

APPENDIX

F

Congestion  
Management  
System

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# CONGESTION MANAGEMENT SYSTEM

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## 1. Background

The United States Department of Transportation's Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) requires development, establishment and implementation of a Congestion Management System (CMS) which is fully integrated into the regional transportation planning process. In compliance with Sections 500.109 and 450.320 of the Metropolitan Planning Regulations [23 U.S.C. 134 and 49 U.S.C. 5303-5005], SCAG has made the CMS an integral part of the regional transportation planning process, including the Regional Transportation Plan (RTP) and the Regional Transportation Improvement Program (RTIP).

In the SCAG region, the Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties are contained within the transportation management area (TMA). The County Transportation Commission in each county also functions as the Congestion Management Agency (CMA) under California requirements. Section 500.103 of the Federal Management System defines TMA as follows:

***“Transportation management area (TMA) means an urbanized area with a population over 200,000 (as determined by the latest decennial census) or other area when TMA designation is requested by the Governor and the Metropolitan Planning Organization (MPO) or affected local officials, and officially designated by the Administrators of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). The TMA designation applies to the entire metropolitan planning area(s).”***

To meet the federal CMS requirements, SCAG and the county CMAs have come together to develop a CMS process for the region. Under state law, the Congestion Management Programs (CMPs) are prepared and maintained by the respective CMAs:

- The Los Angeles County Metropolitan Transportation Authority (LACMTA)
- The Orange County Transportation Authority (OCTA)
- The Riverside County Transportation Commission (RCTC)
- The San Bernardino Associated Governments (SANBAG)
- The Ventura County Transportation Commission (VCTC)

With the exception of small portions of Riverside and San Bernardino counties, all counties contained within the TMA are designated as ozone non-attainment areas. In addition, the entire South Coast Air Basin (SCAB) is designated as a carbon monoxide non-attainment area. SCAB covers the urbanized portions of Los Angeles, Riverside, and San Bernardino counties; and the entire Orange County area.

Federal funds may not be programmed in the carbon monoxide and ozone non-attainment areas of the Transportation Management Areas (TMAs) for any project resulting in significant increase in single occupant vehicle (SOV) capacity unless that project is based on a CMS. In the SCAG region, the federally approved and conforming RTP functions for this purpose.

## 2. Regional Congestion Management Elements

In the SCAG region, the CMS process is comprised of the combined activities of the following Regional Congestion Management Elements:

- The Regional Transportation Plan (RTP)
- The counties' Congestion Management Programs (CMPs)

- The Regional Transportation Improvement Program (RTIP)

The functionality of each element is described in the following sections.

### ***Regional Transportation Plan (RTP)***

SCAG's Regional Transportation Plan (RTP) establishes overall long term mobility policies for movement of people and goods, including congestion relief strategies for all regionally significant facilities and activities (projects and programs). The RTP identifies:

- Interregional issues
- Intra-regional (inter-county) issues
- Priorities for improvements to regionally significant facilities or activities
- Performance measures for evaluating the effectiveness of various multi-modal strategies

Additionally, there are other CMS related processes and programs incorporated into the RTP as follows:

- **Regionally Significant Transportation Investment Study**

Within the context of regional transportation planning, the Regionally Significant Transportation Investment Study (RSTIS) process provides a tool that requires a multi-modal transportation alternative analysis. RSTIS is the SCAG established process, adopted as part of the RTP process. In the federally designated non-attainment and maintenance areas, it is required to ensure other alternatives to single occupancy vehicle (SOV) are considered in improving the mobility and air quality of a corridor or a sub-area.

- **Intelligent Transportation System**

SCAG's RTP contains the Intelligent Transportation System (ITS) program. ITS is also an important element of the SCAG congestion reduction strategies. There are Transportation Management Centers (TMCs) using advanced integrated ITS technologies in all four Caltrans Districts (7, 8, 11, and 12) serving the entire region. New TMC's are under construction and will replace temporary facilities in Districts 7 and 8. Through a variety of public and private information service providers, most of the current real time traffic detection freeway and HOV system speeds, California Highway Patrol incident data, changeable message signs, and transit information are available to travelers on the internet, handheld computers, pagers, and other portable communications devices. Research completed for SCAG in 2002 by the Volpe National Laboratory indicates a high propensity of traveler information users to shift departure time, reduce or eliminate trips, and shift mode in response to real time congestion information.

At the present time, over 800 centerline miles of freeway system in the urbanized portion of the SCAG region have full traffic detection capabilities, and coverage with over 300 video cameras. Additional detection devices are being added on portions of Interstate -15, Route 71, and Route 110. Additionally, the local arterial ITS infrastructure is supported by over 15,000 detection devices, and hundreds of video cameras, providing for optimized signal synchronization and traffic flow in response to conditions throughout the day. Local arterials are also being equipped with a growing number of the changeable message signs at critical locations such as major arterial and special event centers to provide real time motorist information to improve traffic management

**Congestion Management Program (CMP)**

There are five CMAs in the SCAG region and each develops the respective CMP for its county. The degree of urbanization varies from one county to another and so does the magnitude of congestion. All CMPs share the same goal of reducing congestion and applying congestion relief strategies, but with different priorities in selection of the related strategies. Therefore, each CMP differs in form and local procedure. By State statute, all CMPs perform the same functions outlined below and they are consistent with the federal CMS requirements.

- Highway Performance - Each CMA monitors the performance of an identified highway system. This allows each county to track how this system, and its individual components, are performing against established standards, and how performance changes over time.
- Multi-Modal Performance - In addition to highway performance, each CMP contains an element to evaluate the performance of other transportation modes including transit.
- Transportation Demand Management (TDM) - Each CMP contains a TDM component geared at reducing travel demand and promoting alternative transportation methods.
- Land Use Programs and Analysis - Each CMP incorporates a program for analyzing the impacts of local land use decisions on the regional transportation system.
- Capital Improvement Program (CIP) - Using data and performance measures developed through the activities identified above, each CMP develops a CIP. This becomes the first step in developing the County TIP. Under State law, projects funded through the Regional Transportation Improvement Program (RTIP) must first be contained in the county CMP.
- Deficiency Plan – Despite the above stated efforts, when unacceptable levels of congestion occur, the respective CMP contains a set of provisions for “deficiency plan” to address the problems. A deficiency plan can be developed for specific problem areas or on a county-wide-system basis. Projects implemented through the deficiency plan must, by statute, have both mobility and air quality benefits. In many cases, the deficiency plan captures the benefits of the transportation projects which occur beyond the SCAG RTIP such as non-federally funded / non-regionally significant projects.

Information on the CMP activities, and resulting data, are updated on a biennial basis by each CMA and supplied to SCAG and the respective air quality management district.

**CMPs in the SCAG Region**

<b>County</b>	<b>Congestion Management Agency (CMA)</b>	<b>Congestion Management Program (CMP)</b>
Los Angeles	Los Angeles County Metropolitan Transportation Authority (LACMTA)	2004 CMP for Los Angeles County
Orange	Orange County Transportation Authority (OCTA)	2003 Orange County CMP
Riverside	Riverside County Transportation Commission (RCTC)	2003 Riverside County CMP
San Bernardino	San Bernardino Associated Governments (SANBAG)	2003 CMP for San Bernardino County
Ventura (*)	Ventura County Transportation Commission (VCTC)	2004 Ventura County CMP

(\*) VCTC's 2004 CMP is being completed

### ***Regional Transportation Improvement Program (RTIP)***

All federally funded congestion relief strategies (projects and programs) are programmed into the Regional Transportation Improvement Program (RTIP) in the SCAG region. Under state law, the CMP projects must be incorporated into the RTIP in order to receive federal and state funds. Under federal law (TEA-21), the RTIP must be updated every two years for funding.

In non-attainment and maintenance areas, the RTIP projects as a whole, including congestion relief projects, must be analyzed for the Transportation Conformity requirements. In project-level analysis, the projects requiring federal action (funding or approval) are subject to environmental impact study (EIS) through the National Environmental Policy Act (NEPA). This is an evaluation and analysis of the alternatives. The selected alternative will be incorporated into the RTIP for implementation.

Note that the CMP documents list additional projects not included in the RTIP. These projects are 100% locally funded and not regionally significant, such as the transportation demand management (TDM) and bike lane project.

### **3. Regional Integration**

The CMPs' efforts have been brought together on a region-wide basis and integrated into the SCAG regional planning process. SCAG's Regional Council and the Regional Transportation Agencies Coalition ensure consistency between the county CMPs and SCAG's RTP and RTIP through project implementation.

A set of criteria, developed by SCAG and CMAs in early 1995, ensures consistency and compatibility between the regional transportation planning process and the county congestion management process, and are as follows:

- CMP consistency with the current RTP
- Interregional (inter-county) coordination between the CMPs goals and objectives
- Consistency between county-wide model / database and SCAG's model / database
- All regionally significant CMP projects are to be modeled and incorporated into SCAG's Regional Transportation Modeling System (network)

Compliance with the above criteria is essential, particularly for those CMP projects to be programmed into the SCAG RTIP.

The Inter-county Congestion Management Group (established in late 1994) facilitates coordination and communication between the CMAs, SCAG, and state and federal transportation agencies. The Group membership is comprised of the representatives of LACMTA, OCTA, RCTC, SANBAG, VCTC, and SCAG. Other agencies, Caltrans, the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA) are invited to attend meetings, as needed, to discuss related issues.

### **4. Traffic Monitoring System**

Outside the CMS requirements, the federal regulations require establishment of a traffic monitoring system (TMS). It is the responsibility of the State, the California Department of Transportation (Caltrans) - working with the metropolitan planning organizations (MPOs), and local agencies - to develop a TMS.

SCAG, the CMAs and Caltrans work together in improving the reporting accuracy and timely monitoring of highway data collection and analysis. This is being accomplished through the Highway Performance

Monitoring System (HPMS) program. The HPMS program is a joint effort of the Federal, State, MPO, and local governmental agencies.

SCAG coordinates submittal of the HPMS data update with the local jurisdictions. Annually through the HPMS program, SCAG submits over five thousand sheets for updating data to cities and counties in Southern California. After reviewing the updated sheets for accuracy and completion, SCAG submits them to Caltrans. In compliance with the federal regulations, Caltrans uses the new information to update its HPMS Annual Report. Every year, the Federal Highway Administration (FHWA) uses the states submitted Annual Reports for reporting to Congress.