



06

**System  
Preservation**





RIVERBANK  
CITY OF ACTION





## 6 SYSTEM PRESERVATION

Maintaining a transportation system in a state of good repair is a key component in determining regional transportation investments given that the condition of a transportation facility or service directly impacts its relative usefulness. In addition, maintaining transportation facilities and services helps to reduce the overall lifecycle costs associated with these facilities. A transportation system in a state of good repair positively affects travel by all modes, including automobile, bicycle, bus, rail, and even walking.

A city or county cannot be sustainable over the long term without a well-maintained transportation system that supports local and regional travel.

### State of Good Repair

This section highlights key components of system preservation for Stanislaus County, including roadway pavement conditions, transit operations and cost, safety, reliability, intelligent transportation, and travel demand management.

#### Roadway Pavement Conditions

Pavement quality, or Pavement Condition Index (PCI), is a measure of roadway pavement condition. As roadway pavement conditions worsen, the cost of repair increases exponentially. Therefore, StanCOG administers funding that supports local jurisdictions in achieving their maintenance and transit operational needs. Roadways in Stanislaus County are periodically evaluated for their PCI.

As shown in **Figure 6.1**, PCI provides a numerical rating for the condition of roadway segments within the transportation network, where 0 is the worst condition and 100 is the best. The PCI measures:

- 1.) The type, extent and severity of pavement surface distresses (typically cracks and rutting), and
- 2.) The smoothness and ride comfort of the road.

As shown in **Table 6.1**, with the exception of unincorporated Stanislaus County roadways, all Stanislaus County jurisdictions had an average PCI of 60 or above, which is considered At Risk.

**Figure 6.1 - PCI Range**



**Table 6.1 - Pavement Conditions Index (PCI) Data**

Name	County	Center Line Miles	Lane Miles	PCI	Condition
Ceres	Stanislaus	132.60	269.80	61	At Risk
Hughson	Stanislaus	27.40	55.10	71	Good
Modesto	Stanislaus	606.74	1,345.46	50	At Risk
Newman	Stanislaus	42.32	85.05	61	At Risk
Oakdale	Stanislaus	87.90	204.30	61	At Risk
Patterson	Stanislaus	80.87	161.64	61	At Risk
Riverbank	Stanislaus	102.99	204.82	71	Good
Stanislaus County	Stanislaus	1,559.66	3,141.87	49*	Poor
Turlock	Stanislaus	251.40	496.00	61	At Risk
Waterford	Stanislaus	24.40	55.90	71	Good

## Transit Operations and Cost

The efficiency and effectiveness of transit services are determinants of the transit system's state of good repair. Reviews of the transit system help to identify areas where unmet transit needs may exist and areas with inefficient transit service. Farebox recovery ratio for a passenger transportation system is the proportion of the amount of revenue generated through fares by its paying customers as a fraction of the cost of its total operating expenses (or more simply stated - it is the ratio of fares received to total operating cost). Farebox recovery ratio is used by transit agencies for monitoring progress toward policy goals and objectives. In order to receive the annual allocation of LTF and STA funds, jurisdictions must submit a claim. The ultimate significance of the farebox ratio is that a claimant's maximum eligibility for these funds is determined in large part by its required ratios.

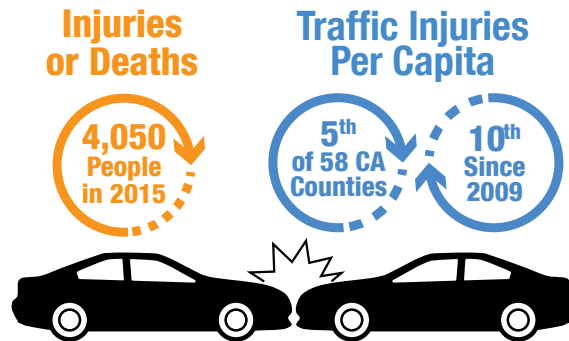
Generally speaking if an operator fails to maintain its required farebox ratio for two fiscal years (not necessarily consecutively), that operator's TDA allocation will be reduced during a subsequent penalty year by the amount of the difference between the required fare revenues and the actual fare revenues received in the second year of non-compliance. So, in addition to not being eligible for these funds, an agency's allocation can be reduced in a subsequent year. According to the Triennial Performance Audit (2016), StanCOG aims to address various needs with regards to transit services, including the following:

- Increasing public participation to determine unmet transit needs
- Gaining consistency regarding transit fare box recovery ratios
- Following standard assurances checklists
- Managing the apportionment of Local Transportation Fund revenues to transit

## Safety

According to the California Office of Traffic Safety, traffic collisions in the Stanislaus County region resulted in approximately 4,050 injuries or fatalities in 2015, ranking 5th out of 58 counties in California for the highest number of injuries and/or deaths per capita. According to Statewide Integrated Traffic Records System (SWITRS, 2015), approximately 2.3 percent of collisions in Stanislaus County result in fatalities. Of the total number of collisions resulting in injury or death in 2015,

441 (or 11 percent) resulted from an alcohol related collision, 159 (or 4 percent) involved a bicyclist, and 202 (or 5 percent) involved a pedestrian.



Between the years of 2012 to 2015, Stanislaus County has consistently been ranked high as compared to other California Counties in terms of total number of injuries and/ or fatal collisions, ranging from 5th to 12th out of 58 counties on a per capita basis. However, its relative position in California for the number of injuries and/or collisions resulting from an alcohol related collision has fluctuated, ranging from 9th out of 58 counties in 2015, to 40th out of 58 counties in 2012.



## 2018 Ranking of Number of Injuries/Deaths for Neighboring Counties

- Sacramento County 3rd Highest
- **Stanislaus County 5th Highest**
- San Joaquin County 10th Highest
- Calaveras County 14th Highest
- Merced County 26th Highest
- Alameda County 28th Highest
- Santa Clara County 41st Highest

## Reliability

Increasing travel time reliability of the transportation system is an important component of system preservation. Travel time reliability measures consistency or dependability in travel times, and applies to both vehicular travel and transit systems, as well as freight carriers and air travelers. While travel time reliability does not directly address issues of congestion, it plays an important role in traffic management and operational activities. Knowing the travel time reliability of a roadway or system allows

travelers to make more informed decisions about the specific routes they take, or the time of day in which they make a trip.

**Improvements to travel time reliability offset the worst impacts of congestion through reductions in user frustration and emissions, extending the life of existing facilities and delaying the need for widening and other capacity increases.**

### Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) utilize technology to increase the efficiency and safety of a transportation network. ITS manages traffic flow and helps to increase reliability by reducing the impacts and duration of incidents, as well as smoothing traffic flows to slightly increase roadway capacity without adding pavement.

Traditional components of ITS include advanced communications technologies that allow for information to be shared between vehicles and infrastructure. This technology includes automated speed enforcement systems, digital travel time signs, and vehicle sensors at signalized intersections, among other features. As vehicle automation becomes more advanced, communication between vehicles and infrastructure, and amongst vehicles themselves, will increase the ways in which ITS can be used to improve the transportation system.

### Travel Demand Management

In order to request funding for capacity enhancing transportation improvement projects, the region must couple these requests with efforts to reduce overall travel demand. The goal of a Travel Demand Management (TDM) program is to develop alternatives to single-occupancy vehicle travel, with the ultimate goal of reducing vehicle miles travel (VMT). **Table 6.2** presents the anticipated reduction in VMT resulting from various TDM efforts. Some alternatives to single-occupancy vehicles are described below.

**Table 6.2 - 2035 Vehicle Miles Traveled (VMT) Reductions**

Year	Cal-Start	ACE Forward	Active Transportation	TDM	Total
2035	5,471	30,755	25,609	152,099	<b>213,934</b>

### Altamont Corridor Express

The StanCOG 2018 RTP/SCS includes an extension of the Altamont Commuter Express (ACE) through Stanislaus and Merced Counties with stops in Modesto, Ceres, and Turlock. The service would then continue to the City of Merced. ACE service would include one train per day in each direction between Stanislaus County and San Jose, and three trains per day between Stanislaus County and Sacramento. This could displace as many as 1,960 single occupant vehicles each day, primarily from commuters. The three Sacramento-bound trains would offer a transfer at Lathrop for those traveling to Alameda County or San Jose.

### Cal-Start Vanpool

CalVans is a California Vanpool Authority program that provides van-share options for qualified California residents, with service in Stanislaus County. It is anticipated that single occupant vehicle drivers will opt to use the new vanpool capacity, thereby reducing VMT within the County. Most vanpools serve inter-county commutes, so the service will have much greater VMT benefit than what is shown for just Stanislaus County.

### Dibs

Dibs is a informational travel service provided throughout Stanislaus, San Joaquin, and Merced counties. By linking people with information on transportation options, including carpooling, vanpooling, transit, and alternative modes, Dibs aims to reduce single-occupancy trips and congestion.

### SJVAPCD Rule 9410 (Voluntary Employer Travel Demand Management Program)

The goal of this program is to require larger employers to establish an Employer Trip Reduction Implementation Plan (eTRIP) to encourage employees to carpool or use transit services to reduce single-occupant vehicles trips. By year 2035, this TDM program could result in an approximate reduction of 152,099 vehicle miles traveled.

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