determination. An unsigned supplemental PID or an unsigned draft project report and supporting documentation must be attached to the request. FHWA "engineering and operational acceptability" determination must be obtained prior to circulation of the draft environmental document. The evaluation, FHWA "engineering and operational acceptability" determination and Caltrans' conceptual approval is documented in the approved draft project report.

The PSR-PDS or Long Lead SHOPP PSR shall identify the target schedule for the FHWA "engineering and operational acceptability" determination. The schedule shall be discussed with and agreed to by the FHWA Liaison Engineer prior to determining the target schedule.

An unsigned PID (or other report as described above) and the supporting documents for projects that propose new or revised interchanges shall contain sufficient information to allow FHWA to independently evaluate the request and ensure that all pertinent factors have been appropriately considered and must meet the requirements identified in *Chapter 27 – New Public Road Connections, Article Five- Approvals of New and Revised Interchanges*.

Federal Aid Reimbursement - Local Agency Implementation

If federal dollars are used on any portion of the project and local agency support costs are considered a soft match for federal reimbursement, then the PID or PR must identify and discuss the local agency support cost.

Workplan Development

All projects, except District Minor Projects, shall have workplans that describe the amount of and the schedule for Caltrans resource needs following project initiation. Workplans shall be developed with input from all appropriate functional units. The PID contains a summary of the information needed to explain the workplan (e.g., assumptions, critical path activities, summary of the risk management plan). A copy of the workplan is submitted to Headquarters Project Management.

For further information about the development of workplans, refer to the Division of Project Management, Office of Project Management Process Improvement.

Cooperative Features for Capital Improvements

A cooperative agreement shall be required if the PA&ED, or another future phase will involve the exchange of funds, effort, or materials between Caltrans and another public entity. The PID will be the authorizing document for the execution of a cooperative agreement and therefore must address:

- Why the agreement is in the best interest of the State.
- If the cooperative features are within Caltrans policy/procedure. If not, obtain and attach an exception to that policy from the appropriate policyholder.
- The workplan for the cooperative features:
  - Hours, schedule, funding.
  - Functional unit review and concurrence.
- Who is the California Environmental Quality Act (CEQA) lead agency? The decision must conform to Caltrans policy "*Department as CEQA Lead Agency for Projects on the State Highway System*" dated June 24, 2004.
- Funding limitations, if any.
- Assumptions and high-risk elements.

A cooperative agreement, ready to sign, must be attached to the authorizing document: PID or CAR.

See Chapter 16 of this manual for additional information on cooperative agreements and cooperative agreement reports, and the cooperative features that are to be included in a PID and the cooperative agreement.

Additional information on roles and responsibilities can be found in Chapter 2.

Federal Funding Requirements

To qualify for federal funding, projects must meet FHWA and Federal Transit Agency (FTA) requirements with respect to planning and programming. Projects must be:

- Included in a fiscally constrained plan that meets air quality conformity such as the RTP.
- Programmed into a fiscally constrained Federal Statewide Transportation Improvement Program/Federal Transportation Improvement Program (FSTIP/FTIP).

Fiscal constraint is a demonstration that there will be sufficient funds to implement proposed improvements, and to operate and maintain the entire system, by comparing costs with available financial resources.

If the scope of the project is not consistency with the air quality analysis completed for the RTP, the air quality analysis must be revised before the project can be programmed.

All projects funded with federal funds must be incorporated into the FTIP and FSTIP, as appropriate, whether programmed through the a State programming document such as the STIP or SHOPP or through the regional Surface Transportation Program or the Congestion Mitigation and Air Quality Program.

The PID shall include a discussion on the long-range planning document, reasonable and reliable funding sources, and if appropriate, the actions necessary to include the project in the FSTIP/FTIP. FHWA provides additional guidance on expectations regarding fiscal constraints and identifying "reasonably available" future funds at: http://www.fhwa.dot.gov/planning/fcguid62705.htm.

Throughout the project development process, there must be consistency between the federally required planning and programming documents.

For additional information on federal programming, see Chapter 4- Programming of this manual and the Federal Transportation Management Program.

Project Initiation Document Approval

When a PSR is completed and approved by the District Director (or Deputy District Director if identified in Caltrans Delegation of Authority) the project initiation phase is complete and the project is eligible to compete for funds from the appropriate state and federal funding program. A draft project report (DPR) must be completed to authorize circulation of the draft environmental document. For further guidance on the DPR, see Chapter 10 of this manual. A project report (PR) is required to document Caltrans' final approval of the project. For further guidance on the PR, see Chapter 12 of this manual.

When a PSR-PDS is completed and approved by the District Director (or Deputy District Director if identified in Caltrans Delegation of Authority) the project initiation phase is

complete and the project is eligible to compete for the support costs of performing PA&ED from the appropriate state and federal funding program. Once adequate information is available to reasonably estimate the construction and right of way cost and project schedule one of the following documents can be used to program the remaining phases of the project: a supplemental PSR, DPR, or PR. A DPR must be completed to authorize circulation of the draft environmental document. For further guidance on the DPR, see Chapter 10 of this manual. A project report (PR) is required to document Caltrans' final approval of the project. For further guidance on the PR, see Chapter 12 of this manual.

The approval process for other types of PIDS is discussed in subsequent articles.

Starting Next Phase

Major Projects Start

Authorization to begin working on the PA&ED phase of a major project is its inclusion in the appropriate State and Federal programming document or approval of a PID that specifically authorizes commencing to the next phase.

Minor Projects Start

Authority to proceed with the project development process of minor projects rests with the District Director. Each District is responsible for developing a process for identifying the needs of the District minor program and ensuring that those needs are aligned with the goals of the Ten-Year SHOPP Plan that is administered by various Headquarters Program Advisors.

ARTICLE 5 – Additional SHOPP Program Procedures

General

This section describes additional procedures that are specific to projects that are funded from the SHOPP Program. The SHOPP Program is a structured process that is focused on identification of facility needs with respect to the performance measures for operation and preservation of the existing facility.

Scoping Team Field Review

All candidate Resurfacing, Restoration and Rehabilitation (RRR) and CAPM projects as described in DIB 79 and DIB 81 shall have a "scoping team field review" after initial development of a draft PID document. The composition of the team will vary in accordance with the complexity of the project. Attendance on the reviews is mandatory for the Headquarters program advisors and the district program advisor, and recommended for

Headquarters Design reviewers. When possible, schedule the scoping team field reviews so that several site and projects can be visited with one review. All scoping team field reviews should be notified by email or in writing of scheduled reviews prior to approval of the PID.

Safety Analysis

All rehabilitation projects are to include a safety analysis. The analysis should be performed early in the project development process to identify safety problems that should be considered in development of the rehabilitation project. The analysis must include both an accident record review and a safety field review. The analysis is to be documented in a separate report.

The date of the safety field review should be noted in the PID. The safety field review should be a joint effort between the district's design unit and traffic unit. The district maintenance, construction, survey, and safety units must also provide safety reviews for the project, as specified in Chapter 8, Section 4.

The safety analyses should be schedule for traffic staff efficiency and consistent with the scope of the project and general condition of the existing facility.

Content of the Safety Analysis

The Safety Analysis should address such items as:

- Pavement condition
- Existing geometrics
- Traffic volumes
- Accident data (typically the most recent 3-year accident history by type). Include an analysis of the causes of accidents.
- Traffic Safety devises and hardware
- Roadside obstructions
- Drainage features
- Structurally deficient or functionally obsolete bridges
- Other pertinent factors

Alternative Safety Solutions

Where accident rates are high or there are concentrations, a determination should be made as to alternative improvements that can be accomplished within the parameters of a RRR project. This should be done using a multidisciplinary group to identify the problem and to brainstorm a solution.

The safety field review report is not to be attached to the PID. The report should be briefly summarized under "Traffic Data" and should include proposals for safety enhancement. Safety enhancements not included in the project should be noted, with an explanation for their exclusion. The safety field review report may make suggestions, but the decision to include them in the project will be the responsibility of the scoping team.

While the analysis may discuss a range of possible solutions to demonstrated problems, there should be no specific project recommendations made in the analysis. Project recommendations or proposals will be decided by the scoping team after considering whether the recommendation or proposal is consistent with the degree of the safety problem, is reasonable from a cost effectiveness standpoint, and is of the type that can be accomplished within the parameters of a RRR project.

Safety Upgrading

Special emphasis should be placed on implementing cost-effective solutions recognizing, however, that certain upgrading for safety and operational purposes are desirable and others are necessary. Recommendations and decisions on safety improvements should be consistent with the degree of the safety problem and the reasonableness from a cost standpoint.

Maintenance Considerations

Cost-effective maintenance improvements should be considered, as appropriate, particularly if they improve safety for maintenance operations. There may be low cost improvements that will provide significant safety benefits to maintenance personnel.

Documentation

The safety analysis must be documented in writing and should be retained in the project file.

Approval of Project Scope Summary Report

Table 3, Article 4, of this chapter identifies the type of PID for each SHOPP program. Each SHOPP program has a specific program objective. The majority of SHOPP projects have adequate information at PID phase to approve an alternative. These two factors resulted in the development of Project Scope Summary Report (PSSR) templates that combine the PSR and PR documentation requirements into one report. Each template has an estimate that has been customized to meet the specific program need.

The PDT shall determine if the phases can be combined.

1. When the PSSR is completed and approved by the District Director (or Deputy District Director if identified in Caltrans Delegation of Authority) and an approved categorical exemption/exclusion form (CE/CE) is attached, the PSSR serves as the PID and the PR; or

2. When the PSSR is completed and approved by the District Director (or Deputy District Director if identified in Caltrans Delegation of Authority) and a draft environmental document is attached, the PSSR serves as a PID and the approving document for circulation of the draft environmental document. Project approval is documented in a supplemental PSSR. The supplemental PSSR shall follow the same requirements described in "Content of Supplemental PR," Section 6, Chapter 12, of this manual.

3. When the PSSR form is completed and approved by the District Director (or Deputy District Director if identified in Caltrans Delegation of Authority) and a CE/CE or draft environmental document is not attached, the PSSR serves as a PID. A DPR is required to approve circulation of the draft environmental document. Project approval is documented in the PR.

Appendix L provides guidance that is applicable to all PIDs. Appendices G, M, N, P, and Q include customized PSSR templates. If the project scope corrects deficiencies not included in the template, refer to Appendix L to ensure that information in the report is complete. Modify the PSSR template appropriately.

Approval of Capital Preventive Maintenance Project Report (CAPM PR) Form

The CAPM PR form, when completed and approved by the District Director (or Deputy District Director if identified in Caltrans Delegation of Authority) and the CE/CE is attached, will serve as the PID and also as the project approval document.

Damage Assessment Forms (DAF) – Additional Procedures

Time Limits

FHWA Emergency Relief (ER) Program, project development work must be completed by the end of the second full federal fiscal year after the declared disaster. For those projects eligible for the FEMA Stafford Act funding, construction must be completed within four years of the date of disaster declaration.

Major damage restoration projects, regardless of funding source, are considered to be emergency-related high priority work. Project development for all major damage restoration projects should be completed in a timely manner to prevent the loss of federal funds due to exceeding the required time limits.

FHWA Review

Federal participation for major damage restoration requires that the FHWA Liaison Engineer review the major damage site as soon as possible after occurrence, in order to determine eligibility for ER participation. In the event of a finding of eligibility for the federal ER program, the FHWA will prepare a DAF for eligible work. The Office of Federal Resources in the Division of Budgets has guidance on how to determine the level of FHWA oversight.

ARTICLE 6 – Director's Order for Urgent Projects

Projects addressing an urgent need to protect the health and safety of the traveling public (e.g., correcting an imminent bridge or roadway failure) require a Director's Order to let an emergency contract or use day-labor. These procedures do not pertain to Major Damage Restoration projects that do not qualify as emergency contracts. A Director's Order should be requested by memorandum that is signed by the District Director and submitted to the Caltrans Headquarters' Maintenance Division Chief. One copy of the memorandum for information purposes should be sent to the Office of Project Development Procedures. The request should contain the information in the following list:

- District, County, Route, Post Mile,
- Statement addressing the nature and cause of the damage or failure,
- Background information (history of problem, work already performed),
- Proposed work,
- Proposed work method (force account, equipment rental, informal bids, or day labor),
- Statement of cost and source of funding (SHOPP or Maintenance),
- A statement that necessary clearances (Right of Way, Department of Fish & Game, etc.) have been obtained,
- Proposed schedule (PS&E submittal, Advertising, Bid Opening, etc.), and
- Name and telephone number of district contact person.

Refer to the *Major Damage Restoration Coordinator's Handbook* for further information.

ARTICLE 7 – EA Project Report for "Minor B" and Maintenance Projects

Minor B

For very simple projects that fall under the dollar limit for "Minor B" projects, the completed expenditure authorization project report (EA-PR) serves as the project initiation document and the PR. See Appendix B of this manual for the EA-PR.

Maintenance Projects

For maintenance projects, the completed EA-PR serves as the project initiation document and the PR. See Appendix B in this manual for the EA-PR.

Traffic Signal Projects

Although "Minor B" projects normally are not required to have a formal project report, the Traffic Manual, Section 9-02.2, specifically requires a project report to investigate the conditions at locations where a new traffic signal is to be installed, an existing traffic signal is to be modified, or an existing traffic signal is to be removed.

A written summary of the investigation and justification for the installation, modification, or removal of a traffic signal is required when any portion of the intersection is within the SHS. The purpose of this written report is to provide the technical justification for the traffic signal work and may be an abbreviated report in a cover letter format instead of a formal project report.

The minimal cover letter should state the location and investigative background and list the investigating party. The district may establish its own level of approval authority while also indicating the professional engineer in responsible charge of the work.

Attachments to the cover letter should include the same technical attachments used for traffic signal project reports. These include:

- Traffic data;
- A condition and improvement diagram as described in the MUTCD California supplement; and
- An estimate of cost and the funding proposed by the district including contributions by others.

Traffic signal projects that include restriping or other geometric changes that introduce nonstandard conditions for lane widths, shoulder widths, disabled access, etc., will require approval of Fact Sheet for Exceptions to Mandatory Design Standards even though the project report is reduced to this cover letter format. The Headquarters Design Coordinator or Headquarters Design Reviewer must be consulted for nonstandard features.

This cover letter and attachments must be maintained on file as a part of the historical background of that portion of the SHS within the district's jurisdiction.

ARTICLE 8 – Project Initiation Process for Projects-funded-by-others

General

A project-funded-by-others is a highway improvement project that is sponsored by a local agency or private developer and does not use any funds that are programmed into the STIP or SHOPP. Because Caltrans is responsible for protecting the public's investment in the SHS, Caltrans must review all proposed highway improvements that are funded by others. When a local agency or a developer funds a project, it is imperative for the sponsor to have early and continual discussions with Caltrans to establish the viability of the proposal, procedural requirements, and the schedule for various project deliverables. This article discusses the processes that apply to projects-funded-by-others.

Types of PIDs for Projects-funded-by-others

Based on the complexity of the project, the impacts, and the cost of the project on the SHS, a project will require a permit application review, development of the PEER or appropriate PID. A PEER or PSR provides conceptual approval of a project.

A Permit Application Review

Project sponsors or their representative shall sign and submit an encroachment request to enter the right of way and build the improvements approved by the Department. For further information on an encroachment permit application see:
http: //www.dot.ca.gov/hq/traffops/developserv/permits/applications/index.html.

PEER

If a project is considered to be a non-complex project and the construction cost for the project is less than $1,000,000 (one million dollars), then the review and approval of the project is completed under the encroachment permit process. Caltrans determines the complexity of the project through the permit application review. The dollar limit represents the estimated value of permit work improvements within the existing State highway right of way. The dollar limit does not include the value of routine drainage or utility work or the value of dedicated right of way. For additional information about this process see Appendix I – Permit Engineering Evaluation Report and the *Manual for Encroachment Permits on California Highways* (http://www.dot.ca.gov/hq/traffops/developserv/permits/encroachment_permits_manual/index.html).

If the project is considered to be a non-complex project and the construction cost of the project is less than $3,000,000 (three million dollars), then review and approval of the project can be completed through the PEER process. Caltrans determines the complexity of the project during a processing assessment as discussed in Chapter 2, Section 5 of this manual.

The PEER melds engineering review of permit proposals into the normal encroachment permit application review to eliminate any separate processing of a PID. The responsible unit for PEER preparation will usually be the district Design or Traffic Operations units, depending upon type of work. Other district units involved, such as environmental, right of way, utilities, maintenance, etc., will review the permit application as appropriate and as requested by the responsible unit.

Drainage work by a permittee should have a PEER if there is potential for tort liability due to changes in upstream or downstream conditions as a result of the construction. Landscape with grading that affects sight distance or clear zones should have a PEER. Major grading within the right of way would not usually require a PEER unless sight distance or safety factors will be less in the after condition.

PID Template

The permit engineer, in consultation with other functional units, decides whether or not the project should be considered an encroachment permit project if the project meets the complex project definition as defined by the encroachment permit policy in the *Manual for Encroachment Permits on California Highways* or if the construction cost is greater than $1,000,000.

The project proponent shall submit a PID as described in Appendix L of this manual. Caltrans staff will provide independent quality assurance for the PID and will work with the sponsor to execute a cooperative agreement (CA) or highway improvement agreement (HIA) for cooperative elements identified in the approved PID. An executable CA or HIA must be attached to the PID as described in Chapter 16. Chapter 2 - Roles and Responsibilities discusses the roles and responsibilities of both Caltrans staff and other sponsors of projects on the SHS. Information on cooperative agreements can be found in Chapter 16, Cooperative Agreements.

Approval of a New Public Road Connection Requires a PID

The PEER process cannot be used for a project that requires a new public road connection to a freeway or expressway. The new public road connection process is complex in that it requires Caltrans to make an assessment that the operations of the facilities has been protected and that the connection is in the best interest of the State. This recommendation must be formally submitted to the CTC, and if applicable, to FHWA for approval.

Early Confirmation Required

Prior to making commitments to the requesting party, early written confirmation of the concept from the District Director is required for a proposed new connection to an expressway (controlled access highway). Early written confirmation is given only after

consideration of access control policy and engineering aspects such as connection spacing, fit with local general plans, and the feasibility of potential ultimate conversion of the State highway into a full freeway. A request for a proposed new public road connection to an expressway (controlled access highway) is made by submitting to the District Director a draft PID that contains, at a minimum, the information required in Chapter 27 of this manual.

Encroachment Permit Process

District Permit Engineer Initiates Procedure

Upon receiving the permit application, the district permit engineer will determine the appropriate level of documentation. In addition to the permit application information, the permit engineer may require either a PEER or a PSR and PR to obtain project approval. If a PEER is determined to be the appropriate level of documentation, the district permit engineer will use the Application Review (TR0154) to designate a responsible unit (Design, Traffic Operations, etc.) for possible PEER preparation. If a PSR is determined to be the appropriate document for conceptual approval then see "PSR process for projects-funded-by others" in this chapter.

Determining if a PEER is Required for Projects Under $1,000,000

The responsible district unit will review and determine whether or not a PEER is required. If the unit determines that there will be no adverse impact on highway operations, maintenance, and tort liability, it must indicate so in the appropriate box shown on the Application Review Form with the signature by at least a senior level person. The unit will then do its usual permit review, fill out the rest of the form, and return it to the district permit engineer. If the responsible district unit determines that there will be impacts, a PEER is required and the unit will be responsible for the preparation, review, and approval of the PEER. (See Appendix I of this manual.)

A PEER is not required for projects that involve only routine utility and drainage encroachment work within the right of way. The normal encroachment permit process handles this work.

The PEER melds engineering review of permit proposals into the normal encroachment permit application review to eliminate any separate processing of a PID. The responsible unit for PEER preparation will usually be Design or Traffic Operations, depending upon type of work. Other district units involved, such as Environmental, Right of Way, Utilities, Maintenance, etc., will review the permit application as appropriate. Other district units will not be involved in the PEER unless requested by the responsible unit.

A PEER Evaluates Impacts on State Highway for Projects Under $1,000,000

The responsible unit will evaluate the impacts of the permit proposal upon the State highway, determine its geometric and functional adequacy, and summarize the findings in a PEER, which should contain the information needed to justify (or reject) the proposed work.

As a general rule, a PEER should be prepared when the traffic or other actions generated by the permittee adversely affect operation and/or maintenance of the highway or there is potential to expose Caltrans to tort liability suits. The primary purpose of the PEER is to document the engineering rationale for Caltrans' decision in a permit action.

A PEER should always be prepared when new operating improvements are constructed by the permittee that become part of the State highway. These include signalization, channelization, left-turn pockets, widening, realignment, public road connections, and bike paths and lanes. Commercial road approaches would not usually require a PEER when grades are flat and there are no sight distance restrictions; otherwise a PEER should be prepared. Any widening by adding lanes should require a PEER, unless it is part of a precise plan for the highway adopted by the local agency and has been previously concurred by Caltrans.

Preparation Timing

The time needed to prepare, evaluate, and finalize a PEER will depend upon the scope and complexity of the work. When the preparation, evaluation, and finalization of a PEER can be completed within the review deadline, the PEER should be attached to the Application Review form and returned to the district permit engineer. When additional time is required, the responsible unit should return the Application Review form immediately to the district permit engineer, with notification of the estimated date that the PEER will be completed and whether or not additional information is needed.

Nonstandard Feature Approval

If nonstandard design features are involved, the procedure outlined in Chapter 21 must be followed. An exception to a mandatory standard will require preparation of a Fact Sheet for Exceptions to Mandatory Design Standards by the unit responsible for PEER preparation and approval by the Headquarters Design Coordinator.

Access Control Change Procedures

If the permit proposal involves a reduction in or crossing of access control or the transfer of Caltrans right of way to the applicant see chapters 27, 17 and 26 of this manual for processing instructions. This work is normally done during preliminary negotiations with the permit applicant before the applicant formally submits the permit to Caltrans. FHWA approval is required for proposals on the Interstate System and may be required for non-Interstate System projects. After approval is received, the right of way transaction is executed and the encroachment permit is processed. A PEER would cover the permit work where applicable.

Right-of-Way Dedication Procedures

If the permit work involves dedication of additional rights of way along the access control line without any reduction in access restrictions, separate District Director concurrence is not needed. The involvement of Headquarters Design coordinators and reviewers should be sought when substantial modifications to access control position are proposed. In all cases, it is important that the dedication specifically provides for access control and that right of way record maps be updated. A map or paper shifting of the access control line is not legally binding — the restriction must be contained in the deed or quit claim.

California Environmental Quality Act /Traffic Mitigation

On more complex permit proposals involving CEQA and traffic mitigation approvals by a local agency, it is expected that the responsible unit would have been involved in preliminary negotiations prior to final PEER preparation. If this has not been done, the permittee should be called for an immediate meeting to resolve these issues.

All Permit Proposals Need Evaluation

The fact that a PEER is not prepared does not in any way diminish the responsibility of the District Responsible Unit to thoroughly evaluate the permit proposal and summarize conclusions in the "Remarks" area of the Application Review form (TR0110).

Approval

The District Director is responsible for approval of the PEER. One copy of the approved PEER is to be sent to Office Project Development Procedures.

Permit Review Charges

PEER preparation is considered part of the permit review process, with costs to be charged to the EA assigned by the district permit engineer. Charges should be reasonable. Excessive hours should be charged to the unit's overhead EA. Prior staff work not directly associated with actual permit processing or PEER preparation, even though later constructed by permit, should be charged to the unit's overhead EA, and not to the permit review EA.

PEER Process for Projects with Construction Costs from $1,000,000 to $3,000,000

Caltrans Point of Contact Initiates Procedure

Upon receiving contact by a local entity or developer, the Caltrans point of contact will set up an initial meeting to make a determination on which process the project will undergo. If the project is non-complex and construction cost of the project is less than $3 million (three million dollars), then the project is eligible to follow the PEER process. If the project does

not meet the eligibility requirements for processing via a Combined PSR/PR (see Chapter 9, Article 9), it is not be eligible for processing as a PEER.

The PEER process is intended to streamline the processing of projects-funded-by-others by reducing the steps in the project development process. This is not intended to relieve the project sponsor from meeting all other Department policies, standards and practices. Caltrans may increase the level of documentation and processing for those projects that are deemed complex.

The PEER will document both concept approval and project approval eliminating the need for separate processing of a PID. The project sponsor is responsible for preparation of the PEER and providing all supporting documentation. The Caltrans point of contact will ensure that the appropriate district units, such as Design, Environmental, Right of Way, Utilities, Maintenance, etc., review the project as needed. Other district units will not be involved in the PEER unless requested by the Caltrans point of contact.

A PEER Evaluates Impacts on State Highway

The project sponsor will evaluate the impacts of the project upon the State highway, determine its geometric and functional adequacy, and summarize the findings in a PEER, which should contain the information needed to justify (or reject) the proposed work.

As a general rule, a PEER should evaluate and document the impacts of the project on the operations and/or maintenance of the highway. The primary purpose of the PEER is to document the engineering rationale for Caltrans' decision in a permit action.

Preparation Timing

The time needed to prepare, evaluate, and finalize a PEER will depend upon the scope and complexity of the work. Once the PEER is complete and the oversight engineer has approved the final plans and specifications, the project is then submitted to the Permit Engineer for processing by submittal of an encroachment permit application by the project sponsor. When the District Permits Office receives the completed encroachment permit application, the statutory 60-day review limit begins.

Nonstandard Feature Approval

If nonstandard design features are involved, the procedure outlined in Chapter 21 must be followed. An exception to a mandatory standard will require preparation of a Fact Sheet for Exceptions to Mandatory Design Standards by the project sponsor and approval by the Headquarters Design Coordinator.

Cooperative Agreements

A Cooperative Agreement will normally not be required for projects processed via the PEER process. However, certain types of projects may require some type of an agreement. These project types could include signal construction, landscaping construction, and noise barrier construction where maintenance responsibilities must be documented. Projects sponsored by private entities will require a Highway Improvement Agreement.

All projects funded by others, not just those that are called "encroachment permit projects", require an encroachment permit whenever the project sponsor, its consultants, or its contractors work within the existing State highway right of way.

Approval

The District Director is responsible for approval of the PEER. One copy of the approved PEER is to be sent to Office Project Development Procedures.

PSR Process for Projects-funded-by-others

The project development procedures for projects-funded-by-others are generally the same as those procedures for projects that are funded through a state-programming document. Additional procedures however, are necessary to approve cooperative elements through a CA or HIA. Caltrans retains stewardship responsibility for FHWA requirements and as such makes the arrangements for project development documents to be reviewed by FHWA. Caltrans performs independent quality assurance on projects-funded-by-others to ensure that the completed project conforms to established standards and policies.

The district responsible unit assigned by the district permit engineer will be notified so that a project manager will be assigned to coordinate the project approval. Communication between the project manager, the district permit engineer, the applicant, applicable FHWA units, and appropriate district functional units, such as the environmental, structures, and traffic units, is essential to expedite this process.

A meeting of the applicant and all involved units should be held to determine the type of PID, the appropriate approval process, and environmental documentation needed to complete the project. The project manager will provide a copy of the PID outline, the project report (PR) outline, and any appropriate draft language for inclusion in the CA or HIA. The project manager should document this meeting with a letter to the applicant.

Once the applicant completes and submits the project initiation document and draft CA or HIA, the project manager should distribute the document for review by all involved Caltrans and FHWA units. The time needed to review and approve engineering documents will depend on the completeness, scope, and complexity of the work. The project manager will notify the applicant of the expected completion date for the review and whether additional information is needed.

Once the PID is found to be satisfactory, the project manager recommends the project initiation document for approval by the District Director.

The District Director's signature signifies approval of the project concept and that reasonable estimates and time frames are reflected in the report. The District Director shall not approve a PSR unless there is an executable CA or HIA attached.

The individual in responsible charge, a registered engineer if it is an engineering report, or the appropriate licensed professional in the State of California signs the report. The appropriate stamp or seal shall be applied to the report.

After approval, two copies of the final document should be forwarded to Office of Project Development Procedures.

The approved PID is the authorization to enter into a CA or HIA for the study, design, and construction of the State highway. For information on combining the project initiation phase and the project approval phase see following article.

ARTICLE 9 – Combined PSR-PR Document

General

Proposals that have the consensus of key stakeholders and a clear understanding of the requirements to complete the project can be scoped early in the project development process. As such, the PDT may recommend consolidation of the PID and project report into a combined Project Study Report-Project Report (PSR-PR) if a project has a well-defined "purpose and need" and a well-defined project scope. The District Director retains the authority to use a combined PSR-PR.

The combined PSR-PR is an engineering document and must meet the requirements for both a PID and a PR. See Appendix K – Project Report and Appendix L – Project Study Report of this manual for further guidance on developing PIDs and project reports. See Appendix A of this manual for a template of the combined PSR-PR.

Ineligible for a Combined PSR-PR

If a project has any of the following features, the project cannot use the combined PSR-PR process:

- Modified access to the Interstate System, as FHWA approval is a two-step process.
- Approval of a route adoption by the CTC.
- An environmental impact report to comply with California Environmental Quality Act (CEQA) and/or requiring an environmental impact statement to comply with National Environmental Policy Act (NEPA).
- An individual 404 Permit.
- A Coastal Development Permit.
- A San Francisco Bay Conservation and Development Commission Permit.
- A Tahoe Regional Planning Permit.
- Formal consultation under the Federal Endangered Species Act.

Considerations For a Combined PSR-PR

Once it is determined that the project is not specifically ineligible from using a combined PSR-PR, the PDT shall perform a focused risk assessment to identify factors that can affect project scope and estimate the degree of uncertainty that these factors pose. At a minimum the PDT shall consider:

- Consensus of key stakeholders on the project purpose and need.
- Consensus of key stakeholders on the project scope. Stakeholders may include, but not be limited to, the project sponsor, Caltrans as the owner-operator of the SHS, CTC, federal agencies that have approval authority, railroad entities, and other regulatory agencies.
- Impacts to the SHS as identified by traffic studies.
- Impacts to the environment and community. The district environmental generalist shall provide factors to make this evaluation.
- Availability of Caltrans project initiation and capital support resources to provide delivery products and/or independent quality assurance.
- Geometric feasibility of the proposed alternatives (See Exceptions to Design Standards, Article 4 of this chapter).
- A reasonable funding source.

SHOPP Programs

The PDT may recommend using the combined PSR-PR process and template for a SHOPP project after performing a focused risk assessment on factors that affect the project purpose and need, and project scope.

SHOPP Safety Improvement Program (201.010)

Because of the high priority and importance of an expedited delivery of safety improvements, a combined PSR-PR is the preferred document for SHOPP Safety Improvement Program (201.010).

However, if high risk factors are identified in the focused risk assessment (see Criteria) for a 201.010 project, a PSR may be the appropriate document to ensure that there are adequate resources to identify and resolve issues for project approval. The PDT assessment shall be documented. The district safety coordinator has the authority to grant an exception to the combined PSR-PR requirement for 201.010 projects.

Projects-funded-by-others

The PDT may recommend the use of the combined PSR-PR process and template for projects-funded-by-others after performing a focused risk assessment on factors that affect the project purpose and need, and the project scope. The District Director retains the authority to approve the use of the combined PSR-PR.

The combined PSR-PR eliminates the separate processing of a PID and a PR. Although one report is prepared, it is expected that the PSR-PR will address issues affecting operations, maintenance, and any potential tort liability on the State highway, and that the proposed work will conform to current Caltrans policies, practices, and standards. All technical information required for normal PID processing must be identified and included in the PSR-PR. Projects must follow the process identified in Article 8, Project Initiation Process for Projects-funded-by-others.

For projects-funded-by-others a combined PSR-PR documents agreement on:

- The purpose and need,
- Project-scope,
- Estimated cost,
- Conceptual approval, and
- Cooperative elements.

The approved PSR-PR with an approved environmental document is the authorization to enter into a CA or HIA for the design and construction of the State highway project. A cooperative agreement, ready to sign, must be attached to the combined PSR-PR.

In cases where PID resources are limited and the district has adequate capital resources to perform the required IQA for project approval, a cooperative agreement or a highway improvement agreement can be executed to authorize use of those resources. A cooperative agreement report is used as the authorizing document.

If the project is sponsored by a local entity, the local entity must understand that there is a risk involved by preparing a combined PSR-PR. The focused risk assessment ensures that all parties be aware of risks. Early and continual consultation with Caltrans can reduce the need for additional project work and project delays.

Project Approvals

The combined PSR-PR, when completed and approved by the District Director (or Deputy District Director if identified in Caltrans Delegation of Authority), will serve as an approved PR when the environmental determination/documentation is attached. Without these items, it functions as a document to approve circulation of the environmental document. A supplemental PSR-PR will need to be completed once the environmental document is finalized to approve the project for design. The supplemental PSR-PR shall follow the same requirements as described in "Content of the Supplemental PR," Section 6, Chapter 12 of this manual.

ARTICLE 10 – Ceasing Work on Programmed Projects

The Request Process

District requests for approval to cease work on programmed projects should be submitted via a memorandum to Headquarters Programming Division. The memorandum should explain the factors warranting deletion of the project and should specify the resources (PYs and dollars) that will be made available by deletion of the project. Where applicable, the memorandum should indicate if the deletion has the concurrence of local and regional agencies.

Note: This process was commonly known as the UNPAR process, derived from the Project Authorization Request (PAR), which is a report format that has been discontinued.

Approval Process

Before the request can be approved, the headquarters program advisors for the appropriate programs must review and approve the district's memorandum.

The headquarters program advisors, in cooperation with the Headquarters' Programming Division, may also initiate deletion of programmed projects (e.g., change in program priority).

Cease Work at Agreed Milestone

The Headquarters' Division of Transportation Programming will notify the Headquarters' Division of Design Division Chief, Division of Budgets, Division of Administration, and the district of the action taken. Project activities will cease at an agreed upon milestone.

CHAPTER 10 – Formal Project Studies

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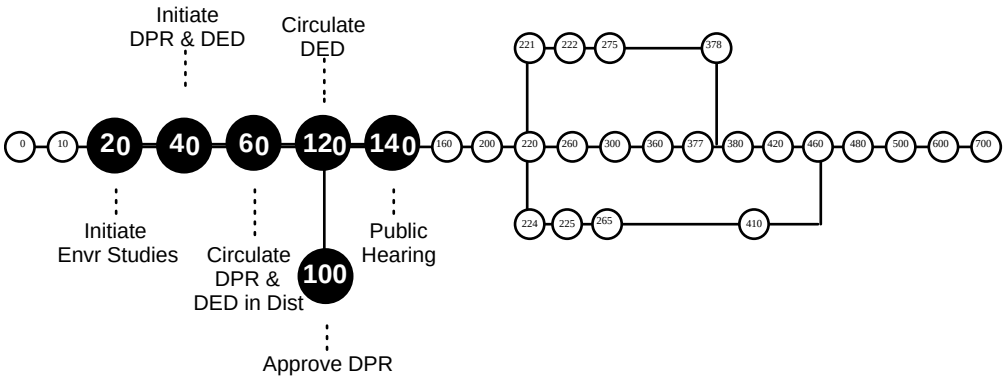
CHAPTER 10 – Formal Project Studies

SECTION 1 – General



This chapter discusses the project development workflow tasks between Milestones 020 and 140. For details on these tasks, see the *Project Development Workflow Tasks Manual*.

Applicability

This chapter covers those projects that had a Project Study Report (PSR) as the project initiation document. It also applies to those projects having a specialized project initiation document that requires further project studies prior to project approval.

For many projects that use a specialized project initiation document (other than the PSR), project studies are complete and project approval is granted when the project initiation document is approved. Chapter 12, Section 4, of this manual identifies those project initiation documents that function as project approval documents and also specifies what conditions need to be met for this to apply. These specialized projects can begin the design process once they are approved and the project has been programmed.

Initiating Formal Studies

The project initiation process produced a PSR or other project initiation document that may include project alternatives. The preliminary scope of each alternative is determined, reliable estimates are prepared, and a feasible schedule is established. When the most likely alternative (or minimum alternative or a stage of the project) is included in an appropriate programming document, formal project studies can begin. Formal project studies should focus on the programmed project unless the programmed project is a stage — in which case the total project would probably be studied.

Project Development Category

The project development process places projects into Project Development Categories, which are defined by various project-processing requirements. The Project Development Team (PDT) determines the Project Development Category for a project, as well as the type of required environmental studies. The PDT also addresses other questions: -Is the project categorically exempt under the California Environmental Quality ACT (CEQA)? - Are the project effects environmentally significant? - Is a Negative Declaration or Environmental Impact Report (EIR) required? If an EIR is contemplated, the PDT will undertake formal scoping to determine the extent of required environmental studies.

Engineering Studies

Before environmental studies can begin, preliminary engineering studies are updated and geometric plans are developed for viable project alternatives. These preliminary plans are used as base maps for the required environmental studies.

Environmental Studies

Environmental studies include air, noise, water, wetlands, historical & cultural, parklands, historic & recreation areas, coastal zone, wildlife & plants, and visual aspects. Social, economic, and land-use issues are also addressed, along with specific concerns such as potential hazardous waste sites and right of way impacts.

Community Involvement

A Community Involvement Plan is mandatory and is developed with active participation from local representatives. (See Chapter 22, Article 5.) It is designed to obtain answers to questions such as: —Does the project have community support? —Is the project "right" for the community —How can project impacts be minimized and transportation services be maximized?

Studies Determination

The PDT is responsible for directing and evaluating the studies. An initial public information meeting is held to measure the public support for the project. Additional informational meetings may be required to obtain sufficient support to proceed. Once support is obtained, the PDT proceeds with the studies. Completion of studies leads to preparation of a Draft Project Report (DPR) and a Draft Environmental Document (DED) or, for a project that is Categorically Exempt/Excluded, directly to the preparation of a Project Report (PR).

SECTION 2 – Engineering Studies

General

Although engineering studies are performed during all phases of project development (including construction), the engineering studies performed following the project initiation phase will support environmental evaluation and project approval. The Project Engineer uses imagination, ingenuity, and technical skill to develop or refine transportation project alternatives to solve a transportation problem.

Effect of Physical Features

Engineering studies begin with the identification of physical features, to establish physical controls and constraints. Physical features include terrain (flat, hilly, mountainous), material (dirt, sand, rock), improvements (buildings, drainage structures, utilities), environmental concerns (flora, fauna, wetlands), etc.

Scoping Project Features

Once physical controls are defined, project features are scoped. The following questions are posed: —What Level of Service (LOS) is obtainable? —What design speed is most suitable for the LOS and physical features? —What typical section is needed to accommodate traffic? —Is the proposed project cost effective?

Importance of Accurate Mapping

Adequate mapping is necessary as a basis for accurate engineering studies. The Right of Way Division needs accurate maps to make estimates. Environmental studies require good mapping, particularly for cultural and biological studies. Windshield surveys may help produce estimates, but good project scope and good estimates need good maps.

Accurate maps are not always available early, so available mosaics or strip maps should be systematically checked in the field to ensure reasonableness. The mapping prepared in the project initiation phase should be checked, updated and expanded as required (as-builts, mosaics, strip maps, aerial contour maps).

It is essential that appropriately accurate mapping and photography be obtained on each route study or major improvement project. In rural areas, foothills, or mountainous terrain, mapping on a scale of 1:2000 with two-meter contours is considered appropriate; in some cases, mapping at a smaller scale may be appropriate in particularly rugged terrain. In urban areas, larger scale maps with closer contour intervals usually will be desirable; a scale of 1:500 or 1:1000 is preferable.

Under special circumstances where the combination of terrain and development is especially critical, the use of photo-contour maps should be considered. In relatively flat areas, mosaics supplemented by elevation data or correlation with USGS maps may be satisfactory.

For further information on mapping, see the *Plans Preparation Manual*.

Phases of Engineering Studies

Early engineering studies began with the identification of the transportation problems and the identification of reasonable alternative solutions. The early feasibility studies used sources such as the Transportation Concept Report, District System Management Plan, Regional Transportation Plan, Congestion Management Program, and initial engineering studies, which served as the basis for the project initiation document. They addressed such questions as: —What is the problem? —What are the possible solutions? —Can significant environmental impacts be avoided? —What is the cost?

Note: Since formal environmental studies are not undertaken during the project initiation phase, there was no public input beyond that provided by local agencies, regional agencies, or resource and regulatory agencies.

At the "formal project studies" stage, formal engineering studies expand the project initiation studies, as necessary. These and subsequent engineering studies reflect public input and the need for environmental evaluation and project approval.

Engineering Standards

By adherence to the engineering standards in the Highway Design Manual, engineering studies should lead to a serviceable, high quality product. These standards must be met unless an exception to Mandatory Design Standards is processed and approved.

Geometric Drawings

On location studies, separations and interchanges for each alternative studied are shown on DPR and environmental exhibit maps, either by schematics or by delineating the geometric pattern of these facilities. Because interchange arrangements could have a deciding effect upon the relative traffic service provided by the different studied locations, consideration must be given to the type and location of interchanges.

Where special problems are involved, such as provision for local service ramps in the proximity of freeway-to-freeway interchanges, the working drawing delineating the geometric pattern of these facilities that are used as the basis of estimates must be cleared with the Design Coordinator or Design Reviewer for feasibility prior to submittal of a DPR for approval.

Scope of Engineering Studies

Engineering studies go hand-in-hand with environmental studies. The scope of the studies should be sufficient to complete the environmental evaluation of the project and to reach a decision on project approval.

Engineering studies produce a line (location), grade (elevation), typical section (width), and cost for each alternative under consideration. Engineering studies include: geological, advance structures, drainage, noise abatement elements, capacity, and traffic management. Value Analysis studies are also conducted to ensure that concepts are economically feasible. The information discussed in the PSR should be reviewed and the data expanded and updated as necessary.

Life-Cycle Cost Analysis for Projects with Pavement

Life-cycle cost analysis for pavement work shall be completed as discussed in Chapter 8 of this manual.

Design Coordinator Review

In all cases, geometric and grade line alternatives should be reviewed by the Design Coordinator or Design Reviewer prior to preparation of the DPR.

SECTION 3 – Environmental Studies

Engineering/Environmental Comparison

While the engineering studies described in Chapter 10, do consider environmental impacts, they concentrate primarily on design standards, operating characteristics, and cost. Environmental studies focus on the environmental impacts of the project alternatives, giving further consideration to how environmental, social, and economic impacts can be avoided or significantly reduced.

Environmental Effects Need Specific Studies

A project's direct effect on environmental resources (wetlands, historic buildings, etc.) and its potential effects on less obvious resources (air quality, noise, water, etc.) require study before project decisions can be made.

Preliminary environmental evaluations were performed in both the system planning and the project initiation stages. These basic studies identified environmental issues and anticipated adverse effects. Avoidance alternatives, if required, should also have been considered at that time. If an avoidance alternative was required, and a reasonable avoidance alternative existed, further consideration of non-avoidance alternatives should have ceased.

Lead Agency

For projects that are not entirely Caltrans projects, the assignment of the Lead Agency is specified in the Scope of Work attached to a Cooperative Agreement, or in a Memorandum of Understanding. Chapter 2, Section 6, of this manual discusses the determination of Lead Agency. The *Cooperative Agreement Manual* contains instructions on agreements.

Begin Environmental Studies

Formal environmental studies for project development begin after programming, after updating the studies used to develop the PSR (traffic forecasts, etc.), and after adequate mapping has been prepared showing the area of potential impact. For certain Project Development Categories (see Chapter 8, Section 5, Figure 1, and Chapter 22, Article 5), initial public meetings are held to assist the PDT in reaching agreement on the project study process. Then, for various Project Development Categories (see Chapter 8, Section 5, and Chapter 22, Article 10), a written notice of studies is issued to provide public notification of the process that will be followed.

At the same time, the Project Manager sends a memo requesting the Environmental Unit to begin environmental studies. The memo must provide specific project information and must specifically request a response from the Environmental Unit, since it establishes an important milestone date (Milestone 020: Begin Environmental Studies).

Types of Studies

The type and extent of environmental studies vary with the location and complexity of the project. Typically, the studies need to address air quality, noise impacts, water quality, wetlands, coastal zone infringement, floodplains, wildlife and plants, historic and cultural resources, social and economic changes, park lands and recreational areas, hazardous waste, energy, and visual effects.

Federal Concerns

The federal government's involvement in the project development process is described in Chapter 2. Particular attention, however, must be given to FHWA's involvement with the following federal executive orders, environmental laws and their implementing regulations, and agreements:

- 42 USC 303 — popularly known as Section 4(f), prohibits use of publicly owned parkland, recreation area, wildlife or waterfowl refuge or significant historic site if there is a prudent or feasible alternative.

- National Historic Preservation Act — requires that cultural resources including archaeological sites, historic architectural and other historic resources be identified. If identified areas are affected, a Historic Property Survey Report (HPSR) must be prepared to meet the requirements of Section 106 clearance by the FHWA.

- Endangered Species Act — requires a determination as to whether any federally listed species may be affected. This includes both a "direct taking" or a loss of critical habitat. Formal consultation with the U.S. Fish and Wildlife Service may be required, and informal consultation may be undertaken for a candidate species that may become listed during the life of the project.

- NEPA/404 Memorandum of Understanding — early identification of potential impacts to protected resources and the documentation of all steps taken to reach agreement with resource and regulatory agencies is discussed in the NEPA/404 MOU.

- Clean Water Act — requires a U.S. Army Corps of Engineers 404 Permit for any action that will result in dredging or filling of waters of the United States. This act requires demonstrating that there is no avoidance alternative.

- Executive Order 11990 (wetlands) — requires early public involvement and a very deliberate review process for wetlands. A key principle in the process is that 404 Permits are only to be issued for the "least environmentally damaging practical alternative." A project cannot result in any net loss of wetlands area or values.

- Executive Order 11988 (flood hazards) — requires analysis of floodplain encroachments and requires "only practicable alternative" finding to support any project that will result in a significant encroachment or a significant incompatible floodplain development.

- Clean Air Act of 1990 and subsequent amendments — require that a non-exempt project (in a nonattainment area for certain pollutants) must be included in the Regional Transportation Plan which is found to conform with the State Implementation Plan (SIP). The SIP is composed of the EPA-approved Regional Air Quality Attainment Plan.

Alternative Studies

Environmental studies are performed for all viable alternatives (see Chapter 8, Section 6). The environmental effects and possible required mitigation are quantified to assess the feasibility of each alternative.

Responsibility of PDT

The PDT has the responsibility to direct and evaluate the project studies, to determine if any project rescoping is needed, and to develop new alternatives, if required. When consensus is reached, the PDT determines the appropriate level of environmental evaluation. If an environmental document is required, the PDT directs its preparation.

Notice of Preparation / Intent

If the PDT determines there is the potential for significant environmental effects and that preparation of an EIR/EIS is required, the District Environmental Unit prepares and distributes a Notice of Preparation (CEQA) and requests FHWA to issue a Notice of Intent (NEPA). Refer to the *Standard Environmental Reference* for current instructions.

Continuous Environmental Involvement

Environmental involvement should continue throughout the entire project development process. During the design phase, in construction, and during maintenance activities, decisions must consider environmental concerns.

The above discussion highlights important environmental requirements. For additional information, please refer to the *Standard Environmental Reference*.

SECTION 4 – Identifying Project Alternatives and Mitigations for Impacts

General

Caltrans subscribes to what can be called a "plan-to-ground" philosophy in its approach to environmental analysis and project development. This plan-to-ground philosophy calls for the separate and independent evaluation and discussion of each viable project alternative, covering only its own specific impacts upon its surrounding environment. This philosophy is intended to develop a DED that avoids comparisons "between" alternatives.

The comparison between alternatives ("plan-to-plan" philosophy) is reserved for the later evaluation process where a Preferred Alternative may be offered, and where the comparisons may be used as an evaluation tool by the ultimate decision-maker.

The objective at this stage of alternatives analysis, is to enter the public review process with a bias-free presentation, such that the results of the public review process, after evaluation, will dictate the selection of the Preferred Alternative.

The following six headings chart the formal project studies process to develop viable alternatives for the public hearing stage.

Stating the Purpose and Need

The "Purpose and Need" section of an environmental document is the key to developing a document that is defensible in court. This section provides the foundation for identifying the full range of possible alternatives, and determining which of these alternatives are reasonable.

When preparing this section, it's important to have early identification of the potential environmental issues and a general knowledge of the associated regulatory requirements. This is beneficial because the "Purpose and Need" section must not only substantiate the project as a whole; it must also justify each of the resulting significant environmental impacts, uses of protected resources, and impacts on hazardous wastes.

It is important to present this section in terms readily understood by the public. Written text can be enhanced by high-quality graphics and non-technical explanations.

It is prudent to often re-examine the project's "Purpose and Need" statement to reflect community input, funding constraints, and the discovery of additional impacts.

The following paragraphs discuss items to be considered when developing the "Purpose and Need" section. The items discussed are not all inclusive. It is important that the

specific objectives provide a comprehensive point of reference with which to compare possible alternatives.

Clear Project / Neutral Statement

A clear and defensible "purpose and need" is a requisite of quality project planning and development. It is the basis for making decisions. The "Purpose and Need" section of the environmental document must clearly demonstrate the purpose and need for the transportation improvement. The discussion should be presented in a project-neutral fashion against which the various alternatives can be compared. This definition of purpose and need will be weighed by the public and the decision-makers against the documented impacts of the project; as such, it deserves thorough analysis and discussion. The following paragraphs provide discussion on a variety of "Purpose & Need" approaches.

- Supporting Legislation or Commitments

  Is there a federal, State, or local government mandate for the project? —Are the local, regional, and State land-use and transportation plans based on the assumption that the project will be implemented? —Is there a history of commitment toward ultimate implementation? —Have there been elections, special legislation, or other decisions or commitments mandating consideration of the project?

- Safety

  Is the project necessary to correct an existing or potential safety hazard? —Is the existing accident rate high? —Why? —How will the project improve it? For ease of public understanding, the objective should relate to how many fewer accidents, injuries, and fatalities could be expected to occur within the project area through the design year.

- System Linkage

  Will the project provide a connecting link in the regional or area-wide system of transportation modes that would enhance utility and/or efficiency? As an example, will the project eliminate a gap between two improved portions of the system and thereby contribute to more consistent user expectations? If so, what will be the benefits to the user?

- Maintenance and Operational Deficiencies

  Are there inappropriately high maintenance costs that can be substantially lowered by the project? If so, outline the data. —Are there inappropriate user weight or size restrictions that would be eliminated? If so, what will be the benefit of removing these restrictions? —Is the existing facility in danger of partial or complete loss of service unless the project is completed? If so, what is the anticipated time frame for such loss of service?

- Demand Exceeding Capacity

  Is the capacity of the present facility adequate for the present and projected demand? For the ease of public understanding, it is necessary to explain the terms "capacity" and "levels of service". The existing and expected levels of service are to be outlined, and then compared to the minimum standards. A concept more easily understood, is "total or cumulative time delays". Accordingly, it is also appropriate to document the existing delays, how they compare to unconstrained flows, and what they are expected to be with and without the project.

  With flexible funding, demand needs to be evaluated comprehensively. For example, even if there is congestion on the State highway, it may not necessarily be State highway traffic; it could be local traffic that could be encouraged to remain on local facilities. Under these conditions, problems and solutions need to be looked at more creatively.

- Growth and Cumulative Impacts

  When discussing future demands, it is very important to be consistent with the environmental document's strategy for addressing growth and cumulative impacts. The traditional approach is to use transportation projections from, or consistent with, those of the local or regional transportation planning agency. These projections are based on the best available local and regional land-use plans. This facilitates the position that land-use development and transportation facilities are planned together. With this, the question of growth and cumulative impacts can most often be addressed in a relatively conclusive manner.

- Economic Development

  An exception to this traditional approach is where there are specific economic developments (e.g., convention centers, sports complexes, etc.) or other land use changes that are directly tied to the implementation of the proposed project. In such cases, the transportation projections and cumulative impacts should address these secondary changes.

- Eliminate Unacceptable Impacts

  Is the existing facility resulting in unacceptable social, economic, or environmental impacts that are able to be eliminated with the project?

- Financial Resources

  Are there limits to the amount of financial resources available to address the identified problems? If so, what are these limits? —Is it possible to increase these resources? If not, why not? —Can part of the "Purpose and Need" be addressed in a cost-effective manner within these limits?

Identifying Possible Alternatives

The following range of options are required to be addressed when project alternatives must be formally considered. See Chapter 8, Section 6, of this manual for more details.

Formal Alternatives

- "No-action" alternative
- Transportation System Management (TSM) alternative, including HOV lanes in urbanized areas
- Mass transit in larger urbanized areas
- Improvement of the existing system, which may include both State and local facilities
- The full range of potentially reasonable, "build" alternatives

Limit Number of Reasonable Alternatives

When there is a large number of potentially reasonable "build" alternatives, it is only necessary to present a representative number of the most reasonable examples, covering the full range of options. Often, several alternatives are actually variations of a single alternative and would be more appropriately treated as design variations.

Impacts of Alternatives

Again, as with the development of the "Purpose and Need" statement, it is important to keep in mind the significant environmental impacts, uses of protected resources, and impacts on hazardous wastes that are likely as a result of the proposed alternative. This basic information will assist in identifying quality alternatives, and will improve the ability to defend the final selection process.

Eliminating Unreasonable Alternatives

Consider Only Reasonable Alternatives

When the formal consideration of alternatives is required, all reasonable alternatives should be evaluated in a comparable level of detail. The Council of Environmental Quality's "Questions and Answers about NEPA" states that:

> Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of [FHWA/Caltrans].

Criteria for Rejecting Alternatives

A project alternative may be rejected as unreasonable for any of the following reasons:

- Not meeting the project's "purpose and need"
- Excessive construction cost
- Severe operational or safety problems
- Unacceptable adverse social, economic, or environmental impacts
- A combination of reasons listed above, that taken individually might not be significant — but would be significant if taken cumulatively
- Previously rejected in an earlier stage (e.g., in a regional planning process, that was documented in an environmental document)

Test for Reasonableness

The most direct test of reasonableness is: "Does the alternative meet the project's purpose and need?" This is one of the key reasons why the project's "Purpose and Need" statement is so important. Each alternative is compared to each specific objective in the "Purpose and Need" statement. Only those alternatives that fulfill the major objectives will be determined to have passed this test of reasonableness. However — required avoidance alternatives may still need to be carried forward if they were not eliminated in an acceptable manner in a previous environmental process.

It is important to review the reasonable "build" alternatives to insure that they are consistent with the planning or design concept and scope, or if not, to consider revising the planning or programming documents. (Refer to Chapter 8, Section 1.)

"First Cut" of Alternatives

It is important to recognize that this is only the "first cut" of the alternatives. At this point, adverse impacts are to be evaluated only in general terms; harm to specific protected resources should not be considered. The difficult task of weighing the relative value of, and assessing the relative harm to, the affected protected resources is simplified by delaying the process until the nonviable alternatives have been rejected: the appropriate time for such a task is during the selection process for determining the Preferred Alternative (see Chapter 12, Section 2). For certain protected resources, if "avoidance" alternatives are available, no impacting alternatives may be allowed for consideration.

Document the Elimination of Specific Alternatives

The environmental document must briefly explain why eliminated alternatives were found to be unreasonable. Once documented, no additional consideration of such alternatives is required.

Identifying Specific Effects of Each Alternative

Each alternative under consideration is examined for its full range of environmental impacts. Special studies are undertaken that focus on the potentially significant effects. Each alternative's significant adverse effects on the environment are clearly identified and described in the environmental document.

Determine if Additional Alternatives Need to be Developed

Following completion of detailed environmental studies, a review is conducted of the project alternatives under consideration. This review is performed to re-evaluate the "Purpose and Need" statement, and the range and reasonableness of the alternatives.

Identifying Reasonable Mitigation Measures

All reasonable mitigation measures are identified for each adverse environmental effect expected as a result of each alternative considered. Unavoidable significant effects, if any, are documented for each alternative. Using this information, a final review is conducted to determine the type of environmental document needed. Normally this determination would be to proceed with the Draft EIR/EIS. However, it could be to complete the Initial Studies/Environmental Assessment and prepare a Negative Declaration.

SECTION 5 – Draft Project Report

ARTICLE 1 – General

Purpose of Draft Project Report

The DPR is a decision document. It is only used when there is a DED. The purpose of the DPR is to document the need for a transportation project, to summarize key points from the DED, and to summarize the studies of the scope, cost, and overall impact of alternatives so that the decision maker can make an informed decision on whether or not to proceed to the public hearing phase of project development.

DPRs are used for Project Development Categories 1, 2, 3, and 4; they must include a DED prepared in accordance with the *Standard Environmental Reference*. DPRs are not applicable to Category 2B or 3 projects that are determined to be Categorically Exempt.

Authorization for Public Hearing

When a DED is required, approval of the DPR grants approval to release the DED to the public. In accordance with the PDT's recommendation in the DPR, the public may be (1) invited to a public hearing, (2) given an opportunity for a public hearing, or rarely, (3) the public hearing process may be waived altogether (but only if determined unnecessary on a Category 3 or 4 project that has no federal involvement or it is a Federal Categorical Exclusion under NEPA).

Authorization to Circulate DED

If there is any federal involvement in a transportation project, a separate approval must be obtained to circulate the DED (see *Standard Environmental Reference*) for projects without federal involvement, approval of the DPR grants authorization to circulate the DED.

Project Approval

Project approval for Category 1 through Category 4 projects is made after: (1) evaluation of the responses to the DED, (2) completion of the public hearing process, (3) selection of a Preferred Alternative, and (4) completion of the FED.

Caltrans' project approval action is recommended in the final version of the Project Report and is authorized by approval of the PR. See Chapter 12, "Project Approvals and Changes to Approved Projects", for details.

Coordination with PSR

DPRs and PSRs require similar information, acquired at different points in time. The PSR is preliminary in nature and does not benefit from knowledge acquired from detailed environmental studies. When preparing the DPR, appropriate PSR data should be updated prior to its insertion into the DPR; appropriate summary data from the environmental studies should also be included.

Mapping & Costs

Since the DPR is used to document engineering decisions and to determine the proposals and alternatives presented to the public, it is essential that accurate mapping be used. Project costs (roadwork, structures and right of way) for all project alternatives are calculated to enable a realistic comparison of alternatives.

Notify Local Agencies of Right of Way Needs

If the DPR is a first determination that specific right of way parcels may be required, the appropriate city or county planning department should be notified, in compliance with Streets and Highways Code, Section 103.65.

Approval by District Director

DPRs are approved by the District Director or a deputy who has been delegated that authority.

Submittal to Division of Design

After approval, two copies of the final document should be forwarded to Office of Project Development Procedures.

Approval of Changes

Once a project is programmed in a programming document, the project description (type of work, limits, and cost) defines the overall project scope. District Directors are responsible for project delivery (including approval of changes up to certain thresholds). When any threshold is exceeded, Headquarters' approval of the change is required before a new cost, scope, or schedule will be proposed to be included in the programming document (See Chapter 6, "Project Cost, Scope, and Schedule Changes"). Traffic Systems Management (TSM) changes will be accomplished in accordance with the TSM Program Guidelines adopted by the CTC.

See Chapter 12, Section 6, of this manual for a discussion on revisions to approved PRs.

ARTICLE 2 – Format and Content

General

A DPR contains the documentation and data necessary to support a public hearing discussion of the proposed alternatives. Most of the people who read the DPR will not be familiar with the proposal; therefore, the information in the DPR should be of sufficient depth and scope to provide evidence to the reader that there is a need for a project.

All DPRs should answer these three basic questions:

- Why do it at all? (need for project)
- Why do it now? (cost effectiveness)
- Which ways are practical? (alternatives)

Engineering and Environmental Data

The DPR is an engineering report. The DED, on the other hand, is not an engineering document. It is a full disclosure document, and must be attached to the DPR to provide details of the environmental studies. The DPR contains introductory and engineering material and other information that would not be appropriate in the DED, and briefly summarizes pertinent data from the attached DED. Do not unnecessarily repeat what already exists in the DED. The ultimate objective is to produce a document that secures necessary project approvals.

Project Report Outline

The PR preparation guidelines and outline are located in Appendix K. They cover both the DPR and the project report, which is discussed in Chapter 12, Section 3, of this manual.

CHAPTER 11 – Public Hearing

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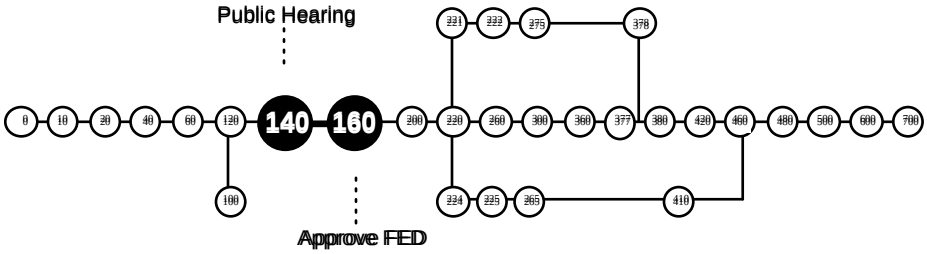
CHAPTER 11 - Public Hearing



This chapter discusses the project development workflow tasks between Milestones 140 and 160. For details on these tasks, see the *Project Development Workflow Tasks Manual.*

ARTICLE 1 The Hearing Process

Purpose

The purpose of the hearing process is to obtain public comment and to ensure that transportation decisions are consistent with the goals and objectives of federal, State, and local entities. Public hearings are required for most projects with significant impacts. They provide a forum for discussing project need, major issues, alternative locations, and design features, and the potential social, economic, and environmental effects related to each.

Hearings Conducted by Other Agencies

When hearings for State highway projects are conducted by other agencies, Caltrans procedures must be followed. However, when the work on the State Highway is incidental to the local improvements, the other agency may follow its own procedures, if there is no federal involvement.

Community Involvement

The public hearing represents the formal stage of community involvement: a process which began during the earliest phases of a transportation project and is intended to identify issues, goals, objectives, values, and concerns related to the project. The most productive interaction with the public and with other agencies takes place in informal meetings, conferences, and direct correspondence, rather than through formal hearings. The overall community involvement process is discussed in Chapter 22.

PDT Determines Strategy

The project development team (PDT) should develop a community involvement plan for informal meetings and contacts with potentially interested parties. For information regarding whom to contact, size of groups, details of presentation, how to make contact, etc., see Chapter 22.

Applicability

A public hearing (or the "opportunity for a public hearing") is required for any projects that:

- Require significant right of way.
- Require substantial changes to the layout, the function of connecting roadways or facility being improved.
- Have a significant adverse impact on abutting real property.
- Have a significant environmental, economic, social, or other effect.
- Federal Highway Administration (FHWA) determines that it would be in the public interest (projects with federal-aid funding or requiring federal permits only).

Public hearing applicability varies according to project category, as defined in Chapter 8, Section 5. The following stipulations apply:

Category 1 and 2 Projects

Compliance with the requirements of the public hearing process is required; it may be achieved with either a scheduled hearing or a "Notice of Opportunity."

Note: A scheduled hearing must be held for Category 1 Route Adoption hearings.

Category 3 and Category 4A Projects

Except for categorically exempt, Category 3 projects, compliance with the public hearing process is usually required. Compliance may be achieved by a scheduled hearing or "Notice of Opportunity." Waiving the public hearing process for projects in Categories 3 and 4A requires written approval from the District Director. The waiver should include the project development team's rationale for foregoing a public hearing or "Notice of Opportunity." A waiver can only be granted if there is no federal involvement or if the project is a Federal Categorical Exclusion under National Environmental Protection Act (NEPA).

Category 4B Projects

Compliance with the public hearing process is not normally required; however, the PDT should weigh the effects of the project very carefully. Even though the reconstruction is taking place within the existing right of way, impacts of sufficient magnitude may make it prudent to provide a public hearing or "Notice of Opportunity." Final determination is made by the District Director. If a federal environmental document is required, the public hearing process is required.

Category 5 Projects

Compliance with the public hearing process is not required.

Category 6 Projects

Compliance with the public hearing process is not required for emergency opening and restoration work. Permanent replacement work must be assigned the proper project category and applicable requirements should be satisfied.

Category 7 Projects

Public hearing process requirements for federal-aid projects on highways under local agency jurisdiction and not classified as Category 5 or 6 comply with the items listed at the beginning of this topic “Applicability” and are discussed more fully in the *Local Assistance Procedures Manual*.

Title VI Compliance Documentation

A Memorandum to File should be written for each formal contact. It should cover such items as where the meeting was held, who initiated it, how attendees were notified, who attended the meeting (by agency, organization, or group), content of presentations, questions and responses, conclusions drawn, etc. The attendance and concerns of minority, disadvantaged, and low mobility groups must be carefully documented to comply with Title VI of the Civil Rights Act of 1984.

Community Involvement Documentation

Informal contacts should be documented. This documentation should be used to determine how many hearings to hold; it also provides ongoing input into the project study process.

A brief summary of community involvement activities will need to be discussed at hearings. It should also be included in handout materials and in the Coordination Section of the environmental document.

Authorization to Hold Public Hearing

The authorization for a hearing is normally obtained by the approval of the draft project report, which must contain the recommendation to proceed with a hearing.

Open Forum or Formal Hearing

The District Director (or designee) decides whether to hold a formal hearing or an open forum hearing. The decision is based on the recommendation of the PDT.

Open forum hearings are preferred to formal hearings, because they result in greater and more balanced input and are less likely to result in confrontational situations.

Formal hearings may be preferred where there is an indication that effective citizen involvement has resolved critical issues, or where there is a strong public expectation of a formal hearing. See Articles 7 and 8 for a description of the two types of public hearings.

Coordination with DED Availability

A hearing, if required, is held before committing to any alternative being considered. Public circulation and notification requirements vary depending on the type(s) of documents (California Environmental Quality Act [CEQA] and NEPA) and level of environmental documentation. The following types of draft environmental documents (DED) have specific requirements that can be found in greater detail in the *Standard Environmental Reference (SER)* at http://www.dot.ca.gov/ser/.

Draft Initial Study/Negative Declaration (IS/ND) - CEQA

CEQA does not require formal hearings at any stage of the environmental review process for an IS/ND or IS/mitigated negative declaration (MND). However, CEQA does require public notice of the intent to adopt an ND or MND. As a matter of Caltrans policy, the Notice of Intent to Adopt an ND or MND must be published in the local paper. A draft IS/ND or IS/MND must be made available to the public for comment for a minimum of 30 days. For more information, see *SER* Volume 1, Chapter 35 at http://www.dot.ca.gov/ser/vol1/sec5/ch35nd/chap35.htm#public.

Draft Environmental Assessment (EA) - NEPA

When a public hearing is held as part of the application for federal funds, the draft EA shall be available at the public hearing and for a minimum of 15 days in advance of the public hearing. The notice of the public hearing in local newspapers must announce the availability of the draft EA, where it may be obtained or reviewed, as well as information on how and where to submit comments. Comments must be submitted in writing within 30 days of the availability of the draft EA unless Caltrans determines, for good cause, that a different period is warranted. For further information, see *SER* Volume 1, Chapter 31 at: http://www.dot.ca.gov/ser/vol1/sec4/ch31ea/chap31ea.htm#public.

Draft Environmental Impact Report (DEIR) - CEQA

A DEIR must be available to the public for comment for a minimum of 45 days. Notice of the public hearing must be published in a prominent location in the newspaper, other than in the legal notices section. In practice, the Notice of Availability of the DEIR and Notice of Public Hearing or Notice of Opportunity for Public Hearing are often combined into one notice. This avoids duplication of effort and expense. See *SER* Volume 1, Chapter 36 for details: http://www.dot.ca.gov/ser/vol1/sec5/ch36eir/chap36.htm#ciculation.

Draft Environmental Impact Statement (DEIS) - NEPA

A DEIS must be available for a minimum of 45 days. FHWA regulations require that public hearings be held for all projects that will have a significant environmental, social, or economic effect. However, it is not mandatory that a public hearing be held after the issuance of the DEIS. Where Caltrans determines it is advisable to hold a public hearing to provide information and take comment on the DEIS, the draft document must be made available for a minimum of 15 days prior to the hearing, and the DEIS must be available at the hearing. The hearing must be publicly noticed. If no hearing is held, a notice must be placed in a newspaper advising that the DEIS is available for review and informing the public regarding how copies may be obtained and where comments are to be sent. For further information see *SER* Volume 1, Chapter 32: http://www.dot.ca.gov/ser/vol1/sec4/ch32eis/chap32eis.htm#draftcirc.

For information specific to combined NEPA and CEQA DEDs, see SER Chapter 37: http://www.dot.ca.gov/ser/vol1/sec6/ch37joint/chap37.htm#cirdis.

Notify Division of Design (DOD) and FHWA

As soon as hearing arrangements are finalized, the district should notify the Division of Design, Attention: Public Hearing and FHWA by memo. DOD will, in turn, notify the CTC and various Headquarters offices.

Noncontroversial Projects May Use Notice of Opportunity

A "Notice of Opportunity" for a public hearing may be used to satisfy the requirement for a hearing if the project is noncontroversial and a hearing request is unlikely. This can be determined by analysis of comments received from the public or local agencies or through prior contacts and information meetings. If the project is being processed with an environmental impact statement (EIS), the FHWA Liaison Engineer should be contacted before proceeding with a "Notice of Opportunity."

The overriding consideration when federal funding or federal permits are involved are the items listed above under Applicability. Even if there is no environmental document, if one of those items is involved, the need for at least a Notice of Opportunity is triggered.

Withdrawal of Hearing Request

When few requests for a hearing are received after publication of a "Notice of Opportunity," district personnel should meet with the parties to explain the project and answer any questions. If the questioning parties are satisfied, they may be asked to withdraw the request for a hearing in writing. The proceedings should be carefully documented and made a part of the project record. If the requesting parties do not withdraw the request, the district must proceed with a public hearing.

Requirements for New Hearings

The PDT must continually assess changes in project location, design features, and affected area. A new hearing or "Notice of Opportunity" is required whenever there has been:

- A substantial change from the proposal discussed in the previous hearing or in the "Notice of Opportunity."
- Substantial, unanticipated changes in the affected area (land use, local plans, goals, objectives, attitudes, etc.).
- An unusually long lapse of time since the last hearing.

- Identification of significant social, economic, or environmental effects not previously considered.

ARTICLE 2 Public Notices and Publicity

Purpose

Public notices and publicity inform the public on transportation project proposals and notify the public of their opportunity to participate in the hearing process.

Non-English Provisions

In all cases where non-English speaking people are affected by a proposal, the project development team (PDT) will determine if the language barrier is sufficient to warrant special publicity in the language of those affected.

Newspaper Requirements

Each public hearing notice must be published in English in a newspaper having a general circulation in the vicinity of the proposed project, as well as in any foreign language and community newspapers with a substantial circulation in the area.

Each notice must be published in a prominent location in the newspaper other than in the legal notices section.

Publishing Two Hearing Notices

A hearing notice or a "Notice of Opportunity" for a draft environmental impact statement (DEIS) must be published at two distinct times. This is also true when one of these notices is combined with a DEIS availability notice. The first notice should be published when the DEIS is circulated. The second notice should be published approximately one week prior to the hearing or the deadline for requesting a hearing. When a DEIS availability notice is published more than 45 days prior to the hearing, publication of two separate hearing notices is required.

Consult Public Affairs Office

Where widespread public involvement is desired and public notices will be supplemented by news releases, the district public affairs office should be requested to provide assistance.

Scope of Publicity

The amount and extent of publicity given to a hearing will depend on the magnitude and complexity of the proposal, as well as on local opinion of the proposal. Special groups, such as minority, disabled, or economically disadvantaged groups, may need special publicity efforts. If a proposal is controversial, and particularly if litigation is expected, it is important to make everyone aware of Caltrans' intentions. In such circumstances, the publicity should be substantial.

Methods for Publicizing Hearings

Some of the ways to publicize an upcoming hearing include:

- Required paid hearing notices.
- Flyers or bulk-rate circulars distributed to residents.
- Notices on bulletin boards in public places (city halls, libraries, supermarkets, etc.).
- Television and radio.
- Distribution of notices through schools and service clubs.
- Indication in the draft environmental document (DED) that a hearing will be held.

Public Notices Format

Notices should be simple, eye-catching, readable, and informative. All explanations and descriptions should be easily understood by the local readers. Use local identifiers for project limits rather than engineer stations or post miles.

The basic format and content for Caltrans' public notices is shown in Appendix HH. The portions of the numbered paragraphs shown in italics are to be modified as appropriate for the particular environmental document type or public hearing process required and then inserted into the basic format shown in the example.

Three Standard Columns Wide

Each notice must be at least three standard newspaper columns wide and of an adequate length to balance the ad properly. The minimum length should be six to seven inches. For lengthy projects, consider running the notice across the page to avoid compressing the map to an unreadable scale.

Public Notices Content

- Date, Time, and Place of Hearing

  Public hearing notices or combined hearing/DED availability notices must specify the hearing date – time – place and the date the comment period ends.

- Discussion Topics
  - Tentative schedules for right of way acquisition.
  - Tentative schedules for construction.
  - Relocation Assistance Programs.

- Procedures for Public Submissions

  The notices must state that written statements and exhibits may be submitted up to 30 days after the hearing (10 days is the minimum; longer periods for controversial proposals) and must describe the procedure for the submissions. The closing date must be definitely stated but in no case will the closing date be earlier than the end of the circulation period for the DED.

- Schematic Map

  Each notice must have a schematic map showing the project limits. Schematic representations of major design features and alternatives should be shown to the extent practicable.

- Identify Project Alternatives with Impacts

  Each notice must identify any alternatives that impact wetlands or historic properties or encroach upon base floodplains.

- Identify Material Available for Inspection

  Each notice must state that maps, drawings, the DED, and other pertinent information will be available for inspection and copying at the nearest district office or some other convenient location in the vicinity of the proposed project.

Available Material for Inspection

Project base maps of all alternatives under consideration showing right of way impacts, drawings, and retouched photographs, the DED, technical engineering and environmental reports, and other pertinent information should be made available for inspection and copying at the nearest district office and at some other convenient location in the vicinity of the proposed project.

Notice of Joint Hearing with Other Federal Agencies

The National Environmental Policy Act (NEPA)/404 Memorandum of Understanding (MOU) concurrent process provides for a joint NEPA/Corps 404 hearing, if appropriate. The DED circulation and public hearing notice must be closely coordinated with the Corps 404 public notice. The potential for joint hearings with other federal agencies that have requirements for a public hearing should also be explored.

Procedures for Requesting a Hearing

Each "Notice of Opportunity" must explain the procedure for requesting a hearing and state the deadline for doing so. The deadline should not be earlier than the end of the circulation period for the DED. The notice may also state that if there are no requests for a hearing Caltrans will proceed with the design as planned.

Mailing the Notification

At or prior to the first general publication of public hearing notices and combined hearing/DED availability notices, certain affected parties should receive a mailed notification of the hearing. As long as it contains a satisfactory map and adequate project data, this notification may take the form of a postcard, a letter, or a copy of the actual public hearing notice. The mailing should include the following agencies or groups:

- Appropriate news media.
- California State Resources Agency.
- Recreation and planning agencies.
- Appropriate representatives of the US Department of the Interior and the Department of Housing and Urban Development.
- Others shown on Caltrans' Public Involvement Notification List (see the *Standard Environmental Handbook*, Chapter 4, Exhibit 1).
- Other groups, agencies, or individuals who by nature of their function, interest, or responsibility may be interested in or affected by the proposal.

Maintain Notification List

The districts will establish and maintain a notification list upon which any federal agency, local official, public advisory group or agency, civic association, community group, or individual may enroll to receive notices of proposals in a specified area. Particular effort should be made to seek out and enroll minority leaders and

representatives of economically disadvantaged and low mobility groups as well as other organizations that represent individuals/groups with disabilities.

Clippings to DOD and FHWA

As proof of publication, each notice will be sent to the Division of Design, Attention: Public Hearing, and the Federal Highway Administration (FHWA), as soon as it is published. DED availability notices and final environmental impact statement (EIS) approval notices will be sent to the Division of Environmental Analysis and the FHWA.

Proof of publication should include a clipping or clear copy of the notice published in the major newspaper, along with a list of the other publications used. The list should include each publication's name and the publication date. The listing should identify foreign language and community newspapers.

ARTICLE 3 Map Showings

Timing

If a formal hearing, rather than open forum hearing is being held, it is generally a good idea to have a map showing prior to the hearing (or opportunity). Due to the lengthy nature of project studies, the map showing may be the first time some people become aware of the proposal. The purpose of the map showing is to provide the public with a preview of the proposal: allowing an opportunity to view the maps and data and to participate in questions and answers on an individual and unhurried basis.

Public Notification Methods

Notification of the map showings may be by separate news releases, paid advertisements, or by inclusion in the Notice of Hearing (or opportunity). The notification should clearly state the location and time of the map showing.

Administrative Guidelines

- Schedule more than one day and extend from the day into the evening hours.
- Locate in areas convenient to those affected. This may require more than one showing, held at different locations. In such a case, the use of a mobile van should be considered. —Is the site easily found?—Is adequate parking available nearby?

- Consider facility size and accessibility, particularly for the physically challenged or aged. Temperature control is also important, since it is difficult to maintain interest and composure in an abnormally hot or cold room.
- Staff personnel should be acquainted with the area and the proposal. There is no substitute for the understanding and familiarity of a "native."
- Provide appropriate functional experts: right of way, environmental, engineers, etc. Specific problems may dictate the use of specialists.
- Provide appropriate foreign language speaking personnel and interpreters for the deaf, as necessary.
- Supply a sufficient number of adequate maps and handout materials, such as draft environmental document (DED), Relocation Assistance Program booklets, planning process booklets, etc. Visitors may wish to take the materials home.

ARTICLE 4 Briefings and Rehearsals

Briefing for District Management

Before setting a date for the formal hearing, the project development team (PDT) should bring district management up to date on studies, likely reactions to the draft environmental document (DED), possible litigation or controversies, etc. The briefing is a good time to make a recommendation to the District Director for the presiding officer at the public hearing.

Rehearsals

One or more rehearsals should be conducted two to three weeks prior to a hearing or at the beginning of a series of meetings where controversy is expected. An audience of non-engineering personnel or those who have participated in a recent district hearing should participate in a dry run: asking questions, making statements, and reviewing and commenting on exhibits and handouts. Hearing room and exhibit area conditions should be simulated as closely as possible, including the time of day, in order to verify the visibility of slides and exhibits, seating arrangements, etc., and to eliminate as many problems as possible prior to the actual hearing.

ARTICLE 5 Hearing Room Arrangements

Location

The location selected should be close to the project area and should be easily accessible to those expected to attend.

Room Size

The room should be large enough to accommodate the expected attendance. It is better to have a large room only partially used than to have people unable to get into the meeting room — particularly for controversial proposals. Open forum hearings require less room than formal hearings. Availability of space for those with disabilities should not be overlooked.

Schedule

Hearings should be scheduled at times convenient to those involved. Open forum hearings should start at mid-afternoon and run until 8:00 p.m. Since most people work during the day, the evening is the most convenient time for them to attend a formal hearing. Therefore, formal public hearings should be held after 7:00 p.m., unless there are extenuating circumstances. Written approval for an exception to an evening meeting must be obtained from the District Director.

Parking

Adequate parking is an important element of site selection, since poor parking availability discourages attendance. Staff cars should be parked away from the entrance so the most convenient parking is available for the public. Parking for individuals with disabilities should also be available at the site.

Public Transportation

Try to select a site near public transportation and publicize the public transportation access in the public notices.

Acoustics

While acoustics are usually not a major problem, they may be if a large building, such as a fair building or a gymnasium, is chosen for a formal hearing. If the audience is unable to hear properly, the usefulness of the hearing is greatly diminished.

Entrance

In large complexes, such as local community centers or schools, the hearing room may be difficult to find. Directional signs should be placed that lead from the main points of access to the hearing room. Wherever there is a possibility of going the wrong way, a sign should be placed giving the proper direction.

The entrance should be set up so that all attendees enter through a single area. This makes it easier to assure that everyone receives appropriate information and directions.

The entrance should be attended by district personnel throughout the hearing and handouts should be given to those entering the hearing room.

ARTICLE 6 Presiding Officers

Selecting a Presiding Officer

Presiding officers are responsible for conducting formal hearings and are not used at open forum hearings. The presiding officer may or not be an employee of Caltrans. Caltrans hearing officers are likely to be familiar with the transportation project as well as with the Caltrans hearing process; in addition, no formal arrangements are required for their services.

On the other hand, non-Caltrans hearing officers may appear to be more impartial, since they are not responsible for answering questions about the proposal nor are they expected to take sides. They may more successfully limit testimony of a repetitive or irrelevant nature during long hearings.

Impartiality may be attained by using either a non-Caltrans State employee or a Caltrans employee from a district not directly connected with the proposal or the responsible branch. The presiding officer does not make presentations or answer questions, but refers matters to appropriate staff members.

Hearings Conducted by Caltrans

The District Director selects presiding officers for hearings conducted by Caltrans. As a general policy, outside presiding officers should be considered wherever projects may become controversial, are located in a sensitive area or area of critical concern, or are or may become the subject of litigation.

State Personnel Board procedures require that a State employee be used whenever an appropriate classification exists and personnel are available. Unless an exception is granted (see below), request the assignment of outside hearing officers from:

Calendar Clerk
Department of General Services
Office of Administrative Hearings
501 J Street, Suite 230
Sacramento, CA 95814-2326

Arrangements may be made by phoning the Calendar Clerk at CALNET, 473-0619 or 485-4926. Requests for assignment should be made at least four to six weeks prior to the hearing.

Exception Process — If the hearing could be better handled by a prestigious member of a local community, requests for exception to the above procedure should be made through the district personnel office, early enough to allow assignment of a General Services hearing officer if the exception request is denied by the State Personnel Board. Such requests must clearly state the reasoning for an exception.

Hearings for Local Projects

Where another agency is conducting the hearings on a project affecting State highways, that agency will select the presiding officer and make arrangements regarding compensation, etc. The district should be prepared to make a recommendation to the local agency regarding a presiding officer, especially where the agency has little experience with Caltrans' processes.

Letter of Confirmation

Once the outside presiding officer has accepted, a letter of confirmation should be sent as soon as possible (see Appendix HH). The letter should provide details of hearing arrangements, prehearing meetings, and any other information that may be helpful. Such information may include project handouts, environmental documents, assessments of the probable attitude of the hearing audience, identification of controversial issues, and any other information that will allow the presiding officer to operate more effectively.

Briefing the Presiding Officer

Prior to the hearing, the presiding officer should be briefed on the meeting room arrangements and organization, suggested order of speakers, time limitations and constraints, suggested opening remarks, identity of staff persons responsible for each particular technical area, suggested closing remarks, etc.

Memo from Presiding Officer

The presiding officer should be asked to send the district an informal memo that describes the officer's reactions to the hearing process. Such a request should clearly state that both the memo and its contents are at the discretion of the presiding officer. Items for comment include: prehearing activities, hearing room organization, presentations, exhibits, answers to questions, suggestions for improvements, general concerns regarding the proposal, etc.

ARTICLE 7 Open Forum Hearings

Staff Conduct

Caltrans staff members should remain cordial and professional, no matter how heated the discussion becomes at the public hearing. Even the slightest display of anger or insult, no matter how well justified, will negatively impact both Caltrans and the project. In preparing for a hearing, staff should be told that there is a rule: "You may not get angry."

Caltrans' Preferred Format

Open forum hearings generally result in better communication with affected interests than do formal hearings. Open forum hearings provide an opportunity to discuss projects and proposals in a less emotional atmosphere. By allowing a less formal interaction between Caltrans staff and the public, it tends to reduce the number of questions that must be answered formally in the hearing record. For these reasons, the open forum is Caltrans' preferred hearing format.

However, a formal hearing may be used if a small attendance is expected and relatively few items of controversy will be discussed.

Definition

Open forum hearings are informal meetings where members of the public may meet individually with Caltrans staff members to discuss proposed projects or proposals. They resemble map showings or open houses, except that formal testimony is taken by a certified court reporter or statements for the record are handwritten/recorded on electronic media. Presentations are shown on open captioned videotape, or material is presented in exhibits and handouts.

Members of the public may drop in at their convenience, generally from mid-afternoon through evening hours, to look at displays, watch presentations, ask questions, discuss proposals, and make formal statements.

Advance Notice of Hearing Format

When the hearing is an open forum, all affected parties must be provided advance notice that such a format will be used.

Discussion-Based Room Setup

Discussion areas should be distributed about the hearing room. The areas may be organized by functional disciplines (e.g., environmental, right of way, and design) or by project alternatives, with several disciplines available to discuss each. Separate stations for special issues may also be used. A station for public comments should be clearly marked.

Interaction Between Staff and Public

Interaction is central to the concept of open forum hearings. Staff members should fully understand the project or proposal, since questions will often be highly detailed. Members of the public are likely to ask the same question of different staff members. Even slightly different answers may result in distrust. Care should be taken not to mislead members of the public into thinking that the most popular alternative will be chosen.

Staffing

Caltrans' district management and staff, including the project manager and project engineer, should attend the hearing. The district should designate and clearly identify the individual in charge of the hearing.

Facility

A facility should be chosen that is adequately sized for the anticipated audience. In general, an open forum hearing will not require as much space as a formal hearing, since people are able to come and go throughout the hearing.

Greetings

Members of the public should be welcomed at the door, asked to sign in, given handouts, and advised of the nature of the open forum hearing. Members of the public should be directed to make formal statements to the certified court reporter, but that questions should be directed to Caltrans staff. This will reduce the number of necessary written responses to questions and shorten the comment process.

Presentations

Open forum presentations should be on open captioned videotape. Live presentations can result in confrontational situations. For more information, refer to Article 9, "Presentations."

Handouts

Handouts should be provided as people enter the hearing room. The handouts should be easily understood and clearly describe the format of the open forum hearing. (See Article 11, "Handouts.") Related documents (draft environmental document [DED], etc.) should be clearly marked and available for inspection in a prominent place. Handouts and related documents should be made available in alternative formats or by using alternative methods, if requested.

Exhibits

Exhibits should be very accessible to the meeting participants and take into account accommodations necessary to make the meeting accessible to individuals with disabilities. They should be set up at least one hour before the hearing. Staff members should be available to answer questions and give assistance. For more information, refer to Article 10, "Exhibits."

Public Comments

Members of the public should be advised that questions will be answered informally by staff, but that questions entered into the record through the court reporter, or tape recorder, or in writing will be answered in writing and entered into the official hearing record.

Individuals wishing to make public comments may:

- Make oral comments to a certified court reporter or tape recorder.
- Drop written comments into a comment box.
- Write to a designated Caltrans staff member. Districts should provide an addressed, postage-stamped comment card or sheet for this purpose.

Debriefing

Soon after the open forum hearing (preferably the next day), Caltrans staff members that attended the hearing should meet to identify issues or ideas that were discussed at the hearing but may not have ended up in the public record transcript. This is important since most of the hearing is conducted informally by staff members.

ARTICLE 8 Formal Hearings

Staff Conduct

Caltrans staff members should remain cordial and professional, no matter how heated the discussion becomes at the public hearing. Even the slightest display of anger or insult, no matter how well justified, will negatively impact both Caltrans and the project. In preparing for a hearing, staff should follow the rule: "You may not get angry."

Preliminary Considerations

The conduct of formal hearings will vary, depending on who is conducting the hearing (Caltrans, local agency, or joint team) and who is presiding over the hearing (Caltrans staff member or outside officer). This discussion is directed primarily to a formal Caltrans hearing with an outside presiding officer. If a hearing is being conducted by others, project team members should be available for questions. Team personnel should also assist in presentations and participate in other portions of the hearing, as required.

Try to Reduce Tensions in Advance

Formal hearings tend toward confrontation. Everything possible should be done to reduce tensions in advance of the hearing. If individuals are likely to make emotional presentations, informally speak with them in advance, provide them with information about the hearing, and discuss the issues.

Room Setup

Generally, formal hearings are held in large rooms, with the hearing officer and panel at the front, facing the audience. It is best to place the microphone for public comment on a table and allow those testifying to sit down. As necessary, accommodations should be provided for individuals with disabilities.

Placement of Presiding Officer and Hearing Panel

The presiding officer conducts the hearing and maintains order. The officer must be readily identifiable, and should be seated in a prominent location. It is neither necessary nor desirable for the hearing panel to be within whispering distance. The presiding officer should, therefore, be seated away from the panel and slightly elevated, if possible. The hearing panel should be seated at the same level as the audience and should be visible to all members of the audience.

If the room is darkened for slide presentations, small table lights should be provided for the presiding officer and the panel.

The number of district and local agency personnel seated in front and facing the audience should be carefully controlled. Since most staff members speak infrequently during the hearing, consideration should be given to having only one or two responsible district and local agency staff seated up front. The remaining hearing panel should be seated in the front row of audience seats where they will be easily available for introductions, presentations, and answering of questions.

Exhibits

Exhibits (See Article 10) should be readily accessible to the meeting participants and take into account accommodations necessary to make the meeting accessible to individuals with disabilities. Consider placing them in a separate lobby where they may be viewed before, during, and after the hearing.

Exhibits should be set up at least one hour before the hearing. Project personnel should be available to answer questions and give assistance. Many questions will be answered this way before the hearing even begins. These answers are often more meaningful to the public. Good exhibits and displays can help individuals answer many of their own questions.

Audio Equipment

Audio equipment should be in place and checked out before beginning the hearing. Equipment malfunctions are disturbing, disruptive, and unnecessary.

The microphone used by the public should be placed at a table such that the speakers can be seated while addressing the panel. As necessary, accommodations should be provided for individuals with disabilities.

Seating

If seating is not fixed, chairs should be arranged so that rows do not contain more than five or six seats. This allows people wishing to speak or leave the room to do so without having to disturb too many others.

Consider Refreshments

If the hearing is expected to be lengthy, it may be appropriate to provide refreshments.

Ushers

Sufficient personnel should be on hand to staff the entrance adequately, assist and answer questions at exhibits, distribute and gather comment cards, etc., and assist the presiding officer and the hearing panel.

Ushers should be selected from project development personnel. In the event of a large hearing, additional assistance may be required from other functional disciplines.

Ushers should be prominently identified with appropriate name badges. They should know their assignments ahead of time. They should be instructed on how to refer certain questions; how the public may obtain copies of reports, and on other ways to assist the individuals attending the hearing.

Interpreters

Prior to the hearing, the project development team (PDT) will determine if interpreters are needed for non-English speaking individuals or individuals with hearing impairments and provide them if appropriate. When used, interpreters should be available before, during, and after the hearing.

Recorder

Transcript arrangements vary, from use of a certified court reporter, to tape recording the hearing and having district personnel transcribe the tapes. Whichever method of hearing the district selects, arrangements should be made early enough to assure that the transcript will be produced within a reasonable length of time, normally within three weeks of the hearing.

Agenda

The agenda should include the following:

- Staff presentation of project features; relocation; and social, economic, and environmental effects.
- Recess: during which attendance cards may be filled out (name, address, questions, statements, a request to speak).
- Presentations.
- Comment and question period.

Conducting the Hearing

Step-by-step procedures are described below.

Opening Remarks

The presiding officer should open the hearing at the announced time. The officer's opening remarks should generally include the following:

- A "Welcome" and general instructions regarding the use of the meeting room.
- A self-introduction, to include officer's occupation, city or area of residence, etc.
- An announcement that Caltrans is holding the hearing to present its studies on the location and/or design features of the proposal to provide a forum for public discussion of the major features, including social, economic, and environmental effects.

- An announcement that Caltrans is holding the hearing before committing to any project alternative, and that no final decisions will be made until the public record has been analyzed (including information gathered at the public hearing or received in response to the environmental document).
- An announcement that invitations to the hearing have been published in local newspapers and extended in writing to legislators, the Federal Highway Administration (FHWA), the board of supervisors and/or the city council, and other appropriate public and private agencies and individuals.
- An introduction of officials and dignitaries present, such as: congressmen and legislators or their representatives; local agency officials; FHWA representatives, etc.
- An introduction of the hearing panel members and other appropriate staff.
- To enhance visual recognition, people should be asked to stand as they are being introduced.

Describe the Post-Hearing Process

Discuss relevant sequence of events that will occur after the hearing:

- Project decisions will not be finalized until all relevant information from the hearing process has been considered.
- Written statements and exhibits should be submitted in writing to the District Director at the address given in the handout. The final date for submission should be specified (a minimum of 10 days; longer periods for controversial proposals).
- After the hearing, and before approval by Caltrans or the Federal Highway Administration (FHWA), all data gathered at the hearing or submitted for the public record will be made available for inspection by the public. The data may be copied at the district office or another specified location.
- After Caltrans has made its decision on the proposal, approval will be requested from the FHWA, if appropriate.
- For freeways or controlled access highways, agreement with affected local agencies on major design features will be formalized by execution of a Freeway Agreement.

Presentations

The Hearing Officer should now turn the hearing over to staff for presentations. Presentations at formal hearings should be live. They should cover items not found in the documents distributed to the audience, as well as important items or issues already contained in the handout material.

Presentations should cover necessary points in about 20 minutes. If longer presentations are necessary, they should never exceed 30 minutes. To shorten

presentations, present detailed information in handouts and in the draft environmental document (DED), which should be available for inspection or distribution. The availability of the DED should be announced and the document explained. For more information, refer to Article 9 on "Presentations."

Hearing Officer Reassumes Command

After presentations have been completed, the hearing should be turned back over to the Hearing Officer.

Recess

The Hearing Officer should announce a recess, during which time people may look at displays and ask questions of Caltrans staff. The officer should announce the duration of the recess and should repeat instructions to fill out comment cards.

During the recess, Caltrans personnel should be available at exhibits and displays to informally answer questions.

Reconvene and Gather Cards

After the Hearing Officer calls the hearing back to order, the ushers should gather comment cards as quickly as possible.

Establish Time Limits for Testimony and Questions

If there is a large turnout, the Hearing Officer may consider limiting time for each speaker and requesting persons whose point or question has already been made to relinquish their turn or summarize their comments. However, limiting the time for discussion at small hearings serves no purpose and may antagonize attendees. Time limits should be announced by the Hearing Officer along with an explanation that if there is sufficient time later, reconsideration will be made. Once time limits have been announced, they should be impartially applied to all speakers.

Speaking Order

- Federal elected or appointed officials (or their representatives).
- State and local officials (elected or appointed).
- Representatives of groups.
- Individuals.

This order is not mandatory. If, during lengthy or controversial hearings, such an order appears to be offensive, it may be better to take speakers in random order.

Speaker Identification

The Hearing Officer should ask the speakers to identify themselves by name and affiliation. The audience should be directed to not interrupt a speaker, so the court reporter will be able to get a complete record of the hearing.

Answering Questions

If practical, decide in advance which panel members will receive certain questions and comments. As many of the panel members as possible should respond to avoid the appearance that a single individual is dominating the response. It is preferable for the Hearing Officer to directly address individual panelists, rather than to allow the panelist to decide who will answer the question.

Answers to questions should be candid, even when they may be unfavorable to the project or proposal. If an answer isn't known, there should no hesitancy in assuring the speaker that the matter will be researched and a follow-up answer provided by mail or in person.

Wherever possible, answers to individual questions should be given in front of the general audience. The audience does not benefit if matters of general concern are discussed privately after the hearing.

Provide Clarification, Not Debate

Panel members should not debate with speakers; however, misrepresentations or false statements that go uncorrected are likely to be accepted as fact by many in the audience. While there is little purpose in correcting minor points, major issues should be clarified, tactfully, at the earliest opportunity.

One More Opportunity for Testimony and Questions

Before closing the hearing, the Hearing Officer should indicate that anyone still wishing to speak may now do so; that the earlier limitation on speaking time was not intended to stop anyone from speaking, but rather to assure that everyone would have a reasonable opportunity to do so.

Hearing Summary and Recap of Follow-up Activities

After it is clear that no one else wishes to speak, the Hearing Officer should briefly repeat the sequence of events that follow the hearing, reiterate how long the public record will remain open, identify where written testimony may be sent, indicate that

staff will be available after the hearing for questions, and thank the host for the use of the meeting room and the people for attending.

ARTICLE 9 Guidelines for Presentations

General

Live or open captioned videotaped presentations, exhibits, and handouts should work together to tell the story of a project or proposal. They should fully describe both positive and negative effects.

Simple and Understandable

Materials should be simple, clear, and understandable. They should be current and accurate. Inadequate maps, misleading or one-sided graphs, poor quality reproduction, or overuse of jargon may create a bad impression or convey erroneous information.

Accessible Communication

The project development team (PDT) will determine if accessible communication needs to be addressed. For example, they will determine if interpreters are needed for non-English speaking individuals or individuals with hearing impairments and provide them if appropriate. When used, interpreters should be available before, during, and after the hearing.

Presentation Outline

All presentations (live or videotaped) should cover the following:

- Problem
  Current and future demand, congestion, safety, structural or other problems in quantitative terms. Use the "no project" alternative to illustrate what the public will get if the proposed project is not constructed.

- Caltrans' Responsibility
  Caltrans' mission and responsibility, and any specific legislation or code section directing Caltrans to deal with the problem.

- Project Development Process
  The Caltrans project development process, using schematic diagrams or simple flowcharts to show the following:

- Relationship to the local planning process.
- Other procedural steps required.
- Assumptions governing studies.
- Kinds of studies being conducted.
- Tentative project schedules.
- How project alternatives were chosen.
- Project alternatives.

- Major Issues

  Important community issues or significant impacts, including, but not limited to the following:

  - Regional and community growth, land use, economic activity, employment gains and losses, and community or neighborhood cohesion.
  - Consistency with local transportation plans.
  - Consistency with air quality plans, noise standards, and federal or State water standards.
  - Conservation and preservation, general ecology, wildlife and waterfowl areas, wetlands or base floodplains.
  - Disturbance of hazardous materials.
  - Public facilities and services, including park and recreational facilities, natural or man-made historic places, religious, educational facilities, public utilities, fire protection, and other emergency services.
  - Aesthetic and other values, including visual quality such as view of the road and view from the road, natural landmarks, and joint development and multiple use of space.
  - Public access to rivers over which a new bridge may be constructed.
  - Displacement of people, business and farms, and relocation assistance.
  - Right of way requirements, schedule of acquisition, housing availability, and the Relocation Assistance Program.
  - Questions on individual parcels should be addressed with the interested party outside of the formal hearing.
  - Other issues associated with the proposal. Issues or effects not covered in handouts or displays must be covered in the presentation.

  Caution: Do not leave out the negative impacts or controversial issues raised by members of the community.

- Describe the Proposed Project and Alternatives

  The project description may include:

  - Type of facility.
  - Ultimate number of lanes, if a highway.

- Ultimate median width.
- Right of way width for main line.
- Local streets to be separated, connected, or altered.
- Pedestrian or railroad separations.
- Location of frontage roads.
- Noise attenuation.
- Truck inspection/weigh and agricultural inspection stations.
- Roadside rest areas.
- Nonmotorized transit and park-and-ride lots.
- Costs for right of way and construction.
- Connections with other modes of transportation.
- Accommodation of transit facilities, such as median rail lines.

Live Presentations

Presentations at formal public hearings should be live. They should be as brief as possible.

Use an outline rather than a prepared text. Presentations are much more effective if presented in a natural manner rather than being read verbatim from a prepared text.

Presentations may be made with the aid of wall type exhibits at smaller hearings, and slides or direct reference to exhibits in the handouts at larger hearings. Care should be taken not to introduce too much detail into the presentation or the exhibits.

A laser or flashlight with an arrow-shaped aperture is effective in dimly lit rooms, regular pointers in brighter rooms. The room should be checked carefully to assure that the entire audience will be able to view the displays.

Videotaped Presentations

Presentations at open forum hearings should be videotaped and open captioned. They should be repeated continuously. They should cover the necessary points in 10 to 15 minutes.

Elaborate music, expensive camera shots, or celebrity narrators can create the impression that Caltrans is trying to "sell" something. Simple and factual presentations are far more effective. Wherever possible, illustrate points with visuals, just as with a live presentation.

ARTICLE 10 Exhibits

General

Live or open captioned videotaped presentations, exhibits, and handouts should work together to tell the story of a project or proposal. They should fully describe both positive and negative effects.

In general, exhibits should:

- Be appropriately sized. If they are used in presentations, they should be readable from across the room.
- Be easily understood, not requiring explanation.
- Tell the full story, not just one side of the story.

Serious consideration should be given to preparing new and original displays specifically for the public hearing process.

Non-English and Alternative Formats

The project development team (PDT) will determine if the language barrier is sufficient to warrant that exhibits be developed in the language of those affected in addition to English or in alternative formats to aid those individuals with disabilities to fully participate in the meeting.

Project Need

Graphics should show current and future demand, congestion, safety, structural, or other problems in quantitative terms. Use the "no project" alternative to illustrate what the public will get if the proposed project is not constructed.

Suggested Exhibits

Illustrate major features and alternatives for the proposal to be discussed at the public hearing. Suggested exhibits include the following:

- A geometric typical section showing ultimate median width, number of lanes, and right of way width.
- A plan of development showing alternative alignments (horizontal and vertical), if any, and alternative major design features.
- An exhibit map of the general plan of the community, with the proposal superimposed.

- Artists' renderings, models, maps, and photo retouches at critical control areas or points.
- Oblique aerial photos, with overlays to illustrate different conditions.
- Schematic geometric designs of interchanges and other major design features.
- Appropriate environmental and right of way exhibits.
- Schematic diagrams or simple flowcharts showing project costs, schedules, and significant milestones.

ARTICLE 11 Handouts

General

Live or open captioned videotaped presentations, exhibits, and handouts should work together to tell the story of a project or proposal. They should fully describe both positive and negative effects.

Quality

Handouts should be of the same quality as described for exhibits. They should follow the same outline described in detail in Article 9, "Presentations." In brief, the following should be described:

- The need for the project or proposal.
- Caltrans' legal responsibility for meeting the need.
- The process by which Caltrans has addressed the problem.
- Issues of concern to the community.
- A description of the project or proposal.

Copies of Hearing Exhibits

Handouts should include legible copies of exhibits used in the hearing, particularly for formal hearings, so that members of the audience may follow along on handouts rather than straining to see an exhibit located some distance away. Handouts may also be required in alternative formats to aid those individuals with disabilities to fully participate in the meeting.

Relocation Assistance Booklet

The standard booklet on relocation assistance may be distributed at or prior to the hearing. The more complete a handout is and the earlier it is distributed prior to the

hearing (by mail or at information centers), the less time will be spent answering routine factual questions, and the more time can be spent addressing issues.

ARTICLE 12 Record of Public Hearing

General

The record of public hearing will generally be in one volume. Where the hearing record is very large, it may be subdivided into more than one part. One thicker volume is preferred to several thinner ones.

The record should be self-sufficient and should be bound with a durable cover. It should be assembled so that the pages lie flat or nearly flat for convenient reading. The record is distributed to outside parties not having ready access to other reports and data; its quality should reflect its preparation by a high-quality professional organization.

Factual

The record is to be factual. It is not to contain conclusions or recommendations; such are to be included with the Project Report.

Contents of the Record

The record of public hearing should contain a transcript of the hearing, copies of handouts and reproductions of exhibits, copies of documents submitted for the record, responses to questions not answered in the transcript, and copies of notices, invitations and publicity. See Appendix HH for a sample of the title page and a discussion of the contents. Alternative formats should be made available or alternate methods of communication should be used to assist individuals with disabilities, if requested.

Distribution

The record should be distributed within 60 days of the hearing. It should not be held in the district pending completion of other reports.

The district should distribute one copy of the record to each of the following:

- Each affected city and county.

- Federal Highway Administration (FHWA) (if Federal-aid or Federal approval involvement).
- Division of Design (DOD), Attention: Public Hearing.
- Environmental.
- Director of Caltrans (only projects involving route adoptions).

An adequate number of additional copies should be stocked to respond to outside requests. With the exception of other public agencies, these additional copies should be distributed on a reimbursement basis. In some instances, the transcript portion alone may be requested.

The actual cost of the copy, or the cost of reproducing a copy, should be charged. In addition, the cost of mailing should be charged for all copies on which mailing is requested.

CHAPTER 12 – Project Approvals and Changes to Approved Projects

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CHAPTER 12 – Project Approvals and Changes to Approved Projects

SECTION 1 General

This chapter discusses the project development workflow tasks between Milestones 160 and 200. For details on these tasks, see the *Project Development Workflow Tasks Manual*.

Various Reports Can Approve a Project

The project report (PR) documents Caltrans' approval for most types of State highway projects. This includes new facilities, as well as improvements, modifications, or repairs to existing facilities — whether done by Caltrans or by others under an encroachment permit.

Some transportation projects use other reports for project approval. Some of these reports may serve a dual purpose as a project initiation document and a project approval document. These other project approval documents are described in Section 4.

Project Approval

Project approval means approval by Caltrans, and where required, approval by the Federal Highway Administration (FHWA) and the California Transportation Commission (CTC).

Approvals by Other Entities

Transportation projects often require other types of approvals from outside entities before they may proceed to design and construction. Other project-related approvals, agreements, and permits are discussed in Chapter 13.

Changes to Approved Projects

A separate approval must be obtained when changes in project concept or scope are proposed after project approval. This may include the need to write a supplemental PR. See Section 6 of this chapter for details.

Preferred Alternative

All projects for which an environmental impact report/environmental impact statement (EIR/EIS) is prepared require the development and evaluation of project alternatives. Most projects for which a negative declaration (ND) is prepared also carry more than one alternative through the public hearing phase. Before such projects can be approved, a preferred alternative must be selected. This selection process is described in Section 2.

SECTION 2 Selecting a Preferred Alternative

Selection Timing

Selection of the preferred alternative occurs only after specific effects and reasonable mitigation measures have been identified for each project alternative. The selection is made after all comments are received from the circulation of the draft environmental document (DED) for public comment and from the public hearing process. These comments and the rationale for selecting the alternative are detailed in the final environmental document (FED) and summarized in the project report (PR).

Selection Decision & Approval

The preferred alternative, with discussion substantiating its selection, is presented in the FED. In cases where more than one alternative is equally suitable, the FED can be structured to present such options. The "plan-to-ground" strategy utilized during the formal study's evaluation of alternatives (see Chapter 10) permits the decision maker to select the alternative (which may or may not be the preferred alternative) that best meets the specific evaluation criteria associated with any particular project proposal.

Informed Decision

The environmental document (ED) should present sufficient information to enable a reasoned choice among the project alternatives. The issues should be sharply defined and provide a clear basis for selection. The selection must reflect the consideration of all significant, reasonably foreseeable, adverse impacts that remain after incorporation of all reasonable mitigation measures. The selection decision must be structured, analytical, and clearly address the specific evaluation criteria developed for the project. It must ensure that the selected project meets the need and purpose for the project.

Approval

The preferred alternative is approved with PR approval by the District Director (or designee) after selection by the project development team (PDT) and recommendation of the project manager. The preparer of the ED has no authority to make an approval decision.

Justified Unavoidable Impacts

An alternative that results in a significant, adverse environmental impact or the use of protected resources will only be approved when all of the following are demonstrated:

- There are no reasonable alternatives that will avoid such impacts or uses.
- There are no reasonable alternatives or mitigation measures that will substantially lessen such impacts or uses.
- There are specific conditions (economic, social, or other) that make other alternatives or mitigation measures unreasonable.

Reasonable Alternatives

Reasonable alternatives are those that have been found to be reasonable and acceptable to Caltrans and Federal Highway Administration (FHWA) in meeting the project's intended need and purpose.

Gain Consensus

The goal in defining reasonable alternatives for the preferred alternative selection is to gain a consensus of the community, the PDT, and the permitting agencies. The agreement of the permitting agencies must be formally documented.

Avoidance Alternative

If there is a reasonable alternative that avoids all significant impacts, uses of protected resources, and impacts on hazardous waste, then efforts should be directed to the selection of this alternative. If there are multiple alternatives that avoid all significant impacts, then efforts should be made to select the avoidance alternative that best fulfills the project's need and purpose.

Environmentally Preferred Alternative

If there is no such avoidance alternative, then efforts should be directed to selection of the reasonable alternative that causes the least harm, after mitigation, to protected resources and the environment. This is termed the "environmentally preferred alternative."

Overriding Considerations

When overriding considerations dictate the selection of a preferred alternative that is not an available avoidance alternative or the environmentally preferred alternative — the decision must be substantiated with a statement of overriding considerations. When overriding considerations are involved, the consensus reached with the involved resource and regulatory agencies should reflect any balancing of resource impacts.

Balancing Resource Impacts

At times it may be necessary to suggest the acceptance of impacts on one resource in order to avoid or minimize impacts on another resource. Efforts should be made to gain a consensus of the involved resource and regulatory agencies regarding identification of the environmentally preferred alternative.

CTC Involvement

When selection of the preferred alternative is highly controversial or if the proposed preferred alternative is significantly higher in overall cost as compared to other build alternatives, it may be appropriate to involve the California Transportation Commission (CTC) in the preferred alternative selection. In such an instance, a preferred alternative report should be submitted to the CTC as a monthly agenda item, with a request for their concurrence. If this is done, it should be done prior to PR approval. If the CTC becomes involved in selecting the preferred alternative, a CTC public hearing will probably be held before the selection.

SECTION 3 Project Report Approves Projects

ARTICLE 1 General

Purpose of the Project Report

The project report (PR) documents Caltrans' approval for most types of State highway projects. A project receives Caltrans' approval when the PR is approved by the District Director or a division chief who has been delegated that authority.

Draft Project Report

Projects with draft environmental documents (DED) require the preparation of a draft project report (DPR) prior to finalizing the PR. The DPR documents the need for the transportation project and summarizes the studies of the cost, scope, and overall impact of project alternatives, so that an informed decision can be made on whether or not to proceed to the public hearing phase of project development. After a public hearing and the selection of a preferred alternative, the DPR is updated to become the PR. Refer to Chapter 10 of this manual for information on the DPR.

Environmental Document

When there is an environmental document (ED) for a project, it is a key project approval document. The ED is prepared to assure that the project complies with State and federal environmental laws. All project activities, such as the development of project alternatives, public input, and selection of the preferred alternative, are discussed in the final environmental document (FED). Selection of the preferred alternative is discussed in Section 2.

PR Content

If an FED or categorical exemption/exclusion (CE) is required for the project, it must be attached to the PR; otherwise a statement of compliance with environmental laws and regulations must be included in the body of the PR. Any PR discussion of items covered in the FED should be summary in nature, but should provide enough detail to allow district management to obtain a concise picture of the project without

researching the FED. The attached FED should be referenced for any detailed environmental information.

There may also be certain statutory requirements or report considerations that may not be appropriate for the FED. These items are incorporated into the PR.

Categorically Exempt/Excluded Projects

When a project is statutorily or categorically exempt/excluded, there is no ED, so all information must be provided in the PR. The executed CE is a required attachment unless the project does not require a CE form. (See Chapter 2 of the *Standard Environmental Reference*.)

Format & Guidelines

An outline and detailed guidelines for PR preparation is provided in Appendix K.

Requests for Division of Design (DOD) Review

To obtain a preliminary review of the PR before it is submitted for approval, forward two copies to Division of Design, Attention: Office of Project Development Procedures, with a written request stating what is desired from the review. If a review by other Headquarters units is needed, it should be requested directly from those units.

PR Approval

See Article 3 of this section for a detailed description of the PR approval process.

Processing

Following approval, two copies of all PRs covered by these guidelines are sent to Division of Design, Attention: Office of Project Development Procedures. An additional five copies are sent to the Office of Program/Project Management & Support in the Division of Engineering Services (DES). Copies are not normally sent to other Headquarters units unless specifically requested. See Section 4 for other types of project approval documents that are sent to other Headquarters units instead of DOD.

ARTICLE 2 Documenting the Preferred Alternative

PR & FED Roles

The selection of the preferred alternative is documented in the PR (and also in the FED, when an FED is involved). The PR documents the detailed engineering reasons for selecting the preferred alternative. The FED documents the environmental reasons for selecting the preferred alternative.

PR Documentation

When there is a DPR, it is used as a starting point for creating the PR. The DPR answered these three basic questions:

- Why do it at all? (need for project).
- Why do it now? (cost effectiveness).
- Which ways are practical? (alternatives).

The PR should answer the final question:

- Which way provides the greatest public good with the least private harm? (preferred alternative)

The preferred alternative should be documented in accordance with the PR guidelines and outline provided in Appendix K. The items in the following list should be covered:

- Summarize the FED discussion of the preferred alternative, as well as the rationale for its selection. The rationale is the essence of the preferred alternative section of the FED. It describes engineering, environmental, and system planning rationale and explains why each of the other alternatives were rejected.
- Discuss the current construction and right of way costs of the preferred alternative compared to the programming figures in the current State Transportation Improvement Plan (STIP). Recommendations for any STIP programming changes are made for cost amounts, fiscal year scheduling, or stage construction.

- Summarize the public hearing process results and evaluation, as appropriate. This includes local agency positions.
- Summarize the FED evaluation of major comments related to project alternatives that were received from circulation of the DED.

ARTICLE 3 Caltrans' Project Approval Process

Approvals by Other Entities

Project approval refers to approval by Caltrans, and where required, approval by the Federal Highway Administration (FHWA) and the California Transportation Commission (CTC). Transportation projects often require approvals from outside entities before they may proceed to design and construction. Other project-related approvals, agreements, and permits are discussed in Chapter 13.

Preliminary Sign-Off

- To ensure that all right of way information contained in the PR and the right of way data sheet attached to it are complete, current, and accurate, the right of way branch chief signs the PR cover sheet.
- To ensure that all engineering and environmental studies have been included in the PR, the project manager signs the PR cover sheet, recommending approval.
- To ensure that all technical information has been prepared in accordance with State law, the registered civil engineer, usually the project engineer preparing such technical information, signs the appropriate sheet.
- When a final environmental impact report/final environmental impact statement (FEIR/FEIS) is completed, a two-part certification is prepared. To ensure that the California Environmental Quality Act (CEQA) laws have been satisfied, the environmental branch chief signs the first part of the certification sheet, attaching the completed findings and statement of overriding considerations.
- To certify that the information contained in an FEIR/FEIS has been reviewed and considered prior to approving the project, the authorized signer of the project report (District Director or designee) signs the second part of the certification sheet. The certification is attached to the front of the FED and is not included in the body of the PR.

- The District Director or a Deputy who has been delegated that authority approves the project by signing the PR cover sheet. The date of signing becomes the "official" project approval and environmental compliance date (Milestone 200).

Approval

FHWA Approval Process

When the FHWA is involved, it takes action to approve project design features before the project is approved by the District Director - except for route adoptions. Federal approval of general location and project design features for projects with a route adoption occurs after Caltrans' approval and CTC route adoption. FHWA approval is discussed in Section 5.

State Approval Process

State project approval is given by the District Director after the FED is approved by Caltrans and, if required, after FED and project design feature approval by the FHWA (except route adoptions). The CEQA environmental process is completed when Caltrans, as lead agency, approves a project and files a Notice of Determination (NOD) with the State Office of Planning and Research (OPR). Refer to the *Standard Environmental Reference* for further information. The process for projects that exclusively follow the State approval process differs from the federal approval process only to the extent that the various processing steps do not receive FHWA review or concurrence.

CTC Approval Process

The CTC takes project approval action, if involved, after the project has been approved by the District Director. This is discussed in Section 5.

SECTION 4 Other Caltrans Reports that Approve Projects

General

Refer to Figure 2 in Chapter 8 for a summary of project approval document requirements by program.

PSSR for Rehabilitation Projects

The project scope summary report (PSSR) for a categorically exempt (CE) project serves as the project report (PR) for pavement rehabilitation (201.120), a structure rehabilitation project (201.110), or an urban freeway off-pavement access project (201.230). Occasionally a PSSR can also be processed with a negative declaration (ND). Development of such projects follows the PSSR process (also known as the task-force process) outlined in Chapter 7, Articles 5, 8, and 11. For rehabilitation projects in the "Minor A" program, the PSSR process is optional, but encouraged; otherwise, the district processes a PR. The PSSR, which is the project initiation document, is also the project approval document once an approved CE or a ND is attached. Following approval, two copies of all PSSRs covered by these guidelines are sent to Division of Design, Attention: Office of Project Development Procedures. An additional five copies are sent to the Office of Program/Project Management & Support in the Division of Engineering Services. See Appendices G, P, N, or Q for guidelines for the appropriate PSSR.

NBSSR for Noise Barrier Projects

The PR for a retrofit noise barrier project or a school noise project (201.270) that is categorically exempt is the noise barrier scope summary report (NBSSR). Occasionally, an NBSSR can be processed with an ND. The NBSSR, which is the project initiation document, is also the project approval document once an approved noise study report and a CE or ND is attached. Following approval, two copies of all NBSSRs covered by these guidelines are sent to the Office of Environmental Engineering in the Corporate Environmental Program. An additional five copies are sent to the Office of Program/Project Management & Support in the Division of Engineering Services. The process is described in Chapter 9. Chapter 30 contains

some other procedures related to noise barriers and Appendix F contains guidelines for an NBSSR.

PR-HP&R for Planting and Irrigation Projects

The PR for a new highway planting project or a rehabilitated planting and irrigation project is prepared and processed as outlined in Chapter 29, Section 2, "Highway Planting," using a PR-highway planting and restoration (PR-HP&R) for project approval. See Appendix D for the PR-HP&R guidelines and outline.

PR-SRRA for Roadside Rests Projects

The PR for a new safety roadside rest area project (201.260) or a rehabilitated roadside rest area project (201.250) is prepared and processed as outlined in Chapter 29, Section 3, "Safety Roadside Rest Areas," using a PR-safety roadside rest area (PR-SRRA) for project approval. See Appendix M for the PR-SRRA guidelines and outline.

Combined PSR/PR for Certain Special Funded Projects

Special funded projects are State highway improvements constructed by others under encroachment permit, with an estimated construction cost of more than $1,000,000. Special funded projects are processed as State highway projects and require a PR. If the special funded project is non-complex, non-controversial, and meets the criteria outlined in Chapter 9, it may qualify for preparation as a combined project study report/project report (PSR/PR) in accordance with the policies and procedures set forth in that section. The combined PSR/PR is the project approval document. Once approved, two copies of the combined PSR/PR are sent to Division of Design, Attention: Office of Project Development Procedures. An additional five copies are sent to the Office of Program/Project Management & Support in the Division of Engineering Services. The district may utilize this document for similar State-sponsored projects, if appropriate. See Appendix A for guidelines and an outline for the combined PSR/PR.

PEER for Encroachment Permit Projects

Encroachment permit projects are those State highway improvements constructed by others under encroachment permit, with an estimated construction cost of $1,000,000 or less. Encroachment permit projects utilize the permit engineering evaluation report

(PEER) process in place of a PR for project approval to authorize issuance of an encroachment permit. (Districts may require a combined PSR/PR in some cases, provided the cost is over $300,000.) Instructions covering the PEER process are included in Chapter 9. See Appendix I for guidelines for preparing a PEER. The PEER process cannot be used for a project that requires an approval by the CTC, such as a new public road connection to a freeway or a controlled access highway; a PR would be required for such a situation.

Projects Sponsored by Others

Projects sponsored by other entities, such as rail transit projects, water projects, redevelopment projects, etc., often require relocation or modification of existing State highways. These are considered special-funded or encroachment permit projects as described above. All required State highway construction or reconstruction to accommodate a project sponsored by others must be covered by a PR, by a combined PSR/PR, or by a PEER, as appropriate. Coordination, review, and reimbursement provisions follow the general procedures found in the references cited in Chapter 2, for locally funded State highway projects.

PR for "Minor A" Projects

The PR for a "Minor A" project (see Chapter 4 for a definition) serves as both the project initiation document and the project approval document. When approving a PR for a "Minor A" project (except for an occasional "Minor A" project that gets listed in the State Transportation Improvement Plan [STIP]), the district follows program priorities established by the program advisor. The Headquarters program advisor should be consulted in cases where the appropriate program is in question. See Appendix K for guidelines and an outline for the PR. Refer to the *Traffic Manual*, Sections 1-05.3 and 9-02.2, for additional requirements for traffic signal project reports.

If a logical project exceeds the "Minor A" dollar limit for construction, a major project should be initiated. Separate "Minor A" projects for segments of an overall project should not be considered. "Minor A" funds should not to be used to finance a series of small, related, and contiguous projects when a single contract is more appropriate. In those instances, to authorize the larger project, a project initiation document (PSR or equivalent) is prepared and the project is programmed in the appropriate programming document.

Environmental Assessment (EA) PR for "Minor B" Projects

Development of a "Minor B" project (see Chapter 4 for a definition) follows the procedural instructions for preparing contracts for services contained in the *Service Contracts Manual*. The EA project report or the cover letter format project report described in Chapter 9 serves as both the project initiation document and the project approval document. An example is provided in Appendix B.

Director's Order for Urgent Projects

A Director's Order authorizes project work for emergencies that exceed established cost limits when done by informal bid procedures, force account procedures, equipment rental, or day labor. Refer to the *Major Damage Restoration Coordinator's Handbook*.

Projects Off the State Highway

Caltrans has occasionally been responsible for development of projects of others, such as State Parks roads, federal roads, rail transit, etc. The need, alternative solutions, costs, and reasons for selecting a specific design must be documented and reviewed. A PR is prepared and approved to accomplish this documentation. If State highways are involved, the PR documents decisions impacting the highway facility.

CAPM PR for Capital Preventive Maintenance Projects

All capital preventive maintenance (CAPM) projects (201.121) utilize a CAPM PR to define project scope, cost, and approve work. The completed CAPM PR serves as the project initiation document and the project approval document. Following approval, two copies of all CAPM PRs covered by these guidelines are sent to: Division of Design, Office of Project Development Procedures, Attention: Design Report Routing, Mail Station #28. An additional five copies are sent to the Office of Program/Project Management & Support in the Division of Engineering Services. See Appendix H for CAPM PR guidelines and outline.

EA PR for Maintenance Projects

All maintenance projects (20.80 Program) done by contract utilize an EA PR as both the project initiation document and the project approval document. An example is provided in Appendix B.

SECTION 5 FHWA and CTC Approval of Projects

Federal Participation

Caltrans' policy requires pre-qualification of most projects for federal funding participation. Minimum dollar amounts for federal participation are established by the Division of Budgets for various program items. Current instructions from the Division of Budgets should be consulted, as the limits change according to financial conditions. Refer to Deputy Directive Number DD-11, "Federal Aid Project Funding."

When State-only funding is requested for a project, but State-only funding has not been identified in the programming document, specific approvals must be obtained from the Division of Programming. The project report (PR) proposing State-only funding should fully explain the efforts taken to qualify the project for federal participation and explain why federal funding could not be obtained.

If such a determination is made late in the process, approval from the Division of Budgets is required. State-only funding requests must be reviewed and approved by the design coordinator prior to submittal to the Division Chief of the Division of Programming or the Division Chief of the Division of Budgets. A copy of the approved PR should be attached to the request.

The amount of State-only funds may be limited. All approvals are based on availability of funds at the time of advertising.

FHWA Approvals

Certain projects require Federal Highway Administration (FHWA) review and/or concurrence, regardless of source of funding. (See Chapter 2, "Federal Involvement.")

Any requests for FHWA approval or concurrence are submitted by the district to the FHWA. To insure FHWA approval, it is necessary to involve and inform them of project development from the beginning of studies through preparation of the plans, specifications, and estimates (PS&E). Whenever possible, the FHWA Liaison

Engineer should informally review requests for approvals prior to submittal of the formal request. This facilitates the processing of the formal request.

FHWA Location and Design Approval

For actions covered by an environmental impact statement (EIS) or finding of no significant impact (FONSI), FHWA signing of the final environmental impact statement (FEIS) Cover Sheet or execution of the FONSI constitutes FHWA acceptance of the general location and project design features unless delegated to Caltrans under stewardship. If environmental documents are tiered and separate location and design hearings are held, FHWA makes specific acceptance of the location or the design. FHWA signing of the FONSI or of the record of decision (ROD) for an FEIS, is required for FHWA approval to proceed with design or acquisition of right of way.

For other required FHWA approvals, by type of facility, refer to Chapter 2, Section 7, of this manual. For details on preparation (including level of documentation) and approval of the FONSI and the ROD, refer to the *Standard Environmental Reference.*

CTC Approvals

When the California Transportation Commission (CTC) approves a route adoption or a new freeway connection, or when it is a responsible agency under California Environmental Quality Act (CEQA) because it will approve the allocation of funding, CTC approval of the project is needed.

Reports for Route Adoptions

The project report serves as an information source for processing route adoptions through the CTC. When the PR (with the mandatory attachment of the final environmental document [FED]) is transmitted to Division of Design, Attention: Office of Project Development Procedures, a reproducible and three prints of the route adoption map are submitted concurrently (not as attachments) to Division of Design, Attention: Office of Project Development Procedures. DOD prepares the Route Adoption Report for CTC action. See Chapter 24 of this manual for route adoption procedures.

Reports for New Public Road Connections

Reports for CTC approval of new public road connections to freeways and controlled access highways are prepared by DOD. See Chapter 13 and Chapter 27 for new connection procedures.

Reports for Consideration of Future Funding

The Division of Environmental Analysis prepares reports for approval of a project for future consideration of funding by the CTC. Refer to the *Standard Environmental Reference* for details.

SECTION 6 Changes to Approved Projects

Major/Minor Change Determination

To guard against future litigation, care should be exercised in determining whether a project change is major or minor. A highly detailed, approved plan of development establishes an understanding of what is to take place. Generally speaking, the greater the detail shown on the exhibit maps in the environmental document (ED) or at the public hearing, the smaller the proposed change must be to qualify as a minor change.

Minor Changes

Minor changes are usually defined as small variations of design that do not significantly affect costs, adjacent properties, or environmental impacts. Minor changes to previously approved major design features normally do not require recycling of the environmental and public hearing processes, but do require concurrence from appropriate entities.

Approvals

Approval to proceed with a minor change to an approved project is given by the District Director, and when appropriate, by the Federal Highway Administration (FHWA). The approval request shall include an explanation of what prompted the change as well as a substantive justification for approving the change.

Major Changes

Major project changes include any change in project concept or a substantial change in project scope.

Reevaluate Concept

Because of the long lead time associated with major projects, changing land-use patterns, or loss of funding, there is often a need to reevaluate the concept and scale of previously approved projects. If a previously approved project or its ultimate scope has materially changed in concept, current detailed information should be evaluated before the extent of rescoping is decided. Proposed major deviations from approved concepts should be discussed with the design coordinator before undertaking full-scale environmental and design studies.

Required Reports

Any change in concept and substantial changes in scope should be discussed in a supplemental project report (PR). If the project development team determines that a new or supplemental draft environmental document (DED) is required, a supplemental draft project report (DPR) is prepared. In some cases, it may be appropriate to begin again with a new project study report (PSR). After approval, two copies of the final document should be forwarded to Division of Design, Attention: Office of Project Development Procedures, as appropriate.

Rescoping

Supplemental DPRs and supplemental PRs covering rescoping place particular emphasis on the following:

- The degree to which rescoping limits future expansion or flexibility.
- The impacts on adjacent, local street systems and the ability of local agencies to adjust their programs to match.
- Alternatives and their trade-offs in cost, traffic service, and economic, social, and environmental effects.
- Problems and costs resulting from right of way acquisition and contractual commitments previously made within these project limits.

If rescoping involves rescission of an adopted alignment and the disposal of acquired right of way, then the processes for modifying an adopted route designation and the process for recycling freeway route adoptions are involved. These are outlined in Chapter 23.

The Office of Statewide Project Management and Control of the Division of Project Management should be advised of cost and schedule changes.

Staged Projects

A Supplemental PR is not required if a currently programmed project has been identified as a stage of a previously approved project and it is consistent with the ultimate concept of the original project.

Staging, as appropriate, should be discussed in a DPR and a DED, or in an environmental reevaluation, or in a supplemental DPR and DED, as appropriate. The final PR and final environmental document (FED) must address a fundable project.

Content of the Supplemental PR

All supplemental PRs require the same signatures as a PR and require the same statements covering environmental determination. The magnitude of project change determines the format and level of detail for the body of the report. Smaller project changes would require preparation of a memorandum that describes the changes to the original, approved project; changes of greater magnitude would require the preparation of a complete new report, following the PR outline provided in Appendix K.

CHAPTER 13 - Project-Related Approvals, Agreements and Permits

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CHAPTER 13 - Project-Related Approvals, Agreements and Permits

This chapter discusses project development workflow tasks that are required for certain project categories and types. Most of these tasks occur some time between Milestone 000 and 200; however, some of these tasks may occur late in the project design phase. For details on these tasks, see the *Project Development Workflow Tasks Manual.*

ARTICLE 1 - General

General

Entities other than Caltrans have vested interests in transportation projects, which they protect by requiring mitigation of project effects, or by requiring various approvals, permits or agreements. Negotiations with other agencies to allow a project to proceed to construction take place during many phases of a project's development: during engineering and environmental studies, during the project approval process, and during project design. Negotiations usually reach closure with an approval, agreement or permit at the same time as project approval, or shortly thereafter.

References

This chapter provides the Project Engineer (PE) or Project Manager (PM) with an overview of the most significant of these actions. The following chapters and sections of this manual provide greater detail than will be found in this chapter:

- Environmentally related actions -- Chapter 2, Section 7
- Cooperative agreements -- Chapter 16
- Route adoptions -- Chapter 23
- Freeway agreements -- Chapter 24
- Relinquishments -- Chapter 25
- Disposal of rights of way -- Chapter 26
- New public road connections to freeways and expressways -- Chapter 27
- Resolutions of Necessity for Condemnation -- Chapter 28

ARTICLE 2 - Permits and Approvals

State and Local Agency Involvement

Transportation projects often need permits and approvals to allow construction and eventual opening to the public. To aid in determining which state and local agency permits and other approvals may be required for a specific project, the following questions should be answered and Figures 1, 2 and 3 consulted.

- Where is the project located?
- What resources are affected by the project?
- What specific activities does the project involve?

FIGURE 1 - State and Local Agency Involvement Based on Project Location*

If the project is located within "Geographic Area", then:		
Geographic Area	Agency Involved	Permit
From 4.8 km offshore to 915 m inland	Coastal Commission or City/County (if authorized)	Coastal Development Permit
San Francisco, San Pablo , and Suisun Bays from highwater to 30 m inland	San Francisco Bay Conservation and Development Commission (BCDC)	Development Permit
Lake Tahoe Watershed	Tahoe Regional Planning Agency (TRPA)	Project Permit
Floodways in the Central Valley	Reclamation Board	Encroachment Permit

***** Note that this Figure is not intended to be all inclusive.

FIGURE 2 - State and Local Agency Involvement Based on Resource Affected by Project*

If the project affects "Resource", then:		
Resource	Agency Involved	Permit/Approval
Air	Air Pollution Control/ Air Quality Management District	Authority to Construct and Permit to Operate for activities emitting stationary source pollutants to the atmosphere
Fish and Wildlife Habitat	Department of Fish and Game	Stream and Lake Alteration Agreement for activities in lakes, streams and channels and crossings
Water	State Lands Commission	Land Use Lease (for encroachments, crossings on tidelands and submerged lands, etc.)
	State Water Resources Control Board; Regional Water Quality Control Board	National Pollutant Discharge Elimination System Permit for stormwater discharges to surface water
		Waste Discharge Requirements for non-storm discharges to surface water or groundwater to the waters of the state
	Department of Health Services, Division of Drinking Water and Environmental Management; or Local Health Office	Permit to Operate a Public Water System

***** Note that this Figure is not intended to be all inclusive.

FIGURE 3 - State and Local Agency Involvement Based on Project Activities*

If the project involves "Activity", then:		
Activity	Agency	Permit/Approval
Commercial, Industrial, Residential development	Local Agency (County/City)	Land Use, General Plans, Specific Plan, Conditional Use or Subdivision
Conversion of timberland to non-forest uses through timber operations and immediate TPZ rezoning	California Department of Forestry and Fire Protection	Timberland Conversion Permit
Power transmission lines, Pipelines and Railroad crossings	Public Utilities Commission	Review of Plans and Approval
Solid Waste Disposal	California Integrated Waste Management Board	Disposal Requirements
Sewage Disposal	County Health Department	Disposal Requirements
Waste Discharge	State Water Resources Control Board; Regional Water Quality Control Board	Discharge Requirements
Storing, treating or disposing of Hazardous waste	Department of Health Services, Toxic Substances Control Program	Hazardous Waste Facilities Permit
	State Water Resources Control Board; Regional Water Quality Control Board; Local Agency	Hazardous Waste Discharge Requirements; Underground Storage of Hazardous Substances Permit
Right of Way across state park land	Department of Parks and Recreation	Right of Way Permit, License, Easement, Joint Agreement or Lease
Encroachment on or across a local street or highway	Local Agency (County/City)	Encroachment Permit
Encroachment on 100-year Floodplain, intermittent streams and desert washes	Department of Fish and Game	Lake/Streambed Alteration Agreement
Encroachment on or across Cove, Bay or Inlet	Department of Boating and Waterways	Review of Plans
All activities involving dams or reservoirs	Department of Water Resources, Division of Safety of Dams	Approval of Plans

***** Note that this Figure is not intended to be all inclusive.

FIGURE 3 - State and Local Agency Involvement Based on Project Activities* (continued)

If the project involves "Activity", then:		
Activity	Agency	Permit/Approval
Dredging	Department of Fish and Game	Standard or Special Suction Dredging Permit
	State Lands Commission	Dredging Permit
Surface Mining (Material borrow sites, etc.)	Local Agency (County/City)	Surface Mining and Reclamation Act (SMARA) Permit
Burning	Air Pollution Control District; California Department of Forestry and Fire Protection; Local Fire Control Agency	Burn Permit
Grading	Local Agency (County/City)	Grading Permit
Entering Private Property - To Gather Information For Temporary Use	Caltrans District Right of Way Branch Caltrans District Right of Way Branch	Property Owner Right of Entry Approval Property Owner Approval for Temporary Encroachment
Entering Surface Waters To Gather Information or Construct Project	RWQCB	Water Quality Certification or Waiver

***** Note that this Figure is not intended to be all inclusive.

Federal Involvement

In addition to the permits and approvals that may be required by state and local agencies and others, various federal agencies may also require permits and approvals. Federal agencies have approval or permit authority over activities on federal lands, and over certain resources (i.e., air and water quality, wildlife, navigable waters, etc.) when federal actions are undertaken. Federal laws, regulations and executive orders may have a bearing on a specific transportation project and may require approvals, permits or communication with federal agencies other than FHWA. See Chapter 2, Section 7, Figure 5, to determine which federal agencies may need to be involved due to the location, resources which are affected, or the activities that are involved in the project.

CE Projects

The environmental requirements of the various Federal laws, regulations and executive orders apply to categorically excluded (CE) projects as well as to projects requiring an environmental document. When an environmental document is prepared, these requirements are fulfilled as part of the environmental document preparation. When a CE is prepared, these requirements must not be overlooked. Federal environmental laws, regulations and executive orders are described in the EH.

Historic Properties and Wetlands

Earlier than normal public involvement may be required on projects, including CE projects, that require a federal action (funding, permits, etc.) and potentially effect historic properties or involve wetlands. Where properties eligible for the National Register of Historic Places are present or potentially present, a public mailing inviting written comments is required. Similarly, for projects involving wetlands, an opportunity for early public involvement must be provided by publishing a notice in the local newspaper inviting written comments. Refer to the EH for the public notice requirements relating to potential historic properties and wetlands.

References

To determine applicable permits and approvals required for a specific project, the *Standard Environmental Handbook* (EH) should be consulted for details. The *California Permit Handbook* published by the California Trade and Commerce Agency, Office of Permit Assistance, can provide additional guidance.

See Chapter 2, Section 7, Figure 5, to determine which federal agencies may need to be involved. Environmentally related federal laws and regulations are described more fully in Chapter 1 of the EH. Refer to EH Section 2-4 for a summation of the documentation and processing requirements for those laws and regulations that most frequently apply. EH Section 2-4.2 and EH Section 2-4.3 relate the public notice requirements for CE projects that involve potential historic properties and wetlands, respectively.

ARTICLE 3 - Cooperative and Similar Agreements

Purpose

Some projects are financed jointly by Caltrans and other local or state governmental agencies or private entities. A local or state entity responsible for water delivery or flood control or stormwater drainage may desire to include some of that work with a related highway project. A local agency may desire work on local streets and roads adjoining a state highway project, over and above what is needed for the project; or to provide additional landscaping on a state highway; or to install a traffic signal which involves legs that are local streets. A local agency may propose to totally or partially fund a state highway improvement. A developer may desire to make some improvements to

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accommodate a development adjacent to the state highway. Caltrans must enter into agreements that provide for such cooperation on a project.

Cooperative Agreements

Cooperative Agreements are used with local agencies to outline the responsibilities and obligations of the parties to the agreement, such as funding and staffing responsibility, liability, ownership, right of way, utilities, maintenance, etc. On special funded state highway projects, where a local agency provides all of the funding and staffing for a state highway improvement, there may be several cooperative agreements covering different stages of the project, such as preliminary engineering, design, and construction, where Caltrans could either provide project oversight, or do some of the work on a reimbursed basis provided budget authority exists.

Interagency and Intergovernmental Agreements

An Interagency Agreement, which is similar to a Cooperative Agreement, is used between Caltrans and another State agency. An Intergovernmental Agreement is an agreement between Caltrans and another state.

Highway Improvement Agreements

A Highway Improvement Agreement, another agreement similar to a Cooperative Agreement, is entered into between Caltrans and a private entity or developer. However, Caltrans prefers that the local agency agree to sponsor the private developer's project and that, rather than entering into a Highway Improvement Agreement with the private developer, a Cooperative Agreement be entered into with the local agency. A Highway Improvement Agreement is used where that is not possible.

No Cooperative Work Without Agreement

In the absence of a formal executed agreement, Caltrans has no legal authority or obligation to incur expenses on any cooperative work, including work on special funded projects beyond that which it is Caltrans' obligation to provide. Execution of a formal agreement is required prior to incurring any costs or committing any personnel resources.

References

Refer to Chapter 16 of this manual, and the *Cooperative Agreement Manual*, for a discussion on types of agreements, responsibilities, approvals, format, procedures and District obligations. Refer to Chapter 2, Section 5, of this manual for a discussion of requirements for special funded projects.

ARTICLE 4 - Maintenance Agreements

General

Maintenance agreements spell out the responsibility for maintaining facilities constructed on or adjacent to state routes. They also lay out the financial arrangements for assuming this responsibility. These agreements are between the Department and local agencies - never a private company or developer. Occasionally the Department enters into maintenance agreements with other state agencies. Three main types of maintenance agreements are delegated maintenance, electrical, and freeway maintenance.

Timing

Department policy on the timing of maintenance agreements is clearly spelled out in Maintenance Manual Volume 1, Chapter 1, section 17; no new cooperative agreements to maintain local facilities shall be entered in to without prior approval from the Division of Maintenance. Cooperative agreements typically include maintenance agreements as attachments. The stipulation that maintenance agreements continue regardless of the expiration of a cooperative agreement is also included in the body of the cooperative agreement, so as to emphasize the perpetuation of maintenance agreement terms regardless of cooperative agreement status.

On state route facilities, the assumption of maintenance responsibilities from a contractor occurs upon completion of a construction contract. Because electrical charges begin to accrue and hardware and other assets begin to deplete immediately upon installation, it is essential that maintenance agreements be finalized well before the advertising of a construction contract. The Department has very little leverage to negotiate with local agencies on approaches-to-cost-sharing after a construction contract is completed without finalizing a maintenance agreement ahead of time.

Cost Sharing

Cost sharing provisions of maintenance agreements typically revolve around the type of facility to be maintained. For railroad structures the Engineering Services Center, Office of Railroad Agreements typically negotiates the terms of the maintenance agreement. For electrical facilities (signals and lights) on conventional highways at intersections with local streets or roads, the costs should be shared in the same ratio as the number of legs in the intersection under each jurisdiction bears to the total number of legs. The same concept applies to interchanges involving freeway facilities and local streets and roads, except participation is based on the ratio of the number of legs of the respective agencies in relation to the total number of legs of the interchange facility.

Approval

Approval is needed from the Division of Maintenance prior to maintenance agreement execution. This authority has been delegated from the Division of Maintenance to Deputy District Directors, Maintenance. A review by the Sacramento Legal specialist in maintenance agreements is required if the pre-approved format for maintenance agreements is not used (see website address in **REFERENCE** section, below). While often times the responsibility of signing a maintenance agreement is delegated to a District Maintenance Engineer, approval cannot take place without cursory review by the Department's Maintenance Agreements Coordinator, HQ Division of Maintenance

References

General information regarding maintenance agreements can be found in the Department's Maintenance Manual Vol. 1, Chapter 1, sections 16 and 20.

Samples of each of the three basic types of maintenance agreements are available via internet through the Caltrans Maintenance website:
http://onramp.dot.ca.gov/hq/maint/obpp/obpp.htm.
They are available as WORD documents or Adobe Acrobat portable documents.

For details on electrical maintenance agreements or railroad maintenance agreements contact the HQ electrical maintenance staff or the ESC Office of RR Agreements in Sacramento.

Maintenance Manual, Vol. 1, Chapter K, page K-24, and the figures on page K-27 through K-29 should be used to examine the cost distributions of electrical maintenance agreements.

ARTICLE 5 - Route Adoptions

CTC Action

Adoption of route locations requires action by the California Transportation Commission (CTC) before a project on the new location can proceed. Route adoptions are needed to:

- Establish the location of an unconstructed route
- Change the location of an existing route to a new alignment including such conditions as:

  - Relocate an alignment adjacent to an existing route if the existing route is to be relinquished to the local agency
  - Improve an existing highway to current standards if no route adoption exists (such as occurs when a former county road is added to the State highway system by the Legislature)

- Designate an existing local road as a traversable highway (this probably involves a review of standards rather than a project)
- Transfer the location of a traversable highway to a different local road (this probably involves a review of standards rather than a project)
- Convert a conventional highway to a freeway or an expressway (this is a freeway declaration or a controlled access highway declaration)
- Temporarily connect a new alignment to an existing highway when construction is staged

Approval

The CTC's route adoption occurs at a regularly scheduled CTC meeting following a district's request to place the items on the CTC meeting agenda. A route adoption is normally a routine action if there is community support, but if there is considerable controversy, the CTC may schedule and hold a separate public hearing prior to taking any action. When a project requires FHWA's NEPA approval, the appropriate documents are submitted to FHWA following the CTC action. Route adoption of a freeway or expressway requires a subsequent Freeway (or Controlled Access Highway) Agreement with the affected local agency as discussed in Article 5 of this chapter.

References

Chapter 23 provides circumstances and procedures for CTC route adoption.

ARTICLE 6 - Freeway and Controlled Access Highway Agreements

Agreement Required to Close Local Roads

An agreement between Caltrans and the local jurisdiction authorizing a local street or road closure is required before a city street or county road can be closed by the construction of a freeway or expressway project. This is accomplished with either a Freeway Agreement or a Controlled Access Highway Agreement, which is the term used for expressways. A Freeway Agreement (or Controlled Access Highway Agreement) normally covers the entire freeway (or expressway) facility, or a large segment thereof, within the local jurisdiction. A controlled access highway is subject to all of the requirements concerning agreements that pertain to freeways.

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New Connection Requires Revised Agreement

CTC consent is required before a local public road can be connected to a freeway or expressway, as discussed in Article 8. If the new public road connection is approved, the existing Freeway or Controlled Access Highway Agreement needs to be superseded with a new agreement that shows the new connection.

Local Roads to be Relinquished

Typically, a Freeway (or Controlled Access Highway) Agreement provides for the relinquishment of local roads improved or constructed as part of a project. These facilities should be indicated on the exhibit map. The agreement serves as the basis for the subsequent request for CTC relinquishment action following construction, as discussed in Article 6.

Maintenance Agreements are Separate

Freeway (or Controlled Access Highway) Agreements are used as the basis for establishment of Maintenance Agreements with local agencies. However, freeway agreements are not to be used as Maintenance Agreements. Instructions on Maintenance Agreements are issued by the Division of Maintenance.

References

Chapter 24 of this manual discusses Freeway and Controlled Access Highway Agreement requirements. Also refer to related Chapter 27, "New Public Road Connections to Freeways", Chapter 25, "Relinquishments", and Streets and Highways Code Sections 23.5 and 100.2.

ARTICLE 7 - Relinquishments

CTC Resolution

The relinquishment of a state highway (or roads and streets built in conjunction with a state highway) to a local agency is accomplished by a CTC resolution. This resolution is requested following construction of a project, after work on the facility to be relinquished is completed and the facility is no longer needed for state highway purposes.

The Caltrans district must submit information through the Right of Way Engineering function for the CTC to relinquish to the county or city the portion of a superseded State highway within the county or city. The information is prepared four months in advance of completion of construction to accommodate a ninety day notice period to allow the local agency to state reasons and objections that the highway is not in a "state of good repair". Caltrans is obligated to place the facility in a state of good repair before

relinquishment. The scope of work and cost of the repair work should be included in the Project Report and in the project approval of the project to construct the new highway.

When Relinquishment is Needed

Caltrans initiates relinquishment action by the CTC when:

- a route is superseded by relocation,
- a route is deleted from the State Highway System by legislative enactment, or
- new construction or improvements to the local road system (collateral facilities) are made by Caltrans in connection with a State highway project.

Agreement or Resolution

Relinquishments of collateral facilities are made in accordance with an agreement with or resolution by the local agency's governing body. The Freeway Agreement (or Controlled Access Highway Agreement), discussed in Article 5, often is used for this purpose.

References

Chapter 25, "Relinquishments", contains the details of the relinquishment process.

ARTICLE 8 - Disposal of Rights of Way

Request to Decertify R/W

A project may involve the disposal of existing operating right of way. District Directors have the approval authority to decertify and dispose of rights of way on operating facilities; this may include land, access rights, or both. The PE from the responsible unit prepares the request to decertify right of way for the District Director's approval. Since right of way information is required, the PE must coordinate the preparation of the request with the Right of Way Branch. Where there has been federal funding of right of way or construction, the FHWA must approve the disposal of right of way.

References

See Chapter 26 of this manual for information needed for requests for approval to decertify and dispose of rights of way on operating facilities. Also see related material in Chapter 24, "Freeway Agreements", and Chapter 27, "New Public Road Connections to Freeways".

ARTICLE 9 - New Public Road Connections

CTC Consent

CTC consent is required prior to providing a new public road connection to a freeway or an expressway. This requirement applies after a freeway or expressway is initially constructed. It may also apply to the initial construction, if the road to be connected did not exist at that time of the freeway or controlled access highway adoption, or if the connection is not shown on the current Freeway or Controlled Access Highway Agreement. Some proposals for access openings to expressways may not be considered to be a public road connection and may involve the procedures to dispose of operating right of way as discussed in Article 7.

New or Revised Interchanges

Related to CTC approval of new public road connections is the conceptual approval of new or revised interchanges. Revised interchanges may or may not be considered new public road connections. If a new or revised interchange is on the Interstate System, FHWA conceptual approval is required prior to approval of the project initiation document.

Requires Revising Agreements

The existing Freeway or Controlled Access Highway Agreement must be revised to show CTC approved new connections of city streets or county roads or highways and other revised interchanges, as discussed in Article 5.

References

Procedures relating to new public road connections to freeways and expressways, and for new or revised interchanges, are discussed in Chapter 27. Also see Chapter 24, "Freeway Agreements", for additional information.

ARTICLE 10 - Resolutions of Necessity for Condemnation

Property Acquisition

Caltrans strives to acquire property by purchase, rather than by condemnation. Providing sufficient lead-time in the project development process for negotiations to take place results in fewer situations where it is necessary to invoke the power of eminent domain to condemn the property. The condemnation process is time consuming and can delay projects. Eminent domain should normally be used as a last resort. Only a small percentage of acquisitions should be by the use of the power of eminent domain.

Condemnation Requires Resolution of Necessity

The California Constitution provides that private property may be taken or damaged for public use only when just compensation has first been paid to the owner. Condemnation of private property by the power of eminent domain must follow prescribed rules. When Caltrans and a property owner are unable to reach agreement on acquisition of a needed property, the condemnation process is initiated by the CTC passing a Resolution of Necessity (RON). The RON provides the legal findings necessary for Caltrans to file suit.

CTC Appearance by Property Owner

A property owner whose property is to be considered for a RON has the right to appear before the CTC to contest the RON on grounds related to the need for the project and for acquiring the property - but not on compensation issues. An Appearance Information Sheet (AIS) is used to inform the CTC of the facts leading to the RON appearance and to document the property owner's concerns.

Reviews

In order to fully consider the concerns of property owners who request an appearance before the CTC, a detailed procedure, known as a First Level Review and a Second Level Review, and involving a Condemnation Review Panel, is used to determine whether to proceed with the condemnation.

References

Information on the process used for a RON when an appearance is requested is discussed in Chapter 28.

CHAPTER 14 – Preparation of Project Plans

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CHAPTER 14 - Preparation of Project Plans

SECTION 1 General

Design Phase

The design phase spans the project development process from the development of preliminary plans through the submittal of contract documents for advertisement. The contract documents consist of the following:

- Plans, specifications, and estimates (PS&E).
- Supplemental project information which is relevant to the project and made available to bidders.

Laws

Public Contract Code Section 10120 requires that Caltrans prepare full, complete, and accurate plans, specifications, and estimates of cost before entering into a contract for a project. In addition, the Supreme Court's Spearin Doctrine requires Caltrans, as the owner-operator, to give an implied warranty that the plans and specifications will be adequate to carry out the project if the contractor complies with the plans and specifications. Consequently, the construction project must comply with Caltrans' right of way, environmental, design, and the Federal Highway Administration's (FHWA) standards. Advertisement of a construction project is constrained until these requirements are met. See Chapter 8 of this manual for an overview of the project issues that may create an advertising constraint. For a comprehensive list of which requirements must be met before a project is advertised, see *The Ready to List and Construction Contract Award Guide (RTL Guide)*.

Initiate Project Design

Project design is initiated by obtaining a 1-phase (design) expenditure authorization (EA) at project approval.

Construction Contract Standards

To ensure that the PE, as the engineer of record for the contract, complies with the law and court decisions, Caltrans developed the following construction contract standards:

- Standard Specifications.
- Standard Special Provisions.
- Standard Plans.

The PE shall use standard special provisions (SSPs) and standard plans in the contract documents. If, after consultation with the district office engineer (DOE), it is determined that a specific SSP or standard plan is not appropriate, the PE and DOE shall move forward with the process for approval of a modification which can be found in the *RTL Guide*. See the *Plans Preparation Manual* on the use of modified standard plans.

SECTION 2 Preliminary Plans

ARTICLE 1 General

The main activities in producing a preliminary set of plans are the completion of geometric base maps, the submittal of structure site data, the submittal of maps to the right of way (R/W) unit, and the circulation of skeleton layouts.

The project engineer's (PE) responsibilities during the design process include the following:

- Prepare quality plans that meet Caltrans standards, practices, and policies.
- Prepare project cost estimates and monitor costs to keep the project within budget.
- Develop cross-sections.
- Utilize available resources to maintain project schedules.
- Monitor the project scope to ensure consistency with previous approvals.
- Inform the project manager (PM) of any cost, scope, or schedule changes that may be required for the project.

Revisions to the scope, schedule, or cost of a project require a program change request. If the change in scope is significant, a supplemental project report and an environmental reassessment may be needed. The project plans must otherwise be consistent with the project description identified during the environmental studies.

Request Additional Data

Project design requires the continuous review and update of data. Examples of information that should be obtained for the development of preliminary plans are listed below.

- Mapping and Surveys Data

  With input from the functional units, the PE requests the district surveys unit to conduct any field surveys required to accomplish the design of the project. The district surveys unit is also responsible for coordinating with the Headquarters Photogrammetry Section to provide any required topographic mapping.

- Materials Report

  The materials report is prepared by the district materials unit to determine pavement structural sections and to recommend slopes for excavation and embankment. Concurrence should be obtained from local agencies for the design of structural sections on local streets and roads. Topics discussed in the report may also include slope stability, seismic considerations, availability of materials, and other related information.

- Drainage Report

  The drainage report is usually prepared by the hydraulics unit to establish basic drainage requirements and to allow for the early design of box culverts, sanitary sewers, cross drainage, and other drainage facilities. Drainage designs should be reviewed by the maintenance unit and local agencies as appropriate.

- Traffic Data

  Updated traffic projections and design designations should be requested from the planning branch. These are used to verify that the capacity and other operational characteristics of the proposed improvements are adequate for the design year. Traffic volumes are also required to calculate the equivalent single-axle load (ESAL) and traffic index, which both determine the design of the pavement structural section.

Identify the Ready-to-list (RTL) Constraints Applicable to the Project

Identify and begin the process for clearing RTL constraints at the beginning of this phase. Some issues must be resolved in order to provide the information necessary to develop the contract documents. Some issues have long lead times for resolution and must begin well in advance of the RTL milestone. Examples of RTL constraints are:

- Impact mitigation for historical structures and biological features.
- The project information on foundation investigations, retaining walls, and noise barriers.
- Cooperative agreement for construction oversight.
- Hazardous waste.
- Permits.

- Railroad agreements.
- Freeway agreements with local agencies.
- California Transportation Commission (CTC) Route Adoptions or CTC consent to new public road connections.
- Sole source or proprietary items.
- Non-standard special provisions or plans approval.

Other Considerations

During the initial stages of the project design process, various project scope and project-related activities should be initiated and monitored. Examples of areas to consider include:

- Relinquishment and abandonment procedures.
- Maintenance agreements for responsibility after construction.
- Transit and rail facilities.
- Recycling should be incorporated into the project whenever appropriate; available hardware may be found in the statewide inventory of salvaged highway hardware. In addition, all contracts should identify highway hardware and other material that has the potential for reuse or salvage, rather than disposal.

Experimental Features

The PE may be requested to use an experimental feature on the project. This request could come from within or from outside of Caltrans, or it may come about through the initiative of the PE. A feature is generally considered experimental whenever it is a non-standard item or process, or a proprietary item is specified. For the Federal Highway Administration (FHWA) to participate in the cost of the experimental feature, they must approve a work plan describing the experimental feature and illustrating how Caltrans will construct it and evaluate its performance under the Construction-Evaluated (C-E) Program. The C-E Program's intent is to field test the constructability and performance of promising new products, techniques, and methods relating to highway facilities. For additional information on the C-E Program, see the *C-E Program Guidelines* at www.dot.ca.gov/hq/oppd/guidance.htm.

To obtain federal approval for an experimental feature to be included as a contract item, a finalized work plan should be submitted to the Resource Conservation Branch

of the Division of Design (DOD) a minimum of four weeks prior to project advertisement. Since site suitability is often a key factor, agreement with the Headquarters unit responsible for that functional area should be obtained prior to submittal. Although not the preferred method, an experimental feature can be included as a "contract change order" on an ongoing contract.

If a proprietary item is involved, approval must be obtained from the District Director or designee; all requests on structure items must be approved by the Chief, Division of Engineering Services. Copies of the approval letters must be attached to the work plan when submitted to the Division of Design; Attention: Office of CTC Highway Appearances, Highway Encroachments and Resource Conservation - Proprietary Item Work Plan. Refer to Section 602.1 (6) of the *Highway Design Manual* for further information.

ARTICLE 2 Geometric Base Maps

Development of Geometric Base Maps

A preferred alternative was selected during the project approval process and must now be refined to produce geometric base maps, typical sections, and profiles. Preferably, the development of alternatives was performed using controlled aerial mapping, which can easily be transformed into geometric base maps.

For some projects, as-built plans or photo mosaics may be sufficient. The geometric base maps must show existing topography and proposed engineering features. Accurate mapping is needed for all subsequent design activities, such as determining right of way needs, designing drainage facilities, developing traffic plans, etc.

While preparing the base maps, it is appropriate to update the strip map developed during earlier project studies. The strip map is distributed as an attachment to requests for project data and other correspondence.

Review by Functional Units

Geometric base maps should be sent to appropriate functional units to identify problems that are easier to correct at early stages of design and to establish a foundation for skeleton layouts. Comments from maintenance, hydraulics, landscape architecture, structures (to determine railroad involvement and easement requirements), and traffic operations are particularly useful.

Review by External Agencies

Contacts with external organizations were initiated earlier in the project development process; these relationships should be maintained throughout the design process. Local agencies should be allowed an opportunity to review the geometric base maps and to comment on the design of frontage roads, intersections, and other local facilities.

Coordination should also be maintained with any affected agencies that issue permits, such as the State Lands Commission, U.S. Coast Guard, State and local reclamation boards, California Department of Fish and Game, Regional Water Quality Control Board, U.S. Army Corps of Engineers, Department of Parks and Recreation, etc. To facilitate the permit process, these agencies should be encouraged to perform an early review of the geometric base maps.

Design Approvals

The determination of final vertical and horizontal alignment is necessary for the completion of geometric base maps. At this stage, interchange and intersection details have also been established, and all preliminary geometrics should be reviewed by the PM prior to finalizing the maps. Comments on the geometric base maps should be requested from the DOD design reviewer and design coordinator, and the approval of any additional proposed exceptions to mandatory design standards must be obtained. For projects on the Interstate System with construction costs exceeding $1 million and for projects involving special structures as defined in Chapter 2, a review of the geometric base maps and the preliminary design should also be requested from the FHWA liaison engineer.

ARTICLE 3 Cross-sections

Earthwork cross-sections are a vital component in the development and construction of many projects. Cross-sections are necessary throughout the development of a project.

Cross-sections

- Assist the designer in developing the most efficient way to handle the earthwork items.
- Assist the bidder in understanding the scope of earthwork to be performed.

- Are used by district survey units, district construction units, and the contractor to construct the project as designed.

Cross-sections shall be developed for all projects, regardless of sponsor, that include any of the item(s) for roadway excavation or imported borrow except for the following exemptions:

- Projects that are exclusively resurfacing.
- Projects that are exclusively highway planting.
- Projects that are exclusively building construction with no improvements to parking or heavy equipment storage facilities. (No roadway construction.)
- Projects where minimal or no grading is required, as determined during reviews with surveys and construction, such that sufficient information is contained in typical cross-sections, profile grade, contour grading and/or other plan sheets, or that the average-end area calculations are not to be used for payment purposes.

For projects that have earthwork and where cross-sections do not improve the constructability of the project, an exception to the requirement for cross-sections preparation may be obtained. The exception process is as follows:

The decision to not prepare cross-sections shall be made as early as possible. District deputies for construction and surveys must concur with this decision in writing.

The District Director shall approve project-specific exceptions to this cross-section preparation policy. This authority may be delegated not lower than the Deputy District Director for Design.

A memorandum stating the reason(s) and justification(s) for not preparing cross-sections must be included in the plans, specifications, and estimate (PS&E) submittal package in order to certify the RTL milestone. The memorandum shall include the signatures of district construction and district survey representatives indicating their concurrence.

For additional information about cross-sections, refer to *CADD Users Manual*.

ARTICLE 4 Bridge Site Data Submittal

Prepare Site Plans

The Office of Structure Design (OSD) of the Division of Engineering Services (DES) is responsible for the design of all bridges, pumping plants, pedestrian structures, and nonstandard retaining walls, noise barriers, culverts, and other highway- and transit-related structures. A site plan must be prepared for each structure and submitted to OSD using standard forms. (Contact the DES project functional manager for preparation guidance and see Appendix KK for sample Bridge Site Data Submittal forms.) The site plans should include survey base lines, alignments, profiles, typical cross-sections, benchmarks, proposed geometrics, and topography. The submittal is not considered complete until all data is supplied accurately. Four copies of the bridge site data submittal should be sent to the Office of Program and Project Management in the DES. For additional details, see the *Plans Preparation Manual*.

Structure Preliminary Report

After receiving the bridge site data submittal, OSD prepares the structure preliminary report (and a preliminary foundation site plan, if needed) describing the design features for the structure. The report is sent to the district for review to ensure compliance with the project's geometric requirements. After the district's comments are incorporated, structures design is initiated.

ARTICLE 5 Right of Way Submittal

Determine Right of Way Requirements

During the project approval process, the right of way (R/W) data sheet was prepared using preliminary maps, assessor's maps, record maps, and property ownership maps. However, substantial changes to right of way requirements can occur during the design phase. After geometric design features have been completed, slope catch lines are plotted on the geometric base maps and right of way requirements are established according to the minimum offsets described in the *Highway Design Manual*. When determining right of way widths, reasonable allowances should be made for possible future design revisions. In addition, easements may be required for maintenance access, drainage, noise barriers, material sites, utilities, construction work areas, etc.

Send Maps to Right of Way

After right of way requirements are determined, geometric base maps describing the requirements are submitted to R/W engineering to provide a basis for the appraisal process.

Prepare Appraisal Maps

The geometric base maps are used to order title reports and prepare appraisal maps. The appraisal maps indicate the sizes of the parcel takes and remainders, and show engineering details that may affect property appraisal values, such as fences, gates, water wells, and driveways. Other map items include potential excess lands (for construction detours, contractor's yards, etc.) and government easements (for improvements on U.S. Forest Service land, etc.).

Certificate of Sufficiency

The completed right of way appraisal maps are reviewed by the PE to verify that the designated right of way lines are required to construct the project. A certificate of sufficiency and hazardous waste relating to the parcels contained in an appraisal report is then requested by the R/W branch and signed by the PE, the PM, and the Deputy District Director for Design. See Chapter 18 of this manual for further discussion of the hazardous substance disclosure document (HSDD) attachment to the certificate of sufficiency.

Initiate Right of Way Appraisals

After appraisal maps are certified and the appraisal process is initiated, the R/W branch establishes the fair market value of required parcels, which determines the offers made to parcel owners.

ARTICLE 6 Skeleton Layouts

Circulate Skeleton Layouts

The skeleton layouts consist of geometric base maps showing topography, proposed geometric features, and right of way. The layouts are divided into plan-sized sheets (with no overlapping details) and distributed to the functional units for use in developing their portion of the PS&E. Pavement delineation, drainage, planting and irrigation, and other work may be superimposed on the skeleton layouts to produce special-purpose plan sheets.

Typical Cross-Sections

To provide complete information, typical cross-sections are prepared and accompany all skeleton layouts.

Typical cross-sections are based on details provided in the project report and the materials report.

SECTION 3 Final Plans

ARTICLE 1 General

Conduct Detailed Project Design

Skeleton layouts were previously distributed to applicable functional units. They are now utilized to prepare final plans. Quantity calculations, contract specifications, and other elements of detailed design must also be completed at this stage. After the functional units deliver their portions of the plans, specifications, and estimate (PS&E), the project engineer (PE) consolidates the plans and circulates them within the district for review.

Special Considerations

As final plans near completion, it should be confirmed that all special considerations for the project are being resolved. These considerations may be constraints to advertisement of the project. Examples of special consideration are:

- Hazardous waste cleanup.
- Railroad Agreements.
- Approval of material and disposal sites.
- Water well abandonment procedures.
- Aesthetics review.
- Transportation management plan.
- Environmental mitigation commitments.

For a comprehensive list of requirements that must be met before a project is advertised, see *The Ready to List and Construction Contract Award Guide (RTL Guide.)*.

ARTICLE 2 Final Maps to Right of Way

Final Right of Way Requirements

Right of way requirements were submitted after the completion of the geometric base maps, but design refinements may result in changes to these requirements. If necessary, updated maps should be sent to the right of way (R/W) unit so that

appraisal maps can be revised to reflect the additional or modified parcels or easements.

Acquisition & Clearance

The R/W unit begins the acquisition process for each parcel as soon as the appraisal of that parcel has been completed. When the appraisals of the last additional or modified parcels are completed, the acquisition of those parcels is begun. Clearance of improvements is accomplished by the implementation of a property management plan, which is prepared by the R/W unit. Basic elements of the plan include the following:

- Issue 90-day relocation notices to the property owners to vacate their property.
- Initiate and implement sale of buildings and provide necessary monitoring to ensure that clearance is timely.
- Perform demolition and clearance contracts, as necessary.

If required, a relocation assistance plan will be implemented.

Condemnation Procedures

If negotiations with a property owner have been unsuccessful, the condemnation process may be initiated. Condemnation of property through eminent domain is initiated through a resolution of necessity, which is requested from the California Transportation Commission (CTC). (See Chapter 28 for details.) Following the CTC's adoption of the Resolution of Necessity, Orders of Possessions must be acquired from the courts to provide for possession after 90 days.

ARTICLE 3 Bridge General Plans

Bridge General Plans

The bridge site data submittal and the structures preliminary report are used to prepare the bridge general plans. The plans provide a description of the bridge type, dimensions, aesthetics treatment, and cost estimates. The Office of Structure Design (OSD) transmits the plans to the district for review before continuing with detailed structure design.

Falsework Approval

The PE should review the general plan falsework openings for conformity to current standards. Nonstandard vertical falsework clearances must be approved by the design coordinator. Nonstandard horizontal clearances require approval from the District Director, with concurrence from the design coordinator. If bridge construction involves falsework on local streets or roads, concurrence should be requested from the local agency. For more information on falsework, see the *Highway Design Manual*, Index 204.6.

Development of Bridge PS&E

After the PE's concurrence is obtained for the bridge general plan, the development of bridge plans and quantity calculations can begin. Foundation studies are conducted by the OSD, in conjunction with the Structure Foundations branch, of the Office of Structural Foundations of DES. The structures foundation report and other information are used to develop the bridge unchecked detail sheets. These details are again reviewed by the district before OSD proceeds with the preparation of the bridge PS&E.

ARTICLE 4 The Project Plans

Plans Prepared by Project Engineer

Project plan preparation complies with the standards set forth in the *Plans Preparation Manual*. Computer-aided design and drafting (CADD) should be utilized to the maximum for project plan preparation and should conform to the standards and procedures contained in the *CADD Users Manual*.

The project engineer (PE) prepares the majority of the project plans. These usually include the layout sheets, typical cross-sections, profile sheets, construction details, drainage sheets, quantity summary sheets, etc.

Plans Prepared by Functional Units

The following are examples of plans prepared by the functional units:

- Landscape architecture prepares plans for new and replacement planting, irrigation crossovers and systems, electrical service for automatic irrigation systems, environmental mitigation planting, erosion control, etc.

- Traffic prepares plans for pavement delineation, construction area signs, traffic handling (including staging and detours), etc.
- Traffic electrical prepares plans for signal and illumination, power supply, and railroad electrical requirements.
- Utilities prepare plans for relocation of utilities during the construction contract.

ARTICLE 5 Final Quantities

Quantity Calculations

Project cost estimates are continuously updated throughout the project development process. As more information becomes available, specific contract items of work are identified. The quantities of these items are calculated and tabulated on a plan sheet labeled "Summary of Quantities."

Unit Price Analysis

Project cost estimates should represent the fair and reasonable price the State should expect to pay for each item of work to be performed. Determining appropriate unit prices for individual contract items requires an analysis of recent bid prices for similar projects or an analysis of current labor, equipment, and materials costs. The district office engineer unit can provide bid summaries, the contract items by Item Number Report, Annual Cost Data books, and other relevant information. (For more information, see Appendix BB, "Project Development Cost Estimates.") After final quantities and unit prices are determined, they should be entered into the Basic Engineering Estimating System (BEES).

SECTION 4 PS&E Submittal

ARTICLE 1 General

Complete Project Design

The project engineer (PE) works with the district office engineer (DOE) unit to prepare the PS&E package, which is then submitted to the Division of Engineering Services Office of Engineer (DES-OE) for eventual contract advertising. For greater detail, see the *Ready to List and Construction Contract Award Guide (RTL Guide.)*.

Review for Current Standards

Revisions to design standards, standard plans, and standard special provisions are issued with a stated effective date, after which the new or revised standards will be followed. The design standard revisions are issued with a change transmittal memorandum that identifies any revisions that involve special implementation procedures requiring mandatory implementation as late as completion of construction.

In general, revisions to design standards in the *Highway Design Manual(HDM)*, *Traffic Manual*, *Bridge Manuals*, *Design Information Bulletins*, and interim manual changes that may be issued by Caltrans, must be included in the PS&E prior to submittal to DES-OE. Refer to the *HDM*, Index 82.5, for more information on the effective date for implementing revisions to design standards.

Use of Standard Plans

The standard plans will not cover each and every condition, therefore revisions will occasionally be required in order to fit the given situation. For the policy on the use of non-standard plans, see Section 1 of this chapter. For further information on the process for use of non-standard plans, see *The Ready to List and Construction Contract Award Guide (RTL Guide.)*. For bridge items, see the *Bridge Design Details Manual* for additional requirements.

Local Agency Review

Local agencies have had opportunities to review and comment on the project throughout the project development process. Their comments should be minimal at the final stage of design. The plans, specifications, and estimate (PS&E) package should be sent to the local agency staff for final review and concurrence. Any

appropriate changes should be incorporated. Particular attention should be given to comments from the local agency on construction road closures and on improvements to facilities that will eventually be relinquished to them.

The Federal Highway Administration (FHWA) Review

The FHWA may have been involved with various reviews and approvals throughout the life of the project. At the PS&E stage, all projects on the Interstate System (except resurfacing, restoration, rehabilitation [RRR] projects) require final approval via submittal of a draft standard form (FNM76) to the district office engineer, who forwards it to the HQ Office of Federal Resources and Grants.

Safety Review

The district safety committee is responsible for reviewing all projects for compliance with safety standards. After reviewing the PS&E package, the committee prepares a safety report or letter. Appropriate reference should be included in the PS&E submittal. See the *HDM*, Index 110.7, for details.

Review for New or Revised Standards

Revisions to design standards are issued from time to time and have a stated effective date. The project will be designed to current standards unless an exception is approved. Refer to the *HDM*, Index 82.5, for details.

Funds Request

All State-funded projects, except "Minor B" projects, have funding approved by vote of the California Transportation Commission (CTC). A project's funds request should be reviewed by appropriate district units and signed by the Deputy District Director for Program/Project Management. The request is sent to the Headquarters Division of Budgets, which administers the voting process and submits the request to the CTC.

If highway planting is to be installed as a separate contract, it is to be funded from the parent highway project at the time the parent project is voted by the CTC and PS&E scheduled.

ARTICLE 2 Environmental Reevaluation

Environmental Reevaluation Process

The environmental reevaluation process was established to confirm that the conclusions in the final environmental document remain valid. Changes to the project during design, changes in environmental impacts, or changes in environmental laws, may cause impacts not addressed in the original document and may require additional environmental study, documentation, and mitigation. Examples include expanded hazardous waste identified during cleanup operations, additional right of way requirements to accommodate for slope stability, unanticipated drainage considerations, or the listing as a federal endangered species of a new species that the project may impact.

The environmental unit reviews the project for environmental compliance to allow the PS&E development process to continue if no significant additional impacts are identified. The reevaluation should be documented in the PS&E package.

Permits

The environmental reevaluation should include a review of the permits required from regulatory agencies. The review should verify that all permits have been issued, that they are still compatible with the proposed construction, and that expiration dates are current.

Mitigation

Impact mitigation measures should be incorporated into the various portions of the PS&E. A review of the PS&E for environmental commitments, hazardous waste remediation, and material sites should also be included in the environmental reevaluation.

ARTICLE 3 Right of Way Certification

Request R/W Certification

Before a construction project can be advertised, the right of way (R/W) branch must certify that the right of way has been acquired. All projects require certification, even if no new right of way is involved.

If appropriate, the project engineer (PE) should also request the district railroad liaison in right of way to obtain a railroad clearance memorandum from the Division of Structures. After the clearance memorandum is received, the R/W branch certifies the right of way.

Types of Certification

The three types of right of way certification are defined below. A project can be advertised with a Certification No. 3, but it must be upgraded to a No. 1 or No. 2 three weeks prior to bid opening.

- No. 1 Certification indicates that all property has been acquired.
- No. 2 Certification indicates that all property has been acquired or that orders for possession have been obtained.
- No. 3 or No. 3 Workaround Certification indicates that the right of way process is in order, but acquisition or orders for possession will not be completed until a certain date.

ARTICLE 4 Preparation of Contract Documents

Submittal to District Office Engineer

After incorporating comments collected during district circulation, the PE completes the draft PS&E package and forwards it to the district office engineer (DOE) unit (see *RTL Guide*). Some of the items included in the package are listed below:

- Cover Memorandum.
- Ready-to-List (RTL) certification – a summary of the status of external constraints (permits, agreements, etc.).
- Special provisions (in some districts, the special provisions are compiled by DOE)
- Basic Engineering Estimating System (BEES) cost estimate.
- Right of way certification.
- District drafting plan review checklist.
- Copy of request for funds.
- PS&E computer-aided design and drafting (CADD) submittal form.
- Railroad clauses.

- Copies of documents for information handout.
- Project plans.
  - To meet RTL certification, the district-region construction duty senior shall provide to the DOE one of the following documents:
- A verification memorandum stating that final cross-sections were received.
- A verification memorandum stating that cross-sections are not required under the above policy criteria.
- An approved exception memorandum as described under "Exception to Delivery of Cross-sections at RTL" below.
  - Final cross-sections shall be made ready for distribution to potential bidders no later than the project advertisement date.
  - The DOE unit is responsible for ensuring the completeness, quality, and consistency of all PS&E packages. After combining the Structures and district portions of the PS&E, DOE finalizes the package and submits it to Division of Engineering Services Office of Engineer (DES-OE) for processing. Structures final contract tracings or electronic files are submitted to DES-OE by the Office of Structures Design upon two-week notice from the DOE.

Exception to Delivery of Cross-Sections at RTL

Exceptions to the policy that cross-sections shall be completed by RTL can only be granted by the Division Chief of DOD. The Deputy District Director for design may request an exception to the requirement for the delivery of cross-sections by RTL. This request cannot be sub-delegated.

As part of this request, the district shall provide details regarding the past fiscal-year delivery of cross-sections for all projects with earthwork. This information should include if cross-sections were prepared and when they were delivered to bidders, or an explanation for not providing cross-sections.

This exception grants the district the ability to deliver cross-sections after the RTL date, but before the advertisement date. This exception does not relieve the district from the responsibility of preparing cross-sections. Projects will not be advertised without final cross-sections available for bidders' use.

The PS&E submittal must indicate when cross-sections will be available in order to certify the RTL milestone. The memorandum shall include the signatures of district construction and district survey representatives indicating their buy-in.

For additional information about cross-sections, refer to the *CADD Users Manual*.

Submittal to HQ Office Engineer

Construction Contract Ready for Advertisement – District Director Delegation

If the authority to approve advertisement has been delegated to a District Director, the DOE unit produces a draft contract ready (DCR) for the PE's seal and signature. These projects are listed immediately for advertisement, without verification by DES-OE. The RTL Guide lists the services that are provided by DES-OE for these types of projects.

Construction Contract Ready for Advertisement – No District Director Delegation

If the authority to approve advertisement has not been delegated, the DOE unit submits the PS&E to DES-OE.

- DES-OE performs an errors and omissions review of the PS&E and sends a draft construction contract (DCC) with comments to the district for response.
- After the comments have been resolved by the PE and the PE resends the PS&E to DES-OE, then DES-OE produces a DCR for the PE's seal and signature.

See the *RTL Guide* for more detail.

Chapter 15 – Final Project Development Procedures

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CHAPTER 15 - Final Project Development Procedures

SECTION 1 Contract Procedures

Prepare Project for Advertising – No District Director Delegation

The Division of Engineering Services-Office Engineer (DES-OE) is responsible for verifying that all aspects of the plans, specifications, and estimate (PS&E) are complete before preparing the project for advertising. All permits must be current, right of way must be certified, freeway and cooperative agreements must be executed, and the necessary funds must be voted by the California Transportation Commission (CTC).

After all corrections have been made to the PS&E, the final product is assembled and "boilerplate" language is added (legal language specific to a particular type of project). The Basic Engineering Estimating System (BEES) estimate (Final Engineer's Estimate) is locked after a draft contract is ready for advertisement once ready-to-list requirements are met. A locked BEES can only be changed by the DES-OE. All contract documents are then reproduced for distribution to prospective bidders.

Prepare Project for Advertising – District Director Delegation

The authority to execute all documents leading to project advertising for selected projects has been delegated to the specified District Directors as shown in their executive authorization memorandum. The memorandum is updated annually and available through the Calrans Administration, Division of Staff Development & Workforce Planning, Office of Resource Management. When the District Director elects to exercise their delegation, they will certify that plans, specification, estimates of cost, and all forms necessary to advertise and fund the project have been prepared, executed and are on file in Caltrans. The project must be in final form and ready for advertisement.

Addenda

After the project has been listed for advertising, additional information may become available that would affect the bidding process. At the request of the district, an addendum may be issued by DES-OE prior to bid opening to notify prospective bidders of any errors, omissions, or conflicts in the bidding documents.

Advertise and Award

The duration times for advertising are based on the cost and complexity of the project. These time durations are summarized in the *Ready to List and Construction Contract Award Guide (RTL Guide)*. Bid openings for projects (except "Minor B" projects) are coordinated by DES-OE. After the opening, the contract is awarded to the lowest responsive and responsible bidder, provided that sufficient funding is available. The district is responsible for providing DES-OE with a recommendation to award within 5 days of the bid opening. The contract is executed by the contractor and Caltrans. The Caltrans Legal Division approves the contract for the Attorney General, and the contractor is notified of contract approval. For further information on the bid review and contract approval process, see the *RTL Guide.*

SECTION 2 Construction

Resident Engineer File

After the contract is advertised and awarded, the project is ready for construction. The project engineer (PE) is responsible for furnishing the resident engineer (RE) with any pertinent project data required to administer the construction contract. The information is compiled in an RE file and appropriate items to be placed in this file include, but are not limited to the following:

- Calculations (quantity calculations, structures movement rating sheets, etc.).
- Right of way clearance letters.
- Foundation studies and geology report.
- Falsework clearances and calculations.
- Agreements and permits.
- Hazardous waste contracts (if hazardous waste is not removed prior to construction).
- Right of way contracts and obligations.
- Project cost estimates.
- Safety review report.
- Aesthetics report.
- Drainage report.
- Materials handouts, including tests.
- Final environmental review and reevaluation, listing required mitigation (include permits).
- Funds request and CTC vote.
- Contract documents.
- Exceptions to mandatory and advisory design standards.
- PE (designer) notes.
- Preliminary progress schedule, structures working day schedule, etc.
- Cross sections.
- Pending relinquishment actions (to inform R/W Engineers four months before completion of construction)

Refer to Appendix GG for a RE File Checklist.

Survey File

The survey file (SF) is a compilation of electronic design data generated during the development of the plans, specifications, and estimates (PS&E).

The engineer of record, typically the PE, provides an accurate and complete SF to the project surveyor by the ready to list (RTL) date. The district office engineer verifies the delivery of the SF upon submittal of a completed verification of survey file delivery letter. The SF data must be accurate, complete, and timely to minimize costly delays, claims, contract change orders, and re-staking charges during construction. The SF should be included in all constructability reviews and throughout the development of projects without constructability reviews, e.g. minor projects, to drive consultation and communication on project issues.

The SF is critical to the construction of a project as:

- The project surveyor uses the SF to prepare construction staking packages for the survey crews, enabling them to complete the RE's construction staking requests in a timely and effective manner.
- A review of the SF by the project surveyor provides an important quality control check of project constructability prior to construction.
- SF facilitates the use and integration of automated systems; e.g., computer-aided design and drafting (CADD) systems, automated surveying systems, machine guidance construction technology, etc.

The PE and the project surveyor are encouraged to work together to determine the level of information to be included in the SF as soon as the scope of the project is well defined. These actions help identify and resolve problems during the design phase and assure the SF and contract plans are consistent by contract approval.

For additional guidance on developing survey files refer to the *Project Development Procedures Manual (Appendix QQ)* and the *CADD Users Manual*.

Construction Activities

Activities performed during the construction of a project are described in the Construction Manual. These activities include the following:

- Inspection for compliance to contract plans and specifications.
- Testing of materials.
- Public relations.
- Measurement and payment for work performed.
- Processing contract change orders.
- Oversight for local agency contracts.
- Maintaining contract and permanent records.

Coordination

Prior to the start of construction, a meeting must be held between the RE and the contractor (and appropriate subcontractors) to discuss the plan of work. To review the project, a separate preconstruction meeting should be held between the project manager (PM), the PE, the RE, and any other interested parties. Topics to be discussed include right of way obligations, materials sites, traffic handling, environmental commitments, potential maintenance problems, and project scheduling.

During the course of constructing the project, it may be necessary to hold subsequent meetings to discuss complicated design features or to resolve unanticipated problems. The PM must monitor the progress of the contract to ensure adherence to all permits, right of way obligations, agreements, environmental mitigation, and other project commitments.

Contract Change Orders

If revisions to design features are required, the contract change orders (CCO) must have review and concurrence by the PE and must be approved by the PM before execution. Any changes that require exceptions to mandatory design standards shall be approved by the design coordinator prior to CCO execution. Exceptions to advisory design standards should be approved in accordance with district procedures. See Chapter 21, "Exceptions to Design Standards", for further information.

The RE is responsible for contacting the environmental unit to determine the impact of proposed changes to any environmental obligations. Proper coordination between all involved parties is needed to expedite decisions and minimize delays to the contractor.

SECTION 3 Project Completion

Contract Acceptance

The improvements belong to the contractor for the time period during construction. Upon completion of construction, the resident engineer (RE) recommends acceptance of the contract as the representative of the State. HQ Division of Construction ultimately accepts the construction contract for the Director of Caltrans. Local agency officials are involved in the process for those projects financed or constructed by the local agencies, but acceptance rests with the State for the portion of the project that is within the State right of way. When the contract includes work on local agency facilities, the local agency officials must be involved in the acceptance reviews.

Upon contract acceptance, the RE must assemble the final construction project records as described in the *Construction Manual*. The proposed final estimate is then transmitted to the contractor for acceptance. Claims from the contractor for specific items of work or liquidated damages may result in a lengthy process for reviews and negotiations.

Maintenance Agreements and Relinquishment Maps

The acquisition of right of way may include property that is no longer required at end of project. Such excess acquisitions may have resulted from total parcel acquisitions, retention of property for the contractor's yard or State construction office, use of land for detours, the purchase of material sites, etc. It is now necessary to dispose of these excess lands. For more details, see Chapter 26, "Disposal of Rights of Way."

Projects may also involve improvements that will be relinquished to the local agency upon completion of construction. Relinquishment procedures include the preparation of maintenance agreements and maps. (See Chapter 25, "Relinquishments.)"

Project History Files and As-Built Plans

After the construction contract improvements are accepted on behalf of the State of California, the project history file is prepared. For this file, the RE accumulates construction contract records and the PE contributes pertinent planning and design data. To determine which records should be included in this file, see Chapter 7, "Uniform File System". The project manager is responsible for insuring that the compiling and archiving of this information is accomplished.

The RE must prepare the draft as-built plans to reflect all pertinent changes or corrections made during the life of the project contract. If the plans have not been edited to indicate the as-built conditions, future misinterpretation of existing field conditions may result.

As-built plans for projects with fewer than 300 plan sheets (roadway and structure combined) must be submitted to the Document Retrieval System (DRS) unit at the Headquarters Office of Computer Aided Drafting Design and Engineering Global Information System Support (Office of CADD and Engineering GIS Support) within 180 days from construction contract acceptance (CCA). As-built plans for projects with more than 300 plan sheets must be submitted within 270 days from CCA. The date of entry into the DRS will be used as the milestone date indicating the As-built plan set is completed.

Archive-ready As-built Plans

Archive-ready as-built roadway plans are to be completed and submitted by the district to the DRS unit. Archive-ready as-built structure plans are to be completed by Division of Engineering Services (DES) and submitted through Structure Maintenance and Investigation to the DRS unit. All projects (including minor projects implemented or funded by others) are to be submitted electronically in a tiff format for entry into the DRS. It is the responsibility of the districts and DES to obtain these archive-ready as-built plans from the consultants and local agencies preparing these products.

Structure as-built plan sheets will also continue to be entered into the Bridge Inspection Retrieval Information System (BIRIS) by Structure Maintenance and Investigations, using existing procedures. Encroachment permit as-built plans will continue to be submitted using existing procedures. The backlog of as-built plans shall be handled according to procedures found in the *CADD Users Manual*.

As-built standards and procedures for creating electronic as-built sheets from the as-awarded computer aided-drafting design (CADD) files can be found in the following manuals:

- *Plans Preparation Manual*.
- *CADD Users Manual*.
- *Construction Manual*.
- *Bridge Design Details Manual*.
- *Bridge Memo to Designers*.

Microfilming As-Built Plans

Except for encroachment permit projects, the district DRS unit will forward final microfilm sets to the Headquarters Microfilm Unit. The microfilm set includes microfilm from the district and Structure Maintenance and Investigation as-built files.

Microfilming of encroachment permit as-built sheets is the responsibility of the Headquarters Microfilm Unit.

Part 3

Specific Project Development Procedures

CHAPTER 16 – Cooperative Agreements

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CHAPTER 16 – Cooperative Agreements

ARTICLE 1 – Formal Agreements

Cooperative Agreements

Projects on the State Highway System often involve a partnership of funding and responsibilities for doing the work. Whenever there is an exchange of effort, funding, or materials between the State and another local entity, for work on the State Highway System, a cooperative agreement is necessary. The agreement is permitted under *Streets and Highway Code, Section 114 and 138*, which allow Caltrans have others fulfill Caltrans' responsibilities to the State Highway System.

The cooperative agreement is a legally binding contract between the appropriate parties involved in the project. It documents the roles and responsibilities for each party and defines what work will be performed, by whom, how it will paid for, on what schedule it will be completed, and any other roles and responsibilities. Because a cooperative agreement involves another party in the project, it also addresses liability and indemnification issues. The commitments made in the cooperative agreement become a significant part of the management responsibilities of the project.

Cooperative agreements can be written at any point in the project development process. Once the opportunity for a cooperative agreement is identified it is important to develop the agreement as soon as possible. The scope of an agreement should be consistent with the ability to make commitments. For example, the agreement may only involve the efforts in the PA&ED phase, not the entire project. The best time to prepare a cooperative agreement is during the development of an engineering document such as a PID or PR.

Other Formal Agreements

- **Interagency Agreements -** A formal agreement between Caltrans and another State agency, State universities, or a University of California. Contact the Office of Procurement and Contracts in the Division of Administration for additional information.

- **Highway Improvement Agreements** – These agreements allow private parties to design and construct projects on the State Highway System that exceed $1,000,000 in capital construction costs. These agreements follow the same format as a cooperative agreement but require the private party to pay for any work performed by Caltrans in advance of the performance of the work. Reference the *Cooperative Agreement Manual* and the *Encroachment Permits Manual* for additional information.

- **Maintenance Agreements** – These agreements define a relationship between Caltrans and local agencies regarding the maintenance or operation of portions of the

State Highway System. Agreements often involve signals and lighting systems. Contact the Division of Maintenance for additional information.

- **Encroachment Permits** – These agreements are for projects on the State Highway System with capital construction costs under $1,000,000. On occasion projects that exceed $1,000,000 but with a simple scope may be considered for encroachment permits. Likewise, projects that are under $1,000,000 but have a complex scope may be considered for full oversight by Capital functional units. Reference the *Encroachment Permits Manual* for additional information.

ARTICLE 2 – Informal Agreements

Memorandum of Understanding

Caltrans will occasionally sign a Memorandum of Understanding (MOU) with an entity to outline each entity's intentions or manner in which business will be conducted for the various phases of project development and construction. MOUs are often used for broader scope to address items on a Program or corridor level. MOUs are not legally binding and cannot be used to commit resources. Cooperative Agreements should be executed as early as possible in the process to allow the formal commitment of funding and support resources that are intended by MOUs.

Project Charters

The Project Charter is an informal document that clarifies and records the agreement between the Sponsor of the project, the project stakeholders, Project Development Team and the Project Manager, on the key elements of a project and project lifecycle. It helps the Project Manager guide the project team efficiently and effectively through the project development process. The Charter is the first project management document in the suite of project management plans used to identify and control a project's scope, schedule, and cost. It is also used to identify and meet customer satisfaction requirements. The Charter process helps to manage project scope and reduce rework by preventing unnecessary scope changes.

See Project Management Directive #7 for information on Project Charters.

ARTICLE 3 – Policy and Authority

Negotiation of Terms

Cooperative agreements are to be negotiated along with the development of a Project Initiation Document (PID), Project Report (PR), or other engineering document, which will serve as the authorizing document for the execution of the agreement. The scope of an agreement should be consistent with the scope of the authorizing document. For example, if the PID is only written to advance the project to Project Approval and

Environmental Document (PA&ED) then the cooperative agreement should also be limited in scope to that phase of work. If the scope and cost of the project are well defined and simple then the scope of the cooperative agreement may consider multiple phases of the project.

A cooperative agreement ready to sign, must be attached to the authorizing document. Getting the agreement ready to sign must involve the review and approval as to form by all applicable functional units and stakeholders. Since the authorizing document and the cooperative agreement are developed concurrently it is imperative that the appropriate stakeholders and functional units are consulted early and often. Involvement of appropriate parties early in the process will assure development of an accurate and acceptable agreement.

It is important to note that the cooperative agreement is not a commitment by any party until the agreement is executed.

Authorizing Documents

All Cooperative Agreements require an authorizing document approved by the District Director. Authorizing document types include the following:

- Project Initiation Document (PID) (see Chapter 9)
- Combined Project Study Report / Project Report (PSR/PR) (see Chapter 9)
- Project Report (PR) or Draft Project Report (see Chapter 12)
- Supplemental document as appropriate when the project is between formal milestone documents (PID, PR, RTL) (see Chapter 12).
- Cooperative Agreement Report (CAR) when the cooperative work is not part of a project or phase covered by an engineering document described above (see *Cooperative Agreement Manual*)

Note: A CAR is not an authorizing document for a project; it only authorizes a cooperative agreement on an approved project.

An authorizing document authorizes the execution of the cooperative agreement and must therefore address:

- Why the agreement is in the best interest of the State.
- If the cooperative features are within Caltrans policy/procedure. If not, obtain and attach an exception to that policy from the appropriate policyholder.
- The work plan for the cooperative features
    - Hours, schedule, funding
    - Functional unit review and concurrence

Pay particular attention to CEQA lead agency role decisions, funding limitations if any, and full consideration of the risks.

Do Not Incur Costs Prior to Execution of the Agreement

It is Caltrans' policy to have a formal Cooperative Agreement executed prior to incurring any costs or committing any support resources. The State has no legal authority or obligation to incur expenses in absence of a formal executed agreement.

If an agreement cannot be negotiated and executed then the work involved in the agreement must not begin.

Development of Agreements

Pre-approved templates have been developed as a tool to facilitate the expeditious processing of an agreement for certain cooperative arrangements. They can be found on the Division of Design website. The articles used in the agreements, as well as the format, are pre-approved from a Legal and Accounting perspective. If the appropriate template is used and the language is not changed it will be approved automatically. These agreements must still come to HQ, Office of Cooperative Agreements for signatures by Legal as prescribed by statute.

If a pre-approved template is not appropriate or the project demands that special language be developed, the pre-approved templates are a good reference for usable articles or the manner in which articles should be written. Writing language unique to a project should come with the expectation that additional time will be necessary for development and review. Language that modifies policy should be accompanied by a policy exception from the policy owner. Non-standard language should involve the district cooperative agreement coordinator (CAC). The coordinator can assist in incorporating lessons learned from other agreements, current interpretations and contact with HQ, Office of Cooperative Agreements.

Conflict Resolution

If all the stakeholders, internal and external to Caltrans, cannot agree to the cooperative arrangements in an agreement, the issue(s) should be raised to the next level of management within a reasonable timeframe. Efforts should be made to avoid the agreement becoming the critical path activity of the project.

The Deputy District Director, Program/Project Management (Single Focal Point) (SFP) is responsible for the timely resolution of any conflict resolution necessary. The SFP should raise any issues to the Chief, Office of Cooperative Agreements, HQ. The SFP will coordinate the local entity's involvement. The Chief, OCA, will coordinate HQ Legal and Accounting involvement, and other HQ functional units as necessary. If necessary, an opportunity for a meeting between all parties can be arranged in the interest of timely resolution. If resolution is not forthcoming from this level, the issue can be escalated to the District Director and the Division Chief, Design.

Execution of Agreements

It is Caltrans policy that the District Director will be final signatory on Cooperative Agreements.

A cooperative agreement, ready to sign, must be attached to the authorizing document. Once the District Director signs the authorizing document, the authorizing document and the cooperative agreement are to be routed to HQ, Office of Cooperative Agreements to coordinate signature by Accounting and Legal. The agreement will then be returned to the District. The District coordinates with other parties to obtain signatures. The other parties return the agreement, along with a supporting resolution, to the District where the District Director will sign the agreement for final execution.

Cooperative agreements must be fully executed within 60 calendar days of an approval of the authorizing document. This period of time is the performance measure for cooperative agreements. It is reported regularly to management.

"For Further Reference"

For more information on CARs and pre-approved templates, refer to the *Cooperative Agreement Manual*, or contact the Office of Cooperative Agreements, HQ.

CHAPTER 17 - Encroachments in Caltrans' Right of Way

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CHAPTER 17 - Encroachments in Caltrans' Right of Way

ARTICLE 1 - Definition

Encroachment

An encroachment, as defined in Section 660 of the Streets and Highways Code, can be any tower, pole, pole line, pipe, pipe line, fence, billboard, stand or building, or any structure or object of any kind or character which is within the right of way but not a part of the Caltrans facility.

Authority for Caltrans to control encroachments within the State highway is contained in the Streets and Highways Code starting with Section 660.

Encroachments allow temporary or permanent use of highway right of way by a utility, a public entity, or a private party. Encroachments include all public and private utilities within State right of way, such as: communication, electric power, water, gas, oil, petroleum products, steam, sewer, drainage, irrigation, and similar facilities.

Encroachments also include any temporary or permanent break in access or use of the highway right of way: for grading, excavating, filling or removing of materials by public agencies, developers or private individuals.

ARTICLE 2 - Utility Encroachment Policy

Policy

Caltrans has adopted AASHTO's "Policy on the Accommodation of Utilities Within Freeway Right of Way," dated February 1989, and AASHTO's "A Guide for Accommodating Utilities Within Highway Right-of-Way" dated 1981.

Caltrans general policy is to allow utilities within conventional rights of way subject to reasonable conditions to provide for the safety of the traveling public and to permit the improvement of the highway.

Caltrans policy with regard to freeways and expressways is to exclude utilities from within access controlled rights of way, to the extent practicable. It recognizes that freeway rights of way are a valuable commodity, and that such value to the traveling public could be seriously eroded by allowing uncontrolled access by utilities. The policy is intended to provide a safe environment for traffic operations, minimize the disruption

to the traveling public, and assure the safety of utility employees during maintenance of their facilities.

New Utility Longitudinal Encroachments

With the exception of special cases permitted under strictly controlled conditions, new utilities will not be permitted to be installed longitudinally within the access control lines of any freeway or expressway — including installations on structures that cross major valleys or rivers and installations through tunnels. Utilities will not be allowed to be installed longitudinally within the median area. Utilities that transport hazardous materials will not be allowed in a vehicular tunnel under any circumstances.

These provisions were established to provide for the maximum degree of safety and to preserve the traffic-carrying capacity, both of which are warranted by the large public fund investment in freeways. Exceptions can be made at locations where circumstances make it impossible or unreasonably costly to locate utilities outside of the access controlled right of way. To the extent feasible and practicable, any utility installations allowed within access controlled rights of way should be located so that they can be serviced and maintained from outside the right of way.

Exceptions

Requests for utility encroachments or utility access within freeway or expressway right of way are considered an exception to policy and are to be submitted to the Division Chief of the Division of Design (DOD) for approval.

On February 22, 1988, Executive Order No. 85-11 established the Caltrans Encroachment Committee (CEC) to review and approve encroachment exceptions. All authorities and responsibilities of the CEC have been transferred to the DOD Chief, who has delegated it to the Chief of Office of CTC Highway Appearances, Encroachment Exceptions & Resource Conservation, and the CEC has been abolished. An Encroachment Advisory Group (EAG) is utilized to assist in the resolution of the more complex encroachment requests, but the DOD Chief reserves the authority to make the final decisions.

Justification for Exceptions

Where such longitudinal installations are requested, the utility owner must assure Caltrans of all of the following:

- That the accommodation will not adversely affect highway safety and traffic operations.

- That alternate locations are not available or cannot be implemented at a reasonable cost, from the standpoint of providing efficient utility services in a manner conducive to safety, durability, and economy of maintenance and operations.

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- That the accommodation will not adversely affect the design, construction, operation, maintenance, or stability of the highway facility.

- That the accommodation will not interfere with or impair the present use or future expansion of the highway facility.

- That disapproval of the use of the right of way would result in loss of productive agricultural land, or loss of productivity of agricultural land, if any. In this case, the utility must provide information on the direct and indirect environmental and economic effects of such loss. These effects will be evaluated and considered by Caltrans.

- That the utility be located in such a manner that it can be serviced, maintained, and operated without being accessed from the through-traffic roadways or ramps — except for special cases where alternate locations or means of access are unavailable or impractical due to terrain or environmental constraints — and where such use will not adversely affect safety or cause damage to the State facility.

Existing Utility Longitudinal Encroachments

Where (1) a utility already exists within the existing or proposed right of way of a freeway or expressway and (2) it can be serviced, maintained, and operated without being accessed from the through-traffic roadways or ramps — it may remain as long as it does not adversely affect the safety, design, construction, maintenance or stability of the highway. Where these conditions cannot be met, the utility must be relocated. Exceptions may be granted for locations where circumstances make it impossible or unreasonably costly to locate utilities outside of the access controlled right of way, but must be approved by the DOD Chief.

Crossing Major Structures

Where a freeway or expressway crosses a major valley or river on an existing structure, any utility carried by the structure at the time the highway route is improved may continue to be carried — when relocation of the utility would be very costly — and provided the utility can be serviced without interfering with highway users. The existing utility may also be expanded under these conditions.

Tunnels

Where a utility occupies space in an existing vehicular tunnel that is converted to a freeway or expressway, relocation of the utility may not be required unless it transports High Risk material.

Transverse Utility Encroachment

New utility installations, and adjustment or relocation of existing utilities, may be permitted to cross a freeway or expressway. To the extent feasible and practicable, they should cross on a line generally normal to, but not less than 60˚ from the freeway longitudinal alignment, and preferably under the freeway.

The utility should be located in such a manner that it can be serviced, maintained, and operated from outside the right of way, except for special cases covered above under "New Utility Longitudinal Encroachments".

Air space leases for wireless communications facilities fall under the general guideline for transverse encroachments, since they are individually reviewed and approved by the District Air Space Review Committee (DARC). The DARC uses special guidelines developed for wireless communication facilities.

Utility Encroachments on Toll Bridge

Utilities may be permitted, on a case-by-case basis, to be installed on toll bridges where there is an adequate location on the bridge for the utility, and where alternative locations are unavailable or impractical. In addition, all of the following criteria must be met:

- The utility does not transport High Risk material.
- The utility is lightweight.
- The utility does not require regular routine maintenance.
- The utility construction and maintenance will be done during hours approved by Caltrans.
- The utility is supported by a backup system so that emergency maintenance and repairs are not required.
- The utility is under PUC jurisdiction or is publicly owned; it is used to provide a service to the public and is dedicated to public use.
- The utility will provide capacity for other utility companies of the same type service.

These installations must have the approval of the DOD Chief.

Reclaimed Water System Encroachments

In accordance with the requirements of Section 92.3 of the Streets and Highways Code, Caltrans is interested in reducing dependency upon imported potable water. To this end,

Caltrans will cooperate with local public agencies or water public utility agencies for the transmission of reclaimed water within freeway or expressway right of way. Such installations may be permitted by Caltrans under strictly controlled conditions. These installations are encroachments, and must have the approval of the DOD Chief.

Caltrans as Sole User

When Caltrans is the sole user of the reclaimed water, the supplier of the reclaimed water will deliver it to a mutually agreed point at the highway right of way line. From this point, Caltrans will have sole responsibility for the transmission and distribution of the reclaimed water for irrigation purposes.

Caltrans Shares Use

When the transmission line serves both Caltrans (present or future) and other users, the longitudinal use of the freeway or expressway by the local public agency or water public utility can be permitted. If any segment of the transmission line between distribution points for Caltrans' use exceeds 0.8 km, the supplier must show that any other location outside of the highway right of way would be inordinately difficult or unreasonably costly.

All of the following criteria must be met:

- Reclaimed water used for irrigation purposes must meet local and State health codes.

- The local public agency or water public utility is responsible for the initial cost, or any relocation cost, of those reclaimed water transmission lines located within the right of way and used for service to other users: The agency or utility waives its rights to require Caltrans to pay the relocation cost, pursuant to Sections 702 and 703 of the Streets and Highways Code.

- The local public agency or water public utility will be required to hold Caltrans harmless for any liability caused by a disruption of service to other users and (a) must defend Caltrans in any resulting legal action, and (b) must pay any damages awarded as a result of the disruption.

- The local public agency or water public utility must maintain the water transmission system. Maintenance access will not be permitted from the roadway or ramps.

- The reclaimed water transmission system for Caltrans and other users must be owned by the local public agency or water public utility.

- Caltrans must have first priority with respect to the reclaimed water supply.

- Caltrans, in cooperation with the local water agency or water public utility, may temporarily interrupt service in order to add to or modify its facilities. Such an interruption would not cause Caltrans to incur any liability.

- There must be a defined benefit to Caltrans, such as assured water supply (present and future), waiver of connection fees, or waiver of capitalization fees.

- The local public agency or water public utility will obtain and furnish Caltrans with an agreement that is signed by all others using the reclaimed water from the transmission system and that holds Caltrans harmless for any disruption in service.

- The local public agency or water public utility must install an automatic control system that will allow a shutdown in case of an emergency. Caltrans must have access to all parts of the transmission system.

- All transmission lines must be placed underground and as close as possible to the freeway right-of-way boundaries, or at other locations authorized by Caltrans. No median location shall be allowed.

- The local public agency or water public utility must furnish Caltrans a list of other reclaimed water users and information on any backup system and source of water available for use in case of service disruption.

- The plans and specifications for the reclaimed water transmission facilities lying within the highway rights of way must be approved by Caltrans prior to construction.

- The local public agency or water public utility is responsible for acquiring all necessary permits and/or approvals required to furnish reclaimed water to other users.

Caltrans Does Not Use Transmission Line

When the transmission line does not serve Caltrans, the normal utility encroachment process is to be followed.

Utility Certification

The Project Engineer (PE) must certify that the accommodation of all utilities within the project right of way or within construction easements complies with Caltrans policy, as outlined in this chapter. This includes High Risk, Low Risk, and all other utilities. Prior to listing the project for advertisement, this certification must be submitted to the Office of the Office Engineer of the Engineering Service Center (OOE-ESC). See Appendix LL for the format and preparation guidelines for the "Project Engineer's Certification of Utility Facilities."

ARTICLE 3 - Encroachment Policy for Work Other than Utilities

Statutory Authority

It is Caltrans' policy to prohibit private use of highway right of way. Caltrans has no statutory authority to allow the permanent use of highway right of way by a private party without compensation or benefits. Such action would constitute a gift of public funds under Section 6 of Article 16 of the California Constitution. This policy applies to all operating facilities; i.e., freeways, expressways, and conventional highways.

Encroachment Requests

Permit requests to encroach into Caltrans' right of way are to be considered on an individual basis, including requests for the purpose of grading, excavating, removing materials, or placing an embankment.

Caltrans Approval Authority

Non-utility types of encroachments are considered an exception to policy. Requests for such encroachments require approval of the DOD Chief.

Conditions of Approval

Requests to utilize highway right of way for non-utility encroachments will not be granted unless all of the following criteria are met:

- There is sufficient consideration, in the form of benefits to Caltrans, to compensate for the removal of material from – or some other use of – the rights of way.
- The encroachment does not create a safety hazard.
- The encroachment does not create additional maintenance requirements.
- The encroachment does not obligate Caltrans to any current or future liability to protect the proposed adjoining private development work.
- The encroachment does not restrict the current or future use of the rights of way for transportation purposes.
- The encroachment does not conflict or reduce current or future income associated with airspace leasing, excess land sales, or other Caltrans income-earning capabilities.

Benefits to the State

One or all of the following benefits may be derived from a requested encroachment to perform grading or removal of material:

- Flatter cut slopes
- Lowering of a cut by removal of material
- Improved drainage
- Better sight distance
- Fewer slopes to maintain
- Other

Embankments

Benefits to be derived from the placement of an embankment are rather limited and may be hard to define. They may include the filling of a depressed area to improve drainage and/or provide for a safer recovery area for vehicles. Construction of embankments that add additional slopes should be avoided: such construction may impose a lateral support obligation on Caltrans that does not currently exist and may, in fact, require removal for future highway purposes. An alternative would be for Caltrans to declare the portion of right of way requested as excess land and to sell it for fair market value. Consideration of this alternative would depend on the projected future uses of the facility; this is not always a viable alternative.

No Benefits for the State

Requests to remove material solely to benefit a developer or individual (such as to eliminate the need by the developer or individual to import material to their private property) will not be approved.

ARTICLE 4 - Locked Access Gates

Caltrans Approval Authority

This article covers Caltrans' procedures regarding use of locked gates to provide non-Caltrans personnel with access to freeway and expressway rights of way. Such locked gates require the approval of the DOD Chief. Locked gates for use by Caltrans personnel do not require such approval. Locked gate approval for airspace leases for wireless telecommunication sites has been delegated to the District Airspace Review Committee (DARC).

FHWA Approvals

Federal Highway Administration (FHWA) approval is not required for locked gates that provide access for Caltrans personnel or that provide maintenance access for a utility company. Locked gates to be used by any other public agency require FHWA approval if they are on an Interstate Route or if the FHWA participated in the cost of the freeway right of way.

Utility Access Gates

Locked gates may be utilized along a freeway or expressway fence to provide periodic access to approved utility installations within Caltrans' right of way.

Emergency Access from Freeways and Expressways

To preserve and protect the access control inherent in the freeway and expressway system, it is Caltrans' policy to prohibit planned emergency access for new or expanded developments. Emergency access must be planned for and provided from local streets or conventional highways outside the access control limits of freeways and expressways.

It is unacceptable for planning agencies to assume that the access can be breached or provided with breakaway panels or locked gates in lieu of other appropriate alternatives.

The same prohibition of emergency access will apply to any request for additional emergency access to existing development. However, existing emergency access that was granted in the past will be allowed to remain.

In responding to emergencies, fire districts, law enforcement agencies, or other emergency functions may cut or otherwise breach access fences if required to quickly respond to a specific emergency. In such cases, they must secure an encroachment permit, replace fencing, and restore the State right of way to pre-emergency conditions — at their own expense.

ARTICLE 5 - High and Low Risk Underground Facilities

Policy

Caltrans is responsible for providing a safe environment for the employees of both Caltrans and its contractors, as well as the traveling public. To accomplish this, it is important to provide a clear and safe right of way through the proper placement, protection, relocation, or removal of High Risk utility facilities that may pose a safety risk to the highway worker or user if the utility is cut or punctured. The "Policy on High and Low Risk Utilities in Highway Rights of Way" is included in Appendix LL.

ARTICLE 6 - Procedures for Requesting an Exception to Caltrans' Encroachment Policy

Overview

The district is responsible for obtaining all necessary information from the applicant, owner, or other source. All requests for exceptions to Caltrans' policy that do not fall under the jurisdiction of the district, must be submitted to the DOD Chief, Attention: Office of Highway Appearances Encroachment Exceptions. Failure to provide sufficient information will delay consideration of the request until the necessary information is furnished. Every effort should be made to include all encroachments within a project in the same request.

Submittal Contents

The submission material should include the following:

1. A small-scale index map showing, in outline form, the general alignment of the freeway, crossroads, frontage roads, ramps, and major geographic features. Generally, title sheets and freeway strip maps will suffice.

2. A plan (1:500 to 1:2000 scale) showing a graphic outline of the following:

   - The pavement and shoulder edges of the freeway or expressway, crossroads, collector roads, and ramps. It should also show adjacent roads or streets, including proposed or existing frontage roads to which the facilities may be moved.

   - Right of way and access denial lines

   - Present and proposed location of the utility or utilities involved, and physical features that affect the proposed location. Use a dashed colored line to show existing facilities and a solid line in the same color for relocated position of facility.

   - Trace of slope catch points

   - Location of existing drainage facilities

   - Fencing and location of locked gates, where this means of access is proposed

- The plan need not be a special drawing. Copies of contract plans, projection drawings, geometric approval drawings, etc., are suitable. Whenever feasible, the plan should be a 280 mm high strip map as long as necessary to show the entire encroachment; however, separate sheets will also serve this purpose.

3. Profiles, cross sections, and contour grading should be included if necessary to clarify controls.

4. A statement as to whether the facilities must be relocated to permit construction and whether the utility might be allowed to remain in place for the initial construction but would require relocation for the ultimate construction.

5. A statement of the district's opinion as to whether allowing a utility facility to remain within the right of way would present a safety problem or would cause highway maintenance problems.

6. The district's recommendation in connection with the disposition of the utility facility.

7. A full explanation shall be given as to the route and method by which the utility owner will gain ingress and egress to the encroaching facility.

8. A full explanation of the available alternatives to the proposed encroachment, together with costs and the potential consequences, if the requested encroachment is not approved.

9. The estimated savings to the State that would accrue by proceeding as proposed.

10. The letters submitting the information must include the signature approval of the Deputy District Directors for Design, Right of Way, Maintenance and Operations Units.

11. Environmental status

12. Concurrence from Structures Maintenance, when structures are involved

Submission Procedures

- All correspondence and submittals must be addressed to the DOD Chief, Attention: Encroachment Exceptions.

- All attachments should be folded to letter size.

- One copy of each request, with attachments, is normally required. If there is a need to expedite the review, four copies should be submitted.

- If the encroachment involves a bridge, one additional copy must be submitted.

District Recommendation

No encroachment proposals should be submitted without district recommendation, as indicated by the signatures of the Deputy District Directors for Right of Way, Maintenance, Operations, and Design. In those instances where an applicant with an encroachment proposal refuses to accept the district's denial of application, the district should contact the DOD Chief, Attention: Encroachment Exceptions.

It is standard practice to process all applications from written requests. If an applicant or district personnel want to make a personal appearance at the HQ encroachment meeting, prior approval should be obtained from the DOD Chief.

Approval

The DOD Chief will affirm or deny, in writing, each submittal considered.

Policy Administration

The PE is responsible for administering the Utility Encroachment Policy for highway construction, project-related encroachments.

The District Permit Engineer is responsible for administration of the policy for new, non-highway, project-related installations.

The District Utility Coordinator is responsible for coordinating the requirements of this policy with all utility owners, as directed by the Project Engineer.

CHAPTER 18 - Hazardous Waste

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CHAPTER 18 - Hazardous Waste

ARTICLE 1 - Policies

Hazardous Waste Process Integrated with PYPSCAN

The Hazardous Waste (HW) process has been integrated with the project development process and PYPSCAN milestones. The process milestones are points where key decisions regarding hazardous waste issues are to be addressed. The milestones present a number of meetings where functional area responsibilities are assigned, decisions and tasks are identified, and a course of action is determined. If, at any point within the process a project has been cleared, or the hazardous waste issue has been resolved, the process can be terminated.

Avoidance whenever Feasible

When acquiring properties for transportation (or transportation-related) projects, it is Caltrans policy to (1) fully consider, and if possible, to avoid all potential aspects of hazardous waste; and where involved, (2) to ensure adequate protection for employees, workers, and the community: prior to, during, and after construction. No acquisition is to take place until hazardous waste/material investigation reports have been completed and appraisals reflect the findings.

If a contaminated site is encountered and avoidance is not prudent, Caltrans should make every effort to have the owner and/or responsible party(s) investigate and clean up the contamination prior to acquisition.

In cases where Caltrans must clean up contaminated property, cost reimbursements will be sought from the responsible party(s). Consultants will be used to investigate, characterize, and determine the dimension of hazardous waste problems.

Project Manager's Role

It is the Project Manager's (PM) responsibility to ensure that hazardous waste identification and cleanup is addressed and completed as early as possible in the project development process.

Cleanup Timetable

Regardless of who is responsible for performing the cleanup of a contaminated project site, such cleanup should be completed prior to PS&E submittal for advertising. Only in exceptional cases, (e.g., contamination in future underpass areas that must be excavated during construction) will mitigation of the contaminated materials be allowed concurrently with project construction. Exceptions must be approved by the Chief Engineer, delegated to the Design and Local Program (DLP) Program Manager, prior to PS&E submittal.

HW Contracts

During the HW process, several types of contracts are available for investigating and cleaning up HW sites. Creating contracts is a time-consuming process; it should therefor be taken into consideration. If at any point during the HW process it is possible to combine tasks into a staged contract, time can be saved.

Technical Resources

The Hazardous Waste Management Office in the Environmental Program is available to assist in resolving hazardous waste problems. Early and continued involvement by this resource, along with the district HW Unit is essential in avoiding unnecessary cost and delays from hazardous waste problems. The Legal Division should be consulted regarding documentation for cost recovery.

Right of Way

Right of Way should be involved early in the project development process so that hazardous waste problems can be identified early, property owner contacts initiated, and all additional necessary actions taken to resolve the problems on a timely basis.

ARTICLE 2 - Hazardous Waste Process

General

Every project that includes excavation, structure demolition or modification, or the purchase of new right of way, will require an Initial Site Investigation (ISA) to determine if known or potential hazardous waste is present within the project limits. Lands and Buildings projects, utility relocations, gifts of property, and hardship and protection acquisition must consider possible hazardous waste/material issues. Those Caltrans functional units (and PDT) identified in Figure 3 are responsible for providing support, as requested, and as defined in the process. The ISA Checklist and instructions are included as Exhibits in Appendix DD.

Screen the List for "Minimal Risk" Project Types

Hazardous Waste considerations are included in the Preliminary Environmental Evaluation. The Environmental Unit, along with the Project Engineer (PE) and the District Hazardous Waste Coordinator, should screen the list of minimal-risk project types to see if an ISA is required. Figure 1 contains the list of "minimal-risk" project types that normally will not encounter hazardous waste problems.

Projects that do not require new right of way, minor excavation, and structure demolition/modification generally do not present much risk of hazardous waste involvement. However, the PE and Environmental Coordinator are cautioned that the minimal-risk list should not be used without consideration of surrounding land use, since even minor excavation could involve hazardous waste that has migrated from some off-site location.

Meetings

Communication plays a vital role in solving hazardous waste problems. Project Development Team (PDT) meetings facilitate such communication.

HW Initial Site Assessment

If a project type is not on the "HW Study: Minimal-Risk Projects" list (Figure 1), an ISA is required. The Environmental Unit continues to be the lead and will guide the preparation of the ISA Checklist. (See Appendix DD for a copy of the ISA Checklist.)

FIGURE 1 - Hazardous Waste Study: Minimal-Risk Projects

CAUTION: Use this list carefully; the discovery of hazardous waste after a project has gone to construction usually results in long and costly delays.

Potentially Exempt Projects

- Pavement reconstruction, resurfacing, and placement of seal coat
- Work on bridge structures and appurtenant facilities, such as traffic or control devices (beware of existing lead base paints)
- Repair and maintenance of the highway and all appurtenant facilities
- Landscaping within highway right of way
- Bridge maintenance painting, when performed in conformance with the requirements of air pollution control and water pollution control agencies having jurisdiction
- Addition or replacement of devices such as glare screen, median barrier, fencing, guardrail, safety barriers, energy attenuators, guide posts, markers, safety cables, ladders, signs
- Installation of noise barriers and alteration to existing buildings to provide for noise attenuation (beware of friable asbestos)
- Projects to eliminate hazards within the operating areas
- Modifying existing features such as curbs, dikes, headwalls, slopes, ditches, etc. within the right of way to improve safety
- Maintenance of existing landscaping, native growth, and water supply reservoirs (excluding the use of economic poisons, as defined in Division 7, Chapter 2, Agriculture Code)
- Maintenance of fish screens, fish ladders, wildlife habitat, etc. to protect fish and wildlife resources
- Minor operational improvements, such as median and side ditch paving, drainage facilities
- Installation or modification of traffic control systems and devices including addition of new elements such as signs, signals, controllers, etc.
- Installation, removal, or modification of regulatory, warning and information signs - including new copy on existing on- and off-premise signs
- Minor alteration or widening of existing grade separation structures

Discussion in PSR

Hazardous Waste problems, or potential problems, must be discussed in the Project Study Report (PSR), along with a recommended action for avoiding or mitigating the hazardous waste site.

HW Status Meeting

If, after completion of the ISA, a potential hazardous waste problem exists, the Environmental Unit will initiate a meeting with the PM and members of the PDT to discuss alternatives, including avoidance. If avoidance is not prudent or justified by the site assessment information, then a Site Investigation (SI) will be conducted.

Site Investigation

The SI is a limited-scale site investigation intended to confirm the existence of a contamination problem and to get a general idea of the magnitude of the problem. The type, level of effort, and schedule for the SI will be determined at the hazardous waste status meeting. The Environmental Unit, in conjunction with the District HW Unit, is responsible for ensuring completion of the SI work through the use of consultant contractors.

Acquisition of rights of entry, if necessary for the SI investigation, is a time-consuming process and should be initiated as soon as possible. Rights of entry must be obtained through the Right of Way Branch.

At this point in the process, site investigations can vary in detail, depending on the number of sites to be investigated, the project schedule, and the number of project alternatives. After a Preferred Alternative is selected, a more complete site investigation is conducted to fully characterize the site in order to: (1) design the remediation, (2) estimate the cost of the remediation, and (3) reappraise the affected site's property value after factoring in the projected costs of hazardous waste remediation.

Notify Owner and Appropriate Regulatory Agencies

When a SI has identified contamination at an actionable level, the property owner and appropriate regulatory agencies will be notified of the results in accordance with regulatory requirements. The PE (through R/W) requests the appropriate regulatory agency to notify the owner and any other potentially responsible parties of their obligation under the law for mitigation of the contamination. Thorough SI records should be maintained separately for potential use in cost recovery actions.

HW Problems Discussed in Project Report

Following completion of the SI and environmental studies, the Environmental Unit presents the results to the PM and the PDT. If the investigation confirms hazardous waste problems, alternatives to avoid the identified hazardous waste must be identified and evaluated. These problems and the associated alternatives for avoidance or mitigation must be discussed in any Project Report and environmental document. The reports, as appropriate, must include a discussion of any anticipated site cleanup, including a cost and schedule estimate.

Alternative Evaluations

Caltrans' policy is to select the alternative with the least environmental impact and the most cost-effective solution that best meets the project purpose. After the project decision has been made, if the selected alternative contains a known hazardous waste site, the PM has primary responsibility for addressing the hazardous waste problem. Design changes or variations in the selected alternative shall be considered to avoid the site. If avoidance is not prudent, additional studies must be conducted to investigate ways to minimize hazardous waste impacts.

Project Decision HW Meeting

After the project decision, the PM arranges a Project Decision HW Meeting with the PDT and appropriate Caltrans functional units (including Legal) to discuss the extent of the problem and formulate a plan of action. The FHWA should be involved (as appropriate). The Environmental Unit will determine if the appropriate regulatory agency has notified the owner and/or other potentially responsible parties of a required cleanup. If not, such notification will be sought. The Right of Way Branch will contact the owner of the property to determine whether the owner is able to and intends to investigate and remediate the site such that the project schedule can be met.

HW Strategy Meeting

The PM arranges the HW Strategy Meeting with the PDT to evaluate the magnitude of the hazardous waste problem. The meeting should discuss the following possible services:

Case 1 – If the property owner has agreed to accept responsibility for the hazardous waste remediation, and after investigation, decides to accept responsibility for both the execution and expense of the cleanup, then Caltrans will develop a plan of action that incorporates the owner's intent and that specifies a program schedule that Caltrans expects to be followed. It is also possible in Case 1 for the owner to have investigated the hazardous waste cleanup and decided to have Caltrans clean up the problem. If this were to occur, Caltrans would evaluate the owner's investigation and then proceed with cleanup as in Case 2. The cleanup costs, as well as any additional investigative work required for the cleanup, would be deducted from the appraised property value.

Case 2 – If the property owner cannot or will not investigate and remediate the site, Caltrans would continue investigating the hazardous waste problem, and would proceed to hold a meeting to discuss remedies for the problem. At this meeting it will be necessary to determine whether time allows for HW investigation and remediation prior to construction of the transportation facility or whether it will be necessary to clean up during construction. The Legal Division will be requested to seek cost reimbursement from the owner and/or responsible parties.

Cleanup by Owner and/or Responsible Party

When the owner and/or responsible party has accepted cleanup responsibility, it is Caltrans' responsibility to monitor their investigation and cleanup progress and to make appropriate schedule changes. Caltrans must also prepare a Right of Way report showing estimated cleanup costs incurred by the State.

The report should be sent to the Right of Way Branch for appraisal adjustment. If at any point in the monitoring process Caltrans feels the owner's progress is unsatisfactory, the PM must initiate actions that will decide if the schedule slippage is such that Caltrans should take over the investigation and/or remediation process. Such a decision should involve upper district management. Refer to Figure 3 for responsibilities.

Additional Site Investigation — if Warranted

If the property owner does not investigate or remediate the site, or fails to show satisfactory progress in these activities, then Caltrans may decide to assume such responsibilities.

Prior to the start of the Caltrans site investigation, design changes to avoid the site or minimize HW involvement must be evaluated. If site avoidance is not possible and a Caltrans investigation will be needed, the PM should request the Environmental Unit to undertake the appropriate studies. These studies must be coordinated with the District HW Unit and the Right of Way Branch for necessary rights of entry and required investigation. The site investigation must be comprehensive enough to fully characterize the site, by identifying the types of contamination, the quantities involved, and suggested remediation schemes that are appropriate for the site.

Remedial Investigation / Feasibility Study

Projects with contamination are to be investigated using the Statewide HW Investigation Contract through the Task Order Process. A more extensive Remedial Investigation/Feasibility Study (RI/FS) will be required if: (1) substantial contamination is present, or if (2) the site is a listed State or federal Superfund site.

The Remedial Investigation is a site investigation adequate to characterize the site's size and the types and quantities of contamination that are present. The Feasibility Study is an evaluation of the types of remediation that will clean up the site's contamination. Remediation strategies range from digging up the contamination for disposal at another site to complex vapor extraction systems or bioremediation techniques.

The RI/FS time frame is difficult to predict because the work may be coordinated with regulatory agencies and is subject to changes pursuant to the requirements of the agencies. The Legal Division must be contacted regarding appropriate hazardous waste investigation records to be retained for cost recovery actions.

Appraisal for Certificate of Sufficiency

The result of the site investigation will be used in preparing the parcel Certificate of Sufficiency. The parcel Certificate of Sufficiency from Design to Right of Way is to include a narrative certification from the District Division Chief, Design, that the property can be: (1) considered free of significant hazardous waste; or (2) the Certificate

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will include a completed and approved property investigation report stating the nature and extent of contamination and appropriate remedial cost estimate; or (3) if appropriate, the Certificate will also state the owners approved cleanup plans, schedule and current status. Priority acquisition may be required so necessary condemnation proceedings can be initiated to avoid project delay.

Hazardous Waste Management Plan

The RI/FS for potential mitigation measures for the hazardous waste site constitutes the Hazardous Waste Management Plan (HWMP). The Hazardous Waste Management Plan (HWMP) is a decision-making document that describes the management of a contaminated site, including cleanup, schedule, etc. It summarizes the results of the RI/FS. The RI/FS will include a list of remediation options for cleaning up the site. The type and complexity of the HWMP is determined by the PM. Normally, the HWMP is developed at the conclusion of the HW investigation. Involvement of potential responsible parties is advised, so that any cost recovery efforts cannot be challenged on the basis that the parties were excluded from the mitigation decision process.

The HWMP is usually written by the Project Manager/Project Engineer, in coordination with the District HW Unit.

HWMP Decision Meeting

A Hazardous Waste Management Plan (HWMP) Decision Meeting is called by the PM. It includes the PDT, the Construction Unit, and the Legal Division. This team reviews the Caltrans investigation and the management plan and selects a cleanup strategy based upon the proposals and anticipated schedules provided in the RI/FS. Cost recovery decisions and procedures, if applicable, are decided at this time. The Legal Division is responsible for defining what documentation and support information will be necessary for the cost recovery effort.

Community Involvement Plan

It is advisable to provide the public with early notification of significant hazardous waste investigations and subsequent cleanup activities. This often defuses potential adverse public reaction that may otherwise occur when the cleanup work begins. The PM is responsible for coordinating the community relations effort and is encouraged to work with the district's Public Information Unit on related community involvement issues and activities.

Remedial Action Plan

Once a cleanup strategy has been selected, a Remedial Action Plan (RAP) needs to be developed to implement the remediation. The RAP specifies the details required to carry out the selected remediation strategy. After the investigation, the RAP will be prepared by a consultant or the district, depending on the type of remediation selected. Development of the RAP is the responsibility of the PM, with assistance from the District HW Unit.

Regulatory Agency Involvement

Depending on the type and extent of contamination, the RAP may require approval by appropriate regulatory agencies, as well as necessary public notification. On-site treatments will need permits from various regulatory agencies, which could require several months to secure.

HW PS&E

The mitigation (cleanup) will require a contract and a PS&E based on the RAP. The Design Unit is responsible for the PS&E for the hazardous waste cleanup. The Construction Unit is responsible for administration of the cleanup contract. In exceptional cases, cleanup of the hazardous waste may be accomplished as part of the construction contract. In these cases, approval of the Chief Engineer, delegated to the DLP Program Manager, is required. The district PM shall develop appropriate detailed special provisions for inclusion in the PS&E. The district is encouraged to consult with Headquarters (HWM Branch) for development and review of hazardous-waste-related special provisions.

Recovery Actions

Whether the contamination is encountered prior to construction or during the construction phase, the Legal Division will be responsible for pursuing appropriate cost recovery from potentially responsible parties. Support will be provided from all Caltrans functional units that have information for such recovery action.

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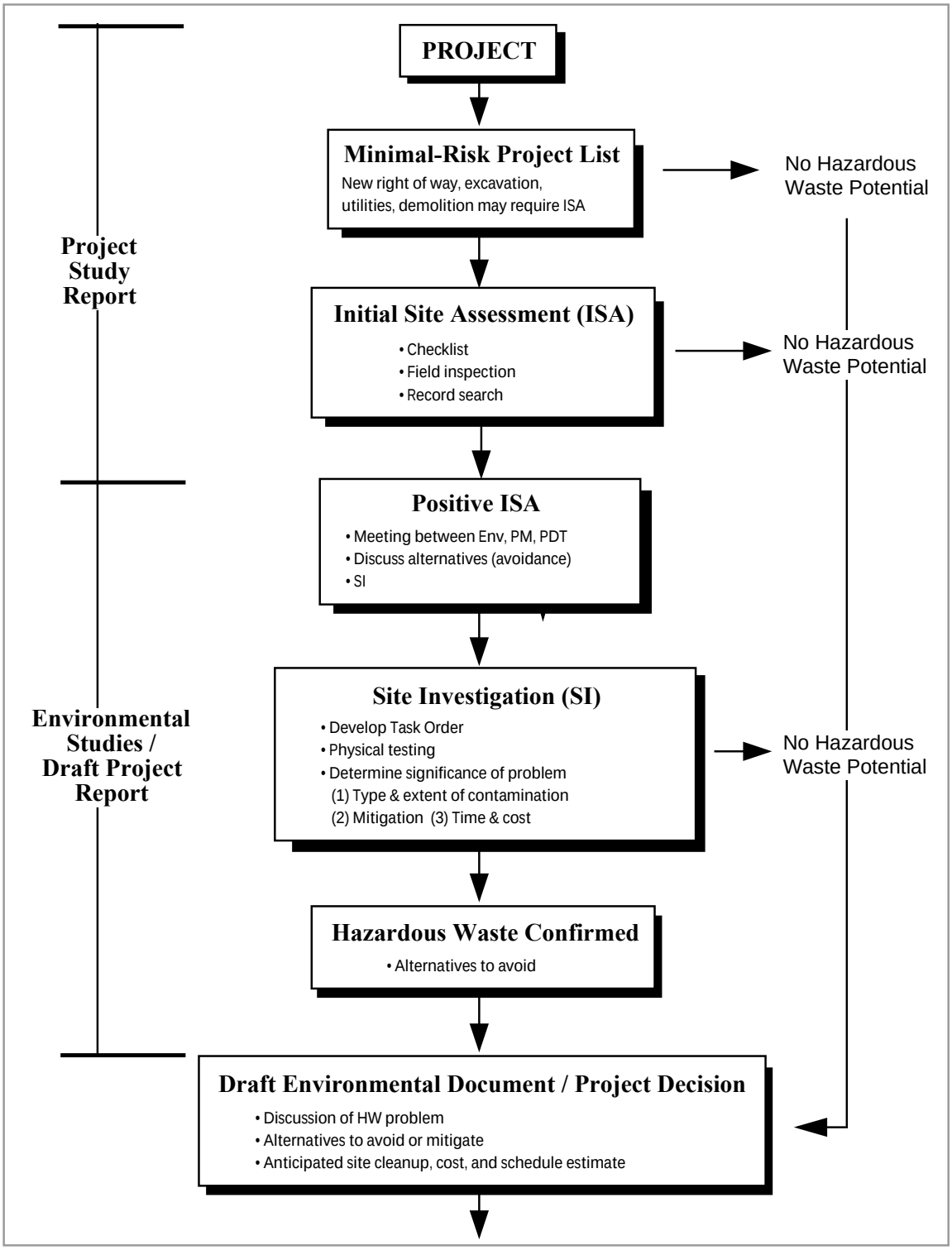
FIGURE 2 - Caltrans Hazardous Waste Process Overview



(continued)

FIGURE 2 - Caltrans Hazardous Waste Process Overview (continued)

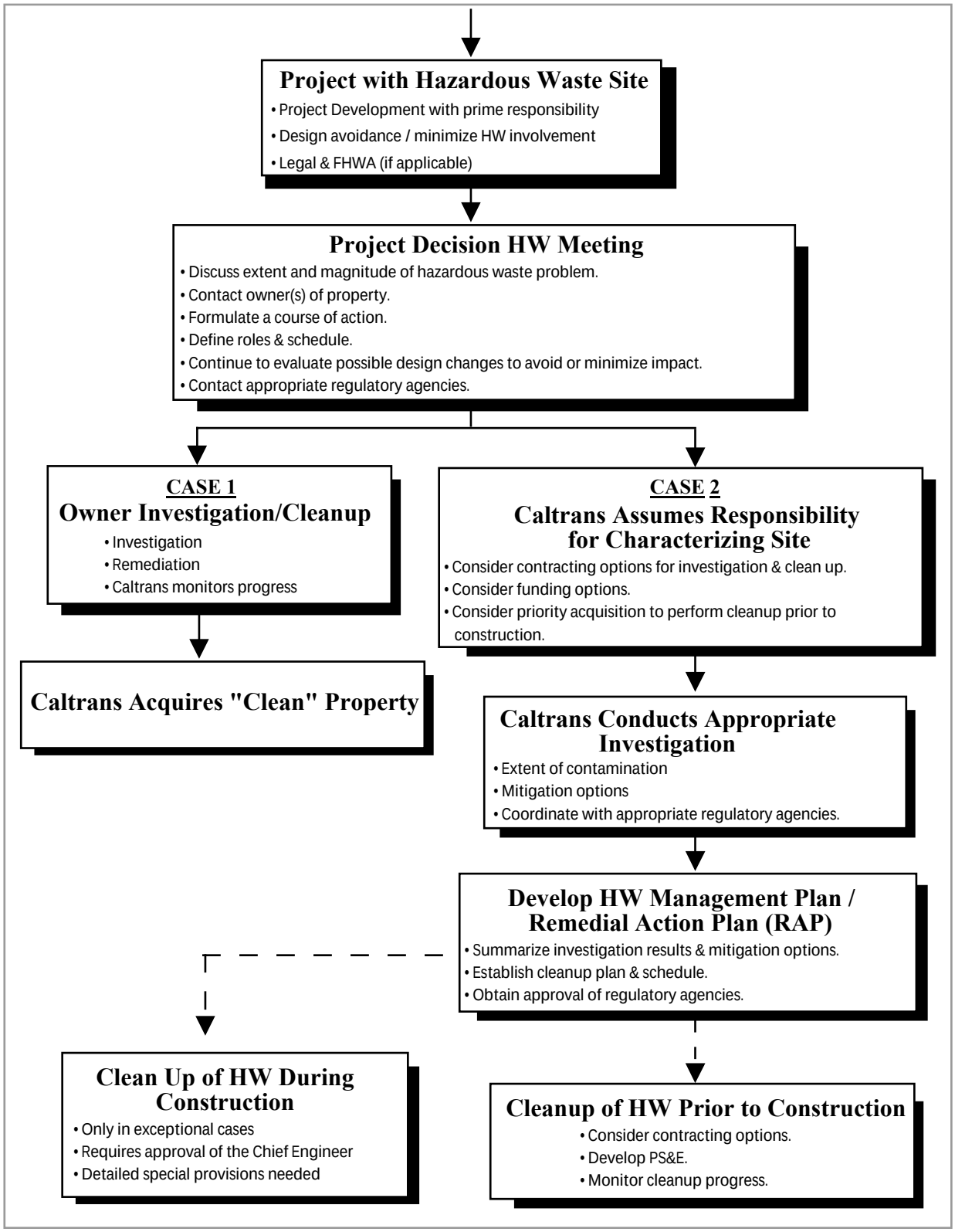


FIGURE 3 - Hazardous Waste Process Milestones

Milestone	Activity	Functional Unit				
		PD/PM	R/W	ENV	CON	LEG
0 to 10	Initiate Environmental Process (HW)	L				
	• Hazardous Waste (HW) Screening, when maps available			L		
	Conduct Initial Site Assessment (ISA)					
	• Follow ISA Checklist		L	L		
	- Records Review: information from sources such as Superfund account, regul. agencies, historical & current land uses, etc. Identify potential HW sites. Visually inspect site. ISA report.			L		
	• Prepare ISA Task Order, if applicable			L		
	• Obtain Right of Entry, if necessary		L			
◊ 20	HW Status Meeting	L		S*		
	• Determine direction of SI & project	L				
20 to 40	Conduct Site Investigation (SI)			L		
	If potential HW site(s) identified:					
	• Prepare Task Orders to perform SIs (characterize wastes and estimate of site score)			L		
	• Contact owner; if actionable findings, notify regulatory agency		L			
	• Present SI findings, evaluate avoidance alternatives.	S	S	L		
	• Based on SI findings, incorporate information into DPR; include mitigation measures and estimated costs.	L		L		
60 to 100	DPR: Draft environmental document and Preferred Alternative Has HW Related Problem	L		L		
◊ 200	Project Decision HW Meeting	L*	L	L		L
	• Determine significance/magnitude of HW problem	S	S	L		S
	• Evaluate options	L	S	S		S
	• Select plan of action	L	S	S		S
200 to 220	Owner Cleanup / CT Remedial Investigation / Feasibility Study	L	S	S		S
	• CASE 1- owner/PRP Investigation/Cleanup					
	- Determine owner/ PRP of property		L			
	- Contact owner/PRP of property		L			
	- Caltrans monitors progress of the owner's cleanup effort/initiated by owner/PRP	L		S		
	• CASE 2- Initiate Caltrans Remedial Investigation (RI) / cleanup					
	- Investigate Task Order for RI/Feasibility Study (FS)	S		L		
	- Right of Entry for investigation		L			
220	HW Strategy Meeting	L*				
	• CASE 1					
	- Evaluate status of owner cleanup	L		S		
	- Cleanup completed: Proceed with normal process	L				
	- Cleanup unsatisfactory: Go to Case 2	L		S		

PD/PM = Proj Devl Unit / Proj Mgr **R/W** - Right of Way Branch **ENV** = Environmental Unit **CON** = Construction **LEG** = Legal
◊ = Key Meetings **L** = Lead Responsibility **PRP** = Potentially Responsible Party **S** = Support Role * = Initiate Meeting

FIGURE 3 - Hazardous Waste Process Milestones (continued)

Milestone	Activity	Functional Unit				
		PD/PM	R/W	ENV	CON	LEG
220	HW Strategy Meeting (continued)					
	• CASE 2					
	- Initiate RI / FS	S		L		
220 to 260	HWMP, If Needed	L*		S		
	• Review design considerations	L		S		
	• Develop and evaluate mitigation alternatives	L		S		
	• Prepare HWMP (by consultant)	L		S		
	• Commence R/W activities (Milestones 225-265)		L			
◊ 260	HWMP Decision Meeting	L*	S	S	S	S
	• Evaluate Options	L	S	S	S	S
	• Select Mitigation	L	S	S	S	S
	- Mitigation contract prior to Construction	L		S		
	- Mitigation during Construction (by exception)	L		S		
	• Make Cost recovery decision, if applicable		S			L
260-380	Mitigation Implementation - Caltrans	L*	S	S	S	S
	• Determine Remedial Action Plan (RAP)		S	S	S	S
	• Seek Regulatory agency approval/public hearing, if needed	L		S		
	• Conduct Mitigation (cleanup)				L	
	- Complete Contract prior to construction					
	• PS&E for HW cleanup	L				
	• Advertise contract				L	
	• Award contract				L	
	• Administer contract				L	
	• Cleanup approval			S	L	
	• Complete cleanup contract				L	
	• During construction contract (by exception)				L	
	• Special Provisions for HW mitigation	L			S	
	• Seek Cost recovery from responsible parties, if applicable	S	S	S	S	L
380-600	Construction Phase					
	• Check and update current permit status (Milestones 380-480)	S			L	
	• Mitigate during construction (Milestones 500-600)				L	
	- HW specialty item	S			L	
	- Mitigation oversight			S	L	
	- Cleanup approval	L				
	• Seek cost recovery from responsible parties, if applicable				S	L

PD/PM = Proj Devl Unit / Proj Mgr **R/W** - Right of Way Branch **ENV** = Environmental Unit **CON** = Construction **LEG** = Legal
◊ = Key Meetings **L** = Lead Responsibility **PRP** = Potentially Responsible Party **S** = Support Role * = Initiate Meeting

CHAPTER 19 – VALUE ANALYSIS

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CHAPTER 19 – VALUE ANALYSIS

ARTICLE 1 – Introduction and Definitions

Introduction

Value Analysis (VA) or Value Engineering (VE) is a function-oriented, structured, multi-disciplinary team approach to solving problems or identifying improvements. The goal of any VA Study is to:

Improve value by sustaining or improving performance attributes
(of the project, product, and/or service being studied)
while at the same time reducing overall cost
(including lifecycle operations and maintenance expenses).

The purpose of this chapter is to define the policies and procedures of the VA process within Caltrans (the Department).

Background

In 1947, engineer Lawrence Miles originated the Value Analysis System while working for General Electric. The original five-step process included:

1. Information
2. Analysis
3. Creativity
4. Judgment
5. Development

The VA methodology was adopted and renamed by the United States Navy, popularizing the term Value Engineering. The use of value engineering continued to expand throughout the federal government over the next two decades. Today nearly every federal agency with construction or purchasing responsibility is using this methodology. VA is an improvement tool that is applicable to any customer-based endeavor.

Caltrans' VA program has evolved over the years since the first study was conducted in 1969. The majority of VA studies are employed to improve projects, but a growing number of studies are sponsored to improve work processes in order to respond to changing customer needs, new regulatory or policy challenges and technology advances.

Definitions

Bridge: According to FHWA, a bridge is a structure including supports erected over a depression or an obstruction, such as water, a highway, or a railway, and having a passageway for carrying traffic or other moving loads, and with an opening measured along the center of the roadway of more than 20 feet between under copings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes. It may also include multiple pipes, where the distance between openings is less than half of the smaller contiguous opening.

Cost: The sum of all costs involved in delivering a project, product or process. This includes capital cost to construct, support cost to develop the project, ownership cost to operate and maintain, user-benefit cost (e.g., motorist savings resulting from increased level of service) and the time value of money (Net Present Value – NPV).

Function Analysis: The process of discerning the elemental functions comprising a project, product, or service.

Function Analysis System Technique (FAST) diagram: A method of mapping the relationships between functions within a project. Functions are analyzed by aligning them in a "how" and "why" logic diagram.

Job Plan: Defines the VA study procedure. FHWA has approved Caltrans' eight-step VA study procedure. See Procedures for details.

Performance Attributes: Specific characteristics which are essential to achieve a project's objective. These variable characteristics can possess a range of values and can be measured either qualitatively or quantitatively.

Performance Criteria: Performance is the capacity of a project, product or process to fulfill its intended function. Consensus on the primary performance expectations is critical.

Performance Criteria Matrix: A technique using the paired comparison method of evaluating the importance of performance attributes in meeting the project's purpose and need.

Performance Requirements: Characteristics of the project, product, or process necessary to comply with regulations and polices. Requirements are absolute and must be explicitly met.

Projects: Transportation projects, as defined by FHWA, are defined in the Environmental Document (ED) and may include multiple construction contracts over many years.

Return on Investment (ROI): The cost savings or performance benefit realized from the implementation of a VA study alternative. Calculated by dividing the savings/benefit of the alternative by the cost of the study. Also can be described as a ratio (i.e., 10:1).

VA/VE: Systematic application of techniques by a multi-disciplinary team to improve the value of a project, product, or process by identifying and evaluating functions. The study objective is to provide the basic functions of the project, product or process at the lowest overall cost. The primary goal of a VA/VE study is to improve value.

VA and VE are used interchangeably throughout the manufacturing and transportation industry. Many Federal agencies, including the FHWA, use the term VE while the Department uses VA. In this manual, VA will be used.

Value: The relationship between performance of a project, product, or process and the cost of obtaining it. Optimum value is reached by maximizing performance while minimizing cost. Value can be expressed as:

$$\text{Value} = \frac{\text{Performance}}{\text{Cost}}$$

Value Matrix: A technique for organizing cost and performance data in order to compare value alternatives to the project baseline.

Value Metrics: A technique to define, evaluate and measure performance of a project, product or process.

ARTICLE 2 – Legislative Statutes

National Highway System Act

Passage of the National Highway Systems (NHS) Act of 1995 included a mandate directing the U.S. Secretary of Transportation to develop a program requiring State Departments of Transportation (DOT) to carry out a VA study for all Federal-aid projects on the NHS costing $25 million or more. The Federal Highway Administration (FHWA) published its VA Regulation implementing this mandate on February 14, 1997.

Title 23 United States Code (USC), Section106 requires State DOTs to establish a program to improve project quality, reduce project costs, foster innovation, eliminate unnecessary and costly design elements, and ensure efficient investments by requiring a VA study. A VA study means the systematic process of review and analysis of a project, during the concept and design phase, by a multidiscipline team of persons not involved in the project. The study is conducted to provide recommendations for providing the needed functions safely, reliably, and at the lowest overall cost, improving the value and quality of the project, and reducing the time to complete the project. The State DOTs must ensure that a VA study has been performed on all applicable projects and that all resulting, approved recommendations are incorporated into the plans, specifications and estimate. The legislation requires the State DOT's VA program to administer procedures that at minimum, include the following activities:

- Identification of candidate projects for VA study.
- VA study process following FHWA's approved VA "job plan"
- Clearly defined roles and responsibilities of VA study participants and study coordinators
- Guidance on VA Study timing requirements and scheduling to ensure optimum results
- VA Study decision-making, implementation, reporting and monitoring requirements

The procedures outlined in this chapter and Caltrans' VA guidance ensure that VA studies comply with the Federal mandate for project studies.

There is no "Exception Process" to the federally mandated VA requirement. Failure to comply could jeopardize the project's funding, future funding, and/or loss of the Caltrans' delegation authority.

Often a corridor's "parent" project is segmented into sub-projects to better facilitate project funding. If a VA study was conducted on the parent project analyzing the entire project corridor, as defined by the Environmental Document (ED), then any subsequent contracts (or sub-projects) will be in compliance with the federal VA requirement. However, if a VA study was not conducted on the entire project corridor, as defined by the ED, then all the sub-projects would need a VA study for compliance.

SAFETEA-LU

In 2005, the federal government enacted the "Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users" (SAFETEA-LU) with new provisions and regulations. The previous legislation limited the VA study requirement to Federal aid projects on the NHS. SAFETEA-LU expanded the scope of the 1995 Value Engineering legislation to include all projects on the Federal-aid system with an estimated project cost (capital and support costs) greater than or equal to $25 million. Title 23 USC Section 103 describes the "Federal-aid system" as the NHS and the Interstate System. Specific requirements that SAFETEA-LU enacted are:

- All projects on the Federal-aid system, regardless of funding, with an estimated total project cost greater than or equal to $25 million.
- All bridge projects with an estimated total cost of $20 million or more.
- Any other project designated by the U.S. Secretary of Transportation.
- The Secretary may require more than one VA Study for major projects over $500 million.
- VA studies can be performed during the planning or design phase of the project.

For more information on the *Federal Highway Administration (FHWA)* VA Program and the VA legislation, refer to their web site: http://www.fhwa.dot.gov/ve/index.htm.

ARTICLE 3 – Policies

Overseen by the FHWA, Caltrans will maintain a value analysis program to insure the effective use of the VA applications throughout the project development process. Caltrans is mandated by Title 23 United States Code (USC), Section 106 as amended by SAFETEA-LU to perform a VA study on all projects on the Federal-aid system with a total project cost (right of way, construction, and support) of $25 million or more regardless of whether Caltrans employees, local agencies, consultants, or others are accomplishing and/or funding the work. In addition, a VA study will be performed on all bridge projects with a total project cost of $20 million or more.

VA studies should be performed on all projects totaling $15 million or more to take advantage of the VA tools to enhance the project's value and to avoid having to perform the study late in the project development process if project costs should escalate above the mandated thresholds. The VA study is most effective in the beginning stages of project development, but it may be performed at any stage of project development. The project is defined by the environmental document and may consist of several construction contracts or phases.

The VA study must follow the VA Procedures (Job Plan) as described in this chapter. Deviation from the Job Plan could jeopardize Caltrans' compliance with the law. Caltrans' VA Program Manager can approve deviations from the Job Plan. Job Plan modifications are described later in this chapter.

Also, there is no "Exception Process" to the federally mandated VA study. Failure to comply could jeopardize the project's funding ability, future funding, and/or loss of Caltrans' delegation authority.

ARTICLE 4 – Benefits of VA

VA is an effective problem solving and quality assurance tool that can facilitate Caltrans goals, to maximize Safety, Mobility, Delivery, Stewardship, and Service. VA studies should be considered to:

- Meet or exceed standards and safety objectives
- Foster a team approach to problem solving and project development
- Improving a project's performance while maximizing quality
- Identify and develop strategies to mitigate or avoid risks and the associated costs
- Identify opportunities which promote Context Sensitive Solutions
- Validate project's scope, need and purpose, and baseline design

VA studies provide an opportunity for a structured and thorough review by functional experts. VA studies often reveal new information that fosters a project's advancement in a timely manner.

VA is an effective tool to ensure that Caltrans' responsibilities and liabilities as owner of the facility are adequately addressed in the project design. Caltrans has unique concerns, not to mention liability, for highway users' safety, environmental impacts and regional travel that may need to be balanced, but not compromised, with competing project objectives of partner agencies and project stakeholders.

With careful preparation and coordination, VA can aid in obtaining project stakeholder consensus on key project decisions, leading to the best possible design that is sensitive to the context of the impacted communities and environment.

Often, the earlier a VA study is undertaken, the more beneficial it will be. Conducting studies in the later phases of a project, after a significant amount of time and money has been committed to a chosen design, diminishes the opportunity for identifying viable improvements without compromising the delivery schedule.

The "Benefit Matrix", Table A, depicts the benefits that can be derived during the following four primary phases of Project Development:

1. Concept – Development of the Project Initiation Document (PID) or Project Study Report (PSR)
2. Approval – Activities to gain "Project Approval" and regulatory acceptance through the Environmental Document (PAED)
3. Final Design – Development of Plans, Specifications and Estimates (PS&E)
4. Construction – Analyzing constructability, identifying and assessing Cost Reduction Incentive Proposals (CRIP) and/or evaluating the merit of proposed Construction Change Orders (CCO). A Study during the construction phase does not meet the 23 USC 106 requirements.

TABLE A
Potential VA Benefits vs. Project Timing

Potential VA Benefits Scale ● = High ◉ = Medium ○ = Low	**Concept** **PID/PSR**	**Approval** **PAED**	**Final Design** **PS&E**	**Const.** **CCO**
Supports sound decision-making	●	●	●	●
Develop solutions to difficult engineering challenges	●	●	●	●
Identify/assess risk and associated cost	●	●	●	●
Reduce Project Development Support Cost – Expedite Delivery	●	●	●	●
Extend expected (LOS) service life	●	●	●	◉
Reduce Capital Cost to Construct	◉	●	●	◉
Reduce Cost to Operate/Maintain	◉	●	●	○
Clarify Need and Purpose	●	◉	○	○
Ensure Land Use compatibility	●	◉	○	○
Identify best alternatives to meet Caltrans' safety and performance standards	◉	●	◉	○
Early discovery of opportunities and constraints	●	●	◉	○
Build stakeholder consensus	●	●	◉	○
Obtain input from community representation	●	●	◉	○
Avoid/Minimize Environmental Impacts	●	●	◉	○
Avoid/Minimize R/W Impacts	●	●	●	○
Improve modal choices and connectivity	●	●	◉	○
Identify optimum phasing/staging opportunities	◉	●	●	○
Validate project scope	◉	●	●	○
Validate/Refine current project design	○	◉	●	○
Reduce the need for Construction Change Orders	○	◉	●	○

ARTICLE 5 – VA Application

In addition to transportation projects, the VA process can be effectively applied to other Caltrans products and processes. To propose a study, contact the HQ VA Program Manager or your District VA Coordinator (DVAC) for more information. VA is typically applied to the following:

I. Transportation Project Studies

VA's positive impact on projects has been demonstrated during the key project development phases.

- Project Initiation (K-phase)
- Project Approval – Environmental Document (PAED/0-phase)
- Plans, Specifications & Estimates (PS&E/1-phase)
- Construction (4-phase) Projects already in construction may be value analyzed at the discretion of the contractor and as specified in the construction contract's special provisions, leading to cost-reduction incentive proposals. The Construction Division administers these studies. Construction Studies do not meet the FHWA requirement of performing VA.

Consult Table A, "Potential VA Benefits vs. Project Timing", for guidance on when to schedule a study in order to achieve one or more specific objectives.

II. Product Studies

The VA methodology can also improve the quality of highway products. Products are items and systems described in Caltrans' Standard Plans and Specifications, including reports and other documents Caltrans develops for various customers. Value Analysis can help identify products that need to be updated due to changing technology, outdated applications or other changes that affect standards. For instance, VA studies of headlight glare screens, concrete barriers, and overhead signs have led to statewide modifications.

III. Process Studies

VA can improve the effectiveness of Caltrans processes, such as policies, procedures, and business practices. Process study topics that have benefited from VA studies include workload balancing, project development procedures, intergovernmental reviews, district business plans, information access and distribution, regional strategic traffic operations plans, tort liability claims, maintenance operations, and support services.

IV. Hybrid Project/Process Studies

The VA methodology can be used to develop or improve a process impacting a specific project. Examples include VA studies that developed approaches for managing a design-build project or developed project specific strategies for meeting National Pollutant Discharge Elimination System (NPDES) objectives.

ARTICLE 6 – VA Roles & Responsibilities

This article defines the Roles and Responsibilities for those involved in the VA process. There are many people involved in the VA process. Each plays a vital role in the success of the VA program. The people involved with VA include:

The VA Administrators:

Federal Highway Administration (FHWA)
Headquarters VA Program
District/Region VA Coordinators (DVAC)

Study Sponsors and Key Decision-makers

Program/Project Managers
Executive Management/Decision Makers
Study Stakeholders/Community Representatives
Local Agencies

The VA Study Team

VA Team Leaders/Facilitators
Full-time VA Team Members
Part-time VA Team Members Participants
Technical Reviewers

I. The VA Administrators

A. Federal Highway Administration (FHWA)

The FHWA Value Engineering Coordinator of the California Division, in cooperation with the Value Engineering Office in Washington D.C., supports Caltrans' Value Analysis program by:

1. Providing guidance and direction on all Value Analysis/Value Engineering federal legislation related to transportation.

2. Ensuring compliance with the federal legislation and subsequent rulings relevant to VE/VA.
3. Reporting Caltrans' VA study results to the FHWA Value Engineering Office in Washington D.C.
4. Participating in the selection and acceptance of VA study recommendations.
5. Participating in the nomination, selection and presentation of annual VA awards.
6. Recruiting local FHWA employees to serve as VA team members.
7. Participating with the VA program on important activities such as annual District Value Analysis Coordinator's meeting, Value Analysis conferences, and meetings with Caltrans management to discuss the role and future of the Value Analysis Program.

B. Headquarters VA Program

The Value Analysis program is located within the Division of Design in Headquarters. The FHWA has delegated the authority to maintain the VA Program within Caltrans. Following are responsibilities of Caltrans' VA Program:

1. Assuring compliance with the federal VE/VA requirements.
2. Preparing and submitting annual reports to FHWA and Caltrans management.
3. Reporting statewide results of CRIPs to the FHWA in cooperation with the Division of Construction.
4. Setting policy and procedures for the VA program.
5. Updating VA guidance materials and reference manuals (including this Chapter).
6. Forecasting VA demand to ensure adequate resources.
7. Developing, coordinating and monitoring the statewide annual VA program including fiscal management of the VA program allocation for consultant services.
8. Maintaining VA consultant service contracts.
9. Provide VA training opportunities to Caltrans.
10. Coordinating Headquarters sponsored VA studies.
11. Supporting and encouraging the development of expertise to ensure successful VA studies.
12. Assessing and sharing VA best practices and "lessons learned".
13. Monitoring VA studies to assure adherence to the VA methodology.
14. Marketing VA results and recognizing accomplishments with VA awards.
15. Participating on the AASHTO Value Engineering Sub-committee (optional).

C. District/Region VA Coordinators

Each district (or region) must have a VA Coordinator (DVAC). The coordinator's function is to assure the proper application of VA policies and procedures. The DVAC consults with VA Study sponsors and key decision-makers to identify improvement opportunities, scope, schedule, ideal team member candidates and study logistics, including meeting locations, study field trips and data collection. The coordinator also monitors and reports district VA studies to district management and to the Headquarters (HQ) VA program. The following lists the duties of the DVAC:

1. Coordinate with HQ VA program on all VA activities
2. Coordinate the development of the District's Annual VA program. This includes:
   - Working with District project and functional managers to identify Project (voluntary and federally mandated), Product and Process Studies
   - Obtaining the District Director's approval for the annual VA program
   - Updating the program over the duration of the year as needed
3. Manage the District/Region VA program to identify and check the availability of qualified team leaders and experienced team members to participate on the studies.
4. Ensure VA studies are conducted in accordance with Caltrans VA policies and approved procedures by performing the following duties:
   - For consultant-led studies, the DVAC will write and submit task orders to request consultant services under executed VA service contracts. Task orders must be written after being in consultation with the project manager, key functional units and key stakeholders.
   - Assist HQ VA Program to manage the yearly allocation of VA funds and types of funds provided to that District.
   - Schedule study dates including due dates for key deliverables and secure meeting room location(s) for the study meeting dates.
   - Notify study participants of the study dates, agenda and location
   - Ensure that the VA team leader and team have adequate background data to generate sound assumptions and analysis
   - Monitor study activities to assure adherence to the standards as defined in the VA manuals (auditing of study workshops).
   - Ensure VA study preparation activities are completed, including follow-up on implementation results.
5. Maintain hard copies and electronic files of all completed VA study reports.
6. Advocate the merits of VA by reporting/marketing study results and participant contributions (assist FHWA, AASHTO and Caltrans VE/VA awards programs and other recognition efforts)

7. Support HQ in monitoring legislative compliance, including audits and special report requests.
8. Assist HQ VA Program on assessing the cost and return on investment (ROI) of the Districts/Regions' VA Studies.

II. Sponsors & Key Decision-makers

A. Project Sponsors

Project Sponsors serve as project advocates. They secure funding for the preparation and completion of activities at the project team and functional level to ensure compliance with Department policies, standards and practices including VA.

B. Program/Project Managers

Generally District Program, Corridor and/or Project Managers are the primary sponsor for VA studies and help to ensure a successful study they are responsible for by:

1. Identifying highway projects to be value analyzed.
2. Ensuring VA studies are conducted on projects needing to comply with the federal VA law.
3. Providing adequate resources for the required and/or desired VA study into the project work plan budget and schedule.
4. Ensuring legislative compliance when the Department provides design oversight services for all projects on the Federal aid system.
5. Identify the need for a VA study on locally funded projects (All projects on the Federal aid system totaling $25 million or more and any bridge project $20 million or more).
6. Initiate a formal cooperative agreement as early as possible in the project development stage prior to incurring any costs and/or commitment of personnel resources.
7. Working with the DVAC to develop the VA study charter to outline the study's scope, objectives, participants and schedule.
8. Helping the DVAC recruit the most qualified VA team members, this may include sub-consultant experts, who can work directly with other multi-disciplined team members on various project issues.
9. Resolving the implementation dispositions of VA alternatives (accept, accept with modification(s), conditionally accept, or reject).
10. Ensuring legislative compliance by implementing all accepted alternatives into the project.

C. Executive Management/Decision Makers

Throughout the study duration, all relevant decision-makers should be involved, particularly for study preparation, the initial study kick-off meeting, team VA presentation and post study review activities. Having key decision-makers actively engaged and providing input to the VA team provides the necessary interaction to ensure that the VA study results in viable and beneficial VA recommendations. Their responsibilities include:

1. Support the Study coordinators (Project Managers and DVACs) to recruit the best team members and study participants.
2. Review the study charter and attend the study kick-off meeting to make sure all-important issues and study objectives are adequately addressed.
3. Provide the "Implementation Disposition" and decision rationale for each VA team recommendation.
4. Attend Implementation meeting and approve each recommendation with an Accept, Conditionally Accept or Reject decision.
5. Provide input on "Conditionally Accepted" alternatives to the Team Leader. Identify responsibilities and time schedules needed to resolve "Conditions".
6. Recognition of VA contributions and team member acknowledgements.

D. Study Stakeholders/Community Representatives

Throughout the study activities, Stakeholders and Community Representatives are encouraged to participate. The Kick-off and implementation meetings are specifically designed to include these part time study members so their thoughts and concerns can be met in the Study objectives and outcomes.

E. Local Agencies

Caltrans Division of Local Programs is responsible for assuring that a VA study has been performed on a local agency project. The Local Agency, in compliance with Caltrans' Policy and Procedures, must follow the VA requirement defined in this chapter. These responsibilities include:

1. Compliance with Caltrans' VA job plan on all projects as defined by the VA policy.
2. Provide written documentation of the VA study as defined by the Caltrans Report guidance.
3. Provide the Project Manager and/or DVAC with hard copy and electronic copy of the VA Report.
4. Enter into a Cooperative Agreement defining detailed information about the Study costs, schedule, team leader, and requirements of the proposed VA study.
5. Provide qualified Team members to participate in VA study when applicable.
6. Attend kick-off and implementation meeting on Local projects.

III. The VA Study Team

There are many activities involved in a VA study. These activities are outlined in the following Article (Article 7 – VA Study Job Plan) of this manual. There are several categories of participants involved in a VA Study. Each plays an important role in the success of the VA Study. The participants include a Team Leader, Team Members (full and part time), Stakeholders, and Decision Makers.

A. VA Team Leaders/Facilitators

The Team Leader generally is responsible for:

1. Meeting with Project Stakeholders, decision makers and team members in preparation of a VA study.
2. Leading the VA team through the VA methodology.
3. Documenting the VA alternatives to ensure clear, thorough communication of the VA team's concepts.
4. Preparing the VA report, following the requirements outlined in the VA Report Guide, in a timely fashion to the districts and HQ VA program manager.
5. Providing electronic and/or hard copies to all interested parties.
6. Ensuring the VA Study is in compliance with Departmental policy.
7. Performing a follow-up on the implementation plan.

B. Full-time VA Team Members

VA team members are recruited from Caltrans staff, government agencies and occasionally supplemented by consultants with desired technical expertise not readily available within Caltrans. External project stakeholders are encouraged to participate as team members. Studies must be performed using multi-disciplined teams of individuals open to changes to the current design of the project. To establish the team's authority, it is recommended that the DVAC obtain a memorandum signed by an appropriate high-ranking District manager, appointing team members to the study.

The experience and knowledge of the team members must match the complexity of the project being studied. Team members must be capable of working within a team environment, be willing to express themselves and be willing to listen to the ideas of others. Specifically, the VA team includes specialists who can develop and determine the technical, economic, political, and environmental feasibility of alternatives included in the project scope. Headquarters' staff such as Project Development Coordinators, Traffic Safety Coordinators, Design Reviewers, Environmental Coordinators, Environmental. Planners, Transportation Planners,

Maintenance and specialists from New Technology, Materials & Research should be recruited as needed.

VA teams typically consist of five to ten members, including the team leader. Teams within this range are effective, as they are large enough to represent the project's key technical areas of expertise, while small enough to achieve the desired cohesiveness and synergy. Teams of this size also demonstrate efficient use of resources for project studies.

Full-time VA Team members are expected to have:

1. Competency in their field of expertise.
2. Time to devote to the entire duration of the VA study. Team members (or their supervisors) are not allowed to send a delegate to participate in their absence (unless illness or an emergency prevents the team member's continued participation).
3. Preparation time to review the project prior to the study.
4. Skills and the mindset to complete all necessary VA study tasks, including writing VA proposals and estimating costs.
5. An open mind, a belief that there is always room for improvement and willingness to share and debate the pros and cons of VA alternatives.
6. Post study workshop time to review and comment on the Preliminary VA study report and participate on the VA Study implementation meeting.

C. Part-time VA Team Members (Caltrans/ Consultants)

Part-time VA team members are an essential part of the VA Study. These part time members include Technical Reviewers, Caltrans or Consultant Technical Experts, Project Managers, Project Development Team (PDT) members, Community Representatives, Project Stakeholders, and Project Decision Makers.

Part-time team members are:

1. Not required to attend all of the VA study activities.
2. May include local agencies or community representatives (or any interested party).
3. Should be invited to the stakeholder issues discussion on the first day of the study (Kick-off meeting).
4. Should serve as technical advisors and/or reviewers.
5. Should provide comments and/or feedback during the study. Especially when reviewing Preliminary or Draft documents.
6. May participate during the brainstorming phase of the study.

D. Technical Reviewers

The Project Manager identifies technical reviewers, responsible to review and comment on the technical viability of the VA alternatives and to identify any issues that need to be addressed. Comments should be well documented and clearly cited with advantages and disadvantages. Technical reviewers do not make decisions regarding the VA alternative. Technical reviewers should include individuals from functional units reflected in the Project Development Team and relevant Headquarters advisors.

Table B below summarizes the roles and responsibilities for the individual activities involved in a study/workshop.

TABLE B
Workshop Responsibilities

Workshop Responsibilities	Study Sponsor (s) or Project Manager	DVAC	HQ VA	Team Leader	Team Member	Stakeholders / Technical Advisors	Executive Mgmt. Decision-makers
Pre-VA Study							
Ensure legislative compliance (including local projects)	X	X	X				
Address VA in Project Study Reports and Project Reports (per CTC requirement)	X						
Identify projects to be value analyzed	X	X	X				X
Ensure adequate resources are available for study	X	X	X	X			
Determine study scope, objectives and participants	X	X	X				X
Determine study schedule	X	X		X			
Recruit ideal full-time team members and part-time participants as well as sub-consultant experts if needed	X	X					X
Develop and approve Study Charter	X	X					
Participate in Pre-study planning meeting	X	X		X			
Gather and disseminate adequate data to generate sound assumptions and analysis	X	X		X			
VA Study							
Attend and participate in Study Kick-off meeting discussion	X	X		X	X	X	X
Provide phone/email data and be available to support the team to answer questions	X	X		X	X	X	X
Participate in field review	X	X		X	X		
Attend mid-point review (if scheduled)	X	X		X	X	X	X
Develop formal VA Team Alternatives with cost estimates, and sketches (if applicable)				X	X		

Workshop Responsibilities	Study Sponsor (s) or Project Manager	DVAC	HQ VA	Team Leader	Team Member	Stakeholders / Technical Advisors	Executive Mgmt. Decision-makers
Rate and compare performance between VA alternatives and to baseline/existing option				X	X		
Review and validate team assumptions, findings, calculations	X					X	X
Determine/invite participants to the VA team's presentation and preliminary report reviewers	X	X					
Attend VA team presentation meeting	X	X		X	X	X	X
If needed, identify action items for additional analysis	X	X		X		X	X
Set post workshop schedule for preliminary report review and the implementation meeting	X	X					
Post VA Study							
Review report and provide specifics comments or requests for clarification	X	X			X	X	X
Participate in the implementation meeting	X	X		X	X	X	X
Provide rationale for acceptance, conditional acceptance or rejection of VA Alternatives	X						X
Distribute Final Study Reports		X		X			
Acknowledge VA Participants' effort and contributions	X	X		X			X
Follow-up on conditionally accepted alternatives	X	X		X			
Maintain hard copies and electronic files of all completed VA study reports	X	X	X	X			

ARTICLE 7 – VA Process and Procedures

Currently, Caltrans employs the following eight-step VA procedure (Job Plan) to meet the FHWA requirements:

1. Preparation
2. Information
3. Function Analysis
4. Speculation
5. Evaluation
6. Development
7. Presentation
8. Implementation

Many activities are involved in each step of the process. Basically, the Job Plan can be separated into three major categories: Preparation, VA Study/Workshop, and Reporting.

The VA study or workshop is separated into three segments. Segment 1 is for the Information, Function Analysis, Speculation and Evaluation phase of the study. Segment 2 includes developing the alternatives and presenting them to the stakeholders of the project. Once the alternatives have been presented, the preliminary report is written and distributed for comments. Segment 3 of the study begins by gathering the comments, and scheduling an Implementation meeting with the stakeholders and decision makers to discuss the implementation of the approved alternatives into the project. Upon completion, a Final report will be prepared discussing the results of the study.

Tables C and D outline all the VA study activities and the people involved in the VA study, respectively. Also, refer to Article 6 (roles and responsibilities) Table B for clarification. For more details, please refer to the VA Team Guide found on the Caltrans VA website.

http://www.dot.ca.gov/hq/oppd/value/guides.htm

Study Schedule

Typically, five to seven days (40 to 70 hours) of meeting time are required to conduct a VA study for a project. The study results should be finalized within 8-10 weeks of the start of the study.

During study preparation, the Project Manager (PM), the DVAC and Team Leader customize the typical VA Study work plan for the project and determine the approximate number of hours to be spent. It becomes the responsibility of the Team Leader to meet this schedule.

A typical model for the Caltrans VA highway study is to conduct Segments 1 and 2, see Table C, of the VA Study in two three-day sessions of eight hours each day, separated by no more than one week. Segment 3, see Table C, is conducted 3-5 weeks after the conclusion of Segment 2 to finalize the implementation disposition of the VA alternatives. This time is necessary to permit completion and distribution of the preliminary report by the team leader, and to review and comment on the VA alternatives by the PDT, technical reviewers and stakeholders. The VA report is due within two weeks of the completion of Segment 3.

Alternative Study Schedule

In some cases, it is desired to perform a shortened study (3-5 days for Segment 1 and 2, see Table C). There is an exception process to receive approval for a shortened study. The DVAC, in conjunction with the PM and Team Leader, may submit a "Modified Job Plan Proposal" to the Headquarters' VA Program Manager. The form is found on the VA intranet website:

http://pd.dot.ca.gov/design/specproj/value-analysis.asp

A description of the project along with a proposed schedule (job plan) must be submitted to Headquarters prior to approval. Acceptance of the modified Job Plan will be based on Study Scope, Complexity of the Project, Project Schedule, and duration of the study. Decisions will be made on a project-by-project basis and may require FHWA approval. One-day studies are not acceptable as valid VA studies. An acceptable job plan cannot be accomplished in one day.

TABLE C

Value Analysis Study Activity Chart

PREPARATION

INITIATE STUDY
- Identify study project
- Identify study roles and responsibilities
- Define study goals
- Select team leader
- Prepare draft Study Charter

1

ORGANIZE STUDY
- Conduct Pre-Study Meeting
- Select team members
- Identify stakeholders, decision-makers, and technical reviewers
- Identify data collection
- Select study dates
- Determine study logistics
- Update VA Study Charter

2

PREPARE DATA
- Collect and distribute data
- Develop construction cost models
- Develop highway user benefit / life cycle cost (LCC) model

3

VA STUDY

Segment 1

INFORM TEAM
- Review study activities and confirm reviewers
- Present design concept
- Present stakeholders' interests
- Review project issues and objectives
- Identify key functions and performance criteria
- Visit project site

4

ANALYZE FUNCTIONS
- Analyze project data
- Expand project functions
- Prepare FAST diagram
- Determine functional cost drivers

5

CREATE IDEAS
- Focus on functions
- List all ideas
- Apply creativity and innovation techniques (group and individual)

6

EVALUATE IDEAS
- Apply key performance criteria
- Consider cost impacts
- List advantages and disadvantages
- Rate each idea
- Rank all ideas
- Assign alternatives for development

7

Segment 2

DEVELOP ALTERNATIVES
- Develop alternative concepts
- Prepare sketches and calculations
- Measure performance
- Estimate costs, LCC benefits/costs

8

CRITIQUE ALTERNATIVES
- VA Alternatives Technical Review
- VA Alternatives Team Consensus Review
- Identify mutually exclusive groups of alternatives
- Identify VA sets
  Validate performance **9**

PRESENT ALTERNATIVES*
- Present findings
- Document feedback
- Confirm pending reviews
- Prepare preliminary report

**Interim presentation of study findings*

10

Segment 3

ASSESS ALTERNATIVES**
- Review Preliminary Report
- Assess alternatives for project acceptance
- Prepare draft implementation dispositions

***Activities performed by PDT, Technical Reviewers, and Stakeholders* **11**

RESOLVE ALTERNATIVES
- Review implementation dispositions
- Resolve implementation actions with decision-makers and stakeholders
- Edit alternatives
- Revisit rejected alternatives, if needed

12

PRESENT RESULTS*
- Present results
- Obtain management approval on implemented alternatives
- Summarize performance, cost, and value improvements

Final presentation of study results* **13

REPORT

PUBLISH RESULTS
- Document process and study results
- Incorporate all comments and implementation actions
- Distribute Final VA Report
- Distribute electronic report to HQ VA Branch
- Update VA Study Summary Report (VASSR)
- Provide HQ the Final VA Report in pdf format

14

CLOSE OUT VA STUDY
(if Conditionally Accepted Alternatives exist)
- Resolve Conditionally Accepted Alternatives
- Finalize VA Study Summary Report (VASSR)
- Finalize Performance Measures
- Finalize VA Report Executive Summary and provide electronically to HQ

15

Note: The dashed boxes indicate steps that ***may*** not be required in some VA Studies.

TABLE D
Value Analysis Job Plan Participation Chart

VA Activity Preparation	DVAC	PM	PDT	Technical Reviewers	HQ VA Program	External Stakeholders	Executive Mgmt.	Team Leader	VA Team
INITIATE STUDY									
➢ Identify study project	X	X							
➢ Identify study roles and responsibilities	X	X			X				
➢ Define study goals	X	X							
➢ Select team leader	X	X			X				
ORGANIZE STUDY									
➢ Conduct preparation meeting	X	X	X					X	
➢ Select team members and advisors	X	X	X					X	
➢ Identify stakeholders, decision-makers and technical reviewers		X							
➢ Identify data collection	X	X	X					X	X
➢ Select study dates	X	X	X					X	X
➢ Determine study logistics	X							X	
PREPARE DATA									
➢ Collect and distribute data	X	X	X					X	
➢ Develop construction cost models								X	X
➢ Develop highway user benefit LCC model								X	X

VA Activity Segment 1	DVAC	PM	PDT	Technical Reviewers	HQ VA Program	External Stakeholders	Executive Mgmt.	Team Leader	VA Team
INFORM TEAM									
➢ Review study activities/ confirm reviewers	X	X							
➢ Present design concept		X	X						
➢ Present stakeholders' interests		X				X			
➢ Review Project Documents	X	X	X	X		X		X	X
➢ Review project issues and objectives		X	X					X	X
➢ Develop performance criteria		X	X	X		X		X	X
➢ Visit project site	X	X	X			X		X	X
ANALYZE FUNCTIONS									
➢ Analyze project data								X	X
➢ Identify project functions								X	X
➢ Prepare FAST diagram								X	X
➢ Determine functional/cost and functional /performance relationship								X	X
CREATE IDEAS									
➢ Focus on functions								X	X
➢ List all ideas								X	X
➢ Use group brainstorming								X	X
➢ Use individual brainstorming								X	X
EVALUATE IDEAS									
➢ Apply key evaluative criteria								X	X
➢ Rate each idea								X	X
➢ List advantages and disadvantages								X	X
➢ Rank all ideas								X	X
➢ Assign alternatives for development								X	X

VA Activity Segment 2	DVAC	PM	PDT	Technical Reviewers	HQ VA Program	External Stakeholders	Executive Mgmt.	Team Leader	VA Team
DEVELOP ALTERNATIVES									
➢ Develop alternative concepts								X	X
➢ Prepare sketches and calculations								X	X
➢ Estimate costs, LCC benefits/costs								X	X
➢ Measure performance								X	X
➢ Edit alternatives								X	X
CRITIQUE ALTERNATIVES									
➢ Review alternatives for team consensus								X	X
➢ Review alternatives for technical viability				X				X	X
➢ Validate performance								X	X
➢ Review pending study activities/ confirm reviewers	X	X		X				X	X
➢ Edit alternatives and incorporate comments								X	X
PRESENT ALTERNATIVES									
➢ Present findings								X	X
➢ Document feedback								X	X
➢ Confirm pending technical reviews		X	X	X		X	X		
➢ Prepare preliminary report								X	

VA Activity Segment 3	DVAC	PM	PDT	Technical Reviewers	HQ VA Program	External Stakeholders	Executive Mgmt.	Team Leader	VA Team
ASSESS ALTERNATIVES									
➢ Review preliminary VA report		X	X	X	X	X	X		
➢ Assess alternatives for project acceptance		X	X	X	X	X	X		
➢ Prepare draft implementation dispositions		X	X	X	X	X	X		
RESOLVE ALTERNATIVES									
➢ Review implementation dispositions	X							X	X
➢ Resolve implementation actions decision-makers and stakeholders	X	X	X	X		X	X	X	X
➢ Edit alternatives								X	X
➢ Revisit rejected alternatives, if needed								X	X
PRESENT RESULTS									
➢ Present results of study	X	X	X	X		X	X	X	X
➢ Reach final consensus and summarize study results on implemented alternatives.	X	X	X	X		X	X	X	X
PUBLISH RESULTS									
➢ Document process and results								X	
➢ Incorporate all comments and dispositions								X	
➢ Distribute VA report								X	
➢ Distribute electronic version to HQ VA Branch								X	
CLOSE-OUT STUDY *(if Conditionally Accepted Alternatives exist)*									
➢ Resolve Conditionally Accepted Alternatives								X	
➢ Finalize VA Study Summary Report (VASSR)								X	
➢ Finalize Performance Measures								X	
➢ Finalize VA Report Executive Summary and provide Electronically to HQ								X	

VA Study Report

The objective of a VA study is to develop a proposal to maximize performance while minimizing cost. The VA report contains all of the documentation needed to communicate the findings of the VA Study and facilitate implementation of the VA alternatives. The Team Leader is primarily responsible for gathering the documentation generated by the study team and compiling it systematically into a report.

Two reports, a preliminary and final, are generated for every study. The purpose of the preliminary report is to provide documentation of the VA alternatives to the reviewers and team members in order to get their response to the viability and acceptability of the alternatives. The preliminary report is typically prepared and distributed within two or three weeks after the VA Study. The final report is prepared after the implementation meeting to document the decision maker's comments, implementation plans, and decisions. The final report serves as the final documentation of the VA study.

Each VA study is summarized and documented using the VA Report guidelines which are found on the Caltrans VA website. http://www.dot.ca.gov/hq/oppd/value/guides.htm

The VA Study Report includes the following sections:

- Table of Content (P, F)
- Distribution List (P, F)
- Executive Summary (P, F)
- VA Study Summary Report (VASSR) (F)
- VA Alternatives (P, F)
- Project Analysis (F)
- Project Description (P, F)
- Idea Evaluations (P, F)
- VA Process (P, F)

P-Preliminary, F-Final

VA Alternative and Numbering Convention

Each alternative consists of a summary of the original concept, a description of the suggested change, a listing of its advantages and disadvantages, a cost comparison, change in performance, and a brief narrative comparing the original design with the alternative. Sketches, calculations, and performance measure ratings are also presented.

Many alternatives developed by the team have several variations. Alternatives are numbered sequentially (1.0, 2.0, 3.0). The .0 indicates this alternative does not have any competing ideas. When several competing ideas are developed and only one may be implemented, the same number is used with decimal designators (3.1, 3.2, 3.3) for the competing alternatives. The VA alternative number is independent of the original idea number.

VA Sets

The VA team establishes VA sets as their "best value" solutions, based on improved performance, likelihood of implementation, least community impact, cost savings, or any combination of criteria. A VA set may contain one or more alternatives, and each set is typically mutually exclusive of other sets (i.e., implementing VA Set 1 precludes implementation of VA Sets 2 and 3). VA sets are selected alternatives combined from mutually exclusive groups that can compete in whole, or in part, against the original design concept. This requires additional performance rating and totaling of costs for the sets.

An example of VA sets, see Figure 1, is as follows: The VA team created two VA sets for the project. Both sets offer the potential to significantly reduce excavation work; simplify construction; reduce horizontal curve radii, thereby improving sight distance; and reduce the number of intersections and associated turning movements on the highway. Both sets suggest reduction in design speed in selected areas of the project, from 50 mph to 45 mph, or from 50 mph to 40 mph. Either of these two alternatives will give the designer greater flexibility to design around obstructions (including utilities) and existing topography. The reduction in design speed is consistent with the highway use and designation.

FIGURE 1
Summary of VA Alternatives

SUMMARY OF VA ALTERNATIVES *Example Project*		Caltrans	
No.	***Description***	**Cost Savings Initial / *Highway Use***	**Change in Value**
1.1	Relocate / Consolidate / Improve At-Grade Intersections	$885,000	+3%
1.2	Realign SR 64 Southbound and Reroute Solitude Road	$16,183,000	+3%
1.3	Eliminate Wiley Drive Connection	$1,700,000	+8%
2.1	Design Median Width for Projected Traffic Volumes	$5,097,000	0%
2.2	Reduce Solitude Grade Median to 7 Meters, with Concrete Barrier for ~1,000 Meters	$1,814,000	0%
3.0	Steepen Slopes to 1.5:1	$6,420,000	+5%
4.1	Lower Design Speed to 45 mph in Selected Areas	$6,409,000	+3%
4.2	Lower Design Speed to 40 mph in Specific Areas	$9,853,000	+1%
5.0	Go Around the Oil Refinery; Realign Roadway to Intersect Utilities at 90º	$1,011,000	+3%
6.1	Relocate 14/64 Interchange Beyond Wetlands	$400,000	+2%
6.2	Design Simple Flyover at 14/64 Interchange	$4,006,000	+4%
7.0	Eliminate asphalt treated permeable base (ATPB) and edge drains	$3,170,000	0%
8.0	Undercrossing at Olive Hill Road with Interchange	($1,982,000) *$34,146,000*	+15%

SUMMARY OF VA SETS

Set No.	Description	Cost Savings Initial / *Highway User*	Change in Performance	Change in Value
1	Use 40 mph design speed in selected areas (1.2, 2.1, 3.0, 4.1, 5.0, 6.2, 7.0, 8.0)	($1,982,000) *$42,296,000*	26%	52%
2	Use 45 mph design speed in selected areas (1.2, 2.1, 3.0, 4.2, 5.0, 6.2, 7.0, 8.0)	($1,982,000) *$45,740,000*	24%	52%

Example

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VA Performance Criteria

Performance criteria were established solely to better understand the advantages and disadvantages between competing alternatives. A consensus-driven approach is used to determine the relative magnitude of each performance objective by assigning a numeric weight. Interpreting the performance expectations into a numeric abstraction permits an unbiased assessment of value.

Caltrans has increased the significance of performance in determining the overall value score. By using the "Paired Comparison" method to obtain the team's consensus on the relative importance of each performance attribute and to assign a numeric value for each attribute. Using the Performance Criteria Matrix, the VA team assigns numeric weights to the identified Performance Attributes by comparing the relative importance of each as it pertains to the project, product or process being studied. The example in Figure 2 below assigns the weighted percentage score to each Performance Attribute in the project. The score is calculated by adding all the compared importance attributes and dividing by the total number of comparisons, i.e. five A's divided by 21 equals 24%.

FIGURE 2
Performance Criteria Matrix

PERFORMANCE CRITERIA MATRIX *Example Project*								**Caltrans**	
								TOTAL	**%**
Mainline Traffic Operations	**A**	b	a	a	a	a	a	5.0	24%
Highway User Safety		**B**	b	b	b	b	b	6.0	29%
Access			**C**	c	c	c	c	4.0	19%
Local Traffic Operations				**D**	d	f	d	2.0	10%
Constructibility					**E**	f	e/g	0.5	2%
Environmental Impacts						**F**	f	3.0	14%
Right-of-Way Impacts							**G**	0.5	2%
a	More Important								
a/b	Equal Importance							21.0	100%

Example

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Once the weighted Performance Attributes are calculated, a comparison analysis of VA Alternatives is focused on the ability and extent of each alternative to satisfy a performance attribute. The VA team assesses each VA Alternative to determine the degree each causes beneficial or adverse impacts to the performance attributes. The team agrees on a qualitative value based on a scale of one to ten, ten being the highest potential benefit. When comparing against the baseline alternative, the value is set to five.

Figure 3 below is used to calculate the Value Index of each alternative. If an attribute, such as Mainline Traffic Operations, is assigned a weighted value of 24 points (24%) and the alternative is evaluated to have a performance rating of eight points then the alternative's performance score for that attribute is 192 points (criteria weighted value multiplied by performance rating). Adding the points for all the performance attributes, creates a performance score for each VA Alternative (e.g., 677 in Figure 3). A Value Index score is calculated by dividing the performance score by cost (e.g., 677 divided by 235.6 (million) equals a 2.87 Value Index). This allows the team to present a value comparison between VA alternatives and the baseline design.

The difference between the score for the VA alternative, and the score for the project baseline concept, is expressed as a percentage of performance improvement or degradation. The optimum result is to develop VA alternatives with the potential to increase performance at a decreased cost. Often, the VA study will result in a set of alternatives that either decrease cost, but with a slight degradation in performance or the opposite, performance significantly increases with a slight cost increase.

FIGURE 3
Performance Rating Matrix

PERFORMANCE RATING MATRIX - Original Concept
Example Project

Caltrans

Criteria	Criteria Weight	Concept	Performance Rating 1	2	3	4	5	6	7	8	9	10	Total Performance
Mainline Traffic Operations	24	No Build		2									48
		Original Concept								8			192
Highway User Safety	29	No Build				4							116
		Original Concept						6					174
Access	19	No Build			3								57
		Original Concept							7				133
Local Traffic Operations	10	No Build				4							40
		Original Concept							7				70
Constructability	2	No Build											N/A
		Original Concept							7				14
Environmental Impacts	14	No Build											N/A
		Original Concept						6					84
Right-of-Way Impacts	2	No Build											N/A
		Original Concept					5						10

OVERALL PERFORMANCE	Total Performance	% Perf. Improve.	Total Cost	Value Index (Performance / Cost)	% Value Improvement
Original Concept	677		235.6	2.87	

Example

ARTICLE 8 – VA Study Charging Details

The VA study activities are resourced by two different funding sources. First, the HQ VA program maintains several A&E contracts with consultant Team Leaders on board to perform Caltrans VA studies. Team Leaders are Certified Value Specialists (CVS) with specific expertise not employed within Caltrans. Included in these contracts are provisions for Caltrans to hire consultants with specific expertise and/or experiences. The second source of funding is from the Expenditure Authorization (EA) of the project. Caltrans employee participation in the study will be charged to the EA of the project.

Typical Cost

Typical VA studies include a Pre-study meeting, six-day workshop, report writing, report review and comment period, and an implementation meeting. These activities generally take about 80 hours of work spread over a six-week period for each full-time team member. With typical studies having 6-8 team members, the Project Manager (PM) should include about 500-1000 hours for VA activities in the project work plan. The PM should also consider including 80 hours for the District VA Coordinator (DVAC).

Consultant Team Leader costs, including administrative fees, quality control, and traveling expenses, are allocated though A&E contracts and are administered by the HQ VA Program. Typical studies range from $30,000 - $40,000.

Although the cost of the study can be substantial, the results from each study are on average returning an 80:1 savings on investment. For each dollar spent on the study, Caltrans is realizing an eighty-dollar savings in initial cost and/or life-cycle cost on the project.

Typical Charging

Caltrans' Team Members should be charging their time directly to the project EA. VA activities are defined in the Work Breakdown Structure (WBS) for each phase of the project. An example of a typical project study in District 6 during the PID phase is as follows:

Source Dist.	Charge Dist.	EA	Subjob	Spec. Desig.	FAE	Activity Code	MSA
06	06	123456		6VA1234	1	150	P1010

Team members are encouraged to use a Special Designation to identify VA activities. The VA program uses the following Special Designation:

6VAxxxx - where **xxxx** is the Task Order number of the VA Study

Activity Code:	**MSA**
150 = Project Initiation Document (PID)	P10.10
160 = Perform Preliminary Engineering Studies and Prepare Draft Project Report	P10.20
185 = Prepare Base Maps and Plan Sheets	P15.20

Caltrans policy requires all on-call A&E contract expenditures to be charged against the specific project in which the work is being done. Team Leader expenses are encumbered directly to the project EA from the on-call contract holding EA administered by HQ VA Program. Task orders, expenses and billing for consultant services related to VA activities are the responsibility of the HQ VA Program.

ARTICLE 9 – VA Program Reporting

The HQ VA Program's results are reported to the FHWA and Caltrans management in an annual report prepared in October by the HQ VA Program Manager. These reports describe results of the VA studies performed over the Federal fiscal year (ending September 30). The report is used to calculate the return on investment (ROI) of the VA Program by comparing the Cost of the Study to the Amount of Savings.

The HQ VA Program also reports to FHWA on Caltrans "Cost Reduction Incentive Proposals" (CRIPs), the method to approve construction strategies developed by the construction contractor to reduce project cost. Please refer to the Caltrans' Construction Manual for more details about CRIPs. Most other states use the name "Value Engineering Cost Proposals" (VECP) for similar programs.

The FHWA annual report includes:

- Number of VA Studies
- Cost of the VA Studies
- Number of Proposed Alternatives
- Number of Accepted Alternatives
- Value of Proposed Savings
- Value of Accepted Savings
- Total Cost of Projects being Studied
- Number of Construction VECPs
- Amount of VECP Savings
- Number of Employees Trained in VA

The FHWA annual report from previous years can be found on the web at: http://www.dot.ca.gov/hq/oppd/value/history.htm

CHAPTER 20 - Project Development Cost Estimates

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CHAPTER 20 - Project Development Cost Estimates

SECTION 1 - Project Cost Estimating

ARTICLE 1 - General

Importance of Quality Cost Estimates

The reliability of project cost estimates at every stage in the project development process is necessary for responsible fiscal management. Unreliable cost estimates result in severe problems in Caltrans' programming and budgeting, in local and regional planning, and it results in staffing and budgeting decisions which could impair effective use of resources. This, in turn, affects Caltrans' relations with the California Transportation Commission (CTC), the Legislature, local and regional agencies, and the public, and results in loss of credibility.

The term "project cost estimate", as used during the project development process, includes all capital outlay costs, including right of way, structures and landscaping, but does not normally includes capital outlay support costs. Project cost estimates should never be artificially reduced to stay within the funding limits, nor should they be reduced to make available more project funding for the District. Likewise, project cost estimates should not be artificially raised beyond the contingency percentages provided for in this Chapter unless adequately justified.

Cost Estimate Categories

There are two categories of project cost estimates: Project Planning Cost Estimates and Project Design Cost Estimates. Project Planning Cost Estimates are used for project justification, analysis of alternatives, approval, and for programming. Project Design Cost Estimates are used to summarize the cost of a Project's contract items of work and will be part of the construction contract for the Project.

Consistent and Comprehensive Methodology

Cost estimating is not an exact science. However, Caltrans must strive for reliable project cost estimates, so that projects can be delivered "within budget." To this end, it is required that project cost estimates be prepared using a consistent and comprehensive methodology. Even with a consistent and comprehensive methodology, careful attention is needed to ensure a quality estimate. The cost estimator needs to research, compare and, above all, use their professional judgment to prepare a quality cost estimate. Coordination between the project planning cost estimates, the project design cost estimates, and the Standard Specifications that will be used to construct the project is required.

Cost Estimates are Not Static

Cost estimates, in a sense, are never completed. They are not static, but have to be reviewed continually to keep them current. The Project Engineer (PE) is responsible for keeping the project cost estimate up-to-date throughout the project development process, while the Project Manager (PM) is responsible for reviewing and approving all project cost estimates and ensuring that the current project cost estimates are entered into the Project Management and Control System (PMCS) data base.

ARTICLE 2 - Policy

Goal and Objective

Caltrans' goal is to avoid project cost overruns. One objective is to identify "unforeseen items of work" before the project concept, scope, and cost have been determined, thus minimizing the differences between preliminary project planning cost estimates and final project design cost estimates. Identifying costly "unforeseen items of work" after the project has been programmed may stop or delay a project.

Project Cost Awareness

Project cost awareness and control must be practiced throughout the project planning and project design phases. This begins by establishing realistic assumptions as to final concept, scope and cost as early in the life of the project as possible.

Standard Formats

Uniform project cost estimating procedures are to be followed. All project cost estimates are to be prepared using the appropriate standard formats as described herein (see Appendix AA).

Accountability

District Management and the PM are to be directly involved and held accountable in estimating project costs, controlling costs and submitting changes to cost estimates for approval.

Monitoring and Updating Cost Estimates

All project cost estimates are to be monitored and maintained current in PMCS. Following the initial estimate, the timing of updates is guided by the following factors:

- Annual update - all cost estimates must be kept current by updating at least once a year. An annual update is only necessary if the estimate is not updated

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for any of the reasons listed below. If nothing else has changed this update would focus on the unit costs used for the various items in the estimate.

- Programming Cycle - a current cost estimate is needed at the start of each programming cycle so that the next programming document will reflect current cost estimates. Most programming documents are prepared on a two year cycle. The escalated amount used in each programming document establishes a new base against which future cost changes are compared.

- Approval of project development report - project development reports authorizing proceeding further in the Project Development process require development of a project cost estimate. The report guidelines require a cost estimate to be attached to these reports, and their completion marks a milestone in the project development process, i.e., Milestone 010 PSR, Milestone 100 DPR, Milestone 200 PR, Milestone 300 PS&E).

- Significant changes in identified project costs - other appropriate times to update the project cost estimate is when a project development workflow task supports the preparation of a more detailed cost estimate (i.e., when a task involves an activity to review the project and create a cost estimate). Examples of this include when a preliminary site investigation more clearly identifies the hazardous waste problems, or when a materials report clarifies the foundation conditions.

ARTICLE 3 - Current Project Cost Estimate

Most Recent Estimate

The Current Project Cost Estimate is defined in Chapter 6. It is simply the most recent project cost estimate available during either the planning phase or the design phase, regardless of whether it is approved as the "approved cost." It is adjusted from the date of the estimate to January 1 of the current State Fiscal Year. Changes in cost estimates exceeding the thresholds set in the Scope, Cost and Schedule Management Procedures must receive approval from the Deputy Director for Project Development, or the District Director, depending on delegated authority. Refer to Chapter 6 and the *Caltrans Project Management Handbook* for further information.

The current project cost estimate is the cost estimate that is maintained in the PMCS Data Base as the latest information on project costs and is shown in the monthly district "Status of Projects" report.

Estimate Includes Right of Way

Since the Current Project Cost Estimate is an estimate of the capital outlay costs, it includes right of way costs. Refer to Section 3, Article 1, for a discussion of the relationship of the right of way cost estimate to the project design cost estimate during the design phase of project development.

ARTICLE 4 - Responsibilities

Project Engineer

- Prepare, revise and update project cost estimates.
- For project estimates that have achieved P.S.&E. milestone, update Engineer's Estimates that are more than three months old.
- Incorporate new or revised cost data from functional units in project cost estimate.
- Provide revised or updated current cost estimates and their respective dates for inclusion in the PMCS database in a timely manner.
- Maintain a record of successive cost estimates for each project, including structure and right of way cost estimates, with documentation of the reasons for significant changes.
- Prepare Program Change Request or Fact Sheet, as appropriate -- see Chapter 6.

Project Manager

- Review and approve all project cost estimates.
- Ensure that current cost estimates and their respective dates are entered into the PMCS database.
- Review and sign Program Change Request or Fact Sheet.

Office of Structure Design

- Prepare, revise and update Structure estimate.
- Enter revised Structure estimates and their respective dates into the PMCS database in a timely manner to keep the current estimate up-to-date.

- Promptly advise the PM of the availability of and significant changes in the Structure estimate; and the reasons for the changes.

District Right of Way

- Prepare, revise and update right-of-way and utility estimates.

- Enter revised current right of way and utilities estimates and their respective dates in the PMCS in a timely manner.

- Insure that expended right of way cost is included or excluded in a consistent manner for cost comparison with earlier estimates.

- Deputy District Director - Right of Way to review and sign Program Change Request -- see Chapter 6.

- Promptly advise the PM of the availability of and significant changes in the right of way and utilities estimate; and the reasons for the changes

District Project Management

- Process Program Change Request -- see the *Caltrans Project Management Handbook*.

- Obtain comments from Design Coordinator on scope and cost changes -- see Chapter 6, Article 3.

District Director

- Review all estimates prepared at major milestones and for specific project documents such as PSR, DPR, PR, PS&E, etc.

- Monitor project cost and adjust scope to stay within funding capabilities throughout the project development process. This includes taking action at the District level where such action is within District jurisdiction.

- Review and recommend approval of Program Change Requests, or approve if within delegated authority -- see Chapter 6.

- For all projects with an Engineer's Estimate over $5 million, certify that the contract cost estimate is complete and accurate, reflecting the true scope of the work to be performed and representative of the most current market trends. This District Director certification will be required to achieve Ready to List (RTL). The RTL certification form has been revised to include this signature and is available from the District Office Engineer.

- Re-certify projects with an Engineer's Estimate more than three months old.

Division Chief - Division of Design

- Maintain appropriate cost estimate formats for use in preparing estimates for all projects.

- Through the Design Coordinator, review, comment on, and recommend approval of all Change Control Documents for scope changes and cost changes, when the costs exceed the District Director approval threshold -- see Chapter 6.

Chief - Office of Statewide Project Management and Control

- Process all Program Change Requests for projects submitted to Headquarters when costs exceed District Director approval threshold -- see Chapter 6.

- Hold Project Delivery Meetings to monitor and evaluate scope, cost and schedule changes. (Abbreviated meetings, called Mini Project Delivery Meetings, are often held.)

Headquarters Management

- Deputy Director for Project Delivery makes recommendation for Program Change Requests when approval is not delegated to the District Director.

- Deputy Director of Finance approves (or rejects) Program Change Requests when approval is not delegated to the District Director -- see Chapter 6.

ARTICLE 5 - Coordination with Other Functional Units and Agencies

Consult Others

Other functional units (Structures, Right of Way, Traffic Operations, Materials, Maintenance, Construction, Environmental, Landscape Architecture, etc.) and local entities should be involved, as appropriate, in the preparation of both Project Planning Estimates and Project Design Estimates. Do not create a project cost estimate in a vacuum. Gather as much information as possible for the project and its various alternatives. It is better to have too much information than not enough.

Structures and Right of Way Estimates

The Office of Structure Design will prepare all structure cost estimates and the Right of Way Branch will prepare all right of way cost estimates. The estimates prepared by those

functional units are to be combined with the roadway items to obtain the capital outlay costs for the project. For further information on structure cost estimating and right of way cost estimating contact those functional units.

Cooperative Projects

For those projects with contributor funding, segregated cost estimates are needed. To avoid confusion, as soon as the participatory rules for the project are determined, use segregated cost estimates that show the funding responsibilities of the various partners on the project. Define the various participants funding responsibilities as early as possible in the project development process. Communication among the various partners is very necessary to insure reliable project cost estimates.

Intercounty Projects

Segregated cost estimates for those projects situated in more than one county are required. This allows proper crediting against county minimum funding requirements. This need not be done for each item, but rather as a percentage of the total project cost estimate.

Federal Aid Projects

Segregated cost estimates for those projects with Federal funding are required. To avoid confusion, on Federal Aid projects, as soon as the participatory rules for the project are determined, use segregated cost estimates. The FHWA Liaison Engineer should be contacted to discuss any issues relating to Federal Aid.

SECTION 2 - Project Planning Cost Estimates

ARTICLE 1 - General

Project planning cost estimates are cost estimates prepared in advance of project approval. The initial programmed cost (see Chapter 6, Article 2) that appears the first time a project is listed in the STIP, State Highway Operation and Protection Program (SHOPP), Toll Bridge Program or TSM Plan is based on an escalation of a Project Planning Cost Estimate. Project planning cost estimates are categorized as: (1) Project Feasibility; (2) PSR; (3) Draft PR; and (4) PR.

ARTICLE 2 - Project Feasibility Cost Estimate

Initial Cost Estimate

A Project Feasibility Cost Estimate may be required by management to determine whether or not to proceed with development of a project initiation document. It is prepared prior to the project initiation process at the time of the initiation of project planning studies when a highway improvement need has been identified and a project cost estimate is needed to evaluate the proposed improvements.

With management's approval to proceed, the normal process is to update the cost estimate with additional data to produce a PSR Cost Estimate and a programmable project. The Project Feasibility Cost Estimate serves as background information for the PSR Cost Estimate.

Methodology

It is understood that for project cost estimates developed prior to project initiation, sufficient data may not be available to prepare a detailed estimate. However, management may still need project cost information at very early stages to make decisions on whether to proceed with development of a project initiation document. This information has to be factual, but is not to be used for programming the project.

Project Feasibility Cost Estimates in years past, when the majority of State highway projects were new roadways on new alignment with a very well defined scope, were prepared using a variety of methods but most likely on a cost per mile basis for a particular type of facility. Today, the majority of projects either maintain or improve the operation of the existing system. Cost estimates for these projects are more difficult to scope and cannot be determined by a "windshield survey". It is necessary to "walk the job" to obtain factual data to prepare realistic estimates that can be used with confidence.

A strip map with proposed project features and a proposed typical section should be prepared. Since many project features can be identified only by visual contact, a systematic field review should be made using the strip map and typical section. Adequate preparation time should be allowed.

Scoping for Project Feasibility Estimates

Since the Project Feasibility Cost Estimate is probably the initial cost estimate prepared for the project, there usually is limited information on which to base costs. It is essential, therefore, that the project be adequately scoped. The "worse probable case" scenario should always be assumed, particularly on reconstruction projects. Existing facilities thought to be adequate may become inadequate because of changes to standards, new data, further deterioration prior to construction, etc.

Be Aware of High Cost Items

To give management the best information available on which to base decisions, Project Feasibility Cost Estimates must be as realistic and accurate as possible. Estimators should be aware of high cost items that must be quantified such as: costs of mitigating hazardous waste and other environmental impacts, utility relocation, noise barriers, retaining walls, major storm drains, transportation management plan, traffic handling, etc. Assumptions made during development of the cost estimate should be documented. See Appendix AA for guidelines on estimate preparation.

The Office of Structure Design should be consulted, if structural design work is required, to obtain cost data for the Project Feasibility Cost Estimate. At the feasibility stage, the Right of Way Branch will normally complete the first sheet of the Right of Way Data Sheet with a notation, "NOT VALID FOR PROGRAMMING PURPOSES".

Contingencies

Contingencies should be from 30% to 50% at this stage, depending on the factual data available for preparing the estimate.

ARTICLE 3 - PSR Cost Estimate

Methodology

The PSR Cost Estimate, a required attachment for most project initiation documents, is an expansion of the Project Feasibility Cost Estimate. The format is the same, but additional information must be obtained -- see Appendix AA. Alternatives are developed and evaluated that clearly satisfy the project need and purpose. Because the PSR Cost Estimate will probably be used as the Current Project Planning Cost Estimate from which the programmed cost for the STIP, SHOPP or other programming document is calculated, the importance of a reliable estimate at this stage cannot be overemphasized. It is the initial base against which following estimates are measured and has extremely high visibility.

Specialized Formats

Specialized PSR Cost Estimate formats have been developed to aid in the completion of project cost estimates for pavement rehabilitation project PSSRs, structure rehabilitation project PSSRs, etc., and are an integral part of those documents. These specialized formats were created from the PSR Cost Estimate format but have been simplified to focus on the typical items of work associated with these specialized project types -- see Appendices E, G, H, J, P and Q.

Appropriate Mapping

To adequately prepare a PSR Cost Estimate, it is essential to obtain appropriate mapping. Consultation with the Survey Unit and a review of the *Plans Preparation Manual* is advisable.

Additional Information

Additional information that must be obtained includes: existing and forecasted traffic; geotechnical design information (particularly where foundation and slope stability problems can be anticipated); materials and pavement structural section design information; advance planning estimates for new structures and modifying existing structures; hazardous waste assessment; potential environmental issues and mitigation; right of way and utilities data sheets; traffic handling and transportation management plans; utilization of existing resources (recycling), etc. Constructability Reviews should evaluate and validate the project estimate and assumptions made.

Basis for Programming

The project initiation document cost estimate is dated January 1 of the current state fiscal year and is entered into PMCS. For programming, escalate the cost estimate to determine the project cost for a particular year of construction. The project sponsor establishes the escalation rate.

Caltrans is the sponsor for all projects funded solely from the SHOPP and most projects funded from the Interregional Improvement Program. Because funding capacity is spread over multiple years, it may be necessary to develop more than one project cost. Each project cost is based on a different fiscal year of funding capacity. The Division of Transportation Programming provides direction regarding funding capacity.

Use Most Up-To-Date Estimate

If the time period between the approval of the PSR (or other project initiation document, PSSR, NBSSR, etc.) and the date of programming the project is significant, the estimate must be updated. In this case, a Current Project Cost Estimate should be used to program the project.

Base for Future Planning Cost Estimates

It should be noted that the programmed cost is the base for comparing future planning or design cost estimates. All percentage increases (or decreases) are applied from the programmed cost. Approved cost changes (see Chapter 6) do not change the programmed cost, but become input to the next programming cycle, unless a Funding Request is made before the next programming cycle -- see Chapter 14, Section 3, Article 1.

Contingencies

Contingencies should be 25% at this stage.

ARTICLE 4 - Draft Project Report Cost Estimate

Methodology

Draft Project Report Cost Estimates use the same format as the Project Feasibility and the PSR Cost Estimates, except they are considerably more detailed -- see Appendix AA. At this time, the cost estimate for each viable project alternative needs to be calculated using updated data from the various functional units involved on the project (i.e.: Materials, Structure Design, Traffic, Hydraulics, Right-of-way, etc.) to produce a quality cost estimate. In addition, environmental and hazardous waste studies should have been completed by this time, so unforeseen costs should be minimal. Assumptions and costs for the Traffic Management Plan should be updated.

Project Cost Increases or Decreases

Cost increases or decreases from the PSR Cost Estimate must be discussed in the Draft Project Report -- see Appendix K. Also, an alternative that can be constructed within the programmed amount and still satisfy or partially satisfy project goals must be developed and discussed in the Draft Project Report.

Contingencies

Contingencies should be 20% at this stage.

ARTICLE 5 - PR Cost Estimate

Methodology

The PR Cost Estimate is prepared as part of the project approval process. This occurs after completion of the public hearing process, selection of the preferred alternative, and completion of the environmental document. The PR Cost Estimate for pavement rehabilitation, structure rehabilitation, noise barrier, or other projects that are approved at

the project initiation stage is the PSR Cost Estimate (PSSR, NBSSR, Combined PSR/PR, etc.).

The PR Cost Estimate is prepared using the same format as used for the other project planning cost estimates, see Appendix AA. However, since the preferred alternative has been selected, the project cost estimate can now be more definitive.

Cost Approval

If the PR Cost Estimate results in a revised project cost estimate, the procedures for establishing and approving the approved cost must be followed -- see Chapter 6. It should be noted that the PR Cost Estimate does not become the base for all future Current Project Cost Estimates comparisons unless it is used to establish a new programmed cost, either in an update of the programming document or by amendment of the programming document. All percentage increases (or decreases) are applied from the programmed cost. Approved cost changes do not change the programmed cost, but become input to the next programming cycle -- see Chapter 4.

Contingencies

Contingencies should be 15% at this stage.

SECTION 3 - Project Design Cost Estimates

ARTICLE 1 - General

Design Cost Estimates

Project Design Cost Estimates are design cost estimates made after Project Report approval and until completion of the PS&E process. These estimates are categorized as either preliminary or final. Project Design Cost Estimates focus on the construction costs of the project and are input into the Basic Engineering Estimating System (BEES). BEES has two components: (1) the District (Highway) Cost Estimate, and (2) the Structures (Bridge) Cost Estimate, that, when combined, equal the total construction cost for the project.

Project Design Cost Estimates should be considerably more detailed than Project Planning Cost Estimates. As engineering and environmental studies progress, more information, such as final contour mapping, materials and drainage information, refined traffic management plans, structure studies, and evaluations from design phase constructability reviews becomes available. This data increases the ability to prepare a more detailed cost estimate.

Construction Cost Only

Project construction costs, however, are only a portion of the capital outlay costs for the project which have been programmed and reported upon during the Project Planning Phase. When current project cost estimates are required during the Project Design Phase, the total project capital outlay costs are implied unless otherwise specified

Total Capital Outlay Costs

Total capital outlay costs for a project includes right of way and construction costs. Right of Way funds are typically expended during the design phase to acquired parcels needed to construct the project. For this reason, there must be close coordination with the Right of Way Branch when comparing project costs during the design phase with the programmed project costs. Care must be taken to insure that all right of way funds (either expended or unexpended) are accounted for and are consistent with the programmed cost.

ARTICLE 2 - Transitioning from Project Planning to Project Design Cost Estimates

Identify Contract Items of Work

Approval of the project by management allows the project to transition from the project planning phase to the project design phase. All of the project features should be known and many contract items of work can be identified. In addition, the items of work

identified and estimated during the project planning phase should now be better defined as work that is being completed by the design staff and the other functional units is completed.

One of the first tasks to complete at this time, is to convert the construction contract related portions of the PR Cost Estimate into the BEES format. To do this, specific contract items of work need to be identified and quantities associated with them need to be calculated. Most of this work should have been done previously to complete the PR Cost Estimate used to approve the project, but not to the detail required for project design cost estimates.

Estimate Components

As previously discussed the Project Design Cost Estimate consists of two components: (1) the District Cost Estimate, and (2) the Structures Cost Estimate. The District Cost Estimate is compiled by the PE to capture all of the highway contract items of work and the costs associated with the construction of those items. The Structures Cost Estimate, as required, is compiled by the Office of Structure Design to capture all of the structural contract items of work on the project and the costs associated with their construction.

ARTICLE 3 - Basic Engineering Estimating System (BEES)

Utilize BEES

All project design cost estimates must be prepared using the BEES -- see *Ready to List and Construction Contract Award Guide*. This system provides the data files required for the Project Information Systems and Analysis (PISA), Bid Opening and Progress Pay System, and produces segregated cost estimates according to fund source.

District, Structures, and Combined Cost Estimate Files

The BEES permits independent storage of data from the District and Office of Structure Design for each project and the recall of separate or combined cost estimates. District (Highway) cost estimate and structure (Bridge) cost estimate files must be established independently. The District and Office of Structure Design are each responsible for updating their own file. Reports may be requested as highway (H), bridge (B) or combined (C) by entering the code (H, B, or C) in the appropriate area on the BEES Report Request Form.

Common Highway and Structure Items

When a combined cost estimate report is requested, the quantities for highway and structure items are integrated. Estimators in the Office of Structure Design and the District should reach prior mutual agreement for prices on common items. Common Office of Structure Design and District items, such as temporary railing, must also be

reviewed carefully to avoid either duplicating quantities or overlooking items in the cost estimate.

District (Highway) Cost Estimate - H

District Cost Estimates should be entered into BEES at the beginning of the design phase using the BEES coded item list. A copy of the BEES coded item list may be requested through the District BEES coordinator.

The BEES format must be used through the completion of the project. As contract items of work are identified and quantities calculated, these quantities should be entered into the BEES. Entering the completed quantities into the BEES as soon as they are calculated facilitates cost estimate updates and eases the preparation of the Final Engineer's Cost Estimate.

Segregated cost estimates for those projects with contributor funding, Federal funding, or in multiple counties must be available in the BEES at the time of PS&E delivery. As soon as the participatory rules for the project are determined, estimators are to use segregated cost estimates in the BEES. By doing this, no changes should be necessary to any segregation once the project is listed for advertisement.

The District Cost Estimate consists of these components (see Appendix AA for further details):

- Contract Items

  These are the bid contract items of work for the project and as such are listed in the Engineer's Cost Estimate in the Proposal as well as the other Contract documents.

- Supplemental Work

  Supplemental work is work of an uncertain nature or amount and therefore it is not done on a contract item basis. Work which is known but cannot be predetermined and provided for under contract items of work should be included as supplemental work. Extra work identified in the contract special provisions must be itemized as supplemental work.

- State-Furnished Materials and Expenses

  Items listed under this component consist of work done by State forces, or others, concurrently with contract construction operations; or materials to be purchased and charged against the project, but which will be paid for directly by the State, not the contractor.

- Contingencies

  Contingencies are a percentage of the subtotal of the cost of contract items, supplemental work, and state-furnished materials and expenses, and are included in the grand total of the District Cost Estimate to allow for unforeseen increases.

Structures (Bridge) Cost Estimate - B

The Structures Cost Estimate should be entered into BEES by the Office of Structure Design, as soon as possible after project approval, using the BEES coded item list. However, many contract items of work for structures are not known in enough detail until late in the design phase. For that reason, the Structures Cost Estimate may not be available for use until all of the structural design work is complete. Until the Structures Cost Estimate is available, the cost data used for the PR Cost Estimate should be used as the Structures Cost Estimate. It is important to keep in close contact with the Engineering Service Center Project Functional Manager and the Structures Designer during this time-frame. The PE needs to check to see if any unforeseen complications have occurred which will alter the estimated cost of the structures for the project.

When the Office of Structure Design completes its portion of the project cost estimate during the design phase, that data is input in the BEES similar to the way that the highway contract items of work are input by the District.

ARTICLE 4 - Preliminary Engineer’s Cost Estimate

BEES Estimate

The conversion of the construction related portions of the PR Cost Estimate into BEES creates the Preliminary Engineer's Cost Estimate (sometimes called the "blue sheet" estimate because of the paper color it historically has been printed on). The Preliminary Engineer's Cost Estimate is an estimate of the fair and reasonable price the State should expect to pay for each of the contract items of work to be performed. The Preliminary Engineer's Cost Estimate should be updated frequently during the design phase as the project construction details, specifications and plans are finalized into a contract document. The Preliminary Engineer's Cost Estimate is based on the expected contract item prices as of the date of the estimate.

Portion of Capital Outlay Cost

The Preliminary Engineer's Cost Estimate must be used in combination with other cost estimates (right of way, cooperative features, etc.) during the design phase to obtain the capital outlay costs for the project. The Preliminary Engineer's Cost Estimate is used until the project reaches the end of the PS&E development phase and the contract documents are finalized. When this happens, the preliminary cost estimate becomes the Final Engineer's Cost Estimate.

Contingencies

Preliminary Engineer's Cost Estimates prepared prior to PS&E submittal may include an amount up to 10% of the cost estimate for contingencies.

ARTICLE 5 - Final Engineer’s Cost Estimate

All Contract Items in BEES

The Final Engineer's Cost Estimate is completed at the end of the PS&E development phase. All contract items have been identified, measured, calculated, and entered into the BEES.

The final Structures Cost Estimate is prepared by the Office of Structure Design and transmitted to the District. The District combines the final District Cost Estimate and the final Structures Cost Estimate into the Final Engineer's Cost Estimate.

Certification of Engineer’s Estimate

For projects with an Engineer’s Estimates greater than $5 million, the District Director will be required to certify that the estimate is complete and accurate, reflects the true scope of work to be performed, and accounts for current market trends. This certification is required before a project can achieve Ready to List. Engineer’s Estimates that are more than three months old must be updated and recertified.

BEES 'Locked'

After compilation of the PS&E has been completed and the project is ready to list (for advertising), the Final Engineers Cost Estimate is "locked" in the BEES by Headquarters Office Engineer (HQOE). After "locking " only HQOE can alter the BEES file. If changes in the BEES are necessary after it has been locked, contact the Project Management Unit in HQOE. HQOE will review the request and will make the changes or, if timing is such that it is practical, will arrange for unlocking the BEES to allow the District and/or Office of Structure Design to make the changes.

Comparison with Contractor Bids Received

The Final Engineer's Cost Estimate is used for comparison with the various contractor bids received for the project and is the basis for the award of the contract. It should be noted that the money available to construct the project is the sum total of the dollar amount of the low bidder's contract bid items plus the dollar amounts of the supplemental, State furnished materials and expenses, and contingency items.

Contingencies

Contingencies are a percentage of the subtotal of the cost of contract items, supplemental work, and state-furnished materials and expenses, and are included in the grand total of the final cost estimate to allow for unforeseen increases. Contingencies should be 5% or less at this stage. The BEES system automatically allows for a contingency of 5%, but any amount may be entered, either by percent or by specified dollar amount. However, justification is required when a contingency other than 5% is to be included in the final cost estimate.

CHAPTER 21 - Exceptions to Design Standards

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CHAPTER 21 - Exceptions to Design Standards

SECTION 1 - Exceptions to Mandatory Design Standards

ARTICLE 1 - General

Responsibility

One of Design and Local Program (DLP)'s most important ongoing responsibilities is to establish and enforce the consistent application of highway design standards (as shown in the *Highway Design Manual*) to ensure optimal safety for the traveling public and those who work to construct, operate, and maintain the State's highways.

Purpose

The purpose of the design exception process is to create a written record that documents the engineering decisions leading to the approval of each exception from a design standard. It is essential that adequate records are prepared and preserved to document such decisions and approvals.

ARTICLE 2 - Processing

Early Start

Approval of exceptions from Mandatory Design Standards must be sought as early as possible in the project development process, particularly where the project concept and/or cost estimate depend on a potential design exception.

Identification of Nonstandard Features

The "responsible-charge" engineer must identify all nonstandard design features (both proposed and existing) and should not rely solely on reviews by functional units or oversight engineers to make these findings.

Consultation Requirements

Potential design exceptions must be discussed with the PD Coordinator or Geometric Reviewer as soon as the need for an exception is identified.

Depending on the level of FHWA oversight, potential design exceptions may need to be discussed with the appropriate FHWA Transportation Engineer. (See "FHWA Approval" below.)

Requests for Design Exceptions

Once the PD Coordinator determines that there may be sufficient justification to approve a design exception, a formal request can be made. The following steps must be taken:

1. Prepare the request in the form of a draft Fact Sheet, in conformance with the outline in Appendix BB.

2. Submit the request to the Geometric Reviewer or PD Coordinator for review. Incomplete drafts will normally not be accepted for review.

3. Address all comments to the draft to the satisfaction of the individuals making the comments.

4. Circulate the completed Fact Sheet for approval signatures. (See "Approvals" below.)

Requests to perpetuate existing nonstandard design features within a project's work limits will be made in accordance with the above procedures — except when the PD Coordinator determines that a different form of documentation is more appropriate.

Integration with Project Development Process

All anticipated design exception approvals must be obtained prior to district approval of the Project Study Report (PSR) or any other project initiation document. The text of the project initiation report must include a brief description of the nonstandard features, as well as a reference to all approved Fact Sheets and their approval dates by DLP and FHWA (when applicable). See "Approvals" below.

If the need for a design exception is identified after approval of the project's initiation document, the documentation process just described must be followed and completed prior to approval of the next project development report. The need for a design exception must be referenced in the associated engineering document (Draft Project Report, Project Report, etc.).

During the construction phase of a project, Fact Sheets must be prepared by Design staff to document any nonstandard features proposed in a Contract Change Order. The District Design staff is responsible for processing the proposed design exception.

General / Miscellaneous Requirements

- When design exceptions are proposed by encroachment permit applicants, the exception will be processed by the Caltrans functional unit responsible for preparation of the Project Engineering Evaluation Report (PEER). If a PEER is not required, the exception will be processed by the functional unit concurring with the nonstandard feature.

- A single Fact Sheet should be prepared for projects that contain multiple design exceptions.

- Design exceptions on local facilities for projects coordinated by the Local Assistance Unit must be prepared by the involved local agency.

- Nonstandard features that are identified subsequent to the approval of an initial Fact Sheet require the preparation of an independent, "stand alone" Fact Sheet. This can be accomplished by writing a supplemental Fact Sheet if the original Fact Sheet is attached.

- Fact Sheets should not be attached to any project initiation or engineering reports. They should be summarized and referenced in appropriate reports.

Approvals

Signature, Coversheet Format

The Fact Sheet outline shown in Appendix BB provides a recommended format for the signature/cover sheet. The format may be varied to suit each district's organization; however, each Fact Sheet must comply with the requirements of Chapter 2, Section 9, of this manual.

Caltrans Approvals

The responsibility for approval of all exceptions to Mandatory Design Standards on State Highway and local facility (within State right of way) projects rests with the DLP Program Manager and has been delegated to the PD Coordinator.

The HQ Office of Local Assistance has delegated the responsibility for approval of design exceptions for exempt local Federal-aid projects, not on the State highway system, to the public works director (or the city or county engineer if the public works director is not registered).

FHWA Approval

Formal FHWA approval is required for design exceptions to the 13 controlling criteria (See Index 108.3 of the *Highway Design Manual*.) when the route, project type, and cost meet either of the following criteria:

- Interstate System Completion (IC) projects, at any cost

- New construction /reconstruction projects on the Interstate System, at construction costs greater than $1 million

FHWA design exception approval is also required for any project that does not provide or maintain a minimum vertical clearance of 4.9 m over the 42 000 km Priority Network. (See Section 2.)

Requests for FHWA approval should be made by letter, addressed to the FHWA Division Administrator, and signed by a District Division Chief or the District Director. Requests must be accompanied by a copy of the DLP-approved Fact Sheet.

Distribution and Filing

Following the PD Coordinator's approval, two copies of the Fact Sheet must be transmitted to DLP Program Manager, Attention: Design Exception. Provide copies of all correspondence between the district and FHWA pertaining to the request for design exception approval.

The signed original Fact Sheet and FHWA approval letter must be filed in the Project History File. A backup copy should be filed in a separate permanent file or in the district's central file.

SECTION 2 - Exceptions to Vertical Clearance on 42 000 km Priority Network

General

In coordination with the Department of Defense (DOD), the FHWA has identified a 42 000 km subset of the Interstate System that would meet the most urgent national defense needs. It is known as the 42 000 km Priority Network.

FHWA has made a commitment to the DOD to maintain a 4.9 m minimum vertical clearance where it already exists and to upgrade clearances less than 4.9 m as rapidly as is practical. Any project on the Priority Network (including Resurfacing, Restoration, & Rehabilitation [RRR] projects) will be closely scrutinized to ensure compliance with this vertical clearance standard; exceptions to this standard will be difficult to obtain, and will be subject to additional federal review.

See Figures 1A and 1B for a table and map for California routes on the 42 000 km Priority Network.

Process

Exceptions for vertical clearances of less than 4.9 m on the 42 000 km Priority Network must be processed separately and in a different format than the Mandatory Design Standards Fact Sheet. See Appendix BB for the appropriate format.

The requests will receive internal reviews within Caltrans and the FHWA Division Office. The FHWA Region Office must obtain concurrence from FHWA Headquarters in Washington D.C., who will coordinate all requests of this nature with the Military Traffic Management Command (MTMC) prior to approval. Due to this additional and lengthy step, potential requests for design exception must be identified as early as possible and discussed with the PD Coordinator.

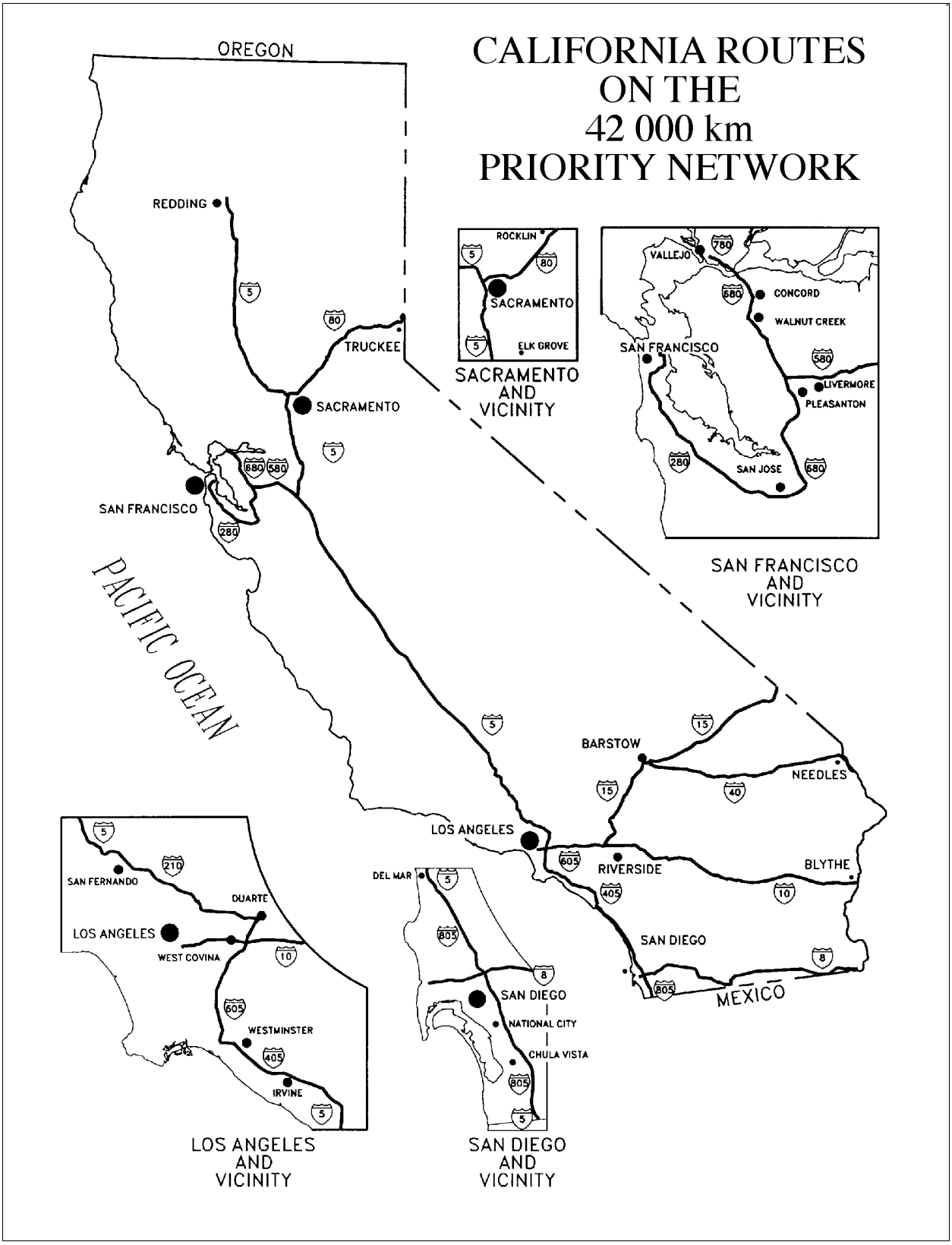
Wherever possible, vertical clearances should continue to be designed to comply with the Caltrans standards, as described in the *Highway Design Manual*. Vertical clearances that are below those specified in the *Highway Design Manual*, but at least 4.9 m, can be approved by the PD Coordinator and, when necessary, the FHWA Division Office. Only requests for vertical clearances below 4.9 m will require approval from the MTMC.

It is the responsibility of the Project Engineer (PE) to submit the Design Exception form to the FHWA Division Office after approval has been obtained from the PD Coordinator. The transmittal should note whether or not a Fact Sheet for additional nonstandard design features on the proposed project is anticipated. Once the final approval is obtained from the DOD, the PE must send two copies of the approved Design Exception to the DLP Program Manager, Attention: Design Exception. The original must be filed in the project files. A backup copy should be filed in a separate permanent file or in the district's central file.

FIGURE 1A - California Routes on the 42 000 km Priority Network

ROUTE	FROM	TO
I-5	U.S. border	I-805 just N. of U.S. border
I-5	I-805 N. of San Diego	I-405 near El Toro
I-5	I-210 N. of Los Angeles	Redding
I-8	Junction at I-5 near San Diego	Arizona
I-10	Junction at I-5 near Los Angeles	Arizona
I-15	Junction at I-10 near San Bernardino	Nevada
I-40	Junction at I-15 near Barstow	Arizona
I-80	Junction at I-5 in Sacramento	Nevada
I-210	I-5 N. of Los Angeles	I-605
I-280	Junction at I-680 in San Jose	At or near the south city limits of San Francisco — to provide access to Hunter's Point
I-405	I-5 near El Toro	Palo Verde Avenue just N. of I-605
I-580	Junction at I-680	Junction at I-5
I-605	I-405 near Seal Beach	I-210
I-680	Junction at I-280 in San Jose	Junction at I-780 near Benicia
I-780	Junction at I-680 near Benicia	Junction at I-80 in Vallejo
I-805	I-5 just N. of U.S. Border	I-5 N. of San Diego

FIGURE 1B - California Routes on the 42 000 km Priority Network



SECTION 3 - Exceptions to Advisory Design Standards

Authority

Approval of exceptions to Advisory Design Standards has been delegated to the District Directors.

Documentation

Each district has formalized its own procedures for documenting exceptions to Advisory Design Standards. The district-approved Advisory Design Standards Exception generally covers the same type of project data and justification as that required for the Mandatory Design Standards Fact Sheet. All exceptions to Advisory Design Standards should be discussed with the Geometric Reviewer.

Filing

The signed original Advisory Design Standards Exception must be filed in the Project History File. A backup copy should be filed in a separate permanent file or in the district's central file.

CHAPTER 22 - Community Involvement

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CHAPTER 22 - Community Involvement

ARTICLE 1 - General

Philosophy

Caltrans' project development philosophy (See Chapter 1, Section 5, for a complete description) is to consider economic, social, and environmental effects in order to make project decisions in the best interest of the public. Therefore, community involvement must be an integral part of the project development process.

Purpose

The purpose of public involvement is to develop projects that respond to transportation needs with a minimum of community and environmental impact. Project team members must understand community values and opinions. All affected interests must be aware of a project's impact on them. Affected interests include individuals, businesses, associations, other officials, and institutions who may be affected by a project.

ARTICLE 2 - Securing Community Consent to Projects

Identify all Interests

Early in the project development process, the Project Development Team (PDT) should identify all affected interests, determine the nature of their interest and attitude toward the project, and fashion approaches to these interests.

Elements of Communication

It is likely that a practical and acceptable solution to a transportation problem can be implemented if those affected by a project become convinced that the following holds true:

1. The transportation problem is serious.
2. Caltrans has the key responsibility for addressing the problem.
3. Caltrans process is fair and reasonable.
4. Caltrans understands and cares about the concerns of the affected interests.

Do Not Minimize Project Effects

It is not necessary to convince affected interests that they will be undamaged by the project. Project development staff members should do everything possible to understand the project's negative effects and communicate with those affected.

Concentrate on Those Affected

The more seriously someone is affected by a project, the more they should be approached privately, informally, and in smaller groups. Those most seriously affected should be approached individually.

Early Contact

As early as is possible, the PDT should contact local, regional, State, and federal agencies with even a minor stake in a project. By working together from the earliest stages, it is possible to reduce the chance of conflict at critical times; this usually results in a better project.

ARTICLE 3 - Securing Governmental Consent to Projects

Mandatory Contacts

Contacts, consultations, and coordination with other agencies are required for compliance with environmental law. Special attention must be given to the scoping process for preparation of the Draft Environmental Impact Statement. The *Environmental Handbook* contains current instructions.

Inter Governmental Reviews (IGR)

Caltrans is obligated to cooperate with other agencies on proposed development projects and other governmental actions that may impact State highways. The California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) permit Caltrans to review such projects. Guidelines for timely, reliable, and consistent State-wide intergovernmental review (IGR) are contained in the *IGR Guidelines* (see Chapter 1, Section 2).

Coordination with FHWA

Early and continuous coordination with FHWA on proposed State highway projects is crucial, since most projects are federally funded or require NEPA environmental approval. For specific conditions and circumstances of FHWA involvement, see Chapter 2, Section 7; Chapter 12, Section 5; Chapter 21; and Chapter 27, Article 5, of the PDPM; as well as the *Standard Environmental Reference*. Further, Caltrans' policy is to treat environmental resources on State-funded projects in the same manner as federally approved projects (see the *Standard Environmental Reference*).

State and Federal Agencies

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In addition to directly affected local and regional agencies, the following State and federal agencies should be involved as soon as jurisdictional responsibility becomes evident on some aspect of the project. (This is not an exhaustive list.)

State Agencies

California Air Resources Board
California Highway Patrol
Coastal Commission
Department of Conservation
Department of Fish and Game
Department of Health Services
Department of Parks and Recreation
Reclamation Board
Regional Water Quality Control Board
State Historic Preservation Office
State Lands Commission

Federal Agencies

Army Corps of Engineers
Bureau of Indian Affairs
Bureau of Land Management
Bureau of Mines
Bureau of Reclamation
Coast Guard
Department of Defense
Department of Housing and Urban Development
Department of Interior
Environmental Protection Agency
Federal Aviation Administration
Fish and Wildlife Service
Forest Service
Geological Survey
Heritage Conservation and Recreation Service
National Marine Fisheries Service
National Park Service
Soil Conservation Service

Refer to the *Standard Environmental Reverence* for additional information on involvement of other State and federal agencies.

Reaching Agreement on Mitigation

Caltrans must obtain agreement on project-related features from a number of agencies, such as the Department of Fish and Game, the U. S. Fish and Wildlife Service, the Environmental Protection Agency, and the U.S. Army Corps of Engineers for biological mitigation. If the proposed mitigation is unusually large, costly, or complex, Caltrans should invite appropriate staff from the Landscape Architecture Program and the Divisions of Construction and Maintenance when consulting with regulatory agencies, in order to achieve an early resolution of design, construction and maintenance concerns.

This cooperative effort occurs from the system planning phase to final acceptance of the mitigation design by regulatory agencies. It is described in the NEPA/404 Memorandum of Agreement (see Chapter 1, Section 4, Article 3).

After acceptance of the mitigation plan by the regulatory agencies, the Project Manager must forward a notice of acceptance to Maintenance. The notice must include the following:

- Proposed date of construction
- Project location, size of project, location of mitigation site
- Length of monitoring and establishment period
- Anticipated date on which maintenance will begin
- Who will maintain the site
- Special maintenance considerations and directions
- Name of contact person for further information

ARTICLE 4 - Community Involvement Plans

Community Involvement Plans

Community Involvement Plans should be developed for all potentially controversial projects; these should be included as a part of the Project Study Report. The plans should be updated as studies progress.

Elements of a Community Involvement Plan include:

- A list of those likely to perceive that their interest will be affected by the project
- A description of the potential concerns of each
- A description of techniques to be used to communicate with affected interests, such as newsletters, media, individual meeting, committee membership, etc.

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- A communications time-line, keyed to significant project milestones

ARTICLE 5 - Initial Meetings

Definition

The initial meeting is held with affected local agencies or their technical and planning staffs, along with other interested or affected groups. The meeting may be combined with the scoping meeting for projects involving an EIS (see the *Standard Environmental Reference*). The meeting is open to the general public. It should be well publicized.

Purpose

The initial meeting provides an early exchange of information and ideas, as well as an opportunity to discuss the proposed project timetable. Other features to be discussed include preliminary data or issues bearing on the decision to proceed, focusing particularly on the need for the project.

Project Development Categories (see Chapter 8, Section 5, for definitions) are useful classifications for helping to determine when it is appropriate to convene an initial meeting. Initial meetings should be held under the following circumstances:

- Category 1 and 2A Projects -- mandatory
- Category 2B / Category 3 / Category 4A Projects -- convene if sufficient interest or if local agency requests
- Category 4B Projects -- convene only if local agency requests

The matrix in Chapter 8, Section 7, Figure 1, provides other useful information regarding the relationship between Project Development Categories and community involvement activities.

Format

The PDT may plan the initial meeting using any of the meeting types discussed in Article 7, "Meeting Formats." Generally, the open house format is best for the initial meeting.

Publicity

Publicity about the initial meeting may include news releases, paid advertisements, or both. Paid advertisements will follow the general format and content instructions described in Appendix HH. All publicity should be handled by the district's Public Information Office.

Individual invitations are sent to legislators, city council members and county supervisors, and to their technical and planning staff department heads. Invitations are also sent to agencies and groups considered to be mandatory contacts (see the *Standard Environmental Reference*) and other individuals, businesses, associations, officials, or institutions affected by a project. Local governmental units are to be consulted regarding civic and citizen organizations to be invited.

In addition to the above, individual invitations are to be sent to each city council and board of supervisors as a legislative body for Category 1 and 2A projects. The invitations will include an additional paragraph requesting that the "legislative" body comment on the meeting within 30 days, addressing the following: study objectives, organization, time schedule for the study, study limits, and suggestions for participation of affected interests.

Considerations

At the time of mailing, one copy of each typical letter of invitation should be sent to the Division of Design (DOD), attention: Chief Office of Project Development Procedures, along with a list of those receiving the letter. Sample invitation letters may be found in Appendix HH.

Summary

At the conclusion of the meeting, a summary of the meeting should note substantial items discussed and any agreements reached. A list of those attending the meeting by agency, organization, group and number of individuals and of those who submitted written material should be attached to the summary. A copy of the summary with the district's conclusions on whether or not to proceed with the study should be sent to the DOD, attention: Chief Office of Project Development Procedures.

ARTICLE 6 - Principles and Techniques for Community Involvement

Open Up Communication Channels

Initiate Contact

As early as possible in the project development process, Caltrans should contact likely affected parties, to explain the following:

- What problem or need the project addresses
- Why Caltrans' overall transportation mission makes it imperative that we address the need

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- How Caltrans develops projects
- Current status of project plans, current activities, and project schedule
- Caltrans' understanding of their interest and concern

Ask the affected party to contribute their advice and comments. Stress that the earlier their concerns are made known, the more likely a way can be found to accommodate them; but make it clear that Caltrans may not be able to satisfy everyone's concerns.

Document Discussion

Document discussions in writing. They should be part of the project file and will document citizen involvement in the project development process. As contacts continue, document those as well.

Use Best Communication Method

Select the best way to communicate with the affected party, based on the information to be communicated and how they may best be reached. Meetings, telephone contacts, letters, media, newsletters, and many other types of communication are available.

Open Communication

Once communication is flowing both ways, Caltrans should provide the affected party with any information affecting them, as it develops — whether it is good news or bad news. Bad news is best communicated informally, in a one-on-one exchange, rather than in large meetings or through the media.

Communicate Directly

Communicate directly with the most-seriously affected interests. Direct communication provides a far better chance to understand them and how they perceive the project or proposal. Do not filter their concerns through another party.

Involve Opponents

Those opposed to a project are much more likely to consent to the project if they are actively involved throughout the review process; their consent is less likely if they are remain outside the process.

Use Existing Community Organizations

Identify Existing Community Organizations

Existing community organizations provide an effective avenue for communicating with large numbers of people to establish the legitimacy of the project. They are especially important for maintaining credibility during the sometimes lengthy time frame required to complete a transportation project. Include churches, service groups, fraternal organizations, business groups, civic and neighborhood associations, advocacy groups for the disabled, and professional and trade organizations.

Establish Clear Communications

From the outset, work out an understanding with each community organization to get clear communications between the project team and the community. Establish a working relationship that allows the organization to have an important role and a two-way communications channel between the community and the project.

Use Local Newsletters

Many community organizations have newsletters that can use information about the project, providing a relatively inexpensive communication channel for large numbers of people

Meetings

Clarify Purpose for Meeting

Before planning a public meeting as part of the project development process, consider communications objectives carefully.

When representatives of different interests meet face to face, especially in front of large numbers of people or the media, they may make demands and ultimatums. Such demands become very difficult to back away from, and can result in a worsened climate for agreement on a project. Therefore, Caltrans should carefully consider if a meeting will be productive before agreeing to one or calling one.

Choose a Format

If a meeting is to be held, choose an appropriate meeting format; each has advantages and disadvantages. See Article 7 for a discussion on meeting formats.

Prepare a Meeting Summary

At the conclusion of a meeting (regardless of the meeting format), a summary should be prepared, noting those attending, substantial items discussed and any agreements reached. The summary should be circulated to those attending the meeting, as well as to any others with an interest in the items discussed.

ARTICLE 7 - Meeting Formats

Open Houses

Definition

Open houses are informal meetings where individuals may attend at any time, observe displays, watch a presentation, ask questions of technical and other staff, and discuss proposals individually.

Applicability

Open houses are useful in establishing two-way communication, responding to community needs, understanding affected interests, seeing the project through their eyes, identifying problems, generating solutions, and establishing credibility.

Format

Open houses usually run for several hours: even for successive evenings. Ample Caltrans staff, including the Project Manager, should be available for discussion. Information stations may be organized by subject matter, such as "Environmental", "Right of Way", "Design", or by project alternative, with several disciplines available to discuss each.

Displays

Displays should clearly and prominently advise the public of the purpose of the project and the purpose of the meeting.

Presentations

Presentations are best handled by an open captioned videotape, running continuously.

- Presentations should be brief (about 20 minutes) and comprehensible to the lay citizens. Presenters may use exhibits or slides and refer to handouts.

- In everyday language, state the need for the project with respect to quality of life. Address what today's need is, then follow with what will happen in the future if this problem is not addressed.

- Stress Caltrans' mission and responsibility for addressing the transportation problem, in language that makes it clear that it would be irresponsible not to address the problem.

- Describe the process being followed to address the problem, including:

  - Relationship to the local planning process
  - Alternatives
  - How alternatives were chosen
  - Assumptions governing studies
  - Kinds of studies being done
  - Approvals by the CTC and other permitting agencies
  - Tentative time schedule

- Descriptions of alternatives may include:

  - Type of facility
  - Ultimate number of lanes, if a highway
  - Ultimate median width
  - Basic right of way width for main line
  - Streets to be closed
  - Streets to be separated
  - Streets to be connected
  - Local streets to be substantially altered
  - Pedestrian separations
  - Railroad separations
  - Location of frontage roads
  - Noise attenuation
  - Truck inspection/weigh and agricultural inspection stations
  - Roadside rest areas and vista points
  - Non-motorized transit and park & ride lots
  - Bus and carpool lanes
  - Costs for right of way and construction

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- Describe issues likely to be of concern to the community. These may include:
  - Regional and community growth, land use, economic activity, employment gains and losses, and community and neighborhood cohesion
  - Consistency with local transportation plans
  - Consistency with air quality plans, noise standards and federal or State water standards
  - Conservation and preservation, general ecology, wildlife and waterfowl areas, wetlands or base flood plains
  - Disturbance of hazardous materials
  - Public facilities and services, including park and recreational facilities, natural or man-made historic places, religious, educational facilities, public utilities, fire protection and other emergency services
  - Aesthetic and other values, including visual quality, such as view of the road and view from the road, natural landmarks, and joint development and multiple use of space
  - Public access to rivers over which a new bridge may be constructed
  - Displacement of people, businesses and farms, including relocation assistance, right of way requirements, schedule of acquisition, housing availability, and the Relocation Assistance Program. (Questions about individual parcels should be answered during recess or immediately following the meeting, if possible)
  - Other issues that may be associated with the proposal

Handouts

Handouts are important for open houses, especially those being used as public hearings. Individuals should be given written handout material outlining the basic problem being solved, the process for solving it, the alternatives being proposed, and how individuals may provide additional comments. Handouts should cover the same material as outlined previously for presentations. Handouts may also be required in alternative formats to aid those individuals with disabilities and in a foreign language for non-English speaking individuals.

Comments

There should always be a comment table to which individuals are invited to make written or oral comments.

Publicity

Purpose, agenda, time, and place are advertised and announced to those who may care to attend. The media is invited. If invitation letters are to be sent to legislators, city councils, etc., see sample invitation letters in Appendix HH. All publicity should be coordinated with the district Public Information Office.

Considerations

A "give and take" atmosphere is central to the open house format. Caltrans' staff members should fully understand the project, since questions will be highly detailed. Caution must be taken not to mislead the public into thinking that the most popular alternative will be chosen.

Formal Meetings

Definition

Formal meetings are usually in auditorium-style settings where Caltrans staff make formal presentations, often using maps, charts and graphs, after which members of the public are invited to make presentations or ask questions.

Applicability

Formal meetings may be used to provide or receive information from affected interests.

Format

In formal meetings, Caltrans personnel are situated at the front of the auditorium; members of the public are seated in rows facing them. Typically, Caltrans staff present information about the proposed project, then members of the public are asked to comment. Often, slides, overhead projections, or films are used to present information. A microphone is provided so that members of the public may ask questions or make statements. Displays may be placed around the outside of the room for viewing.

The meeting should follow a formal agenda.

Displays

Displays should clearly and prominently advise the public of the purpose of the project and the purpose of the meeting.

Presentations

Formal presentations should follow the format discussed above, under "Open Houses".

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Publicity

Usually, because of the informational purpose of formal meetings, they are given the widest possible publicity. Contact the district Public Information Office for assistance in issuing announcements.

Considerations

If issues are especially controversial, formal meetings are often attended mostly by project critics. The physical layout of formal meetings may result in a "We vs. Them" situation, which gives the impression that the majority of a community is against the project, even though that may not be the case. When holding a formal meeting, have a clear understanding of the issues and include this as part of the Caltrans presentation, so that those in the audience are assured that their thoughts and feelings are taken into account in project planning.

Informal Informational Meetings

Definition

An informal informational meeting is one that is held with an individual, group, association, business, or other social unit having a direct interest in a project. It is held in a place that is convenient to the group.

Applicability

Informal informational meetings are useful for identifying issues, establishing credibility, and achieving a sincere and open exchange of information, with the potential for reaching acceptable solutions.

Format

Informal informational meetings should be limited to fewer than a dozen people. The meeting may be chaired by Caltrans or by someone outside of Caltrans. Either way, the Caltrans representative will usually be asked to make a presentation and answer questions.

Presentations

Follow the rules for presentations under "Open Houses" above.

Publicity

Informal informational meetings should be publicized only to participants, since by their nature, their purpose is a frank and open exchange of information, with the potential for actual negotiations.

Handouts and Displays

Handouts and displays should be very informal, even casual. Assure that maps are timely and of adequate quality to illustrate the project proposal. See the description for handouts and displays under "Open Houses" above.

Official Record

Summarize the discussion in a memo to file. To assure understanding, send a copy of the record of the discussion to those in attendance.

Considerations

These meetings can provide useful exchanges of information, provided they are conducted properly. Listen sympathetically to the concerns of those attending and try to see the project proposal through their eyes, but make it clear that Caltrans may not be able to satisfy everyone's concerns.

Working Meetings

Definition

Working meetings involve as many as a dozen people working together on issues. Most Project Development Team (PDT) meetings use this format.

Applicability

Working meetings are useful for identifying problems, articulating key issues, and searching for consensus. They focus on work to be accomplished, and are useful for resolving issues.

Format

The Project Manager (PDT leader for PDT meetings) should chair the meetings. An agenda should be established, either orally or in writing, and all participants should be aware of it. The order in which the agenda items are taken may be significant, depending on whether or not it helps resolve the issues in question. If so, the person who called the meeting has to see to it that the agenda is followed. Generally, no more than a dozen staff-level people should attend. Business proceeds informally, not by parliamentary rules.

Publicity

Working meetings are publicized only to participants.

Considerations

If the views or goals of some participants are so different and incompatible that it threatens the group's work, the group must focus on areas where they have something in

common. Try to expand areas of agreement by building them into larger areas of overlapping views.

Open Meetings

Definition

Open meetings are working meetings conducted in public.

Applicability

Issue resolution in an open meeting is extraordinarily difficult but possible, with careful planning. Open meetings can be useful where there is distrust of Caltrans and its processes.

Format

Participants in the meeting work together in public. The PDT leader should chair the meeting or, if the issues are controversial, a neutral moderator may be used to assure that the agenda is followed or that deviations from it have group consensus.

Publicity

Purpose, agenda, time, and place are advertised and announced to those who may care to attend.

Considerations

Open meetings require skill in public negotiation: an extremely difficult process. If the audience is large and emotional, open meetings can degenerate — with participants playing to the crowd.

When planning an open meeting, assure that there is an objective process to resolve issues. The decisions reached when resolving issues should never be predetermined, and the process should be easy to follow. It is wise to seek counsel from a skilled negotiator when planning an open meeting.

Forums

Definition

A forum is a public meeting held in a public place, where any individual, either from public agencies or the community, may state his or her views about the project.

Applicability

Forums are useful only for eliciting information from various interests, and for exposing interests to other views when there is no proposal to put forward. Forums do not accomplish a task or resolve an issue.

Format

Forums are held in auditorium-style settings. Affected parties are invited to make presentations and if necessary, Caltrans provides technical assistance. Persons in the audience may speak or provide comments in writing.

A respected, unaffected individual should moderate and be the only person facing the audience. Any Caltrans presentation should be short, precise, and accurate, so that the meeting can be turned over to community presenters as quickly as possible. Each person making a presentation, either from Caltrans or the community, should sit in the audience and return to it when the presentation is completed.

Publicity

Purpose, agenda, time, and place are advertised and announced to the general public. The media is invited. If invitation letters are to be sent to legislators, city councils, etc., see sample invitation letters in Appendix HH.

Considerations

Forums have only one purpose: to acquire "community input" without the "We vs. They" standoff characterized by some public hearings. Use a forum only if Caltrans is truly open to any solution and is seeking public input. Make it clear that the PDT may not use all the suggestions given in the forum.

Public Hearings

Public hearings are discussed separately in Chapter 11.

ARTICLE 8 - Citizen Advisory Committees

Definition

Citizen Advisory Committees are usually made up of representatives of various groups or agencies of various levels of government likely to be affected by a project or proposal. They are distinctly different from technical advisory committees, in that their task is to express community opinion and concerns, not to provide technical expertise.

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Applicability

If used properly, advisory committees can help to identify problems and articulate and clarify key issues. They should never be used as decision-making bodies, but rather, they should be clearly designated as advisory.

Format

It is appropriate for the Project Manager to chair the citizen advisory committee, although the Project Manager may choose a prestigious community individual as a co-chair.

- Try to keep membership in a citizen advisory committee to fewer than 20-25 persons. Interests may include neighborhood associations, business groups, environmental groups, agencies of government, institutions, advocacy groups for the disabled, and special interests.

- Citizen advisory committees should meet to comment about major project activities, such as choice of project alternatives to be studied, types of studies to be done, assumptions for traffic studies, environmental drafts, etc.

- Since advisory committees are not decision-making bodies, they vote on procedural matters — never on the technical details of projects.

- Always plan citizen advisory committee meetings with a purpose in mind, expressed in an agenda.

- Informal meetings, formal meetings, working meetings, and open meetings are all formats that may be useful for Citizen Advisory Committee meetings.

- In extraordinary circumstances, such as when the interests represented are extremely polarized, a citizen advisory committee may be formed, but may never meet. Each member simply provides written comment on plans or proposals individually.

Considerations

The role of the Citizen Advisory Committee is to advise on community sentiment regarding projects and their aspects. Be very clear from the outset that while input is being solicited, Caltrans cannot always act positively on the advice received.

ARTICLE 9 - Newsletters

Newsletter Use

As the project proceeds, the PDT will need to keep agencies, individuals, groups, institutions, advocacy groups and others abreast of project progress and current issues.

Face-to-face meetings are a clumsy and expensive way to keep a large community informed. Using personal computers and desk-top publishing, it is very easy to produce a one or two page newsletter, copy it on the office copier, and get it out quickly. A monthly or quarterly publishing schedule is reasonable for a large scale, controversial project.

Newsletter Guidelines

- Most readers are lay people, not professionals. Without talking down, aim the writing to the lay readers. Use acronyms sparingly, only when they increase readability or eliminate clumsiness. Always define your acronyms in an easy to find location.

- If people are going to read the newsletter, it needs to contain real news. Place the most important news first. Follow with the less important or less timely information.

- It is not necessary to do a slick or fancy layout. In fact, readers are more likely to trust it if it is rather plain.

- Always do a spell check. Always check for factual accuracy.

- Never use the newsletter as a propaganda sheet. Report embarrassing developments with candor. If readers feel the newsletter is biased, it will lose its credibility.

- Newsletters may need to be prepared in alternative formats for individuals with disabilities and in a foreign language for non-English speaking individuals.

ARTICLE 10 - Written Notification of Initiation of Studies

Mailed after Agreement on Study Process

Upon achieving agreement on the study process, the district must provide written notification of initiation of studies for Project Development Categories 1, 2, 3, 4A and 4B. Apart from Department policy, this is actually a statutory requirement of CEQA and NEPA. In the case of Project Development Categories 2B and 4B, there may be an

agreement with the local agencies exempting specified types of projects from the notification process.

Mailing List

Written notices for Project Development Categories 1, 2, 3 and 4A are to be mailed to legislators, local governing bodies, agencies, and groups considered as mandatory contacts and to other interested agencies, neighborhood organizations, citizen groups, and individuals. Environmental Deputy District Directors should be consulted for the most current distribution lists. They are also responsible for knowing who mandatory recipients are under CEQA and NEPA.

The district is to establish a notification list upon which any person, group, or agency may enroll. Written notices for Project Development Category 4B projects are sent only to affected local agencies and regional planning agencies, unless historic properties are present or suspected of being present; in such cases, notices need to be sent to local historical societies and Native American groups, as appropriate.

Notification Letter

Separate notification letters should be sent to all agencies considered mandatory contacts. On projects which other agencies are the lead agency for CEQA, a separate notice may also be sent as an IGR (Intergovernmental Review) Notice of Intent printout from the clearinghouses. The two submittals serve different purposes.

Individual notifications contain more information and solicit comments and suggestions. The purpose of IGR review is to provide comments to lead agencies on impacts (traffic, noise, air quality, etc.) their projects may have to Caltrans facilities under CEQA. No map is attached, nor is there room for much explanatory material.

Attachments

At a minimum, the notification letters should have a small scale map appended to clearly identify the location and limits of the study area. More detailed maps may also be appended to provide a better understanding of the proposal.

Sample Letters

Sample notification letters embodying pertinent content are provided in Appendix HH. Letters should be modified to fit the project being considered, however much of the content of the letters is mandated by CEQA. Hence, deviations from the standard language presented in Appendix HH should be reviewed and concurred with by district design and planning division chiefs.

One copy of each individual letter and one copy of each form letter with a mailing list is to be furnished to the DOD attention: Chief Office of Project Development Procedures, for information. In Sample Letter #4, please note the additional paragraph required to a city or a county that is participating, or planning to be a future participant in the National Flood Insurance Program administered by the Federal Emergency Management Agency. For more information on wetlands and floodplains, see Chapter 8, Section 7.

Activated Projects Need New Notices

When resuming studies on a project that has been inactive for an extended period of time, particularly when this involves initiation of data gathering for the environmental document, a new Notification of Initiation of Studies letter should be sent to the various agencies. When this involves an already adopted route, the notification would be to the effect that design and environmental studies are being resumed or undertaken.

ARTICLE 11 - Media Relations

Staff Interaction with Media

Project development personnel and other staff members may deal with the media as long as there is prior planning with the appropriate Public Information Office for each and every contact with the media.

On occasion, a Caltrans employee may receive an unanticipated call from a media person. If the subject of the call is controversial, the call should be referred to the Public Information Office. If this is impossible, the employee should inform the Public Information Office of what occurred during the call.

Working Relationship with Key Reporters

It is critical to have a good working relationship with key reporters in any area affected by a project. If the project is a major one, it may be one of the most important news stories in the community and will be the subject of news coverage. If the relationship with the media is poor, that coverage can kill the project.

Most media take their public service role very seriously and are likely to respond sympathetically if approached with a sincere, honest, and unbiased need to communicate with the public.

Initial Meetings with Media

To prepare for future coverage of the project, request an early Editorial Board Meeting with each media organization. Media organization representatives should include: an editor responsible for assigning news coverage, a reporter whose regular beat would be to cover the project, and if possible, a publisher or editorial writer. Caltrans should be represented by a Public Information Officer and the Project Manager.

The following should be communicated at the meeting:

- The problem being addressed is serious.

- Caltrans is the appropriate agency to deal with the problem.
- The project development process is fair and reasonable.
- Caltrans will pay attention to (not necessarily act on) community comments.

Reporting Strategies

Suggestions follow for building an ongoing relationship with key reporters. Consult the *Caltrans Media Handbook* for other suggestions.

- Ask the appropriate media to do a series of stories on the key issues likely to come before the public.
- Develop reasonably good background studies on complex issues and illustrate them well. Do not provide a one-sided picture or hold back potentially embarrassing information.
- Be the most convenient, and the most unbiased source of information for key reporters.
- Always put information in its proper perspective. Make the meaning of any announcement clear by giving sufficient background information.
- Be concise. Send a few short, well-presented messages rather than a big, complex, combined message.
- Clearly distinguish fact from opinion. While opinions or ways of interpreting certain facts can and should be communicated, be careful not to label opinions as facts.

Use Public Information Office

- News Releases — Information for publication in a newspaper should be prepared by the District Public Information Office.
- Public Notices — Public Notices are discussed in Chapter 11, Article 2 and Appendix HH.

CHAPTER 23 - Route Adoptions

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CHAPTER 23 - Route Adoptions

ARTICLE 1 - General

Legislative Statutes

The Legislature establishes the framework for the State Highway System by describing each route in the Statutes (Streets and Highways Code). This description establishes the termini of the route and, in some cases, intermediate control points. Selection of the location of each of the routes has been delegated to the California Transportation Commission (CTC). The specific location, however, must conform to the route description in the Statutes. (Section 75 of the Streets and Highways Code empowers the CTC to "Select, adopt, and determine the location of State highways on routes authorized by law".)

CTC Policy on Adoptions

Route adoption usually will occur at a regularly scheduled CTC meeting following approval of the environmental document. In these instances, there normally is a consensus of the community as to route location, and the adoption usually follows a routine process. CTC route adoption action with accompanying CEQA environmental documentation is taken prior to submittal to the FHWA for compliance with NEPA and project approval. Where there are no alternatives, these actions can be concurrent.

Need for Route Adoptions

Route adoptions are needed for:

- A new alignment for an existing route.
- Establishment of a location for an unconstructed route.
- Conversion of a conventional highway to a freeway or a controlled access highway.
- Designating a traversable highway.
- Temporary connections.

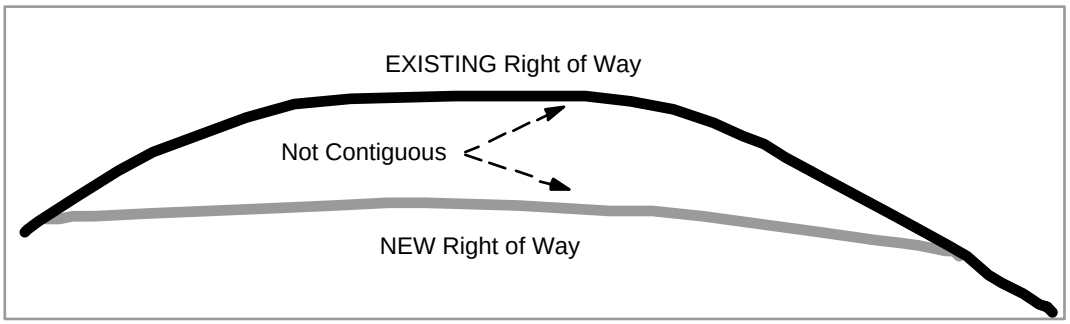
Criteria for New Alignment

An alignment is considered new when additional right of way is required that is not substantially contiguous with the existing highway right of way. (See Figure 1.)

"Substantially contiguous" cannot be precisely defined because of varying conditions attendant to each particular site. There is more latitude for deviation to make engineering safety improvements in a rural undeveloped situation affecting only one or few property owners who agree with the proposed plan. There is little latitude for deviation in urban or developed situations and in cases where there would be substantial environmental impacts. An alignment is also considered new under the following conditions:

- There is no route adoption map for the existing segment of highway.
- The existing highway to be replaced is to be relinquished to the local agency.

FIGURE 1 - (example of new alignment)



CTC Action

The action of the CTC in adopting a route location consists of certifying a map reproducible showing the plan location of the route by a single heavy line and passing a written resolution describing the adoption.

Route Adoption Map

The route adoption map is basically the same for conventional highways, freeways and controlled access highways except for title block data. The adoption resolution for a freeway or controlled access highway will contain additional clauses declaring the route a freeway or controlled access highway and designating it a part of the Freeway and Expressway System, if applicable.

Route Adoption Process

The route adoption map polyester reproducible and four prints are forwarded to Division of Design (DOD), Attention: Route Adoption, with the district-approved Project Report (PR) (See Chapter 12, Sections 3 and 5, for more information on the PR). The importance of correctly delineating the general alignment of the highway location on

route adoption maps cannot be overemphasized. The map must be in conformance with the display map presented at the public hearing.

DOD prepares the necessary CTC resolution and the route adoption documents for CTC action.

Upon CTC adoption, a reproducible of the route adoption map and certified copies of the resolution are forwarded to the district by DOD. The district sends a certified copy of the resolution together with a print of the map to each city and county involved. No additional action or distribution is required.

After adoption, reproducibles of route adoption maps are not to be altered in any manner unless the signatures and certifications are removed first.

Deviations from the Adoption Map

Minor deviations from the alignment location shown on the Route Adoption Map are allowable only for engineering reasons, with the concurrence of the Design Coordinator. Documentation for the project file must be prepared for any such engineering modification. Legal opinions have concluded that modifications to settle controversies, conform to revised general plans, meet political requirements, etc., are not modifications for engineering reasons. A copy of the documentation for the engineering modification should be sent to DOD, Attention: Route Adoption, including reasons for the change and the Design Coordinator's concurrence.

Major deviations from or modifications to adopted route locations would require reopening of route studies and a new adoption. (See Article 8.)

Engineering Reasons for Deviations

Examples considered to qualify as "engineering" reasons are: shifts to avoid slide or unstable areas; curve corrections for safety reasons; modifications to reduce earthwork, structure, or drainage costs; shifts to avoid or minimize impacts on archaeological sites or wildlife nesting areas; etc. The degree of latitude in making minor modifications will vary depending on the circumstances.

Deviations in Rural Settings

In rural undeveloped terrain, an engineering modification may deviate from the "adopted" line by as much as 300 m or so, provided the impact on affected property owners is not significantly different. This also assumes that any adverse environmental impacts of the highway will not be substantially increased. A shift that affects a property owner not previously involved on the adopted route would not be allowable unless the written concurrence of the property owner is obtained.

Deviations in Urban Settings

In urban areas, the latitude for modifications is considerably more restrictive. Even small shifts can affect new property owners physically or have different impacts such as increasing noise. Generally, little deviation from what was shown at the public hearing is allowable from a design standpoint. The generally small scale of the adoption map in itself may cover several design variations. Thus, recycling of the public hearing and ED may be required from a design standpoint but not from a new route adoption standpoint.

ARTICLE 2 - Freeways

Freeway Definition

Section 100.3 of the Streets and Highways Code provides for establishment of freeway route locations by the CTC. Section 23.5 defines a freeway as a highway in respect to which the owners of abutting lands have no right or easement of access to or from their abutting lands or in respect to which such owners have only limited or restricted right or easement of access. As previously noted, a route is adopted as "A Freeway" by the map title block and by a "freeway declaration" clause in the resolution. If an existing adopted conventional highway is proposed to be converted to a freeway on the same basic alignment, the Project Development (PD) Category 1 process must be followed throughout in obtaining a Freeway Declaration or a freeway Route Adoption.

Controversial Projects Need Public Hearings

Where there is controversy over the route location, Caltrans may request the CTC to hold a public hearing. Depending upon the issues and extent of the public controversy, the hearing might be held as part of a regularly scheduled CTC meeting or as a special hearing in the community. The CTC hearing would be held after the Caltrans hearing called for in PD Category 1 projects but before finalizing the environmental document.

At the conclusion of the hearing, the CTC would give Caltrans direction for the preferred alternative as the basis for finalizing the environmental document and subsequent submittal to the CTC for formal route adoption action. Since the Caltrans hearing called for under the PD Category 1 process is not mandatory, the requirement for public involvement may be satisfied by a Notice of Opportunity.

ARTICLE 3 - Controlled Access Highways

Denomination to Controlled Access Highway

Section 23.5 of the Streets and Highways Code also states that if in the judgment of the CTC or the Caltrans director, the public interest would be advanced thereby, a freeway as defined herein may be denominated a "controlled access highway". In all other respects

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said "controlled access highway" shall be subject to all provisions of this code pertaining to freeways. A route may be adopted as a "controlled access highway" by substituting this nomenclature for "freeway" in the route adoption map title block and in the resolution.

The discussion of CTC roles in Article 2 also applies to controlled access highway where the issues are comparable. The degree of involvement of the CTC is to be discussed between the district and DOD.

Guidelines for Denomination

Since the public generally associates the term "freeway" with multilane construction and interchanges, designation as a "controlled access highway" should be used for lesser-scale expressway development not anticipated for conversion to full freeway during the 20-year design period.

In particularly sensitive areas, it may be desirable to designate certain highways as controlled access highways. These are special cases and should be brought to the attention of the CTC.

The district's recommendation to designate a "controlled access highway", rather than a "freeway", should be included in the PR with a full explanation of the decision.

At public hearings where the alternative designation is proposed for the route in question, it should be made clear that all provisions pertaining to freeways also apply to "controlled access highways". Such a route would be adopted by the CTC as a "controlled access highway" and a "controlled access highway agreement" would be executed rather than a freeway agreement.

Where it is desirable to use the term "controlled access highway" for a route initially adopted as a freeway, the district should submit to DOD, Attention: Denomination, an appropriate request and supporting data for denomination as a "controlled access highway". DOD handles the denomination and will forward the approval to the district. Subsequent to denomination, a superseding Controlled Access Highway Agreement should be executed. See Chapter 24.

If it is decided to revert to the freeway declaration at a later date, the Director of Caltrans can withdraw the denomination of the freeway as a "controlled access highway". The DOD Division Chief has the delegated authority of "denomination", "withdrawal of denomination" and other decisions affecting route adoptions.

ARTICLE 4 - Conventional Highways

Access Rights

A conventional highway is a route on which the CTC has not made a "freeway" or "controlled access highway" declaration. Private access rights are generally not acquired.

The Article 2 discussion of the CTC role in route adoption or in controversies applies to conventional highways where issues are comparable. The degree of CTC involvement is usually determined through discussion between the district and DOD.

Local Agency Concurrence

A conventional highway route adoption is typically a relatively minor revision to improve safety or operational conditions. Nevertheless, it is still necessary to seek the concurrence of any involved local agency in the proposed route adoption. This concurrence must include their agreement to accept relinquishment of any superseded segments needed for continued public access to properties.

ARTICLE 5 - Traversable Highway, Transfer of Highway Location

Adoption as Traversable Highway

If the Legislature adds a new route to the State Highway System that coincides with an existing local road, and if that route meets certain requirements as specified in Streets and Highways Code Section 81, Traversable Highways, the CTC will adopt the local road as the State highway.

Transportation System Information Program Annual Report & Responsibility

The Transportation System Information Program (TSIP) is responsible for canvassing the districts annually and maintaining a file on the status of the traversable highways. TSIP should be contacted to get advice on procedures for the adoption of a traversable route, preparation of the report covering the proposal, and Caltrans assumption of maintenance. Since adoption of a traversable highway has effects on Caltrans resources, the Divisions of Maintenance and Traffic Operations and DOD must be involved in the action. The facility is brought up to State highway standards before assumption of maintenance is considered.

Report to Transportation System Information Program

The Transportation System Information Program should be contacted for guidance on the report content. The report should describe the condition of the facility and any work necessary to bring the condition up to standards that reasonably satisfy State highway traffic requirements. The report usually includes the following information:

- Description of Highway
- Map
- Geometric features-log by odometer listing the geometric cross-section, vertical and horizontal alignment, pavement type, structural section (if known), structural condition, intersections, present traffic volumes, and an estimate of future traffic volumes
- Representative photos showing the condition of road
- Right of way status: fee, easement, or prescriptive rights; fenced or open range; monumentation, if any; available mapping
- Planned local agency repair work
- Estimated expected annual State maintenance (PY & dollars)
- Impact of assumption of maintenance on district maintenance
- Discuss any anticipated rehabilitation (next 5 year period)
- Recommendation on appropriateness of State assumption of the facility as a State highway
- Copy of Route Adoption map reproducible to be submitted to DOD

The existing State highway facility and the conditions along it should also be summarized. Advantages and disadvantages to State highway traffic on the relocation facility should be analyzed.

Following joint concurrence and recommendation by the Transportation System Information, Programming and Traffic Operations Divisions, and approval of the concept by the Chief Deputy Director, DOD prepares the resolution and recommendation to the CTC for the route adoption.

Traversable Highway Adoption Documents

The adoption documents for traversable routes are the same as for conventional highways (Report and Recommendation to CTC prepared by DOD, route adoption map and CTC route adoption Resolution). However, there are no requirements for hearings or EDs; nor does this process fall under one of the seven project categories. This is because no improvement work is involved nor is any change expected in traffic usage. The adoption action essentially transfers maintenance responsibility from the local agency to the State.

Transfer of Highway Location

Occasionally a local agency will desire that an existing conventional State highway be moved to a parallel local street or road. A reason may be that a shopping mall is proposed on the existing route and rerouting of State highway traffic is necessary to accomplish this objective. The local agency is responsible for providing a substitute facility in a state of good repair capable of accommodating the State highway traffic added by reason of the change. Although the State will not be involved in any improvements on the local street to be adopted, a public hearing and an ED is necessary in most cases. This is because the changed pattern of traffic could place more vehicles through residential areas or close to schools or other sensitive land uses. The local agency requesting the change in highway location is responsible for complying with hearing and environmental requirements.

Caltrans will consider a local agency request for transfer of a State highway location from one existing facility to a parallel or nearby facility when the substitute facility (1) provides an acceptable level of service without undue circuity of travel, (2) does not require restoration by the State, (3) is environmentally acceptable, and (4) meets Caltrans design standards. Exceptions will be considered if the substitute facility equates to or exceeds the standards of the existing State facility.

The districts should use the following general guidelines when a local agency requests transfer of a highway location from one existing facility to another:

Joint Field Review

Notify DOD, Attention: Highway Location Transfer, in writing as soon as possible after receiving the request and initiate a joint review with the appropriate Headquarters units to assess the potential suitability of the substitute facility to accommodate State highway traffic. The criteria for suitability should include the determination that no restoration work is necessary, that the local facility has no circuity of travel, that its standards will reasonably satisfy State highway traffic requirements, that the statutory definitions for State highways are satisfied, and that there is no need for capital outlay.

Transfer Requirements

Considering the results of the above review, discuss with the local agency the steps and general procedures to be followed with particular emphasis on the following:

- Caltrans will not make any physical adjustments to the existing State highway facility to accommodate local agency standards, signing or striping.

If Caltrans considers the facility inadequate and has included improvements in an approved programming document, Caltrans will pursue completion of the planned improvements until the facility is relinquished to the local agency.

- The local agency is responsible for providing the substitute facility in a state of good repair adequate to accommodate State highway traffic. Caltrans will usually not be involved in any improvements of the local facility to be adopted.

- A public hearing and ED may be required because the changed pattern of traffic could expose residential areas, schools, or other sensitive land uses to increased traffic. The local agency requesting the change in highway location will be responsible for and will bear all costs in complying with any necessary hearing and environmental requirements.

- Relinquishment of the existing State highway facility to the local agency and State assumption of maintenance of the substitute facility must occur simultaneously.

Transfer Report

Develop and submit to DOD, Attention, Highway Location Transfer: three copies of a report discussing the suitability of the local facility for CTC adoption and State maintenance, a polyester reproducible of the Route Adoption map, and four prints of the map. The report should describe the condition of the facility and any work necessary to bring its condition up to standards that reasonably satisfy State highway traffic requirements. As a minimum, the report should include information listed under Traversable Highways, Report to Transportation System Information Program, in this Article.

The existing State highway facility and the conditions along it should also be summarized. The advantages and disadvantages of the proposed relocation to State highway traffic should be analyzed. A discussion of any environmental and public hearing processes the local agency has conducted or proposes to undertake should also be included.

Deficiency Corrections by Local Agency

If the local facility has deficiencies that preclude State maintenance, the district should notify the local agency of the deficiencies that must be corrected. If the deficiencies are minor and the local agency agrees to correct them within a reasonable time, the district should obtain a commitment resolution by the local agency, including an approximate date of completion.

Upon receipt of this resolution and completion of the environmental and hearing processes, Caltrans will process adoption of the route as described below. State maintenance of the local facility cannot be recommended, however, until the corrective action has been completed.

Local Agency Resolution

If the local facility satisfies the definition of a State highway and is suitable for State maintenance, the district should obtain a resolution from the local agency requesting the change and agreeing to accept the existing State highway. The resolution should also agree to waive the 90-day waiting period in connection with the relinquishment so that the adoption and relinquishment can be processed simultaneously. In line with normal practice, the local agency must complete the public hearing and environmental processes prior to adopting the resolution.

Recommendation to CTC

Following completion of the public hearing and environmental processes and receipt of the local agency's resolution, DOD will prepare a resolution and recommendation to the CTC. This recommendation will state the effective date for the transfer of responsibilities.

Final Transfer Actions

When the local facility is adopted by the CTC, DOD will notify the district and will forward a certified copy of the resolution and a reproducible of the signed route adoption map. The district should then notify the local agency. The filing of a certified copy of the resolution or CTC order with the local authority is sufficient notice of CTC action.

ARTICLE 6 - Temporary Connections

Temporary Adoptions Require CTC Action

Temporary adoption of a local road system as a traversable State route is a CTC action. For example, CTC adoption is used where one unit of freeway construction has been completed and through-traffic is routed over the new roadway while the next unit is being constructed, and use of local roads is necessary to connect the freeway with the old State highway. See Index 106.2(2) of the *Highway Design Manual*.

State Responsibility

The adoption is on a conventional highway basis. This action transfers maintenance and liability jurisdiction to the State until formally relinquished. Hearing and environmental requirements may have been met as part of the overall freeway development process. If not, an environmental study should be made to determine the impacts of placing State highway traffic on the local streets. At a minimum, assuming there are no environmental impacts, the concurrence of the local agency must be obtained prior to presentation to the CTC for route adoption.

Temporary Connections on New Alignment

It may be necessary to construct a temporary connection on new alignment pending completion of the next freeway unit. If this was not covered in the overall freeway public hearing and environmental process, the applicable portions of PD Category 2 process

must be followed. Since these are time consuming, it is important that this need be recognized early, and preferably be covered in the overall project procedures.

ARTICLE 7 - Route Redesignation

General Redesignation Discussion and Examples

Route redesignation occurs when an existing route is changed to a new route number. Figure 2 shows an example of a route redesignation.

In Figure 2 the existing Route A provided continuity for a second route, Route B. On its relocation, existing Route A would be relinquished, thus leaving a gap in Route B. The segment of existing Route A that is needed for continuity would be redesignated Route B.

FIGURE 2 - (example of a route redesignation)

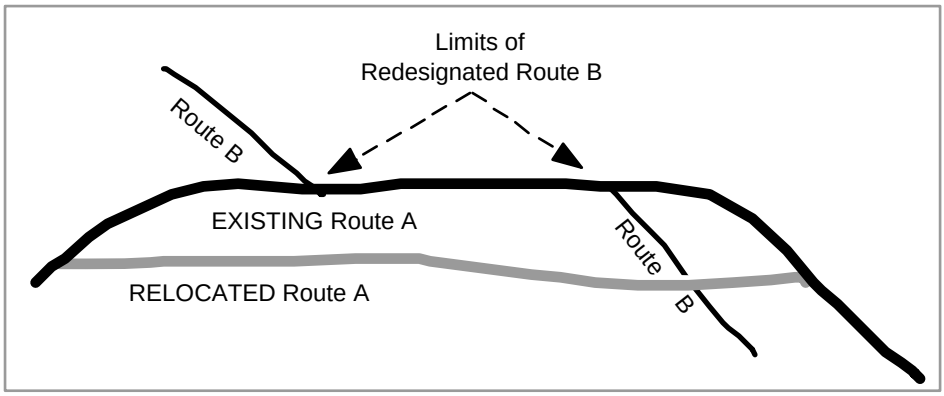
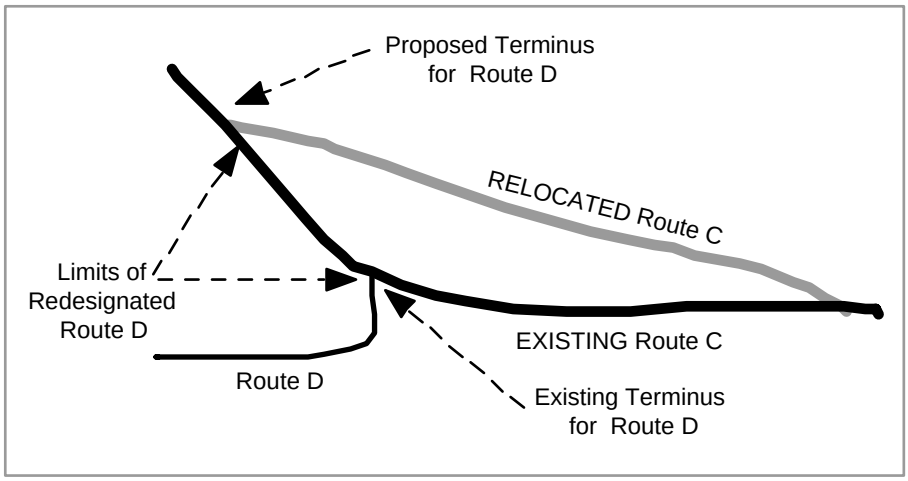


Figure 3 shows another application for a route redesignation. When Route C is relocated and the Legislative description of Route D calls for Route C as its terminus, a portion of existing Route C is redesignated as Route D to fulfill the Legislative description.

These examples may need for some legislative action to be taken to clean up the legislative route description. If so, TSIP should be notified to initiate the change.

FIGURE 3 - (example of a route redesignation)



Procedures for Redesignation

The district prepares a reproducible map (see *Drafting and Plans Manual*) and submits it with four prints to DOD, Attention: Redesignation, with the pertinent route information. DOD will process the request through to the CTC. The redesignation is presented to the CTC at the time of completion of construction of the relocated facility.

ARTICLE 8 - Modification to Adopted Route Locations

General

The route location of an adopted but unconstructed freeway route may be modified by a formal reopening of route studies, which voids the prior adoption, or by new studies that are conducted with the adoption still in place. In the latter case, alternatives would be evaluated, but the CTC could choose to reaffirm the adopted routing.

New route studies can be requested by a local agency for local planning reasons or be initiated by Caltrans for engineering reasons (i.e., stability problems, costs, etc.).

Although the procedures discussed herein for alternative route studies were developed to consider changes to unconstructed freeway locations, any changes proposed for major conventional highway adoptions on a new alignment should also follow these processes.

"Reopening Route Studies" is a formal CTC action. The request for such action can be to consider a specific alternative or to consider all alternatives to the adopted location. Although a suggested alternative is not mandatory, the request should demonstrate that there are feasible alternatives. It is the policy, in cases where the reconsideration is

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requested by a local agency, that all other affected governing bodies concur in the request to reopen studies (including adjacent local agencies receiving secondary effects).

Formal Reopening Process

The action of the CTC in formally reopening route studies, in effect, "wipes the slate clean". Routing studies are reinitiated following all steps in the process for PD Category 1 projects. The prior adoption no longer has any force or effect.

Because formal reopening of studies returns the project to "Stage Zero", this step should not be undertaken unless there is assurance there is a feasible alternative to the adopted routing. When there is uncertainty, a preliminary feasibility study should first be made.

Need Resolution from Local Agency

A request from a local agency for reopening of route studies is usually sent to the Caltrans district in the form of a resolution addressed to the CTC. The resolution should describe the reasons for the request, accompanied by maps, as appropriate. The request is forwarded to DOD, Attention: Reopen Route Studies, by the district, together with a summary of project planning and an analysis of the proposal.

If a route change is proposed by the district for engineering reasons, a similar request with supporting data is submitted to DOD, Attention: Reopen Route Studies.

Feasibility Studies to DOD/CTC

Where a preliminary feasibility study is undertaken, the district must submit a report and recommendation to DOD, Attention: Reopen Route Studies. In turn, DOD will submit a report of the study to the CTC, together with a recommendation whether or not the route location matter should be formally reopened. If reopening of studies is denied, the local agencies involved and other interested parties are advised in writing of the CTC's decision by the District Director.

Informal Reopening Process

It is preferable to conduct additional route studies with the existing adoption still in place. A Supplemental Draft Project Report/Draft Environmental Document is prepared, the public hearing process is accomplished and environmental documentation is completed prior to requesting the CTC adoption of the revised location. This assumes a consensus on the new preferred alternative; otherwise the CTC would be also involved earlier as previously discussed in Article 2.

Where it is desirable to informally reopen studies, the Division Chief, DOD, Attention: Reopen Route Studies, should be notified in writing, and a request should be made for concurrence in the study process.

ARTICLE 9 - State Route Rescission Process

General

When adopted freeway routes having little potential for construction have been identified for possible rescission, a process is initiated in accordance with CTC policy. One rationale for a route rescission is that retention of an adopted route could subject the CTC to continued expense for acquisition of properties on a hardship basis. Continued existence of the adoption may also create uncertainties in local planning.

If the adoption were rescinded, funds realized from the sale of previously acquired hardship and protection parcels could be utilized for current State transportation needs. There may also be other reasons to initiate the rescission process.

Rescission Criteria

The following factors should be considered when deciding if a freeway route adoption should be retained or rescinded:

- Is the adopted location still valid?
- Is the adopted location locally accepted? Is it in conformance with the most recent local and regional plans?
- Is the route segment needed for system continuity to join adjacent completed or programmed segments? How would functional classification of the overall route be affected?
- Could an interim or alternative non-freeway improvement to the existing facility or on the adopted line provide a satisfactory level of traffic service for the reasonable future? Would any or all of the rights of way acquired to date be utilized in such a project?
- What has been the cost and extent of past right of way acquisition? What are the expected pressures for future hardship and protection acquisition?
- Is there future potential for the continued existence of freeway adoption to retard community development or adversely affect property owners' ability to utilize or dispose of their investment?
- What would the economic impact of disposal of right of way be for the community and the State versus continued State ownership?

- Are there any local or regional planning studies under way, the results of which could have a bearing on existing route adoptions or concepts?

Review with Local Agencies

Unconstructed adopted freeway routes are candidates for rescission and should be periodically reviewed by the district and local agencies to determine if it is appropriate to rescind the adopted route and to dispose of any acquired rights of way. If rescission appears appropriate, the review is summarized by the district in a Route Inventory Report, using the format shown in Appendix II.

Initiation of Rescission

DOD will summarize the route inventory on each candidate in a report to the CTC, together with a recommendation to either retain the route adoption or to consider the route for rescinding and disposing of acquired rights of way.

The report will recommend that the CTC adopt a "Notice of Intent to Consider Rescinding" resolution. Current rescission procedures were adopted by CTC Resolution G-15, found in Appendix II. The overall rescission process in Resolution G-15 is described in the following text.

Rescission Procedures

In essence, local, regional, and State agencies and the general public are notified of the CTC's intent to rescind and their comments are solicited. Following this, the CTC is presented with a report on the comments, together with a recommendation to proceed or forego the rescission. The CTC, at its own option, may schedule a public hearing before deciding on a final course of action.

The process is illustrated in Figure 4. Steps for implementing a rescission follow:

- District informally reviews the appropriateness of the adoption with local and regional staffs and adoption is determined inappropriate.

- District prepares and submits route inventory report to DOD Division Chief, Attention: Rescission (3 copies).

- DOD coordinates Headquarters' review of the report.

- If it is decided to proceed, DOD prepares Caltrans' report and recommendation to CTC.

- The CTC acts on Caltrans' recommendation.

- If the CTC adopts a "Notice of Intention to Consider Rescinding" Resolution, DOD will inform the district to notify all affected local and regional agencies of the rescission proposal and ask the agencies for any additional pertinent information that might be helpful to the CTC in making a final decision. The notification should request comments, if any, to be submitted within 60 days.

  - Local agencies should be furnished copies of Caltrans' report and the CTC Resolution of Intention.

    The following additional language should be incorporated into the notification letters when rights of way have been acquired and are proposed for disposal:

    > Should the route adoption ultimately be rescinded by action of the Commission, we will commence the disposal of the properties shaded in red on the enclosed maps in accordance with the provisions of Government Code Sections 54220 through 54226 and 54235 through 54238.6 and Streets and Highways Code Section 118.6. Pursuant to these code provisions, whatever portions of these properties that are not needed for exchange, sale back to former owners in occupancy, sales to qualified tenants, or sales to adjoining owners, will be available for sale.
    >
    > Please notify us within 60 days if your agency would be interested in purchasing any of these properties for public purposes.

  - It is essential that agencies involved in planning and development of transit be included in the disposal notification.

  - A notice of the intent to consider rescission is to be published in newspapers following the procedures used for public hearing notices. The notice is to include a map, a brief description of the proposal, and a closing date for written comments to be submitted to the District Director (closing date should coincide with the public agency period).

  - DOD will notify the State Clearinghouse (in Office of Planning and Research) of the proposal so that State agencies can be notified.

  - Upon expiration of the comment period, the district submits a memorandum to the DOD Division Chief, Attention: Rescission, summarizing the comments and containing recommendations for proceeding with the process. Copies of the notifications and published notices should be attached to the memorandum. Copies should be attached of correspondence received from governmental agencies, organizations, and individuals.

  - If rescission is appropriate, but the local agency desires to retain the freeway adoption, a major commitment by the local agency to participate financially in right of way and/or construction would

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normally be a minimum requirement. Other positive planning actions by the local agencies would also be necessary.

– A determination whether disposal of any acquired rights of way is categorically exempt or requires an ED will be made on an individual parcel basis after CTC action rescinding the adoption makes the property surplus.

- DOD prepares Caltrans' recommendation for final CTC action.

- The CTC could, at its option, schedule a formal hearing prior to taking final action. This hearing would be held after the comment period. It could be held either before or after the Department follow-up recommendation.

- CTC decides to (1) retain freeway adoption and protect right of way, (2) rescind route adoption and freeway declaration and authorize disposal of right of way, (3) as a CTC-approved special circumstance, rescind the freeway declaration (and any denomination as a "controlled access highway") and retain the route adoption location as a conventional highway for improvement, operation, and maintenance purposes, or (4) pursue any CTC-approved special circumstances relating to recycling an adopted freeway location.

- District disposes of right of way.

Conditional Retention of Adoption

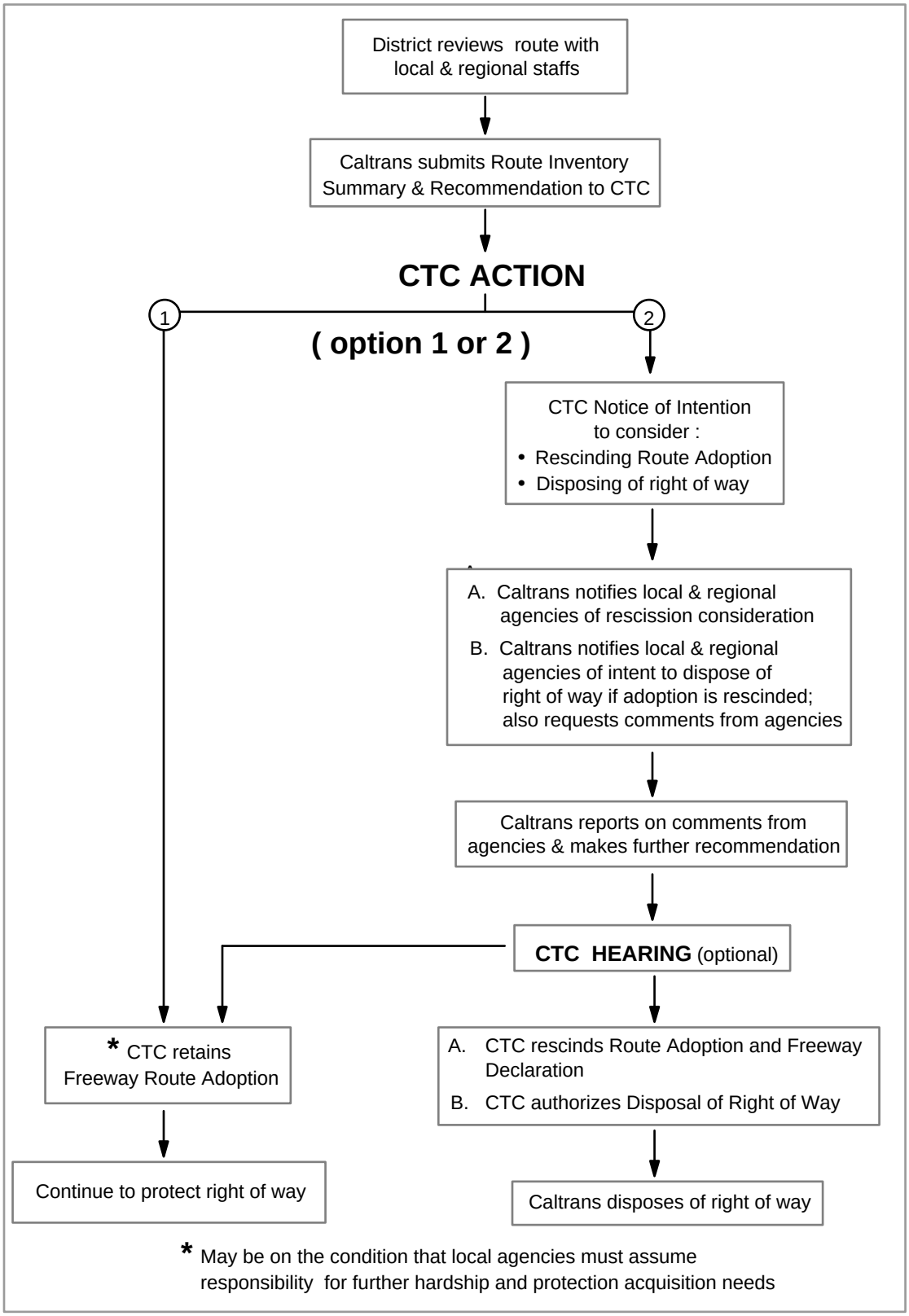
The initial report to the CTC on a route segment usually contains the recommendation to initiate recycling procedures. Resolution G-15 provides the option to conditionally retain the adoption subject to the local agencies involved entering into a cooperative agreement or memorandum of understanding to assume responsibility for further hardship and protection acquisitions. A conditional retention would usually develop as a response to a

“Notice of Intention to Consider Rescinding" resolution.

Resolution G-15 outlines the provisions for two options but allows for special circumstances. The concurrence of the CTC will be required in each case of a proposal to deviate from either Option 1 or Option 2.

Local agencies do not have an automatic option to proceed in accordance with Resolution G-15. The CTC must adopt a resolution on each route segment that is subject to the conditional retention provisions of Resolution G-15. It is also be acceptable to discuss the cooperative agreement and letter of understanding approach with local agencies during preparation of the original route inventory report.

FIGURE 4 - CTC Freeway Route Rescission Process



ARTICLE 10 - Deletion from Freeway and Expressway (F&E) System

Results of Legislative Deletion

Legislative action deleting a route or portion of a route from the California Freeway and Expressway (F&E) System:

- Causes any existing freeway declarations by the CTC on the route to be a nullity.
- Causes any existing freeway agreements by Caltrans within the limits of the deletion to be a nullity.
- Implies legislative direction that Caltrans shall not consider development of a freeway or expressway in the corridor.

State Still Shares Route Responsibility

If the route segment remains in the State Highway System, the State continues to share the responsibility for meeting the transportation needs in the corridor. However, in view of the limited funds available to the State Highway Program, the route adoption and any previously acquired rights of way should be considered for rescission and disposal unless there are overriding needs for non freeway or other transportation uses.

Case-by-Case Basis

Procedures for each deletion will be handled on a case-by-case basis. DOD should be consulted regarding candidates for deletion.

Division Responsibilities

Deletions from the Freeway and Expressway System are the responsibility of the Transportation System Information Program. DOD has the responsibility to prepare a report to the CTC recommending rescission of the freeway adoption. The sale of State-owned resources is the responsibility of the Right of Way Division.

CHAPTER 24 - Freeway Agreements

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CHAPTER 24 - Freeway Agreements

ARTICLE 1 - General

Freeway Agreement

The Freeway Agreement documents the understanding between Caltrans and the local agency relating to the planned traffic circulation features of the proposed facility. It does not bind the State to construct on a particular schedule or staging. In the event that the freeway is fully constructed, it shows which streets may be closed or connected to the freeway; it shows which streets and roads may be separated from the freeway; it shows the location of frontage roads; and it shows how streets may be relocated, extended or otherwise modified to maintain traffic circulation in relation to the freeway. Locations of railroad and pedestrian structures, as well as those for other non-motorized facilities, should also be shown. Agreements are often executed many years before construction is anticipated and they form the basis for future planning, not only by Caltrans but by public and private interests in the community.

Freeway / Controlled Access Highway

The following discussions directed toward the term "Freeway Agreement" also apply to "Controlled Access Highway Agreements." See Chapter 23, Article 3, for specific discussion on "controlled access highways".

California statutes define "freeway", "controlled access highway" and "expressway". The terms "freeway" and "controlled access highway" are defined in Streets and Highways (S&H) Code Section 23.5. A "controlled access highway" is defined for the purpose of processing expressway route adoptions, for denominating freeways as controlled access highways at sensitive locations, and for processing California Transportation Commission (CTC) approval of new public road connections to expressways.

The term "expressway" is used in the *Highway Design Manual* (HDM) for highway design purposes and is defined in S&H Code Section 257 for use in the California Freeway and Expressway System (see Chapter 27). On expressways, the term "controlled access highway" is substituted for "freeway" in agreements with local agencies. Any reference to an "expressway" in this manual or any other manual has the definition of a "controlled access highway" attached to it.

S&H Code — Section 100.2

Section 100.2 of the S&H Code states that no city street or county highway shall be closed by the construction of a freeway without an agreement between the State and the local jurisdiction authorizing such a closure. It also states that no local road shall be

connected to a freeway without consent of the CTC. See Chapter 27 for a discussion of Section 100.2 pertaining to new connection procedures.

Access Control

The California Freeway and Expressway System has a large financial investment in access control to insure safety and operational integrity of the highways. The legislative intent for requiring Freeway Agreements is to obtain the local agency's support of local road closures and changes to the local circulation system and to protect property rights and to assure adequate service to the community. Access control is necessary on the freeway or expressway so that current and future traffic safety and operations are not compromised.

The rights of access of property owners must be acquired in a manner provided by law, which requires that other reasonable provisions be provided for access to local roads.

The proposed access control facility being covered by the Freeway Agreement should be examined for conformance to the Access Control Policy in the *HDM, Topic 104 and Index 205.1*. The Advisory Design Standards for interchanges and spacing in HDM, Topic 501, should also be examined for conformance by the facility.

Processed for all Freeway Projects

As long as no streets are closed, a strict interpretation of the statute would make it theoretically possible to build a freeway without a Freeway Agreement. Caltrans, however, follows a practice that no freeway will be built without agreement of the local government except as otherwise provided for in Statute. Agreements are therefore processed for all freeways and for all freeway projects that require a change to a previous agreement. Except for temporary closings during construction, no city street or county highway may be closed by the freeway without such an agreement.

Conditions for Freeway Separation Structures or Interchanges

Freeway separation structures or interchanges with unconstructed public roads are included in project plans only when one or more of the following conditions is met:

- Construction of a usable length of the local road has been budgeted by the local agency.

- A written commitment has been secured from the board of supervisors or city council to the effect that a usable length of local road will be constructed or will be under construction at the time freeway construction is undertaken.

- This facility is required to provide access to adjacent property and analysis shows that the separation structure or interchange is more economical than other means of providing access during the interim period prior to the time the local road is to be constructed.

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Maintenance Agreements

Freeway Agreements are used as the basis for establishment of Maintenance Agreements with local agencies, but are not used as Maintenance Agreements. Instructions on Maintenance Agreements are issued by the Division of Maintenance.

Relinquishment of Local Roads

The standard Freeway Agreement provides for the relinquishment of local roads constructed as part of the freeway project and is often the basis for the relinquishment action by the CTC, which is the responsibility of Right of Way Engineering. Instructions on relinquishments are issued by the Division of Right of Way. See Chapter 25 for further information on relinquishments.

Agreement: Before R/W Purchase or Start of Construction

In addition to its importance for planning purposes, a current agreement is needed for regular acquisition of right of way. Section 100.21 of the S&H Code prohibits right of way acquisition prior to execution of Freeway Agreements — except for hardship and protection. A city council may, by resolution, authorize the purchase of rights of way prior to approval of an agreement if the purchase is limited to the mainline corridor of the proposed freeway and the alignment of the freeway is not at issue. This prohibition of right of way acquisition applies to major changes unless incorporated in an agreement. Caltrans practice requires all proposed freeway (controlled access highway) projects to be properly covered by an accurate agreement prior to the start of a construction project.

Need Current Agreements

Because of its wide use, the freeway or controlled access highway agreement is an extremely important document. Care must be exercised in its preparation to insure accuracy. For the same reasons, this agreement should be kept current. It is recognized that during the design and construction phases of a project, it is sometimes necessary to make revisions that are not in conformance with the current agreement. It is also recognized that the revisions vary greatly in magnitude and importance. Therefore, several methods of revising these agreements have been devised. These methods are discussed in Article 5.

S&H Code — Applicable Sections

For the convenience of the reader, the applicable sections of the S&H Code are reproduced here.

"Freeway" (and "controlled access highway")

> **23.5.** "Freeway" means a highway in respect to which the owners of abutting lands have no right or easement of access to or from their abutting lands or in respect to which such owners have only limited or restricted right or easement of access. If, in the judgment of the commission or the director, the public interest would be advanced thereby, a freeway, as defined herein may be denominated a

"controlled access highway". In all other respects said "controlled access highway" shall be subject to all provisions of this code pertaining to freeways.

Authority of Department

100.1. The department is authorized to do any and all things necessary to lay out, acquire, and construct any section or portion of a State highway as a freeway or to make any existing State highway a freeway.

Agreement to Close Street, etc.; Consent to Opening, etc.

100.2. The Department is authorized to enter into an agreement with the city council or board of supervisors having jurisdiction over the street or highway and, as may be provided in such agreement, to close any city street or county highway at or near the point of its interception with any freeway or to make provision for carrying such city street or county highway over or under or to a connection with the freeway and may do any and all work on such city street or county highway as is necessary therefor. No city street or county highway shall be closed, either directly or indirectly, by the construction of a freeway except pursuant to such an agreement or while temporarily necessary during construction operations. No city street, county road, or other public highway of any kind shall be opened into or connected with any freeway unless and until the commission adopts a resolution consenting to the same and fixing the terms and conditions on which such connection shall be made and the said commission may give or withhold its consent or fix such terms and conditions as in its opinion will best subserve the public interest.

Acquisition of Right of Way Prior to Freeway Agreement

100.21. (a) Whenever a street or highway closing agreement is required by Section 100.2, the Department shall not acquire, except by gift, and except in hardship or protective cases as determined by the Department or the Commission, any real property for a freeway through a city until such an agreement is first executed with the city council, or for a freeway through unincorporated territory in a county until such an agreement is first executed with the board of supervisors. The Department shall give notice to the city council or the board of supervisors, as the case may be, of any acquisition of such real property prior to the execution of such an agreement.

(b) Notwithstanding subdivision (a), a city council may, by resolution, authorize the purchase of rights of way prior to approval of an agreement if the purchase is limited to the main line corridor of the proposed freeway and the alignment of the freeway is not at issue.

Local Agency Public Hearing

100.22. The city council or board of supervisors shall, prior to entering into the agreement contemplated by Section 100.2, conduct a public hearing on the subject.

Agreement May Include Improvement or Extension of City Streets or County Roads

100.25. In addition to the other matters that may be covered by the agreements authorized under Section 100.2, provisions for improvements, revisions or extensions of city streets or county highways leading to or from a freeway, deemed by the department to be necessary in accommodating the freeway traffic in making proper connections between the existing system of city streets or county roads and the freeway, may be included in such agreements and the department may perform such work as a part of the freeway construction.

Resolution (CTC resolution gives immediate freeway status)

100.3. From and after the adoption of a resolution by the commission declaring any section of State Highway to be a freeway, the highway described in such resolution shall have the status of a freeway for all purposes of Section 100.2. Such declaration shall not affect private property rights of access, and any such rights taken or damaged within the meaning of Section 19 of Article I of the California Constitution for such freeway shall be acquired in a manner provided by law. No State Highway shall be converted into a freeway except with the consent of the owners of abutting lands or the purchase or condemnation of their right of access thereto.

ARTICLE 2 - Processing Procedures and Sequence of Events

Agreement Execution Schedule

Freeway Agreements are executed following project approval for a new freeway location or conversion of an existing conventional highway to freeway. Superseding agreements are required for a major change, a new public road connection, a minor change, or an accumulation of minor changes.

Once a determination has been made that a new or superseding agreement is required, a defined review and approval process is followed. The numbered sequence of events for this process is shown on the flow-diagram in Figure 1 and the corresponding numbered event descriptions are listed below. In addition, refer to Chapter 11, "Public Hearings", and to Chapter 27, "New Public Road Connections To Freeways" for requirements concerning new connections to the freeway.

(1) Coordinate Draft Freeway Agreement with Local Agency - The rough draft Freeway Agreement is prepared. For details on preparation of Freeway Agreements and exhibit maps see Articles 3 and 4 and Appendix CC. Initial contact is made with the local agency at this point to get input to the rough draft.

(2) Transmit Draft to Division of Design (DOD) - The rough draft Freeway Agreement is transmitted to DOD, Attention: Freeway Agreement, for review and approval (2 copies). The transmittal memo should state the purpose of the Freeway Agreement; that is,

> "It depicts a new plan of development", or "It revises a portion of the executed Agreement, and the changes are _____", or "It is a cleanup agreement after construction and incorporates the following changes _____", etc.

Unusual items must be identified and fully justified, such as minor engineering deviations from the adopted route, work outside of normal limits on local roads, or exceptions to policy, etc.

It is desirable to submit the draft freeway agreement with the PR.

Declaration as Controlled Access Highway - If a Controlled Access Highway Agreement is desired on a route that was initially adopted as a freeway, the draft could be submitted at this time with a request to the DOD Division Chief, Attention: Denomination, for a Controlled Access Highway designation (denomination of the freeway as a "controlled access highway"). The DOD Division Chief has the delegated authority to denominate the controlled access highway. The transmittal memo should justify and detail the reasons for the request.

(3) DOD Technical and Legal Review - Upon receipt in DOD, the rough draft is reviewed for conformance to the adopted route and verified for correct reference to existing agreements. If different from the standard agreement form, the draft is sent to the Legal Division for review and a legal ruling.

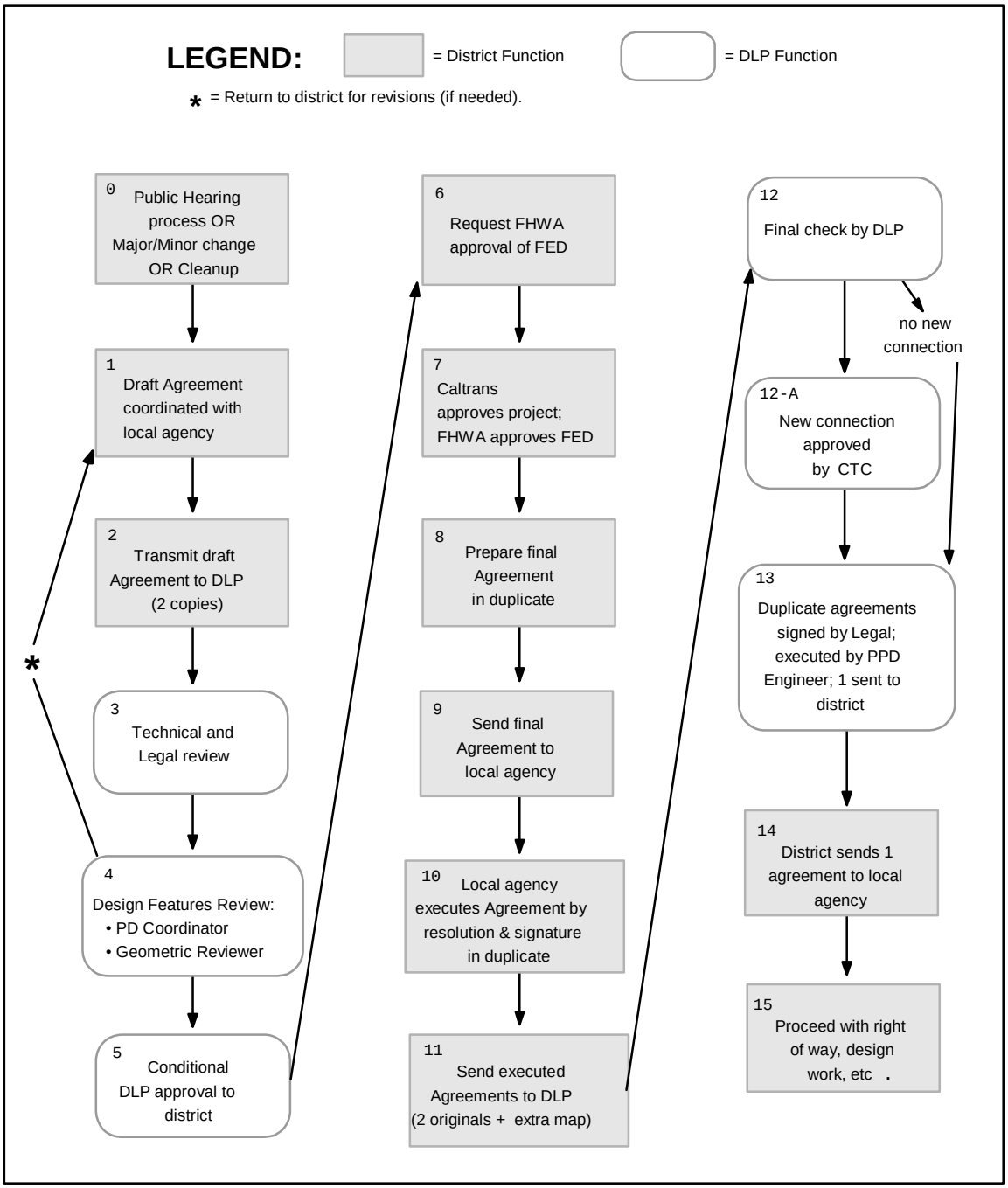
Unapproved Clauses - Any special clauses that differ from the standard clauses in Freeway Agreements must be ruled upon by the Legal Division for conformance to established legal practice.

Special clauses should be held to an absolute minimum, as the presently approved standard clauses serve the intended purpose of freeway agreements. If special clauses are recommended by the district, the recommendation is to be supported by an explanation of why the special clause will serve Caltrans' needs better than the standard language.

Conformance to Adopted Route - All deviations from the adopted route must be cleared by DOD. To avoid any possible delay, the district must submit adequate justification to the Design Coordinator for any line shift due to engineering reasons if readoption is not required. The Design Coordinator has the delegated authority to concur in any line shift; however, a line shift from the adopted alignment is allowed for engineering reasons only, not for political or other reasons.

(4) Design Features Review - A review is conducted by the Design Coordinator and Design Reviewer: This review of the entire plan of transportation development assures plan conformance to Statewide practices, previous approvals, acceptable geometrics, and applicable provisions of the project development process.

FIGURE 1 - Sequence of Events for Freeway Agreements and Controlled Access Highway Agreements



Revision - On rare occasions, items requiring revision prior to further processing are returned to the District.

(5) Conditional DOD Approval to District - Usually, the rough draft will be approved, subject to the condition that some minor items be corrected prior to submitting the Freeway Agreement to the local agency for signature and conditioned on project approval. The district is informed by an DOD approval memo that the rough draft is approved, subject to conditions, if any.

(6) Request FHWA Approval - On projects requiring FHWA concurrence, the district submits the Final Environmental Document (FED) to the FHWA for approval and approval of location and design features. If the project is Categorically Excluded under NEPA, FHWA concurrence is obtained under minor change procedures outlined in Article 5 "Resolutions of Change". On proposed new public road connections to, or modifications to existing interchanges on, Interstate freeways, FHWA must grant early conceptual approval prior to PSR approval. See Chapter 27 for details.

(7) Caltrans Approves Project; FHWA Approves FED - A project is approved by Caltrans when the PR and FED are approved and the Notice of Determination (NOD) is filed with the State Office of Planning and Research (OPR). Intermediate approvals of the DPR (with the attached Draft Environmental Document) do not constitute project approval; the filing of the NOD with OPR signals "project approval" under CEQA. On projects Categorically Exempt under the provisions of CEQA, Caltrans' approval of the PR signifies approval of the project.

If there has been adequate prior consultation, the FHWA generally approves the FED as submitted. However, there will be times when the FHWA requests additional data. The FHWA gives location and design feature approval when a FONSI (Finding of No Significant Impact) is issued or when the Record of Decision (ROD) is published after approval of the FEIS.

Two copies of the request letter to the FHWA and the related approvals and correspondence must be forwarded to DOD, Attention: FHWA Approval for information and files.

(8) Prepare Final Freeway Agreement - Prepare the final Freeway Agreement: Since formal submittal of the Freeway Agreement to the local agency generally commits the State to a specific plan of development, the submittal must not be made prior to receiving approval from DOD. The district prepares the final Freeway Agreement in duplicate, incorporating the changes requested by the DOD approval.

(9) Send Agreement to Local Agency - The local agency always executes the Agreement before Caltrans. A transmittal letter should accompany the Agreement that is sent to the local agency for execution. The letter should alert the local agency to the public hearing provisions in Section 100.22 of the S&H Code for all original Freeway Agreements. It is not necessary to notify the local agency of this provision with superseding agreements; however, it is suggested that they be encouraged to include a statement in their resolution authorizing an official to sign the Freeway Agreement and that the provisions of Section 100.22 have been complied with. Since the exposure to an action to enforce the law lies with the local agency, it is stressed that each local agency

make its own determination of what adequately meets the requirements of Section 100.22.

If the Freeway Agreement covers an area where CTC approval of a new connection will be necessary, the transmittal letter should inform the local agency that the State's execution of the Freeway Agreement must follow CTC approval of the new connection.

Avoid Changes by Local Agency - In an effort to obtain assurance that Caltrans will conform to local objectives, or to incorporate certain features into a project, local agencies sometimes include inappropriate items in their resolution of execution, or the text of the Freeway Agreement, or as attachments thereto. However, the purpose of a Freeway Agreement, as stated in the Statutes, is to provide an agreement as to which local streets and roads will be closed, carried over or under the freeway, or to a connection therewith. The freeway agreement is not intended to be used as a vehicle to consummate agreement on other matters.

Letter to Local Agency Used to Get Understanding - The Freeway Agreement transmittal letter is an effective device for establishing a clear understanding of commitments. In this letter, specific items previously discussed with the agency can be mentioned, along with the agreed-upon disposition. General items of standard procedures can be itemized, such as plans for aesthetics, traffic control devices, etc. Districts should make every effort to have a letter such as this accepted as a document of understanding. If the local agency is reluctant to accept the letter without a signature from a higher level of Caltrans management, such a signature can be provided upon application to the Caltrans Director's Office. To encourage mutual trust and understanding with the local agency, a letter signed by the District Director or a staff representative is preferable.

"Project" or "Performance" Agreements - If more than a letter is demanded to establish a clear understanding of commitments, a "Project" or "Performance" Agreement may be prepared that formalizes the necessary details. Use of these types of agreements is discouraged. One should be used only as a last resort to enable finalizing a Freeway Agreement.

The "Project" or "Performance" Agreement should provide signature blocks for approval and execution that are similar to those used for Freeway Agreements except that the District Director executes rather than the DOD Division Chief. Draft approval by DOD is required, however. This document should be written without binding references to other agreements to allow subsequent modification to the Freeway Agreement, or the "Project" or "Performance" Agreement without requiring modification to the other.

Only Make Deliverable Commitments - In all the above actions, care should always be exercised to make no statements or commitments that Caltrans cannot deliver. For example, local agencies often attempt to specify the year that landscaping will take place. An agreement to this would commit a future CTC to a specific expenditure. The CTC is unable to act on this type of prior commitment, as each project must stand a test of priorities at the appropriate time.

Another common request from a local agency is that landscaping plans or other specific details be submitted to the local agency for approval. Caltrans authority to approve plans

should never be compromised; the proper response might be that Caltrans will be happy to work with the agency to devise mutually acceptable plans.

(10) Local Agency Executes Agreement - The local agency executes in duplicate the Freeway Agreement and returns these along with copies of the minute order or resolution authorizing its officer to sign the Freeway Agreement. If the local agency executes the agreement with no change from the DOD approval, the official date of execution is the day the city council or county board of supervisors acts on the resolution or the minute order.

State Not Obligated to Agree - The State is not obligated to execute a Freeway Agreement if the local agency has revised the conditions under which the agreement was presented to the agency.

(11) Transmit Executed Agreement to DOD - After execution in duplicate by the local agency, the complete agreements (plus one additional print of the exhibit map) and the authorizing documents must be sent to DOD, Attention: Freeway Agreement, by memorandum.

The transmittal memo must (1) specifically state that the Freeway Agreement conforms to the approved rough draft or (2) it must detail any changes made and the reasons therefor. If changes were requested in the rough draft approval, the transmittal memo must state that these changes were made or explain why they were not. These statements eliminate the need for further comprehensive review by DOD.

DOD will return one executed copy of the Freeway Agreement to the district for transmittal to the local agency. It is not necessary to request DOD to return the executed agreement under normal conditions.

(12) Final Check by DOD - Assuming that the statements required by Step 11 have been made, a general review is made by DOD.

(12-A) New Connection Approval by CTC - If there is a new connection on the Freeway Agreement, DOD sends the new connection to the CTC for approval. The Freeway Agreement is executed by the State after CTC approval. Refer to Chapter 27, "New Public Road Connections to Freeways".

(13) DOD Executes Agreement; Sends to District - The Freeway Agreement is forwarded to the Legal Division for signature, which is the acceptance as to legal form. Then the agreement is signed by the DOD Division Chief as the Project Planning and Design Engineer. This constitutes execution by the State.

DOD sends one executed document to the district. The other executed document is sent to the Administrative Service Center, Forms and Records, for filing as the official State agreement. The additional print of the exhibit map is retained in DOD.

(14) District Sends Copy to Local Agency - When received in the district, a copy of the fully executed document should be made for the district file. The original should be sent to the local agency.

(15) Proceed with Project Development - Proceed with design, right-of-way acquisition, etc., as appropriate. The district is responsible for ensuring that the Freeway Agreement conforms to "as-built" construction plans. In the case of a cleanup agreement after construction, there is no further action.

CEQA/NEPA Coordination

Freeway Agreements are required by State statute and not by federal law or regulations. While it is normal practice to have FHWA environmental and design approvals prior to submitting a Freeway Agreement to a local agency for execution, it is permissible to advance the submittal to coincide with completion of the CEQA environmental document in those cases where the local agency procedural and review process is lengthy. The State withholds execution until the FHWA concurs with the environmental document and design. The transmittal letter to the local agency should note this condition.

ARTICLE 3 - Freeway Agreement Format

Types of Freeway Agreements

Original Freeway Agreement

The term "original Freeway Agreement" covers a freeway on new alignment or a conversion of a conventional highway to a freeway. For a sample format and guidelines, see Appendix CC.

Superseding Freeway Agreement

A superseding Freeway Agreement is required when there is a need to change the text of the current executed agreement, to change the exhibit map, or to change the agreement limits. It can supersede the executed agreement in part, or in its entirety. For a sample format and guidelines, see Appendix CC.

When superseding an agreement in an area that has been annexed or incorporated into a city, the basic superseding Freeway Agreement format is used. It is only necessary to make the appropriate references to the executed agreement with the county, since the obligations of the county are automatically assumed by the city.

Local Agency Work to be Shown on Agreement

Joint Participation

The freeway project may involve work that is to be financed by the local agency. Such work should be shown on the Freeway Agreement exhibit map. The financial obligation is shown on the exhibit map by symbol or by adding a note. Symbols indicating financial obligation are not used for freeway lanes or interchange connections. These are shown with the solid filled-in freeway symbol.

In the instance where the cost of ramps or freeway lanes is to be paid for by others, a note indicating the financial obligation should be placed on the exhibit map. Financial obligation for frontage roads and other roads that is to be paid for by others is shown on the exhibit map by standard symbol or a note.

Agreement Text Not Used for Financial Participation

The financial obligation is included in the Agreement text only when the participation is based on a theoretical concept or if for some other reason it cannot be satisfactorily shown on the exhibit map. The sample clauses for joint participation are modifications of the standard construction and right of way clauses. They may be appropriate for new connections, new crossings, pedestrian separations, and other special cooperative work.

The Freeway Agreement does not include details of financial participation. The obligations are described in general terms such as "jointly financed" or "the cost of right of way and/or construction shall be borne by the local agency". The details are included in a subsequent Cooperative Agreement.

Need Certified Copies of Resolution

Resolution Authorizing Signature

A Freeway Agreement executed by a local agency must be accompanied by a certified copy of a resolution, minute order, or other decree adopted by the governing body, that approves the Agreement and delegates authority for execution of the Agreement by agency officials. The Agreement must be executed by the party authorized to do so.

Special Clauses (Not Mandatory)

Each district's particular circumstances may require the use of special clauses. These "special" clauses are acceptable; however, their use is discouraged since they are not required for a Freeway Agreement. See Appendix CC, under "Example Clauses for Other Clauses (Not Mandatory)".

ARTICLE 4 - Freeway Agreement Exhibit Maps

Content of Exhibit Map

Every Freeway Agreement includes an exhibit map that displays the ultimate freeway plan, including all locations where work is proposed on local streets. The mapping should extend far enough on both sides of the freeway to show the traffic circulation on the local road system within the freeway corridor. Within this area all publicly used roads and alleys must be shown; conversely, private roads are not shown. On rare occasions there may be a need to show a private road, but the road must be specifically identified as private on the exhibit map.

For the purpose of Freeway Agreements, a public road or alley is defined as one which is traversable and has a public right of way of record. This includes prescriptive rights of way. This sometimes means that in a rural area a dirt trail may have public road status. A field check of roads and alleys may be required as part of the map preparation. A detailed right of way check must also be made to determine which roads and alleys have a public right of way of record. However, a "paper" county road or city street which exists only on paper as part of an approved subdivision map or as part of a master plan is, for the purposes of S & H Code Section 100.2, considered to be nonexistent. These streets or roads are not shown on the Agreement, nor are they considered for CTC approval of a new public road connection.

Types of Exhibit Maps

The "symbol" and the "geometric" are the two types of exhibit map in general use. The symbol map uses symbols to depict interchanges, grade separations, railroad separations, and pedestrian separations. The geometric map displays all geometric features of these items. Do not combine the two types of maps in the same Agreement. All other features are displayed graphically on both types of maps.

Symbol Map Preferred

The symbol map is recommended for use whenever possible. To effectively use a symbol map, an understanding must be reached with the local agency that they will be furnished with up-to-date copies of the project's geometric work plans. Geometric changes can then be made without revising the Freeway Agreement, and the discussion with the local agency can generally be at the staff level.

The geometric map is preferred by those political bodies that feel they must approve actual designs. However, designs are constantly changing and since the executed map is a part of the Freeway Agreement, there is always the possibility that a court would conclude that failure to construct in accordance with the map would be a violation of the Agreement. Such a scenario requires that the Freeway Agreement be updated each time the geometric map changes, especially if there is a major change in the geometrics. The

use of a symbol map can minimize this type of situation by requiring the viewer to look at the current geometric plans furnished to the local agency staff.

Map Guidelines

General

- The description (title) on the exhibit map should conform to that used in the text of the agreement.

- To avoid confusion, only show symbols that are actually being used. Inclusion of other standard symbols tends to create some doubt as to whether or not a feature may have been omitted.

- Excessively long maps should be divided into two or more sheets.

- At a freeway-to-freeway interchange, the entire interchange should be shown on one exhibit map, with the other route exhibit map ending and beginning again on either side of the interchange. This method eliminates the confusion of which ramps go with which Freeway Agreement. An appropriate cross reference note may be used.

- Mass-transit facilities may be shown for information purposes.

- For added flexibility where appropriate, it may be convenient to add this note to the exhibit map: "THE GRADE SEPARATIONS SHOWN MAY BE EITHER UNDERCROSSINGS OR OVERCROSSINGS AS DETERMINED BY ENGINEERING STUDIES TO BEST FIT THE LOCALITY."

Exhibit maps should follow the examples in Figures 2A and 2B as closely as possible.

Symbol Maps Only

- When a symbol is used for a freeway-to-freeway interchange and no local service is to be provided, a note should be placed on the map so stating.

- Whenever a partial interchange is planned, a note should be placed on the map stating which service is to be provided. See Figure 2A.

Both Geometric Maps and Symbol Maps

- Railroad grade separations and pedestrian separations, as well as non motorized facilities, should be distinctly marked as such. See Chapter 31 for reference to S&H Code Sections 887, 887.6, 887.8, 888 and 888.2 for discussion of accommodation of non motorized facilities.

- Closure symbols are indicated at all points where existing city streets and county roads (and State highways) will be terminated. Cul-de-sacs are

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usually provided at these locations but need not be shown on the exhibit map. The closure symbol gives authority to construct a cul-de-sac or perform such work as is necessary to properly terminate the street or alley, and is so noted on the exhibit map legend. See Figures 2A and 2B.

- Work on the frontage roads and other local roads are distinguished from the freeway proper. The distinction should be made by symbol tape or cross hatching on the map reproducible. Coloring, either by hand or computer plotter, must not be used. See Figures 2A and 2B.

- On Freeway Agreements where the local agency will pay for some of the construction or some of the right of way for mainline and/or interchange connection(s), a note should be placed on the map to indicate the portion to be paid for by the local agency. See Figures 2A and 2B.

- Frontage roads and construction of other local roads must be shown on the map with the symbol for frontage roads or local roads, except when construction and right of way is to be done and paid for by others. Frontage roads or local roads that are to be done and paid for by others should be shown on the map with the "RIGHT OF WAY AND CONSTRUCTION BY OTHERS" symbol. See Figures 2A and 2B.

FIGURE 2A - Freeway Agreement Exhibit Map (Symbol)

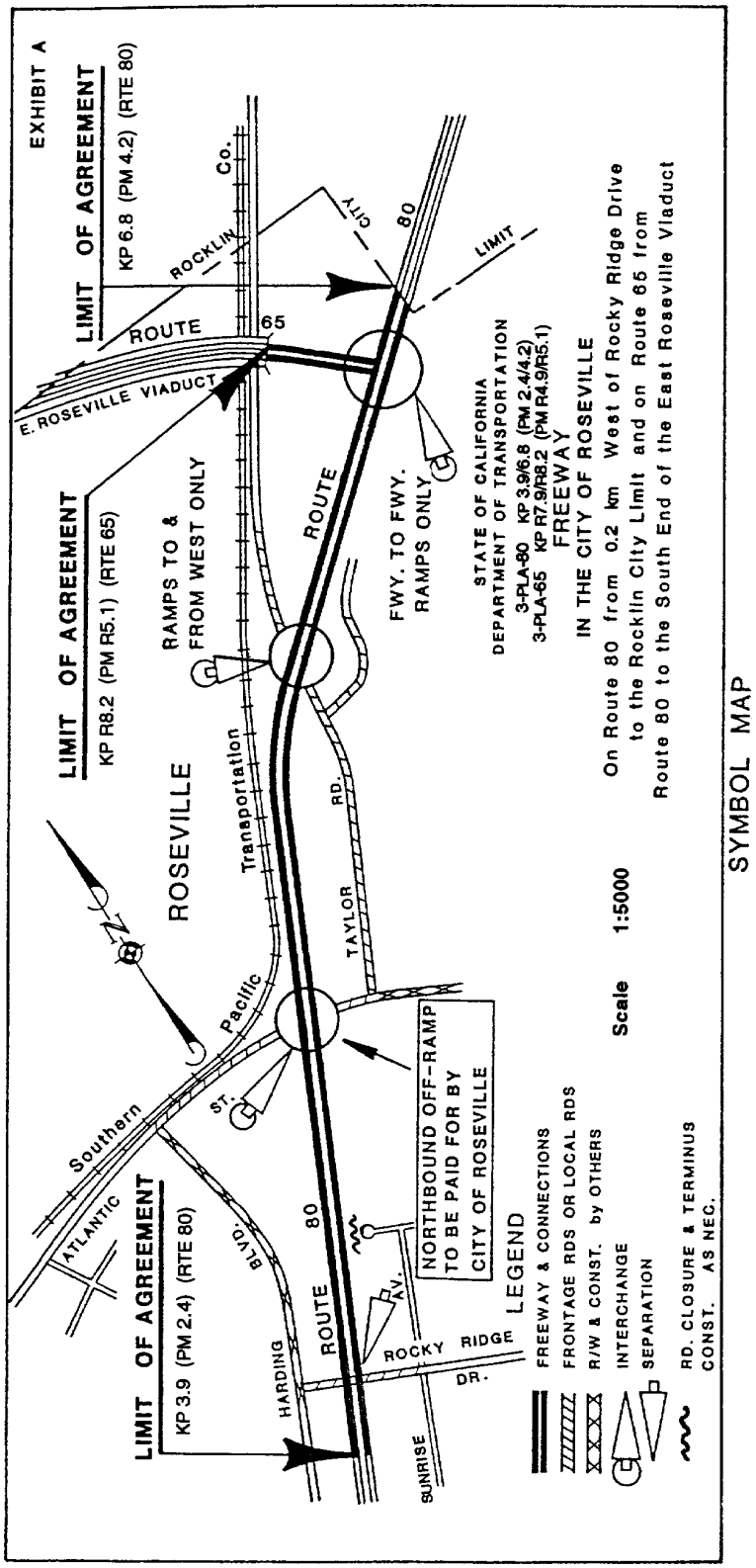
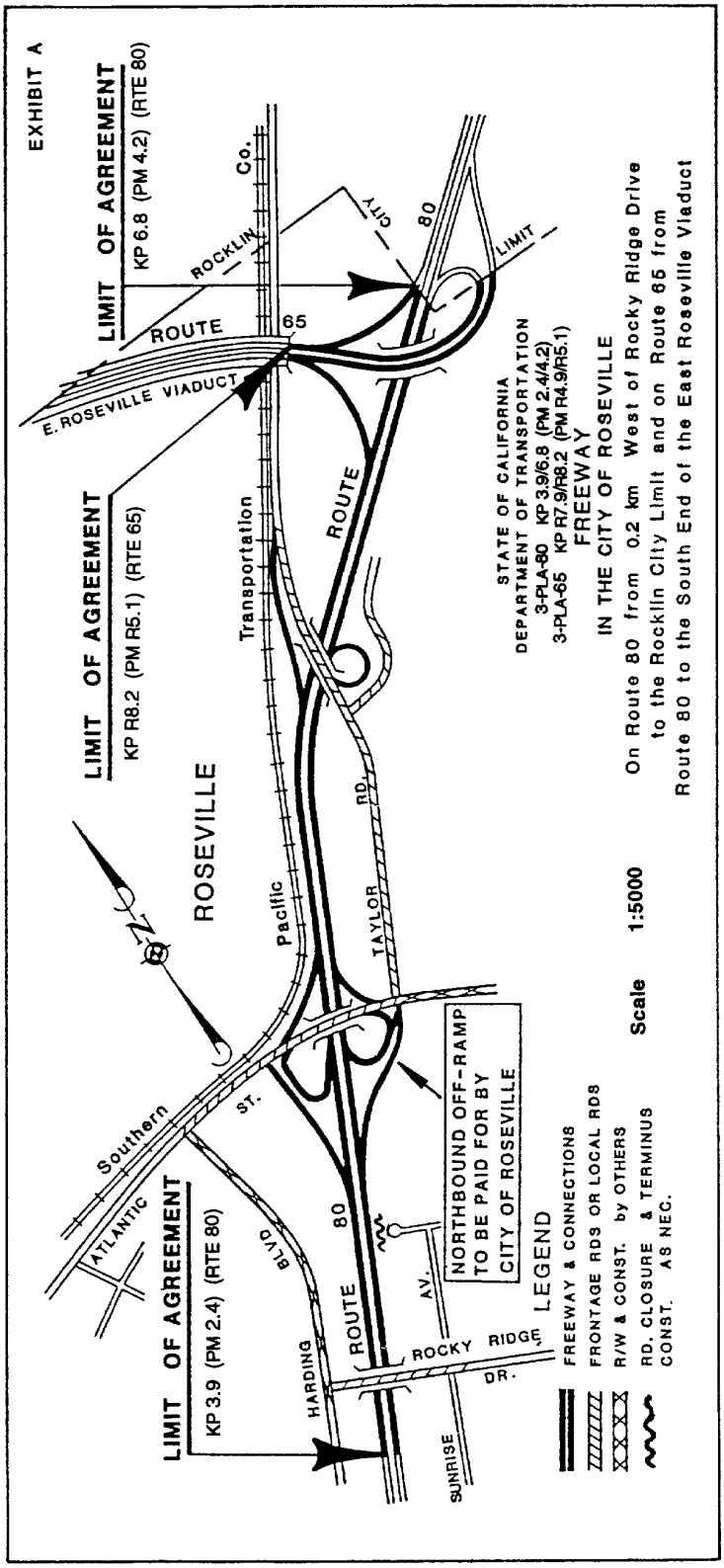


FIGURE 2B - Freeway Agreement Exhibit Map (Geometric)



- The mainline of the freeway and interchange connections for those portions of work within the agreement limits should be opaque. Roadways outside the agreement limits should show as open lines. See Figure 3.

- Work that is to be done or paid for by others should be indicated separately from work that is to be done and paid for by the State. See Figure 4.

FIGURE 3 - (example freeway agreement notes and symbols)

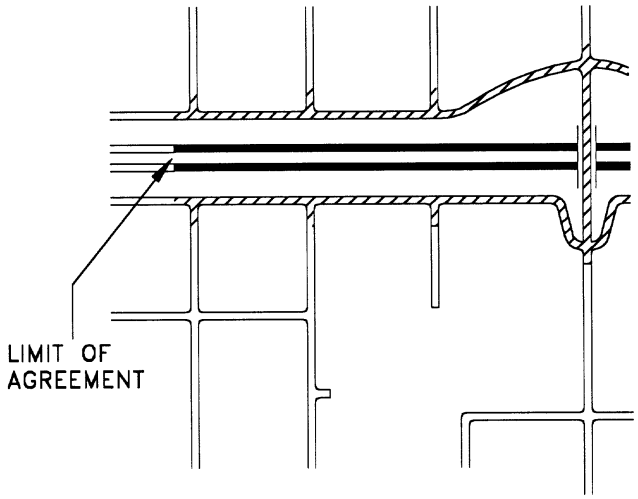
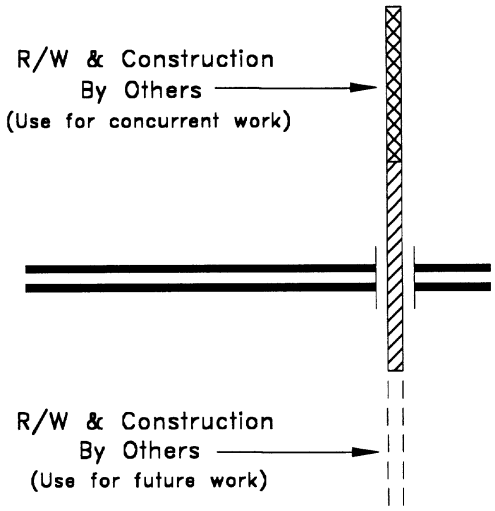


FIGURE 4 - (example freeway agreement notes and symbols)



- The Freeway Agreement does not commit the State to any construction timetable; it is preferable that maps be prepared on the basis of the ultimate improvement plan whenever possible. However, there will be occasions when, for mutual understanding, or at the insistence of the local agency, it

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may be necessary to indicate some form of initial construction on the map. One example might be when only the separation portion of an interchange will be constructed with the freeway. In this case a note should be placed on the map stating "RAMPS TO BE CONSTRUCTED WHEN JUSTIFIED AND PROGRAMMED". On a symbol map, an interchange symbol and the note should be used. On a geometric map the ramps can be shown by dashed lines and the note used. See Figure 5. Another example might be where the initial construction will be expressway. In this case, the initial expressway condition at the intersections can be indicated by note or with graphic insets on the exhibit map.

- When State construction of an interchange or separation is contingent on concurrent, local road construction by the local agency, the limits of work by the local agency should be indicated on the map. See Figure 6.

FIGURE 5 - (example freeway agreement notes and symbols)

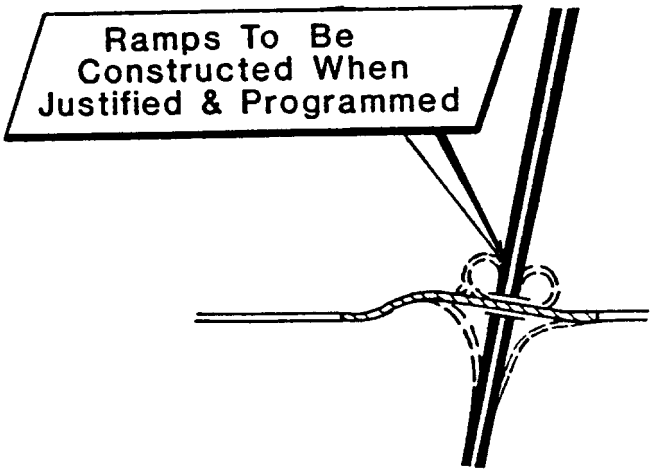
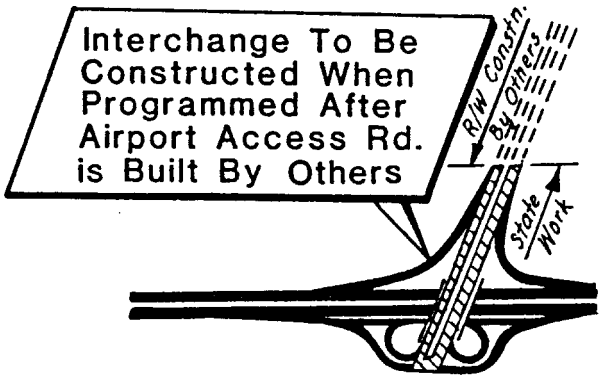


FIGURE 6 - (example freeway agreement notes and symbols)



ARTICLE 5 - Resolutions of Change

Purpose

A Freeway Agreement may be changed at any time by mutual consent. A Resolution of Change is an intermediate step that may be taken prior to superseding the executed Freeway Agreement.

Resolution Details

Resolutions are obtained from the local agency whereby they agree, or request, that revisions be incorporated into a superseding Freeway Agreement at some future date. The resolutions generally reference the current executed Freeway Agreement, state what changes are proposed, and may state why. An exhibit map is attached for clarification. The map may be a portion of the executed Freeway Agreement exhibit map, modified to show the changes. The resolution and the map should be 216 mm X 279 mm in size.

Major Changes by Superseding Agreement

Any change may be covered by a resolution, but the timing of the superseding Freeway Agreement is critical for resolutions covering major changes. Major changes must be followed up and covered by a superseding Freeway Agreement before beginning design, right of way acquisition, or construction. Major changes usually require the project development/environmental process.

Major Change Definition

A major change is generally defined as follows: Added local road closures, reconnecting a previously closed local road, new interchanges, new grade separations, significant lengths of new frontage roads, or making any major revisions thereto. These items are included because they are required by law to be covered by a Freeway Agreement or have a significant effect on the local agency and residents.

Minor Changes - Deferred Agreement

Changes such as minor variations of design on frontage roads, interchanges, and grade separations, etc., must also be covered by a superseding Freeway Agreement — but this may be deferred until after construction. The resolutions are reviewed in the district for geometrics and scope and cleared with the FHWA as appropriate. Minor changes are usually Categorically Exempt under CEQA and Categorically Excluded under NEPA.

Resolutions for Minor Changes

Resolutions for minor changes may be accumulated and included in one Freeway Agreement, but they must be transmitted individually to DOD, Attention: Resolution of Change, as soon as they are executed by the local agency. Two copies are required and the transmittal memorandum should detail the changes and provide whatever justification is necessary. DOD files the resolutions with the current executed Freeway Agreement

Chapter 25 - Relinquishments

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CHAPTER 25 - Relinquishments

ARTICLE 1 - Introduction and Definitions

Introduction

The removal of a state highway, either in whole or in part from the State Highway System, requires a relinquishment approved by the California Transportation Commission (CTC). There are three types of relinquishments: relinquishment by legislative enactment, relinquishment by superseding with a new state highway, and relinquishment of collateral facilities. This chapter will discuss the procedures for each type of relinquishment and when costs are to be considered.

Definitions

Best interest of the state – the best possible value for the state. The benefits of the relinquishment are provided at the lowest cost while minimizing risk.

Betterment: a physical improvement to a facility (roadbed, roadway or roadside element) either geometrically or structurally, that would be considered above and beyond a state of good repair.

Cost to relinquish – a level of work or financial contribution to facilitate the relinquishment.

Collateral facilities – those local streets and roads that were built or modified during the course of a state highway project.

Relinquish – the act of turning over to another entity the property rights, liability and maintenance responsibilities of a portion of a state highway.

Relinquishment Advisory Committee (RAC) – a committee of Headquarters managers representing Design, Transportation Planning, Transportation System Information, Programming, Maintenance, Traffic Operations and Legal that evaluates cost to relinquish calculations, if any, to verify that they meet the best interest of the state criteria.

Relinquishment by legislative enactment – using legislative action to delete a portion of a state highway from the State Highway System that no longer serves inter-regional or statewide transportation needs.

Relinquishment by relocation – the same as “relinquishment by superseding.”

Relinquishment by superseding – a state highway has been realigned or built on an alignment that is different than the existing alignment making the old alignment redundant.

Relinquishment Information Sheet (RIS) – a document prepared by district that informs Relinquishment Resolution Committee and Chief Engineer of discussions and issues surrounding a disputed relinquishment.

Relinquishment of collateral facilities – those local streets and roads that were built or modified during the course of a state highway project and are no longer needed for the State Highway System and are to be relinquished to the appropriate local agency.

Relinquishment Resolution Committee (RRC) – a committee of Headquarters Division Chiefs of Design, Transportation Planning, Programming, Maintenance, Traffic Operations, and Legal that reviews disputed relinquishments, to provide advice to the district and to the Chief Engineer. Optional members may include CTC staff, an impartial district member and an impartial local agency member.

System analysis – an analysis by District Transportation Planning staff that, using Transportation Concept Reports, Interregional Road System Plans and other tools, determines if a highway meets the goals of the State Highway System.

State of good repair – a term defined in Street and Highway Code Section 73 that means a safe, drivable, well-maintained road. This term does not include betterments or capacity increasing improvements.

ARTICLE 2 - Legislative Statutes

Streets & Highways Code

Sections 73 and 73.5 provide the statutory direction for relinquishment of a portion of a state highway. These sections define the CTC's role and authority to relinquish a state highway. They define what types of facilities can be relinquished, to whom and under what conditions.

Section 73 of the Streets and Highways (S&H) Code states: The CTC shall relinquish to any county or city any portion of any state highway within the county or city that has been deleted from the State Highway System by legislative enactment, and the relinquishment shall become effective upon the first day of the next calendar or fiscal year, whichever first occurs after the effective date of the legislative enactment. The CTC may likewise relinquish any portion of any state highway that has been superseded by relocation. Whenever Caltrans and the county or city concerned have entered into an agreement providing therefor, or the legislative body of the county or city has adopted a resolution consenting thereto, the CTC may relinquish, to that county or city, any frontage or service road or outer highway, within the territorial limits of the county or

city, which has a right-of-way of at least 40 feet in width and which has been constructed as a part of a state highway project, but does not constitute a part of the main traveled roadway thereof. The CTC may also relinquish, to a county or city within whose territorial limits it is located, any non-motorized transportation facility, as defined in Section 887 (of the S&H Code), constructed as part of a state highway project if the county or city, as the case may be, has entered into an agreement providing therefor or its legislative body has adopted a resolution consenting thereto.

Section 73 also states that the CTC shall not relinquish to any county or city any portion of any state highway that has been superseded by relocation until Caltrans has placed the highway, as defined in Section 23, in a state of good repair. This requirement shall not obligate Caltrans for widening, new construction, or major reconstruction, except as the CTC may direct. A state of good repair requires maintenance by Caltrans, as defined in Section 27, including litter removal, weed control, and tree and shrub trimming until the time of relinquishment.

Section 73.5 of the S&H Code states: Whenever any area has been or may hereafter be constituted a national park or be added to any existing national park and jurisdiction there over has been ceded by the Legislature to the United States, any lands within such area acquired for highway purposes may be conveyed by the department to the United States on such terms as the CTC shall approve.

Section 73 of the S&H Code does not require that a state highway be relinquished in a state of good repair when it is deleted by legislation. The state of good repair requirement only applies to those routes that are relinquished when being superseded by relocation. The specific legislation that authorizes relinquishment of a given portion of a state highway typically requires that the relinquishment be in the best interest of the state.

ARTICLE 3 - Policies

Caltrans recognizes that there are several state highways that can be characterized as a conventional city street or a county road. These highways do not serve regional or statewide transportation needs and therefore represent potential further relinquishment efforts. The districts should work with local agencies to identify and transfer these facilities, as appropriate.

There are several benefits to relinquishing facilities that are no longer required to serve regional and statewide needs:

- The relinquishments of applicable facilities allow local agencies to be more responsive to community interest in the administration, planning, construction and operation of that facility. The result is a cost savings to taxpayers by eliminating the need for State encroachment permits.

- Reduction of on going maintenance costs.

- Reduction in tort liability.
- Decreased in incidence response efforts.
- Decreased competition for capital funds for regional and statewide improvements.

When relinquishing a state highway, there may be occasions when it is appropriate for Caltrans to perform work or to provide financial contributions to the local agency to ensure that the facility is safe and drivable. Additional work or financial contributions may be considered if in the best interest of the public, as evaluated by the Relinquishment Advisory Committee.

ARTICLE 4 - Legislative Relinquishments Procedures

Procedures

Figure 1is a flow chart that highlights the decision point on whether or not to move forward with the relinquishment from a system perspective and how to proceed with the different funding options when parties agree to the relinquishment terms.

Deletion of a Route by Legislative Enactment

When any portion of a state highway is to be deleted from the State Highway System by legislative enactment, the relinquishment does not become effective until the first day of the next calendar year or fiscal year, whichever first occurs after the effective date of the legislative enactment and the relinquishment has been approved by the CTC.

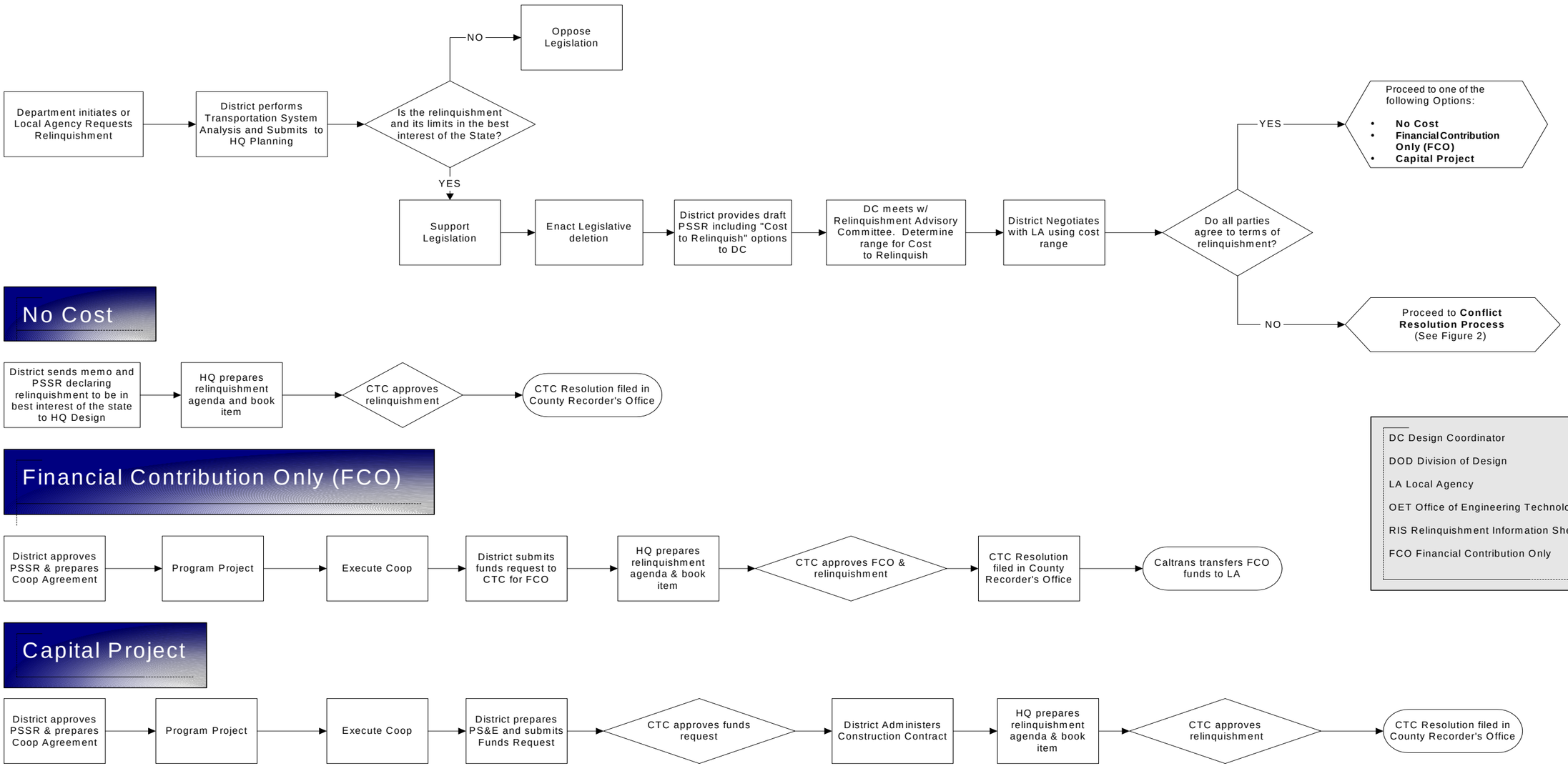
The procedures in this Article outline the process for the relinquishment of a state highway segment by legislative enactment.

Policy

A state highway segment shall be considered for relinquishment upon determination by the District Director, in consultation with Headquarters Division of Transportation Planning, that the segment does not serve regional or statewide transportation needs as determined by a system analysis. Following the decision to relinquish the state highway segment, the associated cost to relinquish, if any, shall be based on a benefit-cost analysis utilizing a ten-year analysis period, an assumed interest rate based on the escalation rate used in the STIP and SHOPP, and appropriate costs and benefits specific to the portion of the state highway segment in question.

FIGURE 1 – LEGISLATIVE RELINQUISHMENT PROCESS

FIGURE 1 - Legislative Relinquishment Process



Appropriateness of Relinquishment

Caltrans must first determine if the relinquishment makes sense from a transportation system perspective. The district should inform Headquarters Division of Transportation Planning of any proposed legislation to relinquish a state highway to a local agency. The District Director, in consultation with Headquarters Division of Transportation Planning, shall make a determination as to the appropriateness of the legislative relinquishment. This determination is developed during a system analysis. This decision should be documented in a letter signed by the District Director. This letter then serves to initiate the staff workload to execute the relinquishment.

Cost to Relinquish

Caltrans is under no statutory obligation to put a facility into a state of good repair, construct improvements or betterments, or incur a financial obligation of any kind to relinquish a state highway to a local agency by legislative enactment. This should be the initial premise established by the district when considering or discussing the potential relinquishment. However, it may at times be in the best interest of the state to negotiate with the local agency a level of work or contribution to facilitate the relinquishment. This cost to relinquish is one factor of a benefit-cost analysis. Developing a benefit-cost analysis comparing the cost to keep a facility in the State Highway System with the cost of relinquishment will facilitate the decision process and will provide the basis of the business decision to expend State Highway Account funds to relinquish a given portion of a state highway. A Project Scope Summary Report (PSSR) documents the benefit-cost analysis and enables Caltrans' cost to relinquish to be amended into the SHOPP and voted by the CTC. A PSSR shall be prepared for a state highway relinquished by legislative enactment.

Each relinquishment must be considered in context to establish a negotiation strategy. The relinquishment will provide control of the facility to the local agency and allow them to pursue improvements to their local system or other enhancements to their community without the constraints of Caltrans' requirements and encroachment permit process. This is an economic benefit to the local agency. Removing the road from the State Highway System is an economic benefit to Caltrans as it reduces maintenance costs, capital improvement costs and exposure to tort liability.

The benefit-cost analysis will compare the costs to maintain and operate the road with the cost to relinquish over a ten-year period. Caltrans negotiates the cost to relinquish with the local agency. Components of the cost to relinquish estimate are driven by the characteristics of the highway to be relinquished. For example, when assessing maintenance costs, Caltrans will first establish a baseline pavement strategy. If a rehabilitation project has recently been completed, future maintenance costs should be low and not likely to be included in the negotiation. If Caltrans has an approved PSSR for a rehabilitation project, it may be appropriate to include remaining support costs as part of the cost to relinquishment. Tort liability is not an item to be included in the negotiation although it may be a factor in determining how much Caltrans is willing to negotiate to relinquish the highway

It is the district's responsibility to coordinate with the Division of Programming to ensure SHOPP funds are available, if necessary, for the relinquishment. The district is also responsible for sending a Funds Request to the Division of Budgets and sending relinquishment maps to the Division of Right of Way and Land Surveying. The CTC approval process will be coordinated through the Division of Design, Office of Project Development Procedures. The district must involve the Design Coordinator in the preparation of the benefit-cost analysis prior to any negotiations with the local agency.

Relinquishment Advisory Committee (RAC)

The role of the RAC is to evaluate the district's relinquishment proposals and the cost to relinquish, if any, and to verify that they meet the best interest of the state criteria. The committee is not to make the determination of the appropriateness of the relinquishment as that decision should have been made as part of the district's system planning process. The RAC includes representatives from Headquarters Design, Legal, Maintenance, Programming, Traffic Operations, Transportation Planning and Transportation System Information divisions.

As a member of the RAC, the Design Coordinator is the key link between the district and the RAC. As such, the district should discuss the proposed relinquishment and associated legislation with the Design Coordinator. Once the legislation becomes law and prior to negotiating with the local agency, the district should provide background information, including the draft PSSR, benefit-cost analysis, and other pertinent information to the Design Coordinator. The Design Coordinator will then convene the RAC and lead the discussion on the proposal. The RAC reviews the district proposal and makes recommendations to the district on the items included in the relinquishment and the cost to relinquish, if any, prior to the district entering into negotiations with the local agency.

Negotiation with Local Agency

The RAC's concurrence with the district's proposal provides the basis for negotiations with the local agency. The district is responsible for negotiating with the local agency the cost to relinquish, if any. The District Director is ultimately accountable to the CTC that the negotiated cost to relinquish is in fact in the best interest of the state and not a gift of state funds.

Relinquishment Resolution Committee (RRC)

The role of the RRC is to review disputed relinquishments and to provide advice to the district and to the Chief Engineer. The committee is not to make the determination of the appropriateness of the relinquishment as that decision should have been made as part of the district's system planning process. The RRC is comprised of the Headquarters Division Chiefs of Design, Transportation Planning, Programming, Maintenance, Traffic Operations, and Legal. Optional members may include CTC staff, an impartial district member and an impartial local agency member.

Conflict Resolution

If the local agency cannot reach agreement with the district as to the terms of the relinquishment and outstanding issues cannot be resolved at the District Director level, proceeding to the Conflict Resolution process may be the next step. The conflict resolution process is described in detail in Article 6.

CTC Approval

There are generally two actions by the CTC to remove a highway from the State Highway System. The first action approves the relinquishment and discusses the cost to relinquish the highway. The second action authorizes the funding and advertising of a capital project or authorizes the transfer of capital funds to the local agency. If the highway is in adequate condition and construction work is not needed then the second action by the CTC is not needed. These scenarios are shown on Figure 1.

ARTICLE 5 - Superseding with a New State Highway and Collateral Facilities Relinquishments Procedures

Superseding with a New State Highway and Collateral Facilities Relinquishments

A superseding with a new state highway relinquishment occurs when any portion of a state highway has been realigned or built on an alignment that is different than the existing alignment, making the old alignment redundant and the old alignment is to be relinquished to the appropriate local agency. A collateral facility relinquishment occurs when local streets and roads are built or modified during the course of a state highway project and are no longer needed for the State Highway System and are to be relinquished to the appropriate local agency.

This Article outlines the procedures for superseding with a new state highway and collateral facilities relinquishments. Unless otherwise stated, the procedures and information in this Article apply to both superseding with a new state highway and collateral facilities relinquishments.

Policy

Projects superseding an existing highway with a new state highway should include specific measures for placing the existing highway in a state of good repair for relinquishment. Major widening of the superseded highway or other improvements (except safety work) that result in upgrading or betterment should not be considered in the state of good repair calculation. However, the city or county may elect to pay for

improvements whose costs exceed what is required to place the existing facility in a state of good repair.

Scoping

Negotiations with the local agency should begin as early as possible in the project scoping process. At that early stage, it is important that the local agency has a clear understanding of each party's responsibilities related to relinquishment.

A Project Initiation Document (PID), PSSR, or Project Report (PR) should include specific recommendations for placing the existing highway in a state of good repair prior to relinquishment. For some projects, the completion of construction may be a number of years away and it may be too early to determine the scope and strategy of the pavement rehabilitation work that will be required for relinquishment. Nevertheless, the report for the relocation project should cover the anticipated relinquishment work and estimated costs, to the extent possible. These costs are important for programming purposes. Also see Chapter 23 , for route adoption considerations for cases where a route adoption is used to supersede an existing facility.

At the earliest possible time during the scoping process, the district and local agency should come to a clear understanding of each party's financial responsibilities. The Design Coordinator should be involved when the district and the local agency cannot agree on what constitutes a state of good repair. See Article 6 for the procedures for processing difficult relinquishments using the conflict resolution process.

Relinquishments are to be completed as soon as possible after construction of a replacement facility in order to conserve maintenance funds and minimize potential legal liabilities.

Rehabilitation work proposed as a condition of relinquishment must be justified. This includes corrective work (if any) on bridges, culverts, curbs, drains, pavement, pedestrian facilities, or other facilities that are part of the highway in order to place the facility into a maintainable condition. In no case is the pavement rehabilitation design life to be in excess of 10 years.

Freeway Agreements, Relinquishment of Local Roads

A standard Freeway Agreement usually identifies for relinquishment those local roads constructed as part of a freeway project. If a Freeway Agreement is not involved or does not include the local roads to be relinquished, another agreement or a resolution adopted by the local agency is required. This agreement or resolution is the basis for relinquishment action by the CTC. When a local agency adopts a resolution that consents to accepting the facility, a separate freeway agreement is not required for purposes of the relinquishment. In both cases, preparation of the relinquishment package for CTC action is the responsibility of the Office of Land Surveys in the Division of Right of Way and Land Surveys function. Instructions on relinquishments are contained in the Right of

Way Manual. However, responsibility for scheduling CTC action has been transferred to the DOD.

Collateral Facilities

Most relinquishment actions involve the relinquishment of collateral facilities that were acquired or built as part of a project. These include frontage roads, relocated streets, new streets to maintain service, cul-de-sac adjustments, and bicycle and pedestrian facilities.

Collateral facilities are relinquished pursuant to an agreement. Normally, a Freeway Agreement or a Controlled Access Highway Agreement is used to show the facilities to be relinquished. If these agreements do not adequately show the facilities to be relinquished, then another agreement needs to be negotiated or a resolution should be obtained from the local agency. A cooperative agreement is not needed for the relinquishment of collateral facilities.

Collateral facilities are included in the contract plans. Local agencies participate in the design of these facilities since they will own and operate them after construction.

Cooperative Agreements

A cooperative agreement is needed when a transfer of funds, effort or materials is necessary for the relinquishment. A cooperative agreement may be used for relinquishments that do not involve the transfer of funds, effort or materials as additional documentation. Contact the Headquarters Cooperative Agreement Coordinator for questions or concerns regarding cooperative agreements with relinquishments.

Pavement Deflection Study

Prior to completion of the PID, PSSR, or PR on projects involving rehabilitation of distressed asphalt concrete pavement, the Pavement Consultant Services Branch, of the Office of Materials Engineering and Testing Services, of the Division of Engineering Service, should be requested to perform a pavement deflection study. This study is performed to determine the need for an overlay and/or other pavement rehabilitation treatment. It will be used for project scope and cost estimating purposes.

For proper project scoping and cost estimating, the pavement deflection study should be no more than 1.5 years old. In those instances where relinquishment work will not be undertaken for a number of years, a follow-up pavement deflection study must be performed no more than 12 months prior to construction of the relinquishment project. This is done to determine if pavement deterioration occurring since the previous study is significant enough to warrant a new rehabilitation strategy. If a new strategy is required for the repair work, a new agreement may need to be negotiated with the local agency. If the new strategy substantially increases the final scope and costs from that anticipated in the original PSSR or PR, a supplemental PR or a new PSSR must be prepared.

Joint Field Review

The deflection study and resultant recommendations are to be based on truck traffic projections that consider both the diversion of through traffic, as well as local traffic projections. Such projections must be in agreement with the local/regional General Plan for land use. Following receipt of the deflection study recommendations, and before completion of the PID, PSSR, or PR, a joint field review with the involved city or county should be conducted to eliminate any misunderstandings and to resolve any differences.

Where the deflection study finds that there is no need for pavement rehabilitation, an overlay should not be included in the project. Suitable surface sealing may be included if warranted by the current preventive maintenance program.

Cost to Relinquish

Caltrans is responsible for relinquishing roads that are safe and drivable. Roads that are to be relinquished should be in a condition that major maintenance is not needed in the near future. Major widening or other improvements (except safety work) included to obtain federal aid, should not be considered if it would result in upgrading or betterment. In these cases, the city or county may elect to pay the portion of the cost to upgrade the facility geometrically or structurally over and above that which is justified.

Programming

Costs for the proposed relinquishment work shall be covered in the PID and the PR for the relocation project that supersedes the existing highway. The programming of the relocation project shall include funds needed for any relinquishment work. A PSSR needs to be prepared if the PID and/or PR does not adequately define the scope, cost, and schedule of the relinquishment work. A PSSR shall be prepared also for a state highway relinquished by legislative enactment.

CTC Resolution

Section 73, S&H Code, requires that relinquishment of roads; streets or highways must be made by a CTC resolution. Relinquishment action is required by Caltrans when (1) a route is superseded by relocation (the CTC route adoption resolution contains a clause that specifies the relinquishment action), (2) a route location is deleted from the State Highway System by legislative enactment, or (3) when new construction or improvements to the local system are made by a construction contract.

Lack of Local Agency Agreement

If the local agency cannot reach agreement with the district as to the terms of the relinquishment and outstanding issues cannot be resolved at the District Director level proceeding to the Conflict Resolution process may be the next step. The conflict resolution process is described in detail in Article 6.

Request for CTC Action

Requests for relinquishment resolutions must be forwarded to Chief, Office of Land Surveys, Division of Right of Way and Land Surveys at least four months prior to the anticipated completion date of all construction projects involving transfer of superseded state highways. This will permit one month for processing and mailing of the 90-day written notice of intention to relinquish, as required by statute.

If the city or county protests in writing, special efforts should be made to resolve any issues raised. Any major issues with the city or county should be resolved before the start of construction, during either the plan preparation stage or the joint field review of the existing highway. See the Conflict Resolution Process described in detail in Article 6.

ARTICLE 6 - Conflict Resolution Process

Conflict Resolution Process

At the time of project initiation, an attempt is made to reasonably accommodate the concerns of the local agency through contact with the agency decision makers. A solution to a protest or potential protest is preferable at this time.

When a state highway is superseded by relocation, Section 73 of the Streets and Highways (S&H) Code provides for CTC relinquishment over a protest only if the protesting local agency is given an opportunity to express concerns at a public hearing before the CTC. Caltrans procedure is to submit a relinquishment to the CTC when the local agency objects for any reason. The local agency objection to a relinquishment is usually based on Caltrans denial of requested improvements. Caltrans denial of improvements is in accordance with S&H Code Section 73 that states: “This requirement [Caltrans placing the highway in a state of good repair] shall not obligate the department for widening, new construction or major reconstruction, except as the [CTC] may direct.” Section 73 does require a state of good repair as defined in statute; except however, Section 73 does not require that a state highway be relinquished in a state of good repair when it is deleted by legislation. The Caltrans procedure for processing difficult relinquishments also applies to collateral facilities covered by agreement and to highways deleted from the State Highway System by legislative enactment.

When the local agency is not satisfied with the district's counterproposals and continues to protest the relinquishment, the district should obtain the objection in writing from the local agency if a written one has not yet been submitted.

It is Caltrans’ policy to resolve conflicts at the lowest possible level. All efforts should be made to reach agreement with the local agency at the district level. The conflict resolution process for relinquishments is depicted in Figure 2. The first step is for the district staff and local agency to try to come to an agreement regarding the terms of the

relinquishment. If the district staff cannot reach agreement with the local agency as to the terms of the relinquishment, the next step is to proceed with the District Director review.

District Director Review

To thoroughly evaluate the facts, the District Director conducts a comprehensive review, and if necessary, the relinquishment is referred to the DOD.

The District Director must conduct a comprehensive review of the facts, issues, and Caltrans recommendation. District Deputy Directors of Right of Way, Design, Maintenance, and other functions may provide advice with responsibility relative to the action. A meeting with the local agency may be necessary.

The review provides the District Director an opportunity for resolving any impasse that may have developed. The review must determine, but is not limited to, the following:

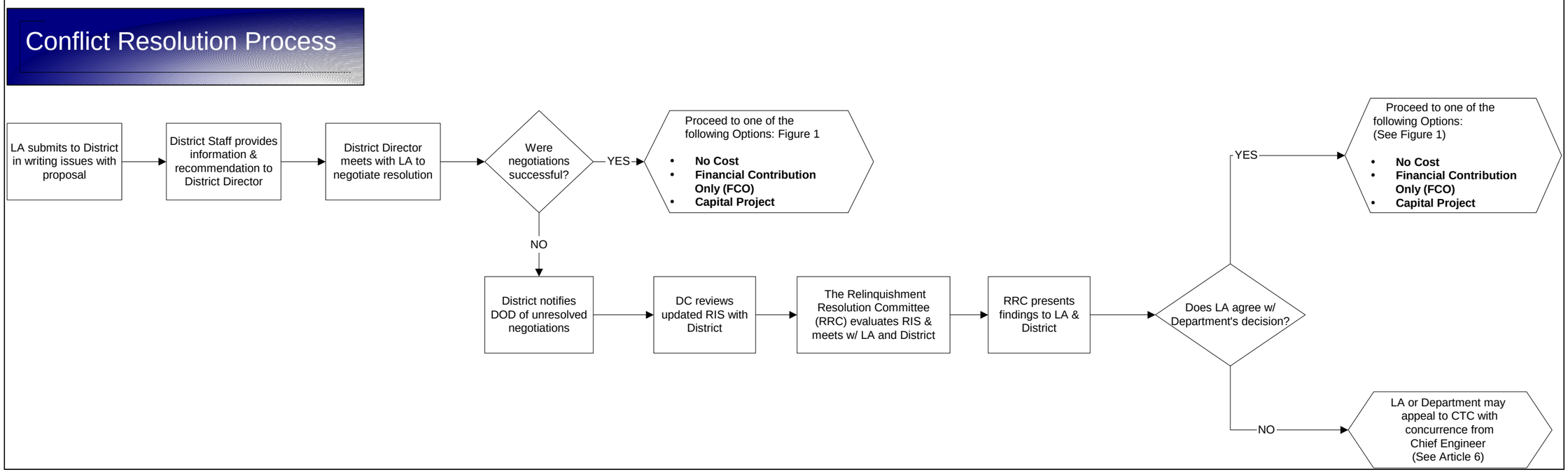
The exact nature of the protest and alternatives suggested by the local agency. The district should request the local agency to submit their protest in writing. If the local agency requests improvements, appropriate plans and details should accompany the protest submittal to enable preparation of a reasonable Caltrans cost estimate.

- The estimated date the delaying issue will be resolved when delays are due to reasons other than local agency protest (litigation involving R/W, hazardous waste cleanup, etc.).
- Reasonable alternatives (with cost estimates) that might satisfy the local agency or resolve the delay.
- The recommended Caltrans position to present to the CTC.

The District Director must ensure that appropriate personnel deal with the local agency throughout the process. District functions must work cooperatively, beginning with local agency negotiations at project initiation. If the outstanding issues cannot be resolved at the District Director level, the next step of the conflict resolution process is to request a meeting with the Relinquishment Resolution Committee (RRC).

FIGURE 2 – CONFLICT RESOLUTION PROCESS

FIGURE 2 - Conflict Resolution Process



Relinquishment Resolution Committee

The role of the RRC is to review and resolve disputed relinquishments and to provide advice to the Chief Engineer. The Headquarters Division Chief of Design is the leader of the RRC. The RRC is comprised of the Headquarters Division Chiefs of Design, Transportation Planning, Programming, Maintenance, Traffic Operations, and Legal. Optional members may include CTC staff, an impartial district member and an impartial local agency member.

The RRC will meet with the district and local agency in an attempt to resolve differences. The RRC obtains input from the local agency, district and the Relinquishment Advisory Committee. The Relinquishment Information Sheet (RIS) will be used to present the relinquishment project to the RRC. See Figure 3 for an outline of the RIS.

If an agreement cannot be reached then the issue will be elevated to the Chief Engineer with a recommendation from the RRC.

Relinquishment Information Sheet

The notification to the RRC will be a Relinquishment Information Sheet (RIS), approved and signed by the Project Manager. A copy must be sent to the Design Coordinator as well as the Chief, Office of Land Surveys in the Division of Right of Way and Land Surveys. The RIS must be sufficiently complete to enable the DOD Chief and the RRC to make an informed decision and a justifiable recommendation to forward to the CTC. Figure 3 contains a complete outline of the required data needed for a draft RIS.

Chief Engineer Review

If an agreement cannot be reached at the RRC level, then the issue will be elevated to the Chief Engineer. The Chief Engineer will be the final step in determining if it is in the best interest of the state to continue negotiations with the local agency, terminate work on the relinquishment or proceed with the relinquishment even if the local agency does not agree with the relinquishment conditions. The DOD Chief will present the findings of the RRC to the Chief Engineer. The Chief Engineer will obtain information from others as needed.

FIGURE 3 RELINQUISHMENT INFORMATION SHEET OUTLINE

Relinquishment Information Sheet

Purpose

The responsible district prepares a Relinquishment Information Sheet (RIS) that represents a summary of the efforts to date to effect the relinquishment and serves as the basis by which the Relinquishment Resolution Committee (RRC) will evaluate relevant issues. The RIS should take the form of a memorandum addressed to the members of the RRC, with a copy to the Design Coordinator.

Contents

The RIS can be brief, but should include the following information:

- A description of the highway to be relinquished; i.e., its limits, functionality, connections to other state highways or other relinquishments, and the results of the system analysis decision.
- A summary of the draft Project Initiation Document (PID) that documents the Caltrans' estimated cost to relinquish and how those funds will be transferred to the local agency (capitol project or funds-contribution-only transfer).
- A short summary of the local agency's primary concerns (e.g., lack of maintenance funds, requested improvements, traffic control devices, etc.)
- A description of the local agency proposal, including any the costs of any work, financial considerations or other terms or conditions. Include the local agency's written protest as an attachment. Provide the district's recommendation for handling these suggestions, with basis and justification for the district's decision.
- If the delay is due to some reason other than a local agency protest, such as right-of-way litigation or inadequate resources, provide a list of the main facts concerning the delay, a target date for completion of the maps and of court proceedings, etc.
- The district's opinion of the potential for settlement of the protest prior to the CTC action meeting if that is a constraint.
- A chronological history of the relinquishment with pertinent previous official contacts, negotiations, decisions, cooperative agreements, freeway agreement features, disagreements, main reasons for the impasse, etc.
- Clear, legible maps and other attachments as appropriate that show the highway to be relinquished, the condition of the highway, and other features that are of concern to the local agency or Caltrans.

Names, phone numbers, and locations of the appropriate district contact persons.

Submittal to CTC Without Additional Work

There may be situations where Caltrans determines that it is in the best interest of the state to relinquish a road even if the local agency does not agree with the relinquishment conditions. It the Chief Engineer determines it is in the best interest of the state to proceed with the relinquishment, then a public hearing at a CTC meeting will take place. If the Chief Engineer recommends sending the relinquishment for CTC approval, the relinquishment package prepared by the Office of Land Surveys in the Division of Right of Way and Land Surveys and the DOD recommendation letter are forwarded for inclusion in the CTC briefing book. The RIS and DOD recommendation letter are also furnished to the district. The date selected for CTC presentation depends on the state of completeness of the district's initial relinquishment submittal, on when DOD was notified of the problem, and on the amount of preparation time needed for the CTC submittal package. The local agency will be given an opportunity to protest the terms of the relinquishment at the CTC meeting.

Submittal to CTC for Public Hearing

When a public hearing is provided to a local agency at a CTC meeting, the district shall inform the local agency of the specific CTC procedures to allow time for the local agency representatives to arrange for engineering and/or legal assistance. Notifying the local agency of the specific CTC procedures should be completed prior to the formal written notice required by Section 73, S&H Code. The Division of Right of Way and Land Surveys, Office of Land Surveys is responsible for sending a notice by certified letter 15 days before the hearing to ensure the local agency has received a 10-days written notice. The contact with the local agency provides a final opportunity for an agreement on the relinquishment. A copy of the report that goes to the CTC is furnished to the local agency with this notification.

Preparations for CTC Hearing

DOD submits to the CTC staff the relinquishment package prepared by the Division of Right of Way and Land Surveys and the DOD recommendation letter for inclusion in the CTC briefing book. The date selected for CTC presentation depends on the state of completeness of the district's initial relinquishment submittal, on when DOD was notified of the problem, and on the amount preparation time needed for the CTC report. One or more Caltrans individuals to respond to CTC questions on specific issues will usually attend the CTC meeting.

Public Hearing Provided at CTC Meeting

Depending on specific issues, appropriate district and Headquarters representatives will make the presentation to the CTC. The presentation is usually brief, five to ten minutes in length. The local agency is given their public hearing after the presentation by Caltrans. The Project Manager will be responsible for preparation of wall maps or displays.

The CTC decision may direct Caltrans to do additional work on the facility, or may proceed with the relinquishment action, or may direct some other action.

CHAPTER 26 - Disposal of Rights of Way for Public or Private Road Connections

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CHAPTER 26 - Disposal of Rights of Way for Public or Private Road Connections

ARTICLE 1 General

Rights of way can be disposed of as relinquishments, vacations, or excess property or rights of which access is a part. Access rights are discussed in this chapter. The disposal of easements (vacations) and excess lands are explained in the *Right of Way Manual*, *Chapters 6 & 16* respectively. Relinquishments are discussed in Chapter 25 of this manual & *Chapter 6 of the Right of Way Manual*.

ARTICLE 2 Definitions

Rights of way – are those properties owned and operated by Department of Transportation (Caltrans) for transportation purposes. This may include land, access rights, or both.

Access right(s) – is the legal right to access a highway at a specified point in the right of way line that serves abutting land ownerships, also known as abutter's rights in Chapter 7 of the Right of Way manual. On freeways direct access to the freeway from private property is prohibited without exception. See *HDM Index 104.1 General Policy – Control of Access.*

Excess lands – operating right of way that has been analyzed and determined to be of no use for transportation purposes.

Vacations – is an action by the CTC by which public right of use is removed from right of way held as easement. See *chapter 6, section 11, of the Right of Way Manua*l for additional information.

Relinquish - The act of turning over to another entity all interests in State highways deleted by legislative act, State highways superseded by relocation and adjacent public ways which have been constructed as part of a highway project but are not essential to the proper functioning of the State highway facility. This definition is from *Chapter 6, Section 12, of the Right of Way Manual*.

Decertification - is the process by which operating right of way is determined to be excess and no longer necessary for transportation purposes. See *Chapter 16, Section 5, of the Right of Way Manual* for additional information.

Disposal - is the selling, or other conveyance, of right of way by Caltrans, consistent with statutes and regulations.

Public road –is a road to be maintained for general public use by a public entity, serving multiple property ownerships, having dedicated rights of way or easements and connecting with the general system and network of public roads and streets. A public road is one that is eligible to receive construction funding from motor vehicle fuel tax revenues under Article XIX of the California Constitution, or is a road constructed and maintained by another public agency such as the U.S. Forest Service, the National Park Service, or the State Department of Parks and Recreation to serve the general public

Private road –is any road connection other than a public road connection, including driveways. This definition does not preclude a city or county from having jurisdiction and maintenance responsibility over the proposed private road connection.

ARTICLE 3 Laws

Streets and Highways Code Section 118 permits Caltrans to sell, contract to sell, sell by trust deed, or exchange real properties or interests in properties, in the manner and upon terms, standards, and conditions established by the California Transportation Commission (CTC) when Caltrans determines that any real property or interest acquired by Caltrans for transportation purposes is no longer necessary for those purposes.

Article XIX, section 1, of the California Constitution requires that revenues from taxes imposed by the state on motor vehicle fuels for use in motor vehicles upon public streets and highways be used for specified highway and public mass transit guideway purposes. That same constitutional provision prohibits the sale of disposal of rights in property acquired with gas tax revenues at less than fair market value. (See, *Citizens for Hatton Canyon v. Dept. of Transportation* (2003) 112 Cal.App.4th 838, 843.)

Under authority granted it by Streets and Highways Code section 118, the CTC has adopted Resolution G-98-22 requiring the Department to dispose of its excess property rights at fair market value. “Fair market value” is defined in the Eminent Domain Law as the highest price that would be agreed to by a willing seller and a willing buyer. The full definition of “fair market value” is set forth in Code of Civil Procedure section 1263.320.

If an Interstate freeway is involved or if **federal aid participated in any phase** of the project, **except capital support**, disposal shall be in accordance with Title 23 CFR, Chapter I, Part 710, Subpart D, Section 710.401, et seq. (See Title 23 of the Code of Federal Regulations (CFR) or contact the district Programming Branch.)

ARTICLE 4 Policy

Rights of way, including access rights for private or public road connections, will undergo a cross-functional analysis, referred to as decertification, to determine their usefulness to the transportation system. If determined to be excess, they will then be sold at fair market value (See also *Chapter 16 of the Right of Way Manual*).

ARTICLE 5 Essential Procedures

Establish Transportation Purpose

When a request for a new public or private road connection is received, the district needs to thoroughly consider all possible impacts the proposed disposal or break in access control may have on the state facility and local traffic circulation. The following is a partial list of items and responsibilities that should be taken into account by the district when considering an access opening in a controlled access highway:

To be evaluated by the District Design Team:

- Will the proposed access opening be safe for the segment of highway and the local streets and roads impacted?
- Will the access opening have a negative affect on the operations/capacity of that segment of highway either now or in the foreseeable future (20 years)?
- Can the negative effects be mitigated?

To be evaluated by District Design, Right of Way and Traffic Analysis Teams:

Is the opening for a private or public road? Who receives the preponderance of benefits of the proposed access opening? Is it a private property owner or owners or the public at large? See the distinction between public road and private road in Article 2 of this Chapter.

Determine Method of Disposal

At a minimum a Director's Deed is needed to dispose of access rights. Approval of the Director's Deed is a CTC action. If an existing highway or easement is involved, see *Chapter 6 of the Right of Way Manual* for additional procedures. If excess lands are involved, see Chapter 16 of the *Right of Way Manual* for additional procedures.

Appraise the Rights to be Sold

At this point the District Right of Way Team will determine the fair market value of the rights of way being conveyed to permit the access opening as required by the California Constitution, statutes, and policies described in Article 3 of this chapter.

Except for public road connections (see Chapter 27 for new public road connections), the Department must obtain compensation for the fair market value of the access rights based on a appraisal of the parcel or parcels "before and after" the construction of the opening.

In addition, the private property owner or the developer must pay for the cost of any modification or mitigation measures (operational, environmental, or other) required to accommodate the proposed new access.

Caltrans may request the private property owner or developer to construct highway improvements in addition to those required to mitigate the proposed new access. If Caltrans requests this type of additional highway improvement, a credit offset that is equal to the cost of those additional improvements will be made against the value of the access rights.

Compensation to Caltrans for changes in rights of way will be no less than the value of the rights of way described above, less any credit offset due to improvements requested as described in the previous paragraph. However, under no circumstances will a credit offset cause the compensation to be less than the federal funding used to purchase the property rights being conveyed. The private property owner or developer is also responsible for payment of any other costs incurred by Caltrans, including, but not limited to expenses and overhead costs associated with the decertification request.

Process to Decertify and Dispose of R/W

The responsible district functional unit (generally Design) prepares the request for District Director approval to decertify and dispose of portions of rights of way on operating facilities. Since right of way information is required, the Project Engineer (PE) must coordinate the preparation of the request with the Region/District Division of Right of Way.

The request to the District Director should have a cover memorandum asking for the District Director's approval. Spaces should be provided for the District Director's signature (marked APPROVED), and for appropriate endorsement by the originating unit (marked APPROVAL RECOMMENDED BY:). The memorandum should include a brief description of the need and justification for the decertification and disposal as well as supporting data to justify the action.

Supporting Data

Limit the supporting data attachment to the pertinent data from the following:

- Parcel Identification
  - Excess Parcel number
  - Area of parcel or description of access rights
  - Federal-aid right of way project number used for parcel acquisition
  - Expenditure Authorization Number

- Justification and Explanation

  Briefly describe the parcel, the reason for disposition of the parcel or access rights, the reason the rights of way are not needed, and any additional background information.

- Exhibits
  - Location map

- A right of way map with calculated dimensions and bearings of new lines or revised access control, with the subject parcel or parcels outlined in color
- An "as-built" plan with the parcel outlined in color and a dimension showing the minimum clearance between the highway facility's final edge of pavement and the new right of way line. The minimum clearance should be consistent with adjacent segments of the facility and should comply with Highway Design Manual Index 304.2.
- Cross-sections to show important features.

  If federal funding in any phase was involved on a parcel that is declared excess property, one set of exhibits is needed for the district transmittal request to the FHWA. For FHWA approval of a change in access control, the district request to the FHWA needs two sets of exhibits. One informational copy of any request to decertify and dispose of rights of way, whether or not federal funding is involved, with exhibits, should be sent to Division of Design, Office of Project Development Procedures.

- Findings that -
  - The parcel (or access rights) is not needed for transportation purposes in the future (indicate if highway is federal-aid).
  - The retained right of way is adequate for the facility, under current standards
  - The disposal will not adversely affect the traffic operations of the highway.
  - The parcel is not suitable for use in restoring, preserving, or improving the scenic beauty next to the highway, consistent with the intent of the Highway Beautification Act of 1965
  - Reservations or exceptions are to be assumed by the buyer (utilities, easements, etc.).

- Include the following statement:

  Pursuant to guidance from the FHWA net proceeds from the sale of any decertified property will be deposited in the State Highway Account for Title 23 use, and are, therefore, not subject to federal reimbursement.

- Method of Disposal
  - Public sale, or
  - Direct sale to adjoining owner - a negotiated sale based on current appraised fair-market value, or
  - Direct conveyance to another governmental agency for public use, either with payment to the State, or without payment to the State.

- Estimate or appraisal of value of property rights

  Include the estimate or appraisal prepared by the Division of Right of Way of the value of the property or property rights to be disposed of. If a NPRC is involved and no compensation from the property owner(s) or developer is proposed, a supporting evaluation and justification of this determination should be included that reflects the considerations of the value of access rights discussed in Article 4 of this chapter. Information regarding new public road connections is in Chapter 27.

- Applicable Bikeway Data

  For specific compliance requirements relating to bikeways and the abandonment of right of way, see Chapter 31, Section 3, of this manual.

- Categorical Exemption/Exclusion forms

  An approved Categorical Exemption/Exclusion form must accompany all requests to Right of Way for decertification of access control and disposal of operating rights of way.

Division of Design Notification

When a District Director approves a request to decertify and dispose of right of way, one informational copy with exhibits should be sent to:

Division of Design, Office of Project Development Procedures.

Following the District Director's approval to decertify and dispose of the right of way, the PE sends a request to the FHWA for their approval if disposal of access rights on an Interstate freeway is involved or if federal aid participated in the acquisition of the right of way.

FHWA Involvement

As noted earlier in this chapter, FHWA approval must be obtained if the rights of way involved are access rights on an Interstate freeway or on a highway where federal funds were used in any phase of the project. The responsible unit shall discuss the proposed decertification and disposal with the Design Coordinator as well as the FHWA Field Operations Engineer to facilitate processing and to avoid excessive work on proposals that might not be feasible or have complicating issues. The decertification of right of way on an Interstate freeway or on a highway where federal funds were used in any phase of the project requires FHWA approval as provided for in the Stewardship Agreement.

Under FHWA environmental regulations, disposal of excess right of way is a Categorically Excluded (CE) action. A CE form must accompany all requests for decertification of access control and disposal of operating right of way. For further details, see the Standard Environmental Reference (SER).

Obtain Director's Deed Approval

After the necessary approvals are obtained, the PE sends the information to Right of Way who prepares the documents for presentation to the CTC. The Region/District Excess Land unit of the Division of Right of Way is responsible for processing the necessary Director's Deed or other conveyance document for approval by the CTC.

CHAPTER 27 - New Public Road Connections

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CHAPTER 27 - New Public Road Connections

ARTICLE 1 - General

Responsibility

Caltrans is responsible for improving and preserving State highways to serve interregional traffic on the State's transportation corridors. To this end, access control rights are acquired and connection points are kept to a minimum on freeways and expressways. New public road connections to these facilities are permitted only after careful analysis to determine that no detrimental effect will occur that would diminish facility operation.

Much of the responsibility for securing approval of a new public road connection to a freeway rests with the local agency. The requesting local agency should be fully informed to ensure common understanding of requirements for California Transportation Commission (CTC) approval.

The environmental studies and documentation for the local agency's new public road should cover the traffic impacts on the State highway. It is stressed that the local agency understands that the connection should be covered by the local agency's environmental document. The local agency should be informed in writing that the features of the proposed new local public road, the connection to the State freeway, and the proposed environmental type under CEQA and NEPA must be acceptable, in concept, to Caltrans.

FHWA conceptual approval of a new public road connection or modification to an interchange on an Interstate freeway must be obtained prior to notifying the local agency of acceptance. See Article 5 for the content of the request to FHWA.

Protection of State Highways

The California Freeway and Expressway (F&E) System has been constructed with a large investment of funds in the right to control access, in order to insure the safety and operational integrity of the highways. The legislative intent for requiring CTC consent to new public road connections to freeways and expressways is to ensure complete evaluation of all proposed revisions to access control so that current and future traffic safety and operations are not compromised, to protect the investment in any

improvements made, and to permit the ultimate development of a full freeway or an expressway when traffic and other conditions require.

S&H Code Section 250 states it is the intent that the California F&E System be completed with provision for the access control necessary to preserve the utility of the constructed facility. S&H Code 254 requires such access control as is necessary to protect any investment in improvements in an access controlled highway for the purpose of facilitating the ultimate development of a full freeway or an expressway.

Freeway (and Controlled Access Highway) Agreements

New public road connections require an agreement with the local agency having jurisdiction over the public road proposed for connection to a State access controlled highway. Chapter 24 discusses these agreements.

Definitions Pertaining to Access Control

Statutes define "freeway", "controlled access highway" and "expressway". The term "controlled access highway" is defined in S&H Code Section 23.5 for the purposes of processing expressway route adoptions, denominating freeways as controlled access highways at sensitive locations, and processing the CTC approval of new connections to expressways. On expressways, Caltrans substitutes the term "controlled access highway" for "freeway" in agreements with local agencies.

The term "expressway" is used in the Highway Design Manual (HDM) for highway design purposes. Any reference to an "expressway" in this manual or any other manual has the definition of a "controlled access highway" attached to it.

Statutes Require CTC Consent to New Public Road Connections

Sections 23.5, 100.2 and 100.3 of the S&H Code provide that CTC consent is required for public road openings or connections with freeways. These sections authorize Caltrans to enter into Freeway Agreements providing for the closing of city streets, county highways or county roads. Freeway agreements must show CTC approved new connections of new city streets or new county highways and roads.

Under the language of Section 100.3, a freeway comes into existence "for all purposes of Section 100.2" immediately upon adoption of the freeway declaration by the CTC.

Project Category

A new public road connection to a freeway or an expressway provides service to the general public. A new public road connection that is approved prior to construction of the access controlled facility is a major design feature of a Project Development (PD)

Category 1 project. Once the access controlled facility has been constructed, a project to construct a new public road connection would usually be a PD Category 3.

Definitions

Public Road

For purposes of implementing new public road connection policy, city streets, county roads, and public highways are collectively referred to as public roads. A "public road" is a road to be maintained for general public use, having dedicated rights of way or easements, serving multiple property ownerships and connecting with the general system and network of public roads and streets. A “public road” is one that is eligible to receive construction funding from motor vehicle fuel tax revenues under Article XIX of the California constitution.

Private Road

A "private road" connection to the State highway is any connection other than a "public road" connection, including driveways. This definition does not preclude a city or county from having jurisdiction and maintenance responsibility over a proposed "private road" connection, but such would not relieve the property owner(s) of the payment of compensation for the private access rights to be acquired.

Access Opening

The term "access opening" applies to openings through the right of way line that serve abutting land ownerships whose remaining access rights have been acquired by the State (also see the definition for "private road"). Access openings are used only on expressways. See HDM Index 205.1. On freeways, direct access to the freeway from private property is prohibited without exception. See HDM Index 104.1 General Policy - Control of Access.

S&H Code - Definitions

The following definition is copied verbatim from the S&H Code:

"Freeway" and "Expressway"

For the purpose of this article only (Article 2 California Freeway and Expressway System, Streets and Highways Code), and to distinguish between the terms "freeway" and "expressway", the word "freeway" shall mean a divided arterial highway for through traffic with full control of access and with grade separations at intersections, while the word "expressway" shall mean an arterial highway for through traffic which may have partial control of access, but which may or may not be divided or have grade separations at intersections.

Other pertinent definitions from the S&H Code Sections are repeated verbatim, in Chapter 24, Article 1, of this manual:

- "Freeway" (and "controlled access highway") [Section 23.5]
- Agreement to Close Street, etc.; Consent to Opening, etc. [Section 100.2]
- Resolution (CTC resolution gives immediate freeway status) [Section 100.3.]

ARTICLE 2 - Policy

General

The Project Manager should ensure that the local agency has a complete understanding of State requirements and engineering standards at an early stage of project planning.

Public Road

The definitions in Article 1 are used for purposes of implementing new public road policy. A local agency "public road" must clearly serve a public purpose, should function as part of the local circulation element providing access to General Plan land uses, have dedicated rights of way or easements and be eligible to receive construction funding from motor vehicle fuel tax revenues under Article XIX of the California constitution.

The connection of the new public road must also meet freeway Design Standards for interchange spacing, as described in *HDM Index 501.3*, or it must have an approved exception. The proposal should conform to Caltrans Access Control Policy in *HDM Topic 104* and Index 205.1. Better local service may be provided by frontage road, local public road or public street.

The language in S&H Code Section 100.2 suggests that, to be approved, the local agency's project development process for a proposed new public road connection to a State access-controlled highway should have progressed far enough that construction is expected to begin in the near future. A county road or city street that exists on paper in an approved subdivision map or as part of a master plan is considered to be nonexistent and should not be proposed as a new connection until such time as the road or street is included in an approved General Plan and until there is a funding commitment on a

specific schedule for both the connection and a usable segment of the local road that is connected with the general system and network of public roads.

Public, Private Road Determination

One of the problem areas in administering policy on proposals for public road connections is to determine whether a road was a public road or a private road at the time the CTC made the freeway declaration. The fact that a roadway has never become a "county highway" or a "city street" would not necessarily prevent it from being a "public highway."

Tests can be applied to determine status as a "public highway". At the time of freeway declaration, (1) was the road being maintained at public expense? (2) Did the road have dedicated rights of way or easements? (3) Did the road serve more than one property owner, with at least one of the ownerships not abutting the adopted route? Note that it is not necessary that the road be paved to be considered a public highway.

The district project files should clearly document the facts used in making a public highway determination when otherwise not found as a public road of record.

Engineering & Financing

As an initial step, the local agency and developer meet with Caltrans to determine engineering feasibility and to discuss the proposed construction financing. The local agency usually requests the new connection and makes a firm funding commitment by formal resolution, but this is usually adopted at the PSR stage. The initial discussions should confirm that there are no obvious engineering or financial conditions that would prevent continuation of the study or CTC new connection approval. The local agency should be informed that the CTC action in granting a new public road connection will set terms and conditions for the connection. This usually consists of specifying local-State responsibilities for right of way, construction costs, and the time frame for completion of construction of the new connection.

Early Confirmation

Early in the process, the local agency should be given either a written reason why the proposal is unacceptable or a written confirmation that the proposal meets new public road connection policy. On expressways, the District Director gives an early response to a proposal by formal written reply, after considering a Project Study Report (PSR) - New Connection Report (see Article 3). This report is prepared and approved prior to making commitments to the requesting party. On freeways, the District Director sends a formal written confirmation after approval of a PSR.

Due to the requirements for CTC approval and because of Caltrans' responsibility for maintenance and tort liability, an Encroachment Permit by itself is unsuitable for submitting a request for a new public road connection.

Funding for New Connections

New public road connection permission is granted by the district and the CTC. No processing cost is assessed to the requesting local agency for the project initiation document (PSR - New Connection) or for the CTC action. Caltrans will allow the requesting entity, at its cost, to prepare the report if Caltrans cannot complete the report in a timely manner. This follows statutory direction to Caltrans to implement and maintain the State Highway System in conformity with comprehensive statewide and regional transportation plans and the circulation and land-use elements of local agency General Plans.

Caltrans requires the local agency to pay all costs to construct a public road project to connect to an expressway (except that the PSR-New Connection Report preparation and the CTC permission is usually granted at no cost). The local agency usually obtains the funds as a condition of approval of a development, or through an assessment district, or from sales tax provided by a voter approved measure, or from other suitable sources. The project is handled as a Special Funded State Highway project, regardless of cost.

For new public road connections to freeways, the local agency is responsible for construction costs in consideration of the CTC Funding Policy for Interchanges adopted April 26, 1984 (see Article 6). The details of funding and project features are usually determined by negotiation.

Value of Access Rights

Access control changes require a decertification process to transfer the access rights (see Article 5, Request to Decertify and Dispose of R/W). Except for public road connections compensation must be obtained for the fair market value of the access rights based on a "before and after" appraisal of the parcel or parcels being benefited. In other words, the appraiser will first determine the fair market value of the benefited parcel or parcels without the access opening and then will determine the fair market value of the same property with the access opening. The fair market value of the access rights is the difference between the two values.

In addition to the compensation for the access rights, the private property owner or the developer is required to pay for the cost of any modification or mitigation measures (operational, environmental, or other) required to accommodate the proposed new access as would be the case if the property owner already owned the access rights.

Caltrans may request the private property owner or developer to construct highway improvements in addition to those required to accommodate the proposed new access, which additional improvements Caltrans determines are for the sole benefit of the State. In the event Caltrans requests this type of additional highway improvement, a credit offset that is equal to the cost of those additional improvements will be made against the value of the access rights.

Compensation to Caltrans for changes in access control will be no less than the value of the access rights described above, less any credit offset due to improvements requested for the sole benefit of the State. However, under no circumstances will a credit offset cause the compensation to be less than the federal funding used to purchase the property

rights being conveyed. The private property owner or developer is also responsible for payment of any other costs incurred by Caltrans, including, but not limited to expenses and overhead costs associated with the decertification request.

Access Control Policy

In the following paragraphs, access control policy from several sources is summarized.

On freeways, direct access from private property is prohibited without exception; see *HDM Index 104.1*. Abutting private property ownerships are served by frontage roads or streets connected to interchanges. All connections to freeways are by interchanges; see *HDM Index 501.2*. (When an original Freeway Agreement is executed to cover the route adoption, staged construction with an interim at-grade intersection is permissible until high traffic volumes, safety, or other factors justify construction of the interchange. However, for a proposed connection of a new public road to a full freeway, an interchange is required).

On expressways (which require a controlled access highway agreement as opposed to a Freeway Agreement), access from private property is permitted (HDM Index 205.1), but the size and number of openings are held to a minimum. Parcels that have access to another public road or street, as well as frontage on the expressway, are not allowed access to the expressway; see *HDM Index 104.2*.

If future conversion of an expressway to full freeway is possible, the freeway Advisory Design Standard for interchange spacing (see *HDM Index 501.2*) is implied for the spacing between public road at-grade intersections.

Frontage roads on freeways and expressways are justified if investment in construction and extra right of way is less than either severance damages or the cost of acquiring the affected property in its entirety. When more than 3 private access openings are located within the distance specified in HDM Index 104.3, a frontage road should be considered.

Project Development Process

New interchanges on existing freeways must be documented by an approved PSR. New connections to existing expressways must be documented by an approved PSR-New Connection. The new connection must be covered by a Project Report and must have an environmental document under CEQA/NEPA, as appropriate. The local agency must submit to Caltrans a request by formal resolution with a firm funding commitment. After approval, the local agency must submit eighteen copies of the environmental document that covers the project for their new public road and the connection. See Article 4 for details. An encroachment permit is necessary for the construction contract, but by itself is unsuitable as an authorizing document for submitting a project to get CTC approval to connect a new public road to an expressway.

Public Road Connection Widths are Not Specified

Private access openings have specified widths that are incorporated into deed descriptions. However, when the CTC grants a public road connection, it is practice to

not specify a width of opening. The width matches the proposed local road right of way or at least the roadway opening. If the local road is subsequently widened, the width is adjusted to fit the new plan without further CTC action. A private access should not be submitted as a new public road connection for the sole reason of avoiding deed descriptions.

Existing Road as Frontage Road

If a new local road or street is to be connected to an existing highway that is clearly to remain as a frontage road after construction of the freeway, the connection does not need CTC approval. The connection will be handled by the usual encroachment permit process. The permit should note the same points and conditions noted for theoretical connections as described in Article 3.

CTC Imposed Conditions

The CTC, in its discretion, may require that construction of the public road start at the time Caltrans grants a permit for its connection to the State highway. The CTC may also impose the condition that a new connection authorization can become void if construction of the public road is not undertaken within a specified time period.

Private Roads

A "private road" connection to the State highway is any connection other than a "public road" connection (see Article 1 for a detailed discussion of "private road" versus "public road"). Private road connections are handled as right of way transactions, to be processed through the CTC via Director's Deeds. See Chapter 26, Article 2.

Public Road Maintenance

Not all "public roads" as defined are maintained by a city or county government. This usually occurs along expressways in sparsely populated rural subdivisions where the developer is required to dedicate and construct public streets but a property-owner association or assessment district is expected to maintain the road. In these cases, it is required that all such public road connection requests be made by a city or county government and for the local agency to maintain the connection and public road at least within the State right of way. Thus, the State has a responsible party to deal with. The connection is further formalized by inclusion in the required superseding controlled access highway agreement.

"Other Public Agency Highway of Any Kind"

Exceptions may be allowed in unusual circumstances if the local agency objects to maintaining the connection and public road, particularly if a private opening to an expressway already existed whose continued use for new development would be incompatible with safety or operating standards. In such a case, CTC approval would be requested as an "other public highway of any kind" (S&H Code Section 100.2) but there would be no controlled access highway agreement with the affected city or county. The

CTC resolution would cover any needed ownership, maintenance, or control provisions which will also be included in the encroachment permit.

Other Public Agency Road Connections

A different example of a "public road" that is not a city street or county road would be a road facility constructed by other public agencies to serve the general public. Examples are roads under the jurisdiction of the U. S. Forest Service, the National Park Service, the State Department of Parks and Recreation, etc. Caltrans will negotiate directly with these agencies but overall processing (including CTC approval) is essentially the same as for city streets and county roads, except that a freeway (controlled access highway) agreement is not required.

Violations of Private Access Openings to Expressways

Existing private access openings to expressways are sometimes misused. This usually occurs when land uses change from agricultural to urban or suburban. An opening that originally served one owner now serves several owners due to parcel splits.

In such an instance, residential, commercial, and industrial development may have occurred that impairs the safety and operational capacity of the private connection. More often than not, the owners have widened the driveways to widths greater than the legal opening (without permits) and the driveways become de facto public streets. Once in place and allowed to stay a number of years, it is questionable whether the Department would be successful in litigating removal of the unauthorized driveway improvements.

The districts, particularly through their maintenance superintendents, must take all reasonable measures necessary to protect the integrity of access control. An alternative, where the "driveway" extends some distance from the expressway, is to encourage the affected local agency to work with the property owners to develop a bona fide public road under the jurisdiction of the local agency with new connection approval by the CTC. This alternative must be compatible with future improvement plans for the expressway. Another alternative may be for the affected local agency to develop a frontage road or a local road network that connects to another public road.

Consider Future Land Use in Initial Design

To avoid the access violation problem described above, the initial expressway could be designed to accommodate the most probable future land-use changes with planned access openings and frontage road provisions, after thorough evaluation of the most likely development adjacent to the facility. An option that can be considered is to acquire frontage road right of way (or a wide main line right of way) but permit interim private access directly to the expressway to avoid excessive severance damages and frontage road costs. When development does come, the rights of way for the solution will be available.

ARTICLE 3 - Approvals

Local Construction Prior to Freeway Agreement

If a new local road or street is to be constructed across the adopted freeway route prior to freeway construction, a theoretical connection is created with the freeway regardless of whether proposed future development provides for a separation or a closure.

CTC approval is not required for a theoretical connection but the local agency must still make a formal request to Caltrans. The following notification procedure will be followed.

Theoretical Connection – Formal Notice to Local Agency

Upon receipt of a formal resolution requesting approval to construct a road across the adopted freeway alignment, a formal notice must be given by the district to the local agency, which covers the following points and considerations:

- The name of the street and the location by kilometer post (post mile).
- State the date on which the CTC adopted the freeway route and that the construction of the local road prior to freeway construction does not create any special obligation on the State's part to later carry this road across the freeway, connect it to the freeway or to make provisions for the traffic that will be carried on the local road.
- Quote the fact that there can be no physical connection of the local road with the freeway unless the CTC formally approves the connection first.
- State that Caltrans cannot execute a Freeway Agreement showing a connection of the local road with the freeway without first obtaining CTC approval of the connection.

One copy of each formal notice is to be forwarded to the Division of Design (DOD) Division Chief, Attention: New Connection, for information and files.

CTC Approval Not Required:

No CTC approval is needed for the following conditions:

Existing Road as Frontage Road

If a new local road or street is to be connected to an existing highway that is clearly to remain as a frontage road after construction of the freeway, the connection does not need CTC approval. The connection will be handled by the usual encroachment permit process. The permit should note the same conditions noted for theoretical connections.

No CTC Approval for Crossing with Separate Grade

If the new road will not be "opened into or connected with" the freeway but will merely cross at separated grades, CTC approval is not required since S&H Code Section 100.2 is considered to apply only to openings or connections at grade. However, a superseding Freeway Agreement must be executed.

Unconstructed Freeways

For unconstructed freeways, city streets, or county highways that are in existence at the time of the freeway declaration (also referred to as "freeway adoption") may be approved for connection to a freeway through negotiation between Caltrans and the local agency, without obtaining the consent of the CTC. This is true whether or not the alignment of the route adoption is intersected by the existing local road.

Closure of a Connection

Closure of a connection does not require CTC approval (but a Superseding Freeway Agreement is required).

Early Confirmation of Feasible Proposals

Early in the process, the local agency should be given a written response that the proposal meets new public road connection policy (see Article 2). If requested, the Project Development Branch of DOD will provide the District Director with advice on a new road connection that potentially might be considered a "stub" or driveway, that is a private road connection.

CTC Approval Required:

CTC approval of a new public road connection is required under any of the following circumstances:

Connection as Part of Initial Construction of Freeway /Expressway

CTC approval is required for an interchange or at-grade connection with a new city street or new county road that was not in existence at the time of the freeway adoption, but which is to be included with the construction of a new freeway or expressway. However, the CTC consents to a new connection if it takes action on a project that includes the new

connection, such as a project that requires CTC adoption of a change in route location and the connection is covered by the environmental document.

New Connection to Existing Freeway or Expressway

CTC approval is needed for any new public road connection (interchange or at-grade connection) to an already constructed freeway or expressway. If ramps are to be added at an existing overcrossing or undercrossing, CTC approval is required. An existing partial interchange, with at least two ramps providing access to both directions of the freeway, does not require CTC approval for the construction of additional ramps, since public access to and from the freeway has already been furnished.

Access Break

As a general rule, CTC consent is required where access control has been acquired and the new public road will involve a break in the access line. For illustrations of cases that do and do not require CTC consent, see Figures 1 through 5 (3-120).

Private to Public Road

Conversion of an existing private access opening to a public road connection requires CTC approval.

Temporary Connection

CTC approval is required for a temporary connection of a new city street or new county road to a freeway or expressway. The CTC resolution of consent may be worded to put the local agency and adjacent property owners on notice that the connection is temporary and may be closed at the time of further freeway construction or closure must be completed by a specified date.

Reconnecting a Previously Closed Connection

Reconnecting a previously closed connection to a constructed freeway also requires consent of the CTC.

Private Road Connections are CTC R/W Transactions

Private road connections to an expressway — or through access control lines to a road that crosses the freeway — are handled as right of way transactions, to be processed through the CTC via Director's Deeds. See Chapter 26.

New Connection Report on Expressways

Requests for all proposed new public road connections to expressways must be given early written confirmation or refusal by the District Director. The District Director approves the concept by consideration and approval of a PSR-New Connection. The PSR-New Connection contains information to justify engineering aspects. It would also contain the following locally supplied information, as appropriate:

- Description of the land-use development to be served by the new connection with appropriate maps.
- Relationship to the local agency's General Plan or other specific area plans.
- Status and discussion of the environmental document. If a local agency EIR or ND has been completed, reference should be made to the ED and the Notice of Determination that was filed with OPR.
- Rationale for obtaining (or foregoing) compensation; or recommendation of acceptable alternatives or denial of the new connection request (public or private).
- Recommendation for traffic-impact mitigation measures, if any.
- An approximate estimate of the amount of compensation for the purchase of access rights.

Two copies of the request to the District Director and subsequent decisions and approvals should be forwarded to DOD, Attention: New Connection, for information and files.

FIGURE 1 - Existing Separations and Ramps

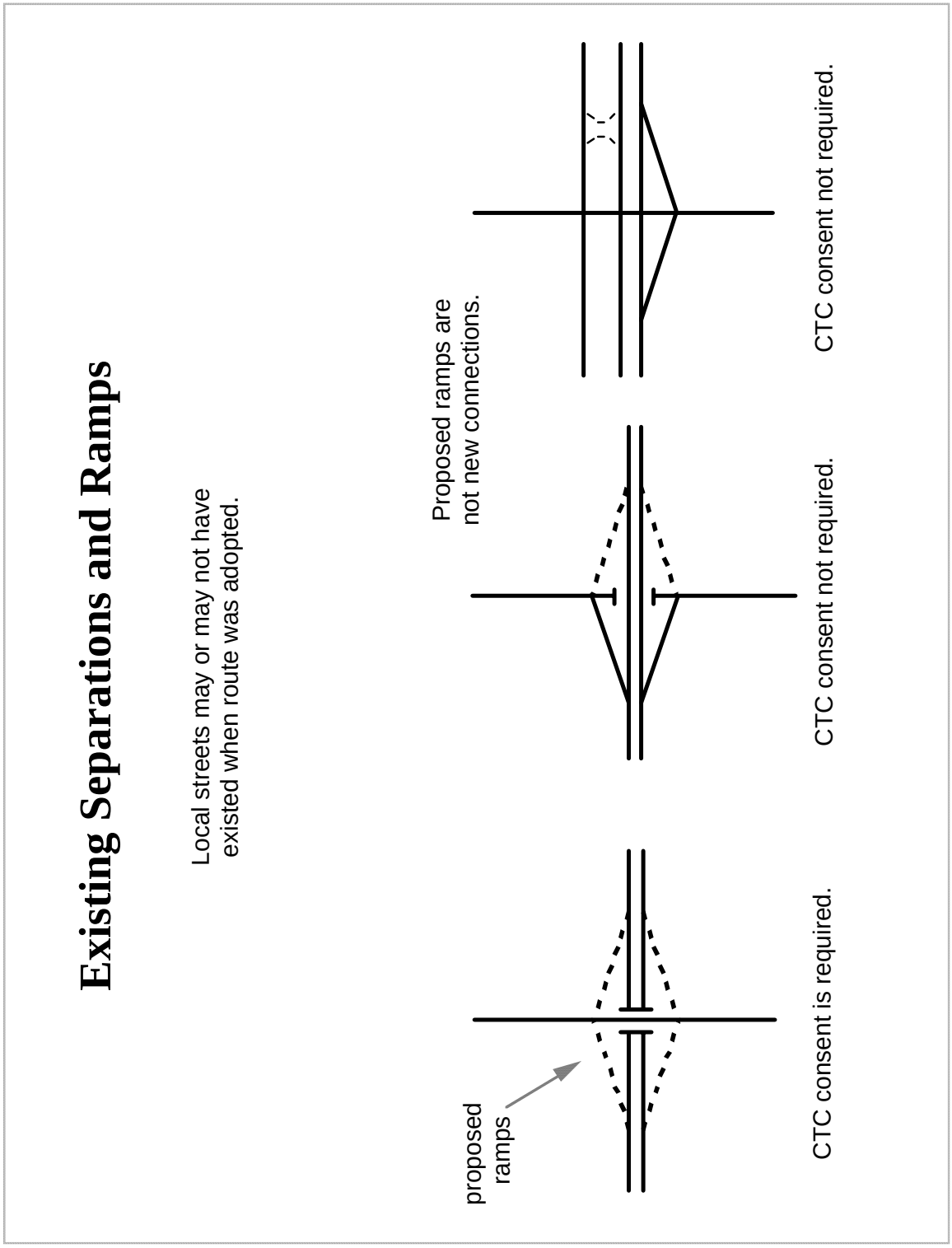


FIGURE 2 - Existing T-Intersection at Grade: Convert to crossroad.
Existing T-Interchange: Add crossroad to other side.

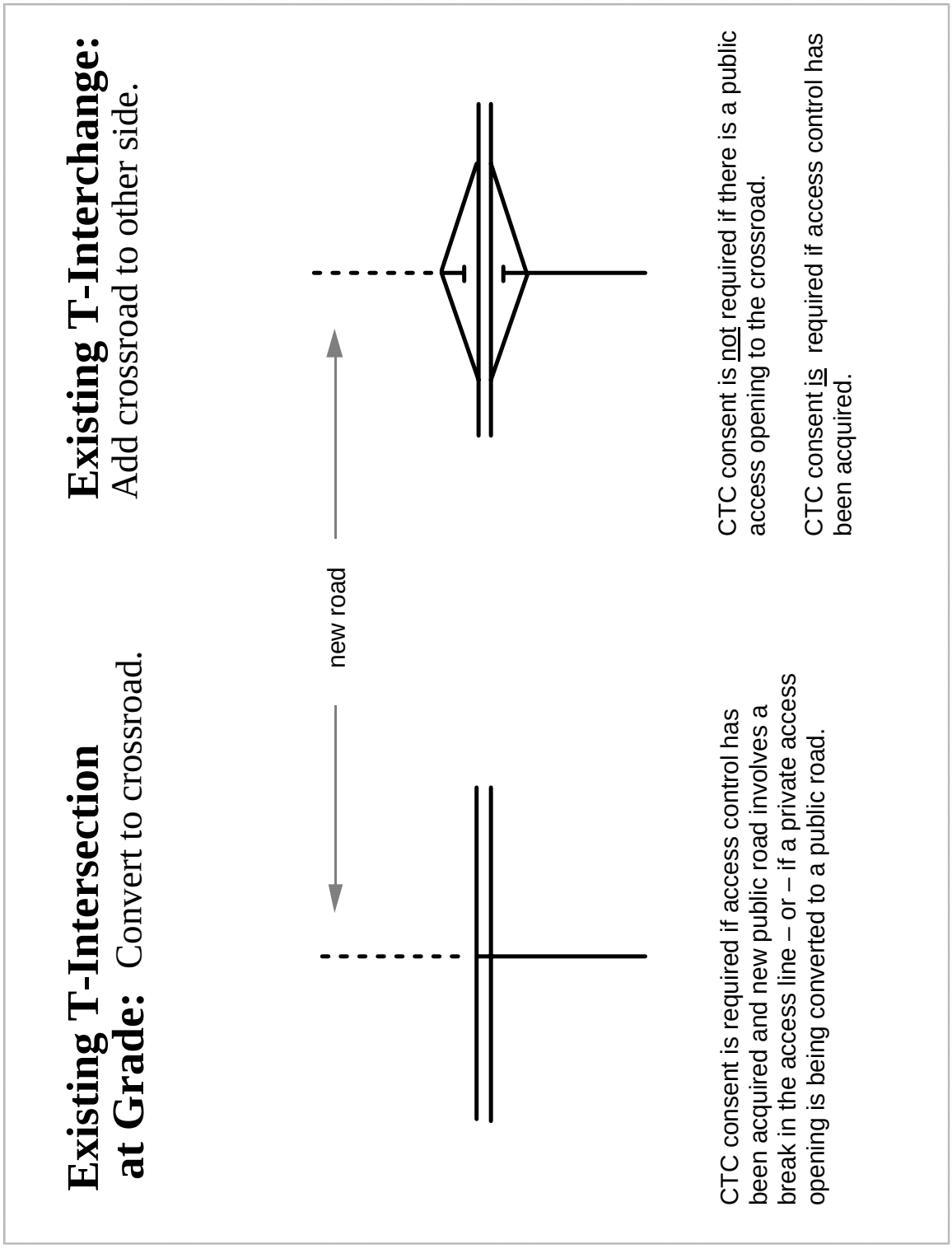


FIGURE 3 - Existing Interchange

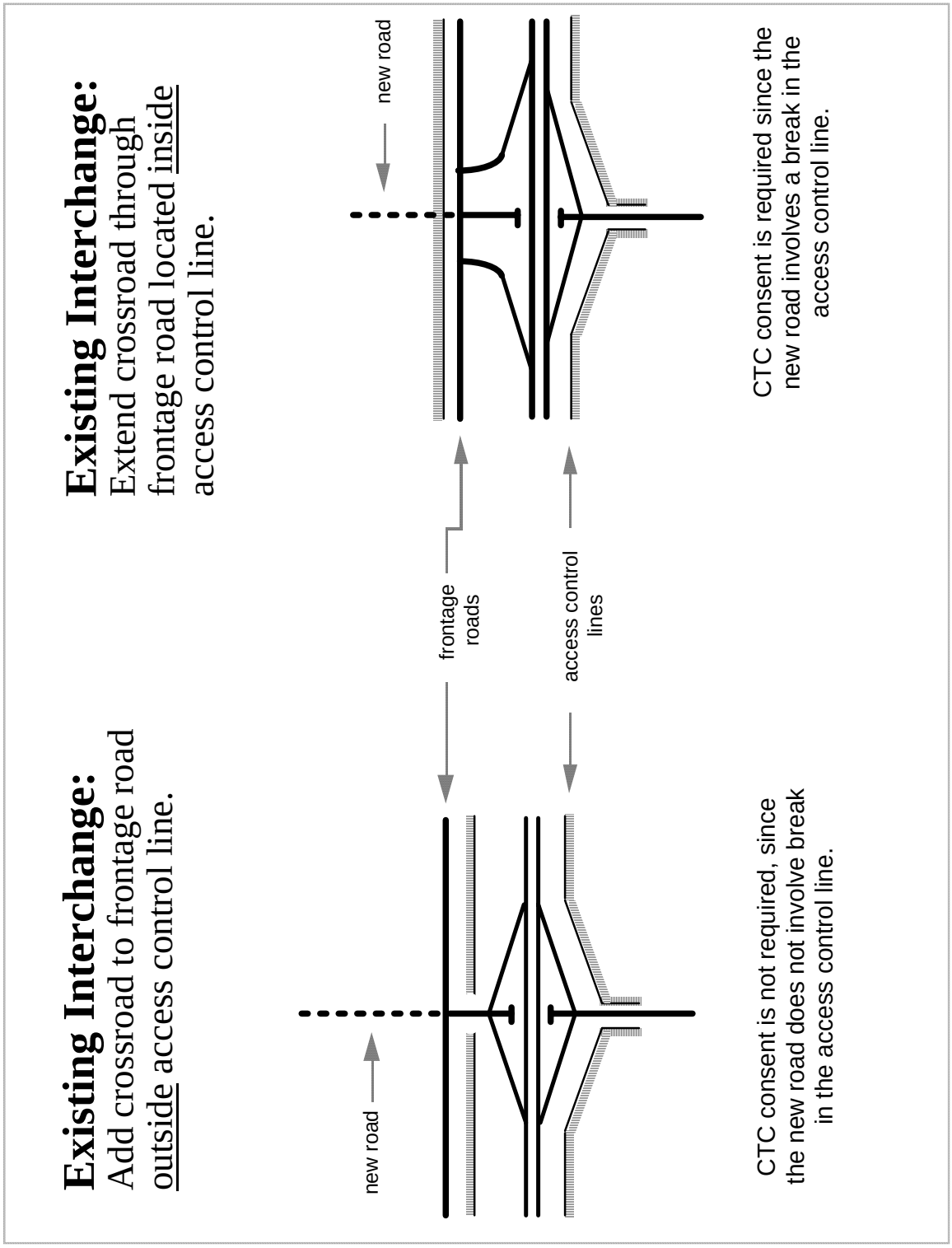


FIGURE 4 - Convert Existing Diamond to Split Diamond

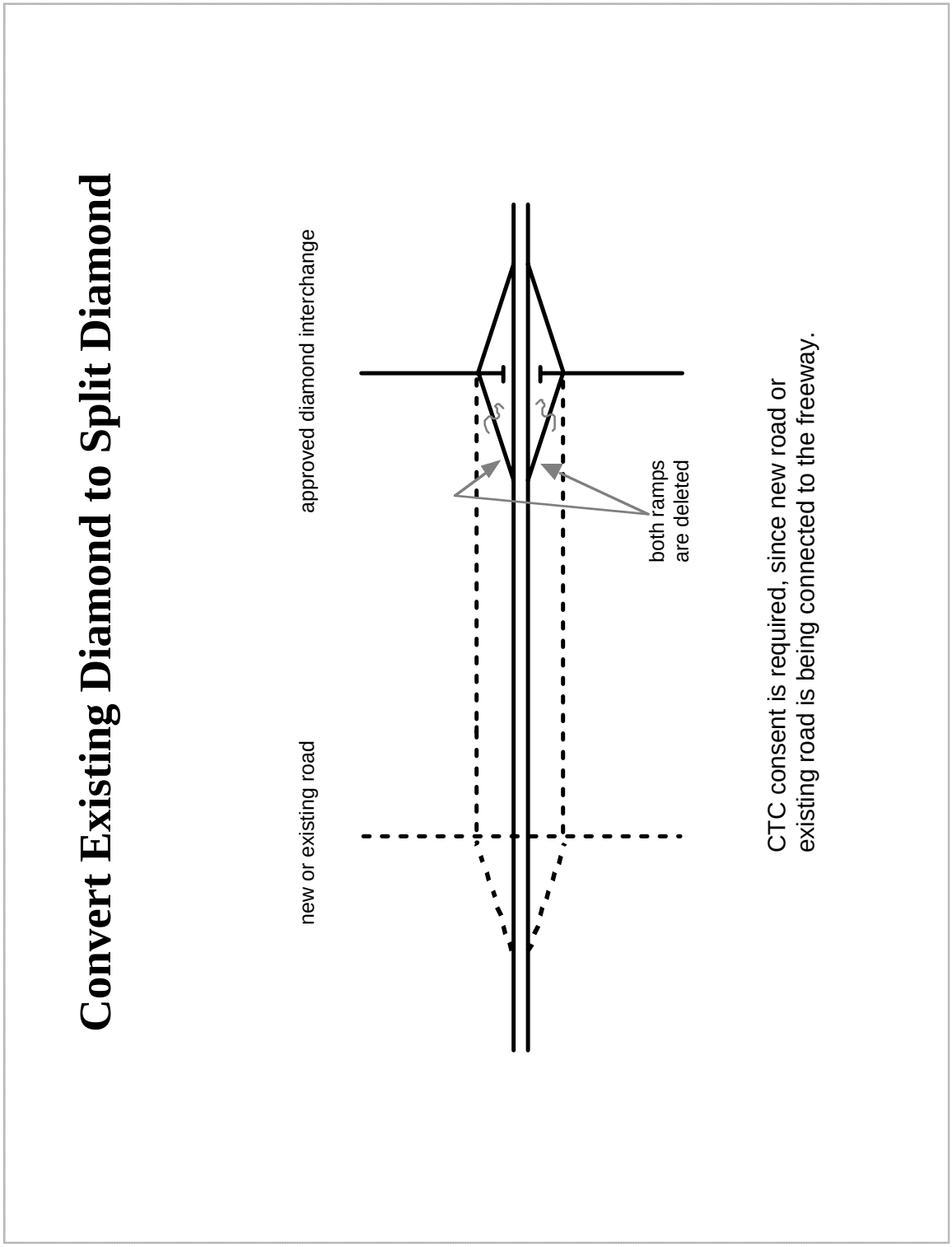
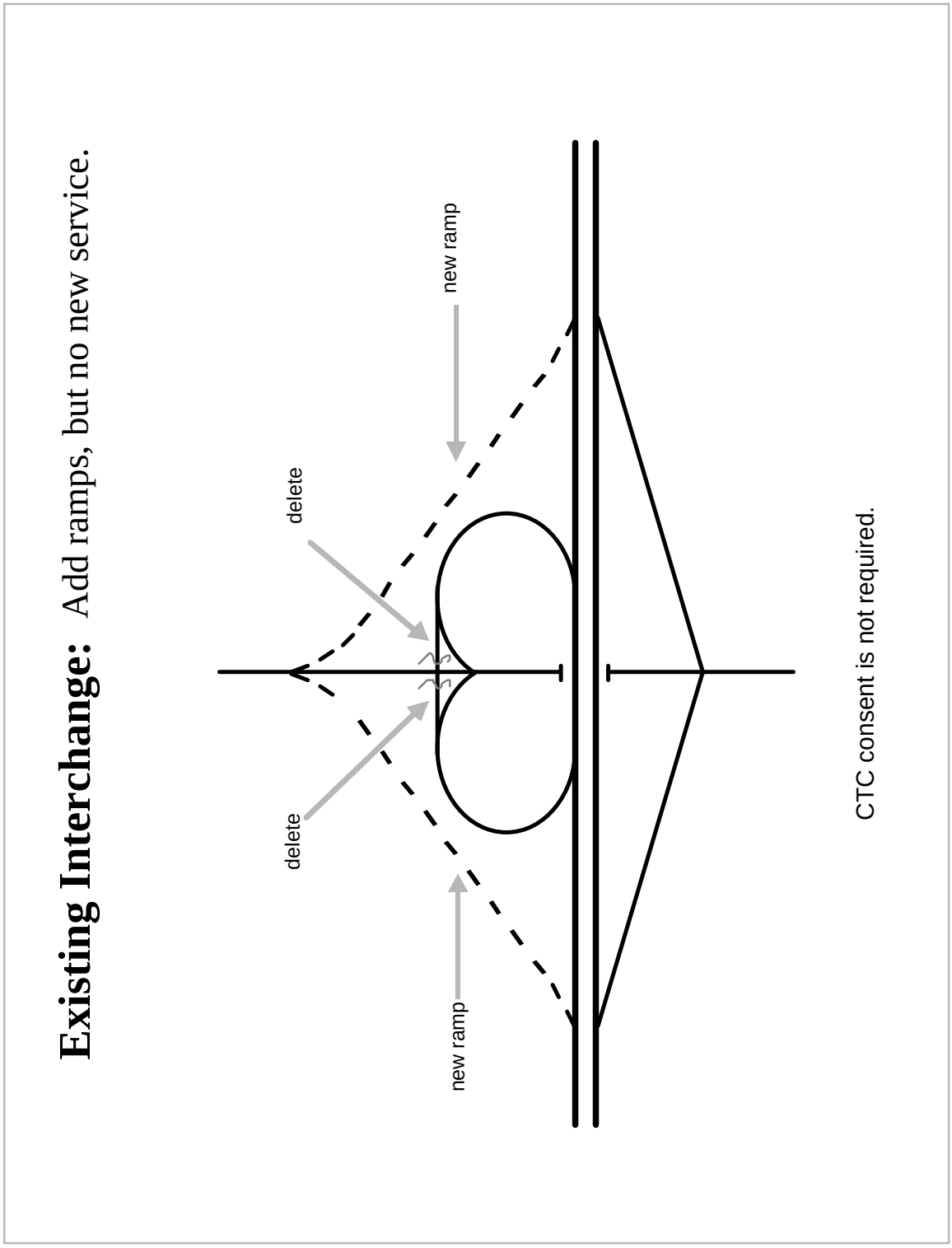


FIGURE 5 - Existing Interchange: Add ramps, but no new service



New Connections to Freeways

New connections to freeways require a PSR to initiate the project. Negotiations with the requesting local agency are conducted considering the CTC funding policy adopted April 26, 1984. The local agency usually introduces the proposal through informal discussions followed by a formal resolution requesting the connection which also gives a firm funding commitment for the local share. The FHWA must give conceptual approval to a new connection to an Interstate freeway prior to PSR approval, or if PSR approval must be given first, it will be on an at risk basis and subject to FHWA conceptual approval (see Article 5). At the end of the project development process, after approval of the PR, DOD submits a report to the CTC for approval of the new connection.

ARTICLE 4 - Steps to CTC Action on a New Connection

Follow Regular Project Development Process

Locally funded, new interchanges on existing freeways must be initiated by an approved PSR. A proposed new public road connection to an expressway must be initiated in a PSR-New Connection. After a proposed new connection is given early written confirmation by the District Director, the project development process is followed. The new connection must be covered by a PR and must have an environmental document under CEQA/NEPA, as appropriate.

A Permit Engineering Evaluation Report (PEER) is unsuitable as an authorizing document for a project to connect a new public road to an expressway due to processing requirements for getting CTC consent.

Engineering Feasibility and Financing

As an initial step, the district and the local agency/developer meet to evaluate the engineering feasibility and likelihood of construction financing. The local agency resolution requesting approval of the new connection and making a funding commitment is usually deferred until the PSR stage. The initial discussions should confirm that there are no obvious engineering or financial conditions that would preclude proceeding with the necessary studies and processing.

Request to CTC

After project approval, DOD prepares Caltrans' report requesting CTC approval of the new connection. At this stage, the local agency has executed a Freeway Agreement (or controlled access highway agreement), with provision for the new connection. Execution of the agreement by the State is withheld until after CTC approval.

CTC is Responsible Agency Under CEQA

In approving new connections, the CTC acts as a Responsible Agency under CEQA and must review the Lead Agency's document and make findings, if necessary, prior to reaching a decision.

When Caltrans is Lead Agency, project approval procedures will be followed. When a local agency is Lead Agency, 18 copies of the environmental document, a copy of the Notice of Determination (NOD) that was filed with OPR, and the local agency's findings, if prepared, are needed by the Division of Environmental Analysis to send to the CTC. (See *Standard Environmental Handbook*, Section 4-6.3 for additional requirements.) If a local agency desires to add a new connection to a State highway project on which Caltrans is the Lead Agency and if that connection is not part of the Caltrans project, then the local agency must provide the documentation required as the Lead Agency for the new connection.

Expressways

New connections to expressways are the responsibility of the involved local agency. See Chapter 2, Section 5, for funding responsibilities. The procedures to be followed are outlined in Article 3 of this chapter, as well as direction for preparing the PSR-New Connection.

New Freeway Interchanges

Where a proposed new interchange is to be locally funded, the first step is preparation of a PSR (see Chapter 9 and Appendix L). A formal funding commitment (usually a resolution) by the local agency is required at the time of PSR approval. Funding responsibilities are described in Article 6 and in Chapter 2, Section 5.

Inclusion of New Interchange with State Proposal

There may be cases where the local agency new connection request can be incorporated into proposed new freeway construction. The requirements for PSRs, PRs and other processing steps must be individually determined by discussion between the district and the Design Coordinator.

If the PR for the parent freeway project is yet to be developed, the new connection request can usually be added to the PR prepared by the district. If project development has reached the design phase, it is likely that a Supplemental PR would be necessary and would be the responsibility of the funding party.

ARTICLE 5 - Approval of New or Revised Interchanges

Application

This Article applies to proposals for:

- New interchanges
- Modifications to existing interchanges involving access control revisions for new ramps or the relocation or elimination of existing ramps
- Projects to increase mainline capacity when existing interchanges do not meet HDM interchange spacing requirements

Projects which involve freeway access control revisions related only to ramp or local street widening (typically ramp metering and signalization projects) are not subject to these requirements.

Conceptual Approval Conditions

Caltrans grants conceptual approval of new or revised interchanges with the approval of the PSR. Before investing significant effort toward PSR preparation, it is important to understand that the following conditions must be satisfied where applicable before new or revised interchanges are considered for conceptual approval in a PSR. These conditions must be considered and satisfied even if CTC new public road connection approval is not required:

Interchange Justification

It is demonstrated that the existing interchanges (for new interchange proposals) and/or local roads and streets in the corridor can neither provide the necessary traffic service nor be improved to satisfactorily accommodate the design-year traffic demands.

Consideration of Alternatives

All reasonable alternatives for design options, location and transportation system management type improvements (such as ramp metering, mass transit, and HOV facilities) have been assessed and provided for if currently justified, or provisions are included for accommodating such facilities if a future need is identified.

Interchange Spacing

The proposal must comply with the spacing requirements of the *HDM*. (Design Information Bulletin No. 77 dated January 31, 1995, should also be consulted.) If not, written approval of a design exception for the proposed deviation must be requested and obtained before the project is given conceptual approval in a PSR.

No Significant Adverse Impact

The proposed interchange does not have a significant adverse impact on the safety and operation of the highway facility based on an analysis of current and future traffic.

Connection to Public Road

The proposed interchange connects to a public road only and will provide for all traffic movements.

Meets Local Planning

The proposal considers and is consistent with local and regional land use and transportation plans.

Coordination With Development

The request for a new or revised interchange generated by new or expanded development demonstrates appropriate coordination between the development and related or otherwise required transportation system improvements.

PSR Content

The contents of the PSR must address the following items under the appropriate headings in the PSR Outline:

- Purpose of the project
- Description of existing and proposed interchanges, including:
  - Configuration (including adjacent interchanges)
  - Distances to and projected impacts on adjacent interchanges
  - Freeway mainline and crossroad traffic volumes [ADT and DHV] including turning movements for current year, implementation year, and design year (20 years from implementation year)

  - Number of mainline and crossroad lanes; include auxiliary lanes or collector-distributor roads

- Description of alternatives that have been considered; analysis to support the conclusion that the existing interchanges and/or local roads cannot handle the expected traffic, provide access, or be improved to do so, including a cost effectiveness analysis

- Accident data analysis

- Traffic and operational analysis for existing and proposed conditions; including an analysis of adjacent segments of the freeway as well as nearby existing and proposed interchanges. The results of operational analyses (with or without ramp meters operating) must demonstrate the adequacy of:

  - Freeway mainline capacity
  - Freeway weaving
  - Ramp merging capacity
  - Freeway diverge
  - Ramp intersection capacity
  - Crossroads and other local streets ability to effectively collect and distribute traffic from the new or revised interchange

The items to be addressed in the PSR should be determined in consultation with the Design Coordinator. Proposals for new or revised interchanges in metropolitan areas need a greater level of detail than that required in remote rural areas.

Exceptions to Spacing Requirements

Requests for exceptions must be made in accordance with the current process used for mandatory design standard exceptions (see Chapter 21), with necessary variations made to accommodate the unique information required to justify interchange spacing exceptions.

Not all sections of the Exceptions to Mandatory Design Standards Fact Sheet outline (see Appendix BB) are relevant to interchange spacing cases; and therefore, these may be omitted (if no other nonstandard feature is discussed). However, the information items listed above under "PSR Content" must be addressed and incorporated into the Fact Sheet, preferably as an attachment. It is also preferred to cover all other nonstandard features in the same Fact Sheet.

Questions on the content and format of the Fact Sheet should be discussed with the Design Coordinator. If FHWA Conceptual Approval is required, the Fact Sheet should be used as part of the written request for approval.

Interstate Freeways

Prior to Caltrans approval of a PSR, FHWA conceptual approval for new or revised interchange proposals on the Interstate system must be requested by the district. If the PSR must be approved prior to FHWA's conceptual approval, such approval will be on an at risk basis and subject to such FHWA approval. This approval request should be accomplished by forwarding three copies of the final draft of the PSR and any pertinent Fact Sheets with a letter requesting conceptual approval to the Division Office of FHWA. In most cases, the FHWA Division Office submits the package to higher levels in FHWA for approval. This additional processing should be considered in project scheduling.

This conceptual approval is subject to completion of the normal project development process. At the completion of project development, the FHWA formally gives final approval of the design features of the new interchange by issuing a Finding of No Significant Impact (FONSI), or by approval of the Record of Decision (ROD) following completion of an EIS.

A copy of the request for FHWA approval and subsequent decisions are forwarded to the DOD Division Chief, Attention: FHWA Access Approval, for informational use and reference in preparing any required new connection request to the CTC.

Right of Way Changes

Interchange projects usually involve changes in right of way and access control. Refer to Chapter 26 for required FHWA approval for disposal of right of way.

CHAPTER 28 - Resolutions of Necessity

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CHAPTER 28 - Resolutions of Necessity

ARTICLE 1 - General

Right of way needed for the State's highway system is generally acquired through purchase at fair market value. Where the State cannot reach an agreement with the property owner on the value or amount of land to be acquired, Caltrans is allowed to request a condemnation action from the California Transportation Commission (CTC). This allows for the timely delivery of Caltrans' programs by securing the property rights needed to proceed with the transportation project.

Each year a number of property owners request an appearance before the CTC to challenge the Resolution of Necessity (RON) that will authorize acquisition of their property through eminent domain.

A RON is a formal document adopted by the CTC that authorizes Caltrans to acquire property by eminent domain.

ARTICLE 2 - Statutes

When the State is required to condemn property, condemnations must be authorized by a resolution of the CTC in accordance with the *Streets and Highways Code Section 102* and pursuant to S*ection 1245.230 of the Code of Civil Procedure*.

Right to Appear Before the CTC

Under eminent domain law, a property owner whose property is to be considered for a RON has the right to appear before the CTC to contest the resolution on any of the following grounds (*Code of Civil Procedure Sections 1245.030, 1245.230 & 1245.235*):

- Does public interest and necessity require the proposed project?
- Is the proposed project planned or located in the manner that will be most compatible with the greatest public good and the least private injury?
- Is the property sought to be condemned necessary for the proposed project?

In addition, an offer to purchase in accordance with *Government Code 7267.2* must have been made to the owner of record.

ARTICLE 3 - Policy

Requests for Appearance Need Study

Each year a number of property owners appear before the CTC to challenge the RON that will authorize acquisition of their property by eminent domain. If the property owners address issues or alternatives that Caltrans did not adequately consider during the project development process or during the preparation preceding the RON, doubt might be cast on the need for the property acquisition as proposed and important projects may be unnecessarily delayed. Consequently, when the RON involves the appearance of the property owner before the CTC, Caltrans' management must thoroughly weigh and explore the issues so that Caltrans' positions are fully justified.

Project Reviews

To accomplish a thorough evaluation of the issues and to look for opportunities for resolution, Caltrans with concurrence from the CTC, has established a two-tiered review of the project. The first evaluation, to be held by the District Director, is termed the district Condemnation Evaluation Meeting (formerly termed "First Level") and if necessary, a second evaluation, termed the Condemnation Panel Review Meeting (formerly termed "Second Level") is to be held by the Condemnation Panel appointed by the Chief Engineer.

The district Condemnation Evaluation Meeting and the Condemnation Panel Review Meeting shall be conducted separately to afford the district every opportunity to discuss the project and to negotiate a settlement with the property owner. Combined district Condemnation Evaluation and Condemnation Panel Review meetings shall be considered only under unusual circumstances.

The district Condemnation Evaluation Meeting must be held far enough in advance of the Condemnation Panel Review Meeting to allow adequate time for the district to consider and evaluate recommendations discussed at the district meeting. Results of all evaluations are to be included in the Appearance Information Sheet (AIS) and the district’s presentation during the Condemnation Panel Review meeting.

The procedures to carry out this process are discussed in detail in Article 4. The outcome of this process is either an amicable resolution between Caltrans and the property owner, or a well-based recommendation to the Chief Engineer by the Condemnation Panel to proceed to the CTC to request an action on the RON.

ARTICLE 4 - Procedures

In order to ensure timely authorization for these resolutions, the following procedures should be followed.

District Director Review

When a property owner challenges a proposed RON and requests an appearance before the CTC, the District Director shall personally review the facts, issues, and recommended Caltrans position. The review must include, but is not limited to, the following:

- The allegations raised and alternatives suggested by the property owner.
- Reasonable alternatives that might reduce or eliminate the parcel take.
- The recommended Caltrans position in the event that the CTC denies the RON and the parcel cannot be condemned.

District Condemnation Evaluation Meeting with Property Owner

The purpose of the district Condemnation Evaluation Meeting is to identify and resolve all the property owners' issues, if possible, at the district level. To do so requires thorough preparation and open consideration of the property owners' concerns. Mandatory attendance and participation of design and right of way managers, as well as the District Director are necessary components for success. Clear, concise and complete responses to all of the property owners' concerns must be communicated at the time of the Condemnation Evaluation Meeting or promptly thereafter, in writing to the property owner if additional review is necessary.

The District Director shall ensure that appropriate personnel work with the owner throughout the acquisition process in an effort to resolve the owner's concerns. The district's right of way and design units must work as a team, in a cooperative manner during this process. When a property owner challenges adoption of a resolution, the District Director is responsible for conducting a Condemnation Evaluation Meeting with the property owner to identify all issues and alternatives, and to determine if it is feasible to modify the design or schedule to effect resolution with the owner.

This meeting is to be conducted by the District Director with the assistance of the Deputy District Directors from design and right of way. The meeting should be limited to the functional managers, the Headquarters design coordinator, and the property owner. The Deputy District Directors should be familiar enough with the project details to provide a presentation to the meeting attendees. Other district staff should be available by phone or on standby to provide supplemental project details during the meeting, if necessary. Supplemental information on suggested meeting formats as well as other resources can be found on the Headquarters Division of Design (DOD) intranet.

Appearance Information Sheet and Fact Sheet

If the property owner(s) does not withdraw their request for appearance upon conclusion of the Condemnation Evaluation Meeting and/or upon receipt of subsequent study results, and the District's recommendation is to proceed with the RON, the district should notify the DOD Chief, Attention: Office of CTC Highway Appearances, Highway Encroachments and Resource Conservation, Mail Station 28.

This notification will consist of a fact sheet and an AIS recommended for approval by the Deputy District Directors from design and right of way and approved by the District Director. A copy of the notification should also be sent to Headquarters Division of Right of Way & Land Surveys (HQ R/W&LS). The date selected for presentation to the CTC will be governed by the completeness of the district's initial notification and information submittal, whether or not the matter is to be evaluated by a Condemnation Panel, and the time required for the Panel to perform its function in relation to the monthly cutoff dates for submitting agenda items (with supporting documentation) to the CTC.

Appendix JJ contains templates of the fact sheet and AIS that is prepared for each appearance as well an outline of supplemental data and mapping. The fact sheet and the information included in the AIS are used to prepare the Panel Report, which is included in the CTC briefing book should the RON advance to the CTC for action. The actual presentation to the CTC will include a visual and verbal explanation based on this material. It is essential that the AIS be complete enough to allow the division chiefs of both HQ R/W&LS and DOD to decide if the request for appearance should be forwarded to a Condemnation Panel.

Action Options by Chief, Division of Design

The Chief of DOD, after consulting with the Chief of R/W&LS, may take the following actions:

- Refer request to the Condemnation Panel to develop a recommended course of action for the Chief Engineer, or

- Refer project back to the district for additional design studies or design modifications.

Condemnation Panel Review

If the request for appearance is referred to a Condemnation Panel (Panel), Panel members will be selected from the list approved by the Chief Engineer. The Condemnation Panel shall consist of one or more Caltrans managers having career experiences in law, engineering, and right of way. The right of way panel member will act as panel chairperson and will designate a right of way staff person to serve as secretary to the Panel.

The purpose of the Condemnation Panel Review Meeting is for the Panel to conduct an independent review of the project, its impacts to the subject parcel, and to evaluate all issues brought forward.

Condemnation Panel Review Meeting Arrangements

The secretary for the Condemnation Panel will:

- Notify the panel members of their assignment and provide them with (1) the owner's written request to appear before the CTC, and (2) the district's AIS.

- Arrange through district right of way for a Condemnation Panel Review Meeting place and time that is convenient for the owner and all attendees. The facility should be suitable for a formal meeting. District right of way staff will be expected to make necessary arrangements by phone and to confirm these, in writing, to the property owner and the panel members. An expenditure authorization should be provided by the district to capture charges to the project.

- Prior to the Panel's review meeting with the owner, coordinate with district staff to arrange for a Panel field review of the proposed acquisition. Representatives from district design and/or right of way may be requested to attend the field review to provide project details.

Stenographic Reporter

The Condemnation Panel Review Meeting is a relatively formal process that sometimes involves the preparation of a transcript by a stenographic reporter. If it is felt by the Panel that a written transcript will be needed for a particular meeting, the Legal Division member of the Panel will arrange for a stenographic reporter to attend and to prepare the transcript.

Meeting Participants

The owner and/or designated representative, the panel members, the panel secretary, the District Director, and the Deputy District Directors from design and right of way, will attend the Condemnation Panel Review Meeting. For locally funded projects or consultant-designed projects, the district may invite additional representatives to the Condemnation Panel Review Meeting to provide detailed information.

Caltrans representation at the meeting should be limited to only the managers listed, with potential expert presenters and other staff available on standby.

Inform Owner Prior to Meeting

Prior to the Condemnation Panel Review Meeting, the district should inform the owner of the specific details of the meeting procedures so the owner can arrange for engineering or legal assistance if desired.

Meeting Procedures

The Panel Secretary will begin the Condemnation Panel Review Meeting by explaining the purpose of the meeting and the procedures to be followed. District managers will describe the project using suitable maps and plan exhibits. Owners will be asked to present their concerns about the project or the proposed acquisition as presented, along with any suggestions they may have to reduce or mitigate project impacts.

Panel Discussion

After all information has been presented and the meeting concluded, the owner and the stenographic reporter, if present, will be excused. The Panel will then discuss the available information in an effort to develop a recommendation for the Chief Engineer. In some instances, the Panel may need additional information from the district or other sources. They may also refer suggestions by the owner to the district for further evaluation. The Panel may meet again upon completion of this evaluation to reach a decision.

Panel Report with Recommendation

The Panel Secretary will prepare a Panel Report and recommendation in coordination with the panel members. The report will include: a summary description of the project and the State's acquisition from the owner's property; a listing of the issues and recommendations raised by the owner; the Panel's consideration of the issues and recommendations of the owner; the Panel's findings; and the Panel's recommendation. The report should be furnished to the panel members for review and comment prior to presenting it to the Chief Engineer for consideration.

The Chief Engineer will review the Panel Report to determine if Caltrans is ready to request the RON from the CTC Dry Run

Combined Meetings

The Chief Engineer has delegated the District Director the authority to combine the district Condemnation Evaluation and the Condemnation Panel Review Meetings for those projects where the property owner’s issues are not related to the project’s design. When this authority is exercised, the District Director shall provide in writing to the Chief Engineer, Attn: Chief DOD, a notice of the decision to combine the meetings and verification that the property owners’ issues are not design related.

The district will be responsible for notifying the Panel secretary to coordinate the Panel’s participation at the combined meeting. The district will have the additional responsibility of preparing the Panel Report when a combined meeting is conducted. Coordination with the Panel Secretary will be necessary to complete this task.

Meeting CTC Scheduling

If the Chief Engineer determines that Caltrans is ready to request CTC action on the RON, the fact sheet, maps, and the Condemnation Panel's report will be furnished to the Division of Transportation Programming, Office of CTC Liaison for inclusion in the CTC briefing book by HQ R/W&LS prior to the due date for CTC book items.

Owner Notification for CTC Meeting Appearance

The Panel Secretary will send a letter to the owner, notifying them of the date, time, and location to appear before the CTC. Copies of the Panel Report, Fact Sheet, maps and the Condemnation Panel Review Meeting transcript, if prepared, will be furnished to the owner with the notification. Copies of this transmittal will also be furnished to the Deputy District Directors of right of way and design.

District Participation

District staff is responsible for providing the necessary information to fully engage their managers and to prepare them for effective meetings with the property owners. The district will develop the presentation materials for the CTC, with assistance from the Panel.

District and Deputy District Directors' Involvement

The Deputy District Directors for design and right of way are to be personally involved in the preparation and review of the AIS and any additional studies or required backup material before being sent to the Condemnation Panel. The information must be up-to-date, complete and factual.

The District Director will present Caltrans' draft presentation to the Chief Engineer at the Headquarters RON Dry Run.

The Chief Engineer will determine at the conclusion of the district’s RON Dry Run presentation if the RON is ready to move forward to the CTC for consideration. The district must keep in mind that the Caltrans typically has only one opportunity to present Caltrans' position to the CTC.

Should the District Director be given approval to proceed, the District Director will conduct Caltrans' presentation before the CTC. If the District Director is unable to attend the CTC meeting, a Deputy District Director will conduct the presentation before the CTC.

Importance of This Process

Although this process usually occurs well after most required project approvals have been obtained, its importance cannot be minimized. Projects have been delayed or modified as a result of property owner challenges. Careful and complete documentation of the project need and design, throughout the entire project development process, is essential.

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CHAPTER 29 – Landscape Architect

SECTION 1 General

Introduction

As the lead program responsible for the design of the highway roadside, the Landscape Architecture Program (LAP) provides expertise in the planning, design, construction, maintenance, and operation of transportation system improvements that:

- Balance mobility, safety, maintainability, and economic needs with adjacent land use and aesthetic, environmental, scenic, and community values;
- Improve motorized and non-motorized traveler safety through the design of context sensitive roadways and transit, bicycle, and pedestrian facilities;
- Improve traveler and worker safety by providing design solutions that reduce the frequency and duration of maintenance worker exposure to traffic; and
- Improve traveler safety through the design of safety roadside rest areas and management of rest area system needs.

Aesthetic, Environmental, Scenic, and Community Values

To make projects successful for the best overall public benefit, the project development process seeks to ensure that impacts to aesthetic, environmental, scenic, and community values are evaluated and addressed in balance with transportation goals.

The profession of landscape architecture utilizes site planning and design techniques that work in harmony with both the constructed and natural environments. Landscape architects offer the project development team (PDT) a broad range of skills to identify innovative design solutions that address often competing requirements.

Aesthetic Values

Landscape architects provide design expertise to protect and improve aesthetic values visible from and to transportation facilities. Community and departmental values may be incorporated into transportation projects by providing aesthetic reviews, visual impact assessments, comprehensive corridor plans, and aesthetic design guidance.

Environmental Values

Landscape architects provide design expertise to integrate transportation facilities with the physical, natural, and constructed environment, including: habitat conservation and restoration; conservation of agricultural lands; water conservation through the use of drought tolerant plants, inert materials, and the design of irrigation systems using non-potable water sources; and storm water pollution prevention through erosion control techniques.

Landscape architects also provide design expertise in the selection and placement of planting provided to replace existing native or non-native planting removed by roadway construction activities. This work includes restoration of native landscape areas, required mitigation planting, highway planting revegetation, and replacement highway planting projects. These projects help mitigate the environmental impact of roadway construction projects.

Scenic Values

As part of the environmental planning process, landscape architects assess potential adverse visual impacts of transportation projects adjacent to communities or natural scenic resources. Landscape architects work with permitting agencies, local communities, and the PDT to design creative mitigation measures. Landscape architects perform scenic resource evaluations and visual impact assessments, and provide design expertise to protect and preserve scenic resources.

Community Values

Landscape architects assist in integrating transportation needs with existing community goals and values by providing expertise in comprehensive corridor planning, urban design, historic preservation, and community involvement. Landscape architects assist in facilitating timely project delivery and building community consensus by implementing principles of community involvement and context sensitive design, including:

- Harmonizing the roadway with existing topography and land uses;
- Preserving and enhancing community character;
- Meeting the needs of non-motorized travelers;
- Preserving historic period resources such as historic landscapes; and
- Supporting the incorporation of transportation art and community identification.

Traveler and Worker Safety

Landscape architects contribute to the safety of the traveling public and Caltrans' maintenance workers by providing roadside improvement designs and recommendations with the goal of eliminating or minimizing worker exposure to traffic.

Improvements that enhance safety include placing or relocating facilities that require recurrent maintenance activities to protected areas, or to areas outside the clear recovery zone. Typical examples include relocating irrigation controllers, backflow preventers, remote control valves, and similar facilities to protected areas or adjacent to the right-of-way fence.

Improvements that reduce or eliminate recurrent maintenance activities include recurrent pruning, graffiti removal, irrigation work, herbicide application, and mowing. Typical examples include:

- Removal of plant material that encroaches upon sight distances;
- Planting vines or using textures on noise barriers;

- Automating manual irrigation systems;
- Providing vegetation control treatment beneath guardrails and signs;
- Paving slopes beneath bridge structures;
- Paving narrow areas and gore areas;
- Providing contrasting surface treatment beyond the gore pavement; and
- Placing rock or other inert mulch materials.

Improvements that provide maintenance workers with safe access to roadway and roadside facilities requiring regular maintenance include providing maintenance vehicle pullouts, maintenance access roads, and access gates for workers on foot or in vehicles.

Other improvements that provide safety to the traveling public include incorporating safety roadside rest areas into the transportation system where travelers can safely stop, rest, and manage their travel needs. Safety roadside rest areas provide an excellent opportunity for Caltrans to communicate with travelers.

Cross References

The *Highway Design Manual* contains design standards and guidelines concerning the planting and conservation of existing vegetation, the development of highway planting projects, and incorporation of scenic values in highway design. The manual also includes design standards and guidelines for safety roadside rest areas and vista points.

The *Storm Water Project Planning and Design Guide* provides design guidance for selecting and designing storm water quality best management practices (BMPs) during the planning and design phase of a project.

The *Standard Environmental Reference (SER)* provides guidelines in *Chapter 27* for conducting scenic resource evaluations and for performing visual impact assessments during the project development process.

The *Standard Environmental Reference* provides guidelines in *Chapter 28* for historic property determinations of eligibility and identifying historic landscapes during the project development process.

The *Encroachment Permits Manual* contains procedures and guidelines for permitting work by others, including planting design, transportation art, community identification, and gateway monuments through permits.

The *Construction Manual* describes allowable options for materials and work methods called for in the project specifications planting and irrigation.

The *Maintenance Manual* contains instructions about the maintenance of roadside vegetation and other roadside facilities.

The *Landscape Architecture Project Development Guide* provides guidelines for the preparation of highway planting and irrigation plans, specifications, and estimates (PS&E).

The *Plans Preparation Manual* and the *CADD Users Manual* provide guidelines for the preparation of highway planting and irrigation plans.

The *Ready to List (RTL) and Construction Contract Award Guide* provides the requirements necessary to make a project "Ready to List" for advertisement.

Division of Transportation Planning Best Practices for Public Participation Handbook contains the planning process to seek out and consider the needs of all stakeholders to maximize the potential and benefit of public involvement, and to adequately respond to and meet the requirements of federal and state legislation and mandates, and Caltrans' policies and goals.

Division of Transportation Planning Public Participation Inventory is a spreadsheet with methods of public notification and participation techniques.

The *Main Streets: Flexibility in Design and Operations* booklet emphasizes Caltrans' commitment and provides guidance on the safe, context appropriate design of State highways that function as community main streets.

The *Office of Project Management Project Communication Handbook* helps the project team identify internal and external stakeholders, and improves communication among all parties.

Director's Policy DP-22 provides guidance regarding *Context Sensitive Solutions* in the project development process.

Deputy Directive DD-31 provides guidance regarding *Protection of Scenic Corridors* in the project development process.

Deputy Directive DD-64 provides guidance regarding *Accommodating Non-Motorized Travel* in the project development process.

Design Information Bulletin 82 (DIB-82) provides *Pedestrian Accessibility Guidelines for Highway Projects*.

Federal Highway Administration (FHWA) Flexibility in Design provides guidance for creating transportation facilities that conserve and enhance environmental, scenic and community resources.

FHWA Executive Memorandum issued April 26, 1994: Memorandum on Environmentally and Economically Beneficial Practices provides guidance on using native plant material and integrated pest management techniques to conserve water and reduce pollution.

FHWA Executive Memorandum issued August 18, 1999: *Guidance Implementing Executive Order on Executive Order 13112 Invasive Species* provides guidance on implementing *Executive Order 13112* signed by President Clinton on February 3, 1999.

SECTION 2 Highway Planting

ARTICLE 1 Definitions, General Policy, and Programs

Definitions

Highway Planting

The term "highway planting" in this chapter includes new highway planting, replacement highway planting, highway planting restoration, highway planting revegetation, required mitigation planting, and irrigation system upgrade work. Highway planting addresses safety requirements, provides compliance with environmental commitments, and assists in the visual integration of the transportation facility within the existing environs.

Classified Landscaped Freeway

A classified landscaped freeway is a planted section of freeway that meets the criteria established by the *California Code of Regulations Outdoor Advertising Regulations, Title 4, Division 6*. This designation is used in the control and regulation of outdoor advertising displays.

Maintenance Access

Maintenance access improvements provide access for maintenance workers that reduce potential conflicts between highway workers and traffic. Maintenance access design concepts include maintenance vehicle pullouts, maintenance access roads, stairways, access gates, paving of narrow areas and gore areas, and relocation or clustering of facilities.

Irrigation System Upgrade

Irrigation system upgrade work includes the conversion of manually operated irrigation systems to automatic or remote irrigation control systems (RICS), replacement of obsolete irrigation components, conversion of potable water irrigation systems to non-potable water, and the conversion of non-compliant backflow preventers to code compliant reduced-pressure backflow preventers.

Nonpotable water suitable for irrigation purposes shall be used when it is practical and the estimated capital outlay for the water system does not exceed 125% of all costs associated with using a potable water source. Costs in excess of 125% are to be justified based on demonstrated cost savings over a 20-year life cycle, and when long-term water quality and consistent supply can be established. Non-potable water includes untreated sources (wells, streams, rivers, underground water sources) as well as reclaimed water.

General Policy

Conventional Highways

Highway planting, funded and maintained by Caltrans on conventional highways, is limited to planting that provides: safety improvements (headlight glare screening, delineation of the roadway, fire suppression, and wind breaks), erosion control and storm water pollution prevention, highway planting revegetation, and required mitigation planting.

Freeways, Controlled Access Highways, and Expressways

Highway planting is warranted on freeways, controlled access highways, and expressways under any of the following conditions:

- On new freeways, controlled access highways, and expressways - areas impacted by new highway construction where adjacent properties are developed at the time of highway construction contract acceptance;
- On existing freeways, controlled access highways, and expressways - areas impacted by major modifications to the existing highway where adjacent properties are developed at the time of highway construction contract acceptance;
- Where adjacent properties were developed on or before June 30, 1987;
- To satisfy memorandum of understanding (MOU) or memorandum of agreement (MOA) between Caltrans and another governmental agency;
- To mitigate for environmental impacts in compliance with environmental commitments, agreed to, for example, as a part of project development, resource agency permit requirement, or court order; and
- To provide planting necessary for revegetation, erosion control, storm water pollution prevention or traffic safety improvements (headlight glare screening, delineation of roadway, fire suppression, and wind breaks).

Adjacent properties are considered "developed" when the streets or buildings are in place, or when the adjacent properties have approved construction permits. Parks and open space are not considered developed property unless they are an integral component of a planned development.

Highway planting along freeways, controlled access highways, and expressways that exceed these provisions will only be permitted when funded and maintained by others.

Separate Contract Requirement for Highway Planting Work on Roadway Construction Projects

Highway planting having an estimated cost of $200,000 or more, in conjunction with or resulting from a roadway construction project, must be accomplished by separate contract and must include three years of plant establishment. This policy applies to all highway planting projects within the State operational right-of-way regardless of the funding source. The estimated cost of highway planting is the total sum of the contract lump sum item for “Highway Planting” and the contract lump sum item for “Irrigation Systems.”

Highway planting having an estimated cost of less than $200,000, in conjunction with or resulting from a roadway construction project, may remain with the parent roadway construction project and must include one year of plant establishment. Exceptions to this policy must receive concurrence from both district maintenance and the district landscape architect (LA), and be approved by the Landscape Architecture Program (LAP).

The cost limit that triggers the separate contract requirement for highway planting work may be adjusted for inflation by the LAP.

Exceptions to the separate contract requirement policy may be granted by the Principal Landscape Architect, LAP, when there is a demonstrated benefit to the State to combine planting with road construction under a single contract, or the planting work is legally required to be installed with the roadway construction contract. Submit exception requests to the LAP using the form entitled "Fact Sheet Exception to Separate Contract Policy for Highway Planting" in Appendix D of this manual. Exception requests must be approved by the LAP prior to approval of the Project Report (PR).

Funding Limitations

The maximum cost per acre for highway planting work, and the maximum cost per acre for water assessment fees for highway planting projects have been established, and are adjusted annually by the LAP. These values establish Caltrans' funding limit for highway planting and water assessment fees. Required mitigation planting, traveler and worker safety, and roadside management items are not included in the maximum cost per acre limit for highway planting.

Exceptions to this policy must be approved by the Principal Landscape Architect, LAP, and may be considered where the highway planting work is funded and maintained by others, where a higher level of highway planting is required due to legal agreements, to replace planting originally provided by others, or for planting of narrow roadside areas such as vine planting on noise barriers.

Planting with Noise Barriers

Planting should be incorporated as an integral component of noise barrier work to discourage graffiti and address visual impact issues. Wherever graffiti removal or other visual issues represent an ongoing maintenance concern, consideration must be given to covering new or existing noise barriers with vines and/or placing plants to screen the noise barriers to reduce worker exposure and life-cycle maintenance costs related to graffiti removal.

Planting associated with noise barrier construction must be programmed and funded as part of the parent project. The cost of the work should be identified in the initiation document for the parent project. This planting must be programmed to be under construction within two years after highway construction contract acceptance. For specific information regarding project programming, please refer to Chapter 9 "Project Initiation" of this manual.

Plant Establishment

A plant establishment period is a duration of time that allows newly installed plant material to reach a state of maturity, requiring minimal ongoing maintenance for survival. A plant establishment period typically includes the removal of litter and trash, weeding, water application, irrigation repair, replacement of plant material that dies, and other activities required to ensure the long-term survival of plant material.

Federal Highway Administration (FHWA) regulations require a plant establishment period of sufficient length for the expected survival of new plant material in the highway environment on all projects that include highway planting.

Plant establishment periods for highway planting performed in conjunction with a roadway construction project must follow the policy described in Section 2, Article 1 – "General Policy, Highway Planting, Separate Contract Requirement for Highway Planting Projects".

Plant establishment periods for highway planting performed under a separate contract from a roadway construction project must be three years in length. Plant establishment periods for required mitigation planting may exceed three years when required by the permit. Exceptions to this policy must receive concurrence from both district maintenance and the district LA and approved by the LAP.

Replacement Highway Planting

Replacement highway planting replaces vegetation installed by Caltrans or others that has been damaged or removed due to transportation project construction. Replacement highway planting may also include irrigation modifications and/or replacement. Caltrans will replace vegetation (including planting by others) damaged or removed by State transportation construction activity. Vegetation will be replaced at a rate and size determined by the district LA.

If a highway construction project, funded by others, is proposed for an area in which the operational right-of-way is currently planted, the project proponent must provide replacement planting equal to the current allowable maximum cost per acre. If they desire, the project proponent may provide replacement planting that exceeds the current allowable maximum cost per acre. See "Maintenance Responsibilities - Planting by Others" of this chapter regarding maintenance responsibilities for planting that exceeds the maximum cost per acre.

If there is limited space for replacement planting due to transportation construction, replacement planting may be installed outside the limits of the parent highway project. Replacement planting may be located outside the State operational right-of-way if it is in a public space within the adjacent community. The district LA and the appropriate public agency should negotiate and agree on the location of this planting and the terms of the maintenance agreement.

Replacement highway planting required due to the impacts of a roadway construction project must be programmed in conjunction with and funded from the parent project. The cost of highway planting work should be identified in the project initiation document (PID) for the parent project. The project approval and environmental document (PA&ED) phase of work for the parent project should include the planting project within its project scope. Replacement highway planting must be under construction within two years of acceptance of the highway contract that damaged or removed the existing planting. For specific information regarding project programming, please refer to Chapter 9 "Project Initiation" of this manual.

Required Mitigation Planting

Required mitigation planting provides planting and other work necessary to mitigate environmental impacts due to roadway construction. The word "required" indicates that the work is necessary to meet legally required environmental mitigation or permit requirements.

Examples of work involved in mitigation planting may include:

- Creation, restoration, or enhancement of habitat such as wetlands, oak woodlands, etc.; and
- Creation, restoration, or enhancement of specific habitat for sensitive species such as elderberry plantings for the valley elderberry longhorn beetle or nesting habitat for least Bell's vireo.

Required mitigation planting may be performed within the operational right-of-way, immediately adjacent to the highway or at an offsite location as determined by the permit.

A planting project for required mitigation due to the impacts of a roadway construction project must be programmed and funded as part of the parent project. The cost of required mitigation planting should be identified in the PID for the parent project. This planting must be under construction within two years of acceptance of the highway contract that damaged or removed the existing planting, unless otherwise specified. For specific information regarding project programming, please refer to Chapter 9 "Project Initiation" of this manual.

Highway Planting Revegetation

Highway planting revegetation provides planting as mitigation for native vegetation damaged or removed due to a roadway construction project. Highway planting revegetation may include irrigation systems as appropriate.

Highway planting revegetation, required due to the impacts of a roadway construction project, must be programmed and funded as part of the parent project. The cost of the work should be identified in the PID for the parent project. This planting must be programmed to be under construction within two years after acceptance of the highway contract. For specific information regarding project programming, please refer to Chapter 9 "Project Initiation" of this manual.

Scenic Resource Evaluation (SRE)

The environmental review process requires an analysis of a project's potential impact on scenic resources. Scenic resources such as large trees, rock outcroppings, scenic vistas, or structures with visual interest must be identified in a preliminary scenic resource review prepared during the PID phase of work. If this preliminary review identifies a significant impact on scenic resources, a Scenic Resource Evaluation (SRE) is prepared during the PA&ED phase of work. A proposed transportation improvement that damages or requires removal of a scenic resource cannot be classified Categorically Exempt (CE) under the California Environmental Quality Act (CEQA). Specific information regarding determination of scenic resources is described in Caltrans' SER.

Visual Impact Assessment

An assessment to analyze visual impacts must be carried out when an initial review concludes that a proposed project may have an effect on a scenic resource or the visual environment. The visual assessment can document potential impacts and their significance. The assessment also provides recommendations for appropriate impact avoidance or mitigation strategies. District Landscape Architects (LAs) are responsible for conducting the visual assessment, and should be contacted early in the project development process.

Wildflower Planting

California native wildflowers must be included with all projects with federal participation that include planting work per *Title 23 Code of Federal Regulations part 752.11*. Highway planting to provide traffic safety improvements (see "Conventional Highways" above), revegetation, erosion control, and irrigation-only projects are exempt from this requirement.

The minimum level of native wildflowers required is one-quarter of one percent of the total funds expended for planting and irrigation work.

PRs must include a discussion of the proposed use of wildflowers and compliance with federal wildflower requirements. See Appendix D of this manual, "Preparation Guidelines for Project Report (New Highway Planting and Highway Planting Restoration), Section 6. Considerations Requiring Discussion, E. Use of Wildflowers."

The use of native wildflowers may not be appropriate under conditions such as the following:

- Where native, non-endemic wildflowers are considered invasive to natural areas or competitive with endemic native species.
- Where native wildflowers would produce excessive dormant season fire fuel that increases the threat of wildfires and/or fire safety management will damage the wildflower resource itself.
- Where wildflowers would not be compatible with the adjacent urban landscape environs.
- Where the use of native wildflowers would result in poor planting design.

- In areas where human impacts, such as trampling, would preclude successful establishment of native wildflowers.
- Where irrigation necessary to sustain adjacent planting would lead to the decline of native wildflowers.
- Other unique project-related situations or conditions.

The PR must describe the specific reason why the use of native wildflowers is not appropriate with the project. In these situations, an estimate of the dollar value of the required wildflower element for the project must be included in the PR. These funds are to be tracked by the district for use in developing future native landscape restoration projects for compliance with the federal wildflower obligation.

Programs

Highway Planting Restoration

Highway planting restoration provides for replacement, restoration, and rehabilitation of existing vegetation damaged by weather, acts of nature, or deterioration to integrate the facility with the adjacent community and surrounding environs. Highway planting restoration also provides erosion control to comply with National Pollutant Discharge Elimination System (NPDES) permit requirements. These projects include strategies designed to protect the safety of travelers and maintenance workers by minimizing recurrent maintenance activities.

New Highway Planting

New highway planting provides planting to satisfy legal mandates, environmental mitigation requirements, memoranda of understanding or agreement between Caltrans and local agencies, and for aesthetics and erosion control. New highway planting also includes roadside management strategies that improve traveler and worker safety by reducing the frequency and duration of maintenance workers' exposure to traffic.

New highway planting required due to the impacts of a roadway construction project must be programmed and funded as part of the parent roadway project. The cost of the work should be identified in the PID for the parent project. This planting must be programmed to be under construction within two years after highway construction contract acceptance. For specific information regarding project programming, refer to Chapter 9 "Project Initiation" of this manual.

New highway planting funded from a district's minor program will only be allowed when approved by the District Director and adequate resources are committed for maintenance of the new planting and irrigation.

Beautification and Modernization

Beautification and modernization projects demonstrate new design concepts that improve highway corridor function and compatibility with the surrounding environs. These improvements serve to reduce repetitive maintenance tasks, increase worker safety, and improve highway facility life-cycle costs.

Modernization work typically includes updating or replacing aging, high-maintenance roadside facilities such as sign structures, light standards, and fencing; re-contouring slopes; and upgrading gore, median, and slope paving.

Beautification work typically includes providing aesthetic features for structures, barriers, and bridge rails; pedestrian scaled street-side amenities; rural wildflower and tree plantings; and minor planting for aesthetics, including the screening of distracting or objectionable views.

Roadside Enhancement

Roadside enhancement serves to enhance, preserve, or restore scenic and native landscape areas within or near roadsides. Examples of roadside enhancement work include structural modifications required for environmentally sensitive species, such as wildlife crossings, fisheries enhancements, or desert tortoise fencing, fish and wildlife preservation and protection, placement of historic markers, elimination of qualified junkyards, removal of nonconforming outdoor advertising signs, construction of vista points and roadside ecological viewing areas, scenic enhancements, relinquishment of environmental mitigation sites, and work required to comply with the *Surface Mining and Reclamation Act of 1975*.

Scenic Highways

The intent of the California Scenic Highway Program is to ensure the protection of highway corridors that reflect the State's natural scenic beauty. Caltrans has responsibility to cooperate with local governments in developing corridor strategies to accomplish this goal. If a transportation project occurs within the limits of an eligible or designated Scenic Highway, the district LA and/or scenic highway coordinator must be contacted for review and recommendation.

State laws governing the Scenic Highway Program are found in the *Streets and Highways Code, Section 260 et seq*. Caltrans makes an official designation of a scenic highway when a local jurisdiction has demonstrated that the eligible State or county highway meets the standards for scenic quality and corridor protection. See *"Guidelines for the Official Designation of Scenic Highways"* for specific information on the designation process.

ARTICLE 2 Responsibilities

Headquarters

Landscape Architecture Program (LAP)

The Principal Landscape Architect, LAP:

- Establishes statewide State Highway Operation and Protection Program (SHOPP) levels and performance goals.
- Designates "Landscaped Freeway" classifications.

- Directs the development, implementation, and evaluation of roadside management, traveler and worker safety, and context sensitive design strategies.
- Directs policy development, reviews, and evaluates district compliance.
- Directs research for new materials and methods.
- Reviews and approves design and policy exception requests.

Office of Landscape Architecture Coordination and Planning

The Chief, Office of Landscape Architecture Coordination and Planning:

- Provides advisory support to the Principal Landscape Architect, LAP for SHOPP coordination.
- Provides expert advice to the district for the preparation of program and project development guidelines.
- Recommends approval of policies, procedures, plans, and standards.

LAP District Coordinators:

- Assist districts with issues pertaining to policy and procedures involved in the preparation of project study reports (PSR), design concepts, PRs, design intent statements (DISs), fact sheets, and plans, specifications, and estimates (PS&Es) for compatibility improvement projects, including highway planting, rest areas, vista points, and other site development.
- Assist the Principal Landscape Architect, LAP, in development of SHOPP, State Transportation Improvement Program (STIP) and other programming documents relating to project development.
- Review and assist district compliance with objectives, policies, guidelines, and standards.
- Disseminate and interpret program and project development guidelines, policies, standards, and planting and irrigation system design concepts for compatibility improvements.
- Review and make recommendations for exception requests to Caltrans' standards for landscape architecture work.

The LAP Roadside Facilities Coordinator:

- Recommends and maintains policies, guidelines, procedures, and standards for safety roadside rest area and vista point design.
- Monitors compliance with *Design Information Bulletin (DIB) 82*, available on the Division of Design website.
- Assists districts and other programs with rest area, joint economic development, and privatization efforts.
- Coordinates safety roadside rest area policies, standards, and 10-year SHOPP needs.
- Oversees the development and update of the statewide Safety Roadside Rest Area System Master Plan.

The Chief, Office of Roadside Management and Landscape Architectural Standards:

- Develops and maintains roadside management program objectives, policies, and guidelines.
- Coordinates improvement of roadside design standards among Headquarters functional units, communicates improvements to the districts.
- Monitors activities, objectives, and strategies for roadside management issues by Caltrans and other agencies, organizations, and manufacturers.
- Initiates and oversees research, consultant studies, and quality improvement teams.

District

District Director

The District Director:

- Ensures policy compliance with roadside programs and the compatibility of transportation facility improvements.
- Delivers programmed projects on time and within budget.

District Landscape Architect (District LA):

- Identifies highway planting needs by developing and maintaining a current list of potential projects that qualify as new highway planting or highway planting restoration.
- Identifies district roadside management needs for the roadside management program.
- Prepares PS&E for highway planting work.
- Prepares erosion control plans and special provisions for roadway improvement projects.
- Reviews and approves slopes steeper than 4:1 (V:H). The district LA's signature on the storm water data report at the conclusion of PID, PA&ED and PS&E affirms their review and approval.
- As a project development team (PDT) member, assists with the development of transportation improvements that are integrated with the surrounding environs and social context. The district LA coordinates stakeholder identification and collaboration, and provides recommendations for aesthetics, comprehensive corridor plans, context sensitive solutions, roadside management issues, storm water pollution prevention, and visual impact assessments.
- For highway planting projects provided by others, sends a copy of the planting plans and specifications to Headquarters LAP, Landscape Classifications, for "Landscaped Freeway" determination.

ARTICLE 3 Participation by Others

Highway Planting by Others

Highway planting within the State right-of-way, including installation, plant establishment, and maintenance, may be provided by others. Responsibility for

installation, plant establishment, and maintenance for these projects is shown in Figures 1 and 2.

Participation by others is normally accomplished through a cooperative agreement between Caltrans and the local agency.

The local agency should strive to implement a context sensitive project development process that considers early and continuous stakeholder input.

If requested by the local agency, Caltrans may perform, on a reimbursed basis, the services for which the local agency is responsible if Caltrans has sufficient reimbursed budget authority. If Caltrans performs project construction support, the project sponsor will reimburse Caltrans for its capital outlay support costs in the same proportion as the project sponsor's share of the total project capital cost unless other equitable arrangements are specified in the cooperative agreement.

An encroachment permit is required whenever the project sponsor, its consultants, or its contractors work within the State highway right-of-way. In the case of easements, additional permits may also be required from the entity that granted the highway easement. Refer to the *Encroachment Permit Manual* for specific information.

Plans and specifications for highway planting projects provided by others within the State right-of-way are sent to LAP Office of Landscape Coordination and Planning for "Landscaped Freeway" determination in accordance with the *California Outdoor Advertising Act* relative to the regulation of outdoor advertising displays.

Maintenance Responsibilities - Planting by Others

General

Maintenance of highway planting outside the highway operational right-of-way (except for required mitigation planting) is the responsibility of others at no additional cost to the State.

Freeways, Controlled Access Highways, and Expressways

Maintenance of warranted highway planting and required mitigation planting on freeways, controlled access highways, and expressways (within the maximum cost per acre) is the responsibility of Caltrans.

Maintenance of unwarranted planting on freeways, controlled access highways and expressways is the responsibility of others at no additional cost to the State.

Maintenance of warranted highway planting (except for required mitigation planting) on freeways, controlled access highways, and expressways that exceeds the maximum cost per acre is the responsibility of others at no additional cost to the State. Exceptions to this policy may be granted if the additional cost per acre is due to factors that do not increase the maintenance effort required, such as areas of rock blanket or larger plant material.

Exceptions must be concurred with by the Deputy District Director (DDD) of Maintenance and approved by the LAP.

Maintenance Agreements

Only one entity should be responsible for actual maintenance work at any one location. When both Caltrans and another entity have maintenance responsibilities within the same project limits, a maintenance agreement should be negotiated that results in an expenditure of Caltrans' funds and person-years no greater than Caltrans would expend for its portion of the responsibility. Maintenance agreements are implemented through the encroachment permit process.

When negotiating maintenance agreements between Caltrans and local entities, maintenance exchanges, as well as maintenance by others (including licensed landscape contractors and special programs groups), should be considered. To provide uniform application of policy, maintenance exchanges and maintenance by others must be approved beforehand by district maintenance.

When planting is funded by others, and the most efficient and economical maintenance option is to use Caltrans' resources, the additional maintenance cost must be paid for by the other entity. This funding arrangement must be specified in a formalized agreement.

Where local public agencies are prohibited by statute from participating in maintenance work, Caltrans and the local agency will negotiate a maintenance agreement.

Caltrans may require the permittee to secure utility sources. Performance bonds may be required to ensure that any installation, establishment, maintenance, and necessary restoration done by others will meet Caltrans' standards.

FIGURE 1 - DETERMINING LOCAL PARTICIPATION IN HIGHWAY PLANTING

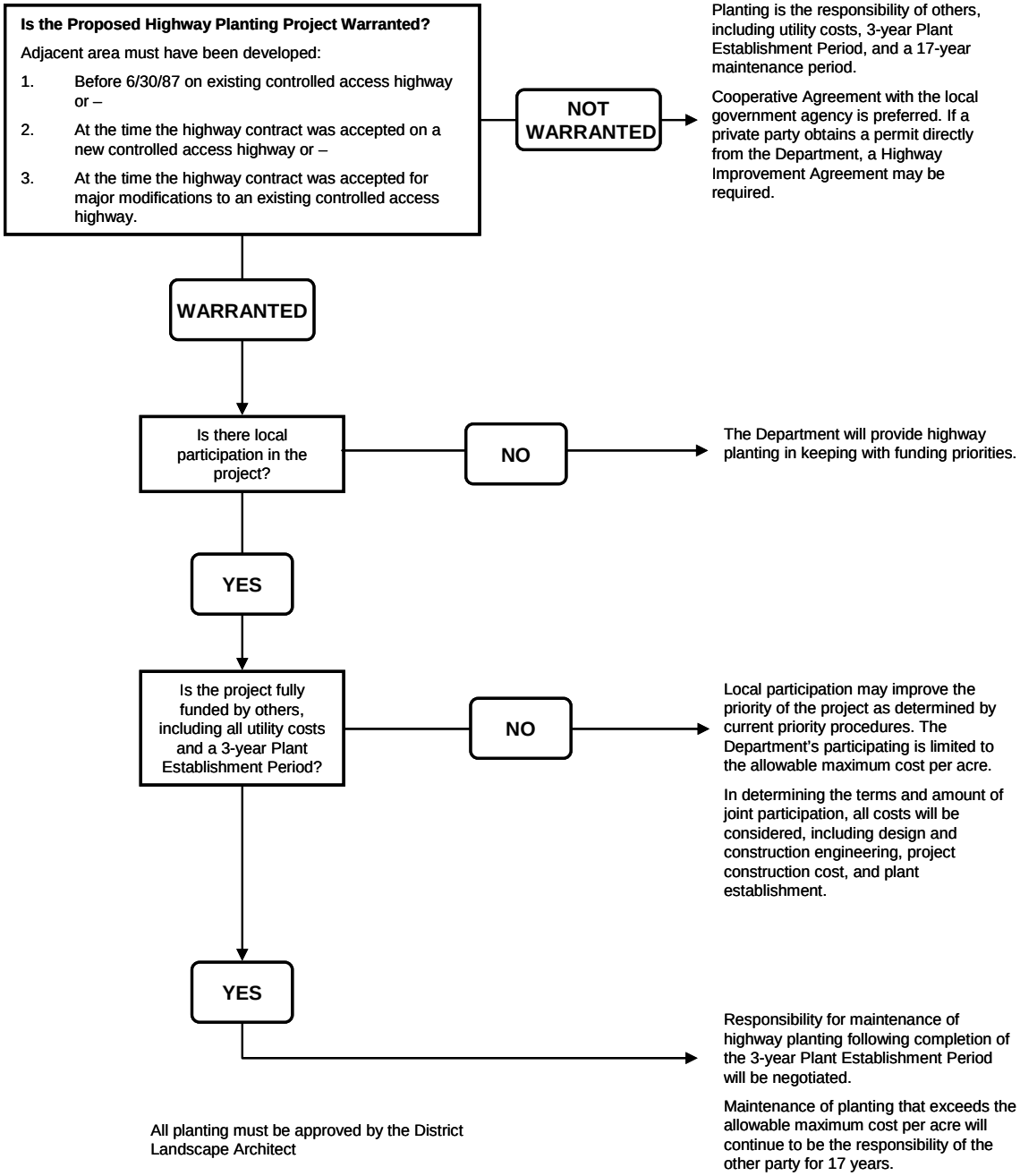

FIGURE 2 - RESPONSIBILITIES FOR HIGHWAY PLANTING FUNDED BY OTHERS

	INSTALLATION (Including 3-year plant establishment)	MAINTENANCE (17 years or perpetuity)
FUNDED JOINTLY		
New Highway Planting (warranted, not exceeding maximum cost per acre)	N	CT
Replacement Highway Planting	N	CT
Required Mitigation Planting	N	CT
Highway Planting that exceeds the maximum cost per acre	O	O
Unwarranted Planting	O	O
		N
FUNDED 100% BY OTHERS		
New Highway Planting (not exceeding maximum cost per acre)	O	N
Replacement Highway Planting	O	CT
Required Mitigation Planting	O	N
Highway Planting that exceeds the maximum cost per acre	O	O
Unwarranted Planting	O	O

CT – Caltrans O – Others N - Negotiated

ARTICLE 4 Project Development Process

General

This article describes the project development process for highway planting projects. Please refer to Section 3 for information regarding the project development process for safety roadside rest areas.

The project development process is defined as those activities that commence with project initiation and end at the assembly of the Final Project Records following project construction. Project development for all roadside facility work should be consistent with this chapter, as well as Chapters 8-15, "The Project Development Process".

The design of all roadside facilities should incorporate context sensitive solutions techniques using a collaborative, interdisciplinary approach involving stakeholders early and continuously. The goal is to achieve transportation improvements that integrate and

balance aesthetic, environmental, scenic, and community values with transportation safety, maintenance, and performance goals. See Chapter 22 for specific information regarding community involvement.

The project development process for the design of roadside facilities should incorporate value analysis techniques that improve the quality and reduce the cost of these transportation improvements. Refer to Chapter 19 for specific information regarding the value analysis process.

Project Development Team (PDT)

A PDT is recommended for all highway planting projects. The PDT leader may be the project manager (PM), district LA or project LA. Appropriate Caltrans' functional units, especially maintenance (landscape specialists) and construction (personnel familiar with the project site), the local community, and other external stakeholders should be contacted and invited to participate in the PDT.

Preservation of aesthetic, environmental, scenic, and community values that contribute to the character of the project location or reflect shared community values is encouraged. Typical examples of these resources include existing trees or other desirable vegetation, historic plantings, rock outcroppings, and environmentally sensitive areas. In preparing the preliminary environmental analysis report (PEAR) and final environmental document, the district LA will review projects that affect existing resources and consult with the PDT regarding the need and techniques for preserving and protecting these resources where appropriate.

Refer to Chapter 8, Section 4 of this manual, for specific information on the PDT.

Comprehensive Corridor Plan

Where highway planting and other roadside improvements are proposed for a highway through a city or other jurisdictional limit, the district LA will provide a copy of the comprehensive corridor plan, if available, to the local community, local agencies, and other affected stakeholders. The comprehensive corridor plan may be prepared by a consultant or other entity in cooperation with the community, local agencies, external stakeholders, and Caltrans' functional units, and is compiled and finalized by the district LA. The plan may consist of drawings, charts, maps, images, and narrative necessary to guide future roadside enhancement and roadway aesthetic features, including general concepts sufficient to determine types and levels of highway planting and maintenance responsibilities.

The comprehensive corridor plan should be reviewed and updated periodically to address current issues with internal Caltrans' functional units, the local community, local agencies, and other affected external stakeholders.

Priority Rating Sheets

Priority rating sheets are required to be submitted with the PSR data sheet for all highway planting projects. Refer to Section 3 of Appendix E for guidance on the process for priority rating determination and completion of priority rating sheets.

Project Study Report (PSR)

General

A PID is required for the programming of all candidate Major projects into the STIP or the SHOPP. A PSR data sheet satisfies this requirement for both Highway Planting Restoration and New Highway Planting projects. Minor A and Minor B projects do not require a PID. For Minor A projects, the PR serves as the PID. For Minor B projects, please refer to the *Service Contracts Manual*, prepared by the Office of Service Contracts in the Administrative Service Center.

A PSR data sheet serves to identify the purpose and need for a project, including deficiencies in highway planting, traveler and worker safety, aesthetics, erosion control, storm water pollution prevention, traffic management requirements, and plant establishment needs. The purpose and need should be identified in the PSR data sheet in sufficient detail to provide for development of a detailed preliminary design plan and design concept during the PR phase of work.

Data collection performed during the PID phase should include field reviews; study of as-built plans; obtaining input from community, local agency, and other external stakeholders; and an assessment of district maintenance and other appropriate Caltrans' functional unit needs. Identification of critical project elements early in the project initiation process allows development of an accurate work plan. An accurate work plan provides a sound basis for evaluating and monitoring project cost, scope, schedule, and ensuring timely project delivery.

The LAP District Coordinator will review the draft PSR data sheet to ensure conformance with Caltrans' policies and program goals.

See Appendix E of this manual for PSR data sheet format.

Cost Considerations

The cost of highway planting is limited to the current maximum cost per acre as established by the LAP, unless allowed through the exception process. Traveler and worker safety features, roadside management items, traffic control, storm water pollution prevention plan (SWPPP) items and the rental cost of the engineer's field office should not be considered as included in the cost per acre of highway planting.

Where the one-time, up-front water assessment and/or hookup fees exceed the maximum cost per acre, a project of five acres or more will be considered only if the additional cost is paid by others. For projects less than five acres, the assessment fee should be

negotiated toward receiving the lowest rate possible. These charges should not be included in determining the cost per acre of the proposed highway planting.

Design Concept

PSRs developed for highway planting projects must include a written design concept as an attachment to the PSR data sheet, and may include a conceptual design plan. The design concept must be compatible with the Comprehensive Corridor Plan, if available. The purpose of the design concept is to identify project purpose and need, together with methods to address these needs, and to ensure that Caltrans' objectives are achieved, including enhancing aesthetics, maintaining environmental, scenic, and community values, and enhancing traveler and worker safety.

The following should be considered during development of a design concept for highway planting projects:

- Highway planting concepts such as effects and extent of roadside clearing, weed control, soil preparation, plant establishment, maintenance and operational strategies, and water management strategies.
- Coordination with external stakeholders, including community representatives and local agencies.
- Land use information, including railroad, adjacent land use, zoning, and the location of adjacent commercial businesses and advertising displays.
- Roadside development information, including:
  - Right-of-way limits;
  - As-built plans;
  - Locations of ditches, drainage basins, and other unplantable areas; and
  - Prior environmental commitments; and planned highway construction.
- Locations of subsurface and overhead utilities, including water, electrical service, high-risk utilities, and power lines.
- Soil conditions, including soil structure and fertility, presence of groundwater, and the presence of hazardous material such as aerially deposited lead.
- Climatic conditions.
- Aesthetic deficiencies, as well as existing defining aesthetic features of the corridor.
- Storm water pollution prevention, including storm water best management practices (BMPs) and storm water data report.
- Water assessment fees and cost of water to be used during the length of the contract.
- Water conservation techniques, including nonpotable water use, automation of manual irrigation systems through RICS, use of inert materials such as mulch, and the use of drought tolerant plant material.
- Beautification and modernization concepts, including the use of innovative materials, lighting, signage and clean up of noise barriers, bridge abutments, or other structures.
- Traffic management issues, including the potential required staged construction, traffic control, requirements for nighttime construction, and the need for lane and shoulder closures.
- Traveler and worker safety improvements, including:

- Relocating irrigation controllers, backflow preventers, mainline, remote control valves, laterals, and sprinklers to protected areas or adjacent to the right-of-way fence;
- Removal or replacement of deteriorating trees or other plant material, and removal of plant material that encroaches upon required sight distances;
- Planting of vines or the use of textures on noise barriers and retaining walls to deter graffiti;
- Automation of manual irrigation systems, including controllers, valves, and control and neutral conductors;
- Providing maintenance vehicle pullouts, maintenance access roads, and access gates for workers on foot or in vehicles; and
- Placing mulch or installing rock blanket areas.

• Design for Roadside Management improvements, including:
  - Providing vegetation control treatment beneath guardrails and signs;
  - Paving for gore and narrow areas;
  - Paving of slopes beneath bridge structures; and
  - Providing contrasting surface treatment beyond the gore pavement.
  - Updating or removal of aging highway facilities. This work may include:
    - Replacing guardrail with concrete barrier;
    - Removing signs that are redundant;
    - Replacing signs that are nonstandard; and
    - Removing or relocating pull boxes located in the shoulder or near the pavement edge.

Upon completion of a draft design concept, the PDT leader must request a review by the project LA and maintenance representative. The PDT leader will also arrange a meeting where members of the PDT discuss details of the design concept, including needs, deficiencies, priorities, and costs. The project LA should update the design concept to incorporate feedback from this meeting in preparation for review by the LAP district coordinator who will verify conformance with Caltrans' policies, guidelines, and standards.

Design Exceptions

Approval of exceptions to mandatory design standards is the responsibility of the Division of Design. Approval of exceptions is accomplished via the "Exceptions to Mandatory Design Standard Fact Sheet" process; see Chapter 21 of this manual.

Approval of exceptions to mandatory design standards must be sought as early as possible in the project development process, especially where the project concept or project cost estimate depend on the proposed design exceptions. As soon as nonstandard design features are identified, the Division of Design geometric reviewer or Division of Design coordinator should be contacted to discuss the proposed nonstandard features. If an exception to a mandatory design standard is required, approval must be obtained from the Division of Design coordinator prior to PSR approval. The PSR should include a reference to the "Exceptions to Mandatory Design Standards Fact Sheet", with approval

date. The fact sheet should not be attached to the PSR. It is considered an independent document.

Approval of exceptions to advisory design standards should be handled in accordance with each district's procedure.

Design Intent Statement (DIS)

PSRs developed for highway planting projects should include a DIS. The DIS is developed from the design concept. It explains the purpose for the planting and irrigation work, as well as maintenance requirements for use by construction and maintenance personnel. By referring to this statement, future construction and maintenance staff can make decisions consistent with the original design concept.

A DIS should be prepared for all projects that include highway planting, including planting performed by permit.

See Appendix EE of this manual for the DIS format.

Project Report (PR)

The PR refines the project purpose and scope described in the PSR and design concept. Planting work included with transportation improvement projects must be addressed in the PR for the parent project. Separate planting projects, regardless of funding source or approval authority, are to conform to the responsibilities shown in Figures 1 and 2. Master PRs to cover several contiguous programmed projects on a single route may be acceptable when approved by the LAP. See Chapter 8 and Appendix K for specific information on PRs for roadway projects.

Planting Areas

The limits of planting need not necessarily coincide with the limits of developed properties. Where there is a gap less than 200 feet between developments, it is permissible to plant within the break. Such planting may be done to achieve corridor continuity with adjacent planting, retain Landscaped Freeway classification or to accommodate conditions such as the view from the road, the terrain, road alignment, traffic control signs, drainage, etc.

Preliminary Design Plan

The PR should include a preliminary design plan that graphically communicates the design intent as an attachment. This plan is useful in generating more accurate project cost estimates at the PR phase. The PDT must be provided the opportunity to review the preliminary design plan, providing input early in the development of the project.

Design Concept

The design concept should be updated during the PA&ED phase.

Design Intent Statement (DIS)

The DIS should be updated during PA&ED phase.

Environmental Compliance

The PR should document key environmental issues, findings, assumptions, and commitments made to stakeholders during the PA&ED phase of work to ensure these key concepts are incorporated in the built project.

Highway planting and highway planting restoration projects do not typically require preparation of an environmental document, and are frequently classified as CE under CEQA and categorically excluded (CE) under National Environmental Protection Act (NEPA). The landscape architect should consult the district environmental unit to determine which environmental document, if any, is required for the project.

Highway planting projects not considered CE under NEPA or CEQA must include preparation of an environmental document to complete the PA&ED phase of project delivery. The environmental document must be attached to the Project Report – Highway Planning and Restoration (PR-HP&R).

The Standard Environmental Reference Volume 1, Chapter 30 describes the criteria a proposed project must meet to be considered CE from NEPA, and the preparation and processing of the CE documentation.

The Standard Environmental Reference Volume 1, Chapters 34, 35, and 36 describe the preparation and processing of CEQA-only categorical exemptions, initial studies, negative declarations, and environmental impact reports.

Approval Process

The District Director (or designee) is authorized to approve the PR.

Approval of the PR and completion of PA&ED signifies:

- Authority to prepare the PS&E;
- Approval of the draft cooperative agreement; and
- Authority to finalize negotiations on the cooperative agreement, if a pre-approved cooperative agreement was used. If a pre-approved cooperative agreement format was not used, a draft of the cooperative agreement must be submitted to the Division of Design, Office of Cooperative Agreements, for a legal and procedural review.

Three copies of the approved PR should be transmitted to the LAP.

Following approval of the PR, changes to the scope of work should be avoided. Scope changes may affect other design decisions. Even minor scope changes may require additional field review or coordination with resource agency staff. Accordingly, significant scope changes that occur following PR approval should be presented to the PDT for concurrence, and preparation of a Supplemental PR may be required.

Plans, Specifications, and Estimate (PS&E)

Preliminary Design Preparation and Review

Following PR approval, the project LA should prepare the preliminary design, including detailed design plans, construction details, special provisions, project cost estimate, plant list, and water management plan. Planting and irrigation design should be sufficiently developed and the plans should be complete and accurate enough (including design for traveler and worker safety features) to allow a detailed analysis of how well the deficiencies and justifications described in the PR have been addressed.

Upon 60 percent completion of the preliminary design, the PM should request a review by the district LA. The district LA must ensure compliance with Caltrans' policies and standards discussed in Chapter 900 of the *Highway Design Manual*.

The project LA should request PS&E and project cost estimate information for any specialty portions of work such as structures, electrical, or traffic control. As specialty work is incorporated into the PS&E package, it should be reviewed for consistency and conformity with the entire submittal.

Following the district LA review and incorporation of any response to comments, the PM must request a review by district maintenance, the LAP District Coordinator, and Headquarters maintenance. A minimum of ten working days should be provided for this review.

Plans, Specifications, and Estimate (PS&E) Preparation

Upon LAP acceptance of the preliminary design, the project LA should prepare the PS&E documents. The project LA should ensure that the final PS&E is reviewed by the LAP district coordinator, the PDT, and all appropriate functions and disciplines prior to submittal of the PS&E to the district office engineer. A minimum of ten days should be provided for this review. During this review, the project LA should coordinate and incorporate comments received from the various functions and disciplines into the PS&E.

Design Intent Statement (DIS)

During the development of the PS&E, the district LA should verify that the DIS is current and consistent with the PS&E, and should verify that copies of the DIS are forwarded to district construction and district maintenance, the LAP, Headquarters maintenance, and other pertinent stakeholders.

PS&E Submittal and Ready to List (RTL) Certification

PS&E submittal to the Division of Engineering Services Office Engineer (DES-OE), and completion of the Ready to List (RTL) Certification form should follow the procedures listed in the *Ready to List Guide*, published by DES-OE. The RTL form certifies that the requirements necessary for a project's listing and advertisement have been met.

Ready to List (RTL) Certification - Water for Planting and Irrigation Work

If highway planting is proposed for an area of the State subject to water shortage, the project LA must obtain and provide the district Office Engineer with water availability documentation to accompany the RTL certification form.

Caltrans is to employ cost-effective and appropriate water conservation measures in the design, construction, operation, and maintenance of transportation facilities. To implement this directive, the following procedures have been established for the RTL Certification and advertisement of highway planting and roadway construction projects that require water for planting and irrigation.

Documentation of water availability for planting and irrigation is not required with the project submittal unless a serious or critical water shortage exists.

Actions for serious water shortage:

- A serious water shortage exists when a project's local or regional water storage has fallen to 50 percent of the historical average, or when the local water agency has mandated rationing. In these situations, written documentation must be obtained from the local water agency, verifying the availability of water for planting and irrigation.
- Indicate with a checkmark on the RTL certification form that the project is subject to a water shortage and provide water availability documentation. Documentation of water availability must be submitted to the LAP, and a copy included with the project submittal to DES-OE.
- If a serious water shortage is declared after the project is RTL certified, the project will not be advertised until the district provides water availability documentation or the serious water shortage status is removed.
- RTL-certified projects with a serious water shortage status will be reviewed by the LAP and the district LA to identify those likely to be reclassified as critical. Local communities should be alerted by the district of potential delays in the advertisement and award of these projects.

Actions for critical water shortage:

- A critical water shortage exists when a project's local or regional water storage is 70 percent below the historical average, or when the local agency has mandated a 25 percent or greater reduction in water use. In these situations, written documentation must be obtained from the local water agency verifying the availability of water for planting and irrigation. Indicate with a checkmark on the RTL certification form that the project is subject to a water shortage and provide water availability documentation. Documentation of water availability must be submitted to the LAP, and a copy included with the project submittal to DES-OE.
- Advertisement of projects proposed for areas under critical water storage status will be delayed until the critical water status is downgraded to serious, except for the following situations:
  - Projects that do not require water for planting and irrigation.
  - Required mitigation projects.

- Projects that conserve potable water through rehabilitation of existing irrigation systems or the conversion of irrigation systems from potable to non-potable.
- Projects funded and maintained by others such as encroachment permit and local measure work.
- Projects where the planting items have been removed or irrigation-only work is feasible.
- Projects with new irrigation systems using only recycled water.

- Exceptions to this policy regarding the advertisement of projects during water shortages may be granted by the LAP.

California Transportation Commission (CTC) "One Liners" and Fact Sheets

In preparation for CTC funding approval, "one-liners" and supporting fact sheets must be prepared for every project. Both must be submitted to the LAP district coordinator via electronic mail when the Request for Funds is submitted. This occurs simultaneously with PS&E submittal to DES-OE. The "one-liner" and Fact Sheet must conform to the format in Appendix EE.

Construction

The project LA should include the DIS, quantity calculations and project documents in the resident engineer's (RE) Pending file for hand-off to construction.

The district LA, project LA, or functional units should be prepared to support and answer any technical questions from construction throughout the construction phase of work. Questions received directly from contractors, suppliers, or others outside of Caltrans should be directed to construction for response.

Prior to issuing contract change orders (CCOs) for any project that would affect highway planting or traveler and worker safety features, construction should consult with the district LA or project LA. The LA should review the proposed CCO with regard to its impact upon roadside facilities, storm water pollution prevention, erosion control, and other roadside management issues and provide construction with immediate support.

In an effort to continue to improve the quality and maintainability of highway planting projects, the PM should schedule a minimum of three field reviews during construction for each project. These reviews should include the RE, project LA, landscape specialist and maintenance manager or maintenance area superintendent. Reviews should occur during the layout of the irrigation system, upon completion of planting, and at the final "walk through" during plant establishment.

Field review meetings should focus on completion of contract document requirements and details that affect the safety, function, and maintainability of the completed project. Reviews should provide for timely and effective adjustments when necessary. The project LA should prepare a brief memo to the appropriate district and Headquarters functional units to provide suggestions for improving future projects.

Just prior to construction contract acceptance, it is recommended the RE request assistance from a landscape maintenance representative and the project LA to develop a punch list of items of work that do not meet contract requirements. Particular attention should be paid to incomplete contract work, permanent erosion control and other storm water pollution prevention work, which if not rectified, could result in additional maintenance to meet Regional Water Quality Control Board demands.

Maintenance

Upon Caltrans' acceptance of a New Highway Planting or Highway Planting Restoration project, the district LA and project LA should meet with maintenance for an operation review and to discuss lessons learned. In addition, the project LA must provide the district maintenance with a file that includes product and equipment data, names and phone numbers of contact persons, and the DIS.

SECTION 3 Safety Roadside Rest Areas

ARTICLE 1 General Policy

Purpose of the Safety Roadside Rest Area System

The safety roadside rest area system is a safety component of the highway system providing roadside areas where travelers can safely stop, rest, and manage their travel needs. Planned with consideration of alternative stopping opportunities such as truck stops, commercial services, and vista points, the rest area system provides public stopping opportunities where they are most needed, usually between large towns and at entrances to major metropolitan areas. In order to minimize the need for recurring maintenance activities, safety roadside rest areas are designed to support heavy use over many years.

Context Appropriateness

Rest areas are unique pedestrian environments where travelers (many of whom are unfamiliar with the local area) get out of their vehicles and experience the local environment up close and on foot. Users may interact with other travelers, rest area maintenance crews, and perhaps law enforcement. Rest areas provide travelers with a lasting impression of California, and that impression should be positive.

Rest areas provide an opportunity for local communities, businesses, and agencies (including those that manage tourism and recreational resources) to intercept travelers and provide information and communication links. In many areas of the State, rest areas can have a role in contributing to local economic development strategies.

The ideal site will balance preservation of scenic, environmental, and cultural features with mobility, safety, maintainability, and economic design requirements. Environmentally sensitive areas and their features may be suitable sites, but should be protected from degradation by construction, maintenance, and public use.

Each rest area should reflect and be integrated with the aesthetic, environmental, scenic, and cultural features (terrain, geology, vegetation, history, architecture, archaeology, and colors) of the region in which it is located. Architecture and landscape architectural development demands a high level of attention to maintaining contextual integrity through appropriate design details. The Project Development Team (PDT) must consider the existing natural and social context to develop an appropriate expression of its unique qualities for use in rest area design.

Caltrans strives to work with local communities, trade and commerce organizations, the public, and other agencies to ensure stakeholder collaboration in the development of rest area improvements.

Use of Rest Areas

The *California Code of Regulations, Title 21, Chapter 20*, regulates the use of rest areas. Length of stay is limited to eight hours during any 24-hour period. Camping is prohibited. Solicitation of money and the sale or merchandising of food, goods, or services is prohibited, except for regulated newspaper vending, public telephones, commercial advertising, and vending machines operated by the blind under the California Department of Rehabilitation, Business Enterprise Program. Other uses and activities may be considered when required by statute or requested in writing and approved by the Landscape Architecture Program (LAP).

Statutory Requirements

California Streets and Highways Code, Article 7, directs the California Transportation Commission (CTC) and Caltrans to plan, design, construct, and maintain a system of rest areas on the State Highway System (SHS), the costs payable from the State Highway Account. The Code also provides criteria for system planning:

- In combination with other stopping opportunities such as truck stops, rest areas should be located where most needed and approximately 30 minutes apart.
- Rest areas may be provided at entrances to large metropolitan areas.
- Paired directional units should be provided on high-volume highways of four or more lanes; on all other highways, a single unit serving both directions should be provided.
- On high-volume highways, more rest areas may be planned at strategic locations where needed.
- Caltrans shall design only those rest areas that are reasonably economical, and that will provide travelers a safe place to stop for a short time during daytime and nighttime.
- The size of the units may differ according to location and potential use.
- Rest areas may include, depending on size and use, vehicle parking, picnic tables, sanitary facilities, telephones, water, landscaping, tourist information panels, traveler service information facilities, and vending machines.
- Rest areas shall not contain camping or recreational facilities.
- Caltrans must post, to the extent feasible, missing children information provided by the Department of Justice.
- Caltrans must authorize the placement of vending machines in a manner consistent with federal requirements. Caltrans will determine which rest areas are suitable for vending machines, determine the vending machine location(s) within each rest area, and approve the design and construction of any structure(s) required.
- Caltrans may accept grants and financial or other assistance for rest areas.

Streets and Highways Code Section 226.5 provides for a Joint Economic Development Demonstration Project for up to six new rest areas.

- Caltrans may construct, operate, and maintain up to six new rest area units as a "Joint Economic Development Demonstration Project," subject to the following:
  - There must be a public need for the rest area and the proposal must result in an economic savings to the State.

- Contracts for construction and maintenance of these facilities shall be awarded through competitive bidding.
- Caltrans may permit traveler-related commercial activities.
- No alcohol may be sold within the rest area facilities.
- Law enforcement responsibilities are the same as for the SHS.
- A public hearing must be held for each project to allow the local community and other interested parties to comment.
- Any money received for the Demonstration Project shall be deposited in the State Highway Account.

State and Federal Accessibility Requirements

Safety roadside rest areas contain public facilities used by pedestrians, including, but not limited to, buildings, parking areas, sidewalks, curb cuts, curb ramps, telephones, vending machines, and picnic tables and must conform to state and federal accessibility requirements. For detailed information regarding the review process for pedestrian facilities on transportation projects, please refer to *Design Information Bulletin (DIB) 82*, available on the Division of Design website

State Energy and Environmental Design Requirements

To comply with *Executive Order S-20-04*, Caltrans shall:

- Take all cost-effective measures as described in the State of California Green Building Action Plan to build and operate the most energy- and resource-efficient buildings; and
- Design, construct, and operate all new and renovated buildings at a "Leadership in Energy and Environmental Design (LEED) Silver" or higher rating. The United States Green Building Council developed the LEED Rating System to advance energy and material efficiency and sustainability.

The E*xecutive Order* and *Green Building Action Plan* are available at the following link: http://www.green.ca.gov/default.htm.

Project LEED components are identified through a collaborative effort between Division of Engineering Services (DES) and the design unit.

The six LEED credit areas are:

- Sustainable site development;
- Water efficiency;
- Energy and atmosphere;
- Materials and resources;
- Indoor environmental quality; and
- Innovation in design

See Article 3 – Project Development Process of this chapter and section for specific requirements in each phase of the project development process.

Safety Roadside Rest Area System Master Plan

The *Safety Roadside Rest Area System Master Plan* describes the ultimate rest area system to be implemented as funding allows. The master plan identifies existing rest areas, new rest area needs, other stopping opportunities, and proposed closures and relocations.

The *2000 Safety Roadside Rest Area System Master Plan* includes 88 existing units and 76 proposed rest area locations. It also identifies the need to relocate 4 units, provide an additional unit at four existing rest areas, and expand the parking capacity at 61 existing units to meet anticipated 20-year demand.

The LAP will consider recommendations for changes to the master plan upon request by the District Director. Districts should consider the requests of federal, state, and local agencies, tribal governments, or non-federally-recognized tribes. The LAP will coordinate departmental and CTC concurrence with all master plan revisions.

Rest Area Rehabilitation Program

The purpose of the Rest Area Rehabilitation Program is to improve public health, safety, security, accessibility by persons with disabilities, and the operational maintainability of existing rest areas.

Rehabilitation of existing rest areas will occur in two stages:

Stage I Priorities

- Compliance with accessibility requirements per *DIB 82* (including accessible parking, paths of travel, rest rooms and other facilities).
- Compliance with Cal-OSHA requirements (all-weather crew rooms, safe storage of equipment and supplies).
- Utility system improvements (water, wastewater, electricity).
- Security enhancements (pedestrian lighting, surveillance cameras, California Highway Patrol drop-in office and designated parking).
- Accommodation for the installation and operation of vending machines by the Department of Rehabilitation, Business Enterprise Program for the blind. This may include designated space for vending machines and storage, water, and electrical conduits.
- Repair or replacement of facilities when more cost effective than repair, beyond the scope of routine maintenance (structures, walkways, irrigation systems, signs, etc.) to reduce maintenance requirements.
- Restroom capacity.

Stage II Priorities

Stage II priority work will be initiated after system-wide completion of Stage I priorities. This work may include:

- Enlargement or modification of on-site parking;
- Rest area site relocation or comfort station replacement;
- Landscape improvements;
- Repair or replacement of facilities beyond the scope of routine maintenance (structures, walkways, irrigation systems, signs, etc.) that were deferred from Stage I projects; and
- Geometric improvements for ramps, merge and diverge areas to meet current Caltrans standards.

New Rest Area Program

The purpose of the New Rest Area Program is to provide new, conveniently spaced rest areas and auxiliary parking facilities as an integral part of the SHS. New rest area projects must be consistent with the general locations as indicated on the current approved Safety Roadside Rest Area System Master Plan.

The priority of the New Rest Area Program is to provide for additional rest areas on the Interstate System where there are gaps of more than 100 miles between existing rest areas, where the closest rest areas are significantly in need of additional parking capacity, and where unauthorized roadside parking is frequently observed. High-priority needs include additional rest areas on Interstate 5 between Sacramento and San Diego, Interstate 80 between Sacramento and Oakland, and Interstates 8, 10, 15, and 40 in the desert areas.

In partnership with the private sector, auxiliary parking facilities that may alleviate overcrowding at nearby existing rest areas may be developed outside the right-of-way of controlled-access highways. Auxiliary parking facilities provide an alternative to expanding parking at existing rest areas where space is limited or the site is environmentally sensitive.

Signing for Alternative Rest Area Stopping Opportunities

Caltrans may enter into an agreement with the operator(s) of commercial or governmental facilities located along the SHS to designate those facilities as alternative rest area stopping opportunities, and to provide highway directional signs with text or logos indicating, for example, restrooms, gas, and/or food. One or more entities may participate jointly in the agreement. Agreements should include reasonable expiration and renewal terms.

Each alternative rest area stopping opportunity should consist of facilities that are clustered in a single, easily identifiable location. Unless they serve a single direction of highway traffic, Caltrans-designated alternative stopping facilities should not be located closer than 20 miles apart.

To qualify for designation and highway signage as an alternative rest area stopping opportunity, the facility must meet the following criteria:

- The facility must be located in an area designated by Caltrans as deficient in rest area opportunities. The location should correspond to a new rest area need as indicated on the current Safety Roadside Rest Area System Master Plan, or supplement the capacity of an existing rest area that is deficient in parking capacity.
- The facility must provide adequate parking for automobiles and long vehicles (including commercial trucks), rest rooms, and drinking fountains, at no charge to the public.
- Operators may designate a time limit for free parking, but travelers must be allowed at least 2 hours of free parking.
- Public pay telephones must be available.
- The aforementioned rest area features must be open and available to the public 24 hours per day, 7 days per week, and must be accessible to persons with disabilities.
- The facility must be within one-half mile of the highway with safe and convenient highway ingress and egress and adequate off-right-of-way and on-premise signs.
- The facility operator must provide written assurance from local law enforcement authorities that the area signed will receive adequate police protection.
- The facility operator must provide sufficient maintenance services to assure that all facilities available to the public are clean and usable.

A Project Report (PR) should be prepared and should address the anticipated increase in traffic, parking, water, and wastewater-disposal demand and the impacts on the local community and environment. The public and affected agencies should be afforded an opportunity to comment on the proposed action.

Signs should be placed within the operational right-of-way only when privately-owned signs located outside the operational right-of-way cannot reasonably provide adequate directional information for travelers. Duplication of signs along non-access-controlled highways should be avoided. Off-highway directional signs must be in place prior to placement of signs within the operational State right-of-way.

Safety Roadside Rest Area System Improvement Team

The **safety roadside rest area system improvement team** consists of representatives from divisions and districts with rest area planning, design, construction, maintenance, and operation responsibilities, and includes representative stakeholders from agencies and organizations (e.g., CHP, trucking industry, automobile associations, other State agencies). The team meets periodically to coordinate rest area activities, improve the quality of rest area facilities and service to the public, and advance Caltrans' mission to improve mobility.

References

The *Highway Design Manual*, Chapter 900, Topic 903, describes design standards for new rest areas. Design standards specific to rest area rehabilitation are under development by LAP.

Division of Engineering Services *TAEMW&W Memo to Designers 7-1, Project Delivery Guide*, explains the architectural, electrical, mechanical, water and wastewater project delivery process from plans, specifications and estimate (PS&E) start to final structures PS&E.

Caltrans Maintenance Manual provides policies and procedures for emergency and intermittent closures, and for closures due to routine or planned maintenance activities.

The American Association of State Highway and Transportation Officials (AASHTO) *Guide for Development of Rest Areas on Major Arterials and Freeways, Third Edition (2000)* provides useful guidance for rest area planning and design.

The United States Green Building Council *LEED for New Construction Version 2.2* Reference Guide provides guidance, resources, and information on the process of achieving LEED for New Construction certification.

ARTICLE 2 Responsibilities

New and rehabilitated safety roadside rest areas follow a specialized project development process due to their uniqueness. Districts, DES, and the LAP must work closely for safety roadside rest area project development. Due to the small size of the program, the needed architectural and structural expertise has been centralized within DES, Office of Transportation Architecture (OTA). Due to the limited expertise in the design of safety roadside rest areas, including site design, the LAP provides design expertise to assist the districts with project delivery.

Headquarters Landscape Architecture Program (LAP)

Program Manager (Principal Landscape Architect)

The Principal Landscape Architect is the program manager for the roadside rest area program. The program manager develops, approves, and maintains rest area planning policy and guidance for the statewide Rest Area System Master Plan, and sets priorities for new rest areas and rest area rehabilitation work.

The program manager recommends to the State Highway Operation and Protection Program (SHOPP) Manager, the planned rest area funding levels, performance objectives, and projects for inclusion in the Ten-Year SHOPP Plan and the biennial SHOPP. The program manager also recommends to the Division of Transportation Programming funding of rest area projects by the CTC.

The program manager is responsible for the development and consistent application of policy, procedures, practices, and design standards. The program manager advises the districts on project identification and development, prioritization of candidate projects, and generally provides technical expertise. The program manager collaborates with the district to resolve programming, funding, and design issues.

The program manager provides training related to the project development and design of safety roadside rest areas in an effort to enhance and improve Caltrans' technical expertise.

Program Advisor

The program advisor implements the day-to-day rest area responsibilities of the program manager. The program advisor recommends approval of rest area policies, procedures, plans, and other standards, and the resolution of non-routine issues by the program manager.

LAP Roadside Facilities Coordinator

The LAP Roadside Facilities Coordinator recommends and maintains rest area design policies, guidelines, procedures, and standards, and assists the districts by providing guidance, training, and participation in project-specific design charrettes. The Coordinator chairs the Safety Roadside Rest Area System Improvement Team and maintains statewide liaison with internal and external stakeholders.

The LAP Roadside Facilities Coordinator is responsible to provide and distribute updated rest area policies to the district rest area coordinators.

The LAP Roadside Facilities Coordinator monitors compliance with the Americans with Disabilities Act (ADA) and *Design Information Bulletin (DIB) 82*.

The LAP Roadside Facilities Coordinator assists the district LA, the architect, and other PDT members to ensure an appropriate, context sensitive approach to the planning of rest area sites, architecture, and site furnishings.

The LAP Roadside Facilities Coordinator reviews conceptual site plan, schematic site plan, architectural building concepts, and architectural schematic building plans.

The LAP Roadside Facilities Coordinator oversees the development and updating of the statewide Rest Area System Master Plan and guides the districts in identifying Ten-Year SHOPP Plan needs.

LAP District Coordinators

LAP district coordinators facilitate the project planning and development processes through review, liaison, and coordination. In cooperation with the LAP Roadside Facilities Coordinator, the LAP district coordinators assist the district LA and PDT members by providing guidance regarding policies, procedures, practices, and standards.

District

The District Director

The District Director ensures project delivery policy compliance when developing and implementing safety roadside rest area projects.

District Landscape Architect (LA)

The district LA is responsible for identifying district rest area needs, recommending projects, and developing site plans for new and rehabilitated rest areas, including architecture, pedestrian facilities, and landscaping.

As a PDT member, the district LA assists the architect with the architecture, layout, design, and aesthetics of individual roadside rest areas. The district LA is primarily responsible for the development of the conceptual site plan and schematic site plan, and assists in the development of the architectural building concepts and architectural schematic building plans.

The district LA is the first-line technical resource for questions regarding DIB 82 accessibility requirements for site pedestrian facilities (excluding building work) for roadside rest areas. The district LA is responsible for coordinating the review of site pedestrian facilities in conformance with *DIB-82*.

Project Manager (PM)

The PM is responsible for managing a project's scope, cost, and delivery schedule. The PM should communicate frequently with the district LA, architect, LAP Roadside Facilities Coordinator, maintenance, district project engineer, and other functional units.

Responsible Charge Engineer

The district responsible charge engineer (PE) is responsible for developing the civil engineering portion of the district PS&E package. The PE works closely with the district LA, architect, and the PDT to coordinate the district PS&E packages.

District Rest Area Coordinator

The district rest area coordinator is a member of the safety roadside rest area system improvement team and serves as the district’s focal point for coordinating rest area needs planning, project programming, traveler services (including vending and public information), maintenance, and partnerships with other agencies and the private sector.

The district rest area coordinator provides liaison between Headquarters and the district, coordinating rest area issues across various program functional units (planning, design, environmental, construction, operations, and maintenance).

The district rest area coordinator is designated by the District Director. At the District Director's discretion, separate coordinators may be designated for planning/design and maintenance/operations.

A current list of district rest area coordinators may be obtained from the LAP website.

Division of Engineering Services (DES), Office of Transportation Architecture (OTA)

Architect

The architect is responsible for the development of architectural building design and building aesthetics.

As a PDT member, the architect assists the district LA with development of site plans for new rest areas, rehabilitated rest areas that include new architecture, and with the modification of existing pedestrian facilities. In collaboration with the district LA on aesthetic and site planning aspects, and based on the district's aesthetic recommendations, the architect is primarily responsible for the development of the architectural building concepts and architectural schematic building plans, and assists in the development of the conceptual site plan and schematic site plan.

The architect coordinates the work of building design disciplines within the OTA and Electrical, Mechanical, Water and Wastewater (EMWW) during the planning and design phases and coordinates support through construction. The specialists include structural, electrical, mechanical, water and wastewater engineers, architects, building estimators, and specification writers in the DES. The architect provides design standards and coordinates the DES review and oversight of work performed by consultants.

The architect is the first-line technical resource for *DIB 82* accessibility requirements for architectural building work. For the DES portions of the PS&E, the architect is responsible for review and approval of facility design in conformance with *DIB-82*, and for coordinating the State Fire Marshall review for fire code compliance.

The architect will be the project LEED coordinator and will:

- Ensure that appropriate LEED credits are identified and optimized;
- Coordinate with various functional units to develop the LEED credit checklist from project initiation through construction; and
- Submit completed LEED templates to USGBC, when applicable.

The evaluation and LEED components that are part of project scope of work must be documented in the project LEED credit checklist. The checklist shall be attached to the project initiation document (PID) and the PR.

DES LEED Project Reviewer

The DES LEED project reviewer, independent of the PDT, is responsible for reviewing project documentation for each LEED project. The DES LEED project reviewer will determine if the project achieved the credits pursued at each major milestone.

ARTICLE 3 Project Development Process

General

This article describes aspects of the project development process that are unique to the Safety Roadside Rest Area Program.

To be eligible for programming, new rest areas must be identified in the current Safety Roadside Rest Area System Master Plan. Auxiliary parking facilities may be programmed where parking deficiencies have been identified in the current master plan.

Rest Area Partnership Projects

The Joint Economic Development Demonstration Project is managed and guided by the LAP, with implementation by the districts. Proposals for joint economic development of new roadside rest areas by private partners or other agencies should be coordinated with the LAP.

Caltrans does not have statutory authority to commercialize existing rest areas.

A viable rest area joint economic development partnership may consist of a private or public partner that agrees to share in at least 50 percent of the total construction cost of the standard public rest area facility, including, but not limited to, ramps, access roads, parking, utilities, architecture, landscape, lighting, signs, and fences. In conjunction with traditional rest area facilities, the partner may fund, construct, maintain, and operate traveler-related commercial facilities, subject to federal and state laws, regulations, and requirements. The partner should maintain both the public and private facilities for an agreed-to term, generally 25 to 30 years.

It is preferred that Caltrans or another public agency own the right-of-way underlying any facilities or improvements funded with state or federal money. The partner may lease from Caltrans the land necessary for traveler-related commercial facilities or may construct those facilities on abutting land owned by others. State and federal requirements, such as prevailing wages, apply to work funded by Caltrans.

Federal Highway Administration (FHWA) regulations and the California Code of Regulations restrict or prohibit most commercial activities within controlled-access federal-aid highways. Pending a change in federal restrictions, commercialized rest areas are limited to locations along conventional highways or the area within one-half mile of a freeway ingress and egress.

Rest area partnerships are of interest, both positive and negative, to the local community and rest area stakeholders. Local and regional business competition, goods-movement needs, environmental concerns, and employment opportunities for the disabled and blind are among the issues of concern. Implementation of a successful partnership requires a willing partner, an economically feasible proposal, open communication, fairness to all

interests, respect of the inherent risks and effort of private entrepreneurs, and attention to the concerns of all stakeholders.

Site Requirements

Prior to programming any new rest area, major rest area rehabilitation, or auxiliary parking facility project, the district must document the type and adequacy (i.e., capacity, quality, reliability) of potable water, electrical power, and wastewater disposal. Commercial or municipal water and wastewater facilities should be utilized where available. When on-site wells and wastewater disposal are proposed, the district should analyze the feasibility and cost of developing and maintaining such systems.

A traffic analysis should be performed to determine the potential parking capacity demand for automobiles and long vehicles (commercial trucks, buses, recreational vehicles, and automobiles with trailers). Based upon traffic analysis, the comfort station capacity and utility demands can be determined by DES. The district should determine to what extent the proposed site can accommodate the traffic demand without diminishing the site's environmental and scenic qualities.

Prior to programming, the district must demonstrate the safety and adequacy of ingress and egress to the site, and pedestrian and vehicular circulation within the site.

Site and Architectural Analysis

Professional landscape architectural design processes should be applied to the site design of all new rest areas and rest area rehabilitation projects. This includes development of program/scope, base mapping, site inventory (topography, vegetation, hydrology, drainage, views, wind, etc.), site analysis, consideration of alternatives, and design synthesis.

Site designs should address possible future expansion, physical site constraints/capacity, and the appropriate degree of development with respect to site qualities.

The district LA should collaborate with the architect and provide the PDT with a recommendation regarding rehabilitation or replacement of comfort stations. Due to age, comfort stations may not be practical or cost effective to rehabilitate. When scoping each rest area rehabilitation project, the cost and advantages of demolishing and replacing the existing comfort stations versus rehabilitating the existing should be analyzed. The age, condition, materials, aesthetic qualities, before and after fixture capacity, and design requirements of the existing structure should be considered.

DES will provide Advance Planning Studies on building costs before project programming, upon request by the district PDT.

LEED Analysis

The PDT should use the LEED Credit Checklist to evaluate the six LEED credit areas: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation in design.

The PDT shall use the *LEED Roles and Responsibilities for Caltrans Groups/Disciplines* to determine functional responsibility for each of the LEED credits.

Contact the Office of Transportation Architecture for a copy of the LEED Credit Checklist and the *LEED Roles and Responsibilities for Caltrans Groups/Disciplines.*

Stakeholder Involvement

The PDT should identify, contact, and engage external rest area stakeholders (local communities, chambers of commerce, historical societies, planning and land use professionals, tourism and recreational agencies, Native American Tribes, trucking and goods movement associations, etc.) to assist in assessing the natural, cultural, and aesthetic context of the project; participate in the selection of rest area style; and partner in the development and implementation of public information and interpretive displays. Stakeholders can also be valuable partners in seeking additional rest area enhancements through other funding sources, including Transportation Enhancement (TE).

Design Charrette Process

The design charrette process is recommended for the development of conceptual site plans, architectural building concepts, LEED goals and PID LEED Credit Checklist, schematic site plans, schematic building plans, and PR LEED Credit Checklist. Charrettes can accelerate the design process and ensure that important criteria are identified and incorporated initially into the design analysis and development.

Collaborative efforts to develop the conceptual and schematic site plans should include the district LA, project LA, architect, DES design engineers, project engineer, PM, representation from maintenance, environmental, right-of-way, LAP roadside facilities coordinator, LAP district coordinator, external stakeholders (e.g., California Highway Patrol, Bureau of Land Management, US Forest Service, blind vendors, etc.), and others as appropriate to the project.

The LAP, and OTA and EMWW within DES provide guidance on policy and standards issues, LEED considerations, and share ideas from a statewide perspective.

Project Study Report, Conceptual Site Plan, Architectural Building Concepts, LEED Goals and LEED Credit Checklist

At the scoping stage for a new rest area and rest area rehabilitation projects, a Project Study Report (PSR) is required as the PID for programming. A conceptual site plan must be developed depicting the right-of-way, general vehicular and pedestrian circulation, all

existing and proposed structures, including electrical, water and wastewater facilities shown in approximate scale and orientation. Generally, a bubble diagram to proper scale, along with circulation patterns, is sufficient at this stage.

Expansion required to satisfy 20-year design needs should be shown diagrammatically as well. If future expansion is limited by physical site constraints, show only that expansion that is practical and recommended.

The context analysis studies and conceptual site plan are prepared by the district LA, in consultation with the architect and other PDT members, and included in the PSR.

Architectural building concepts, including diagrammatic floor plans (bubble diagrams), circulation patterns, and elevation sketches are prepared by the architect for inclusion in the PSR. Architectural style, elevation, and detailing concepts should be derived from an analysis of the local and regional architecture, the historic and cultural context, and the natural environment. For new rest areas and rehabilitation projects that replace or significantly modify the existing architecture, the architect should develop a minimum of three appropriate variations of architectural building concepts for consideration.

The PDT shall establish goals for LEED elements of the project regarding indoor and site environmental concerns, energy use, equipment efficiency, and building occupancy and management. A completed LEED Credit Checklist shall be attached to the PSR. The Checklist shall be reviewed by the DES LEED Project Reviewer prior to PSR approval.

The conceptual site plan and recommended architectural building concepts shall be reviewed with the LAP Roadside Facilities Coordinator prior to PSR approval. PSRs for Safety Roadside Rest Area projects also must include an inventory of known environmental resources, identification of potential environmental issues and constraints, a description of potential hazardous materials or waste in the project area (including buildings at the project site), the type of environmental document anticipated for National Environmental Protection Act (NEPA) and/or California Environmental Quality Act (CEQA) compliance, and potential mitigation measures and their estimated costs. Refer for Appendix L of this manual for general information on PID requirements.

Refer to Appendix X for the format, requirements, and instructions for PSRs for major rest area and rest area rehabilitation projects.

Project Report (PR) Schematic Site Plan, Schematic Architectural Building Plans, and LEED Credit Checklist

A PR is required for all new rest areas, rest area rehabilitations, and auxiliary parking facility projects. The PR refines the project purpose and scope described in the PSR.

To facilitate DES building design, a “Building Site Data Submittal” (BSDS) must be completed by district PDT and then submitted to the architect with the draft PR.

A schematic site plan refines the conceptual site plan and must be prepared for all new rest area projects and rest area rehabilitation projects that involve the demolition and replacement of existing comfort stations or the placement of new buildings. The schematic site plan may be computer or manually drafted, and must be of a scale sufficient to show the location and arrangement of all buildings, parking areas, walkways, benches, tables, picnic structures, lighting fixtures, potable water faucets, trash receptacles, dumpster enclosures, kiosks, trees, lawn areas, and all other site elements that compose the design, (generally 1”=20’).

The schematic site plan should be prepared by the district LA and included in the PR.

The architect shall prepare schematic architectural building plans that are a refinement of the preferred conceptual alternative selected by the PDT, and include floor plans and a view of each elevation.

A completed LEED Credit Checklist shall be attached to the PR. The checklist shall be reviewed by the DES LEED Project Reviewer prior to PR approval.

The schematic site plan and schematic architectural building plans shall be reviewed with the LAP Rest Area Coordinator and the program manager prior to PR approval.

Refer to Appendix M for the format, requirements, and instructions for PRs for rest area and rest area rehabilitation projects.

PS&E Preliminary Site Plan and Preliminary Building Design

A preliminary site plan refines the schematic site plan and must be finalized before the building design disciplines within OTA and EMWW within DES can begin their portion of the PS&E. This should occur at or before the 25 percent PS&E stage. At this point, all site elements and plan dimensions need to be accurately depicted and drafted on computer.

A preliminary building design plan refines the schematic architectural building plan. Upon completion of the preliminary building design, the architect will present the design to the district for approval by the PDT.

Functional units responsible for individual LEED Credits shall submit documentation to the architect as soon as sufficient information is available to complete the necessary calculations.

District PS&E Development

To facilitate coordination of the combined PS&E package, the district PS&E package should be completed concurrently with the DES PS&E. The district is responsible for coordinating and ensuring the consistency of the final, combined PS&E package.

At PS&E, the completed LEED Credit Checklist shall be incorporated into the contract documents as a plan sheet and will be used to develop the LEED credit templates to be submitted to the USGBC.

ARTICLE 4 Closure

Emergency or Intermittent Closure

An emergency closure is an unanticipated temporary closure of facilities and temporary suspension of services at a rest area unit to ensure public health, safety, or welfare.

An intermittent closure is a planned and regularly scheduled temporary closure of facilities and temporary suspension of services at a rest area unit to respond to seasonal issues (such as a snow), an expected or documented reduction in demand during a specified period of time (season, certain days, or months), or due to extraordinary budget issues.

Policies and procedures for emergency and intermittent closures are addressed in the *Maintenance Manual*.

Permanent Rest Area Closure

A permanent closure is the termination of services and facilities at an existing rest area unit, and the removal of that unit from the Safety Roadside Rest Area System Master Plan.

A permanent closure, replacement, or relocation of an existing rest area constitutes a project.

A unit of the Safety Roadside Rest Area System may be permanently closed only after the following conditions have been met:

- A project has been initiated for closure of the facility following existing project development procedures.
- The public and stakeholders have been provided an opportunity for public hearing.
- Environmental analysis indicates impacts will be insignificant or may be mitigated.
- Traffic analysis has addressed mainline and ramp traffic volumes and vehicle types (auto, commercial trucks, buses) for the rest area and adjacent rest areas in the system.
- The CHP Division level office has been provided an opportunity to comment on the proposed closure.
- Route-segment accident and roadside parking history has been investigated and addressed.
- The resulting gap in rest area spacing has been addressed relative to spacing guidelines in the statutes and the Safety Roadside Rest Area System Master Plan.
- Availability of alternative safe and free parking and restroom opportunities has been addressed.

- Alternatives such as replacement, relocation, and operation by others have been considered.
- The FHWA has been provided an opportunity to comment on the proposed closure and potential reimbursement requirements.
- The District Director finds and recommends that rest area closure will not reduce traveler safety.
- The Rest Area Program Manager (Chief, LAP) concurs that the rest area closure will not significantly impact the rest area system, and amends the current Safety Roadside Rest Area System Master Plan.
- The CTC concurs with the action.

Major stakeholders, including the local county(ies), cities, communities, and Caltrans' Rest Area System Improvement Team Members (CHP, FHWA, California Trucking Association, California Automobile Association, Automobile Club of Southern California, American Association of Retired Persons, National Association of Truck Stop Operators-California Chapter, Parents Against Tired Truckers, California Commission on Aging, California Department of Rehabilitation Business Enterprise Program, California Department of Mental Health, and California Division of Tourism) should be notified and provided a 30-day opportunity to comment.

Districts should obtain the concurrence of the Rest Area Program Manager (Principal, LAP) prior to approval of the PSR or PR.

In signing the PSR or PR, the District Director should find that the rest area closure will not impact the function of adjacent rest areas. Consideration should be given to potential impacts to rest areas in adjacent districts or states. The approved PSR constitutes district recommendation for amending the Rest Area System Master Plan or permanently closing and disposing of the rest area unit(s).

If the Rest Area Program Manager concurs with the district recommendation, the proposal either will be recommended for programming and subsequently for funding as a capital project, or presented to the CTC for concurrence.

Temporary Closure for Construction

Construction closure is a planned and scheduled temporary closure of facilities and temporary suspension of services at an existing rest area unit due to rehabilitation or reconstruction contracts. It is the policy of Caltrans to close any unit of the Safety

Roadside Rest Area System during construction, in accordance with the following guidelines:

- The local community, CHP Division level office, contract maintenance forces, blind vendors, rest area stakeholders, and general public have been notified well in advance of the closures and are provided with timely updates of information before and during the closure.

- Temporary or alternative restroom, water, and telephone services for the public during the construction closure period have been considered, if need is indicated and costs are reasonable.
- Advance public notification of the closures should be provided through press releases, signs on the highway, and signs or posters at the adjacent rest areas.
- Efforts to shorten the duration of the construction period to reduce impacts to the traveler should be considered when feasible, economical, and reasonable.

SECTION 4 Vista Points

General

A vista point is a paved area beyond the shoulder that permits travelers to safely exit the highway to stop and view a scenic area. In addition to parking areas, amenities such as trash receptacles, interpretive displays, and in some cases rest rooms, drinking water, and telephones may be provided.

Vista points may be planned and designed as part of road construction projects or as separate projects. Vista point projects should follow the same project development procedures used for other Caltrans' projects.

Vista points identified with official roadside signs should be programmed at the earliest possible time for corrective work to comply with ADA and *Design Information Bulletin (DIB-82)* accessibility requirements.

Vista points may also be incorporated with existing or new safety roadside rest areas.

Refer to *Chapter 900, Topic 904, of the Highway Design Manual* for description of vista point standard facilities and design components.

SECTION 5 Aesthetics

General

Aesthetics must be considered in the highway project planning and design process. This is particularly important for highways that traverse communities and areas of natural beauty. A reasonable additional expenditure is justified to aesthetically enhance transportation projects.

Aesthetic Considerations

The following factors should be considered when planning and designing a highway:

- New highways should be located such that the new alignments and appurtenances will be integrated into their surroundings, preserving or enhancing the natural and constructed environment to maintain the contextual integrity of where the new highway is to be located, and will lead to and unfold scenic vistas where applicable. Aesthetic features such as natural slopes, rock outcroppings, existing vegetation; scenic views; historic locales and cultural features; and important environmental areas should be preserved to the greatest extent possible.
- Highway alignment and profile should fit the character of the area traversed and follow the existing terrain as closely as possible to minimize unsightly scars caused by excavation and embankment work.
- Round slopes to blend with the surrounding topography.
- Provide wide medians, independent roadways, or separated grade and profile elevations on multi-lane facilities, since these features may reduce the visual or environmental impact of the new highway, add scenic interest, and relieve the monotony of unilateral or parallel roadways wherever feasible.
- Consider bridges, tunnels, and retaining walls as substitutes for prominent excavation and embankment slopes when costs of such alternates are not excessive.
- When site requirements permit, infiltration or sediment basins should be sited and shaped to conform to the surrounding site conditions and terrain.
- Consider including aesthetic features to integrate transportation improvements with their surroundings, including special treatment for bridges, median barriers, walls, inert materials, and pavement.
- Selectively thin or remove existing vegetation such as trees or large shrubs to open up scenic vistas or provide a natural looking boundary between forest and cleared areas. Vegetation removal for aesthetic purposes requires concurrence of the district LA and input from the landowner of record and district environmental.
- Protect desirable vegetation (e.g., trees, specimen plants, diminishing native species, or historical plantings) wherever possible. Destruction of desirable vegetation should be avoided if possible, or minimized.
- Use project materials that reflect the character of the area.
- Consider provision of watering and establishment of replacement planting.

- Identify project or comprehensive corridor plan aesthetic features through community involvement and public participation. Aesthetic design features should address community goals, values, or other defining transportation improvement characteristics.
- Strive for consistency and compatibility of highway design features throughout the transportation corridor.

SECTION 6 Transportation Art

General

Caltrans recognizes the effects of transportation facilities on local communities, and encourages the integration of these facilities into their surroundings to enhance and reflect the aesthetic, environmental, scenic, and cultural values of the affected community. Caltrans collaborates with local stakeholders to enhance existing transportation facilities to meet the goals and expectations of both the local community and the public-at-large.

The design of the transportation system should reflect community values and characteristics that may be achieved through enhancements that include art. The Transportation Art Program provides a way for Caltrans to permit enhancement of existing transportation facilities by local communities and artists. Transportation art may include graphic or sculptural artwork, either freestanding or placed on required engineering features (such as noise barriers, retaining walls, bridges, bridge abutments, bridge rails, or slope paving) that expresses something special about a community's history, resources, or character.

Transportation art is provided and maintained by a local agency.

Transportation art differs from gateway monuments in that a gateway monument is defined as any freestanding structure or sign that may include text. See Section 9- "Gateway Monuments" for specific information on the Gateway Monument Demonstration Program.

Transportation art differs from community identification in that community identification may include text. Community identification must be placed on a required engineered highway feature while transportation art may be either freestanding or placed on a required engineering feature. See Section 8- "Community Identification" for specific information.

Policy

Caltrans supports the concept of enriching the cultural and visual environment of transportation system users and local communities by facilitating and coordinating the placement of artwork by others, within the State highway right-of-way, through the encroachment permit process.

The permit applicant for transportation art must be the responsible local public agency (e.g., city, county), tribal government, or non-federally-recognized tribe supporting the proposed art and representing the community where the art will be placed. The public agency will issue a resolution recommending approval of the proposed transportation art and requesting authority to install that work on State right-of-way. A "double permit" (as

described in Caltrans' *Encroachment Permits Manual*) is required of an artist, contractor, or other individual for the installation, maintenance, and removal of the artwork.

Guidance for placement of Transportation art on required engineering features is available from Division of Engineering Services (DES) Office of Transportation Architecture (OTA).

Administrative Responsibilities

Headquarters

The Principal Landscape Architect, Landscape Architecture Program (LAP), is responsible for:

- Appointing a Headquarters transportation art coordinator;
- Maintaining and clarifying policy and procedures for the Transportation Art Program; and
- Monitoring district performance and providing quality assurance of program guidelines.

The Chief, Office of Signs, Delineation, Encroachment Permits, and Outdoor Advertising is responsible for:

- Development of encroachment permit and special provisions forms for this program; and
- Maintaining and clarifying encroachment permit policy and encroachment permit procedural requirements.

The DES, OTA and Division of Maintenance Office of Structures Maintenance and Investigations are responsible for maintaining guidelines for structural and architectural design and structures maintenance to facilitate the placement of transportation art on highway bridge structures, and approval of any exceptions to those guidelines.

Districts

The district Director is responsible for:

- Appointing a district transportation art coordinator;
- Facilitating and coordinating the placement of authorized transportation art by others within the transportation right-of-way;
- Reviewing transportation art proposals for
  - Demonstrated community acceptance,
  - Compliance with federal and state laws and regulations and guidance governing Caltrans' operations,
  - Adequacy of planned and resourced maintenance for the art by the Permittee(s), and
  - Safety and liability issues for Caltrans, the artist, and the public.
- Approving transportation art proposals for placement within the right-of-way;
- Issuance of an encroachment permit for the construction and/or installation, maintenance, repair and removal of approved transportation art proposals; and

- Monitoring and enforcing permit requirements for the maintenance, restoration, or removal of transportation art by others.

Financial Responsibilities

Caltrans will assume the administrative costs associated with reviewing transportation art proposals and issuing and monitoring encroachment permits for approved artwork projects.

All other costs, including labor, materials, supplies, and traffic control (if required) for design, engineering, testing, construction, installation, maintenance, and removal of the transportation art will be borne by the Permittee(s).

Caltrans may require the permittee(s) to provide bonds or other means to ensure maintenance, rehabilitation, and removal of art.

Maintenance

Transportation art must be kept clean and in good repair. The permittee(s) must perform regularly scheduled maintenance, as described in the maintenance plan, of the transportation art for its projected lifespan, including graffiti removal and restoration work to maintain the integrity of the approved artwork. Graffiti removal must conform to the Caltrans' current policies and guidelines that require prompt removal of offensive messages and timely removal of all other graffiti. Maintenance practices must protect air and water quality as required by law.

Removal

Transportation art that becomes a safety or operational concern due to the lack of adequate maintenance (in the opinion of Caltrans), or deteriorates to a condition beyond the ability of the Permittee(s) to repair, must be removed by the Permittee(s). Caltrans will notify the Permittee(s) when it has determined that the art requires special attention. In the event the Permittee(s) fails to maintain, repair, rehabilitate, or remove the art in a timely manner, Caltrans may remove the art at any point (60) days following notification of the Permittee(s) and bill the Permittee(s) for all costs of removal and restoration of the site area.

Caltrans reserves the right to remove the transportation art prior to the end of its projected lifespan due to construction, rehabilitation, or other necessary activities affecting the transportation facilities without any obligation, compensation to, or approval of the Permittee(s) or artist(s). Caltrans should strive to notify the Permittee(s) of its intent to remove the transportation art to allow for timely removal and salvage by the Permittee(s) or artist(s).

Caltrans reserves the right to remove or alter any art that presents an immediate safety hazard to the public without delay or advanced notification to the Permittee(s) or artist(s).

Ownership and Copyrights

Transportation art located within Caltrans' right-of-way will be considered a benefit to the people of California and will become property of the State. However, any copyright claimed by the artist(s) may be retained by the artist(s), with the expressed expectation that Caltrans reserves the right to reproduce artwork for promotional purposes without paying compensation, regardless of copyright status.

The artist(s) and local agency must agree to relinquish all other rights, statutory or implied, to the transportation art.

Artist and Sponsor Recognition

When approved by Caltrans, the name, identifying logo, or symbol of the artist, local agency, and/or financial sponsor may be placed on or adjacent to the transportation art and is not considered to be "text." Caltrans retains sole discretion for determining the appropriate size, content, colors, and other elements of the artist and/or sponsor recognition. Logos and symbols for artist or sponsor recognition must be provided and maintained by the Permittee(s).

Design Guidelines for Transportation Art

Proposed transportation art must:

1. Be appropriate to its proposed setting;
2. Be in proper scale with its surroundings;
3. Not create a distraction to the motoring public (e.g., the proposed art should be large enough to interpret at highway speed, but not be so large that it demands attention from the motorist);
4. Be composed of materials that are durable for the projected life span of the project;
5. Be located where the Permittee(s) can safely perform required maintenance as specified in the encroachment permit and in conformance with Caltrans' procedures;
6. Be fully funded for design, installation, maintenance, and removal by others for its projected life span;
7. Conform to provisions of the Outdoor Advertising Act;
8. Not be placed in median areas of controlled-access highways (freeways and expressways);
9. Not imitate, obscure, or interfere with traffic control devices;
10. Not interfere with airspace above the roadway;
11. Not be placed within State highway right-of-way up on trees, rocks or other natural features;
12. Not adversely affect existing structures, drainage patterns or storm water runoff quality, landscaping, natural vegetation, or other planting;
13. Be located outside of the clear recovery zone (as defined in the Highway Design Manual). Transportation art must be placed as far from the traveled way or edge of roadway as is practical, with consideration for the visibility of the art;

14. Not make use of or simulate colors or combinations of colors usually reserved for official traffic control devices described in the American Association of State Highway and Transportation Officials (AASHTO) Manual of Uniform Traffic Control Devices (MUTCD);
15. Not include reflective or glaring surface finishes;
16. Not include illumination that impairs or distracts the vision of transportation system users. Other lighting may be permitted. Lighting may be allowed on structures only when approved by Division of Maintenance Office of Structures Maintenance and Investigations, in accordance with current requirements;
17. Not include blinking or intermittent lights;
18. Not include moving elements (kinetic art) or simulate movement;
19. Not restrict sight distance;
20. Not include any form of advertising that would be in conflict with the Outdoor Advertising Act;
21. Not display text, flags, religious, political, or commercial symbols;
22. Not include commercial symbols, except as allowed in "Artist and Sponsor Recognition";
23. Be designed to minimize ongoing maintenance needs. Caltrans-approved protective graffiti coatings may be required by Caltrans;
24. Be consistent with Division of Maintenance Office of Structures Maintenance and Investigations inspection requirements, including:
    - Paint used on structures should not fill or obscure cracks. Latex or other flexible type paints may be used on concrete structures only with written permission from the Office of Structures Maintenance and Investigations;
    - Painting of steel structures will only be permitted with written permission from the Office of Structures Maintenance and Investigations;
    - Painted art on concrete structures should avoid load-carrying, stress-bearing structural members, including, but not limited to bridge girders, soffits, columns, and piers. Wing walls and abutments are preferred locations for painted art;
    - Artwork must not impair the necessary inspection of bridges, retaining walls and other structures;
    - To facilitate Caltrans' inspection access to structures, mural art may be placed on removable panels; and
    - Chipping, blasting, or in any way modifying existing concrete surfaces is prohibited.

Submittal of Artwork Proposals

A transportation art proposal should be supported by the local agency that has jurisdiction in the area where the artwork will be placed.

The local agency will ensure that the proposal is developed in cooperation with the community immediately impacted by the artwork. The local agency will provide an opportunity for public comment on the proposed artwork.

The responsible local agency will secure and document acceptance from the community immediately impacted by the artwork. Such community acceptance may vary, but must

ensure that those most affected have an opportunity to express support or opposition to the proposal.

The method of community review will be determined by the responsible applicant local agency, with guidance provided by the district transportation art coordinator. The appropriate method for community review will depend on the nature of the artwork, and may range from developing a signed petition to conducting a noticed public meeting.

The local agency will provide Caltrans an adopted resolution that describes:

1. The local agency's jurisdiction in the vicinity of the project site;
2. The date of public consideration and comment of the proposed art;
3. The local agency's approval of the artwork content;
4. The project's projected life span;
5. The local agency's commitment to ensure maintenance of the artwork, including timely graffiti removal/repair, and removal (or restoration) of the artwork at the end of its life span; and
6. A schedule for commencing and completing project installation.

The artist(s) and local agency will adhere to and remain in compliance with Caltrans' rules, regulations, and any additional restrictions Caltrans may apply to the transportation art project, when working within the State highway right-of-way.

The name, address and telephone number of each person working within the right-of-way to construct, maintain, rehabilitate, or remove art will be provided to Caltrans as part of the permit application initially, and thereafter as changes occur.

Transportation art proposals should be submitted to the district transportation art coordinator. Transportation art proposals will be processed by Caltrans through the encroachment permit process.

Procedures for Processing Transportation Art Proposals

The proposed site for installation of transportation art must be reviewed and approved by Caltrans for safety and environmental considerations prior to approval of an encroachment permit. Safety determinations affecting highway operation, maintenance or tort liability may be documented in a permit engineering evaluation report (PEER) or by other means. Caltrans has sole responsibility for approval of transportation art sites. The local agency and Caltrans must review and approve the proposed transportation art prior to issuance of an encroachment permit.

Additional criteria and permit conditions may be applied to a project as determined appropriate by the district.

Transportation art proposals will be reviewed for compliance with this policy.

The approval of a transportation art proposal must be made with due consideration to safety (location, potential for motorist distraction, accessibility for maintenance, etc.), aesthetics, community support, and maintainability.

As a courtesy, Caltrans may suggest alternative locations when it is necessary to deny the issuance of an encroachment permit due to site conditions.

Transportation art proposals must include:

1. The local agency adopted resolution in support of the art;
2. A resumé of the artist's work and background;
3. A full description of the proposed artwork, including location, proposed life span, construction and installation techniques, details necessary to convey construction methods, and proposed materials, including, but not limited to, paint and protective coatings;
4. Specifications for proposed materials, including Material Data Sheets;
5. A scaled drawing and/or model. Caltrans may furnish necessary site data;
6. Construction schedule;
7. Project cost estimate;
8. Traffic control plan and provisions, when required; and
9. Maintenance plan and schedule.

Proposals that involve freestanding art, or involve the modification of existing Caltrans' structures, must include design plans stamped by an appropriately licensed engineer. These proposals will be submitted by the district transportation art coordinator to the Office of Structures Maintenance and Investigations for review.

Following review and approval by the district transportation art coordinator, the proposal and approval documents will be submitted by the district transportation art coordinator to the district permit engineer for processing. Permit applications for transportation art should be reviewed by district Landscape Architecture, maintenance (including field maintenance and Division of Maintenance Office of Structures Maintenance and Investigations) Structures Design, Safety, Environmental and other appropriate units.

The district transportation art coordinator should send an informational copy of the art proposal, approval documents, permit and as-built information to the Headquarters transportation art coordinator, LAP.

If, at any time during the process the district recommends any changes to or withholds concurrence on a project not yet approved, that proposal may be returned to the artist(s) for revisions. Once a permit is approved, no changes will be allowed to the art without prior written approval of the district transportation art coordinator and the district permit engineer.

SECTION 7 Blue Star Memorial Highway

General

After World War II, a nationwide movement was started to pay tribute to the nation's armed forces by designating various State and national routes as "Blue Star Memorial Highways." In 1945, the National Council of State Garden Clubs, Inc. approved the Blue Star Memorial Highway Marker program. California Garden Clubs, Inc. accepted the program in 1947 when the California Legislature designated Highway 40 (now Route 80) and Highway 99 as Blue Star Memorial Highways.

Policy

Caltrans will cooperate with the California Garden Clubs, Inc. in erecting and maintaining appropriate memorial markers on highways the California Legislature has designated as Blue Star Memorial Highways.

Responsibilities

Headquarters

- The Landscape Architecture Program (LAP) is responsible for coordinating the Blue Star Memorial Highway program. The Division of Transportation System Information, Office of Highway System Engineering, maintains a log of designated highway segments. This log is available in *Named Freeways, Highways, Structures and Other Appurtenances in California, Section IV, Blue Star Memorial Highways*.
- Legislative Affairs, if requested, will assist the California Garden Clubs, Inc. with preparation of draft legislative resolutions.

District

- The district is responsible for assuring that the location of a proposed marker is within a designated segment of highway, and for approving the actual site. If the marker is located within an easement, the district is responsible for coordinating with the owner of record.
- The district will assume the administrative costs associated with the project, including processing permits and, if required, staff assistance and traffic controls.
- An encroachment permit is required. However, because these markers designate memorial highways authorized by legislative resolutions, the district will not charge a permit fee.

Permittee

- Highways are designated as Blue Star Memorial Highways by the California Legislature. It is the responsibility of the California Garden Clubs, Inc. to initiate and sponsor legislative resolutions through their local legislators.
- The permittee(s) is responsible for the cost of all labor and materials involved in providing and installing the marker, as well as any modifications required to the facilities to accommodate the marker.

- If a marker is vandalized or accidentally damaged, the permittee(s) is responsible for its restoration, replacement, or removal.

Guidelines

Location of Markers

- Markers will only be erected on highway segments that the legislature has designated as Blue Star Memorial Highways.
- On designated highway segments with safety roadside rest areas, markers should be placed in rest areas.
- On designated highway segments without safety roadside rest areas, markers will be placed at vista points, historical sites, or other appropriate areas approved by the district.
- The district will work with the California Garden Clubs, Inc. in identifying an appropriate site, determining if planting is desirable, and to coordinate the project. Other than a marker, features such as paving, benches, or signs will not be permitted.
- Placement of markers must consider the effect of the proposed marker on routine roadside maintenance activities, traffic flow, and the maintainability of the marker without interference to traffic.

Maintenance

- The district will perform minor maintenance activities associated with the markers, such as litter pickup and other maintenance that is normally associated with the involved facility or right-of-way.
- Caltrans will not be responsible for maintaining the integrity of the marker. If a marker is vandalized or accidentally damaged, the district will consult with the Permittee(s) concerning its restoration, replacement, or removal.

Dedication Ceremony

- The California Garden Clubs, Inc. normally conducts a dedication ceremony at the site after a marker has been erected. A representative from the district should attend this ceremony to accept the marker.

SECTION 8 Community Identification

General

Caltrans recognizes the effects of transportation facilities on local communities and encourages transportation system improvements that reflect community needs and its values. Caltrans uses a collaborative approach to involve stakeholders early and continuously in the project development process to address livability, economic, aesthetic, environmental, scenic, and cultural expectations.

Community identification is defined as images or text that conveys information about a region, community, or area. There may be a local desire for new and existing transportation facilities to represent the communities in which they are located. Community identification facilitates enhancement of new and existing transportation facilities through collaboration with local communities.

Required engineered highway features, such as, but not limited to, sound walls, retaining walls, bridges, bridge abutments, bridge rails, and slope paving, may provide the opportunity for the placement of visual, graphic, or sculptural representations of a community's identity, including its history, resources, or other defining characteristics.

Community identification will typically be provided and maintained by the local agency.

Community identification differs from Transportation art in that community identification may include text and must be placed on a required engineered highway feature. Refer to Section 6 "Transportation Art" for specific information on Transportation art.

Community identification differs from gateway monuments in that a gateway monument is defined as any freestanding structure or sign, not integral to required highway facilities. Refer to Section 9 "Gateway Monuments" for specific information on the Gateway Monument Demonstration Program.

The following policy and guidelines define and describe Caltrans' process for incorporating the identification of local communities into the transportation system.

Policy

Caltrans supports the concept of enriching the cultural and visual environment for transportation system users and local communities by using a collaborative approach to facilitate and coordinate integration of community identification within the State highway right-of-way.

Caltrans will collaborate with the responsible local public agency (e.g., city, county), state or federal agency, tribal government, or non-federally-recognized tribe supporting the proposed community identification. The public agency will issue a resolution or other

official document recommending approval of the proposed design of community identification.

A community identifier communicates information about a region, community, or area that may be integrated, painted, or placed as an aesthetic treatment upon required engineered highway facilities. This includes community information placed upon highway facilities such as noise barriers, retaining walls, bridges, bridge abutments, bridge rails, and slope paving, etc. When approved by Caltrans, the name, identifying logo, seal, symbol, or slogan historically associated with the local community may be placed on or adjacent to the community identification. Caltrans retains sole discretion for approval of community identification, including determining the appropriate size, content, colors, and other design elements.

Additional guidance for the placement of community identification on required engineering features is available from DES OTA.

Administrative Responsibilities

Headquarters

The Principal Landscape Architect, LAP, is responsible for:

- Appointing a Headquarters Community Identification Coordinator;
- Maintaining and clarifying policy and procedures for community identification;
- Monitoring district performance and providing quality assurance of program guidelines; and
- Approving any exceptions to community identification policy.

Where community identification requires an encroachment permit, the Chief, Office of Signs, Delineation, Encroachment Permits, and Outdoor Advertising is responsible for the following:

- Development of encroachment permit forms.
- Maintaining and clarifying encroachment permit policy and encroachment permit procedural requirements.

The DES, OTA and Division of Maintenance, Office of Structures Maintenance and Investigations are responsible for maintaining guidelines for structural and architectural design, and structures maintenance to facilitate the placement of community identification on highway bridge structures, and approval of any exceptions to those guidelines.

Districts

The District Director is responsible for:

- Early identification of the community's desire to incorporate community identification during the development of new highway projects;

- Facilitating and coordinating the placement of authorized community identification within the transportation right-of-way;
- Reviewing community identification proposals for:
  1. Demonstrated local agency acceptance,
  2. Compliance with state and federal regulations governing Caltrans' operations,
  3. Adequately planned and resourced maintenance of the community identification (if necessary and agreed upon) by the local agency, and
  4. Safety and liability issues for Caltrans, the local agency, and the public.
- Approving or disapproving community identification designs and proposals;
- Issuance of an encroachment permit and/or development of cooperative agreement for the construction and/or installation, maintenance, repair, and removal of approved community identification proposals, if necessary; and
- Monitoring and enforcing encroachment permit or cooperative agreement requirements for the maintenance, restoration, or removal of community identification;

Financial Responsibilities

When the work is proposed by a local public agency, Caltrans will allocate project resources for the design and integration of community identifiers as would normally be allocated for the design of standard aesthetic treatments integrated with engineered highway features. Resources needed for design, implementation, construction (including traffic control, if required), and maintenance of community identification that are over and above what Caltrans would otherwise allocate will be negotiated with the local public agency and documented in the encroachment permit or cooperative agreement.

Caltrans will assume the administrative costs associated with reviewing community identification proposals, as well as developing, issuing and monitoring the encroachment permit or cooperative agreement for approved community identification projects.

Caltrans may require the local agency provide bonds or other means to ensure maintenance, rehabilitation, and removal of the community identification.

Maintenance

A maintenance agreement (as outlined in *Appendix B* of the *Encroachment Permit Manual* should be established between the local agency and the Caltrans' maintenance access should be provided from outside the highway right-of-way, wherever possible.

Regularly scheduled maintenance of the community identification must be performed by the permittee or Caltrans, as described in the maintenance agreement, for its projected lifespan, including graffiti removal and restoration work to maintain the integrity of the approved community identification. Graffiti removal must conform to current Caltrans' policies and guidelines that require prompt removal of offensive messages and timely removal of all other graffiti. Maintenance practices must protect air and water quality as required by law.

Caltrans may perform maintenance activities in the area of the community identification, such as litter pickup and other maintenance that is normally associated with the transportation facility or right-of-way, but will not provide maintenance of the community identifier itself if, by encroachment permit or cooperative agreement, it is the requirement of the local public agency.

Removal

Community identification, with maintenance responsibility by the local public agency, which in the opinion of Caltrans becomes a safety or operational concern because it is not adequately maintained or deteriorates to an unacceptable condition, will be removed by the local agency. Caltrans will notify the local agency when it has determined that the community identification requires special attention. In the event the local agency fails to maintain, repair, rehabilitate, or remove the community identification in a timely manner, Caltrans may remove the community identification at any point sixty (60) days following notification of the local agency, and bill the Permittee(s)/local agency for all costs of removal and restoration of the area.

Caltrans reserves the right to remove the community identification due to construction, rehabilitation, or other necessary activities affecting the transportation facilities without any obligation, compensation to, or approval of the local agency. Caltrans should strive to notify the local agency of its intent to remove the community identification to allow for timely removal and salvage by the Permittee(s) (if possible).

Caltrans reserves the right to remove or alter any community identification that presents an immediate safety hazard to the public without delay or advanced notification to the local agency.

Guidelines for the Design and Placement of Community Identification

Proposed community identification must:

- Incorporate a community name, logo, graphic, seal, or slogan that has been associated historically with the community;
- Include, if required by Caltrans, approved protective graffiti coatings;
- Be developed to require low or no maintenance to minimize exposure of workers and others to potential risks;
- Be appropriate to its proposed setting;
- Be in proper scale with its surroundings;
- Be integral with the engineered transportation feature;
- Be composed of materials that are durable for the projected life span of the project;
- Be located where maintenance can be safely performed in conformance with Caltrans' procedures;
- Conform to provisions of the Outdoor Advertising Act;
- Be subject to the review and approval by Caltrans in consideration of design, size, and scale for appropriate integration on urban or rural highway features;

- Be consistent with Division of Maintenance Office of Structures Maintenance and Investigations inspection requirements, including:
  1. Paint used on structures should not fill or obscure cracks. Latex or other flexible type paints may be used on concrete structures only with permission of the Office of Structures Maintenance and Investigations;
  2. Painting of steel structures will only be permitted with written permission from the Office of Structures Maintenance and Investigations;
  3. Paint on concrete structures should avoid load-carrying, stress-bearing structural members such as bridge girders, soffits, columns, and piers;
  4. Community identification must not impair the necessary inspection of bridges, retaining walls, and other structures;
  5. To facilitate Caltrans' inspection access to structures, community identification may be placed on removable panels if not an integral part of a structure; and
  6. Chipping, blasting, or in any way modifying existing concrete surfaces is prohibited.

Proposed community identification must not:

- Contain religious, political, private, or commercial messages of any sort, including, but not limited to, symbols, logos, business names, trade names, jingles, or slogans;
- Display telephone numbers, street addresses, or Internet addresses;
- Interfere with airspace above the roadway;
- Create a distraction to the motoring public (e.g., the proposed community identification should be large enough to interpret at highway speed, but not be so large that it demands attention from the motorist);
- Adversely affect the structural integrity of existing structures;
- Include reflective or glaring surface finishes;
- Include illumination that impairs or distracts the vision of transportation system users. Other lighting may be permitted. Lighting may be allowed on structures only when approved by Caltrans Structures, in accordance with current requirements;
- Include moving elements (kinetic art) or simulate movement;
- Include images of flags;
- Be freestanding;
- Interfere with official traffic control devices or interfere with the operational right-of-way above the roadway;
- Be placed within the operational right-of-way up on trees, or painted or drawn upon rocks or other natural features;
- Make use of or simulate colors or combinations of colors usually reserved for official traffic control devices described in the American Association of State Highway and Transportation Officials (*AASHTO) Manual of Uniform Traffic Control Devices;* and
- Restrict sight distance.

Submittal of Community Identification Proposals

A community identification proposal must be supported by the local agency that has jurisdiction in the area where the community identification will be incorporated with the transportation feature.

The local agency will provide Caltrans an adopted resolution or other official documentation that describes:

- The local agency's jurisdiction in the vicinity of the project site;
- The local agency's approval of the community identification content;
- Funding responsibility;
- The local agency's commitment to ensure maintenance of the community identification, including timely graffiti removal, repair, and removal (or restoration) of the community identification as needed; and
- A proposed schedule for commencing and completing project installation, if by separate permit.

The local agency will adhere to and maintain compliance with Caltrans' rules, regulations, and any additional requirements Caltrans may apply to the project.

Community identification proposals associated with existing transportation facilities should be submitted to the district Office of Encroachment Permits for circulation, review and approval. Community identification proposals associated with new transportation facilities should be submitted to the district Cooperative Agreements office for review and approval through Caltrans' project development process.

Procedures for Processing Community Identification Proposals by Local Agencies

The proposed site for integration of community identification will be reviewed and approved by Caltrans for safety and environmental considerations prior to approval of an encroachment permit or cooperative agreement. Safety determinations affecting highway operation, maintenance or tort liability may be documented in a permit engineering evaluation report (PEER) or by other means.

Additional criteria and conditions may be applied to a project, as determined appropriate by the district.

Community identification proposals must be reviewed for compliance with this policy.

The approval of a community identification proposal must be made with due consideration to safety (e.g., location, potential for motorist distraction, accessibility for maintenance), aesthetics, community support, and maintainability.

As a courtesy, Caltrans may suggest alternative locations when it is necessary to deny the issuance of an encroachment permit or cooperative agreement due to site conditions.

Community identification proposals must include:

1. The local agency's support of the community identification through an adopted resolution or other official documentation;
2. A full description of the proposed community identification, including location, construction and installation techniques, details necessary to convey construction methods, and proposed materials, including, but not limited to, paint and protective coatings;
3. Specifications for proposed materials, including Material Data Sheets;
4. A scaled drawing and/or model (Caltrans may furnish necessary site data);
5. Construction schedule;
6. Project cost estimate;
7. Traffic control plan and provisions if required; and
8. Maintenance plan and schedule, if required.

Community identification proposals that require review for structural stability or involve the modification of existing Caltrans' structures must include design plans stamped by an appropriately licensed engineer. These proposals will be submitted by the district to the Division of Maintenance Office of Structures Maintenance and Investigations for review.

Following review and approval by the district, the proposal and approval documents will be submitted to the district permit engineer for processing. Permit applications for community identification should be reviewed by district landscape architecture, maintenance (including field maintenance and Headquarters Structures Maintenance and Investigations), Structures Design Safety, environmental, and other appropriate units.

If, at any time during the process, the district recommends any changes or withholds concurrence on a project not yet approved, the proposal may be returned to the local public agency for revision. Once Caltrans approves a community identification proposal, no changes will be allowed to the community identification without prior written approval of the district.

Proposals for the placement of community identification must comply with this policy. Exceptions to this policy must be submitted to and approved by the Principal Landscape Architect, LAP.

SECTION 9 Gateway Monuments

Definition

A gateway monument is defined as any freestanding structure or sign, not integral or otherwise required for the highway facility that communicates the name of a region, community, or area.

Statutory Authority

Authority for Caltrans to control encroachments within the State highway right-of-way is contained in the *Streets and Highways Code, Chapter 3.*

Title 23 – Code of Federal Regulations, which states in part that all real property, including air space, within the right-of-way boundaries of a project shall be devoted exclusively to public highway purposes, governs Caltrans. Caltrans is responsible for preserving such right-of-way free of all public and private installations, facilities or encroachments, except for those with which Federal Highway Administration's (FHWA's) Administrator must approve. FHWA has delegated authority to Caltrans to allow utility encroachments on access controlled highway right-of-way. As gateway monuments are non-utility encroachments, Caltrans does not have the express authority to approve their placement within the State's right-of-way.

Policy

Refer to the *Design Memo titled Gateway Monument Demonstration Program* and the *Encroachment Permits Manual* for specific information on the Gateway Monument Demonstration Program.

CHAPTER 30 - Highway Traffic Noise Abatement

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CHAPTER 30 - Highway Traffic Noise Abatement

SECTION 1 - General Policy

Scope

Caltrans' noise abatement policy addresses the public's sensitivity to highway generated noise and the requirements for considering construction of noise abatement facilities when they are reasonable and feasible. The abatement of highway traffic noise is a design consideration that is required by State and federal statutes and regulations and by Caltrans' policy.

As part of the general environmental review process associated with all projects, project sponsors are required to evaluate if the project could result in substantially increased noise levels (termed "noise impact"); and when "reasonable" and "feasible", consider attenuating this increased noise. Using this policy and procedures, environmental studies may result in recommendations that proposed projects consider noise abatement to protect specific properties, along with preliminary designs for the abatement facilities. The Project Engineer (PE) should work with the Environmental unit in determining those preliminary designs. Later, as project details are developed, it is the responsibility of the PE to determine the feasibility and reasonableness of constructing the noise abatement facility; specifically where noise abatement facilities will be constructed, materials to be used and various other design details. Once these details have been determined, they should be reviewed by the District Environmental Unit and concurrence obtained. This Chapter provides basic guidelines to assist the PE in making the decisions they are responsible for. Specific structural and architectural design features of noise barriers, as well as other noise abatement facilities, are covered in other Caltrans manuals and the Standard Plans.

The three basic types of projects involving noise abatement include:

- The construction of new highways or the reconstruction of existing highways (see Chapter 2).
- The construction of noise abatement features to retrofit existing freeways through residential areas (Community Noise Abatement Program).
- The construction of noise abatement features to retrofit existing freeways to reduce the level of freeway traffic noise that intrudes into public and privately owned primary and secondary schools. School noise abatement projects may be proposed as an element of the State Highway Operation and Protection Program (SHOPP).

Build at Ultimate Location When Possible

Noise barriers should be constructed at the ultimate location to accommodate a full standard facility or approved permanent nonstandard facility, meeting the transportation concept for number of lanes, when reasonable and feasible. A wall must not be constructed where planned future construction would limit its useful life to less than 15 years. If the route concept indicates

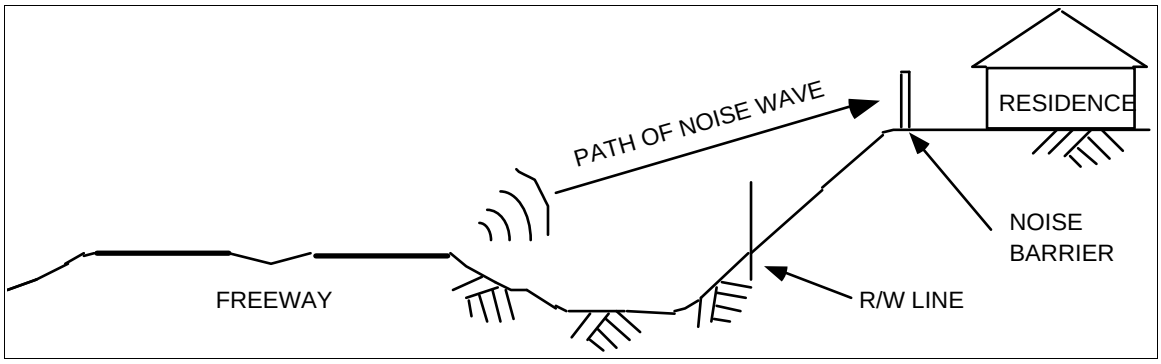
the freeway will be widened, and the noise barriers are currently to be constructed adjacent to the shoulder, the design should provide for salvage in the future.

Noise Abatement Outside the Right of Way

Noise abatement facilities are normally constructed within the State highway right of way. However, under certain conditions it may be appropriate to construct them outside the right of way. The following factors should be considered when developing location and strategies for noise abatement facilities.

The topography between the noise source (i.e., freeway traffic) and the noise receptors (i.e., the adjacent residences) or other factors will sometimes not allow a noise barrier to be constructed at a reasonable height or at a feasible location within the right of way. Under these conditions, it may be more reasonable and feasible to construct the noise barrier on private property. Conditions which illustrate this are shown in Figure 1.

FIGURE 1 - Noise Barrier Proposed Outside State Highway Right of Way (Typical Section)



When analysis of traffic noise impacts determines that noise abatement should be considered for properties adjacent to the freeway, and when it is found to be more reasonable and feasible to construct a noise barrier for that abatement outside the State highway right of way, such construction may be implemented under the following conditions.

- A determination must be made that all (100%) of the affected property owners are supportive of the construction of the proposed noise barriers, their location and the materials to be used for construction.

- Each affected property owner must enter into a contract with Caltrans which specifies that they:

  – Agree to allow Caltrans personnel, representatives and contractors to enter upon their property for purposes of constructing the noise barrier and all other related work.

  – Agree to accept ownership and maintenance responsibility of their respective portion of the noise barrier upon its completion. When responsibility for maintenance is assigned to a property owner, it is done with the understanding that on a federally funded project, the Federal

Highway Administration (FHWA) will hold Caltrans responsible for that maintenance.

- Agree not to remove the noise barrier without full consent of all other affected property owners and Caltrans.

- Agree to allow Caltrans personnel and representatives to enter upon their property with appropriate prior notification for the purpose of periodic inspection of the noise barrier.

- Agree that the contract provisions will be a permanent burden upon and a benefit for the property involved. The District Right of Way Branch will determine specific wording which, as a minimum, should include these provisions:

  "The term of this contract shall be a burden and a benefit which runs with the land, and shall inure to the benefit of and be binding upon the successors, assigns or transferees of the property owner."

- All parties to the contract must agree to record the document in the official records of the appropriate County Recorder's office.

This policy regarding the possibility of constructing noise barriers outside the right of way applies to all State highway projects regardless of funding for those projects.

Another noise abatement strategy which may be considered in rare and unusual cases is to provide noise insulation of the residential units. When this is being considered, the following guidelines must be complied with.

Noise insulation will not normally be provided in private residential dwellings, and may be provided only when severe traffic noise impacts are anticipated and normal abatement measures are physically not feasible or are economically unreasonable. When considering extraordinary abatement measures, it must be demonstrated that the affected activities experience traffic noise impacts to a far greater degree than other similar activities adjacent to highway facilities; i.e., private residential dwelling units will have after-project exterior noise levels of 75 dBA, Leq(h), or more, or the project causes a noise level increase of 30 dBA or more over predicted noise levels if no project was constructed. Noise insulation proposed in accordance with these criteria, on a Federal-aid project, is subject to approval of the FHWA. When noise abatement is provided for public or private properties in line with this policy, an agreement must be entered into with the owner of the subject property which specifies that Caltrans is not responsible for any future costs of operating and/or maintaining the noise abatement improvements; i.e., air conditioning, caulking, etc.

Noise attenuation off the right of way is sometimes considered when there is a multistory residential building adjacent to the freeway. A noise barrier constructed at a height which provides attenuation for a single story building will usually not provide attenuation for the upper floors of the multistory building. When designing a noise barrier to provide noise attenuation for a multistory residential building, the noise barrier should not be designed to shield the floors above the ground floor unless the barrier provides at least a five (5) dBA reduction for a substantial number of residential units above the ground floor at a reasonable increase in cost.

Combine Noise Barrier Projects with Reconstruction Projects

When a retrofit noise barrier and a reconstruction project are programmed for the same facility in different years, an attempt should be made to reschedule the projects to combine them.

Cost Effectiveness

The cost effectiveness calculation for determining the reasonableness of a noise barrier should include the cost of any necessary widening, retaining walls, drainage, right of way, etc., needed to accommodate the noise barrier if those features will not be funded by another programmed project.

Residents' Desires

The views and opinions of the residents living immediately adjacent to the freeway and affected by the traffic noise must be considered in reaching a decision on noise abatement measures. Noise barriers will not be provided if 50% or more of those affected residents do not want them. The opinions of these residents should be obtained through public hearings, community meetings or other means as appropriate. [For Federal-aid projects FHWA's regulations require that the views (i.e., opinions) of the affected residents will be a major consideration in reaching a decision on the reasonableness of abatement measures to be provided.]

The opinions of those affected residents should also be considered regarding the height of proposed noise barriers. If the majority of those residents object to the proposed height of the noise barrier, the barrier may be constructed at a lower height under certain conditions. The affected residents should be informed of the proposed height of the noise barrier determined necessary by noise analyses. If they request a lower noise barrier, the shorter height may be constructed if it will still reduce the noise by a minimum of 5 dBA and if the line of sight to the truck exhaust stack height (3.5 m) is broken.

During preliminary design, consideration must be given to the opinions from the adjacent residents on all relevant factors, such as whether they favor the construction of the proposed noise abatement facilities, heights of the proposed facilities, materials to be used, etc. When the final design proposes significant revisions to the preliminary design, attention must be given to verify that the proposal will still be commensurate with the desires of the impacted residents.

Alternative Designs Required

Highway Design Manual Topic 1102 requires at least two noise barrier design alternatives be included in each project. Alternative materials or methods should be considered in order to increase competition and reduce project costs. Exceptions to this requirement may be approved at the Deputy District Director level. The opinions of the impacted residents should be considered when selecting the alternative materials and methods.

Questions regarding products and methods approved for use on Caltrans projects should be directed to the Headquarters Division of Environmental Analysis. The list of approved products is constantly being expanded to include recycled materials, new concrete designs, and various other materials.

Projects which will be financed by others (tax measures, local agencies, developers, etc.) are not required to include the minimum two design alternatives. However, the advantage of having more than one alternative should be pointed out to the project funder.

Emergency Access Openings

Emergency-service agencies often express the need for emergency personnel access gates to be installed in noise barriers. The gates would be used to provide a means to evacuate trapped or injured persons from the freeway in the event a large-scale earthquake or other type of catastrophic event makes the freeway impassable for emergency vehicles. These gates may be placed in noise barriers when there are no other means of providing access to the freeway. These gates are not intended to be used as an alternate means of emergency access to the adjacent neighborhoods. Access to those areas should be planned and provided for from local streets and roads.

Another need often expressed is for small openings through noise barriers to allow for the passage of fire hoses. Provision of these openings may be allowed when there is no other means of providing fire protection on the freeway.

Local emergency response agencies should be contacted early in the project development process to determine the need for the gates and the fire hose openings. Where possible, the emergency access gates and fire hose openings should be combined. When there is need for access gates to be used by Caltrans Maintenance forces, their needs should be combined with the emergency gates when possible.

Use of Plants With Noise Barriers

Where noise barriers are warranted, they should be designed as part of the total transportation facility. This is achieved by coordinating the planning and design of all transportation facility elements; i.e., alignment and profile of the traveled way, drainage features, contour grading and landforms, other structures, existing planting, new planting needs and the required barriers. This concept should be followed throughout the project development process.

Noise barriers, land forms (slopes and berms), and plantings should be integrated features of the transportation corridor, and should be planned, designed, constructed and maintained to complement one another. Use of plants as integral components of and as complements to noise barriers should be considered, if at all feasible. The objective is to reduce life-cycle costs of the improvements. Planting should be used to combat graffiti, to reduce construction costs by building cost-effective barriers, and to enhance public acceptance.

Where plants are to be used as a cover or appliqué for aesthetics and graffiti control, the District should involve the local community which has a strong interest in protecting the community's image and seek participative involvement in protecting the plants from vandalism. This may be accomplished by cooperative agreements or the Adopt-a-Highway Program.

Planting will be considered part of a noise barrier for funding purposes. Planting may be included as part of the barrier project or as a separate contract if more cost-effective. Planting as an element or component of a noise barrier is not subject to the cost limitations of Standard Highway Planting.

Consideration of Environmental Resources

There are various environmental resources which may be impacted by the proposed construction of noise abatement facilities. Those resources which have the greatest potential for being impacted are wetlands, archeological and historic sites, and scenic resources. An overall mitigation and attenuation plan should be developed, balancing the noise impacts and the environmental impacts which would be incurred if noise attenuation is constructed. A visual assessment by the District Landscape Architect to analyze the project impacts should be carried out during the environmental

studies when an initial review concludes that a proposed project may have an effect on a scenic resource (see Chapter 29, Section 2, Article 3). The visual assessment can help determine if the potential impact is significant and what mitigation measures may be appropriate. If a project may impact an eligible or designated scenic highway, the district scenic highway coordinator should also be involved in the evaluation.

Caltrans must consider and preserve scenic values and resources along officially designated Scenic Highways (see Chapter 1, Section 4, Article 2, and Chapter 29, Section 1) and along highways with scenic values. This requires a thorough evaluation of the benefits of noise attenuation and its impact on visual resources. This evaluation will normally be conducted as part of the project's environmental studies. However, the PE must be aware of the special considerations required, and must verify that the necessary evaluations have been made.

Value Analysis and Life-Cycle Cost Analysis

Chapter 9, addresses the need to consider Value Analysis (VA) studies for all noise barrier projects. The VA studies should consider that the basic aim is to achieve satisfactory noise reduction. Specific considerations are:

— Are there non-wall alternatives?

— Can part or all of the reduction be achieved using an earth mound?

— Are there materials which would be acceptable at this location which have not been tried previously?

— Can the need for a safety shape barrier be eliminated by relocating the wall?

— Is the barrier located so that future maintenance costs will be minimized?

— Can expensive aesthetic treatments be reduced or eliminated by judicious use of planting?

These are only a few of the questions which an innovative VA team should consider.

Project files for each project which incorporates a noise barrier should include the justification and background for the design type or the options allowed.

Beyond the very basic questions to be addressed in a VA study, a Life-Cycle Cost Analysis should be conducted for the various types of noise barriers considered for the project. A number of factors are involved in planning, designing, constructing and maintaining noise barriers. Some of these factors are difficult to evaluate. A list of these factors should be used to test any types of barrier being studied, and to justify the barrier material type that is proposed to be built. The analysis will often be different for a given design type depending on whether it is located adjacent to the traveled way or nearer to the right of way line. The life-cycle cost analysis should include all associated costs, including any planting, landscape maintenance and irrigation costs required.

The Value Analysis and Life-Cycle Cost Analysis should be conducted prior to making any presentations of noise abatement options to the public. These studies should be the basis for the alternatives presented at any public meetings.

Reasonableness and Feasibility

Environmental studies may result in recommendations that a proposed project consider providing noise abatement to protect specific properties. However, noise barriers should be constructed only if they are determined to be "reasonable" and "feasible." Making this determination is among the responsibilities of the PE.

Reasonableness

Reasonableness is a more subjective criterion than feasibility. It implies that common sense and good judgment have been applied in arriving at a decision.

The final determination of reasonableness will be made only after a careful and thorough consideration of appropriate factors. Regard should be given for the individual circumstances of each particular project.

In making a reasonableness analysis, consideration should be given to the following, with the understanding that these items are not all-inclusive. Guidance on how to consider these criteria is included in Section 3.

Reasonableness Factors

- Cost effectiveness

  Cost effectiveness should be considered for any proposed noise mitigation. While there is no firm cost effectiveness criterion for noise barriers considered for new highway construction or reconstruction projects, the criterion specified for retrofit noise barriers should be used as a guide. Section 3 provides details on the cost effectiveness criterion.

- Change in noise levels

  Mitigation of traffic noise for new highway construction or reconstruction projects should be considered only if the predicted noise level caused by the roadway improvement project exceeds the criteria indicated by Figure 3. This takes into consideration the difference between the future noise levels for the build alternative and the no-build alternative.

- Development along the freeway

  Consideration should be given to the amount of development that occurred before and after the initial construction of the freeway and the type of development (e.g., residential versus commercial). The relative dates for when adjacent land development is "planned, designed and programmed" and the "date of public knowledge" of the proposed transportation project will be used to determine the reasonableness of providing noise abatement as part of the proposed transportation project.

  Environmental studies will include a traffic noise analysis for developed lands and for undeveloped lands where development is planned, designed and programmed. If a traffic noise impact is expected to occur where development has occurred, or where development is planned, designed and programmed, noise abatement measures must be considered as part of the transportation project. Development is

considered to be planned, designed, and programmed if a noise-sensitive land use, such as a residence, school, church, hospital, library, etc., has received a building permit from the local agency with jurisdiction at the time of the noise analysis.

The date of public knowledge of the proposed transportation project is used to determine if noise abatement should be part of the project, or if noise abatement is the responsibility of local governments or private developers. The date of public knowledge shall be the date that a project's environmental analysis and documentation is approved, i.e., the date of approval of CEs, FONSIs or RODs. After this date, Caltrans is still responsible for analyzing changes in traffic noise impacts, when appropriate, but is no longer responsible for providing noise abatement for new development which occurs adjacent to the proposed transportation project. Provision of such noise abatement then becomes the responsibility of local communities and private developers.

Additional Reasonableness Considerations

- Environmental impacts of abatement construction

  Consideration should be given to the effects on the social, economic and natural environment caused by the construction of a noise barrier. This includes the potential impacts on scenic resources and scenic corridors which are addressed above. For new highway construction or reconstruction projects, consideration should be given to the benefits which may be realized by the adjacent residents by having a noise barrier in place prior to the work being performed on the roadway project.

- Land use controls

  Consideration should be given to the likeliness of the qualifying area to change land use designation within the life cycle of the project. Working with the local agency responsible for the land use designation (i.e., local city or county) will determine if redevelopment of the subject area is a strong possibility. A written statement from the local agency should be obtained for documentation that redevelopment is likely. If it is likely to be redeveloped, it may be prudent to defer the construction of the noise barriers until a final decision is known.

  Qualifying properties that are redeveloped subsequent to the project action are not eligible for noise attenuation to be provided as part of the project. Furthermore, it is appropriate to work with the local agency to identify compatible land use designations (i.e., commercial or business/professional) and appropriate conditions (i.e., developer-built noise barriers to State Standards) for property adjacent to State facilities.

- Large noise impacts

  Consideration should be given to noise impacts that are far greater than the normal experienced impacts; i.e., exterior noise levels of 75 dBA, Leq(h), or higher, or a projected noise level increase of 30 dBA, or more, over existing levels.

- Residents' views

  The residents' desires should be considered when noise attenuation is otherwise found to be reasonable and feasible. If 50% or more of the affected residents do not

want the noise barriers, the barriers will not be constructed. (See earlier discussion for more detail.)

- Outside Construction

  When outside lanes and shoulders are reconstructed for outside widening projects, consideration should be given to providing noise barriers if the predicted noise level approaches or exceeds the NAC, even if it is found to be technically unreasonable. Factors to be considered in this regard would be the opinions of the affected residents toward the construction of noise abatement facilities.

Feasibility

Feasibility is defined with regard to engineering considerations. A 5 dBA noise reduction must be achieved in order for the proposed noise barrier to be considered feasible. Ability to achieve an adequate noise reduction may be limited by: (1) topography; (2) access requirements for driveways, ramps, etc.; (3) the presence of local cross streets; or (4) other noise sources in the area.

SECTION 2 - New Highway Construction or Reconstruction

Policy

Reasonable and feasible noise abatement measures should be incorporated into new or reconstruction highway projects (see definition of new and reconstruction in Chapter 2, Section 7). Federal-aid highway projects of this type are classified by FHWA as Type I. See headings in Section 1 for definitions of the terms reasonable and feasible.

Noise Abatement Criteria

Noise Abatement Criteria (NAC) for various Land Use Activity Categories are shown below.

FIGURE 2 - Noise Abatement Criteria (NAC)

Activity Category	Hourly A-Weighted Sound Level dBA, Leq(h)	Description of Activity Categories
A	57 exterior	Lands where serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 exterior	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped lands.
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

General

Noise attenuation requirements under California law (i.e., the California Environmental Quality Act-CEQA) differ from the requirements of the FHWA, which are based on Title 23, Code of Federal Regulations, Part 772 (23 CFR, Part 772). Both standards have mitigation requirements when noise effects will substantially increase the ambient noise levels of adjacent areas. Under CEQA, a substantial increase in noise will result in a significant effect and must be mitigated or "Findings" made. Under FHWA regulations, a traffic noise impact must be mitigated when the predicted noise levels "approach or exceed" the NAC or when the predicted noise levels substantially exceed predicted noise levels without the project and it is reasonable and feasible to mitigate.

When a noise analysis is to be conducted for a project, one of the first decisions made is to determine which requirements are applicable. Following that decision, Environmental personnel will make the analysis by taking into consideration a number of factors. The following overview of those factors is presented for information of the PE. More detail on these factors can be obtained from the district Environmental Unit

California Requirements (CEQA)

A determination must be made whether the proposed project will substantially increase the ambient (existing) noise levels for adjacent areas.

If there is a substantial increase in noise, the noise must either be mitigated or identified as a noise impact for which it is likely that no, or only partial, abatement measures are available, for reasons including specific economic, social, or other conditions which make additional noise attenuation measures unfeasible. If noise abatement is found to be reasonable and feasible, noise barriers should be constructed.

FHWA

Traffic noise impacts occur when the predicted noise levels approach or exceed the NAC, or when the predicted noise levels with the project substantially exceed the predicted noise levels without the project. When noise impacts occur, abatement must be considered and mitigation must be provided when reasonable and feasible.

Substantial Increase is defined as a predicted 12 dB, or greater, noise increase over the existing worst-hour noise level resulting from the proposed highway project.

Severe Traffic Noise Impact is defined as a predicted increase of noise from a project of 30 dB or an absolute predicted level of 75 dB or greater.

Approaching the Noise Abatement Criteria

For the purposes of noise analysis on new highway construction or reconstruction projects, when the predicted noise level reaches 1 dBA less than the NAC, it is considered to be approaching the NAC for all land-use categories.

Design Considerations to Mitigate Noise

If traffic noise impacts have been identified, mitigation must be considered and all reasonable and feasible noise abatement measures must be included in the project.

Mitigation measures may include, but are not limited to the following:

- Design alternatives which result in lessening the noise effect. For example, alteration of horizontal and vertical alignment.
- Construction of noise barriers.
- Noise insulation.

If the project location is flexible, horizontal alignments can be selected away from sensitive noise receivers. Or if the horizontal alignment is fixed, perhaps the vertical alignment can be altered to a depressed highway, which reduces noise. Most often, highway alignments are selected on the basis of other overriding factors. The construction of noise barriers is then the most common option available. In some cases, including school noise abatement projects, noise insulation, sealed double-paned windows, and air-conditioning can be used effectively for noise mitigation.

Minimum Attenuation

The Noise Abatement Criteria were developed as a guide to identify traffic noise impacts, and should not be considered as design goals for noise reduction. When designing a noise barrier, the goal should be in terms of the amount of noise reduction provided by the barrier, rather than an attempt to satisfy the NAC. When a noise barrier is proposed, it must achieve a "substantial reduction" (a minimum noise reduction of 5 dBA). An exception to this criterion would be appropriate in some cases, such as where a gap between two noise barriers is closed to provide continuity.

Determination of Reasonableness

A discussion of general considerations to be given to Reasonableness and Feasibility is included in Section 1. This Section will provide more details regarding the determination of Reasonableness.

The six criteria shown below should be used to make a basic determination of the reasonableness of constructing a noise barrier for new and reconstruction projects. It is recognized there may be instances where abatement should be found to be reasonable and feasible even though it is found to fall outside some of these criteria. Therefore, these criteria should not always be rigidly applied.

Reasonableness Criteria

1. The barrier cost per residence.

   Note: Evaluation of the cost-per-residence should be based on the cost-effectiveness criterion from the Retrofit Program (See Section 3) which is subject to periodic adjustment.

2. The percentage of the impacted housing development that predated the initial highway construction.

3. The percentage of the impacted housing development which has been in place for at least 10 years.

4. The future "build" noise levels (i.e., with the proposed project).

5. The increase in the proposed project’s "build" noise levels over the existing noise levels.

6. The increase in the proposed project’s future "build" noise levels compared to the future "no-build" noise levels.

Additional Reasonableness Considerations (when appropriate)

1. Environmental impacts

2. Enforcement, or lack of enforcement, of land use controls by local agencies

3. Large noise impacts

4. Residents' views

5. Outside reconstruction

Reporting of Proposed Noise Abatement Decisions – NADR

During the environmental process, the PE shall prepare the Noise Abatement Decision Report (NADR). The NADR incorporates the technical information from the noise study with design considerations and engineering cost. The NADR documents which noise abatement strategies are reasonable and feasible and thus should be included in the draft environmental document for public consideration. The NADR is submitted to the environmental unit. The noise abatement decision shall be discussed in the draft project report and included the draft environmental document for public circulation. The final noise abatement decision, like the preferred alternative, will be decided by the PDT and will be included in the project report and final environmental document.

SECTION 3 - Retrofit Noise Barriers on Existing Freeways

General

The policies in this Section are governed by Sections 215.5 and 215.6 of the Streets and Highways Code. For Federal-aid highway participation, the retrofit noise barrier program is also governed by applicable sections of Title 23 Code of Federal Regulations (23 CFR) Part 772 covering Type II projects, a project type classification by FHWA on existing freeways with development predating the freeway.

Qualifying Areas

Retrofit noise barrier proposals on existing freeways vary in their qualifications for funding depending on their funding source. Locally funded proposals are not subject to these restrictions:

- State Only Funded:

  Qualifying developed areas must meet all of the following conditions to satisfy state statutes (Sec. 215.5 of the Street and Highways Code):

  - Existing freeway location
  - Residential area
  - Noise level must be higher than 67 dBA, Leq(h)

- Funded Using Federal-aid:

  Federal criteria, consistent with Title 23 CFR 772 for Type II projects, indicate that noise abatement measures will only be approved for projects that were approved before November 28, 1995, or are proposed along lands where land development or substantial construction predated the existence of any highway.

Priority Index for Retrofit Noise Barrier Projects

A priority index (PI) is calculated for each project proposed for programming where the measured or adjusted noise levels exceed the Noise Abatement Criteria (NAC) for Activity Category B [67 dBA, Leq(h)]. The formula used for the PI considers achievable reduction (AR), measured noise levels above 67 dBA (NL), number of living units (LU), and the cost of the proposed noise barriers in thousands of dollars:

$$PI=(AR)(NL-67)^2(LU)/Cost(\$1000)$$

The AR is the average reduction in noise levels that the proposed noise barrier will achieve. The NAC of 67 dBA, Leq(h) is a goal for achievement, but is not mandatory. However, any noise barrier considered under this program must provide a minimum of 5 dBA noise reduction.

The NL is the average of field-measured noise levels, dBA, Leq(h), adjusted to future design hour noise levels using computerized versions of the FHWA Highway Traffic Noise Prediction Model with California Vehicle Noise (CALVENO) reference energy mean emission levels.

The LU is limited to the residences immediately adjacent to the freeway (i.e., first line receivers). Residences located above the first floor in multistory units are included in the residential count only if the proposed barrier will provide a 5 dBA reduction for these units.

The project Cost in $1,000s used in the calculation includes all costs directly related to the proposed noise barriers. This includes items for earthwork, structural section, drainage, traffic control, structure work, planting and other specialty work, as well as the noise barrier itself.

For projects which include noise barriers at multiple locations, the overall project's PI is calculated independently for each location. The PI for the combined project is calculated using a weighted average method, with the weighting based on the number of residential units protected at each location.

Priority Adjustments

One of the factors for determining priority is whether a majority of the occupants in close proximity to the freeway resided there prior to the time the freeway routing was adopted by the CTC. The city or county in which the residential area is located is responsible for providing Caltrans with documentation on percentage of original occupants still residing along the freeway.

If a city or county submits documentation for a specific project that shows the majority of the current occupants in close proximity to the freeway resided there prior to the adoption of the freeway, the PI calculated by the above formula is enhanced by an amount equal to the actual percentage of occupants currently still residing there. For example, if the PI for a project is calculated to be 10.00 and the documentation furnished by the local agency indicates that the current residing percentage is 52.5 %, then the priority index is adjusted to 62.5.

The following definitions apply in determining percentage of original occupants still residing along the freeway:

- Majority - Over 50% of total persons living in dwelling units that are in close proximity or immediately adjacent to the freeway.

- Occupants - Person or persons who are currently occupying the dwelling units under consideration.

- In Close Proximity - The area encompassed by residential units immediately adjacent to the freeway (same first line receptors used in Priority Index formula).

If the current occupant or occupants are the owners, then the date of purchase is submitted as documentation. For rental and leased properties, a statement is obtained from the landlord of the date occupancy commenced. For occupants other than principal occupants, a statement from the principal occupants is obtained that shows the date these occupants first began to reside in the residence.

If any city or county contributes at least 33 percent of the estimated cost of any soundwall project included for the first time in the State Transportation Improvement Program (STIP), starting in 1992, the project is given priority over all other soundwall projects included for the first time in that STIP. If due to the accelerated priority given a project two or more projects each qualify for

the highest priority, the relative ranking between the projects is determined on the basis of their relative ranking prior to being accelerated.

Cost Effectiveness

Projects on the Priority List must be "cost effective". Projects are considered to be cost effective if they cost no more than the criterion established for each residential unit protected by the barrier. The cost effectiveness criterion was established as $35,000 for the 1996 and 1997 calendar years. This criterion will be adjusted each two years by using the California Construction Cost Index as a guide. The adjusted criterion will be issued in each even-numbered year by the Headquarters Noise Abatement Program Manager. Any questions on this should be directed to the Headquarters Noise Abatement Program Advisor in the Division of Environmental Analysis.

The project's cost effectiveness calculation should include all living units (houses, apartments, and condominiums, etc.) that will benefit by a reduction of 5 dBA or more as a result of the noise barrier construction.

Project Costs

The project cost used in making the cost-effectiveness calculation should be the same as that used for calculating the Priority Index. This same cost should also be used for programming the project unless it is combined with other projects. While all of the directly associated costs should be included in the cost effectiveness calculation, costs associated with other improvements should not be included. For example, if a noise barrier is designed on top of a retaining wall, where the retaining wall would be provided to allow for future widening, the cost of the retaining wall and any embankment and structural section placed behind it should not be included. The cost of work to provide for future widening will have to be funded from other sources. If funding is not available to program the other work, the noise barrier cannot be programmed.

Project Features

Only project features directly attributable to retrofit sound walls are eligible for funding from the Retrofit Sound Wall Program. Acceptable project features associated with Retrofit Sound Wall Program projects are:

- Drainage modifications as a result of noise barriers
- Safety treatments as a result of noise barriers
- Miscellaneous asphalt paving
- Traffic control, etc.

Inappropriate project features are:

- Widening (including retaining wall for Retrofit Sound Walls)
- Any other items not related to Retrofit Sound Wall construction.

SECTION 4 - School Noise Abatement Projects

Streets and Highways Code Requirements

Section 216 of the Streets and Highways Code requires Caltrans to mitigate noise that intrudes into specified areas within public and private elementary or secondary schools when that noise is generated by freeway traffic or by the construction of the freeway. The areas eligible for protection from the noise are those that are used as classrooms, libraries, multipurpose rooms, and spaces used for pupil personnel services. When the levels within these areas exceed 52 dBA, Leq(h), Caltrans is required to attenuate the excessive noise. The Code establishes qualifying criteria that include the time of school construction and current use of the school. Projects under these criteria should be proposed as SHOPP projects, as there is no longer a program specifically for school noise abatement.

Available Options

Noise abatement options include construction of a noise barrier, acoustical treatment of the school structure, or a combination of both. Acoustical treatments may include installing insulation, multi-pane windows and air conditioning equipment. If these treatments are undertaken, the windows must also be sealed to prevent their being opened, which would render the improvements ineffective. A preliminary investigation should be made to determine which method of attenuation is the most appropriate.

Agreements with Schools

When it has been determined that acoustical treatments of the school structure should be undertaken, an agreement with the School District should be prepared to specify each parties' responsibilities for developing and implementing the project. Typically, the School District will retain an architect to identify the necessary improvements and to design the contract plans, and the School District will award and administer the construction contract. Caltrans' responsibilities are typically confined to reviewing the scope of work proposed, verifying that the work has been satisfactorily completed and for reimbursing the School District for their expenses. Preapproved Cooperative Agreement Forms for School Noise Abatement projects are contained in Appendix 3 of the *Cooperative Agreement Manual*.

CHAPTER 31 - Nonmotorized Transportation Facilities

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CHAPTER 31 - Nonmotorized Transportation Facilities

SECTION 1 - General

Introduction

State and federal laws require Caltrans to promote and facilitate increased use of nonmotorized transportation. The purpose of this chapter is to outline pertinent statutory requirements, planning policies, and implementing procedures regarding nonmotorized transportation facilities.

Definition

Section 887 of the Streets and Highways (S&H) Code defines a "nonmotorized transportation facility" as a facility designed primarily for the use of pedestrians, bicyclists, or equestrians. It may be designed primarily for one of these uses or it may be designed as a joint-use facility.

A nonmotorized transportation facility may be part of the highway (such as a shoulder) or it may be separated from highway traffic for exclusive nonmotorized use (such as a bike path or sidewalk).

Categories of Projects

Any new projects for nonmotorized transportation facilities along a State highway or within its right of way will generally fall into one of the following categories:

- Replacement of an existing major route for nonmotorized traffic that is being severed or destroyed by freeway construction (S&H Code -- Section 888)

- Provision of a nonmotorized facility along a new freeway corridor where nonmotorized facilities do not exist (S&H Code -- Section 888.2)

- Provision of a nonmotorized facility along a State highway under a Cooperative Agreement at the request of a local agency (S&H Code -- Section 887.6)

- Provision of a nonmotorized facility along a State highway based upon a finding that the traffic safety or capacity of the highway will be increased (S&H Code -- Section 887.8). The finding is made in consultation with appropriate law enforcement agencies.

In addition, any development of a State highway project should consider features beneficial to nonmotorized traffic, including (but not limited to) widening shoulders, striping, and signing.

Minimum Annual Funding

Section 888.4 of the S&H Code requires an annual state-wide budget of at least $360,000 for new nonmotorized transportation facilities to be used in conjunction with the State Highway System. The primary emphasis of the program is to benefit bicyclists. Projects in this program should be designed to improve safety and convenience for bicyclists and to increase traffic safety or capacity of the highway. Because funds are limited, priority should be given to projects that close gaps in bikeways, eliminate high accident frequency locations, and serve high-use areas such as schools, employment centers, shopping areas, parks, beaches, and other activity centers.

Project Reports Required

Proposals for nonmotorized transportation facilities that are within the State right of way or are included as part of a State construction project, require the preparation of a Project Report (PR) or other appropriate report, as specified in Chapter 12, Section 4, of this manual.

Coordinate Planning & Design with Outside Entities

Planning and design processes for all projects must include careful consideration of the needs of nonmotorized users, and must be fully coordinated with federal, State, regional, and local agencies, as well as user groups served by the project. Bikeway Planning and Design Criteria are found in Chapter 1000 of the *Highway Design Manual*.

SECTION 2 - Application

ARTICLE 1 - Routes Severed by Freeways

Preserving Existing Nonmotorized Capabilities

Section 888 of the Streets and Highways (S&H) Code states that Caltrans will not construct a State highway as a freeway that will result in the severance or destruction of an existing major route for nonmotorized traffic and light motorcycles unless it provides a reasonable, safe, and convenient alternate route or unless such a route already exists.

A "light motorcycle", as used in the above context, is defined as a motor-driven cycle or a motorized bicycle, both of which are defined in Sections 405 and 406 of the Vehicle Code.

Types of Existing Major Routes

An existing major route for nonmotorized traffic may be any of the following:

- Conventional highway or expressway
- Sidewalk on a conventional highway: The sidewalk may be principally for pedestrian use but may also be used by bicyclists when permitted by local ordinance.
- Freeway shoulder on which bicycle traffic is permitted in accordance with Vehicle Code, Section 21960, and for which no reasonable, safe, or convenient alternate route is available.
- Path within the freeway right of way
- Path outside of the freeway right of way
- Path outside of the roadway

Alternative Routes

A reasonable, safe, and convenient alternate route can consist of a system of local routes or State highways. The alternate route should not consist of significant out-of-direction travel, additional grades of significant length or slope, or high-volume routes with narrow shoulders.

Proposals After Freeway Construction

Pursuant to Section 888 of the S&H Code, nonmotorized facilities proposed after a freeway has been constructed do not qualify as an "alternate route" for a severed or destroyed nonmotorized route. Instead, such facilities are to be developed as a cooperative project under the provisions of Sections 887.6 and 888.2 of the S&H Code.

ARTICLE 2 - New Corridors

Criteria for New Corridors

Section 888.2 of the S&H Code states that Caltrans will incorporate nonmotorized transportation facilities into the design of freeways on the State Highway System along corridors where nonmotorized facilities do not exist, upon a finding that such facilities: (1) would conform to the California Recreational Trails System Plan or (2) would (following a public hearing) conform to the nonmotorized transportation master plans of local agencies; would not duplicate existing or proposed routes; and would enhance community interests.

Public Hearing Requirements

When designing a new freeway, the Project Engineer (PE) must determine if nonmotorized facilities or reasonable, safe, and convenient alternate routes exist or are proposed within the corridor. The findings must be discussed as part of the regular public hearing for the project or at a separate public hearing to comply with the requirements of Section 888.2 of the S&H Code.

For projects past the regular public hearing stage, local agencies should be contacted to determine their desires regarding nonmotorized transportation facilities. If a local agency requests nonmotorized facilities to be included in the project, Caltrans must conduct a public hearing. It is important to note that if Caltrans defers inclusion of nonmotorized facilities until after the freeway is completed, it may still be required to include the facilities at a later date, under the provisions of Sections 887.6 or 887.8 of the S&H Code.

Public Hearing Process

The public hearing process, if separately accomplished, should follow normal procedures, as specified in Chapter 11 of the PDPM. At the hearing it is important to fully discuss and document the relationship of the freeway project and its nonmotorized transportation facilities to the California Recreational Trails Plan, the local agencies' nonmotorized master plans or bicycle transportation plans, and the regional agencies' Regional Transportation Plan.

Financing

Nonmotorized facilities constructed under Section 888.2 of the S&H Code are financed with State highway funds.

ARTICLE 3 - Cooperative Projects

Request by Public Agency

Section 887.6 of the S&H Code states that:

> Upon the request of a public agency, the department may enter into an agreement with the agency for the construction and maintenance of nonmotorized transportation facilities which generally follow a state highway right-of-way where the department has determined that the facility will increase the safety and convenience of bicyclists.

Location Guidelines

The facility may be inside or outside of the highway right of way. The PE should document the availability of reasonable, safe, and convenient alternate routes and the relationship of the project to the local agencies' nonmotorized master plans or bicycle transportation plans and the regional agencies' Regional Transportation Plan.

State Funding Contribution

Section 887.6 of the S&H Code further states that:

> The department's contribution, if any, to the cost of constructing the nonmotorized facilities shall be based upon a finding that the traffic safety or capacity of the highway will be increased. The agreements may provide for the handling and accounting of funds, the acquisition of right-of-way, maintenance, and any other phase of the project.

ARTICLE 4 - State Projects

Caltrans Initiation

Section 887.8 of the S&H Code states that Caltrans may construct and maintain nonmotorized transportation facilities approximately paralleling State highways after consulting with the law enforcement agency having jurisdiction over the highway.

State Funding

If Caltrans determines that a nonmotorized facility approximately paralleling the highway would increase traffic safety or traffic capacity on the highway, Caltrans pays for the construction and maintenance of the nonmotorized facility.

Types of State Projects

Examples of State-funded projects include:

- A bikeway in an area where a freeway constructed prior to 1976 severed or destroyed a major nonmotorized route
- Striping and signing a State highway shoulder as a bikeway — or constructing a separate path — to provide continuity to a local or regional bikeway system
- Widening a State highway shoulder to improve safety and convenience for nonmotorized users

SECTION 3 - Planning Guidelines

Early Evaluation of Need

Caltrans must consider the needs of bicyclists and pedestrians in the initial planning stages of all projects and must coordinate the planning of nonmotorized projects with relevant outside entities.

Freeways

Section 21960 of the Vehicle Code allows Caltrans to prohibit nonmotorized travel on freeways. It is Caltrans' policy to prohibit pedestrians on freeways. However, of the approximately 6500 km of freeways in the State, Caltrans allows bicycle travel on approximately 1600 km. Freeway shoulders that are open to bicyclists are usually in non urban areas where a safe and convenient alternate route does not exist.

For a more detailed discussion of bicyclists on freeway shoulders, see Chapter 1000 of the *Highway Design Manual*.

Expressways and Conventional Highways

Nonmotorized traffic is not prohibited on expressways and conventional highways. The vast majority of bicycling is done on public roads with or without bikeway designations. When the roadway and the shoulders are adequately paved and maintained, they provide safe and convenient routes for most bicyclists.

Toll Bridges

Bicycle and pedestrian facilities should be considered on new toll bridges and their connections. Caltrans should coordinate the development of the facilities with local and regional agencies to ensure continuity of a nonmotorized transportation system in the area.

The cost of the facilities on the bridges and their connections is paid for by Caltrans as part of the cost of the construction of the bridge, unless the cost of such facilities is to be paid by a governmental agency other than a State agency.

Maintenance Provisions

Nonmotorized projects within the State highway right of way that are partially funded by local agencies may be maintained by local agencies under a Cooperative Agreement with Caltrans.

If the nonmotorized facility is a bike path or a walkway that connects to a local nonmotorized facility, and if it is outside the limits needed for operating and maintaining the roadway, then Caltrans should seek agreement for the local agency to maintain the facility. Maintenance by the local agency can provide continuity in the maintenance of the local nonmotorized system and helps demonstrate a local willingness to cooperate in

the project. Maintenance provisions should be established that do not compromise the safety or operation of the highway.

If the nonmotorized facility is a bike route or bike lane on the shoulder of the roadbed, Caltrans should maintain it as part of its normal roadway maintenance.

Maintenance responsibility may vary with the circumstances; however isolated segments or parallel facilities of substantial length near the roadway should be maintained by Caltrans, as discussed above.

Encourage Relinquishment

Section 73 of the Streets and Highways (S&H) Code states that the California Transportation Commission (CTC) may relinquish any nonmotorized facility (as defined in S&H Code, Section 887) constructed as part of a State highway project, to a county or city within whose territorial limits it is located. As a condition for relinquishment, the county or city must enter into an agreement or adopt a consenting resolution. See Chapter 25 for more information.

Consult with Local Agencies Prior to Abandonment

Section 892 of the S&H Code requires Caltrans to consult with local agencies to determine if State highway right of way could be developed as a nonmotorized transportation facility prior to taking any abandonment actions. If Caltrans and local agencies determine that the right of way can be developed as a nonmotorized transportation facility, then Caltrans must first make the property available to the local agencies. These procedures are described in Sections 104.15 and 887.6 of the S&H Code and in Section 14012 of the Government Code.

Caltrans needs to determine the potential for development of the property as a nonmotorized transportation facility and include the determination in the notification of proposed abandonment. The determination should include any known local or regional plans for nonmotorized facilities on the property and any schedules for construction and funding by the local agency responsible for development of the facility.

Funding

Federal, State, and local funding is also available to local agencies for local nonmotorized projects.

The federal Intermodal Surface Transportation Efficiency Act (ISTEA) provides Caltrans and local agencies with nonmotorized facilities funding from several sources. The regional transportation planning agencies and CTC establish priorities for projects.

Caltrans administers the Bicycle Lane Account, which provides $360,000 a year to local agencies for projects that improve safety and convenience for bicycle commuters. In addition, the State Local Transportation Fund provides funds to local agencies for nonmotorized projects.

Caltrans is also eligible for ISTEA funds for nonmotorized projects. As discussed in Section 1, it must set aside at least $360,000 per year for nonmotorized transportation facilities used in conjunction with the State Highway System.

SECTION 4 - Design Guidelines

Safety and Design Criteria

Section 890.6 of the Streets and Highways (S&H) Code requires Caltrans, in cooperation with local agencies, to establish minimum safety and design criteria for the planning and construction of bikeways and roadways where bicycle travel is permitted. These criteria are contained in the Chapter 1000 of the *Highway Design Manual*.

Signing and Traffic Control Devices

Section 890.8 of the S&H Code requires Caltrans to establish uniform specifications and symbols for signs, markers, and traffic control devices to designate bikeways, regulate traffic, improve safety and convenience for bicyclists, and alert pedestrians and motorists of the presence of bicyclists on bikeways and on roadways where bicycle travel is permitted. These specifications are contained in the *Traffic Manual* and in Chapter 1000 of the *Highway Design Manual*.

Section 891 of the S&H Code requires local and regional agencies to comply with the standards identified in the previous paragraphs.

Design Policy and Criteria

Policy and criteria for developing pedestrian facilities are contained in Topic 105 of the *Highway Design Manual*. Designs for newly constructed or altered pedestrian facilities must incorporate features that provide access for the disabled, in accordance with State and federal accessibility regulations (Title 24 of the California Code of Regulations and the "Americans with Disabilities Act of 1990", respectively).

SECTION 5 - Approvals

Project Report and Public Hearing

For projects on freeways where nonmotorized facilities do not exist, the Draft and final Project Report should discuss the following items regarding a nonmotorized facility: (1) the project's conformity with the California Recreational Trails System Plan; or (2) the local agency's nonmotorized transportation master plans or bicycle transportation plans; the non-duplication of existing or proposed nonmotorized routes; and the enhancement of community interests as a result of the nonmotorized project.

Item (2) should be discussed at the public hearing. If the public hearing process has already occurred, a separate public hearing will be required.

Changes in Access Control

Nonmotorized projects are often proposed within the access control line on existing freeways and expressways. It may be necessary to obtain FHWA concurrence for a change in access control. Consult with the Design Coordinator.

FHWA Approval

Programs involving federal aid participation have guidelines that specify approval procedures for nonmotorized projects. Additional FHWA approval is normally not required. Districts should review the guidelines for specific information regarding approval procedures for nonmotorized projects.

Chapter 32 – Lands and Buildings Facilities

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CHAPTER 32 - Lands and Buildings Facilities

Lands and Buildings Facility Category Structure

Projects in the Lands and Buildings Facilities Category of the Highway Capital Outlay Program are divided into four programs: 20.201.351 Equipment Shops (351); 20.201.352 Maintenance Facilities (352); 20.201.353 Office Buildings (353); and 20.201.354 Materials Laboratories (354). Each program is assigned to a Headquarters (HQ) division chief to act as the State Highway Operation and Protection Program (SHOPP) program manager.

The HQ Division of Transportation Programming provides overall coordination and programming among the subprograms. Lands and Buildings Facilities projects are generally funded in the SHOPP.

A Facility Project Study Report (FPSR) or equivalent shall be approved by the District Director prior to listing any project in the SHOPP. Refer to Chapter 9 of this manual for additional information on the project initiation of SHOPP projects.

Office Buildings (353)

The Department of Finance (DOF) must approve office building projects before they are included in the Governor's Budget. They must conform to *State Administrative Manual (SAM)* requirements. New office buildings and annexes follow a specialized approval process due to their uniqueness. Districts must work closely with the Administrative Service Center, the Division of Budgets, and the Division of Transportation Programming for office building project development and funding proposals, as well as the Department of General Services (DGS) for their design.

Unique Lands and Building Facilities Features

The Lands and Building Facilities Category has several features which differentiate it from other SHOPP categories. Although it is a relatively small program, it has added importance because it directly affects the working environment of Caltrans' employees. Project candidates are usually derived from facility master plans prepared by the respective program managers. The needed architectural and structural engineering expertise has been centralized within Caltrans in the Division of Engineering Services (DES), Office of Transportation Architecture (OTA).

Comply with State Energy and Environmental Design Requirements

To comply with Executive Order S-20-04, Caltrans shall:

- Take all cost-effective measures as described in the State of California Green Building Action Plan to build and operate the most energy- and resource-efficient buildings; and
- Design, construct, and operate all new and renovated buildings at a "Leadership in Energy and Environmental Design (LEED) Silver" or higher rating. The United States Green Building Council developed the LEED Rating System to advance energy and material efficiency and sustainability.

The Executive Order and Green Building Action Plan are available at the following link: http://www.green.ca.gov/default.htm.

To achieve the desired LEED rating for the project, LEED components shall be identified as part of the scope of work in both the FPSR and project report. DES and district designers will collaborate on what these LEED components will be. The architect will be the project LEED coordinator. The architect will assist the project development team in identifying the appropriate LEED components and credits, and ensuring the credits are achieved throughout the life of the project. The project architect will be responsible for completing the LEED Credit Checklist based on the identified credits. The completed LEED Credit Checklist is required as an attachment to both the FPSR and project report. Contact Office of Transportation Architecture for a copy of the LEED Credit Checklist.

District & Headquarters Relationship

Districts are responsible for project management and, through the project manager, are ultimately responsible for project delivery. Districts are usually directly responsible for project identification, FPSR, project report, environmental clearance, right-of-way acquisition, site plan preparation (utilities, drainage, paving, etc.), and plan review.

DES is responsible for the building design portions of Lands and Buildings Facilities projects with the exception of office buildings that are completed by DGS. Both DES and the district share in the construction-engineering portion of the projects. If the design is contracted out, the consultant may be responsible for both the architectural and the district plans, with technical review provided by DES and the district design units.

The SHOPP program managers are responsible for ensuring individual project compliance with the goals of the funding program. The SHOPP program managers advise the districts in project identification and development. They prioritize project candidates within their subprograms and generally provide technical expertise.

Even though the Lands and Buildings Facilities Category has unique features, it is still part of Caltrans' Capital Outlay Program. Although the districts are responsible for delivering individual projects, the program as a whole is managed on a statewide basis and the districts have not been delegated authority to change scope, cost, or schedule without Headquarters' approval. The SHOPP program manager is responsible for balancing available funding on a statewide basis.

Project Manager

For every project, the district must name a project manager who has responsibility for developing and meeting schedules and insuring accurate cost estimates. The project manager should be assigned as early as possible, after a project is identified as a high priority in the facility master plan, and definitely before commencing the project initiation document. The project manager should be identified in all reports and correspondence.

Design Responsibilities

For non-office buildings, DES has the role of consultant to the districts. At the district's request, they will provide engineering and architectural services, including advice relating to the program. Project delivery priorities are established through the project programming process.

Minor Projects

Usually, a minor program is a district program with minimal input from HQ. However, for the Lands and Buildings Facility Program, a limit on available design resources has led to annual prioritization of minor projects. The district Minor A program manager, in conjunction with the HQ SHOPP Lands and Buildings Facility Program Manager and DES, develops a priority list approximately two years in advance for each fiscal year. Any changes will require both district and HQ approval.