

# CHAPTER 1 – Introduction

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# CHAPTER 1 – Introduction

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## SECTION 1 About this Manual

### Reference Information

Some of the references found in this chapter have hyperlinks that connect to Caltrans intranet pages which are not displayable to the general public. Until such time that the specific reference becomes available on the internet, the user will have to contact their district liaison, Caltrans project manager, or the appropriate Headquarters division to inquire about the availability of the reference.

### Purpose

The Headquarters Division of Design (DOD) has the responsibility for the development and consistent application of Caltrans' policies for the project development process. It maintains this manual, the Project Development Procedures Manual (PDPM), to provide guidance for project development on State Highway System projects. Emphasis of the PDPM is directed toward State highway projects; however, projects on local transportation systems and other modes are also discussed.

### Defining the Project Development Process

For the purposes of this manual, the project development process is defined as spanning those activities and that time frame that commence with project initiation and end with the assembly of the Final Project Records after project construction.

### Historical Background

The original PDPM (Gold Book) was written to provide instructions for implementing the State highway project development process outlined in the California Action Plan for Transportation Planning and Development, published in June, 1973.

The Action Plan was developed in compliance with Federal requirements stated in *Title 23 United States Code*, Section 109(h), and with its implementing memorandum issued by the Federal Highway Administration (FHWA). The purpose of this Action

Plan was to provide a process to assure the consideration of economic, social, and environmental effects of transportation projects in parallel with engineering and technical aspects. It provided guidelines and procedures for implementing two related pieces of legislation: the *National Environmental Policy Act of 1969* (NEPA) and the *California Environment Quality Act of 1970* (CEQA). The Action Plan is no longer in effect as an official document, but its basic requirements are still in force and are included in the PDPM.

## **Current Release**

This seventh edition of the PDPM represents a reformatting of the sixth edition of the “Gold Book,” with changes to bring it up-to-date with the current organization of Caltrans and other revisions to make it current. It conforms to the layout of the sixth edition, which represented an entire rewrite of the “Gold Book” that brought it up to date with current policies and legislation. It reflects the July 1988 (and subsequent) delegations of authority for project development to the District Directors. It focuses on the integral role of Caltrans’ project development philosophy as it relates to the project development process. This new release is intended to supersede all previous editions and changes to the PDPM. It is intended to complement the *Project Development Workflow Tasks Manual*, which describes “typical” project development tasks that occur during the project development process.

## **Implements Laws and Policies**

The PDPM reiterates many State and federal laws and policies that affect the development of transportation projects in California; however, it is federal laws (statutes and regulations), Executive Orders, U.S. Department of Transportation and FHWA and other federal regulations, California law (statutes and regulations), as well as Caltrans’ Director’s Policy Memoranda and Deputy Directives that establish the legal requirements and policies used by Caltrans to carry out project development functions. The 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.

## **Provides Guidance**

The processes and procedures established in this manual are provided for the information and guidance of the officers and employees of Caltrans, as well as for any local entity, private developer, or consultant engaged in project development activities involving California state highways. 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, to various members of the project development team, or to their relationships with organizational units in Caltrans.

There is also no intent to impose organizational requirements on any Caltrans district beyond that which is already established by the Caltrans policy process.

## **Special Situations**

Many of the processes and procedures in this manual are subject to change as circumstance and experience warrant. Special situations may dictate a prudent variation (within legal limitations) from a requirement; such a variation is subject to approval by the District Director, by the Headquarters Division of Design Division Chief (if specifically required), or by some other approval authority (where specifically provided for).

## **Mandatory Procedural Requirements**

Within the constraints described above, this manual uses the word “must” to indicate mandatory project development procedures and policies for which Caltrans is responsible. Procedures and actions to be performed by others (subject to notification by Caltrans), or statements of fact, are indicated by the word “will.” Other procedural statements in the manual are meant to be descriptive of the recommended or customary process and use a nonmandatory verb.

## SECTION 2 Related Manuals and Guidelines

### Headquarters Division of Design Manuals and Guidelines Relating to Project Planning and Design

In addition to the Project Development Procedures Manual, Headquarters Division of Design is responsible for the following manuals and guidelines:

- [\*Highway Design Manual\*](#)  
Provides guidance on design standards, policies, and procedures that are to be followed on projects on the State Highway System.
- [\*Landscape Architecture PS&E Guide\*](#)  
Establishes uniform standards and procedures for preparation of landscape architecture plans, specifications, and estimate.  
  
Prepared by the Headquarters Division of Design-Landscape Architecture Program.
- [\*Project Development Workflow Tasks Manual\*](#)  
Provides flowcharts and detailed descriptions of project development tasks from project initiation through final report on the completed project. It is designed to be used independently or as a companion to the PDPM.
- *Scenic Highway Guidelines* at the Headquarters [\*Landscape Architecture Program-Scenic Highways\*](#) website  
Describes the process for officially designating scenic highways or revoking scenic highways designation.  
  
Prepared by the Headquarters Division of Design-Landscape Architecture Program.
- [\*Storm Water Quality Handbooks: Project Planning and Design Guide\*](#)  
Provides a guide for incorporating stormwater quality controls into a project.

### Other Caltrans Manuals and Guidelines

Other manuals and guidelines applicable to the project development process are also referenced in this manual. They include:

- [\*Basic Engineering Estimating System \(BEES\)\*](#)  
Provides aid to the project engineer in the preparation of the estimate of cost.

Prepared by the Headquarters Division of Information Technology-IT Solutions Division.

- [\*CADD Users Manual\*](#)

Establishes uniform data-entry procedures for roadway design and drafting work performed on the Caltrans computer-aided design and drafting (CADD) system.

Prepared by the Headquarters Division of Design.

- [\*California Manual on Uniform Traffic Control Devices \(California MUTCD\)\*](#)

Covers all traffic control device topics.

Prepared by the Headquarters Division of Traffic Operations.

- [\*Capital Outlay Support \(COS\) Charging Practice Guidelines\*](#)

Provides detailed information on charging practices.

Prepared by the Headquarters Division of Project Management.

- [\*Coding Manual\*](#)

Contains codes and coding procedures used for the accounting and management system

Prepared by the Headquarters Division of Accounting.

- [\*Construction Manual\*](#)

Establishes policies and procedures for the construction phase of contract work. Describes the duties of field personnel assigned to construction projects.

Prepared by the Headquarters Division of Construction-Office of Construction Support.

- [\*Contract Managers Handbook\*](#)

Provides procedures for preparing and administering contracts for services.

Prepared by the Headquarters Division of Administration-Division of Procurement and Contracts.

- [\*Cooperative Agreement Handbook\*](#)

Covers procedures for cooperative agreements with local agencies, as well as highway agreements with private parties.

- [\*Encroachment Permits Manual\*](#)  
Establishes uniform methods and procedures for issuing encroachment permits.  
  
Prepared by the Headquarters Division of Traffic Operations-Office of Encroachment Permits & Engineering Support.
- [\*Engineering Services Manuals\*](#)  
The website includes various resources used to design bridges.  
  
Issued by the Headquarters Division of Engineering Services-Structure Design:
- [\*High-Occupancy Vehicle Guidelines\*](#)  
Covers the development of high-occupancy vehicle (HOV) facilities.  
  
Prepared by the Headquarters Division of Traffic Operations, in cooperation with Headquarters Division of Design.
- [\*Local Assistance Procedures Manual\*](#)  
Outlines policy and procedures for project development for local Federal-aid and local State-aid projects on local-agency transportation systems.  
  
Prepared by the Headquarters Division of Local Assistance.
- [\*Local Development-Intergovernmental Review\*](#)  
Used to guide Caltrans reviews and comments on the environmental documents of development proposals, plans, programs, and projects of other agencies.  
  
Prepared by the Headquarters Division of Transportation Planning.
- [\*Maintenance Manual\*](#)  
Describes procedures relating to the maintenance of State highways.  
  
Prepared by the Headquarters Division of Maintenance.
- [\*Project Changes Handbook\*](#)  
Contains guidance for changing a project's scope, cost, schedule, etcetera.  
  
Prepared by the Headquarters Division of Project Management.
- [\*Project Management Manual\*](#)  
Contains procedures for project management.  
  
Prepared by the Headquarters Division of Project Management.



- [\*Plans Preparation Manual\*](#)  
Provides guidance in the preparation of engineering drawings.  
  
Prepared by the Headquarters Division of Design.
- [\*Project Risk Management Handbook: A Scalable Approach\*](#)  
Contains risk management requirements and procedures for capital outlay projects and major maintenance projects.  
  
Prepared by the Headquarters Division of Project Management.
- [\*Ramp Metering Design Manual\*](#)  
Covers development of ramp metering facilities.  
  
Prepared by the Headquarters Division of Traffic Operations, in cooperation with Headquarters Division of Design.
- [\*Ready to List and Construction Contract Award Guide \(RTL Guide\)\*](#)  
Developed to establish uniform procedures for preparation of plans, specifications, and estimate (PS&E) submittals for all projects on the State Highway System.  
  
Prepared by the Headquarters Division of Engineering Services-Office Engineer.
- [\*Right of Way Manual\*](#)  
Covers policies and procedures relating to right-of-way requirements.  
  
Prepared by the Headquarters Division of Right of Way and Land Surveys.
- [\*Safety Manual\*](#)  
Contains safety and health practices to be used on the job.  
  
Prepared by the Headquarters Division of Administration-Division of Safety and Management Services.
- [\*Standard Environmental Reference\*](#)  
Discusses social, economic, and environmental considerations that are an integral but specialized part of the highway development process. Detailed policies and procedures are included.  
  
Prepared by the Headquarters Division of Environmental Analysis.
- [\*Standard Plans\*](#) and [\*Standard Specifications\*](#)  
Used to prepare the plans, specifications, and estimate for projects on the State Highway System.

Prepared by the Headquarters Division of Engineering Services-Office Engineer.

- [\*Surveys Manual\*](#)

Contains surveying procedures.

Prepared by the Headquarters Division of Right of Way and Land Surveys.

- [\*Traffic Manual\*](#)

Covers all non-traffic control device topics.

Prepared by the Headquarters Division of Traffic Operations.

- [\*Transportation Management Plan Guidelines\*](#)

Establishes procedures and responsibilities for preparing transportation management plans during project development.

Prepared by the Headquarters Division of Traffic Operations.

- [\*A Guide to Photogrammetric Mapping Services & Resource Estimating\*](#)

Describes how to obtain mapping and other services.

Prepared by the Headquarters Division of Engineering Services-Structure Design Office of Photogrammetry and Preliminary Investigations.

- [\*Workplan Standards Guide, Release 11.2\*](#)

Describes the work breakdown structure to be used for all capital outlay support work.

Prepared by the Headquarters Division of Project Management.

- [\*2010 California Regional Transportation Plan Guidelines\*](#)

Used by regional transportation planning agencies to prepare their regional transportation plans.

Prepared by the Headquarters Division of Transportation Planning.

### **Other Manuals and Guidelines**

Other publications applicable to the project development process are also referenced in this manual. They include:

- [\*Highway Capacity Manual\*](#)

Describes capacity analysis techniques.

Published by the Transportation Research Board.

## SECTION 3 Abbreviations Used in this Manual

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
AC	Asphalt Concrete
ADA	Americans with Disabilities Act (Federal)
ADT	Average Daily Traffic
AIS	Appearance Information Sheet
APS	Advance Planning Study
ASCE	American Society of Civil Engineers
AQMD	Air Quality Management District
BCDC	(San Francisco) Bay Conservation and Development Commission (State: Districts 4 and 10)
BEES	Basic Engineering Estimating System
BIRIS	Bridge Inspection Retrieval Information System
BMPs	Best Management Practices
BR	Bridge Restoration and Replacement Program (Federal)
CA	1. California 2. Cooperative Agreement
CADD	Computer-aided Design and Drafting
CALNET	California Integrated Telecommunications Network
CAPM	Capital Preventive Maintenance
CAR	Cooperative Agreement Report
CCA	Construction Contract Acceptance

CCO	Contract Change Order
CE	1. Categorical Exemption (CEQA) 2. Categorical Exclusion (NEPA)
CEC	Caltrans Encroachment Committee (Obsolete)
CEQA	California Environmental Quality Act (State)
CFR	Code of Federal Regulations
CHP	Department of California Highway Patrol (State)
CMA	Congestion Management Agency
CMAQ	Congestion Mitigation and Air Quality Program (Federal)
CMP	Congestion Management Program
Co	County
COG	Council of Governments
CR	Constructability Review
CRIP	Cost Reduction Incentive Proposal
CSS	Context-sensitive-solutions
CT	Caltrans
CTC	California Transportation Commission (State)
CTP	California Transportation Plan
DAF	Damage Assessment Form (Federal)
dBA	Decibel-A Scale
DBR	Discretionary BR (Federal)
DCC	Draft Construction Contract
DCR	Draft Contract Ready
DD	District Director
DDD	Deputy District Director

DED	Draft Environmental Document
DEIR	Draft Environmental Impact Report (CEQA)
DEIS	Draft Environmental Impact Statement (NEPA)
DHV	Design Hourly Volume
DIS	Design Intent Statement
DO	Director’s Order
DOD	1. Division of Design (Caltrans Headquarters) 2. Department of Defense (Federal)
DOT	Department of Transportation (Federal)
DPR	Draft Project Report
DRS	Document Retrieval System
DTM	Digital Terrain Model
EA	1. Environmental Assessment (NEPA) 2. Expenditure Authorization
EAG	Encroachment Advisory Group
ED	Environmental Document
EDP	Electronic Data Processing
EEM	Environmental Enhancement and Mitigation (State)
EIR	Environmental Impact Report (CEQA)
EIS	Environmental Impact Statement (NEPA)
EPA	Environmental Protection Agency (Federal)
ER	Emergency Relief Program (Federal)
ESAL	Equivalent Single-Axle Load
FAST	Function Analysis System Technique
FED	Final Environmental Document

FEIR	Final Environmental Impact Report (CEQA)
FEIS	Final Environmental Impact Statement (NEPA)
FEMA	Federal Emergency Management Agency (Federal)
FHWA	Federal Highway Administration (Federal)
FONSI	Finding of No Significant Impact (NEPA)
FRIS	Final Relocation Impact Study/Statement
FSTIP	Federal State Transportation Improvement Program (Federal)
FTIP	Federal Transportation Improvement Program (Federal)
FY	Fiscal Year
F&E System	Freeway and Expressway System
GIS	Geographic Information System
HDM	Highway Design Manual
HES	Hazard Elimination Safety Program (Federal)
HIA	Highway Improvement Agreement
HOT	High-occupancy Toll
HOV	High-occupancy Vehicle
HP	Highway Planting
HP&R	Highway Planting and Restoration
HQ	Headquarters (Caltrans)
HW	Hazardous Waste
HWMP	Hazardous Waste Management Plan
IC	Interstate Completion Program (Federal)
IIP	Interregional Improvement Program (State)
IM	Interstate Maintenance Program (Federal)

IRR	Intercity Rail Program (State)
IRRS	Interregional Road System (State)
IRS	Interregional Road System Program (State)
IS	Initial Study (CEQA)
ISA	Initial Site Assessment
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991 (Federal)
ITIP	Interregional Transportation Improvement Program (State)
ITMS	Intermodal Transportation Management System
ITS	Intelligent Transportation Systems
ITSP	Interregional Transportation Strategic Plan
LA	Landscape Architect
LAAPS	Local Agency Automated Pay System
LEED	Leadership in Energy and Environmental Design
LEDPA	Least Environmentally Damaging, Practicable Alternative
Leq	Equivalent Sound Level
LOC	Locally Funded State Highway Projects
LOS	Level of Service
LRTP	Long-range Transportation Plan
MIS	Major Investment Study
MND	Mitigated Negative Declaration (CEQA)
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MSDS	Material Safety Data Sheet

NAC	Noise Abatement Criteria
NADR	Noise Abatement Decision Report
ND	Negative Declaration (CEQA)
NEPA	National Environmental Policy Act (Federal)
NH	National Highway System Program (Federal)
NHS	National Highway System
NOD	Notice of Determination (CEQA)
NOI	Notice of Intent (NEPA)
NOP	Notice of Preparation (CEQA)
NPDES	National Pollutant Discharge Elimination System
NTO	Notice to Owner
OA	Obligation Authority (Federal)
OHC	Other Highway Construction Program (State)
OJT	On-the-job Training
PACT	Project Agreement Construction Tool
PAR	1. Project Approval Report (obsolete) 2. Project Authorization Request (obsolete)
PA&ED	Project Approval and Environmental Document
PCC	Portland Cement Concrete
PCR	Project Change Request
PD	Project Development
PDPM	Project Development Procedures Manual
PDT	Project Development Team
PE	Project Engineer
PEAR	Preliminary Environmental Analysis Report



PEER	Permit Engineering Evaluation Report
PHF	Project History File
PID	Project Initiation Document
PISA	Project Information Systems and Analysis
PLAC	Permits, Licenses, Agreements, Certifications
PM	1. Post Mile 2. Project Manager
PMCS	Project Management Control System
PMS	Pavement Management System
PPNO	Planning Program Number
PPR	Project Programming Request
PR	Project Report
PSR	Project Study Report
PSR-PDS	Project Study Report-Project Development Support
PSR-PR	Project Study Report-Project Report
PSTIP	Proposed State Transportation Improvement Program
PS&E	Plans, Specifications, and Estimate
PUC	Public Utilities Commission (State)
PY	Personnel Year
PYPSCAN	Person Year and Project Schedule and Cost Analysis
P3	Public-private Partnership
RAP	1. Relocation Assistance Program 2. Remedial Action Plan
RAR	Relinquishment Assessment Report
RAS	Rehabilitation and Safety Program (State)

RCE	Registered Civil Engineer
RCR	Route Concept Report
RE	Resident Engineer
RFP	Request For Proposal
RFQ	Request For Qualifications
RI	Remedial Investigation
RICS	Remote Irrigation Control System
RIP	Regional Improvement Program (State)
RIS	Relinquishment Information Sheet
ROD	Record of Decision (NEPA)
RON	Resolution of Necessity
RRC	Relinquishment Resolution Committee
RRR	Resurfacing, Restoration, Rehabilitation (3R)
RRRR	Resurfacing, Restoration, Rehabilitation, Reconstruction (4R)
RSTP	Regional Surface Transportation Program (Federal)
RTIP	Regional Transportation Improvement Program (State)
RTL	Ready to List
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RU	Responsible Unit
RWQCB	Regional Water Quality Control Board (State)
R/W	Right-of-Way
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SAM	State Administrative Manual

SER	Standard Environmental Reference
SDDCTEA	Surface Deployment and Distribution Command Transportation Engineering Agency (Department of Defense)
SFY	State Fiscal Year
SHOPP	State Highway Operation and Protection Program
SHS	State Highway System
SI	Safety Index
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act (State)
SRRA	Safety Roadside Rest Area
SRTP	Short Range Transit Plan
SSPs	Standard Special Provisions
STIP	State Transportation Improvement Program
STP	Surface Transportation Program (Federal)
STRAIN	Structures Replacement and Improvement Needs
SW	Soundwall Program (State)
SWDR	Storm Water Data Report
SWPPP	Storm Water Pollution Prevention Plan
TASAS	Traffic Accident Surveillance Analysis System
TCI	Transit Capital Improvement Program (State)
TCR	Transportation Concept Report
TE	Transportation Enhancement
TEA	Transportation Enhancement Activities Program (Federal)
TI	Traffic Index
TIP	Transportation Improvement Program

TMP	Transportation Management Plan
TRB	Transportation Research Board
TRPA	Tahoe Regional Planning Agency
TSDP	Transportation System Development Program
TSM	Transportation System Management
UEW	Utility Engineering Workgroup
UNPAR	Un-Project Authorization Request
USC	United States Code (Federal)
USGS	United States Geologic Survey (Federal)
U.S.	United States
VA	Value Analysis
VE	Value Engineering
VIA	Visual Impact Assessment
WASHTO	Western Association of State Highway Transportation Officials
WBS	Work Breakdown Structure

## **SECTION 4 Transportation Planning Leads to Project Development**

### **ARTICLE 1 General**

#### **Planning Coordination**

System and regional transportation planning analysis and studies precede initiation of studies of a specific transportation improvement project. These activities coordinate State transportation planning with local and regional transportation planning activities. These State and regional planning activities result in the identification of transportation issues and needs; proposed service, or project alternatives, to respond to issues and needs; agreement among the interested parties on the appropriate course of action; and consensus of the public and other agencies.

#### **Region and System Planning**

Regional transportation planning facilitates the development of long-range transportation plans in metropolitan and in non-metropolitan areas. Transportation system planning is critical to identifying State issues and interests on and off the State Highway System. Together regional and system planning provide the State the ability to assess the performance of transportation facilities and systems, propose resolution and seek consensus.

#### **Intermodal Surface Transportation Efficiency Act of 1991**

The *Intermodal Surface Transportation Efficiency Act of 1991* (ISTEA) expands the federal planning requirements in *Title 23 United States Code*. The *Intermodal Surface Transportation Efficiency Act of 1991* increases the inter-modal and multi-modal aspects of transportation planning. It provides a more level basis to assess and evaluate alternative modes and projects and seek consensus. Some of the features of the *Intermodal Surface Transportation Efficiency Act of 1991* include requirements for management systems, a State Transportation Plan, and fiscal constraint.

## **ARTICLE 2     Transportation Systems**

### **Transportation Systems**

Transportation systems are identified and defined by the State Legislature, other government agencies such as cities or counties, public mass transit operators, and by private corporations, such as railroad companies.

Specific agencies or corporations are usually responsible for developing, operating, maintaining and revising the system, and for tort liability. Caltrans as the owner-operator is responsible for State highways. Caltrans is involved with other transportation systems as well, not as an owner-operator, but as a partner in coordinating and formulating policy planning and funding.

### **Roadway Systems**

Other roadway systems have been defined in addition to the State Highway System, including: county roads; city streets; forest highways; public lands roads; park, reservation, campus, and institution's roadway systems; regional bike trails; and private roads. The owner-operators of roadway systems are responsible for the transportation facility but not for providing or operating the vehicles on it.

### **State Highway System**

Locations for the construction of new State highways or for the maintenance of existing roads as State highways are adopted by the California Transportation Commission (CTC) between the termini established by law. There are approximately 269 State Highway Routes that comprise the State Highway System, described in *California Streets and Highways Code*, Section 301 through Section 632.

### **Subsystems**

Subsystems of the State Highway System are defined in Statute:

- The Freeway and Expressway System routes are listed in *California Streets and Highways Code*, Section 253.1 through Section 253.8.
- The Scenic Highway System, routes are listed in *California Streets and Highways Code*, Section 263.1 through Section 263.8.
- The Interregional Road System, routes are listed in *California Streets and Highways Code*, Section 164.10 through Section 164.20.

To date, none of these sub-systems, nor the State Highway System, are complete. Rather, these systems and sub-systems represent the authorized facility to be developed as conditions and funding allow.

### **Federal Systems**

The federal government has defined highway systems. The federal systems are used for funding purposes and for defining the standards required to qualify for the funding. Owner-operator responsibility remains with the State. These systems are described as follows:

- The Interstate System, the National System of Interstate and Defense Highways, is included in its entirety in the National Highway System.
- The National Highway System (NHS) was established to focus federal resources on roads that are the most important to interstate travel and national defense, that connect with other modes of transportation, and that are essential for international commerce. Congress approved the specific routes that comprise the NHS by enacting the *National Highway System Designation Act of 1995*. This act designated those routes on the map entitled “Official Submission, National Highway System, Federal Highway Administration:” dated November 13, 1995. This designation did not include certain intermodal connectors which were allowed an additional 180 days for designation. Intermodal connectors include connectors to major ports, airports, international border crossings, public transportation and transit facilities, interstate bus terminals and rail and other intermodal transportation facilities, and most of these are not state highways. The 1996 *Route Segment Report* identifies the state highway route segments that are on the National Highway System and the Interstate System.
- Functional Classification identifies principle arterials as well as other functional classifications by Caltrans. Functional system characteristics are discussed in the American Association of State Highway and Transportation Officials (AASHTO) publication entitled: *A Policy on Geometric Design of Highways and Streets*. The 1996 *Route Segment Report* identifies the functional classification of the state highway route segments.

## **ARTICLE 3      Regional and System Planning**

### **Continuing, Comprehensive, Cooperative Planning**

Under federal law, states must carry out a continuing, comprehensive, cooperative and intermodal statewide transportation planning process.

This includes development of a statewide transportation plan and a State Transportation Improvement Program (STIP) (see [Chapter 4](#) – Programming) that facilitates the efficient, economic movement of people and goods in all areas of the State. The State Transportation Plan outlines a range of transportation options for moving both passengers and freight by and through all modes and connections. The State, in cooperation with participating organizations including metropolitan planning organizations (see Figure 1-1) and other regional transportation planning agencies (see Figure 1-2), Native American tribal governments, environmental resource and permit agencies and public transit operators, provides for a fully coordinated process.

### **State System Planning**

Caltrans conducts long-range transportation system planning for the purpose of informing and guiding State, regional and local planning, programming and operational decision makers. To this end, system planning: 1) develops strategies for operating and improving the State Highway System; 2) identifies, analyses, and recommends improvements to the s State Highway System and the larger multimodal and intermodal transportation system; and 3) provides the sound technical basis for tiered decision making leading to needed projects, facilities, and services.

Caltrans conducts long-range State Highway System planning to identify future highway improvements (*California Government Code*, Section 65086) in cooperation with its planning partners. System planning facilitates the efficient, economical, and intermodal movement of people, goods and information. System planning is part of a continuing, cooperative, and comprehensive statewide transportation planning process that responds to federal law (*Title 23 United States Code*, Section 135). System planning strives for interregional and statewide continuity and compatibility of route concepts and the connectivity of the State’s transportation system.



The role of system planning is two-fold. First, system planning fulfills Caltrans statutory responsibility as owner-operator of the State Highway System and serves as Caltrans principal mechanism for long-range transportation planning in both rural and urban areas. Second, it provides information for examining and analyzing the larger transportation system in the broader context of statewide mobility and intermodal connectivity. Within this dual role, system planning: 1) identifies or supports and communicates highway capacity, operational, and new technology improvements and, where appropriate, intermodal and modal improvements, that optimize corridor capacity and improve regional and interregional mobility; 2) identifies and prioritizes improvements for recommendation into local and regional plans and pre-program activities (for example: major investment studies, project study reports) resourced by local or regional agencies or Caltrans; 3) provides the basis for Caltrans priority setting for interregional highway improvements of statewide significance that Caltrans may consider nominating in the Proposed State Transportation Improvement Program (PSTIP); 4) provides information that will assist Caltrans in its intercity rail strategic planning efforts and in examining intercity rail improvements; 5) identifies, at a preliminary level, critical environmental and community concerns or compatibility issues related to proposed system improvements; 6) provides the basis for analyzing the impacts of local development on the State Highway System and proposing appropriate strategies, improvements, and actions to minimize such impacts.

Coordination with regional transportation planning agencies, local land use, and environmental planning efforts occurs throughout the system planning process. The objective is local, regional, and State consensus on route or corridor concepts, improvement priorities, and strategies. Joint planning efforts lead to agreement on route or corridor concepts, improvement priorities, and strategies. Joint planning efforts lead to agreement on priorities and optimized use of constrained resources. Where the regional transportation plan (RTP) adequately addresses Caltrans planning concerns and strategy options, a district may substitute the regional transportation plan for a system planning document.

**FIGURE 1-1 Metropolitan Planning Organizations**



**FIGURE 1-2 Regional Transportation Planning Agencies**



System planning activities typically produce the following documents:

- District Strategic Plan

A district strategic plan (will replace the district system management plan) serves as an internal and external communications tool identifying Caltrans priorities and strategies for route and system improvement.

The Caltrans Geographic Information System (GIS), corporate data base, and Intermodal Transportation Management System (ITMS) are integral and fundamental tools used in system planning and advanced planning activities. The Intermodal Transportation Management System provides an interactive, intermodal and multimodal, quick response transportation planning analysis tool for use in system planning.

- Concept Reports and Fact Sheets

A route concept report (RCR) or transportation concept report (TCR) identifies current operating conditions, future deficiencies, route concept and concept level of service (LOS), and improvements for a route or corridor. A fact sheet contains current information found in a route concept report, including the route concept, and is used for quick response activities within Caltrans and with local and regional agencies.

The facility description element of the concept represents an initial planning approach for candidate improvements and determining estimated costs. All information in the route concept report is subject to change in response to new information or conditions. The nature and size of identified improvements may be altered by subsequent system planning and project development. In conjunction with the regional planning process, decisions relating to mode choice are determined. This decision is normally made by the identification of a need for a corridor study, followed by a metropolitan investment study. As the process comes more near term, the results of the corridor study and investment study become the concept.

- System Development Programs

A district Transportation System Development Program (TSDP) identifies a reasonable comprehensive and effective range of transportation improvements on both State highways and in modal categories, strategies and actions, and demand and system management options that improve mobility

- Interregional Road System Plan

The Interregional Road System Plan identifies projects on Interregional Road System (IRRS) routes that will provide the most adequate interregional road system to all economic centers in the State. *California Streets and Highways Code*, Section 164.3 specifies the routes included in the Interregional Road System. Proposed interregional road projects programmed in the STIP must be selected from this plan, except that the CTC may substitute projects if

Caltrans concurs. The plan is limited to projects outside urbanized areas that primarily serve interregional travel, excluding traffic generated as a result of local growth. The plan identifies two subsystems, “High Emphasis Routes” and “Other Priority Routes.”

- High Emphasis Routes are the major through, trunk line interregional routes that form the backbone of the State’s highway network, connecting the major economic centers. They include all of the rural interstate routes plus 13 non-interstate routes. One of the major objectives of the plan is to develop these “High Emphasis Routes” to a defined minimum facility standard.
- Other Priority Routes provide the additional links to the State’s other economic centers and main recreational areas. The projects on the “Other Priority Routes” are aimed at correcting current traffic service problems at spot locations and not at achieving a minimum facility standard for the whole route.

The plan identifies projects over a ten-year period. The projects in the plan together stand as an interregional road system improvement, rather than a collection of scattered projects.

## **Management Systems**

An important part of the planning process which leads to identifying most projects in the State Highway Operation and Protection Program (SHOPP) are the various management systems. The *Intermodal Surface Transportation Efficiency Act of 1991* mandated the establishment, development, and implementation of management systems.

Six management systems were originally required by the *Intermodal Surface Transportation Efficiency Act of 1991*, to focus on the management of transportation system assets and on the performance aspects of the system. However, subsequent federal legislation changed the Management System requirements to options, except for a Traffic Monitoring System and the Congestion Management System. The original systems are listed below:

- Bridge
- Public transportation
- Intermodal
- Pavement
- Safety
- Congestion

The following existing Caltrans systems, which were to be incorporated into some of the *Intermodal Surface Transportation Efficiency Act of 1991* management systems, continue to be utilized:

- The Structures Replacement and Improvement Needs (STRAIN) report, which was to be incorporated into the Bridge Management System, is used for the HA21 bridge replacement program. It is developed annually by the Headquarters Division of Maintenance-Office of Structure Maintenance and Investigations and is based on periodic inspections of all State structures. (A new system under development called PONTIS will replace the Structures Replacement and Improvement Needs report.) The Structures Replacement and Improvement Needs report contains recommendations of structure work to be done as determined by the Office of Structure Maintenance and Investigations, except for bridge strengthening which is determined by the district permit engineer.
- The Pavement Management System is used for the HM Major Maintenance Program and the HA22 Pavement Rehabilitation Program. It is based on the latest and prior pavement condition surveys performed by the Headquarters Division of Maintenance on a continuous basis.
- The Safety Index (SI), which was to be incorporated into the Safety Management System, is used for the HB1 safety program. It utilizes a computerized interface with the Project Management and Control System (PMCS) to identify locations with statistically high accident rates maintained in the Traffic Accident Surveillance Analysis System (TASAS) database. Locations are developed into projects to be constructed to improve or enhance safety and are then prioritized on the basis of a Safety Index.

Planning regulations require a Congestion Management System for transportation management areas with populations over 200,000. The Intermodal Transportation Management System Planning Tool was developed in response to the *Intermodal Surface Transportation Efficiency Act of 1991* requirements. These are both discussed below.

- The Congestion Management System used for the HB4 operational improvement program, HB5 high-occupancy vehicle program, and HB6 ride sharing program is primarily the responsibility of the various congestion management agencies in their Congestion Management Programs.
- The Intermodal Transportation Management System (ITMS) planning tool is ideal for analyzing the performance of major corridor modal facilities up to completion of the Project Initiation Document (PID) phase of project development. Most planning tool generated performance measures serve as useful documentation for the project development process. The planning tool is used for identifying deficiencies and for performance-based evaluation of single actions and multiple-action strategies, such as one or more modal

projects, system management changes, policy changes, or various combinations thereof. In this capacity, it is used to narrow down possible alternative solutions and to document performance measures for proposed and adopted solutions. The planning tool works within a desktop geographic information system. The planning tool is not an iterative network model. The modeling inputs used in the planning tool are from the regional transportation planning agencies.

Ideally, the Intermodal Transportation Management System planning tool is used to perform analyses in the planning process for:

- Long term planning to identify deficiencies and make performance-based evaluations of general regional and statewide and inter-regional intermodal strategies
- Route concept reports and other corridor alternatives analysis (typically considered in the regional transportation plans and the regional air quality plans) to examine deficient corridors and make performance-based evaluations of general intermodal strategies for the given corridor
- Area studies to examine deficiencies of an area's facilities and to support alternatives analysis and other performance-based evaluation of single-corridor and multiple corridor intermodal strategies for the area
- Corridor studies and transfer facility studies to examine deficiencies of corridors or route segments in corridors or near transfer facilities, and to make alternatives analysis and other performance-based evaluation of intermodal strategies for the corridor
- Major investment studies and other studies which result in a recommended or proposed alternative, to make specific performance-based evaluations of alternatives addressing a targeted set of deficiencies or other problems
- Project study reports and other project defining reports, to provide performance-based evaluation of the strategy (a combination of actions, including a project or projects) chosen to improve system performance, and the degree of performance improvement, for purposes of documentation and project comparison. Documentation should include whether the results are from the project only, or from a multiple-project strategy, as projects may depend on one another for the full benefit of a combined strategy.

During project development and any point beyond the project study report, one would ideally refer back to planning tool deficiency levels and performance measures recorded in the project study report or other project-defining documentation.

In the absence of a previous Intermodal Transportation Management System analysis, the planning tool performance measures are still needed for documenting what improves and what worsens the degree of performance improvement. Therefore, it is recommended that the planning tool be used for performance-based evaluation of each project strategy (a combination of

actions, including a project or projects) chosen to improve system performance. Additionally, the performance measures support other means of comparing projects. As with project study reports, documentation should include whether the results are from the project only, or from a multiple-project strategy; as projects may depend on one another for the full benefit of a combined strategy.

Certain planning tool performance measures can be refined with the use of more accurate inputs available during project development; other performance measures should be disregarded in favor of better information. Refer to the Headquarters Division of Transportation Planning for further information on the Intermodal Transportation Management System planning tool.

## **Master Plans**

A number of programs are based on a prioritization of facilities identified in master plans. Master plans are developed and maintained by various divisions. A list follows:

- Safety Roadside Rests Master Plan used for the HB33 roadside rest program – by the Headquarters Division of Design-Landscape Architecture Program
- Truck Weigh-Stations Master Plan used for a portion of the HA4 protective betterment program – by the Headquarters Division of Traffic Operations
- Facilities Master Plan used for (1) HA11 equipment shop program, (2) HA12 maintenance station program, (3) HA13 Office Building, Traffic Management Center and Materials Laboratory program, and (4) HA14 Toll Collection Administration Facility program – all by the Asset Management Program in the Headquarters Division of Right of Way and Land Surveys
- Park & Ride Lots Master Plan used for the HB6 Ridesharing program – by the Headquarters Division of Traffic Operations

## **Priority Lists**

Projects for some programs are identified through a priority rating process. Priority lists within a particular program rank projects as candidates for programming determined by some objective criteria.

- Retrofit soundwall (HB311) program needs are identified and grouped into projects and included on the priority list in accordance with *California Streets and Highways Code*, Section 215.5 and Section 215.6 based on information contained in a current noise barrier scope summary report. Ratings are based on the existing intensity of sound generated by freeway traffic, the cost of the project, the level of noise reduction attainable, and the number of residences affected. Highest consideration is given to residential areas that were developed prior to November 1974 and prior to the opening of the freeway or



prior to a subsequent widening or other alteration of the freeway which resulted in a significant and measurable increase in ambient noise levels. When new retrofit needs arise, Caltrans evaluates them for their eligibility under the Retrofit Soundwall Program; if eligible, they are then placed on the priority list. When noise problems are identified by individual property owners or local agencies, the Caltrans district should evaluate the location and determine its eligibility.

- Planting (HB32) program, planting restoration (HA25) program, and roadside rest area restoration (HA26) program needs are identified based on criteria set by the Headquarters Division of Design-Landscape Architecture Program.
- Seismic retrofit (HA4S1, HA4S2, and HA4S3) program needs are identified based on criteria set by the Headquarters Division of Engineering Services-Structure Design.
- Protective betterment (HA42) program needs are identified based on criteria set by the Headquarters Division of Maintenance.

Other programs, including those that are derived from system planning or regional planning, or those that are derived from the various remaining management systems, are also ranked on priority lists.

### **State Highway Inventory**

The State highway inventory is a computerized listing of segments of the State Highway System consisting of approximately 4000 segments, summarizing highway statistics and containing a description of the highways in terms of existing physical facility, system, and level of traffic service. It can be used as an indication of problem locations. The current *Route Segment Report* should be consulted for more information.

### **Regional Transportation Planning**

Regional transportation plans are important documents that lead to identification of projects. Regional transportation plans are State mandated documents developed or updated every two years by all regional transportation planning agencies (see Figure 1-2). They consist of policy, action, and financial elements. In a region designated as a metropolitan planning organization (MPO) (see Figure 1-1) under federal law, the regional transportation plan is also federally mandated. For metropolitan planning organizations, the regional transportation plans also include long and short-range transportation system management activities. Regional transportation planning agencies and metropolitan planning organizations usually, but not always, cover the same territory and are normally a single organization where both are required.

Metropolitan planning organizations respond to the federal requirements while regional transportation planning agencies respond to the State requirements.

### **Air Quality Conformity**

The linkage between transportation planning and air quality improvement was significantly strengthened with the passage of the federal *Clean Air Act Amendments of 1990* and the *Intermodal Surface Transportation Efficiency Act of 1991*.

Transportation plans and programs are required to fully consider air quality impacts of transportation investments. Regional plans and programs are required to demonstrate air quality conformity in order for projects to proceed. The *Clean Air Act Amendments of 1990* and the *Intermodal Surface Transportation Efficiency Act of 1991* require that a project’s “design” concept and scope be specifically outlined in the metropolitan planning organization’s long-range transportation plan.

Additional information about the nonattainment areas subject to air quality conformity is located at the [Air Quality Conformity](#) website.

In this manual the *Intermodal Surface Transportation Efficiency Act of 1991* “design” concept and scope is the “planning” concept and scope in the system planning stage. When updated with no significant changes, the “planning” concept and scope becomes the “design” concept and scope and are used for the development of a project initiation document just prior to programming in a programming document (see [Chapter 9](#) – Project Initiation for definitions of design concept and design scope).

### **Planning Concept**

The planning concept defines the type or mode of a facility; for example: highway, transit, rail or combination which is proposed to meet a transportation need. For highway facilities this is refined to freeway, expressway, or conventional highway.

### **Planning Scope**

The planning scope for highway facilities addresses such issues as number of lanes, location and length of project, high-occupancy vehicle lanes, general interchange and intersection spacing. For transit or rail modes, it relates to the person-carrying capacity of the facility.

## **Major Investment Studies**

FHWA's and the Federal Transit Administration's metropolitan planning rules implementing the *Intermodal Surface Transportation Efficiency Act of 1991* requires that a major investment study (MIS) be completed prior to FHWA or the Federal Transit Administration's approval of any major investment within any metropolitan area if there is a potential for federal funds. The federal implementing regulations for the *Intermodal Surface Transportation Efficiency Act of 1991* define a major transportation investment as a highway or transit improvement of substantial cost that is expected to have a significant effect on capacity, traffic flow, level of service, or mode share at the transportation corridor or sub-area scale.

The purpose of these studies is to assure that an adequate range of alternatives is considered when determining "design" concept, and scope. The major investment study should also evaluate effectiveness and cost effectiveness of all alternatives. They are expected to be cooperative studies involving the metropolitan planning organization, Caltrans, local transportation agencies, and transit operators. These studies would be most effectively accomplished as part of the community's long range planning process, and should settle the question of mode of improvement prior to starting the project development process.

## **District Input to Regional Transportation Plans**

The district should be an active participant in developing the regional transportation plans through its system and regional planning processes. The district, participating in the regional planning process, uses its system planning analyses and the district strategic plan to facilitate State input into the regional transportation plans. Conversely, the regional transportation plan is a critical source of information for the district when updating their district strategic plan. *California Government Code*, Sections 65086, 65086.4, and 65086.5 allows the regions to adopt a future development list, which is the regional transportation planning agencies' financially prioritized list of capacity enhancing improvements on the State Highway System. This list is used for preparing project study reports.

## **Regional Transportation Plan Purpose**

As stated in the CTC's Regional Transportation Plan Guidelines, one of the purposes of a regional transportation plan is to "identify transportation improvements in sufficient detail to aid in the development of the Federal Transportation Improvement

Program (FTIP), the Regional Transportation Improvement Program (RTIP) and State Transportation Improvement Program (STIP), to be useful in making decisions related to the development and growth of the region and to permit an estimate of emissions impacts for demonstrating conformity with the State Implementation Plan (SIP) for achieving air quality standards.” Regional transportation plans should include long-term (20 years or beyond) and short-term (up to 10 years) transportation improvement plans and objectives. Under the *Intermodal Surface Transportation Efficiency Act of 1991*, metropolitan planning organization regional transportation plans are required to be financially constrained. It is useful to also consider what should be done to meet identified needs beyond constrained funding. In nonattainment areas for federal clean air standards, the regional transportation plan is reviewed for conformity with the State Implementation Plan at least every three years to assure that percentage reduction requirements for emissions are being met. Projects are prioritized and defined with enough specificity of design concept and scope to facilitate a finding of system conformity with the State Implementation Plan.

The regional transportation plan contains a map showing the short-range and long-range recommended improvements and additions to the regional highway system increasing capacity and improving operational efficiency of the network. Maps are developed to illustrate the existing, short-range and long-range levels of service for routes of regional significance based on the recommended improvements. The maps include the locations of locally agreed upon interchanges on existing or planned freeways.

Regional transportation plans address freight and air cargo movements, freight distribution routes, and international border crossing improvement projects. They contain an airport ground-access improvement program in regions with a primary air carrier airport (a facility with 10,000 or more enplanements a year.) They also clearly define port access projects in terms of scope, cost and delivery schedules.

Federal air quality conformity rules require that projects included in a conforming regional transportation plan be limited to those with identified reasonably available funding sources. Regional transportation plan projects within air quality nonattainment areas are limited to those which have reasonably available funding sources identified. Other necessary projects included in an unconstrained needs list are not considered part of a conforming regional transportation plan.

A regional transportation plan is considered a project under the *California Environmental Quality Act of 1970* (CEQA) and must meet specific CEQA requirements. The regional transportation plan must clearly document that it has been prepared in compliance with CEQA. In nonattainment areas projects must be described in a conforming regional transportation plan before they can be programmed in a Federal Transportation Improvement Program. An air quality conformity assessment statement is required. This statement is a finding of conformity to the State Implementation Plan.

### **Memorandum of Understanding Integrating the National Environmental Policy Act and Section 404 Processes**

The states of California, Nevada, and Arizona have signed a memorandum of understanding with several federal agencies regarding the integration of the *National Environmental Policy Act of 1969* (NEPA) with Section 404(b)(1) of the *Clean Water Act of 1972*, which provides the U.S. Army Corps of Engineers with guidelines for issuing fill permits. The objective of the memorandum of understanding is to gain the concurrence of all agencies at each transportation development phase (plan, program, project) before going on to the next phase.

Avoidance of large or special aquatic resources is best addressed at the systems planning stage. The regional transportation plan with its environmental impact report, and corridor and sub-area studies are appropriate vehicles in which to assess system design alternatives and their environmental effects, including system management strategies and the mode, general location, and capacity for the proposed regional transportation facilities, the purpose-and-need, the cost, and the “design” concept and scope. System design decisions, documented to support later project decisions, if sufficiently detailed to address the information requirements of NEPA and Section 404, and if responsive to the regulatory requirements of NEPA and Section 404, allows the reviewing agencies to concur with the decisions.

## **Local Transportation Planning**

Caltrans, in cooperation with participating agencies, facilitates a coordinated planning process with local governments, large scale public and private transportation providers, operators of major intermodal terminals and multi-state businesses. This cooperation and coordination is reflected in consistency between transportation decision making, applicable short and long-range land use plans, development plans, and the effect of transportation decisions on land use and land development. Coordination in consideration of intermodal facilities with land use planning is also coordinated between Caltrans and local agencies.

## **Goods Movement**

Caltrans has worked closely with the freight industry in recent years through the Statewide Intermodal Goods Movement Advisory Committee and freight advisory councils of various metropolitan planning organizations and regional transportation planning agencies to address freight transportation needs in planning and programming. Several freight and border crossing studies to improve the efficiency of goods movement have been conducted.

## **Other Plans**

Other plans and programs needing coordination include Congestion Management Programs, Capital Improvement Programs, and air quality plans such as the Air Quality Attainment Plan, the Air Quality Maintenance Plan, and the State Implementation Plan.

# **ARTICLE 4      Corridor Planning**

## **Corridor Policy**

It is Caltrans policy to work on a partnership basis with local land use authorities to accomplish early identification of transportation corridors and to explore all appropriate means for the acquisition and preservation of those corridors.

## **Corridor Preservation**

Corridor preservation is essential if an adequate transportation infrastructure is to be provided in support of a strong and vital economy. A partnership between federal, State, regional and local jurisdictions and the private sector is needed to plan for future needs and to share in the cost of meeting this responsibility. Since transportation mutually benefits all citizens, this policy relies heavily on successful negotiations between State, regional and local jurisdictions and the private sector to achieve its goal.

The State, in cooperation with participating organizations, provides for a fully coordinated process, including measures to preserve rights of way for construction of future transportation projects.

## **Corridor Preservation Process**

The corridor preservation process has the following four phases:

### Phase 1 - Identify Need for Corridor

Regional transportation plans, county and city general plans, corridor studies for future transportation facilities, district system management plans and route concept reports should identify potential opportunities for corridor preservation.

Opportunities for all transportation modes should be considered. The district should work cooperatively with regional and local jurisdictions in identifying corridors.

### Transportation Corridor Fact Sheet:

When the tentative need has been identified, a transportation corridor fact sheet should be prepared by the district transportation planning unit listing the need, description, issues, etcetera of establishing the corridor.

### Phase 2 - Corridor Environmental Review

A corridor environmental review is conducted to identify the potential impacts of alternative transportation facilities within a corridor. All elements such as need, purpose, issues, etcetera must be discussed.

### Phase 3 - Include Corridor in Regional Transportation Plans and Local General Plans

The district will work with appropriate federal, regional, local, and private entities to include the corridor in the regional transportation plan and in local general plans. The regional transportation planning agency (RTPA) may use the information from the corridor environmental review in developing their environmental document for the regional transportation plan, and where appropriate, the major investment study. Modes for the corridor should be realistically evaluated based on the overall modal planning in the general plan. An adequate corridor width should be estimated to accommodate future transportation needs.

### Phase 4 - Preserve Corridor

State and local jurisdictions have authority to preserve corridors through a variety of means. The entire land-use approval process contains many opportunities for local jurisdictions to condition approval for development. Care should be taken not to interfere with the use of or access to and from private property.

Preservation would normally be funded and carried out by the local agency based on the inclusion of the transportation corridor in the general plan. This could lead to the development of a precise plan and an amendment to the circulation element of the local general plan. A State route adoption would not normally be part of the process. The adoption of a route location by the CTC would only be appropriate when the result of the corridor study is a recommendation to implement an improvement that includes the highway mode and when funding for construction, or, at a minimum, for right-of-way acquisition, has been programmed or committed.



## **SECTION 5 Project Development Philosophy**

### **Balanced Transportation Projects**

The project development process seeks to provide the people of California with a degree of mobility that is in balance with other values. It must ensure that economic, social, and environmental effects are fully considered along with technical issues, so that the best interests of the public good are served. Attention must be given to issues like the following:

- Safe and efficient transportation
- Attainment of community goals and objectives
- Transportation needs of low mobility and minority groups
- Support of the State’s economic development
- Eliminating or minimizing adverse effects on the environment, natural resources, public services, aesthetic features, and the community
- Realistic financial estimates
- Cost effectiveness

Individual projects are selected for construction on the basis of overall system benefits as well as community goals, plans and values. Decisions place emphasis on making different transportation modes work together effectively.

### **Various Perspectives Considered**

Proper consideration of these issues requires that a facility be viewed from the perspectives of the user, the nearby community, and larger regional and statewide interests. For the user, efficient travel and safety are paramount concerns. At the same time, the community often is more concerned about local aesthetic, social, and economic impacts. The general population, however, tends to be interested in how successfully a project functions as part of the overall transportation system, as well as how large a share of available capital resources it consumes.

### **Implementation**

Policies and procedures for implementing the project development philosophy are contained in subsequent sections of this manual, as well as in the [\*Standard Environmental Reference\*](#). Implementation of the project development process depends on the following five elements:

### Project Development Teams

Studies on major projects must be guided by multidisciplinary teams. As appropriate, the teams include representation from other agencies and the public. (See [Chapter 8](#) – Overview of Project Development.)

### Social, Economic, and Environmental Considerations

Social, economic, and environmental issues must be considered in parallel with engineering and technical studies. Their consideration is an integral part of the project development process and is to be reflected from the very beginning of studies. (See [Chapter 10](#) – Formal Project Studies.)

### Alternatives

A full range of reasonable alternatives should be investigated to ensure that tradeoffs and opportunities are identified that will provide the best, balanced solution for the transportation need. This includes supporting local and regional goals, providing community and environmental enhancements, and mitigating for unavoidable adverse effects. (See [Chapter 8](#) – Overview of Project Development and [Chapter 10](#) – Formal Project Studies.)

### Community Involvement

Districts must maintain continuing communication with affected governmental agencies. A program of two-way communication with community groups and citizens should be developed, when appropriate. Special effort should be made to seek the involvement of minorities and low-mobility groups. (See [Chapter 22](#) – Community Involvement.)

### Project Work Plan

A project work plan provides an overview of the proposed project goals and the proposed project's scope, schedule, and resource requirements (dollars and personnel). The plan also informs project personnel of their responsibilities and their roles in relation to others working on the same project. The plan is prepared and updated by the project manager.