City of FRESNO

Fresno All-America City 2000

Intelligent Transportation System

(Traffic Operations Center, Synchronization, Coordination)

Generally, the increasing costs, community issues, and environmental considerations involved in funding and constructing traditional roadway and other transportation infrastructure projects mean that it is no longer possible to build a way out of transportation problems. In order to deal with the situation, intelligent transportation systems have evolved, providing a new option for improving the efficiency of the existing and planned transportation network. The Fresno County Intelligent Transportation System (ITS) Strategic Development Plan represents a comprehensive effort to build consensus on the application of advanced technologies to allow public agencies to better manage the existing transportation system (Fresno County ITS Strategic Deployment Plan, December 1999).

The Intelligent Transportation System (ITS) Vision for the County of Fresno is to enhance safety, mobility, efficiency, and transportation productivity, and to improve the quality of life and environment through the use of cost effective ITS technologies and systems. The Intelligent Transportation System Mission for City of Fresno is to implement a traffic coordination system that will improve mobility in the greater Fresno metropolitan area and meet environmental and disaster preparedness objectives in a manner consistent with the San Joaquin Valley Regional ITS Plan.

In early 2000, the City of Fresno embarked on a goal to build the Traffic Operations Center and a City wide fiber network which would convert key intersections and roadways into a coordinated traffic management system. The ITS Traffic Coordination System would connect the Traffic Operations Center to a fiber network, connecting key Fresno arterials and expressways for an efficient citywide traffic coordination. The network of cameras and radar systems would relay "real time" traffic and accident information to Transportation and Emergency Services that would assess the incident and dispatch the appropriate services.

Over the last several years, City of Fresno's ITS Phases 1 and 2 constructed the Traffic Operations Center and 55 miles of transportation infrastructure. The ITS Phase 3 project is now complete, building the City's ITS Traffic Coordination System and interconnecting approximately 80 traffic signals for key arterials (Blackstone, Herndon, Willow, Chestnut, Kings Canyon, and parts of Downtown Fresno). The City's Traffic Engineers have a state-of-the-art technology to monitor, model, and coordinate traffic on some of the City's major arterials, thereby, reducing commute times up to 15% and reducing emissions an estimated 80 metric tons (VO_X, NO_X) and 190 metric tons (CO_2) annually. The benefits to the community from the coordinated 80 signalized intersections is equivalent to the removal of emissions from an estimated 5000 cars, saving an estimate of 2.7 million gallons of fuel, which amounts to an estimated saving of up to $30-$50 per vehicle annually.

The City of Fresno is working with Fresno County Council of Governments (COG), Fresno County, Caltrans, City of Clovis, and Public Safety for mutually beneficial use of ITS infrastructure and technology. The City of Fresno is leveraging the ITS technology and facilities for an Emergency Management Center associated with Public Safety as part of the City's overall Disaster Response and Management preparedness strategy and Security Monitoring. Disaster Response and Management will address the coordination and management of responses to large-scale natural and man-made disaster situations. This would include a wide range of disaster types, such as floods, hurricanes, earthquakes, tornadoes, fires, avalanches, chemical spills, nuclear incidents, etc. These are events that cause significant disruption to community services, could cause significant loss of life and/or property, create major disruption in transportation services, and/or require evacuation of large numbers of people (San Joaquin Valley ITS Strategic Deployment Plan).

With the timely completion of ITS Capital Program Phases 1, 2 and 3, the City of Fresno is navigating toward our future mission critical objectives to improve mobility and emission reduction. The City's ITS Capital Program future is equally positive with the City of Fresno's ITS Program Phase 4 for synchronization of Shaw Ave being awarded through COG with $3.7 million of air quality funding for fiscal year 2009/2010. The City's Traffic Signal Mitigation Impact (TSMI) fee program will provide developer funding for future arterial signal interconnection as the General Plan is built-out.