

6.9 Intelligent Transportation Systems

This chapter describes Intelligent Transportation Systems (ITS). The chapter also describes the process that defines how agencies and systems are interconnected through the development of a statewide architecture, and integrated regional and local systems.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Intelligent Transportation Systems (ITS) are a collection of roadway and transit management strategies, communication systems, computer technologies, electronics, monitoring instrumentation, and other applications to improve the safety, operational effectiveness, and efficiency of the existing surface transportation system. ITS is not a mode of transportation itself. Examples of ITS programs include regional traveler information, traffic signal control, transit management, ramp metering, incident management, and emergency management.

ITS ARCHITECTURE & REGIONAL PLANNING

The Transportation Equity Act for the 21st Century (TEA-21) requires ITS projects funded from the Highway Trust Fund to conform to the National ITS Architecture. The ITS architecture involves a process that defines how agencies and systems are interconnected. The intent is to foster the development of a statewide architecture, and integrated regional and local ITS systems.

TAHOE GATEWAY ITS STRATEGIC DEPLOYMENT PLAN (SDP)

PCTPA coordinated ITS planning for El Dorado, Nevada, Placer and Sierra Counties (see Figure 6.9a). This effort was coordinated with the ITS planning begun by the Tahoe Regional Planning Agency (TRPA) for the Tahoe Basin. In 2002, the Tahoe Gateway Counties ITS Strategic Deployment Plan (SDP) was adopted by the four Regional Transportation Planning Agencies.¹ It addresses the unique aspects of the rural environment where challenges include rapid changes in weather, limited alternative routes and difficulties in developing effective communication systems.

The SDP will undergo periodic review for consistency with regional goals. Updates to the SDP will occur to accurately reflect the region's existing ITS capabilities and future plans. SACOG is responsible for maintaining the Tahoe Gateway Regional ITS Architecture and making the physical changes required to maintain the architecture. PCTPA provides for ongoing coordination and information sharing on ITS technologies among the four counties, and act as liaison with SACOG.

SACOG ITS STRATEGIC DEPLOYMENT PLAN

The ITS Strategic Deployment Plan for the Sacramento region was prepared by SACOG in 2005, and replaces the 1996 Early Deployment Plan and updates the Sacramento ITS Regional

¹ El Dorado County Transportation Commission, Nevada County Transportation Commission, PCTPA, and Sierra County Transportation Commission

Architecture completed in 2001. The SDP brings the Sacramento region into full compliance with architecture requirements; provides a vision for ITS; outlines a program of low, medium and high priority projects; identifies probable costs; and establishes a plan for managing, integrating and operating the ITS elements in the region. The SDP also incorporates recent efforts to demonstrate the interrelation between land use and transportation improvements, and address ways in which advanced technologies can improve both mobility and air quality in the region.

ITS NEEDS ASSESSMENT

The SDP is the Tahoe Gateway Counties ITS implementation guide. It identifies regional transportation needs and ITS Elements to meet them. The Regional ITS Architecture is a core component of the SDP.

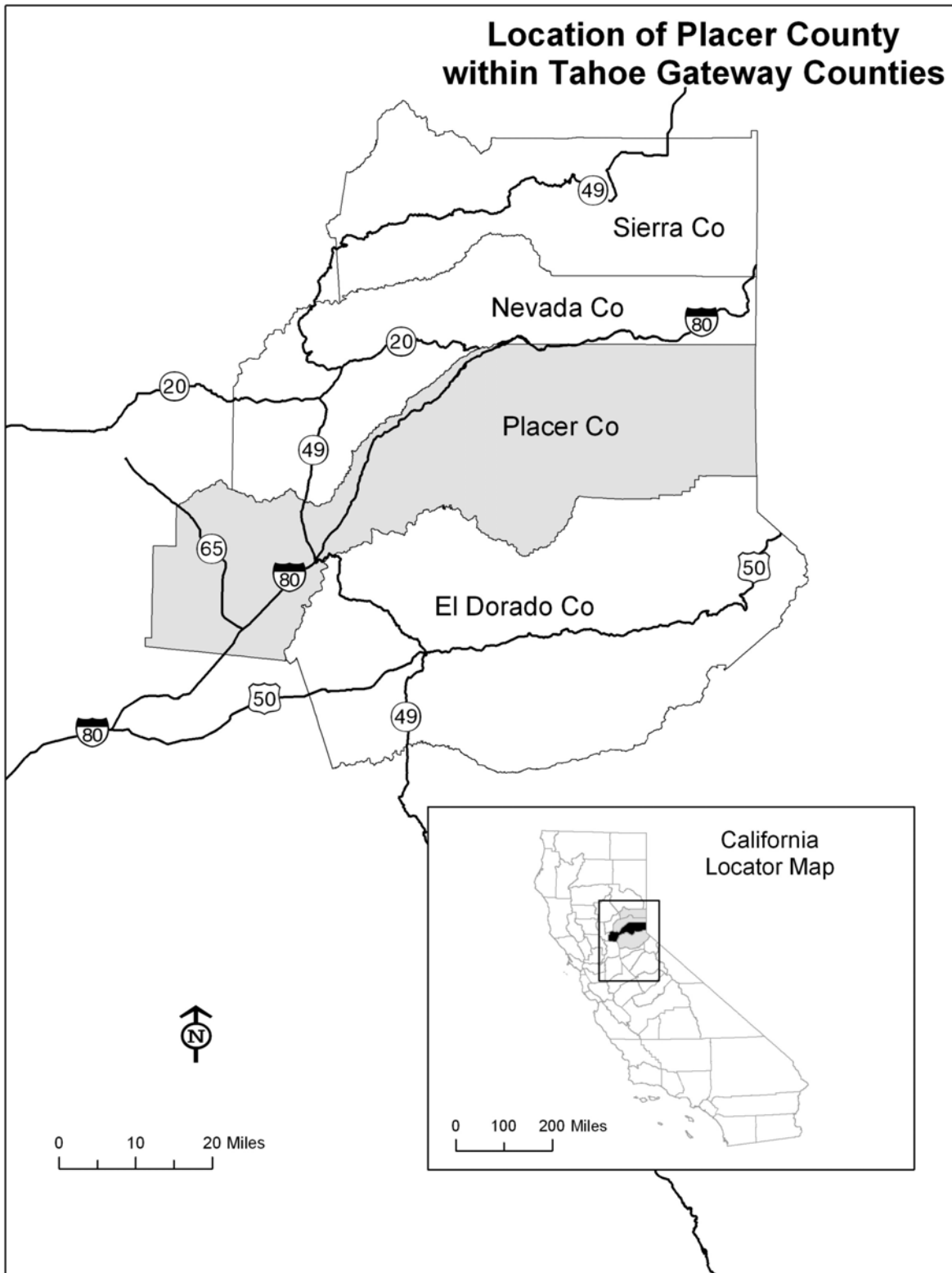
The following list summarizes the high priority need areas in the Tahoe Gateway Region (in no particular order):

- Enhanced traveler information within and beyond project boundaries;
- Improved cooperation and coordination among transportation agencies and others;
- Improved traffic flow and system operation monitoring;
- Advanced technology uses to more effectively and efficiently operate traffic signal systems;
- Coordinated, efficient transit and public transportation systems;
- Coordinated incident/emergency management plans and procedures (including HAZMAT);
- Improved traveler safety; and
- Enhanced access and availability of tourist information.
- Accurate, early traffic information to commercial vehicle operators
- Active fleet management of state/locally owned highway maintenance vehicles
- Improved integration of information and systems to better manage the transportation assets

SACRAMENTO TRANSPORTATION AREA NETWORK (STARNET)

SACOG is working with partner agencies to implement ITS project called STARNET system. STARNET is an information exchange network and operations coordination framework that will be used by operators of transportation facilities and emergency responders in the Sacramento region. STARNET was identified as a high priority project for the Sacramento region in the ITS SDP, and became operational in 2008.

Figure 6.9
Location of Placer County within Tahoe Gateway Counties



STARNET builds upon previous ITS investments using existing field infrastructure and central systems, with little or no modification. As part of STARNET implementation, interfaces will be developed to existing systems to enable real-time sharing of data and live video, provide data and video to the public via the 511 regional travel information system, and provide operations and emergency responders with a map based regional transportation management display.

SACRAMENTO REGIONAL TRANSPORTATION MANAGEMENT CENTER (RTMC)

The Sacramento Regional Transportation Management Center (RTMC) is location in Rancho Cordova, California. The RMTTC serves as the hub of all highway traffic operations in Caltrans District 3, monitoring the state highway transportation system and disseminating information as needed. The California Highway Patrol (CHP) communication center is also located at the RTMC.

ROSEVILLE INTELLIGENT TRANSPORTATION SYSTEM

Roseville's Intelligent Transportation System is used to notify the general motoring public about current traffic conditions, such as delays, road closures, accidents and special events. In March 2008, the City installed its first permanent Changeable Message Sign on Galleria Boulevard (after existing SR65 traveling southbound toward the Galleria Mall).

ITS ACTION PLAN

Short Range

1. Maximize the operating efficiency of the existing surface transportation system by incorporating ITS strategies where feasible. (*PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, SACOG, Caltrans*)
2. Improve the safety of travel into, through, and out of the Tahoe Gateway Region. (*PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans*)
3. Ensure that accurate and reliable traveler information regarding traffic and weather conditions is available to those entering the region as well as those traveling within the region. (*PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, SACOG, Caltrans*)
4. Provide more effective and convenient transit services. (*PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, transit operators, SACOG*)
5. Ensure efficient commercial vehicle operations into, through and out of the Tahoe Gateway Region. (*PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans*)

6. Ensure the long-term viability of ITS in the Tahoe Gateway Region. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, FHWA)*
7. Maintain an ITS program that is compatible and supported by National ITS efforts. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, SACOG, Caltrans, FHWA)*
8. Coordinate with communication utilities to include rural broadband, where possible, as part of the implementation of jurisdiction ITS projects. *(PCTPA, jurisdictions, communication utilities)*

Long Range

1. Continue implementation (deployment, operations, and maintenance) of the Tahoe Gateway Counties ITS. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*
2. Continue implementation (deployment, operations, and maintenance) of the Sacramento Region ITS. *(PCTPA, El Dorado County, Sacramento County, Sutter County, Yolo County, Yuba County, jurisdictions, Caltrans, SACOG, FHWA)*
3. Continue regional ITS management via each member County, neighboring regions, and other agencies, organizations, and individuals. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*
4. Mainstream or incorporate ITS technologies into the planning process as stand-alone projects and/or as part of larger transportation projects. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*
5. Ensure that the Regional ITS Architecture Maintenance Plan continues to be implemented. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*

ITS PROJECTS

Table 6.9-1
ITS Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) \$	Expenditure Year \$	
SACOG	VAR11000	'07-00	'09-10	STARNET Integration	Develop & install an information exchange system--the Sacramento Transportation Area Network, or STARNET--& connect 18 traffic & emergency centers. (Emission Benefits in kg/day: 223 ROG, 223 NOx, 330 CO)	2011	Programmed	\$5,345,419	\$5,559,236	
Caltrans District 3	CAL18781	'07-00	11-00	Install TMS Units	In Placer, Sacramento & Colusa Counties, at various locations - Install Transportation Management System (TMS) Units for monitoring congestion & delay.	2012	Programmed	\$7,817,659	\$8,455,580	
City of Roseville Dept of Public Works	PLA25406	'07-00	11-00	West Roseville CMS Installation Project	In Roseville, install Changeable Message Signs (CMS) on S/B Foothills Boulevard south of Vineyard Road & E/B Baseline Road east of Fiddymont Road to reduce traffic congestion by improving traffic information dissemination per the ITS Master Plan.	2012	Programmed	\$300,000	\$324,480	
City of Roseville Dept of Public Works	PLA25288	'07-00	11-00	Roseville Fiber Optics Project	In Roseville, install fiber optic conduit, cable & pull-boxes along: Cirby Way, Rocky Ridge Drive, Old Auburn Road, South Cirby Way, Roseville Parkway, Blue Oaks Boulevard, Fiddymont Road, Baseline Road, Woodcreek Oaks Boulevard, Junction Boulevard & Foothills Boulevard (Emission reduction benefits (kg/day): ROG 0.32, NOx 0.32).	2012	Programmed	\$940,000	\$1,016,704	
Caltrans District 3	CAL18784	'07-00	11-00	ITS Installation - Various locations	In El Dorado, Nevada & Placer Counties at various locations on U.S. 50, I-80, SR89 & SR267 - install Intelligent Transportation Systems.	2013	Programmed	\$4,606,000	\$5,181,124	
								2010-2015	\$19,009,078	\$20,537,123
								2016-2024	\$0	\$0
								2025-2035	\$0	\$0
								Total	\$19,009,078	\$20,537,123