

CHAPTER 9: TRANSPORTATION DEMAND MANAGEMENT TRANSPORTATION SYSTEM MANAGEMENT



OVERVIEW

Kings County is committed to ensuring that its residents can get the most out of its existing roadway system; the county has deployed a number of transportation system management (TSM) and transportation demand management (TDM) strategies. TSM refers to strategies that increase existing roadway efficiency without the construction of new infrastructure. This can include fix-it-first programs, pavement management, and signal operations improvements. TDM strategies promote the use of alternatives to single-occupant vehicles. These can range from the promotion of walking and biking, to improved transit operations and better broadband to encourage working from home.

A term frequently mentioned alongside TSM and TDM is intelligent transportation systems (ITS). ITS is the use of broadband or mobile communications technology in transportation. ITS interventions are frequently used in strategies to reduce single-occupant car trips, smooth traffic, and inform local agencies of maintenance issues—and can fall under either TDM and TSM, or both.

The central themes of TSM are conservation and efficiency. Persons conducting TSM studies are looking for ways to optimize the efficiency of the existing transportation system, while alleviating the need for costly construction projects. When these goals are realized, public tax dollars are conserved, as are natural resources such as energy, air quality, land, and materials. KCAG's TSM program provides a way to let decision-makers weigh lower-cost measures against more expensive options when transportation improvements are being considered.

TSM is an administrative process carried out to select improvements for the existing transportation system. Already in Kings County, TSM-like studies are routinely conducted as a part of local traffic and parking management programs, and by the Kings County Area Public Transit Agency (KCAPTA) to assess the performance of the Kings Area Regional Transit (KART) bus system. These agencies continually evaluate their transportation systems using various surveillance procedures, such as transit ridership counts, traffic counts, accident reports, field reconnaissance, etc. KCAG's program was undertaken to foster countywide coordination and to define the extent that TSM should be formalized as a planning activity. In doing so, the program: 1) sets goals and objectives for countywide TSM planning; 2) assigns KCAG as coordinator of TSM planning for the regional system; 3) provides an "idea book" or "shopping list" describing alternative TSM measures; and 4) suggests methods to monitor the effectiveness of TSM implemented projects.

GENERAL GUIDELINES

KCAG’s TSM/TDM program adheres to the following guidelines:

- 1) Foster the safe and efficient flow of passenger vehicles and trucks along heavily traveled corridors;
- 2) Minimize the costs of improving the existing transportation system;
- 3) Reduce dependency on the automobile for individual commuting;
- 4) Minimize environmental impacts of the existing transportation system; and
- 5) Improve transit system ridership.

The general workflow of the TSM/TDM planning process in the county is included as Figure 0-1.

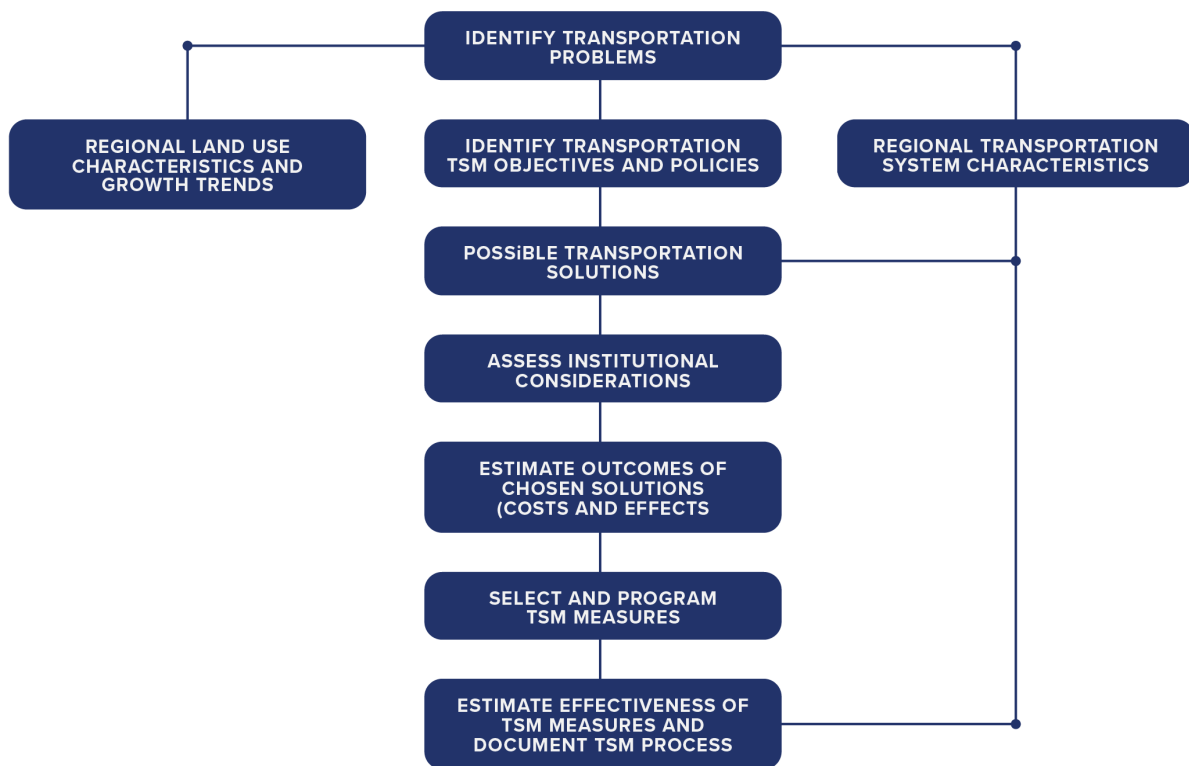


FIGURE 0-1: TSM PROGRAM DESIGN

Source: KCAG

In 2001, all 8 valley MPOs created the Valleywide San Joaquin Valley Intelligent Transportation Systems (ITS) Strategic Deployment Plan. In the plan, Kings prioritized deployment of a new traffic control system and signal operations in Hanford, regional roadway safety improvements, additional changeable message signs, railroad grade crossings, and the KART automated vehicle locator (AVL).

The AVL system was also mentioned in the 2012 California Intelligent Transportation Systems (ITS) Rural/Non-Urban Transit Statewide Plan. The plan includes additional details about the AVL system and the associated data terminals and other requirements for its setup.

ASSUMPTIONS

- 1) The physical transportation system in Kings County is largely in place, but the system has critical deficiencies, and improvements are needed if it is to fulfill its intended function.
- 2) The existing system represents a very large investment of public money and natural resources. It should be maintained and upgraded.
- 3) Transportation improvement revenues to state and local agencies are limited. Unless new monies are made available, there will probably not be enough to cover the expense of alleviating system deficiencies.
- 4) Transportation improvements are not limited to road construction and parking projects. Public transit improvement measures, non-motorized facilities, carpooling, and strategies to manage travel demand can be considered transportation improvements.

SUMMARY OF TSM/TDM ISSUES

- 1) “Valley Fog” and the nature of travel in Kings County makes traveler information systems crucial to keeping travel flowing smoothly in the County. Kings County will work closely with Caltrans to ensure that the necessary infrastructure is in place and maintained.
- 2) Efforts continue to ensure that signal and roadway operations are operating at the highest levels of efficiency.
- 3) Chapters 6 and 8 details many of the TDM strategies employed by the County, and the importance of transit and driving alternatives to the County’s environmental and quality-of-life goals. The County will continue to pursue money for transit improvements and active transportation infrastructure.
- 4) Kings County will continue to work with local and regional partners to enhance and refine TSM/TDM deployment in the county.

TSM EFFORTS IN KINGS COUNTY

PAVEMENT AND OPERATIONS MANAGEMENT

Well-maintained pavement helps reduce vehicle wear, improve facility flow, and consequently improve fuel economy. All jurisdictions within Kings County regularly submit pavement management plans. The most recent versions as of 2022 were made available on the Kings Regional Vision website. Local agencies also continue to make every effort to streamline operations, when possible, by adjusting signal timings and installing roundabouts where appropriate. Pavement Management System updates to most Kings County jurisdictions were made in 2021.

PARK-AND-RIDE LOTS

Park and Ride lots provide a meeting place where drivers can safely park and join carpools or vanpools or utilize existing public transit. Park and Ride lots are generally located near community entrances near major highways or local arterials where conveniently scheduled transit service is provided. Lots are designed exclusively for commuters, or they can consist of an area of parking spaces in complementary land uses such as shopping centers and churches. Most park-and-ride lots are constructed and designated with signs and used exclusively for that purpose, while others spring up in underused parking lots. Existing parking areas used by carpoolers should be located and plans made to designate these areas as park-and-ride lots with the Caltrans dispatch number posted. This may encourage others to carpool if they are aware that these lots exist.

Kings County has two official Park and Ride facilities. One is located at the northeastern entrance of the City of Hanford at 10th Avenue and SR 43. This location of the lot is ideal for those commuters who meet up with those traveling north and south along SR 43 for instance, to Fresno or Corcoran. The other location is the Lemoore High School parking lot located at 18th Street and SR 198, a centralized park and ride lot serving other users, with up to 250 vehicles and about 20 CalVans vans. CalVans and the high school district have a parking agreement with a current annual fee of \$25,505, which is based on a percentage of the costs to resurface the lot every 5 years.

There are a number of informal Park and Ride lots located in various communities served by CalVans vanpools. In Hanford, the Wal-Mart shopping center located on the northwest corner of 12th Avenue and Lacey Boulevard in Hanford is utilized by approximately 3 to 4 vanpools; the Lowes center on Lacey Boulevard and Centennial Way is utilized by about 15 vanpools, although up to 30 vans are allowed to be parked per day per City use permit. In Lemoore, the currently vacant Kmart shopping center located on Hanford Armona Road and Fox Street is utilized by vanpools, as well as the Lemoore Plaza shopping center located on Hanford Armona Road and Lemoore Avenue.

EMERGENCY RIDE HOME PROGRAM

In 1994 the Kings County Board of Supervisors adopted an "Emergency Ride Home Program" as a trip reduction measure to encourage employees to rideshare. Many people are unwilling to try ridesharing because they do not want to be "stranded" at their place of work. This program provides transportation to all Kings County employees who regularly rideshare for a return home in case of certain unexpected emergencies. For those employees who are registered for the program, they have the opportunity to receive an emergency ride home by contacting the Program Coordinator and either have the Program Coordinator call another registered employee for a shared ride, obtain a rental car, schedule transit service, or call a taxi. The service chosen is generally dependent upon the distance to be traveled.

CARSHARING

The City of Avenal has started a car share program to meet gaps in public transit services in Avenal through a Department of Energy grant. This is the first MioCar service in Kings County, and it is dependent on volunteer drivers to succeed with this pilot program. To support Avenal's residents who need shopping/medical appointments, KCAPTA has recently invested in the MioCar program to provide an electric vehicle for a volunteer driver program for transport residents to Hanford and to Coalinga. KCAPTA has purchased using CMAQ Funds and installed a single mobile solar panel electric vehicle charging system with battery storage in Avenal for off-grid EV charging. MioCar with ChargePoint will be installing five (5) EV chargers accessible to the public and MioCar as well.

KCAPTA is looking to implement a green car share program in Hanford for the new transit multimodal station.

TRAVELER INFORMATION SYSTEMS

Kings County continues to support the installation of changeable message signs along major state routes to warn travelers of hazards such as Valley Fog or variable conditions. Kings County also continues to coordinate with Caltrans to ensure the necessary infrastructure to monitor its roadways (e.g. CCTV cameras) is in place. Changeable Message Signs within Kings County are located along multiple segments of I-5, SR 41, and SR 198. CCTV monitoring sites within the County are also set up along SR 198 near Hanford and Lemoore, and just across the Fresno County border at the junction of SR 269 and I-5.

Traveler information systems can also help employees implement alternative work schedules to encourage employee travel to and from work outside the peak period, employers can offer alternative work schedules. The effect could be reduced congestion and smooth traffic flow during peak commuting hours by spreading the period over a greater range of time.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

ITS interventions that may decrease VMT and emissions are key components of both TSM programs and air quality improvement programs. As described in the Chapter 10, there exist significant regional efforts to facilitate carpooling and vanpooling. Kings County's deployment of real-time bus and transit management systems, to facilitate better traveler understanding of the transit system

and ease transit ridership, is a significant regional ITS deployment. The County remains committed to ensuring that travelers are well served in Kings County, including exploring how smart infrastructure can smooth traffic flow and exploring how to prepare for smart/autonomous/connected vehicles that may require infrastructure-side changes.

BROADBAND CONNECTIVITY

The availability of a telecommunication system or center enables commuters to eliminate or reduce the length of their trips to work. Telecommunications generally include both teleconferencing and telecommuting.

A trip to attend a meeting could be eliminated by the use of teleconferencing equipment by an employee to participate in the meeting from the current employment site. Telecommuting could also eliminate a trip to work altogether by allowing an employee to use a personal computer to conduct work activities at home.

The COVID-19 pandemic dramatically shifted commute patterns as public health agencies and employers adapted to an environment where employees were encouraged to work-from-home when possible. Improved internet connectivity, however, could assist with not only telecommuting, but telehealth opportunities to serve underserved communities, e-commerce for those with limited ability, and future connected infrastructure needs. Kings County will continue to pursue improvements in connectivity where needed.

TDM EFFORTS IN KINGS COUNTY

RULE 9410 (ETRIP)

In an effort to curtail transportation-related emissions, Valley MPOs implemented Rule 9410, the Employer Based Trip Reduction program. Under rule 9410, certain employers develop an Employer Trip Reduction Implementation Plan (commonly referred to as an eTRIP) and create incentives for their employees to reduce single-occupant vehicle trips to work. Employers can choose from some options and programs (detailed further in the next chapter) to help them meet the trip reduction criteria they are required to meet.

EXPANDED TELECOMMUTING

The COVID-19 pandemic has likely increased the share of workers working from home within the county. While the long-term effects of this change are not yet known, the County sees some opportunity to help decrease VMT while keeping jobs within Kings County. The County will continue to encourage employers to keep their shelter-in-place flexibility for remote workers in place where applicable.