The extent to which the 2014 RTP/SCS improves the performance of the region’s transportation system, improves mobility and access, and reduces congestion for residents of the region over time are key measures of success.

This chapter describes the multimodal performance and priorities for regional transportation infrastructure and service improvements. It includes information on various components of the region’s transportation system, including roadways, transit, biking and walking, aviation, rail, and goods movement. The 2014 RTP/SCS is not merely a list of transportation projects; it is a comprehensive land use, transportation, and investment strategy to improve accessibility to, and the operation of, all transportation modes in order to meet the region’s current and future mobility needs.
INTRODUCTION

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This chapter describes the multimodal performance and priorities for regional transportation infrastructure and service improvements. It includes information on various components of the region’s transportation system, including roadways, transit, biking and walking, aviation, rail, and goods movement. The 2014 RTP/SCS is not merely a list of transportation projects; it is a comprehensive land use, transportation, and investment strategy to improve accessibility to, and the operation of, all transportation modes in order to meet the region’s current and future mobility needs.

A Better Planning Approach

Growth is inevitable; therefore, it must be planned for in the most sustainable way possible. The planning process must consider the impact of both land use and transportation planning decisions. These planning areas, which also include environmental and economic planning, are linked; policies regarding one area affect the others. Planning efforts such as the San Joaquin Valley Blueprint, and legislation such as SB 375, recognize this concept. Future regional planning efforts conducted by MPOs will continue to link these planning areas together, accounting for the transportation, housing, environmental, and economic needs of the region. The 2014 RTP/SCS sets precedent for this future planning process.
LINKING LAND USE AND TRANSPORTATION PLANNING

With the development of the Sustainable Communities Strategy as part of the regional transportation planning process, as well as the San Joaquin Valley Blueprint, the region has begun to move in a more sustainable direction – one that better matches transportation investment with land use planning. Sustainable transportation and land use strategies include land use patterns that help reduce the amount of auto travel required to meet the needs of the people who live, work, shop, or play in a specific development or community. By concentrating new development in and around existing urban areas where transit services are available, or where more urban services are within walking or bicycling distance, sustainable strategies seek to reduce the amount of automobile travel required by making it possible for more trips to be made by transit, bicycling, or walking. This approach of tying transportation planning to land use planning helps to reduce vehicle miles traveled (VMT) as well as reducing emissions of health-based criteria pollutants and those associated with climate change. Therefore, the 2014 RTP/SCS emphasizes a regional approach to transportation issues embedded in the context of sustainable transportation and land use planning within the County. The continued integration of land use and transportation planning will further improve the environment and quality of life in the region.

Regional Cooperation

StanCOG places a great emphasis on regional cooperation in all planning efforts. This was increased for the 2014 RTP/SCS because it addresses land use planning to a far greater extent than previous RTPs. To ensure that the Plan is accurate, feasible, and implementable, the Plan was developed in close coordination with the region’s local agencies, as they maintain land use authority and are ultimately the bodies responsible for carrying out the Plan.

This Plan supports local land use plans and development projects in three ways. First, the Plan has been developed in collaboration with local agencies and is based upon assumptions about future land use patterns for each jurisdiction. As part of the development of the land use scenarios, including the preferred scenario, StanCOG worked closely with each local jurisdiction to ensure that the land use assumptions used in the travel forecasting model reflected the most accurate and reasonable assumptions possible. Second, by using local land use projections, transportation needs and priorities are evaluated and selected based on their ability to contribute toward the development of an efficient transportation system that supports locally desired development patterns. Finally, the Plan identifies projects, actions, and programs that can be incorporated into the local general plans and other land use decision-making actions. StanCOG will continue to collaboratively work with local agencies to ensure that this comprehensive, regional planning approach will respect local policies, while continuing to provide support for future land use and transportation planning decisions at the local level.
REGIONAL TRANSPORTATION PLAN DEVELOPMENT

StanCOG has developed two overarching planning concepts for regional transportation planning: Fiscal Constraint and System Planning. StanCOG views these two issues as vital in the regional planning process and as a Metropolitan Planning Organization (MPO). As a regional entity, StanCOG is charged with addressing issues that cross jurisdictional boundaries. System planning addresses the needs of the entire region as well as those moving through the region. All this must be accomplished under fiscal constraint as we cannot make improvements with money we do not have.

System Planning

System planning is a comprehensive review of the entire transportation system on a regional level, not bound by local agency lines or modal delineations. System planning considers the region as a whole and incorporates all modes of the transportation system to address the travel and movement needs of both people and goods.

Fiscal Constraint

Funding for transportation improvements is limited and has historically not kept pace with the needs of the region. StanCOG recognizes this fact and has prepared the 2014 RTP/SCS in the context of fiscal constraint, focusing the limited resources on top priority needs for the region to maximize the benefit of each dollar spent. This approach builds upon the region’s existing transportation system, funding commitments made to major projects that are programmed or under construction, and available traffic and travel pattern data to determine the region’s various transportation needs. The Plan identifies transportation improvements, which will ultimately be incorporated into the Federal Transportation Improvement Program (FTIP) as they near project construction and determine exact funding amount and the sources of those funds.

Fiscal constraint requires future revenues to match the estimated cost of proposed projects over the 26-year life of the Plan. Fiscal constraint ensures prioritization of fundable projects, allowing jurisdictions to focus their efforts on projects that bring about real benefit and that support the Plan’s goals and policies for all transportation modes.
PERFORMANCE

This planning process first determined a vision for the future of the Stanislaus region. Scenarios were then developed to measure and evaluate the effect of various land use and transportation investment strategies carrying out this vision in different ways. The scenarios also determined whether and how the strategies would meet the Plan’s goals and objectives. The scenarios were evaluated using a number of performance measures relating to the goals of the Plan.

Performance measurement is a critical part of planning. Being able to predict or measure the performance of a plan, helps to explain and support planning and investment decisions.

The long-range outlook of the Plan is evaluated using several measures. These measures closely link transportation system performance and land use strategies. Comparisons are made between the Plan scenario (Scenario 3, Moderate Change) and Scenario 1, Historical Trend. The Historical Trend scenario best approximates business-as-usual practice given historic trends in land use and transportation planning for the region. With this comparison, the performance of the Plan can be measured against previous practices to evaluate the benefits of the Plan.

The results of the transportation related performance measures (the RTP requirement) are provided below; the land use based performance measures (the SCS requirement) are included in Chapter 7.

The following performance measures highlight the Plan’s results. It is important to note that many of the land use performance measures reflect net new growth only (2014-2040), considering only new development, while the transportation system metrics reflect the effects of both existing and new development combined.

These performance measures should not be construed as mandates or consistency requirements for local agencies but rather as ways to assess the 2014 RTP/SCS relative to existing business-as-usual patterns of transportation investments and development. However, the greenhouse gas emissions per capita targets have been established as regional mandates by the California Air Resources Board under Senate Bill 375.

The infographics for the following measures correspond to the business-as-usual and the Plan scenarios as follows:

Quality of Life

The transportation system impacts everyone. The ability of people to move between places reliably and safely is a very important component of work, social, and personal well-being. Additionally, the ability for an individual to choose a mode of transportation that is best for them provides the opportunity to make healthy decisions, and can add recreational outlets. The quality of life indicators include items that impact economic vitality, social equity, and health and safety.
Vehicle Hours of Congestion

The amount of time spent in congestion is associated with real costs to people who have to spend more time away from their families, greenhouse gas emissions, and real financial cost in terms of extra fuel consumed, additional vehicle maintenance, and loss of productivity. The Plan increases the amount of time spent in congestion compared to the Historical Trend scenario. This is primarily due to less investment in roadway capacity increasing projects.

Average Bike/Walk Trip Length

The average distance for non-automotive trips does not change from the Historic Trend scenario to the Plan scenario. However, the Plan encourages greater densities, more mixed land use, and better transit services to population centers. These changes may encourage more people to choose non-motorized transportation modes.

Mobility and Accessibility

Congestion and inefficiency in the transportation system can increase the cost of commodities, generate air and water pollution, increase fuel consumption, and reduce an individual’s daily productivity. Transportation system users may face different challenges based on their access to a car, the existence of nearby transit services, employment schedule, or trip purposes. These measures track system efficiency and equity.

Percent of Low Income and/or Minority Persons Benefitting from Roadway Expenditures

Minorities and low income populations are often unable to take time and resources to participate in public input opportunities for local and regional plans. It is therefore important to ensure that those populations are not excluded or by-passed when improvements are proposed and developed. These populations are served at a nearly equal weight between the Historical Trend and Plan scenarios.

Percent of Housing within 0.5 Miles of Frequent Transit Service

The combination of increased transit investment and the concentration of growth in urban centers near major transportation corridors will result in a greater proportion of households having access to frequent transit without needing to drive to a park and ride facility. Proposed bus rapid transit services in the Plan scenario has a large impact on providing transit access to more
households compared to the Historic Trend scenario.

**Percent of Low Income Housing within 0.5 Miles of Frequent Transit Service**

<table>
<thead>
<tr>
<th>Percent of low-income and/or minority housing within 0.5 miles of frequent transit</th>
<th>Low</th>
<th>Med.</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent is equal to two buses per hour or more</td>
<td>39%</td>
<td>33%</td>
<td>28%</td>
</tr>
</tbody>
</table>

The Historical Trend scenario offers only limited increases in transit service, while the Plan scenario proposes several new services and improvements to existing ones. Low income populations are generally concentrated in areas with higher density and are therefore more easily served and receive more benefit from transit services. Many of the services proposed in the Plan scenario improve service frequencies in urban areas, particularly near major transportation corridors.

**Transit Ridership**

| Daily transit ridership | 223,724 | 381,449 |

The increase in transit ridership shown in the Plan scenario is reflective of the additional households served by frequent transit. Additional increases to service frequency will provide connections to more places within Stanislaus County, increasing trip options for transit riders.

**Percentage of Congested Lane Miles**

| Percentage of congested lane miles | 19.5% | 19.0% |

The amount of congestion anticipated throughout Stanislaus County is not projected to be impacted significantly by either scenario. The Plan scenario provides a small decrease in the percentage of congested lane miles by consolidating growth in existing urban areas.

**Congested Lane Miles on Major Goods Movement Corridors**

| Congested lane miles on major goods movement corridors | 288 | 374 |

The Plan scenario limits roadway expansion and allows more congestion than a strictly road-based investment strategy but still allows goods to efficiently move throughout the region similar to the the Historical Trend scenario.

**Weekday Vehicle Miles of Travel per Capita**

| Weekday Vehicle Miles of Travel per Capita | 15.1 | 15.0 |

Average weekday vehicle miles of travel per capita is slightly reduced relative to the Historic Trend Scenario. This indicates that less travel will occur by motor vehicle under the Plan. Less VMT per capita can result from either a shift to non-motorized forms of transportation and/
or improved accessibility due to more compact development patterns.

**Injury/Fatality Rate per 100,000 Vehicle Miles Traveled**

| Injury/fatality rate per 100,000 vehicle miles traveled | 30.79 | 30.62 |

Roadway safety improves from the Historic Trend to the Plan scenario. Shorter trip lengths, reduced congestion, and a larger number of trips being made using transit, bicycles, and walking lead to fewer vehicles on the road. Crash severities also decrease because more trips are made at lower neighborhood speeds as opposed to regional and interregional trips on higher speed corridors.

**Environment and Sustainability**

The transportation system has major impacts on our environment, public health, and is one of most visible and costly infrastructure investments we make as a society. The following measures track how well we balance our level of investment and our land use strategies with the goals of addressing climate change and ensuring clean air for future generations.

**Total Bikeway Improvement Funding**

| Total bikeway improvement funding in millions of dollars | $205.6 | $224.6 |

Investment in bikeway infrastructure increases from the Historic Trend to the Plan scenario.

The Plan scenario’s increase in bikeway funding, coupled with enhanced transit investments helps to maximize the viability of multiple travel choices and minimize reliance on single occupant vehicles.

**Roadway Maintenance**

| Roadway maintenance dollars per lane mile per year | $2,473 | $2,367 |

Roadway maintenance requirements are related to the size of the road network that exists under each scenario. Lower roadway maintenance costs in the Plan scenario are reflective of reduced roadway system expansion in favor of investments into other transportation modes.

**Greenhouse Gas Emissions per Capita**

| Greenhouse gas emissions per Capita | 19.1 | 19.1 |

Vehicular traffic is a major source of greenhouse gases, in particular carbon dioxide. Improved vehicle efficiency helps to maintain emissions at their current levels despite population growth. Reduced dependence on single occupant vehicle trips further lowers emissions for both scenarios as investment into alternative transportation modes is increased. Stanislaus County achieves its targeted emissions reduction budgets established by CARB under SD 375 for both scenarios.
Health-Based Criteria Pollutant Emissions

Vehicular traffic is a major source of health-based criteria pollutants, such as particulate matter (PM10 and PM2.5). Reduced dependence on single occupant vehicle trips further lowers emissions for both scenarios as investments into alternative transportation modes is increased. Stanislaus County achieves its targeted emissions reduction budgets under both scenarios.

TRANSPORTATION ACTION PLAN

The Plan seeks to develop an improved transportation system that advances the seven established goals. As previously identified, these goals and objectives were created after analyzing the region’s existing demographic and transportation system conditions, and forecasting future changes to those conditions. The following proposed actions are a set of tools that will enable StanCOG and the region’s local jurisdictions to implement the goals and objectives established in the 2014 RTP/SCS. Implementing these actions will ensure a transportation system that increasingly meets the needs of businesses, residents and visitors. The actions include tasks that are currently being undertaken throughout the region, or will be addressed over the life of the Plan.

Goal #1. Mobility & Accessibility

Improve the ability of people and goods to move between desired locations; and, provide a variety of transportation choices

Objectives

- Apply new technologies to make travel more reliable, convenient, and accessible for all modes
- Implement the projects identified in the 2013 StanCOG Non-Motorized Transportation Plan (NMTP) to ensure a workable network of alternative modes of transportation in the system
- Integrate the regional expressway study into the 2014 RTP/SCS and local general plans
- Implement complete streets projects to improve roadways impact of quality of life throughout the region and provide greater transportation choices
- Expand transportation mode choice for all residents and visitors

Actions

- Integrate Intelligent Transportation System (ITS) strategies into projects and programs
- Identify potential locations and standards for construction of High-Occupancy Vehicle (HOV) lanes and other improvements to reduce congestion
- Continue to work with transit providers to produce and implement programs from the most recent Stanislaus County Transit Needs Assessment Study
- Incorporate advanced public transportation management practices and Intelligent Transportation System (ITS) strategies into public operations
• Work with transit providers to collect data by monitoring the productivity, reliability, efficiency, and coverage of the transit system and utilize data to make recommendations for improvement

• Continue to pursue all forms of federal and state grant funding to improve transit operations

• Prepare a feasibility study and strategic implementation plan to extend ACE services to the region

• Continue to work with the Altamont Corridor Express Project (ACE) that was formed to facilitate the extension of ACE into the Stanislaus region

• Continue to work with the San Joaquin Regional Rail Commission and the California High Speed Rail Authority (CHSRA) to plan for and construct a high speed rail line through the region

Goal #2. Social Equity
Promote and provide equitable opportunities to access transportation services for all populations and ensure all populations share in the benefits of transportation improvements and provide a range of transportation and housing choices

Objectives
• Provide an equitable level of transportation for all modes for all users

Actions
• Implement complete street projects that provide access to all users

Goal #3. Economic and Community Vitality
Foster job creation in agricultural and non-agricultural sectors, and encourage business attraction, retention, and expansion by improving quality of life through new and revitalized communities

Objectives
• Improve the movement of goods in the region by supporting the enhancement of goods by land (including rail) and air

Actions
• Provide guidance and assistance on any proposed project which will increase the use of rail to move goods

• Continue participation in the San Joaquin Valley Goods Movement Task Force and associated Study

• Adopt and integrate the regional expressway study into the RTP and local general plans

• Identify high priority grade separation projects and capacity enhancements/operational strategies to improve travel times and increase safety
• Work with the Modesto City-County Airport to develop opportunities to expand air transportation services, including corporate aviation and general aviation; also increase scheduled air carrier service between the MCCA and major airports

• Implement projects to improve access to the MCCA

**Goal #4. Sustainable Development Pattern**

Provide mixed land uses and compact development patterns, and direct development toward existing infrastructure to preserve agricultural land, open space, and natural resources

**Objectives**

• Preserve farmland and natural resources by integrating land use and transportation planning

**Actions**

• Continue to build upon the 2014 RTP/SCS to continue to better integrate land use planning and transportation planning

• Coordinate with local agricultural, open space, and resource organizations to help reduce impacts on agricultural land, open space, and natural resources

• Coordinate with LAFCO and utilize the Municipal Service Review process to better determine whether or not cities and special districts have the capacity and/or capabilities to provide the necessary municipal services within their respective boundaries.

**Goal #5. Environmental Quality**

Consider the environmental impacts when making transportation investments and minimize direct and indirect impacts on clear air and the environment

**Objectives**

• Lower overall vehicle miles traveled, reduce greenhouse gas emissions, and improve overall air quality

**Actions**

• Incorporate evaluation frameworks such as the Smart Mobility Framework (SMF) and/or Sustainable Transportation Analysis & Rating System (STARS)

**Goal #6. Health & Safety**

Operate and maintain the transportation system to ensure public safety and security; and improve the health of residents by improving air quality and providing more transportation options

**Objectives**

• Maximize safety and comfort for transit users

• Promote non-motorized modes of transportation to help encourage healthy travel

**Actions**

• Construct bicycle and pedestrian facilities in accordance with the Stanislaus county non-motorized transportation plan
StanCOG is committed to funding more “complete streets” projects that allow users a wider range of transportation choices and improve the region’s overall quality of life.

- Install ‘Share the Roads’ signs on existing and proposed roadways
- Continue to work with Commute Connection to develop and distribute materials to encourage biking and walking as alternatives to automobile use
- Continue participation in ‘Bike to Work’ day and other festivities and seminars that educate the public on the benefits of biking and walking

**Goal #7. System Preservation**

Maintain the transportation system in a state of good repair, and protect the region’s transportation investments by maximizing the use of existing facilities

**Objectives**

- Protect the region’s investment by preserving the condition of the existing transportation system

**Actions**

- Develop a comprehensive traffic management plan for the state highway system and regionally significant routes
- Design and implement a countywide Pavement Management Plan to be used in establishing and prioritizing maintenance needs at the regional and local level

**TRANSPORTATION PRIORITIES**

StanCOG will continue to monitor the performance of the Plan during subsequent planning processes and as needed. As results are prepared, StanCOG will continue to re-evaluate the investment and land use strategies identified. For now, the following is a list of priorities, by transportation mode type, that StanCOG will continue to emphasize its planning efforts.

**Roadway Priorities**

As a primarily rural county that has increasingly been urbanized, the Stanislaus region is roadway-centric, and is anticipated to remain this way for the foreseeable future. StanCOG and the local agencies have made efforts to emphasize and encourage alternative modes of transportation and land use strategies to reduce the high percentage of automobile use. While the bulk of the funding for this Plan, and future plans, will be used to maintain, preserve, and improve roadways through rehabilitation, reconstruction, and capacity enhancements, StanCOG is committed to funding more “complete streets” projects that allow users a wider range of transportation choices and improve the region’s overall quality of life.

The roadway projects are designed to meet the regional and local needs, and to accommodate future growth within the County and neighboring jurisdictions. To accommodate the preferred scenario’s growth pattern, rehabilitation and new capacity projects are recommended as a part of a multimodal approach to improving the region’s transportation system.
Chapter 6: Transportation Plan and Policies

The total estimated cost for all proposed Tier 1 road projects identified in the Plan is approximately $2.71 billion.

**Complete Streets**

For too long, streets that are designed around accommodating automobile travel have been a funding priority. Less priority has been given to projects that accommodate walking, biking, or transit opportunities. The complete streets approach is a paradigm shift in traditional road construction philosophy. Instead of a project-by-project effort to accommodate bicycle and pedestrian friendly improvements, complete streets projects ensure that all road construction and improvements evaluate how the right-of-way serves all who could use it, not just the automobile. Complete streets are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit-riders of all ages and abilities. Typically, complete streets roadways include sidewalks, bicycle lanes, well-designed and well-placed crosswalks, bus pullouts or special bus lanes, street trees, and center medians – all designed to encourage and accommodate use by all modes of travel.

**Pavement Management Program**

In 2012, StanCOG implemented a regional Pavement Management Program (PMP) update. This update assessed the current pavement condition of the region’s roadway networks within the County’s nine cities and unincorporated areas. The PMP update identified that the average condition of roadway pavement in Stanislaus County was fair, with some networks having more at risk pavement conditions and other areas having good pavement conditions.

The regional PMP update also identified that current funding available for maintaining and repairing roadways significantly falls short of what is needed to maintain or improve current pavement conditions. Recognizing this critical situation, determining the right transportation funding investments and projects in the Plan is even more important given that existing funding cannot address all of the region’s pavement maintenance needs.

**Intelligent Transportation Systems (ITS)**

ITS, as defined in the “National ITS Architecture”, refers to the employment of “electronics, communications, or information processing used singularly or in combination to improve the efficiency or safety of a surface transportation system.” The implementation of ITS is a priority for the U.S. Department of Transportation and a central focus for the San Joaquin Valley region. The key ITS plan for Stanislaus County is addressed below.

**San Joaquin Valley ITS Strategic Deployment Plan**

The Intelligent Transportation System Strategic Deployment Plan (ITSSDP) for the San Joaquin Valley region is a 20-year study jointly funded by Caltrans and the eight individual counties in the Valley. San Joaquin Council of Governments (SJCOG) is serving as the project administrator. The ITSSDP identifies a strategy for valley-wide and inter-jurisdictional initiatives to address transportation problems that affect the entire region. The development of the ITSSDP followed a combined planning and broad level systems engineering approach that included the identification of problems and needs, development of an ITS vision and goals for the valley.
Transportation Demand Management (TDM) projects and programs involve strategies or actions that focus on changing travel behavior and choices.

region, and the selection of a preliminary set of ITS strategies consistent with the national and statewide ITS architecture. The tool kit of strategies and recommendations include: emergency call boxes, changeable message signs (CMS), signal synchronization and preemption, highway advisory radio messages, traffic monitoring stations (TMS), and roadside weather information systems (RWIS). Specific ITS opportunities and efforts identified for Stanislaus County include:

• The City of Modesto and the City of Ceres are working jointly to create a Traffic Management System (TMS) to develop an integrated Urban Automated Traffic Management System (ATMS) between the two cities;

• Improving safety and mobility on Stanislaus County’s east-west rural highways including SR 132 between the I-5 and SR 99 corridors using Road Weather Information Systems (RWIS);

• Utilizing Intermodal freight facilities to provide improved information to commercial vehicles; and,

• Improving travel mobility, coordination, and information transfer between the urbanized areas of Stockton and Modesto along the SR 99 corridor.

Transportation Control Measures (TCM)

Transportation Control Measures are defined by the Federal Transportation Conformity Rule as any action taken to adjust traffic patterns or reduce vehicle use in order to reduce air pollutant emissions. TCMs generally include two strategies: System Management and Demand Management.

Transportation System Management (TSM)

Transportation System Management (TSM) projects and programs are low cost actions that maximize the efficiency of existing transportation facilities and systems. Typical projects include signing and striping modifications, high occupancy vehicle lanes, ramp metering, parking restrictions, paving and re-striping, signal preemption, speed modifications, and traffic calming. In urbanized areas, strategies using various combinations of techniques can be implemented. However, in relatively rural areas, many measures that would benefit urbanized areas are not practical.

In 2009, the StanCOG Policy Board approved the Northern San Joaquin Valley Regional Ramp Metering and High Occupancy Vehicle (HOV) Master Plan, a plan that allows and/or encourages the region to continue planning for these types of facilities. This plan will help guide improvements to the region’s major corridors such as SR-99. When this is complete, an HOV lane will be considered to help relieve congestion and improve commute and travel speeds.

The Plan includes intersection improvements and system preservation projects that will help to improve the existing system without adding new roads or capacity to the system. These types of improvements are a priority for the region. They account for approximately 37 percent of all road projects.
Transportation Demand Management (TDM) projects and programs involve strategies or actions that focus on changing travel behavior and choices. TDM strategies include ridesharing, carpooling/vanpooling, telework options, guaranteed ride home programs, improved transit access, bicycle and transit integration, parking management, and smart growth land use development projects/programs designed to improve access to the transportation system. TDM programs should generally be ongoing to provide continual support for and encourage more participating users, while respond to future opportunities and changes in individual’s travel needs and preferences. TDM programs in Stanislaus County include the following:

**Commuter Connection**

Commuter Connection is a free, one-stop, transportation information and referral service program. The program provides information and user databases for carpooling, vanpooling, transit and rail, bicycling, walking, and park and ride lots throughout San Joaquin, Stanislaus, and Merced Counties. Some of the primary services provided in the program include, but are not limited to, providing maps that identify locations of bike paths, park and ride lots and available bike parking, ride matching database services, guaranteed ride home services, vanpool placement and voucher reimbursement, and assistance with identifying the location/schedule of local public transit systems. Commuter Connection further works directly with major employers and other advocacy groups to promote alternatives to single-occupancy travel through various presentations and annual events such as Rideshare Week and Bike to Work Week.

**Interregional Multimodal Commute Trip Planner**

San Joaquin Council of Governments completed the Interregional Multimodal Commute Trip Planner Study in 2013 to evaluate commute patterns and the potential need for a new multimodal trip planner (MMTP) in the three counties of Stanislaus, San Joaquin, and Merced. This study was undertaken to evaluate whether a new system is needed to replace Commute Connection, in order to better reduce traffic congestion and improve air quality.

The MMTP study found that there is no single source of information on travel mode alternatives for commuters to make informed travel mode decisions. Additionally, the study reinforced that there is a significant amount of interregional commuting from the three-county region to other areas, particularly the San Francisco Bay Area and Sacramento. In response to these findings, the study recommended the implementation of a new MMTP to cover commutes to neighboring regions as well as all available modes, including carpooling and vanpooling. This new trip planner could provide significant benefits, including a centralized location for commute information, potential cost savings from other available commute options, improved air quality through reduced single occupant vehicle commutes, and help transit operators coordinate services in the region.

**eTRIP Employer-Based Trip Reduction**

The San Joaquin Valley Air Pollution Control District’s (SJVAPCD) eTRIP (Rule 9410) Employer-Based Trip Reduction is a federally mandated rule (per 1990 Clean Air Act) and is applicable to all eight MPOs in the San Joaquin Valley. It was formally adopted by the SJVAPCD in December.
2009. Its purpose is to reduce vehicle miles traveled by employees to and from work in order to limit emissions of nitrogen oxide, volatile organic compounds, particulate matter and greenhouse gases.

The eTRIP rule requires jurisdictions within the San Joaquin Valley (including San Joaquin and Stanislaus County) to implement employee trip reduction programs by the year 2014. Only employers with one hundred or more full-time eligible employees who are not engaged in agriculture seasonal labor for food harvesting and processing are be subject to eTRIP (Rule 9410). Employers with two hundred and fifty or more full-time employees are required to develop more comprehensive TDM plans than smaller employers. Phase 1 implementation of SJVAPCD Rule 9410 began in the San Joaquin Valley in 2012, Phase 2 in 2013 and Phase 3 is scheduled to occur in 2014. To empirically track the effectiveness of the program commute verifications are scheduled to begin in 2014 and annual reporting by employers will begin in 2015. More information for eTRIP (Rule 9410) can be found at the SJVAPCD website.

Congestion Management

Congestion management refers to the process of managing traffic congestion and providing information on transportation system performance. Congestion management programs include strategies to alleviate congestion and enhance the mobility of persons and goods in the region.

In Stanislaus County, local jurisdictions have adopted their minimum level of service for their respective transportation networks in their general plan circulation elements, which they are responsible for monitoring and maintaining. The jurisdictions in Stanislaus County are closely aligned with the StanCOG traffic model to assess project traffic impacts on the region’s existing transportation system. This approach ensures consistency between StanCOG and its member jurisdictions in evaluating the regional system’s performance. A CMP Deficiency Plan with identified mitigations will be required if the Level of Service (LOS) on the affected system exceeds the minimum accepted LOS because of direct impacts from new development. StanCOG’s CMP established an LOS standard of LOS D. The cities of Modesto, Turlock and Ceres have also adopted LOS D as their minimum LOS performance. Stanislaus County has established LOS C as its goal. The remaining cities have adopted LOS C as their performance standard.

Sustainable Transportation Tradeoffs

In some cases, congestion relief goals may come into conflict with sustainable transportation goals. For example, typical congestion relief efforts that improve mobility by increasing roadway capacity and/or travel speeds may promote longer trip lengths by allowing users of the transportation system to travel longer distances within the same amount of time. So although providing congestion relief, such improvement projects can increase vehicle miles of travel (VMT), this can run counter to the sustainable transportation goals of providing greater accessibility (access to more destinations) over greater mobility (distance traveled in a given time period).

Similar tradeoffs can occur when examining the benefits of sustainable transportation projects that promote non-motorized transportation. For example, “Complete Streets” projects that aim
to modify the shared roadway right-of-way to enhance the quality of service for pedestrian and bicycle modes typically include efforts to moderate or reduce vehicle speeds and/or capacity. This can result in more miles being driven in the lower vehicular speed ranges which are less efficient in terms of vehicular greenhouse gas emissions. In addition to these specific project types, the Stanislaus region is generally challenged by having a relatively higher proportion of its roadway system functionally classified as lower order facilities (local, collector, minor arterial) than like urbanized counties. As a result, more VMT generally occurs on facilities where speeds are not as efficient for greenhouse gas emissions.

The 2014 RTP/SCS, through a mix of operational and capacity improvements, transportation demand strategies, and increased emphasis and funding for transit has succeeded in reducing congestion in future years, increasing accessibility of all modes and reducing both health based pollutants and climate change pollutants from motor vehicles. However, as indicated above, tradeoffs between the various goals of the 2014 RTP/SCS and the projects that support these goals must be recognized.

**Congestion Management Process (CMP), January 2010**

Per state statute, StanCOG is the Congestion Management Agency (CMA) for the Stanislaus County region. As the CMA, StanCOG has the responsibility to prepare and maintain a CMP. The 2009 update to the CMP was adopted in January 2010. The CMP is an integrated component of StanCOG’s planning process in which a systematic progression of activities to analyze and address regional congestion is integrated into the Plan and Federal Transportation Improvement Program (FTIP) development processes. The CMP is a performance-based monitoring process which is consistent with, and assists in, the implementation of the Plan.

StanCOG prepared a comprehensive CMP update in 2010 for the development of the 2011 RTP and will prepare a similar update to the CMP prior to the next RTP planning cycle. As an interim step, several key components of the CMP update were performed and are reflected in the 2014 RTP/SCS. These include updating the ADT LOS thresholds to reflect the 2010 Highway Capacity Manual (the 2010 CMP is based on the previous manual) and application of the StanCOG’s new MIP travel demand model (the 2010 CMP is based on StanCOG’s predecessor model). Future roadway capital improvement projects identified in the Tier I (financially constrained) and Tier II (financially unconstrained) of the 2014 RTP/SCS were determined to still support identified CMP congestion relief needs.

**Regional Expressway Study**

StanCOG is in the process of preparing a Regional Expressway Study, which is an update of the 1990 Study, adopted by the StanCOG Policy Board. The update will serve as a foundation for future, more frequent updates of the Study. For this phase of the update, we have outlined two tasks: an inventory of existing expressways and review of currently proposed expressways. The intent is to build the best foundation possible for future information so that this is a document that can be used by the region’s local agencies and StanCOG.
Transit Priorities

StanCOG is making strides to improve transit service in the region and is working with the public, and region’s public and private transit service providers to address the needs of all residents. As a result of the Stanislaus County Transit Needs Assessment Study, in 2009, StanCOG formed the Stanislaus region’s Consolidated Transportation Services Agency (CTSA). The CTSA was tasked to administer a “door-through-door” service for qualified riders, and further provide coordinated services designed to address transit service gaps that could not be addressed by either public transit operators or human service agencies. Through collaboration with the CTSA and all of the region’s public and private transit providers, StanCOG is committed to identifying and providing services to meet the region’s transit needs.

The Stanislaus region’s transit systems are intended to provide residents with an alternative to the automobile to meet access and mobility needs. For some people, transit is a vital link to their home, work, and daily needs. Transit projects in the 2014 RTP/SCS were developed by the County, City of Ceres, City of Modesto, City of Turlock, and CTSA to meet the goal and objectives through implementation of the transit actions. Appendix K identifies transit projects that ensure that transit equipment, facilities, and amenities maintain the effectiveness of transit service in the County as well as modernize transit operations.

The total for all Tier 1 transit projects identified in the Plan is $1.46 billion.

Transit Service Improvements

The region will continue to promote measures such as increasing transit service frequencies, operating speeds, service coordination, and service connections to attract additional ridership and reduce automobile mode share. StanCOG will further consider other projects including the designation of multimodal streets and/or transit boulevards, and operational improvements such as signal priority for transit vehicles, in the Plan.

Bus Rapid Transit

The goal of bus rapid transit (BRT) systems is to approach the service quality of rail transit while still enjoying the cost savings and flexibility of bus transit. This goal is typically achieved by designating traffic lanes or other travel paths solely for bus travel. This allows buses to operate more freely, reducing the effects of operating on congested roadways. It also allows pedestrians increased and safer access to the bus, thus reducing loading times.

San Joaquin Valley Express Transit Study (SJVETS), May 2009

StanCOG has embraced recommendations from the SJVETS to pursue efforts for inter-county, commuter express transportation service within the San Joaquin Valley region. The coordinated effort will focus on expanding vanpool programs in the northern and southern parts of the Valley, maintaining inter-regional bus service in the highest demand corridors, expanding bus service into Stockton, Sacramento and the Bay area as funding allows. In addition, StanCOG will continue lobbying for state and federal funds to improve ACE, and future connections to the planned California High Speed Rail network.
Rail Priorities

Recognizing a desire for more sustainable living, the region is positioning itself to take advantage of implementing a future rail passenger system to serve intercity and interregional travel. The importance of rail to help expand passenger travel, enhance goods movement, and achieve environmental and air quality goals is recognized by StanCOG and its member agencies. The most important activities planned for in the Plan include conducting a feasibility study to determine potential rail improvements and support actions necessary for intercity rail service, and continued coordination with the ACE, SJJPA, and CHSRA projects planned for the Bay Area and Central Valley.

Altamont Rail Corridor Project (ARCP)

ACE has formed a working group to develop the Altamont Corridor Rail Project (ACRP), also known as ACEforward, which will improve the current ACE service and also connect the future California High Speed Rail line in the Bay Area with the line in the Central Valley. This new line will extend a link into Stanislaus County. Prior to the completion of the high speed rail line, the San Joaquin Regional Rail Commission conducted a preliminary analysis for extending ACE service from Stockton to Merced and Stockton to Sacramento, including stops in the City of Modesto and City of Turlock in Stanislaus County. Extending ACE into Modesto and Turlock are reflected as components of the Plan’s funding investments and projects list.

Bike and Pedestrian Priorities

Currently, only approximately 0.7% of employed residents in Stanislaus County commute by bicycle. This rate is slightly higher than the national average bicycle commute mode share of 0.4%, yet still represents a very small portion of overall commutes and travel in the region. There are several reasons for the small percentage of bicycle commuting in the County: a lack of bicycle parking and other related amenities, a lack of bicycle safety design on existing roadway networks, hot summers and the rural nature of the County, and a small amount of housing located within biking distance of employment areas. Traffic congestion, more compact development, an aging population, clean-air goals, and energy conservation all point to a need to improve and expand non-motorized transportation options.

The proposed Tier 1 bicycle and pedestrian projects include enhancements bicycle and pedestrian travel by making the system safer through design, providing better overall connectivity, and increasing access to major destinations and activity centers. The proposed funding for bicycle and pedestrian improvements shows an increase of approximately 1% from the 2011 RTP. The projects and improvements in the 2014 RTP/SCS will help achieve the vision of the Non-Motorized Transportation Plan described below.

The total funding for all Tier 1 Bike and Pedestrian projects is approximately $224.6 million.
Non-Motorized Transportation Plan

In 2013, StanCOG updated its 2008 Non-Motorized Transportation Plan (NMTP) to guide the region toward the goal of increasing safe, alternative modes of transportation by providing bikeways and trails for all residents. StanCOG recognized that the non-motorized plan was a necessary component of effective system planning and a critical element of promoting sustainable transportation options. The primary focus of the plan is to increase access to important nodes such as neighborhoods, employment centers, shopping areas, schools, and recreational sites by non-auto modes. The NMTP also provides for the expansion of bicycle and pedestrian facilities and infrastructure in the cities and communities. A goal of the NMTP is to make bicycling and walking a viable option for shopping, school, work, and other trips that are less than five miles in length. It is anticipated that by promoting and providing facilities for bicycle and pedestrian trips, this will result in lower VMT and ultimately reductions in GHG emissions for the Stanislaus region.

Goods Movement Priorities

Goods movement is important to the economy and quality of life, especially in an agricultural region, such as Stanislaus. Improvements to roadways, freeways, expressways and major arterials are vital to maintain efficient goods movement circulation. Traffic congestion and operational conflicts between trucks and passenger vehicles have been identified as key issues that need to be addressed in the Plan in order to maintain this efficient movement of goods in the Central Valley. Truck travel continues to be the primary source of roadway degradation to local facilities, justifying the need for increasing investment in maintenance. This is particularly true when goods movement is combined with agricultural uses that are substantively increased during harvest seasons (late summer/fall). Under these conditions, the demand for transportation resources and improvements is likely to be greater in Stanislaus County than other non-agricultural counties.

The Plan includes numerous projects that will further improve the transportation system, especially as it relates to the movement of goods. StanCOG’s CMP also contains projects to improve the efficiency of the transportation system for all uses including goods movement. Additionally, Goods movement vehicles typically have a greater impact on pavement degradation. In order to address this and other causes of pavement deterioration, StanCOG has established a Pavement Management Program to assess pavement conditions in the region and identify funding sources for rehabilitation and maintenance. The Valley MPOs have also recently adopted a San Joaquin Valley Interregional Goods Movement Plan to identify the Valley’s preferred future goods movement system and recommendations for improvements.

StanCOG and its member agencies have prepared a Regional Expressway Study and are currently updating it to identify the existing and proposed expressway corridors in the region. This study analyzes traffic information on these region’s corridor facilities and determined where the existing and future deficiencies are present. The Plan recognizes these needs and has included projects that add to roadway restoration and...
preservation in order to maintain the system in a safe operating condition for years to come.

Aviation Priorities

In Stanislaus County, aviation is used to move both people and goods. The California Department of Transportation, Division of Aeronautics developed “Aviation Planning Guidance for RTPs” in March 2006. The increased emphasis on responsible land use decision making along with the increasing recognition that airports provide significant economic benefits to a community is intended to strengthen and preserve existing aviation resources and accommodate future demand. One important step is to lessen the rate of incompatible land use encroachments around airports. StanCOG as the regional transportation agency responsible for regional transportation planning and programming in Stanislaus County supported this concept in the development of the RTP/SCS scenarios and ultimately the RTP/SCS.

Stanislaus County is proposing to develop the former Crows Landing Naval Auxiliary Facility as a general aviation (GA) facility to accommodate the existing and future aviation demand within the County. In addition to the creation of GA airport, the County plans to develop the former military property as a regional employment center that includes aviation-compatible industrial and business park uses. The County’s goal is to create employment opportunities for its residents that eliminate the need to commute to the San Francisco Bay Area or other distant locations, thereby reducing vehicle miles traveled and vehicle emissions.

Airport Land Use Planning Process

The California State Aeronautics Act requires counties with public-use airports to create an Airport Land Use Commission (ALUC) and prepare an airport land use compatibility plan (ALUCP) for each public use airport. The purpose of the code is to “protect public health, safety and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public’s exposure to noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses” (Public Utilities Code Section 21670 et. seq.).

In Stanislaus County the ALUC is a designated body composed of the Planning Commission as amended by two additional other members with expertise in aviation. The ALUC has the powers and duty to:

- Study conditions and make recommendations concerning the need for height restrictions on buildings and structures near airports.
- Make recommendations for the use of the land surrounding airports to assure long-term safety of air navigation and the promotion of air commerce.
- Hold public hearings and make findings of fact which would only be advisory to an involved jurisdiction, and establish procedures for the fair and orderly conduct of such hearings.

The total funding for all Tier 1 Aviation projects is approximately $53.5 million
Airport Ground Access

The 2014 RTP/SCS addresses improved access to the MCCA via an improved SR 132 East (Yosemite Boulevard) and Mitchell Road, which currently serve the majority of traffic accessing the airport. Mitchell Road will include four-lanes and currently includes synchronized signalization integrated into the Modesto-Ceres Advanced Traffic Management system. Studies are also underway to improve signal timing along SR-132 East through the City of Modesto’s Signal Retiming Study. These improvements will greatly enhance access to the airport by improving traffic flows and reducing congestion.

The aviation projects in the Plan are intended to keep aviation a viable mode of interregional travel for people and freight to and from the County.

CONCLUSION

The transportation plan and its associated investment strategy represent an approach and commitment that is divergent from past plans. This Plan is clearly not business as usual for the region. It shows that we can meet, and even exceed, our greenhouse gas (GHG) emission reduction targets for 2020 and 2035 set by the California Air Resources Board (CARB) under SB 375. In addition, the Plan guides the region in the right direction in terms of meeting the established goals. However, the region’s needs are still great. StanCOG will continue to coordinate with the local agencies and seek input from the public to address the needs, but also to react to changes in priorities, demographic shifts and legislative requirements.