REGIONAL TRANSPORTATION PLAN
SUSTAINABLE COMMUNITIES STRATEGY
ADOPTED JUNE 2018
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Introduction

The 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) represents a new chapter in the development of the San Joaquin region’s transportation system. Referred to as “The Plan,” the Plan incorporates the clear mandate from the citizens of San Joaquin County who succeeded in 2006, with 78 percent of the vote, to extend Measure K an additional 30 years. It is comprehensive in its response to new federal statutes embodied in the MAP-21 (Moving Ahead for Progress in the 21st Century) and state statutes including Senate Bill (SB) 375. The Plan continues to provide a “sustainability vision” through year 2042 that recognizes the significant impact the transportation network has on the region’s public health, mobility, and economic vitality. As the region’s comprehensive long-range transportation planning document, the Plan serves as a guide for achieving public policy decisions that will result in balanced investments for a wide range of multimodal transportation improvements.
Senate Bill 375

With the passage of SB 375 in 2008, metropolitan planning organizations were required to develop a Sustainable Communities Strategy (SCS). An SCS must demonstrate an ambitious, yet achievable, approach to how land use development and transportation can work together to meet greenhouse gas emission reduction targets for cars and light trucks. These targets, set by the California Air Resources Board, call for the region to reduce per capita emissions. If a metropolitan planning organization is unable to meet the targets through the SCS, then an alternative planning strategy must be developed which demonstrates how targets could be achieved.

As the metropolitan planning organization and the regional transportation planning agency for San Joaquin County, the San Joaquin Council of Governments (SJCOG) has developed an RTP that incorporates an SCS. It is important to note while the RTP includes an SCS as an element in concert with the policy element, action element, and financial element, this is not the first plan with sustainability features. San Joaquin’s RTP has always embodied policies and strategies committed toward sustainability through air quality measures, environmental preservation and conservation objectives, and growth management strategies.
What is the RTP/SCS (The Plan)?

The Plan reflects a region-specific, balanced multimodal plan that not only achieves the intent and promise of SB 375, but can be implemented through existing and planned programs or policies. In fact, the development of the Plan began from extensive work already rooted in existing plans and programs. The Plan foundation comprises recent household and job growth forecasts, market demand and economic studies, and transportation studies including SJCOG’s Smart Growth Transit Oriented Development Plan, Goods Movement Study, and Regional Bike/Pedestrian Master Plan. The achievements of the plan are summarized in Figure ES.1.

Civic Engagement

This Plan embodies local visions through local input. Local experts in the fields of housing, land use, environment, and public works participated in the RTP/SCS development through a formal advisory committee or through other avenues of public feedback (e.g., workshops, online input through social media or web surveys, MetroQuest community engagement tool, and public comment opportunities at SJCOG committees and board meetings).

Figure ES.1 The Building Blocks of the Plan
These interests provided perspectives on economic development, environmental preservation, air quality, public health, environmental justice, and farmland conversion/preservation, which all helped to reshape existing RTP goals, policies, and objectives. A series of public workshops to get feedback from the public also guided the direction of transportation investments for the region within the context of San Joaquin’s future population, employment, and housing growth.

Policies and Supportive Strategies
The Plan can be considered the San Joaquin region’s “statement of priorities” for the future transportation system from 2017 through 2042. Therefore, at the highest level, the policies, supportive strategies, and performance indicators for this document are all designed to articulate: (1) what the region wants the future transportation system to look like; (2) what types of decisions will help the region attain its vision; and (3) the performance measures or indicators by which the region can assess its progress. In fact, establishing clear linkages between the broad, value-laden goals and the more specific performance indicators helps to provide a tangible path toward feasible implementation. The policies and supportive strategies are identified in Table ES.2.
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### Policy and Supportive Strategies

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Financial Plan

The investment strategy is a balanced approach to multimodal development intended to fulfill the objectives and performance indicators which guide the Plan and move toward achievement of the long-term transportation goals for the region. The transportation investments in the Plan are based on an estimate of available funding through 2042. In total, the Plan assumes $11.461 billion in projected revenues (Figure ES.3 below) to be available for investments (shown in Table ES.3) within the time period of the Plan.

<table>
<thead>
<tr>
<th>Project Category</th>
<th>2018 Plan (RTP/SCS)</th>
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<tr>
<td>Roadway Operations, Maintenance, and Safety</td>
<td>$4,448</td>
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<tr>
<td>Transit</td>
<td>$3,572</td>
</tr>
<tr>
<td>Roadway Capacity (Mainline, Interchanges, Regional Roadways)</td>
<td>$3,121</td>
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<tr>
<td>Active Transportation/Community Enhancements</td>
<td>$320</td>
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<tr>
<td><strong>Totals</strong></td>
<td><strong>$11,461</strong></td>
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</table>

Figure ES.3: Revenue Forecast by Fund Source

(Years 2017-2042)
Some features of the financial plan are:

- Within the 24-year RTP period, the combined operations and maintenance investment in the existing transportation system is over $4.448 billion.
- Includes over $228 million for grade separation projects (within the safety category).
- Provides $3.572 billion to public transit (bus and passenger rail) with funding coming from a variety of sources. Of that amount, specifically calls for $1.68 billion in funding operations for local, intercity, and interregional bus service and $1.16 billion toward the operation and enhancement of the Altamont Corridor Express.
- Recognizes the efforts on a Feasibility Report and Environmental Document by the Tri-Valley-San Joaquin Valley Regional Rail Authority. The work is for the purposes of planning, developing, and delivering cost-effective and responsive transit connectivity between the Bay Area Rapid Transit District’s rapid transit system and the Altamont Corridor Express commuter rail service.
- Provides $3.12 billion for key projects targeted to improve the most impacted portion of the highway and arterial roadway system and promote the efficiency of the roadway system. The capacity improvements are targeted to corridors which are the most essential to mobility within the county.
- Invests $320 million to support active transportation and community enhancement projects.

Plan Performance

Some key performance results of the Plan are summarized in Figure ES.4.
Near term and significant investments in bicycle, pedestrian, and Safe Routes to School, and smart growth incentive program projects totaling $19.63 million through Measure K.

Over 19 miles of Class I, II, III, and IV bike lanes.
Over 5 miles of sidewalk.

Expanding Active Transportation

- 8,500 more bike and walk trips daily
- 8,200 fewer solo auto trips daily

Increasing Safety & Security

- $227 million for railroad grade separations.
- Modified interchange ramps.
- Improved shoulders.
- Electronic message boards, CC TV, synchronized traffic signals.

Improving Public Health & Building Communities

Housing density increases from 4.4 to 8.7 net units per acre.

Transit Oriented Development and Smart Growth Community enhancements:
- Improved Sidewalks
- Pedestrian Street Lighting
- Traffic Calming
- Landscaping

Ensuring Social Equity

- Greater diversity of housing choices for communities of concern.
- Higher transit accessibility for communities of concern for routes to areas of High Quality Transit.
Sustainable Communities Strategy

Transportation Investments by Mode
(through 2042)

- 38.8%: Roadway Operations & Maintenance
- 31.2%: Transit
- 2.8%: Active Transportation
- 27.7%: Roadway Capacity

Reducing Greenhouse Gases
The Plan meets and exceeds the greenhouse gas reduction target of 10% per capita in 2035.

Enhancing the Environment
- 9,700 fewer acres of Prime Farmland Developed.
- Average residential household energy use decreases 14%.
- 50 gallons of water per household saved indoor and outdoor everyday.

Maximizing Mobility & Accessibility
- Expansion of Bus Rapid Transit.
- Altamont Corridor Express service to Ripon and Modesto.
- New ACE Lathrop and Tracy alignment.
- Decrease in congested travel time.

Preserving Efficiency of Transportation System
- 25% of all Households and 39% of all Jobs will be in High Quality Transit Areas by 2042.
- Carpool lanes on I-5 and I-205.
- SR 99/120 operational improvements.

Supporting Economic Vitality
- Average of 3,400 full time equivalent jobs created by RTP projects annually.
- Infrastructure improvements streamline goods movement.
Highlighted Projects

The following maps highlight a selection of projects contained in the Plan. These include projects in Tracy, Lathrop, Manteca, Ripon, Escalon, Stockton, Lodi, and the unincorporated San Joaquin County. Further information on each project may be found in the Project List contained in Appendix F of the Technical Appendices.
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I-205 HOV Widen from 6 to 8 lanes (outside) Alameda County Line to Eleventh St
I-205 HOV Widen from 6 to 8 lanes (inside) Eleventh Street to MacArthur Drive
I-205 HOV Widen from 6 to 8 lanes (inside) MacArthur Drive to I-5
I-580 at Coral Hollow Road
  Modify existing interchange - ENVIRONMENTAL ONLY
I-580 at Lammers Rd
  Construction of new interchange - ENVIRONMENTAL ONLY
I-580 at International Pkwy / Patterson Pass Rd
  Reconstruct interchange
I-580 at Mountain House Pkwy / International Pkwy
  Modification of existing interchange
I-205/Lammers Rd/Eleventh St Construct new interchange and widen Eleventh Street to 6-lanes
I-205 at Mountain House Pkwy / International Pkwy
  Modification of existing interchange
I-205 at Grant Line Road
  Modification of existing interchange - ENVIRONMENTAL ONLY
I-205 at MacArthur Drive
  Modification of existing interchange - ENVIRONMENTAL ONLY
I-205 at Chrisman Rd Phase 1: Construct new interchange east-west ramps
I-205 at Chrisman Rd
  Construction of new interchange
I-580 at International Parkway / Patterson Pass Rd
  Reconstruct interchange
I-205 at Grant Line Road
  Modification of existing interchange
I-205 at MacArthur Drive
  Widen 2 to 4 lanes (Valpico Road to Schulte Road)
  MacArthur Drive from Valpico Road to Schulte Road;
  MacArthur Drive Extend 4 lane roadway (Mt. Diablo Road to Eleventh Street)
Eleventh Street
  Improve roadway and intersections
Grant Line Road Corridor Improvements
  Realign roadway and widen from 2 to 4 lanes with operational improvements
Golden Valley Parkway
  Construct new roadway parallel to I-5 from Stewart Road to Paradise Road
Tracy Multi-modal Center
  Construct passenger rail platform and bus stops
Byron Road Trail
  Construct Class I Bike Path
Lammers Road to west of Lammers Road
Byron Road Trail
  Construct Class I Bike Path
East of Larkmeade Road to west of Belcourt Drive
UPRR Trail
  Construct Class I Bike Path
Corral Hollow Road to Central Ave
UPRR Rail Trail
  Construct Class I Bike Path
Central Avenue to Canal Trail
Canal Trail
  Construct Class I Bike Path
Lammers Road to Maxarthur Drive
Central Avenue Road Diet
  Install center turn lane, Class II Bike Lanes, and sidewalks
Tracy Blvd to Schulte Road
Lowell Ave Sidewalk Construction
  Construct sidewalks
Lammers Road to the east of Lowell Ave
Tracy Boulevard Sidewalks
  Construct sidewalks
Central Avenue to west of Warming Wind Drive
2018 RTP/SCS Highlighted Projects
Cities of Ripon and Escalon

Map Key
Project Name | Description | Project Limits
--- | --- | ---
Mainline Highway
SR-99 HOV | M widen from 6 to 8 lanes (inside/outside) | SR-120 to Stanislaus County Line
Interchanges
SR-99 at Raymus Expressway | Construct new interchange | SR-99 at Raymus Expressway
Regional Roadways
Paymus Expressway | Construct new 4-lane expressway | Main Street to SR-99
SR-13/Thomson Ave Intersection | Intersection improvements | SR-120 at Brennan Avenue
Ulery Avenue/McHenry Avenue Intersection | Reconstruction, including addition of turn lanes, improvement | Intersection of Ulery Avenue and McHenry Avenue including UPRR
McHenry Avenue | Reconstruction to include center turn lane, bike lane, graded shoulders. | Narcissus Rd to corner Road
Jack Tone Road, Phase 1 | Widen from 2 to 6 lanes | Jack Tone Rd to South Clinton Avenue
Garrison Road Gap Closure | Construct 2-lane extension of Garrison Road | Jack Tone Road to SR-99
Street Avenue | Build and widen roadway from 2 to 6 lanes | Second Street to Jack Boulevard
Canal Boulevard Extension | Construct 2-lane extension of Canal Boulevard | Canal Boulevard to SR-99
Mill Road | Widen from 2 to 6 lanes | Jack Tone Road to Olive Expressway
Oliver Expressway | Construct 2-lane Olive Expressway - ENVIRONMENTAL ONLY | Canal Boulevard to Raymus Expressway
Escalon Bellota Road | Widen 2 to 4 lanes with shoulders | Escalon City limits to Mariposa Road
Railroad Grade Separations
Escalon BRDF Grade Separation | Construct railroad grade separation | De Yoromo Avenue (SR-12) and McHenry Avenue at BRDF Railroad
Transit
Ripon Multimodal Station | Construct multimodal station | Downtown Ripon
Active Transportation
Yosemite Ave | Construct Class I Bike Path | Brennan Blvd to 1st St
First Street Improvements | Construct sidewalks and landscaping | McHenry Avenue to Main Street
Rapid Rectangular Flashing Beacons | Install flashing beacons at 3 locations | 3 locations in City of Escalon
McHenry Ave | Construct Class I Bike Path | 4 locations City limits to California St
Jack Tone Road | Construct Class I Bike Path | Jack Tone Rd to Main Street
Main Street | Construct Class I Bike Path | Main St to 5th St
Yosemite Ave to Sontos Avenue | Construct Class I Bike Path | Yosemite Ave to Sontos Avenue
Monteza Ripon Connector | Construct Class I Bike Path | River Road to Cripple Way
East River Road | Construct Class I Bike Path | River Road to Cripple Way
Highland Avenue | Construct Class I Bike Path | Highway 99 to West Boulevard
Lower Stanislaus River Multi Use Trail | Construct Class I Bike Path | Highway 99 to West Boulevard
East Stanislaus River Trail | Construct Class I Bike Path | Highway 99 to West Boulevard
Yosemite Ave to Kamps Way | Construct Class I Bike Path | Yosemite Ave to Kamps Way
South Elementary SRTS Crosswalks, LED in-pavement crosswalk lights, signage, bulb-outs | Various roads in Ripon near Parkview Elementary School
Copyright © 2014 Eeln
2018 RTP/SCS Highlighted Projects
City of Lodi and North Stockton

Mainline Highway

- I-5 HOV
  - Widens from 3 to 4 lanes (inside) Portland including auxiliary lanes
  - Hammer Lane to North of Mule Mill Rd
- SR 99 widening
  - Widens 4-6 lanes (inside)
  - Colusa/Chesnut St/Colusa/Modesto St

Interchanges

- I-5 at Eight Mile Road
  - Modify existing interchange
  - SR 99 at Eight Mile Road
- I-5 at Otis Drive
  - Construction of new interchange and auxiliary lanes
  - SR 99 at Otis Drive
- SR 99 at Turner Road
  - Reconstruct interchange
  - SR 99 at Turner Road
- SR 99 at SR 12 W (Kettleman Ln)
  - Reconstruct interchange
  - SR 99 at SR 12 W (Kettleman Ln)
- SR 99 at Harvey Lane
  - Reconstruct interchange
  - SR 99 at Harvey Lane
- SR 99 at Eight Mile Rd
  - Reconstruct interchange
  - SR 99 at Eight Mile Rd
- SR 99 at Morada Lane
  - Reconstruct interchange
  - SR 99 at Morada Lane

Regional Roadways

- Meri Lane
  - Widens 2/3 lanes to 4 lanes
  - From Lodi Avenue to SR-12
- Harney Lane
  - Widens from 2/3 lane collector to 4 lane
  - Lower Sacramento Road to Hutchins Street
- Victor Road (SR-13)
  - Widens from 2 to 4 lanes
  - Add center auxilillary lanes
  - From SR-99 to Central California Tracton to Broadmoor
- Eight Mile Rd
  - Widens from 2 to 6 lanes
  - New Road D to New Road F
- Eight Mile Rd
  - Widens from 5 to 6 lanes
  - I-5 to Thornton Road
- Eight Mile Rd
  - Widens from 2 to 6 lanes
  - Thornton Road to Lower Sacramento Rd
- Eight Mile Rd
  - Widens from 2 to 6 lanes
  - Lower Sacramento Road to SR-99

Trinity Parkway Extension

- Construction of new 4 lane road
  - Bear Creek to Hammer Lane

Holman Road

- Construction of new 6 lane road
  - Gary Galli Dr to Eight Mile Rd

Morada Lane

- Widens from 3 to 6 lanes
  - West Lane to UPRR

BRT Route

- BRT Route on Eight Mile Road
  - Implementation BRT Route
  - Cosumnes Drive to SR-99

Citywide Bicycle Facilities

- Police Department
  - Install video detection of bicyclists and
  - green bike lanes at intersections
  - 13 locations on Lower Sacramento Road, Appoloine St, and Lodi Avenue
- Eight Mile Rd
  - Install center turn lane, Class II Bicycle Lanes, and sidewalks
  - Peterson Park to East Main Drive
- Lower Sacramento Road
  - Widens from 2 to 4 lanes
  - Franklin Bridge to Harney Lane
- Lower Sacramento Road
  - Widens from 2 to 4 lanes
  - Elmer Way to Armory Drive
- Lower Sacramento Road
  - Widens from 2 to 6 lanes
  - Anchor Drive to Morada Lane
- Lower Sacramento Road
  - Widens from 4 to 6 lanes
  - Morada Lane to Harney Lane
- Victoria Road
  - Construction of new 4 lane road
  - Gray Galil Dr to Eight Mile Rd

BRT Fleet

- BRT Route on Eight Mile Road
  - Implementation BRT Route
  - Cosumnes Drive to SR-99

Active Transportation

- Keynote Bicycle Facilities
  - Improvement Improvement Project
  - Install video detection of bicyclists and
  - green bike lanes at intersections
  - 13 locations on Lower Sacramento Road, Appoloine St, and Lodi Avenue
- Church Street/Old Road
  - Install center turn lane, Class II Bicycle Lanes, and sidewalks
  - Uncalkill Street to Chestnut Street
- Meri Lane
  - Install center turn lane, Class II Bicycle Lanes, and sidewalks
  - Peterson Park to Harney Lane
- Old Loop Trail
  - Construct Class I Bike Path
  - MODF to future transported Street
- Century Way
  - Construct Class I Bike Path
  - Church Street to Cherokee Ln
- Vine Street Trail
  - Construct Class I Bike Path
  - Lower Sacramento Road to Colusa St
- Lodellard Street
  - Install center turn lane, Class II Bicycle Lanes, traffic signal, and sidewalks
  - UPRR to Cherokee Lane
- Victor Road
  - Construct Class I Bike Path
  - Almaden Way to Central California Tracton
- Central Avenue Improvements
  - Construct pedestrian improvements and
  - install new Class I Bike Path
- Bear Creek and Polk Street
  - Install new Class I Bike Path
  - Bear Creek and Polk Street
- Bear Creek Road Bicycle Path
  - Bear Creek and Polk Street
  - Lower Sacramento Road to Eight Mile Road
- See Creek Path
  - Construct Class I Bike Path
  - Bear Creek to Fourteen Mile Slough
- Shingle Creek Path
  - Construct Class I Bike Path
  - Deep Water Lane to UPRR
- N El Dorado Street Road Diet
  - Install center turn lane and Class II Bicycle Lanes
  - Morada Lane to Harney Lane
- Mother Dough Path
  - Construct Class I Bike Path
  - Holly Drive to SR 99
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<th>Map Key</th>
<th>Project Name</th>
<th>Description</th>
<th>Project Limits</th>
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<tr>
<td>A</td>
<td>I-5 HOV Widen from 6 to 8 lanes (inside/outside)</td>
<td>French Camp Road to Louise Avenue</td>
<td>1-5 to Louise Avenue</td>
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<tr>
<td>B</td>
<td>I-5 HOV Widen to add HOV lanes and direct HOV connections to I-205 and SR 120</td>
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<td>1-5 to SR 99</td>
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<td>SR 99/120 Connector Project</td>
<td>Construct operational improvements and reconstruct Aus tiny Rd overcrossing</td>
<td>101 to 201 connector to Airport Road</td>
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<td>I-5 at Roth Road</td>
<td>Reconstruct interchange</td>
<td>5-10 to Roth Road</td>
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<td>SR 120 at Yosemite Avenue / Guthmiller Road</td>
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**City of Manteca**

- **Golden Valley Parkway**
  - Construct new 2 lane road from Brookhurst Blvd to Stewart Road
  - Construct new 2 lane road from Stewart Road to Yosemite Avenue

- **Atherton Drive**
  - Construct new 4 lane road from Airport Way to Union Road
  - Construct new 4 lane road from Airport Way to Union Road
  - Construct new 4 lane road from Airport Way to Union Road

- **Raymus Expressway**
  - Construct new 2-lane expressway from SR-120 to Woodward Avenue
  - Construct new 2-lane expressway from Woodward Avenue to Airport Way
  - Construct new 4-lane expressway from Airport Way to SR-99

- **Airport Way**
  - Widen from 2 to 4 lanes SR-120 to Yosemite Avenue
  - Widen from 2 to 4 lanes Yosemite Avenue to Lathrop Road
  - Widen from 4 to 6 lanes (2036) SR-120 to Lathrop Road

- **Louise Avenue**
  - Widen from 2 to 4 lanes from Main Street to SR-99

- **Roth Road Grade Separation**
  - Construct 4 lane grade separation between Roth Road and UPRR
  - Construct 4 lane grade separation over the UPRR

- **Mainline Highway**
  - Construct sidewalks, curbs, and gutters
  - Construct Class II Bike Lanes
  - Construct Class II Bike Lanes
  - Construct Class II Bike Lanes

- **Regional Roadways**
  - Construct sidewalks, curbs, and gutters
  - Construct Class II Bike Lanes
  - Construct Class II Bike Lanes
  - Construct Class II Bike Lanes

- **Railroad Grade Separations**
  - Construct 4 lane grade separations between Rail Road and UPRR
  - Construct 4 lane grade separations over the UPRR

- **Interchanges**
  - Construct 4 lane grade separations between Rail Road and UPRR
  - Construct 4 lane grade separations over the UPRR

- **Transit**
  - Construct sidewalks, curbs, and gutters
  - Construct Class II Bike Lanes
  - Construct Class II Bike Lanes
  - Construct Class II Bike Lanes

- **Active Transportation**
  - Construct sidewalks, curbs, and gutters
  - Construct Class II Bike Lanes
  - Construct Class II Bike Lanes
  - Construct Class II Bike Lanes

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Creating a Sustainable Communities Strategy for the San Joaquin Region

This chapter describes the geographic and regulatory setting of the San Joaquin region. It provides projections on population, housing, and employment. It describes the region in terms of its transportation system and economic assets, including the movement of goods by roadways, water, air, and rail. It also gives a short overview of how the Regional Transportation Plan/Sustainability Communities Strategy (referred to as the Plan) achieves sustainability goals through regional collaborations on regional solutions.
Regional and Geographic Setting

San Joaquin County encompasses approximately 912,600 acres and is the home of 746,868 residents. In addition to the unincorporated area, the region’s incorporated cities are Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy. The county seat and largest city is the City of Stockton with a population of 320,554.

By the year 2042, San Joaquin County will be home to over 1,050,000 people.

\(^1\) California Department of Finance Table E-1 City/County Population Estimates January 1, 2016 and 2017. Forecasts are University of the Pacific Center for Business and Policy Research, July 2016.
Demographic Trends

San Joaquin County remains one of the fastest-growing regions in California (Figure 1.1). The County’s geographical advantages and quality of life contribute to the growth. While forecast growth has slowed in recent years, San Joaquin County’s population growth rate was 5th in the state among all California Counties from 2016 to 2017, at 1.5 percent. Long-term growth rates are projected to average 1.3 percent, ranking San Joaquin within the top six fastest-growing regions within the state’s 58 counties. Comparatively, population growth rates for the state and nation are projected at 0.6 percent through 2060. Historically, the population of San Joaquin County has been younger than both the state and nation. While that is projected to be the case into the future, the population of the region is aging, following state and national trends. In 2016 those under 19 made up the largest share of the population at just over 30 percent, while the over 60 population accounted for only 17 percent. Between 2035 and 2040, these two age groups are projected to even out, accounting for around 25 percent of the total population each. The mobility needs of this aging population will be an ever-increasing priority in the region.

Housing growth in San Joaquin County has been historically influenced by the county’s proximity to the San Francisco Bay Area and the relatively cheaper cost of housing on this side of the Altamont Pass. Regional planning agencies in the Bay Area have long recognized an affordable housing problem; however, the problem is now characterized as a crisis, given a historically limited supply of both market-rate and affordable housing. The problem was exacerbated by the much faster economic recovery of Bay Area employment compared to other areas of the state.

2 US Census Bureau ACS 2016 1-Year Estimates

SJCOG’s Community Pulse website is designed to deliver insights into demographic and socio-economic trends important to residents and policy makers in San Joaquin County.

This new data repository also features infographics and data to assist staff and stakeholder groups in tracking regional progress on the Plan’s performance metrics.

It can be accessed here: http://www.sjcoq.org/345/Community-Pulse.

SJCOG also sponsors a quarterly speaker’s series to keep local partners and stakeholders up to date on demographic and community trends!
Rents, home prices, freeway congestion and weekday rail ridership for the Bay Area have all reached new highs.

On the San Joaquin County side of the Altamont Pass, both job loss and the decline of housing values attributable to the recession were more pervasive. That said, the county recovered its pre-recession jobs numbers by 2015 and has had overall robust job growth numbers since that time.

Housing has been slower to recover. The median sale price of a home in San Joaquin County, as of December 2017, was nearly $350,000, still substantially below the pre-recession high of $475,000. On the construction side, housing permits issued have been steadily climbing since bottoming out in 2009. At the height of the building boom in 2004, over 7,000 housing units a year were being constructed. That number was less than 800 in 2009. It is now approaching 3,000 units per year again – a number close to the historical average of about 3,500 units (2000-2015).

In San Joaquin County, the recession not only affected housing values and building activity, but also changed the housing growth dynamic within the County. Where the largest city, Stockton, historically garnered a high percentage of growth, Stockton was particularly hard hit by the housing crisis. The City of Manteca continued to build housing during the recession, accounting for nearly half of all housing built in the County for a period of time. Manteca, Tracy, Lathrop, and the unincorporated community of Mountain House are projected to see the most housing growth in the near-term owing to their proximity to both Bay Area job markets and emerging logistics and warehouse employment centers near Tracy and on the west side of Stockton.

“[Housing] is often one of the first sectors to rise or fall when economic conditions improve or decline...Limited affordable housing can result in long commutes, limited free time, and increased traffic congestion. Finally, high housing costs can make meeting other financial needs a challenge for households.” – Center for Business and Policy Research
Figure 1.1 Population, Employment, & Housing Projections

Source: Center for Business and Policy Research Projections
2010 and 2015 from ACS data

HOUSEHOLD PROJECTIONS

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EMPLOYMENT PROJECTIONS

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POPULATION PROJECTIONS

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Economically, San Joaquin County continues to grow in many segments of its economy. Downtown revitalization efforts in Stockton, the Big League Dreams sports complex area (including substantial retail development and a proposed “destination” hotel complex and water park) in Manteca, Ripon’s additions to the Mistlin sports park, and the Lodi area’s success in producing world-class wines are shaping San Joaquin County into a destination for tourism and entertainment.

The region also continues to be an attractive location for new warehousing and distribution centers that serve Northern California, the Bay Area, and the West Coast. A centralized and diverse network of highway, rail, air and seaport facilities support the continued development of San Joaquin County into a major goods movement region.

There are over 234,000 jobs in San Joaquin County. Job creation will continue at a steady pace where San Joaquin County will be supporting nearly 320,000 jobs by the year 2042. With over $2.7 billion in gross value of production in 2015, agriculture continues to be one of the largest-producing industries in San Joaquin County.

Additional examples of economic growth include the City of Stockton’s downtown revitalization efforts and the emergence of anchor retailer stores such as Bass Pro Shop in Manteca and Costco in Lodi. In the last five years Amazon has opened two fulfillment centers in and near the City of Tracy, and has established a shipping hub at Stockton International Airport. The company will be adding a third facility near the Stockton airport in 2018. Not surprisingly, warehousing jobs are projected to make up an increasing share of future employment opportunities for the County. Where Amazon had no significant employment presence in San Joaquin County prior to 2014, they will soon be San Joaquin County’s largest private employer.
Due primarily to the availability of housing at lower costs than surrounding communities to the north and to the west of San Joaquin County, the county is a place where many residents travel long distances for employment outside the county. Of the 241,128 residents representing the employed workforce, approximately 114,610 commute outside of the region to their employment sites. The future housing market will continue to grow at a stable rate to accommodate future growth. The region supports an estimated 241,262 households. Forecasts suggest that by 2042 the housing market will need to grow to accommodate 100,000 additional households. As San Joaquin County transforms, these growth factors have profound effects on the ability to finance, deliver, and maintain the transportation infrastructure.

**Transportation System**
Due to its strategic location, maintaining and improving the operational integrity of San Joaquin County’s centralized and diverse network of highway, rail, air, and seaport is essential.

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**Never before have the crucial linkages and interrelationships between the economy, the regional transportation system, and land use been as important as now.**

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**Roadway Network**
According to the Department of Transportation 2015 California Public Road Data, San Joaquin County’s roadway network includes more than 3,600 maintained miles. On a north–south axis, this includes State Route 99, the “Main Street” of the San Joaquin Valley, and Interstate 5 (I-5), a corridor of statewide and national significance. Within the last 10 years, each route has experienced dramatic traffic growth and levels of congestion. Each route also carries truck traffic at volumes much higher than the statewide average for the highway system, making them vital to goods movement.

State Route 132 handles major east-west movement at the southern tip of the county. Other highway corridors that facilitate goods movement include Interstates 580 (I-580) and 205 (I-205) in the
southwest region of the county, as well as State Route 120, State Route 4, and State Route 12. Interstates 205 and 580 serve as the gateway connection between the San Joaquin Valley and the Bay Area, and are critical to interregional travel and commerce. Each, however, has experienced increased travel movement much beyond the statewide average. I-205 in particular remains one of the most impacted travel routes in the county. State Routes 4 and 12 are primarily two-lane conventional highways linking the east and west sides of the county. Each operates as a freeway segment for a brief but important segment between State Route 99 and I-5. Both routes also connect with Bay Area counties across the San Joaquin Delta and carry significant commuter and interregional traffic.

Figure 1.2 Map of San Joaquin County
Highways 26 and 88 in the central and northeast portion of the county are two-lane rural highways that link to Calaveras and Amador Counties. Each roadway has also experienced significant traffic volume increases, partly due to recreational traffic but also resulting from rapid growth occurring in these neighboring counties to the east.

Public Transit System

The Altamont Corridor Express (ACE), formerly the Altamont Commuter Express, is a commuter rail service in California connecting Stockton with San Jose. The service name came from the Altamont Pass, the area through which it travels. The service commenced on October 19, 1998, with two trains daily in each direction (weekdays only).

The frequency increased in November 2009 to three trains daily in each direction and then increased to four trains daily in each direction in September 2012. There are ten stops along its 86-mile route; present travel time is about 2 hours and 10 minutes from end-to-end. The ACE transit service uses Bombardier Bi-level coaches and MPI F40PH-3C locomotives, which run on tracks owned by Union Pacific Railroad (UPRR). The San Joaquin Regional Rail Commission (SJRRC) manages ACE. During the time horizon of the Plan, SJRRC will expand ACE service in the central valley between the Modesto and Sacramento areas, providing additional traveling options for both in-county and out of county commuters.

Bus-related transit services in San Joaquin County have grown dramatically over the past 20 years. The region is served by the San Joaquin Regional Transit District (RTD), Lodi’s Grapeline, the Tracy Tracer, Manteca Transit, and smaller transit services in the cities of Escalon (eTrans) and Ripon (Blossom Express). The combination of services supports local transit systems, bus rapid transit, intercity and interregional bus transit services, and needed services such as demand response for both those who are in need of transit for medical purposes and those in the rural areas of the county. RTD has been at the forefront of several innovative transit solutions and continues to expand the most mature Bus Rapid Transit system in the San Joaquin Valley. Highlights of major transit innovations by RTD include:

- RTD Go! – a pilot project with Uber to explore ways to provide better, more economical service to rural areas not well served by current bus routes. Users of the app received 50% off (up to $5.00) off Uber services to connect to other transit options.
• Non-Emergency Medical Transportation – at the request of public health advocates, SJCOG worked with RTD to provide more regular service for residents challenged with travel outside of the County for medical appointments. RTD provided the leadership and forward-thinking necessary to produce a robust plan that will connect residents with existing transit services, including Stanislaus County’s existing service to the Bay Area, ACE, and its own interregional bus service. This is accomplished through an integrated trip planning platform. Service is expected to begin in early 2018.

• The first of its kind all electric BRT (Bus Rapid Transit) route – RTD’s Route 44 Express Bus service on Airport Way provides service through RTD’s fast-charging Proterra electric bus fleet.

Goods Movement

The movement of goods and people is the primary function of a highly accessible highway and regional roadway transportation system that links San Joaquin County to major destinations (Figure 1.3). The region is a major Northern California transition point where two primary north–south highways, I-5 and State Route 99, run through the county. These major highways are joined by the Stockton Crosstown Freeway (State Route 4) and State Route 120 through Manteca. I-5 is the main north-south route for transportation along the west coast from Canada to Mexico. State Route 99 is the main inland route through California connecting the major cities in the San Joaquin Valley. This highway infrastructure positions San Joaquin County as a cost-effective location for large companies interested in operating west coast distribution centers. Interstates 580 and 205 provide direct access to the Bay Area and connections to I-5 and State Route 99.

With increasing demographic and economic ties to both the San Francisco Bay Area and Sacramento, San Joaquin is an integral part of the what has become known as the Northern California Mega-Region.
Figure 1.3 San Joaquin County is central in the Northern CA Megaregion
Truck traffic in the county is concentrated along the I-5 and State Route 99 north–south corridors. I-5 between Tracy and Lathrop averages 40,000 trucks per day, by far the most truck traffic in the county. North of Lathrop up through Stockton, I-5 averages between 25,000 and 30,000 trucks per day. State Route 99 follows a comparable pattern with traffic at its greatest, around 11,000 average trucks per day, in the region from Stockton south to the Stanislaus County line. The I-205 and I-580 corridors are also principal areas of truck traffic in the county, with average daily truck traffic around 12,000 and 5,000 on these routes, respectively.

**Movement of Goods by Water**

The Port of Stockton is 75 nautical miles from the San Francisco Bay. The port’s operations span 4,000 acres and over seven million square feet of covered storage area, including 12,000 lineal feet of waterside docking with shipside rail, 1.1 million square feet of dockside transit sheds, and 7.7 million square feet of warehousing. It is categorized as one of the principal ports of the United States by the US Army Corps of Engineers. The Port is stationed along the Deep Water Ship Channel next to Interstate 5, State Route 99, and the Union Pacific and BNSF Railway.

The Port of Stockton boasts first class warehouse storage and handling facilities for both dry and liquid bulk materials, facilities and equipment to handle break-bulk, and containerized cargoes by land or sea. With the Port of Stockton situated in the hub of four major freeways, two transcontinental railroads, an international waterway, and a regional airport; it is centrally located to provide the optimum service for shipment and storage of product and cargo. The Port provides 5,500 jobs in San Joaquin County and is home to 131 distinct business partners from major distribution centers to local artists. In 2015 the Port handled 3.87 million metric tons of cargo. All of these components place the port in an ideal position for domestic and international distribution.
Movement of Goods by Air

The Stockton Metropolitan Airport has become increasingly important to goods movement since initiation of cargo service by Amazon. In 2016 Air Transport International began flying goods in and out of Stockton for Amazon Fulfillment Services. They now operate 3 to 4 flights daily to support the two Amazon facilities near Tracy, one near Patterson in Stanislaus County, and the new 600,000 square-foot warehouse operation near the airport that is expected to be completed in 2018.

As more logistics, warehouse, and manufacturing concerns locate operations in San Joaquin County, Stockton Metropolitan Airport will become an increasingly viable alternative to congested Bay Area airport locations. The airport continues to improve its infrastructure and market itself both nationally and internationally as an air cargo hub.
The Stockton Metropolitan Airport supports passenger, private, military, and air cargo operations (Figure 1.4). It is located on the southern boundary of the City of Stockton in the heart of California’s Central Valley. Situated on 1,449 acres of land, the Stockton Metropolitan Airport has an 8,650-foot-long, 150-foot-wide primary ILS runway, with a takeoff distance available of 11,037 feet. The Stockton Metropolitan Airport also has a 4,458-foot-long, 75-foot-wide general aviation runway. Six air carrier gates adjoin the 44,355-square-foot terminal building.

Rail is a critical link to the full-service transportation network available in San Joaquin County. The network includes approximately 200 miles of Class I railroads owned by UPRR and Burlington Northern Santa Fe (BNSF). San Joaquin County also features approximately 50 miles of short-line railroads, the Stockton Terminal and Eastern Railroad and the Central California Traction Company (CCT).

Figure 1.4 San Joaquin County Airports
**Regulatory Setting**

A number of state and federal requirements govern the Plan. A few of the major requirements are summarized below.

**MAP-21 & the FAST Act**

MAP-21 (Moving Ahead for Progress in the 21st Century Act) requires the federally designated metropolitan planning organizations (which is San Joaquin Council of Governments (SJCOG) for the San Joaquin region) to develop regional planning documents that incorporate the metropolitan planning process. It was enacted in 2012 and is meant to address transportation challenges in the U.S. This performance-based requirement incorporated new federal changes when the FAST Act (Fixing America’s Surface Transportation Act) was signed in 2015. The FAST Act funds surface transportation programs through the years 2016-2020 and has added new performance measures in addition to the 2014 federal planning factors. These factors are the following:

1) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.

2) Increase the safety of the transportation system for motorized and non-motorized users.

3) Increase the security of the transportation system for motorized and non-motorized users.

4) Increase the accessibility and mobility of people.

5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.

6) Enhance the integration and connectivity of the transportation system, across and between modes, people and freight.

7) Promote efficient system management and operation.

8) Emphasize the preservation of the existing transportation system.

9) Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.

10) Enhance travel and tourism.

Beginning with the 2018 RTP/SCS, metropolitan planning organizations are required to integrate the performance-based planning approach and incorporate the first performance measures related to safety.
Federal Clean Air Act

The act provides regulations for air emissions from stationary and mobile sources. The law authorizes the US Environmental Protection Agency to establish National Ambient Air Quality Standards (NAAQS) to protect public health and welfare and to regulate emissions of hazardous air pollutants. The Plan must forecast transportation emissions and must demonstrate emissions are within the established State Implementation Plan (SIP) budget limits for ozone, PM2.5, PM10, and carbon monoxide. The Plan’s compliance with these requirements is documented in the Regional Transportation Plan/Sustainable Communities Strategy Air Quality Conformity Determination.

Title VI of the Civil Rights Act of 1964

This law set a standard that authoritatively outlawed discrimination in the conduct of all federal activities. It reads as follows: “No person in the United States shall, on the ground of race, color, or national origin be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program of activity receiving Federal financial assistance.”

People concerned that everyone within the US deserves equal protection under the country’s federal laws created the term “environmental justice.” President Clinton issued Executive Order 12898 in 1994 in response to this concern. The order directs each federal agency to review its procedures and to make environmental justice part of its mission by identifying and addressing the effects of all programs, policies, and activities on minority and low-income populations. The Federal Highway Administration (FHWA) has set policies for integrating environmental justice principles into existing operations to address disproportionate, adverse effects on low-income and minority populations.
All federally funded transportation plans, projects, and decisions must involve an environmental justice assessment process that explicitly considers adverse effects (or the potential of adverse effects) on the environmental justice population. The Plan has an environmental justice analysis that documents the degree to which, to the extent possible, all people, regardless of race, color, national origin, or income, are protected from disproportionate negative or adverse impacts due to the program of projects listed in the Plan. In addition, this analysis also describes whether all neighborhoods have reasonable shares of the benefits from the proposed program. As the metropolitan planning organization for San Joaquin County, the SJCOG has developed its first Regional Transportation Plan (RTP) that incorporates an SCS. This document refers to the San Joaquin RTP/SCS simply as “the Plan” throughout.

**Senate Bill 375**

With the passage of Senate Bill (SB) 375 in 2009, metropolitan planning organizations were required to develop a Sustainable Communities Strategy (SCS). An SCS must demonstrate an ambitious, yet achievable, approach to how land use development and transportation can work together to meet greenhouse gas emissions reduction targets for cars and light trucks. These targets set by the California Air Resources Board call for the region to reduce per capita emissions 5 percent by 2020 and 10 percent by 2035 below a 2005 baseline. If a metropolitan planning organization is unable to meet the targets through the SCS, then an alternative planning strategy demonstrating how targets could be achieved must be developed. The 2014 Plan was the first to incorporate the requirements of SB 375.
It is important to note that while the RTP builds the SCS as a new element along with the traditional policy element, action element, and financial element, 2014 was not the first plan with sustainability features. San Joaquin’s RTP has always embodied policies and strategies committed toward sustainability through air quality measures, environmental preservation and conservation objectives, and growth management strategies. The Plan will guide the San Joaquin region toward a more sustainable future by integrating land use, housing, and transportation planning to build more sustainable communities. Some characteristics of these communities include location in compact development with a focus on infill development, and access to travel options including transit and bike/pedestrian facilities. Sustainability also requires efficiently located communities to better utilize public infrastructure and resources while minimizing impacts to prime farmland. The most significant change resulting from SB 375 is the creation of California Environmental Quality Act (CEQA) streamlining incentives to assist and encourage residential and mixed-use housing projects consistent with the SCS and, in particular, in transit priority areas. CEQA benefits available under SB 375 are for residential and residential mixed-use projects that are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in the SCS.

**California Environmental Quality Act**

The Plan must also comply with CEQA, which requires that governmental agencies consider the cumulative regional impact and analyze the environmental consequences of the project. Recognizing the Plan is a program-level EIR which comprises a package of projects within a single program, the SJCOG is responsible as the lead agency to prepare the environmental review of the program of projects.

**Delta Reform Act**

Enacted in November 2009, this act created the Delta Stewardship Council charged with developing, adopting, and implementing the Delta Plan. This plan serves to address strategies of providing reliable water supply for
California and protecting, restoring, and enhancing the Delta ecosystems. The Delta Stewardship Council is also responsible for advising local and regional agencies regarding consistency of their planning documents to the Delta Plan. The act requires that “covered actions,” as defined by the act, and which include plans, programs, or projects within the primary or secondary zones of the Delta, be consistent with the Delta Plan. SJCOG is required to ensure consistency of the Plan to the adopted Delta Plan. Local project exemptions from Delta Plan requirements are possible if there is a determination that they are consistent with the Plan.
A Regional Plan with Local Input

This Plan embodies local visions through local input and a highly collaborative approach. Local experts in the fields of housing, land use, environment, and public works participated in the Plan development through the RTP/SCS Implementation & Working Group or through other avenues of public feedback (e.g., workshops, online input through social media or web surveys, public comment opportunities at SJCOG committees and Board meetings). These interests provided perspectives on economic development, environmental preservation, air quality, public health, environmental justice, and farmland conversation/preservation that all helped to reshape existing RTP goals, policies, and objectives. A series of public workshops to get feedback from the public also guided the direction of transportation investments for the region within the context of San Joaquin’s future population, employment, and housing growth. All of this feedback helped shape the transportation vision of the future.

The Plan is a transportation investment strategy through 2042, identifying transportation needs to keep pace with anticipated growth and development as well as advancing various sustainability goals. It identifies the funding for these transportation projects in its financial element. While conceptual land use scenarios are essential in building the transportation system and then determining reasonable funding expectations, the Plan does not permit or deny any development projects under review or future proposals.

The elements of that vision for sustainability helped to refine the following overarching goals that guide the Plan:

A. Enhance the Environment for Existing and Future Generations and Conserve Energy
B. Maximize Mobility and Accessibility
C. Increase Safety and Security
D. Preserve the Efficiency of the Existing Transportation System
E. Support Economic Vitality
F. Promote Interagency Coordination and Public Participation for Transportation Decision-Making and Planning Efforts
G. Maximize Cost-Effectiveness
H. Improve the Quality of Life for Residents.

“Transportation allows residents...to travel for work and leisure, allows visitors to travel within the region, is necessary for economic activity [and] is especially important for the Northern San Joaquin Valley region because of...transportation, warehousing, and logistics sectors.” — Center for Business and Policy Research NSJV Index
Aligning Sustainability Goals with a Transportation Investment Strategy

The approach to the 2018 Plan is a refresh of the ambitious 2014 Plan, with a focus on implementation activities. Thus, the 2018 effort continues to rely on the 2014 Plan’s sustainability goals and their alignments with transportation investment strategies. This is accomplished through a focus on the following building blocks:

- Identifies land use patterns that encourage infill development and compact development.
- Makes provisions for new residential development growth that makes shifts from single-family development to more multi-family development.
- Emphasizes focus on a multimodal strategy of investments that de-emphasizes highway or roadway expansion but still delivers a system to reduce vehicle miles travelled and peak hour traffic congestion.
- Provides specifically a multimodal transportation network of bus and rail transit, freeway/highway/local roadways, bikeways, walkways, and streetscape projects within available financial resources.
- Increases transit operational efficiency through investments in bus and rail transit service that includes more frequency of transit service for all income levels as well as expanded transit service.
- Promotes transit-oriented development and, furthermore, provides for intermodal connections near or within transit-oriented development such as park-and-ride lots and bicycle lanes/paths.
- Invests in high-tech applications or projects that allow motorists to choose travel options and allow local and state agencies to more quickly respond to incidents on the roadway.
- Underscores the importance of maintenance through recognition that routine and preventative maintenance is an integral piece toward transportation efficiency.
- Increases active transportation project investments to facilitate public health and active communities.
- Encourages new housing and jobs in urbanized areas to better integrate housing, land use, and transportation facilities.
- Creates and sustains jobs, both directly and indirectly.
- Invests in infrastructure that improves access to intermodal facilities, airports, the Port of Stockton, and commercial hubs key to goods movement.

With the 2018 Plan, SJCOG recognizes the increasing importance of new technologies and innovation and the uncertainties inherent in planning for their integration into the transportation system. The Plan identifies potential opportunities and lays the groundwork for future investments in this area.
Regional Collaboration Leads to Regional Solutions

The Plan demonstrates that the region can meet and exceed the greenhouse gas targets imposed under SB 375. It further shows that those targets can be achieved with land use patterns focused on compact development that more effectively link transportation systems.

Just as importantly, the Plan is one of place-making. It harnesses the region’s collaborative spirit to create places that enable people to live close to where they work. It encourages healthy and active communities, and at the same time, attracts and maintains businesses that can rely on an optimized transportation system to move and receive goods.

SJCOG’s continuing commitment to constant improvement in public engagement has resulted in the highest level of community involvement in any RTP/SCS to date. Through the Plan’s extensive civic engagement and involvement of local jurisdictions, businesses, environmental, and housing experts, the Plan builds a transportation future where transportation infrastructure can coexist with the goals of habitat conservation, farmland preservation, efficient energy consumption, and economic vitality.
CHAPTER TWO

CIVIC ENGAGEMENT
SJCOG recognizes that public participation in the regional planning process is essential for creating plans that truly enhance quality of life for all residents in the San Joaquin region. Building upon the success of public outreach efforts from the region’s first RTP/SCS adopted in 2014, SJCOG took steps to enhance its program for the 2018 Plan update. By focusing on raising the visibility, inclusiveness, and accessibility of the agency and its planning activities, SJCOG yielded its most fruitful civic engagement effort in organizational history. This chapter describes the tremendous amount of work and effort invested in civic engagement throughout San Joaquin County to shape the Plan.

**Civic Engagement**

SJCOG recognizes that public participation in the regional planning process is essential for creating plans that truly enhance quality of life for all residents in the San Joaquin region. Building upon the success of public outreach efforts from the region’s first RTP/SCS adopted in 2014, SJCOG took steps to enhance its program for the 2018 Plan update. By focusing on raising the visibility, inclusiveness, and accessibility of the agency and its planning activities, SJCOG yielded its most fruitful civic engagement effort in organizational history. This chapter describes the tremendous amount of work and effort invested in civic engagement throughout San Joaquin County to shape the Plan.

**2018 Plan Civic Engagement Highlights**

- 1 educational video in English and Spanish
- 2 public opinion surveys
- 20+ workshops and presentations
- 40+ community outreach events
- 4 door-to-door canvassing days
- 4,000+ residents engaged in regional planning
Public outreach started well before development of the plan. Initial efforts focused on helping residents understand their role in the regional planning process. Continuing from 2014, the RTP/SCS Implementation & Working Group, which serves as an advisory body, expanded to include members from public health, environmental justice, and active transportation. Outreach activities ranged from tabling at community events to public workshops, public opinion surveys, social media campaigns, and more. For the first time, SJCOG partnered with local groups to ensure the inclusion of historically underserved and underrepresented communities. SJCOG staff also provided consultation opportunities to its standing committees on a regular basis. Finally, in keeping with the intent of SB 375, the plan was developed in close coordination with planning and public works departments throughout the region. The result is a carefully coordinated set of demographic, economic, land use, and transportation investment assumptions that were clearly communicated through the public outreach process.

Getting Started

Soon after the 2014 Plan was adopted, SJCOG staff began laying the foundation for the 2018 Plan. Taking feedback from the general public and its stakeholders, SJCOG staff started with an evaluation of the 2014 public outreach program. Some of this work also involved gathering local knowledge and best practices for community engagement in the 2018 Plan.

The following list outlines some of the key enhancements proposed and incorporated into the 2016 Public Participation Plan, significantly shaping the 2018 Plan public participation program:

- A Community-Based Outreach Mini-Grant Program to provide resources for small organizations and non-profits to assist with engagement among their memberships and communities.

- A “champions” strategy to disseminate information and calls to action with community leaders.

- A focus on online public engagement to reduce barriers to participate in public workshops.

- An updated Limited English Proficiency Plan, outlining the importance of providing information and materials in-language for Spanish-speaking residents.

- A guide and toolkit for ensuring the inclusion of underserved communities in public outreach and engagement activities.
Guiding the Way

The Public Participation Plan is SJCOG's official policy for involving the public in the regional planning process. In December 2016, the SJCOG Policy Board approved the 2016 Public Participation Plan (PPP) a major update from the 2011 Plan. In accordance with SB 375, the document included a specific public outreach program for the RTP/SCS (see Appendix J).

The SJCOG Public Participation Plan

The 2016 PPP is built upon five guiding principles:

- Public participation is dynamic and requires teamwork at all levels of the organization.
- One size does not fit all—diverse perspectives are critical.
- Effective public outreach involves relationship building with local governments, with stakeholders and advisory groups, and with all members of the public.
- Engaging interested persons in countywide transportation issues is challenging, yet possible, by making it relevant, removing barriers to participation, and saying it simply.
- An open process empowers everyone to participate in processes that affect them on a personal level.

Five Strategies to Implement the Guiding Principles:

- Encourage involvement by conducting regular meetings.
- Provide varied opportunities for public input and review.
- Engage through partnerships in local communities.
- Communicate clearly, in a timely manner, and in-language when possible.
- Improvement through evaluation.
Community Voices on Transportation Choices

In 2017, SJCOG officially launched its enhanced civic engagement strategy made up of many different elements. A timeline of the Plan’s planning and outreach process is shown in Table 2.1. Public engagement activities were conducted with the intent to ensure the Plan was a regional plan shaped by local input. The various elements of the public outreach and civic engagement process are described in the following sections.
## Table 2.1
### RTP/SCS Public Engagement Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Quarter</th>
<th>Public Engagement</th>
<th>RTP/SCS Milestones</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>FALL</td>
<td>Mini-Presentations</td>
<td>10/27: PPP presented to SJCOG Board</td>
<td>SJCOG Board</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10/28: PPP released for public comment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WINTER</td>
<td></td>
<td>12/15: PPP Adopted</td>
<td>SJCOG Board</td>
</tr>
<tr>
<td>2017</td>
<td>WINTER</td>
<td></td>
<td>1/5: Community-Based Outreach Mini-Grant RFP posted</td>
<td>SJCOG Board</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2/23: Community-Based Outreach Mini-Grant Program Funding Recommendations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SPRING</td>
<td>Mini-Grantee Outreach Community Events Mini-presentations Public Workshops</td>
<td>3/30: Round 1 Public Input Survey Launched 6/3: Round 1 Public Input Survey Closed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUMMER</td>
<td></td>
<td>8/24: Draft 2018 RTP/SCS Scenarios released for public review</td>
<td>SJCOG Board</td>
</tr>
<tr>
<td></td>
<td>FALL</td>
<td>Mini-Grantee Outreach Community Events Mini-presentations Public Workshops</td>
<td>9/11: Round 2 Online Engagement Platform Launched 10/20: Round 2 Online Engagement Platform Closed 10/26: Direction provided to staff on a Preferred Scenario</td>
<td>SJCOG Board</td>
</tr>
<tr>
<td>2018</td>
<td>WINTER</td>
<td></td>
<td>2/22: Draft RTP/SCS presented to SJCOG Board</td>
<td>SJCOG Board</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3/2: Draft RTP/SCS released for public comment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SPRING</td>
<td>Community Events Mini-presentations Public Workshops Public Hearings</td>
<td>3/15: Draft EIR released for public comment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUMMER</td>
<td></td>
<td>6/28: RTP/SCS considered for adoption, EIR and Conformity Determination documents considered for certification</td>
<td>SJCOG Board</td>
</tr>
</tbody>
</table>
RTP/SCS Implementation & Working Group

In mid-2016, SJCOG convened a group to inform the development of the Plan. Many of the group’s members also worked on the 2014 Plan, and thus were already familiar with SB 375 and its relationship to the RTP. The group represented diverse interests, including local agency planners, transit agencies, environmental groups, affordable housing advocates, real estate development, economic development, and civic engagement advocacy. Compared to 2014, the 2018 group represented wider representation from environmental justice, public health, and neighborhood revitalization organizations.

The working group began meeting in Summer 2016, meeting a total of 10 times between July 2016 and November 2017. This committee was the main advisory body for the technical work surrounding scenario development, as well as weighing in on the goals and objectives for the Plan and assisting in the development of performance indicators. The working group meetings were held in the SJCOG board room, and made open to the public and accessible via WebEx to participants or members of the public who could not attend in person.

The groups participating included the following:

- Bike Lodi
- Business Council, Inc. of San Joaquin County
- Building Industry Association
- Catholic Charities of the Diocese of Stockton
- City of Escalon
- City of Lathrop
- City of Lodi
- City of Manteca
- City of Ripon
- City of Stockton
- City of Tracy
- Downtown Stockton Alliance
- San Joaquin County
- San Joaquin County Public Health Services
- San Joaquin Partnership
- San Joaquin Regional Rail Commission
- San Joaquin Regional Transit District
- Ten Space
- Third City Coalition
- Visionary Homebuilders
Community-Based Outreach

To hear a diversity of perspectives in the region, SJCOG expanded its public outreach activities by partnering with community-based organizations. Through a competitive bid process, SJCOG awarded grant funding to six local groups to conduct outreach in historically underrepresented and underserved communities (Table 2.2). These mini-grantees played an integral role in helping to elevate transportation needs in communities of concern. A summary of mini-grantee outreach activities is included in Appendix K.

Table 2.2
2018 Community-Based Outreach Mini-Grantees

<table>
<thead>
<tr>
<th>AGENCY / ORGANIZATION</th>
<th>DEMOGRAPHIC FOCUS</th>
<th>GEOGRAPHIC FOCUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic Charities</td>
<td>Low-income seniors and people living with disabilities</td>
<td>Stockton, Tracy, Thornton</td>
</tr>
<tr>
<td>Fathers &amp; Families of San Joaquin</td>
<td>Communities of color, low-income individuals, English as a second language, formerly incarcerated</td>
<td>South and East Stockton neighborhoods</td>
</tr>
<tr>
<td>NAACP Stockton</td>
<td>African American youth and adults</td>
<td>Stockton, Manteca, Lathrop, Tracy</td>
</tr>
<tr>
<td>Office of Community &amp; Economic Development at Fresno State</td>
<td>Rural residents with emphasis on low-income, senior, youth, veterans, and immigrants</td>
<td>Eastern rural areas of San Joaquin County, including Escalon</td>
</tr>
<tr>
<td>St. Mary's Dining Room</td>
<td>Homeless and financially burdened families and individuals</td>
<td>Stockton</td>
</tr>
<tr>
<td>Stockton Shelter for the Homeless</td>
<td>Homeless families and individuals, transit-dependent individuals</td>
<td>Stockton, San Joaquin County</td>
</tr>
</tbody>
</table>
We want to hear from you – Public Input Survey

Billed as Round 1 in a series of public outreach and engagement efforts, SJCOG surveyed members of the public during the Spring of 2017 to gather input about current and future transportation needs. The survey was made available in English and Spanish and administered in-person, as well as online, and distributed via multiple channels:

- RTP/SCS Community-Based Outreach Mini-Grant Program activities;
- RTP/SCS Implementation & Working Group and SJCOG standing committees;
- SJCOG community outreach at local events;
- Presentations at local organizations; and
- Via SJCOG social media, press release, and email lists.

At the close of the survey, a total of 1,222 residents volunteered to take the survey, providing critical insight for shaping the 2018 Plan. Residents shared opinions on the current transportation climate, as well as their transportation priorities, including infrastructure, public transit, active transportation, as well as their feelings around resource conservation and funding policy. SJCOG used the survey results, in concert with other outreach efforts, to shape the 2018 planning scenarios and to stimulate additional public policy discussions. See Appendix K for full survey analysis.

Round 1 Public Input Survey Highlights

With over 1,000 responses to the Round 1 survey, SJCOG heard from a broad sample of residents throughout the county. Their input is summarized below.

Top three transportation problems in the region:
1. Traffic
2. Lack of public transit
3. Condition of the roads

Desired regional goals to work towards:
- Reducing miles traveled by car
- Increasing walking, bicycling, and public transit use
- Increase new jobs in San Joaquin County

Top tier priorities for transportation funding:
1. Fixing and maintaining roads
2. Expanding public transit service
3. Improving traffic operations that reduce congestion
Spring 2017 Public Workshops

In addition to the public input survey, SJCOG staff also held two regional public workshops in Round 1. Notices for these public workshops were sent out to over 500 individual e-mail addresses including SJCOG’s outreach database, members of SJCOG standing committees, members of the SJCOG board, and those opting in to receive notifications. Flyers were posted in advance on social media and at various locations throughout the community. Information about the public workshops was also distributed to local media outlets.

With input from the RTP/SCS Implementation & Working Group, early workshops were designed to gauge public opinion on various elements making up the foundation for the Plan. After a short presentation providing an overview of the Plan, SB 375 and the regional planning process, the sessions included several interactive stations. Each station covered a different aspect of the Plan and gave participants the opportunity to interact directly with staff about the information presented and to provide their feedback on what they would like to see in their communities. All workshops were conducted in an open house format where participants were invited to attend at any time during the workshop; review displays; interact with staff; complete comment cards; and speak to a bilingual interpreter to have their comments recorded. To encourage participation, SJCOG offered light refreshments, as well as raffle prizes for participants.

Table 2.3 Public Workshops – Spring 2017

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 20, 2017</td>
<td>6 to 8 p.m.</td>
<td>SJCOG</td>
</tr>
<tr>
<td>June 1, 2017</td>
<td>6 to 8 p.m.</td>
<td>Manteca Transit Center</td>
</tr>
</tbody>
</table>

Round 1 Public Workshop Highlights

- Many participants commented on investments to improve public transit, several of them focusing on transit connectivity within the region and to neighboring regions.
- Many participants also expressed the desire to live in communities of choice, where driving is not a necessity.
- Several participants commented on the need for development patterns that improve safety and encourage more walking and bicycling. They specifically called out the need for higher densities and mixed-use developments, and one participant even mentioned the concept of human-scaled urban design.
- A few participants commented on the need for more infrastructure for electric vehicles and wanted to see more charging stations in San Joaquin County.
- Concerns among participants included:
  - The lack of safety for bicyclists and pedestrians;
  - Too much traffic on streets during peak hours; and
  - The safety of residents on Lathrop Road.
What are the Scenarios?

1. **Scenario 1**
   - Invests in congestion relief through significant expansion and improvements to state highways and regional roadways.
   - Focus of flexible funding is roadway expansion and maintaining roads and streets.
   - Investments in public transit are modest with an emphasis on maintaining existing service over service expansion.
   - ACE expansion only assumed for Modesto/Merced and no expansion of ACE service on existing routes.
   - Least bicycle/pedestrian and smart growth investments.
   - Investments support land use patterns along highway corridors with less development in urban core areas.

2A. **Scenario 2A**
   - Invests in transportation systems that complement compact growth and minimize impacts on agricultural land.
   - Flexible funding flows to all modes of transportation.
   - ACE expansion assumed for Modesto/Merced, San Jose, and “planning level only” work for Sacramento service; includes related minimal improvements needed to support the service expansions.
   - Bus transit service includes expanded Bus Rapid Transit and more connectivity within communities and between communities.
   - More investment in bicycle and pedestrian investments, complementing public transit and increasing alternatives to driving a car.

2B. **Scenario 2B**
   - Transportation investment strategies and land use assumptions mirror Scenario 2A.
   - Assumes a quarter-cent sales tax starting in 2020 - creating over $1 billion of additional revenue in Measure K, resulting in more investments in all transportation modes, in accordance with the existing Measure K investment strategy.
   - Makes possible ACE expansion to both Modesto/Merced and to Sacramento.
   - Highest infusion of investment dollars to transit, bicycle and pedestrian improvements.

3. **Scenario 3**
   - Invests in transportation systems that support the highest level of compact growth and infill, resulting in the least impact on agricultural land.
   - Focus of flexible funds on bicycle/pedestrian facilities and public transit.
   - Highest level of Bus Rapid Transit Corridors in urbanized areas and more bus transit amenities or stations.
   - Highest level of ACE expansion including service to Modesto/Merced; ACE planning & development to expand to Sacramento; and implementation of additional train capacity to San Jose.
   - Least investment in maintenance of roadway system and expansion of state highways and local roads and streets.

What are the assumptions about the future?

- **Infill & Downtown Investment**
  - Low Impact: Scenario 1
  - Moderate Impact: Scenario 2A
  - High Impact: Scenario 3

- **Compact Development**
  - Low Impact: Scenario 1, 2A, 2B
  - Moderate Impact: Scenario 3

- **Farm & Natural Land Consumed**
  - Low Impact: Scenario 1, 2A
  - Moderate Impact: Scenario 2B
  - High Impact: Scenario 3

What is the difference in investment strategies? (2016 - 2042)

- **$11.46 Billion**
  - Scenario 1
  - Highway, Interchange, & Roadway Improvement / Expansion (Roads): 39.5%
  - Operations & Maintenance, Safety (Maintenance): 28.3%
  - Bus: 19.5%
  - Rail: 10.2%
  - Bike/Ped: 2.5%

- **$11.46 Billion**
  - Scenario 2A
  - Highway, Interchange, & Roadway Improvement / Expansion (Roads): 38.8%
  - Operations & Maintenance, Safety (Maintenance): 27.2%
  - Bus: 20.6%
  - Rail: 16.6%
  - Bike/Ped: 2.0%

- **$12.56 Billion** (with Measure K 3.0)
  - Scenario 2B
  - Highway, Interchange, & Roadway Improvement / Expansion (Roads): 36.3%
  - Operations & Maintenance, Safety (Maintenance): 27.7%
  - Bus: 23.8%
  - Rail: 12.6%
  - Bike/Ped: 3.0%

- **$11.46 Billion**
  - Scenario 3
  - Highway, Interchange, & Roadway Improvement / Expansion (Roads): 36.3%
  - Operations & Maintenance, Safety (Maintenance): 24.1%
  - Bus: 23.8%
  - Rail: 3.1%
  - Bike/Ped / Smart Growth (Bike/Ped): 2.5%
Help shape the future of the region – Online Engagement Platform

In September 2017, SJCOG staff carried the input of the RTP/SCS working group forward, along with the feedback of more than one thousand participants in Round 1, in the form of four possible alternative scenarios for the future transportation system of San Joaquin County (see Figure 2.4). SJCOG staff launched Round 2 of public outreach and engagement, in which these four scenarios were presented to the community for further input on the type of future San Joaquin County residents would like to see.

To educate the public, SJCOG developed an interactive web-based public engagement tool (see Figure 2.5). The tool was made available in both English and Spanish. Through a series of five screens, the public engagement platform visually demonstrated how various mobility and environmental factors interact and affect each other in the four planning scenarios. As participants engaged with the platform, it prompted their input on their priorities, as well as their ratings on scenarios and various strategies to address regional issues such as congestion relief, environmental conservation, and social equity.

SJCOG used the results to supplement technical information for recommending the scenario that would become the basis for the Plan. The data collected can be found in Appendix K, along with an analysis of participant demographics, key findings, and discussion of the similarities and differences among the region’s diverse communities.

Online Engagement Platform Highlights

- The highest ranked priorities on average included repairing and maintaining roads, reducing congestion, and improving public transit.
- Overall, there was support for all planning scenarios; however, Scenario 2A received the highest average rating. This scenario focuses on increasing alternatives to driving a car, expanding public transit, and providing more funding to bike and pedestrian projects. This Scenario became the underlying framework for the 2018 Plan.
- Among the varied congestion relief strategies, new infrastructure and public transit outranked options such as active transportation and others.
- Participants favor addressing the jobs-housing balance as an environmental conservation strategy.
- Public support for public transit investment diverged based on income status. For example, low-income participants highly favored improvements for local and regional bus transit, while high-income participants highly favored improvements for regional rail.
- When it came to innovations in transportation, the public expressed high interest in studying pricing strategies to fund the region’s transportation system. The public shows uncertainty on the issue of planning and preparing for autonomous vehicles.
Figure 2.5 Interactive Web-Based Tool

For a closer look, please visit live demonstration Link:
https://sjcog-demo.metroquest.com/
Fall 2017 Public Workshops

In addition to the online public engagement platform, SJCOG staff also used traditional methods of public outreach and engagement by holding two regional public workshops in Round 2.

A workshop in September 2017 consisted of a short presentation and interactive station areas. At the time of the workshop, the online engagement platform described under Help Shape the Future of the Region was a few days out from its public launch. Therefore, a station area was designed to mimic one of the exercises from the online tool. This station featured a poster board similar to Figure 2.4, which participants reviewed before being asked to rate them on a scale of 1 to 5 with 1 meaning “worst” and 5 meaning “best”.

Following the close of the online engagement platform, SJCOG held an additional workshop in November 2017 to present results and to provide additional technical information about the scenarios on their performance on key metrics of community interest, including the debut of public health performance metrics looking at the Plan’s impact on total average walking and biking minutes, as well as average body mass index and general health.

Table 2.6 Public Workshops – Fall 2017

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 7, 2017</td>
<td>6 – 8 p.m.</td>
<td>Cathedral of Annunciation Co-Host: Catholic Charities</td>
</tr>
<tr>
<td>Nov 9, 2017</td>
<td>6 – 8 p.m.</td>
<td>SJCOG</td>
</tr>
</tbody>
</table>
Figure 2.7
Survey Participants by Zipcode

Sources: SJCOG Round 1 Survey, SJCOG Round 2 Online Engagement Tool
Summarizing Public Input for a Preferred Scenario

Residents from across the region provided their direct input throughout the regional planning process. Figure 2.7 is a map of collected zip codes provided by survey respondents throughout San Joaquin County. Residents were engaged in the process from all corners of the region, but especially in the urbanized areas of the county.

Emerging Themes from the Public

Major themes developed from the input provided by residents in San Joaquin County. These themes, which are displayed below, were communicated to the SJCOG Board in November 2017, prior to directing staff to move forward with a land use and transportation scenario consistent with Scenario 2A.

- The poor condition of roads and the need for repair and maintenance was strongly felt across the region.
- San Francisco Bay Area commuters are struggling with heavy congestion and long travel times. To address congestion, some residents favor adding new lanes and roads, while others would like to see improved bus and rail transit connectivity to Bay Area transit systems.
- Some residents noted the lack of good paying jobs nearby and the resulting need to commute outside the county for work. Many would like to see more jobs that pay livable wages brought to the region.
- Some residents commented on the lack of basic services nearby, such as groceries, gas stations, etc. While others noted concerns with blight and personal safety in their communities.
- Residents across the region would like to see improvement in alternative transportation modes, such as public transit, biking, and walking. A number of residents want to ensure mobility for low income residents, youth, seniors, and people living with disabilities.
- Some residents expressed support for providing more housing options that are affordable and safe. One commented on the lack of housing available for residents making the median family income for the region.
Public Input on the Draft 2018 Plan

Following the release of the Draft, SJCOG staff conducted a series of informational meetings, presentations, and an open house to provide information to members of the public and stakeholders in the community. In accordance with SB 375, SJCOG also held two public hearings during regularly scheduled meetings. Events were peppered throughout the public review period, which remained open from March 2 through April 30, 2018. The events were held in locations throughout the region and began at varying times and days of the week in order to maximize opportunities for public input. While some comments were received at events and public hearings, staff also encouraged members of the public to submit written comments by U.S. Post, or email. For a summary of public comments received, please see Appendix D – Response to Comments.

Table 2.8 Public Outreach Events – Spring 2018

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 26, 2018</td>
<td>5:30 p.m.</td>
<td>Escalon Informational Meeting</td>
</tr>
<tr>
<td>Mar 12, 2018</td>
<td>7 p.m.</td>
<td>Lathrop City Council Meeting</td>
</tr>
<tr>
<td>Mar 13, 2018</td>
<td>7 p.m.</td>
<td>Manteca Planning Commission Meeting</td>
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<tr>
<td>Mar 20, 2018</td>
<td>6 p.m.</td>
<td>UOP Association of Students in Civil Engineering Presentation</td>
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<tr>
<td>Mar 22, 2018</td>
<td>3 p.m.</td>
<td>SJCOG Open House</td>
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<tr>
<td>Apr 3, 2018</td>
<td>7 a.m.</td>
<td>Lodi City Council Shirtsleeve Meeting</td>
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<tr>
<td>Apr 3, 2018</td>
<td>7 p.m.</td>
<td>Manteca City Council Meeting</td>
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<td>Apr 4, 2018</td>
<td>12 p.m.</td>
<td>Public Hearing - Lathrop City Council Chambers</td>
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<tr>
<td>Apr 26, 2018</td>
<td>4 p.m.</td>
<td>Public Hearing – SJCOG Board Room</td>
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Ongoing Public Outreach Activities

Throughout the development of the 2018 Plan, SJCOG staff employed a wide range of public outreach activities. The following list summarizes some of these activities:

- Consultation with member agencies and SJCOG standing committees;
- Educational videos about the 2018 RTP/SCS;
- Table outreach at community events;
- Mini-presentations with champions;
- Targeted flyering;
- Traditional media outreach;
- Stakeholder meetings; and
- Social media and website.

For further detail on these activities, please see Appendix K.

Retooling the Outreach Tools: Feedback on the Public Participation Process

For the 2018 Plan, civic engagement efforts resulted in over 4,000 residents engaged throughout the regional planning process. Aside from the overwhelming response from the public, SJCOG staff also received positive feedback on the interactive design of its workshops, as well as its visibility at local community events.

Although these activities represent the most extensive outreach plan by SJCOG to date, some RTP/SCS Implementation & Working Group members, as well as SJCOG Board members expressed concern at the potential for skewed results due to higher levels of input from urbanized areas of the region, as well as high income households, and long-distance commuters.

To address these concerns, SJCOG staff performed additional analyses on the collected data, drilling down to specific communities to understand the varied response on regional transportation issues. SJCOG staff also examined results by income and minority status to identify the specific needs and priorities of the most vulnerable residents in the region. The purpose of this was to help inform SJCOG Board members prior to directing staff on a preferred scenario for the 2018 Plan.

Additionally, participation from historically underrepresented and underserved communities, particularly communities of color, increased dramatically since the previous Plan. SJCOG’s goal is to continually increase participation from Hispanic and Latino communities to better reflect their composition in the regional population. To improve outreach in Hispanic and Latino communities for future updates of the Plan, SJCOG staff will enhance opportunities to provide information in-language. SJCOG will also forge new local partnerships to enhance community education and outreach to the specific communities.
CONCLUSION

More than two years after civic engagement began, public input has made a profound mark on the package of transportation investments laid out in the Plan. In 2014, the Plan represented a bold shift in transportation investments among the different modes of travel by directing more resources to maintenance and safety, active transportation, and public transit compared to previous Plans. In 2018, residents showed up in strong numbers to provide their input in one of the most visible, inclusive, and accessible civic engagement efforts led by SJCOG. Residents expressed great pride in the region with high hopes for its future. Ultimately, their direct input reinforced the bold direction charted in 2014 to ensure the continued implementation of ambitious sustainability goals in the San Joaquin region.
CHAPTER THREE
THE BUILDING BLOCKS - POLICIES AND SUPPORTIVE STRATEGIES

Regional Transportation Plan/Sustainable Communities Strategy
The policy element of the Plan addresses the transportation issues of the San Joaquin region and quantifies regional needs through a horizon year of 2042. These policies serve as “the building blocks” in the Plan development and help maintain internal consistency with other Plan elements.

The Plan policy element carries forward core policies from 2014, but with a purposeful focus on updates to support implementation and identification of innovative programs to accelerate implementation, including a “complete streets” policy.

Overall, the Plan utilizes the policy element to build a financially-constrained action plan. As a result, the policies help balance investments that maintain the roadway system, enhance safety and provide congestion relief, and integrate technological advances as part of the transportation solution.
The Policy Element

The policy element advances the requirements of what the Plan must include under Senate Bill (SB) 375. In detail, it must:

• Identify existing and future land use patterns.
• Consider statutory housing goals and objectives.
• Identify areas to accommodate long-term housing needs.
• Identify areas to accommodate eight-year housing needs.
• Consider resource areas and farmland.
• Identify transportation needs and the planned transportation network.
• Set forth a future land use pattern to meet greenhouse gas emission reduction targets.
• Comply with federal law for developing the Regional Transportation Plan.

However, with all that it is required to do, the Plan cannot dictate local General Plans. Instead, the Sustainable Communities Strategy component of the Plan provides a regional policy foundation for local governments to build upon. To further sustainability goals across the region, local jurisdictions are expected to advance new development that is consistent or exceeds the goals outlined in the Plan.

To encourage sustainable development, SJCOG continues to support compatible land-use projects by assisting public and private developers with seeking grants and taking advantage of streamlining benefits for the California Environmental Quality Act (CEQA). While carrying out the construction of billions of dollars in transportation improvements is a clear measure of progress, SJCOG plays many roles to further the ambitious goals of the Plan. Some of these are on-going programs for SJCOG, while others represent new areas of work.

Photo Credit: Dena Marquez
The Plan in Action – Affordable Housing and Infill

While SJCOG provides on-going technical assistance to member agencies for grant applications and other endeavors, recent efforts related to infill and affordable housing are particularly notable:

- In 2016, SJCOG led a technical assistance team funded by the Strategic Growth Council to provide support to San Joaquin Valley applicants vying for grant funding for the Affordable Housing Sustainable Communities (AHSC) state program. The assistance was instrumental in the Central Valley securing funding for seven of 25 projects for the second round of the program, including $8.9 million for the Hunter Street Housing Project in Stockton.

For the third round of funding through the AHSC program, SJCOG continues as a member of the technical assistance team led by Enterprise Community Partners to make the Central Valley and San Joaquin County even more competitive in securing funding that will support development projects that provide affordable housing and reduce greenhouse gases.

- Centered in the region’s most disadvantaged communities, the South Stockton Promise Zone (SSPZ) is a public-private-non-profit initiative that aims to create a community that residents in South Stockton deserve. The Promise Zone initiative aligns the work of partners and residents at the neighborhood, city, and regional levels to create a “cradle to career pipeline” of services and infrastructure to improve the well-being of the community and to empower South Stockton residents to thrive. As a partner with the SSPZ, SJCOG serves as a facilitator for advancing collaboration on Neighborhood Transformation. In 2017, major milestones included initiating dialogue on current public and private investment levels in South Stockton, as well as the exploration of strategies to articulate a community-driven vision that can guide future investment. To help lay the foundation for this work, SJCOG proposed SB1 funds to conduct a mobility needs assessment in the region’s most disadvantaged communities.
In 2006, the eight counties which comprise the San Joaquin Valley secured funding from the California Department of Transportation to develop a valley-wide transportation, land use, and environmental Blueprint Vision to the year 2050. As a vision, the Blueprint recognized that economic, environmental, and social issues are interdependent and only integrated approaches would affect needed changes. The Blueprint effort recognized that addressing one topic without recognizing potential impacts in other areas would not be enough. As an example, the location of jobs, housing, and commerce affects the transportation system...the nature of the transportation system affects air quality...and likewise, air quality affects health outcomes.

After a series of community-based workshops conducted throughout the region in January 2010, the SJCOG board of directors adopted the San Joaquin County Regional Blueprint Vision to the Year 2050.

The Blueprint established a coordinated, long-range regional vision between transportation, land use, and the environment from an overall quality of life perspective.

Building the Blueprint involved a bottom-up approach beginning with input at the community level. The related technical analyses and public outreach efforts laid the groundwork for the planning framework for the 2014 Plan, and, ultimately, the 2018 Plan.
Regional Congestion Management Program

The Regional Congestion Management Program (RCMP) is an essential component of the Plan process because it:

- Provides for safe and effective integrated management and operation of the entire multimodal transportation system.
- Assesses the level of congestion on the regional transportation network.
- Organizes and integrates strategies into the RTP.
- Uses performance measures to assess the benefits RTP strategies provide the region.
- Generates and collects data to apply the performance measures for system monitoring.
- Implements a process that minimizes, to the extent possible, single-occupancy vehicle trips from new development.

The RCMP roadway network includes all highways and regionally significant arterials adopted by the SJCOG Board of Directors. Its assessment and monitoring help determine near-term, mid-term, and long-term projects, making it an important tool for project funding prioritization. This is significant due to the addition of performance-based planning requirements in the 2018 Plan.

SJCOG’s RCMP has been recognized as a “best practice” model at both the State and Federal level. SJCOG staff are actively monitoring new requirements for both regional and local agencies and disseminating information to its local agency partners. SJCOG staff was instrumental in producing *Incorporating Travel Time Reliability into the Congestion Management Process: A Primer (February 2015)* and hosted a workshop for local agency staff. Appendix O contains a technical report that details how travel time reliability metrics will be incorporated in the emerging performance-based planning requirements.
In November 2006, the voters of San Joaquin County approved the renewal of Measure K for an additional 30 years beyond the original 2011 expiration date. The Measure K Expenditure Plan identifies the countywide transportation facility and service improvements, including highway, public transit, railroad grade crossing, passenger rail, and bicycle projects, to be delivered by a half-cent sales tax in San Joaquin County dedicated for transportation purposes. Additionally, the Expenditure Plan outlines the distribution of all categorical allocations between the local jurisdictions within the county. The sales tax revenues generated by the Measure K (Renewal) program along with the policies, projects, and programs identified in the Measure K (Renewal) Expenditure Plan have been incorporated into the Plan as appropriate.

Measure K Expenditure Plan
Regional Transit System Plan

In 2016, the SJCOG completed the comprehensive update to the San Joaquin County Regional Transit Systems Plan (RTSP). The RTSP is a long-range transit Plan that looks at bus and rail transit needs, their related costs, and details a financial forecast of anticipated funding through year 2024.

The RTSP showed that many transit operators were unable to identify all revenue sources to finance their proposed systems, resulting in funding shortfalls. Overall, the RTSP forecasted $1.02 billion in project revenue, which fell short against the $1.23 billion in anticipated transit costs. This required transit operators to re-examine their system expansion plans and reduce operating costs, identify strategies to bring in discretionary funding, and find other innovations to deliver public transit services.

The RTSP delved further than simply outlining funding shortfalls. It included a discussion of strategic transit investments, as well as identified policies and practices for further development. Six “action areas” have been initiated for guiding decision-making in the years to come:

- Collaborative forums and coalition building;
- Find cost and investment efficiencies;
- Improve the fiscal health of transit;
- Modernize the transit system;
- Enhance supportive land use policies and practices; and
- Change funding policy.
As of 2017, the SJMSCP has preserved 14,991 acres; this includes approximately 7,828 acres of agricultural habitat, 7,088 acres of grasslands, and 75 acres of other habitat types.

Credit: SJCOG, Inc. Archives
San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

SJCOG, Inc., a 501 (c)(3) nonprofit organization made of the SJCOG board members, administers the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The key purpose of the SJMSCP is to:

- Provide a strategy for balancing the need to conserve open space and the need to convert open space to non-open space uses while protecting the region's agricultural economy;
- Preserve landowner property rights;
- Provide for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA);
- Provide and maintain multiple-use open spaces which contribute to the quality of life of the residents of San Joaquin County; and
- Accommodate a growing population while minimizing costs to project proponents and society at large.

The SJMSCP helps to reduce the loss of wildlife and property by lessening the impact of development on open space in San Joaquin County. Through the SJMSCP, SJCOG looks at potential impacts to agricultural and resource lands and tracks actual development activities, as compared to the projected development footprint for the Plan.

Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan

This document was instrumental in developing the future bicycle infrastructure network and informed potential need for the allocation of Plan revenues to the Active Transportation Element of the Plan investments. As local agencies are currently developing updates to their own bicycle master plans, SJCOG will monitor the need and feasibility of updating the Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan.

Higher Density Housing Study

A product of the Valleywide Blueprint effort, the 2012 study, completed by The Concord Group, looked at a variety of current economic and demographic data to produce a snapshot of both consumer-driven and viability-driven estimates of demand for various housing product types. The conclusions and results of this study were directly incorporated into the scenario planning exercises. The housing split goals of the Plan were directly informed by this study.

Local Agency Climate Action Plans

Several local agency climate action plans were in progress during the 2014 Plan development. Tracy had already adopted its Sustainability Action Plan and a draft of Stockton’s Climate Action Plan was available for review. Late in the 2014 planning process, both the cities of Lodi and Manteca released drafts of their Climate Action Plans as well. These plans were taken into account with respect to any land use or transportation initiatives. This was particularly true of the Stockton plan, which had a direct influence on growth location in the final Plan scenario. Going into the 2018 Plan development, these climate initiatives are well into their implementation phases and continue to inform the planning process.
Resiliency and Climate Adaptation

“Resiliency” is a term commonly used in disaster risk management to describe how durable something is in emergency conditions and its ability to return to normal capacity if impacted. For example, resiliency may refer to the ability of a bridge to withstand earthquake tremors. In the context of transportation infrastructure, projects are usually planned for everyday use but not for disruptive events like extreme weather or terrorist attacks. A new Federal planning requirement asks MPOs like SJCOG to ensure future transportation planning efforts focus not only on daily travel but also on enhancing the resiliency and reliability of the entire system.

In the context of climate change, “adaptation” is a term used to refer to the built environment reacting to changing conditions brought about by climate change impacts, such as rising sea levels or temperature fluctuations. State guidance encourages regional agencies to incorporate actions that will assist in meeting State goals for adaptation preparedness in responding to climate change. Considerations will differ regionally and may include preparing for impacts associated with flooding of airports or roadways, landslides that may interrupt traffic flow or rail lines, heat waves or subsidence causing roadway buckling, or increased maintenance attributable to fire damage or erosion.

SJCOG identifies transportation infrastructure durability and resilience as a priority area and will partner with local jurisdictions to ensure the region can withstand changes to climate conditions or other disrupting events. Existing regional initiatives in climate adaptation include increasing affordable housing availability, encouraging sustainable land use planning such that reduces farmland loss, and investing in sustainable transportation modes. Local agency climate action plans are instrumental in these activities.

Plan strategies and policies regarding climate change will build upon existing local, state, and federal regulations supporting resiliency planning and adaptation measures. In addition to local efforts, SJCOG supports state implementation of AB 1482 (Climate Adaptation), SB 246 (Climate Change Adaptation), SB 350 (Clean Energy and Pollution Reduction Act of 2015), and associated executive orders and looks forward to collaborating with various state agencies to achieve targets and goals.

Regional Smart-Growth Transit-Oriented Development Plan

Adopted in 2012, this thoroughly vetted plan produced a variety of outcomes instrumental in the development of the SCS. The most important among them was the infill sites inventory that was used to direct infill and refill growth as part of the alternative scenario development process.
The Plan in Action – Future Studies for Implementation

Senate Bill 1 (SB1), The Road Repair and Accountability Act of 2017, provides planning funds directly to Metropolitan Planning Organizations to support and implement RTPs and their SCS element. SJCOG in 2018 will begin studies to further on-going efforts - all support Plan Policies & Supportive Strategies. Three of them are outlined below:

- **SCS Implementation Study:** a regional needs assessment to understand barriers to successful SCS implementation, especially in communities of concern. The focus will be on first mile/last mile planning, impediments to transit use to job centers, and recommendations on shared mobility initiatives and emerging technologies.

- **Climate Adaptation and Resiliency Planning Study:** Addresses resiliency and climate adaptation by identifying current risks and vulnerabilities through coordination with current local agency efforts, identifying gaps, and developing regional level strategies to assist in meeting State goals and Federal planning requirements.

- **Public Health Impact Analysis:** SJCOG will continue its successful relationship with local public health partners through a review and update of the public health model and metrics introduced for the first time with the 2018 Plan.
The Plan Policies and Supportive Strategies

The policies and supportive strategies described in this section reflect an expression of the current consensus of transportation needs and desires as expressed by the public, stakeholders, and planning professionals in San Joaquin County. They are designed around critical issue areas facing the regional transportation system. The supportive strategies are specifically identified to tackle these areas. The 8 policies and 27 supportive strategies for the Plan are described in Table 3.1.

<table>
<thead>
<tr>
<th>Policy</th>
<th>Enhance the Environment for Existing and Future Generations and Conserve Energy</th>
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<tbody>
<tr>
<td><strong>Strategy #1:</strong></td>
<td>Encourage Efficient Development Patterns that Maintain Agricultural Viability and Natural Resources</td>
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<tr>
<td><strong>Strategy #2:</strong></td>
<td>Enhance the Connection between Land Use and Transportation Choices through Projects Supporting Energy and Water Efficiency</td>
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<td><strong>Strategy #3:</strong></td>
<td>Improve Air Quality by Reducing Transportation-Related Emissions</td>
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<tr>
<th>Policy</th>
<th>Maximize Mobility and Accessibility</th>
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<tr>
<td><strong>Strategy #4:</strong></td>
<td>Improve Regional Transportation System Efficiency</td>
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<td><strong>Strategy #5:</strong></td>
<td>Optimize Public Transportation System to Provide Efficient and Convenient Access for Users at All Income Levels</td>
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<td><strong>Strategy #6:</strong></td>
<td>Facilitate Transit-Oriented Development to Maximize Existing Transit Investments</td>
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<td><strong>Strategy #7:</strong></td>
<td>Provide Transportation Improvements to Facilitate Non-Motorized Travel, including Incorporation of Complete Streets Elements as Appropriate</td>
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<td><strong>Strategy #8:</strong></td>
<td>Improve Major Transportation Corridors to Minimize Impacts on Rural Roads</td>
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<th>Policy</th>
<th>Increase Safety and Security</th>
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<tr>
<td><strong>Strategy #9:</strong></td>
<td>Facilitate Projects that Reduce the Number of and Severity of Traffic Incidents</td>
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<td><strong>Strategy #10:</strong></td>
<td>Encourage and Support Projects that Increase Safety and Security</td>
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<td><strong>Strategy #11:</strong></td>
<td>Improve Communication and Coordination between Agencies and the Public for Emergency Preparedness and Support Local and State Efforts for Transportation Network Resiliency, Reliability, and Climate Adaptation</td>
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<tr>
<th>Policy</th>
<th>Preserve the Efficiency of the Existing Transportation System</th>
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<td><strong>Strategy #12:</strong></td>
<td>Optimize Existing Transportation System Capacity through Available and/or Innovative Strategies</td>
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<td><strong>Strategy #13:</strong></td>
<td>Support the Continued Maintenance and Preservation of the Existing Transportation System</td>
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<td><strong>Strategy #14:</strong></td>
<td>Encourage System Efficiency with Transportation Improvements that Facilitate Improvement in the Jobs/Housing Balance</td>
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<td><strong>Strategy #15:</strong></td>
<td>Improve Transportation Options Linking Residents to Employment Centers within and out of the County</td>
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<tr>
<td>Policy: Support Economic Vitality</td>
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<tr>
<td>Strategy #16: Improve Freight Access to Key Strategic Economic Centers</td>
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<td>Strategy #17: Promote Safe and Efficient Strategies to Improve the Movement of Goods by Water, Rail, and Truck</td>
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<td>Strategy #18: Support Transportation Improvements that Improve Economic Competitiveness, Revitalize Commercial Corridors and Strategic Economic Centers, and Enhance Travel &amp; Tourism Opportunities</td>
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<tr>
<th>Policy: Promote Interagency Coordination and Public Participation for Transportation Decision-Making and Planning Efforts</th>
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<td>Strategy #19: Provide Equitable Access to Transportation Planning</td>
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<td>Strategy #20: Engage the Public Early, Clearly, and Continuously</td>
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<tr>
<td>Strategy #21: Use a Variety of Methods to Engage the Public, Encouraging Representation from Diverse Income and Ethnic Backgrounds</td>
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<th>Policy: Maximize Cost-Effectiveness</th>
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<tr>
<td>Strategy #22: Support the Use of State and Federal Grants to Supplement Local Funding and Pursue Discretionary Grant Funding Opportunities from Outside the Region</td>
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<td>Strategy #23: Support Projects that Maximize Cost Effectiveness</td>
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<td>Strategy #24: Maximize Funding of Existing Transportation Options</td>
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<th>Policy: Improve the Quality of Life for Residents</th>
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<tr>
<td>Strategy #25: Encourage Transportation Investments that Support a Greater Mix of Housing Options at All Income Levels</td>
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<td>Strategy #26: Improve the Connection Between Land Use and Transportation</td>
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<td>Strategy #27: Enhance Public Health through Active Transportation Projects</td>
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As a result of the civic engagement process, SJCOG was able to conclude that the goals and supportive strategies developed in 2014 continue to resonate with San Joaquin County residents. In addition, continuing forward with a similar set of goals and performance measures allows staff to focus on implementation efforts for realizing the plan’s ambitious sustainability focus. The resulting 2018 Plan continues to identify increased housing and employment densities to support a multimodal transportation system, while also promoting transportation alternatives to the car. It encourages active transportation such as biking and walking which, in turn, helps achieve healthy communities. It complies with federal Clean Air Act goals and SB 375 greenhouse gas emissions targets through a transportation system that reduces harmful air pollution emissions in accordance with these laws. With its ambitious approach to achieving the above-identified policies, the Plan builds a transportation system that ultimately keeps pace with projected population, employment, and housing growth.
CHAPTER FOUR
FINANCING THE TRANSPORTATION SYSTEM
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Financing the Transportation System

This chapter of the Plan describes the transportation investments for the San Joaquin region that support the goals and objectives of sustainability. It specifies planned projects and transportation management strategies intended to most effectively accommodate both future transportation needs and desired environmental benefits. The investment strategy is a balanced approach to multi-modal development intended to fulfill the objectives and performance indicators which guide the Plan and move towards achievement of the long-term transportation goals for the region. This includes the provision of appropriate resources to operate and maintain the multi-modal system.
Economic Outlook and Financial Assumptions

The transportation investments in the Plan are based on an estimate of available funding through 2042 including reasonably expected federal, state, and local revenue sources. In total, the Plan assumes $11.5 billion in projected revenues to be available within the 2042 planning period to support the transportation investments. These revenues are identified in year of expenditure (YOE) dollars consistent to the identification of project costs. The projections of revenues and expenditures rely on historical patterns of funding from federal, state, and local revenue sources, as well as assumptions about future conditions. Both have been developed in coordination with the local transit agencies, local jurisdictions, and state and federal agencies to ensure that the estimates are reasonable. In the last few years, the San Joaquin region has continued to slowly grow out of the Great Recession, which had a significant impact on the local and state economy. In recent years, housing, commercial, and industrial development have continued to increase at a modest pace. State and local economies have stabilized resulting in job security and consumer confidence. This has led to modest growth in retail sales transactions. These factors have supported positive growth in both local transportation sales tax revenues and transportation development fees, as well as state transportation funding sources.

The Plan assumptions for revenue projections over the 2042 planning period continue to reflect the conservative growth assumptions in the earlier years with higher growth in the (later) future years of the plan. Overall, the revenue projection for the Plan represents a nominal increase of 2.6 percent over that in the 2014 Plan partly due to local transportation sales tax growth as the economy continues to recover. However, it is worth noting that the balance of revenue has shifted more heavily towards state funds, as compared to in the 2014 Plan. This shift is due to the passage of Senate Bill 1, which increases gasoline and diesel taxes, and raises other fees to generate over $5 billion annually (Statewide) in new transportation revenues.

The following sections describe the key assumptions of the major revenue sources.

In total, the Plan assumes $11.5 billion in projected revenues to be available within the 2042 planning period to support the transportation investments.
As identified in Figure 4.1, funding from local sources contributes approximately 45 percent of the revenues to the Plan. Of this local revenue, the major contributions are from: Measure K half-cent sales tax program (39.1 percent), local transportation funds (24.1 percent), local developer fee programs/general funds (15.9 percent), and the Regional Transportation Impact Fee program (6.9 percent). Local funding is assumed to grow at rates specific to the source of the revenue.

For Measure K and local transportation funds, these retail sales tax-based programs are assumed to grow according to historical trends and projections of regional economic growth. For local developer fee programs and the Regional Transportation Impact Fee program, these development-based programs are assumed to grow according to historical trends and projections of local jurisdiction specific retail, commercial, and housing development.

State funding sources make up about 40 percent of the total RTP/SCS transportation budget. Most of the state revenues come from the State Transportation Improvement Program (STIP) (6.7 percent), the State Highway Operations and Protection Program (SHOPP) (15.8 percent), and the state gas tax (63.2 percent). Each state funding source is assumed to continue in their current form and distribution level, with growth based on the historical trends for each funding source.

Senate Bill 1 – Road Repair and Accountability Act of 2017

Senate Bill 1 (SB 1) was signed by Governor Brown on April 28, 2017. SB 1 increases several taxes and fees to raise over $5 billion annually (Statewide) in new transportation revenues. SB 1 prioritizes funding towards maintenance and rehabilitation and safety improvements on state highways, local streets and roads, and bridges and to improve the state’s trade
corridors, transit, and active transportation facilities. Per Department of Finance estimates, once fully implemented approximately $27 million per year in new revenue is earmarked for local streets and roads maintenance and rehabilitation and other eligible uses, including complete streets projects, traffic signals, and drainage improvements.

Senate Bill 132

Senate Bill 132 (SB 132), a companion bill to SB 1, assigned $400 million in Transit and Intercity Rail Capital Program (State funds) for the purpose of extending the Altamont Corridor Express to Ceres and Merced by June 2027.

Federal Revenues

Approximately 15 percent of the transportation funds for the Plan come from federal funding sources. Funds from the Federal Transit Administration make up about 40 percent of all federal funds. These funds are generally used to support transit capital and operating needs. Federal sources also include the flexible funding programs known as Surface Transportation Program (STP) which can be used for roadway resurfacing, pedestrian and bicycle facility improvements, or traffic operational improvements, and the Congestion Mitigation and Air Quality Improvement (CMAQ) Program, which can be used for transit vehicle purchases or any other operational improvement that leads to congestion relief and improved air quality. In this Plan, STP and CMAQ total 19.0 percent and 20.5 percent of anticipated federal funds, respectively. Both federal highway and federal transit programs are assumed to continue in their current form and distribution at the state and federal level with an annual growth rate of 2.6 percent.

Highlights of Revenue Assumptions

Forecasting infusion of future federal/state funding due to San Joaquin’s historical success

The Plan assumes the realization of future funding sources based upon historical experience within the region. This track record included securing millions in dollars from various state/federal funding programs as well as successful positioning of projects to capitalize on “cost savings” from various funding programs.

Realization that Measure K revenue has not kept pace with Measure K needs

The Measure K half-cent sales tax program was originally passed in San Joaquin County in 1990 for 20 years and renewed in 2006 for 30 years with over 78 percent voter approval. At the time of its approval by the voters, the revenue forecast assumed a “financially constrained” funding plan where the anticipated Measure K revenues would fund and deliver the Measure K Program of Projects.

However, two years after the voter approval, the economy experienced the Great Recession, which had an adverse impact on the anticipated revenue stream. The reduction of sales tax revenue following the Great Recession was $2 billion compared to the 30-year total assumed in the 2006 Measure K Renewal Expenditure Plan. This meant that the revenue decline would, at minimum, be $2 billion under what is needed to fulfill the Measure K promise to the San Joaquin Voters. Local revenue decline was not just experienced in the Measure K Program, however. Regionwide, local development revenue and SJCOG’s own regional traffic impact fee (imposed on pertinent local development projects) also suffered as the economy struggled.
The Transportation Investments

The Plan promotes a balanced transportation system. It calls for $11.5 billion of investment in system expansion of alternative transportation modes with strategic operational and capacity improvements to the existing highway and arterial roadway network. The Plan investments are consistent with existing programming documents including the Interregional Transportation Improvement Program (ITIP), Regional Transportation Improvement Program (RTIP), and the Federal Transportation Improvement Program (FTIP).

A summary of these investments by major project category is presented in Table 4.1. All investments are identified in Year of Expenditure (YOE) dollars that represent the cost of projects escalated to the future point in time when they are anticipated to be delivered. The summary of 2018 Plan investments also highlights the comparison of categorical investments between the 2018 Plan and the 2014 Plan.

**Table 4.1 Summary of RTP/SCS Investments**

<table>
<thead>
<tr>
<th>Project Category</th>
<th>2018 Plan (RTP/SCS)</th>
<th>2014 Plan (RTP/SCS)</th>
<th>Total Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Operations, Maintenance, and Safety</td>
<td>$4,448</td>
<td>$3,875</td>
<td>14.80%</td>
</tr>
<tr>
<td>Transit</td>
<td>$3,572</td>
<td>$3,520</td>
<td>1.50%</td>
</tr>
<tr>
<td>Roadway Capacity (Mainline, Interchanges, Regional Roadways)</td>
<td>$3,121</td>
<td>$3,273</td>
<td>-4.60%</td>
</tr>
<tr>
<td>Active Transportation/Community Enhancements</td>
<td>$320</td>
<td>$282</td>
<td>13.50%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$11,461</strong></td>
<td><strong>$10,950</strong></td>
<td><strong>4.70%</strong></td>
</tr>
</tbody>
</table>

*Excludes aviation projects totaling $120 million in RTP/SCS investments.*
Roadway Operations, Maintenance, and Safety — Maintaining the Integrity of the Existing System

Operational improvements, safety improvements, and the overall maintenance of the existing transportation system in San Joaquin County are substantial priorities for transportation investment decisions. State and local government agencies are responsible for maintaining a tremendous existing investment in the street and highway system. In addition to roadway pavement, this includes sidewalks, drainage systems, bridges and other structures, signal systems, signage, and landscaping.

The Plan calls for a substantial portion of future revenues to be dedicated toward maintaining and operating the current system. Within the 24-year RTP period, the combined operations and maintenance investment in the existing transportation system is over $4.45 billion.

Revenues to support roadway operations, maintenance, and safety come from local, state, federal, and private sources as identified in Figure 4.2.

Consistent with citizen priorities and State goals, a substantial portion of future revenues are dedicated to maintaining and operating existing streets, roads and other vital infrastructure.
Local Streets and Roads Maintenance

Local streets and roads are vital to the strength of the region’s entire transportation system. They connect our communities and carry traffic in our region whether by automobile, bus, or bicycle. Local roadway operations and maintenance are the responsibilities of each local government in San Joaquin County, and account for activities to preserve and improve local roadway conditions involving traffic operation management, routine maintenance, preventative maintenance, and rehabilitation and reconstruction of pavement and bridges. In San Joaquin County, preservation of local road conditions and performance is a priority due to the value and importance of these roadways to regional mobility and national economic vitality.

Approximately 63 percent of the Plan investments in roadway operations, maintenance, and safety are for maintenance of local streets and roads. The revenues supporting these investments are predominantly Measure K, state gas tax/formula funds, federal Regional Surface Transportation Program funds, and the Local Transportation Fund.

Figure 4.2 Roadway Operations, Maintenance, and Safety Funding Sources

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Tax (including SB 1)</td>
<td>$2,135,110,963</td>
<td>48%</td>
</tr>
<tr>
<td>Measure K</td>
<td>$824,918,475</td>
<td>18%</td>
</tr>
<tr>
<td>Other Local Funds</td>
<td>$138,531,895</td>
<td>3%</td>
</tr>
<tr>
<td>State Funds</td>
<td>$744,595,198</td>
<td>17%</td>
</tr>
<tr>
<td>Federal Programs</td>
<td>$605,131,343</td>
<td>14%</td>
</tr>
</tbody>
</table>
| Regional Transportation Plan Sustainable Communities Strategy | 4-7
State Highways Maintenance

Operations and maintenance of California’s 50,000 lane-mile state highway system is the responsibility of the California Department of Transportation (Caltrans). Caltrans manages this effort through the State Highway Operations and Protection Program (SHOPP). SHOPP is currently divided into eight major project categories: major damage restoration, collision reduction, mandates, bridge preservation, roadway preservation, mobility, roadside preservation, and facilities. Approximately 10 percent of Plan investments in roadway operations, maintenance, and safety are for state highway system maintenance.

Operational and Safety Improvements

Improving the ability of a highway or arterial street to efficiently move traffic without added capacity is the target of operational and transportation system management (TSM) improvements. This includes lower-cost spot improvements like freeway auxiliary lanes, modified interchange ramps, improved shoulders, individual intersection improvements on surface roadways, synchronized signals, and limiting left turn movements to major public street connections and turn pockets. This can also include advanced technology applications (often referred to as intelligent transportation systems) such as closed-circuit television to monitor and convey real time travel conditions, changeable message signs, traffic detection equipment, and traveler information systems. These high-tech applications allow motorists to choose travel options and allow local and state agencies to more quickly respond to incidents on the roadway. A significant component of congestion is non-reoccurring related to incidents on the roadway system. The Freeway Service Patrol program aids motorists to minimize traffic disruption and helps to clear accidents. As opportunities to add capacity reach a limit and when cost/benefit is considered, operational and TSM strategies become important investment strategies to improve traffic flow on the existing system. Approximately 22 percent of Plan investments are dedicated to roadway operations, maintenance, and safety improvements on the state highway and local roadways.
Railroad Grade Crossing Safety

The Plan recognizes the need for railroad grade crossing improvements, particularly grade separations, to reduce rail/roadway conflicts. Benefits accrue to both the rail traffic and the roadway traffic. Additionally, grade separations reduce congestion, improve safety for both trains and vehicles, and facilitate the movement of goods by rail. The Plan places a substantial emphasis on the importance and delivery of railroad crossing and full separation projects. The Plan includes over $228 million for grade separation projects as part of the total funding committed for operational and safety improvements (Figure 4.3).

One improvement to mobility the RTP notes in the SCS Story page (found in chapter 5) is fewer minutes of delay due to congested roadways.
Figure 4.3 Railroad Grade Separation Projects
Transit – Expanding the System and Promoting Choice

The Plan supports transit as an essential service needed by many community members to maintain a minimum standard of living; it also recognizes the important role transit plays in improving our region's air quality, reducing traffic congestion, and improving the general quality of life for travelers who face ever growing commutes.

The Plan provides $3.57 billion to transit including bus and passenger rail, with funding coming from a variety of sources as shown in Figure 4.4. This represents a 1.5 percent increase in transit funding over the 2014 Plan. Transit revenues are predominantly obtained from local sources (65 percent), and federal sources (23 percent).

The RTP investments emphasize convenient, high quality regional transit services to meet the needs of transit users. Improved and expanded urban, intercity, and interregional bus services, which coordinate and integrate with new and improved passenger rail services, are included in this transit investment strategy as ways to improve mobility and accessibility, and achieve state and federal air quality standards. The Plan also seeks to coordinate improved public transit services with complementary and supportive land use development policies—for instance, multimodal stations surrounded by residential and commercial developments. In addition, these transit hubs can be conveniently served by a myriad of alternative transportation modes, such as park-and-ride lots, bicycle facilities, pedestrian amenities, trains, buses, and telecommute work stations.

Figure 4.4 Transit Funding Sources
Bus Transit

As shown in Figure 4.5, the Plan specifically calls for $1.68 billion in funding operations for local, intercity, and interregional bus service. Service modifications and additional services will be provided as the region grows and travel patterns continue to change. Targeted expansion to capture a greater percentage of “riders by choice,” particularly for intercity and commute trips, will be a key target market. The March Lane, Arch Road/Sperry Road, and Eight Mile Road corridors are among those identified for expansion of BRT services. A second area of BRT expansion would provide improved frequency along the intercity routes. Improved delivery of lifeline service and job access to employment centers will also be a focus. Finding ways to provide transit service in a cost-efficient manner that meets public needs and supports identified land use patterns are key objectives.

Development of the transit infrastructure to support intracity transit is a priority for the cities of Escalon, Manteca, Tracy, and Ripon. Procurement of buses and the construction of maintenance and fueling facilities will greatly reduce the operating costs when compared to leasing vehicles and facilities. Adequate transit service for older and disabled citizens and for coordinated social services transportation is an additional service goal which ties strongly to community access and quality of life issues. This specialized transit service will expand over the life of the Plan to accommodate an anticipated increase in older age adults who continue to value mobility but seek options to the automobile.

Figure 4.5 Bus Transit Investments

![Figure 4.5 Bus Transit Investments](image-url)
The Altamont Pass is a low mountain pass in the Diablo Range of Northern California between Livermore in the Livermore Valley and Tracy in the San Joaquin Valley. This upward trend in those commuting primarily over the Altamont Pass along I-205 and I-580 rose most dramatically in the decade between 1980 and 1990, a time of rapid employment growth in the area. Changes in regional commuting flows between San Joaquin County and the Bay Area over the past 30 years are reported in the figure below. It illustrates a dramatic growth in the daily commute to the Bay Area commute, with over 45,000 San Joaquin County residents commuting to the Bay Area accounting for 74% of all daily commuters into the Greater Bay Area.

The reasons for the rapid rise in workers willing to make the long commute from San Joaquin County to Bay Area jobs are myriad and often complex. However, of particular note is that even during the recession when population migration from other California counties and other States into San Joaquin County was overall negative (fewer people moving in than leaving), the number of people moving from the Bay Area counties was still positive - likely both a function of severely depressed home prices locally and a faster economic recovery in the Bay Area.

Past Improvements
The rapid increase in commuters on I-205 and I-580 have put a strain on the transportation system of eastern Alameda County and southern San Joaquin County. Over the past 20 years a number of multimodal improvements have been completed along the I-580 and I-205 corridor.

Timeline of Improvements

- **1997**: I-205 Widening from 4 to 6 lanes between I-580 and Eleventh Street in Tracy completed
- **2001**: Third daily ACE round trip added
- **2008**: I-580/I-205 interchange Truck Bypass completed
- **2009**: I-205 Widening from 4 to 6 lanes between Eleventh Street and I-5 completed
- **2012**: Fourth daily ACE round trip added
- **2013**: I-205 Auxiliary Lanes through Tracy completed
- **2016**: I-580 Express Lanes between I-680 and Greenville Road in Alameda County completed
- **1998**: Bay Area Rapid Transit (BART) operations extended to the Livermore Valley at the Dublin/Pleasant Station
- **2004**: The San Joaquin Regional Rail Commission (SJRRC) began their Altamont Corridor Express (ACE) passenger rail service with two daily round trips between Stockton and San Jose on the Union Pacific-Oakland Subdivision over the Altamont Pass.
Near Term Improvements

The transit and highway improvements to I-205 and I-580 have not kept pace with the continued growth of commuting traffic from the Northern San Joaquin Valley over the Altamont Pass due to the Bay Area’s early recovery from the recession and continued lack of housing production. SJCOG in partnership with Alameda County and the SJRRC are proceeding with a number of transportation investments to help ease congestion over the Altamont Pass while encouraging other modes of transportation. Near term improvements include

- Expanding ACE capacity by running longer trains. This includes the use of more powerful Tier IV locomotives, extended station platforms in Alameda County and San Joaquin County, parking improvements, and operational improvements.

- Widening I-205 from 6 to 8 lanes between the Alameda County Line and I-5. This project will begin the environmental phase in Summer 2018. The alternatives will consider the use of managed lanes, either High Occupancy Toll (HOT) lanes or High Occupancy Vehicle (HOV) lanes.

Long Term Improvements

A number of emerging concepts are being explored as long term solutions to help improve congestion on the I-205 and I-580 corridors. These concepts have no funding identified in the near term in either SJCOG’s Regional Transportation Plan/Sustainable Communities Strategy or MTC’s Plan Bay Area, however planning efforts will need to consider them in the future.

Highway Improvements

The recent improvements completed on I-580 by Alameda County and the planned improvements on I-205 by SJCOG leave a bottleneck in the middle between Greenville Road and the Alameda County Line over the Altamont Pass. Long term improvements may require the addition of a westbound truck climbing lane and High Occupancy Toll (HOT) lanes in each direction.

ACE Improvements

As part of their ACEfoward program, the SJRRC considered a number of alternatives to increase the number of ACE trains a day between the Northern San Joaquin Valley and San Jose. No funding is currently identified for these improvements, and a number of operational improvements will be required by the host Union Pacific Railroad to allow additional trains on the Oakland Subdivision. These improvements are mostly located in Alameda County and will be the subject of future study and coordination with Alameda County.

Rail Connectivity Between BART and ACE

For many years Alameda County has sought the extension of BART service east of Dublin to Livermore to provide a direct connection to ACE. The construction of this extension will be cost prohibitive, and recently Alameda County in partnership with San Joaquin County has been exploring the concept of a Diesel Multiple Unit (DMU) or Electric Multiple Unit (EMU) rail service. Several alternatives are being considered for the alignment of the service, which may include a direct connection in the median of I-580 to BART in Livermore, or utilizing the former Southern Pacific Railroad right of way over the Altamont Pass owned by Alameda County to connect with the Union Pacific Tracy Subdivision in downtown Tracy.
The Plan includes $1.16 billion toward the operation and enhancement of the Altamont Corridor Express (ACE) passenger rail service, providing the commuter link between the northern San Joaquin Valley and the Bay Area. In the near term, the San Joaquin Regional Rail Commission is planning for the extension of service to Modesto and Ceres by 2023 and Merced by 2027. This extension, which was infused with dedicated funding by the passage of SB 1 in 2017, will also add new stations in Ripon and Manteca in San Joaquin County. Other near-term projects include purchasing longer trains to provide additional capacity and track and signaling improvements to increase speed and reliability along the corridor.

The Rail Commission, in conjunction with the Tri-Valley-San Joaquin Valley Rail Authority, is also looking to provide additional rail transit options between the San Joaquin Valley and Sacramento. In spring 2018, the Amtrak San Joaquin will begin offering “Morning Express” service that will re-time the existing trainsets to provide morning service with the aim of attracting business travelers. In addition, both agencies have worked with Union Pacific Railroad to secure rights to operate additional trains to Sacramento along the Sacramento Subdivision near I-5. This service would provide additional stops in Elk Grove, in Sacramento at Suterville, Midtown, North Sacramento and Natomas/Airport, and allow for potential future extensions to Yuba City/Marysville and Redding (see Figure 4.6).

ACE is also seeking to provide additional trains over the Altamont Pass to the Bay Area. Of paramount importance to achieve this goal is to acquire dedicated rights of way from Stockton through Niles Junction to the maximum extent possible. This could either be through purchase of its existing line or purchase and upgrade of parallel lines in combination with new dedicated track in existing Union Pacific Railroad rail right of way. ACE will also continue to develop track improvements from Niles Junction to Diridon Station in downtown San Jose in conjunction with Caltrans and the Capital Corridor passenger rail service.

Additionally, for many years Alameda County has sought the extension of BART service east of Dublin to Livermore to provide a direct connection to ACE. The construction of this extension will be costly and feasibility is still being explored.

AB 758 (authored by Assemblymember Susan Eggman and signed by the Governor in October 2017) establishes the Tri-Valley-San Joaquin Valley Rail Authority for purposes of planning, developing, and delivering cost-effective and responsive transit connectivity between the Bay Area Rapid Transit District’s system and the Altamont Corridor Express commuter rail service. This new Authority is tasked with developing a feasibility report for transit connectivity between BART and ACE. A possible option is a DMU/EMU (Diesel Mobile Unit/Electric Mobile Unit) Regional Connection. Other alternatives are being considered as well.
The first step of the Authority is the completion of a feasibility report by July 1, 2019. This feasibility report will be critical in identifying specific projects (and related costs) to achieve transit connectivity. In the development of 2018 Plan (update), SJCOG (consistent with the Metropolitan Transportation Commission in the Bay Area) has not identified capital or operations funding pending the feasibility report and a possible programmatic Environmental Impact Report. As alternatives are developed and financial resources identified, it is anticipated that the proposed project will be considered in future amendments to the Plan.

Transit Operations and Maintenance

A properly maintained transit system is critical to the mobility of the region, as well as for providing a time and cost competitive alternative to the private automobile. While the maintenance activities for the transit system are unique to this mode, the unending challenge to sustain the system is similar to the maintenance of the roadway system. Unique to the transit system are the ongoing, necessary operating costs of fuel purchases, drivers, mechanics, dispatchers, and equipment and facility leases. Additionally, the cost for the replacement of buses, train cars, tracks, security upgrades, fare machines, and other capital equipment far outpaces available funds. And just as with local streets and roads, delayed maintenance of the transit system leads to even costlier rehabilitation down the road.
Roadway Capacity – Strategic Investments Relieving Congestion and Supporting Efficiency

Throughout San Joaquin County, major highways and several arterial streets are projected to experience increased traffic levels which meet and in some cases substantially exceed system capacity. Without improvement, the result will be extended morning and afternoon peak periods in existing areas of congestion, and several new areas of congestion that currently operate at adequate levels of service. Interstate 5 (I-5), Highway 99, Interstate 205 (I-205), and Highway 120 in particular are projected to experience a substantial increase in total demand. SJCOG has highlighted the State Route 99 / State Route 120 interchange as one of the highest priorities as it relates to operational improvement on the State Highway System. In fact, the corridor running from State Route 99 at the Stanislaus County line to State Route 120, to I-5, to I-205 is a focused corridor in need of future improvements.

Through the variety of funding sources shown in Figure 4.7, the Plan provides for $3.12 billion for key projects targeted to improve the most impacted portion of the highway and arterial roadway system and promote the efficiency of the roadway system. The capacity improvements are targeted to corridors which are the most essential to mobility within the county; the improvements support planned land use and have gone through the congestion management process.
Mainline Highways

Approximately 43 percent of the roadway capacity investments in the Plan are for mainline highway widening and extensions. Key to promoting the efficiency of the mainline highway system, the widening of I-5 and I-205 are planned as high occupancy vehicle (HOV) lanes that support both ridesharing and transit. These lanes will expand the existing HOV system currently in operation on I-5 in the City of Stockton as well as provide consistency and connectivity with HOV lanes planned on I-580 in the San Francisco Bay Area. These routes will also be considered for treatment as managed lanes that could use pricing as a tool to help ameliorate congestion.

Figure 4.7 Roadway Capacity Funding Sources
Regional Roadways and Interchanges

Approximately 58 percent of the roadway capacity investments in the Plan are for regional roadway widening and new interchanges between regional roadways and mainline highways. The regional roadway and interchange investments support access to infill development areas, congestion relief, and bus transit (Figure 4.9). Additionally, new regional roadways are planned to support the implementation of both local and regional bicycle, pedestrian, and Safe Routes to School plans that ensure these roadways support the Plan goals.
Figure 4.9 Regional Roads and Interchange Projects

Legend
- Green: Interchange Projects
- Orange: Interchange Projects (Environmental Only)
- Purple Triangle: Regional Roadway Intersection Projects
- Solid Purple Line: Regional Roadway Projects
- Dashed Purple Line: Regional Roadway Projects (Environmental Only)
- Grey Line: Freeway/Highway
- Black Line: Streets
- Red Line: Railroad
Active Transportation and Community Enhancements – Creating Places for People while Improving Public Health

The Plan provides $320 million of project investments that support active transportation and community enhancements. The investments include standalone pedestrian, bicycle, and Safe Routes to School projects as well as programs that incentivize infill development through funding grants for streetscape enhancements. As shown in Figure 4.10, funding for these investments comes primarily through the Measure K local transportation sales tax program, SB 1, and the Active Transportation Program. The total revenues made available to support active transportation and complete streets represent a 13.5 percent increase over the 2014 Plan.

Active transportation infrastructure projects include priority (near-term) and vision (long-term) bicycle, pedestrian, and Safe Routes to School capital projects as defined in the 2012 SJCOG Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan. The total investment in active transportation infrastructure provides for over 800 miles of new Class 1, 2, and 3 bicycle lanes throughout San Joaquin County.

Community enhancement projects support infill and transit-oriented development as defined in the 2012 SJCOG Regional Smart Growth and Transit-Oriented Development Plan and the Measure K Smart Growth Incentive Program. Example projects include enhanced sidewalks, pedestrian street lighting, traffic-calming devices, and landscaping. The revenues established for community enhancements are based upon a target to fund 75 percent (45 miles) of the roadway frontages adjacent to the infill “opportunity areas” identified in the 2012 SJCOG Regional Smart Growth and Transit-Oriented Development Plan and a cost per mile average of current streetscape projects. Specific projects will be identified for funding according to competitive calls for projects over the life of the Plan.

Funding is also identified for active transportation non-infrastructure investments. These projects include education, encouragement, and enforcement programs in support of walking and bicycling, as well as planning and transit integration projects. These investments recognize that for short trips, walking and bicycling can serve as alternatives to the automobile and provide connectivity to transit as both the “first and last mile” of travel.

![Figure 4.10 Active Transportation Funding Sources](image-url)
CONCLUSION

The investment strategy is a balanced approach to multi-modal development intended to fulfill the objectives and performance indicators which guide the Plan. The Plan moves the region closer to achievement of the long-term transportation goals. This includes the provision of appropriate resources to operate and maintain the multi-modal system. The financial analysis, furthermore, is not simply a planning investment strategy but a project delivery strategy. The outcome is to construct and implement projects that benefit all users of the transportation network.

Forecasted revenue has been adjusted to account for recent developments, economic recovery, and the passage of Senate Bill 1 and Senate Bill 132. As with investment strategies in prior Plans, the role of local development financing, self-help (sales tax) measures, and regional transportation fees will continue to be essential to leverage state/federal monies. It will also enable the region to have a competitive advantage in securing discretionary funds from statewide programs established under Senate Bill 1. Thus, the Plan must be judicious with its commitments of these funds to the highest priority projects.
CHAPTER FIVE

PERFORMANCE OF THE SUSTAINABLE COMMUNITIES STRATEGY
This chapter summarizes the performance outcomes of the long-term investments in programs and infrastructure representing the shifting needs and priorities in the San Joaquin County region. The chapter also describes how the Plan addresses the needs of communities of concern in the county. Technical analyses are contained in the Plan Performance and Environmental Justice Appendices.
Since the Plan horizon year is 2042, performance results reflect year 2042 performance in comparison to both a 2015 “baseline” year and year 2042 “business as usual” conditions. This comparison effectively examines how the Plan measures up against an alternative future where the land use trends of the recent past continue and the mix of investments is more auto-centric to match the larger, less compact urban footprint. These comparisons will demonstrate whether the Plan is successful in addressing greenhouse gas reductions, reducing potential impact on the environment, facilitating efficient public investments, and improving residents’ ability to reach the places they desire through bolder transportation and land use planning strategies.


Performance — How does the Plan measure up?

Performance indicators are qualitative or quantitative measures of progress toward the Plan’s overall goals, objectives, and policies. They contribute to the decision-making process by providing a basis for determining whether a decision advances the transportation objectives that are valued and held as priorities by the region. In some cases, the plan is making solid progress toward the goals and objectives; in other instances, the Plan is slowing the progress of undesirable outcomes, or holding sway against worsening outcomes in the face of rapid population growth. The Plan’s progress is discussed in the following sections.

Performance indicators are used as one tool to help evaluate how this Plan contributes to the quality of life in the San Joaquin region. Most of the indicators have been carried forward from the 2014 plan, while some represent new additions based on stakeholder requests and/or improvements in available evaluation tools. These indicators were largely developed through work with the RTP/SCS Implementation & Advisory Working Group and informed along the way through the public listening sessions, online web survey feedback, and individual stakeholder group meetings. The measures were utilized during the public outreach process to aid interested citizens, stakeholder groups, and advisory committees in understanding the policy choices and tradeoffs inherent in the alternative land use and transportation scenarios that could form the foundation of the Plan.

A summary of all performance outcomes can be found in Figure 5.1. The following pages highlight plan performance across a variety of critical focus areas. With the 2018 Plan, SJCOG has added a Regional Progress Report that discusses historical trends to put the performance of the Plan in context. It also identifies limitations to measurement and identifies potential improvements to future indicators. Some indicators and trends are highlighted in the chapter; a full report is included as Appendix M.
Enhance the Environment for Existing & Future Generations
- Prime Farmland Developed: 9,700 fewer acres of Prime Farmland developed over business as usual
- Energy & Water Consumption: Average residential household energy use decreases 14% and 50 gallons less water per household used daily
- Reducing Green House Gases: Per capita emissions decline to meet and exceed the current reduction target of 10% by 2035
- Improving Air Quality through VMT Reduction: Per capita VMT declines 11% from 2015 baseline conditions

Maximize Mobility & Accessibility
- Improvements to mobility: Fewer minutes of delay due to congested roadways
- Increased Investment in Transit: $3.57 billion in transit investments
- BRT Routes: New routes on Eight Mile Road, March Lane, and Arch/Sperry corridor

Preserve the Efficiency of the Existing Transportation System
- Acres of Land Consumed: Future urban footprint is less by over 20,000 acres than a business as usual future
- High Quality Transit Areas/TOD: 39% of employment and 25% of housing in High Quality Transit Areas by 2042
- Investments on Mainline Highway Systems: I-5 and I-205 carpool lanes, SR 99/120
- Preventative Maintenance: Approximately 73% of Roadway operations, maintenance and safety funds for local streets, operational improvements, and roads maintenance
- Maintenance & Operation Improvements for the Existing Transportation System: Approximately 10% of Roadway operations, maintenance and safety funds for state highway system maintenance

Support Economic Vitality
- Creation of Jobs: Average of 3,400 Full Time Equivalent jobs created by RTP projects annually and $9.5 billion in economic output
- Supporting Goods Movement & Economic Centers: Infrastructure improvements to streamline goods movement

Increase Safety & Security
- Transportation System Management Improvements: Freeway auxiliary lanes, modified interchanges, improved shoulders, intersection improvements
- Grade Separation Projects: $227 million for railroad grade separations
- Intelligent Transportation Systems: CCTV, changeable message signs, traffic detection equipment

Improve Public Health
- Residential Density: Average housing density increases from 4.5 to 8.7 units per acre
- Community Enhancements and Place Making: Significant investments for sidewalks, pedestrian streetlights, landscaping, and traffic calming through Measure K smart growth incentive projects
- Public Health - Emissions Budgets: The Plan meets the requirements of the Clean Air Act and reduces per capita emissions from the 2015 baseline

Building on Active Transportation
- Active Transportation Investments (bike lanes, ancillary projects): Total investment to equal $320 million
- Trip Mode Share: 8,200 fewer solo driving trips daily compared to business as usual

Ensuring Social Equity
- Housing Mix: Increase diversity of housing options
- Transit Accessibility: Higher accessibility to high quality transit for communities of concern
Average household residential energy use is 14% lower in the Plan when compared to “business as usual.” This is the equivalent of powering an additional 17,000 households. Water saved is nearly 50 gallons per household every day.

Enhance the Environment for Existing and Future Generations and Conserve Energy

Reducing Impacts through Environmentally Sustaining Practices

The Plan seeks to encourage efficient development patterns that maintain agricultural viability and natural resources and enhance the connection between land use and transportation choices through projects supporting energy and water efficiency. The following indicators highlight the Plan’s aggressive pursuit of environmental preservation and enhancement.

Acres of Prime Farmland Consumed

While a similar measure to the total acres of land consumed, this indicator has its basis in Senate Bill 375’s requirement that the metropolitan planning organization consider the best available scientific data on the impacts to resource and agricultural lands. The Plan’s more compact development footprint encroaches less on prime agricultural land vital to the economy in San Joaquin County than the “business as usual” or trend scenario.

Energy Usage and Water Consumption per Household

Energy and water efficiency, as characterized here, represents a co-benefit of the future resulting from the more compact urban form envisioned and modeled for the household growth in San Joaquin County. Decreases in energy and water use are both an environmental and a financial benefit through reductions in overall housing costs.
Improve Air Quality and Reduce Greenhouse Gases

Greenhouse Gas Emissions per Capita

The Plan meets and exceeds the greenhouse gas (GHG) targets as set by the California Air Resources Board (CARB) of 5 percent in 2020 and 10 percent in 2035. The 5 percent and 10 percent reductions are from cars and light duty trucks and are measured against a 2005 baseline on a per capita basis.

This performance indicator was developed in direct response to the requirements of SB 375. A full discussion of the GHG targets and SJCOG’s analysis is included in the technical appendix. For consistency with the other measures in this section, 2042 indicators are included here as part of the plan performance discussion. The performance targets for this measure are currently under review by the California Air Resources Board (CARB) and will be updated in mid-2018.

Vehicle Miles of Travel per Capita

As the name implies, a vehicle mile is one vehicle traveling one mile on the roadway network, regardless of how many people are occupying the vehicle. Vehicle miles traveled (VMT) has been a consistent measurement of travel efficiencies by both transportation planners and policy-makers for decades. It is an important predictor in SB 375’s principal target—GHG reductions from cars and light duty trucks, as well as other measured vehicle emissions. The total daily VMT per capita is 21.98 for the Plan in 2042, compared to 24.61 in the baseline condition (2015). This means that the Plan reduces daily per capita VMT by nearly 11% or 2.63 miles.
Maximize Mobility and Accessibility

This Plan has a true multimodal approach in its investment strategies. The Plan continues its commitment to increased investment in bus and rail transit, and active transportation projects such as bikeways or streetscape features to facilitate public health through active communities. The targets in this section are reflective of the achievements of the Plan in providing easier and more convenient access to the places citizens need and desire to travel. Existing programs supporting demand strategies such as ride-sharing also play a significant role, as do investments supporting “place-making” such as more mixed-use areas where destinations are closer to home. The following indicators highlight some of the transportation system efficiencies improved through this investment strategy.

Transit Ridership

Increases in transit ridership can be attributed to both improvements in service through direct investments in transit-related capital and operations and increased ridership attributable to supportive land use patterns. For example, studies indicate that residential densities of approximately 7 to 8 dwelling units per acre are required to support efficient transit operations.

Transit ridership increases by over 30% as a result of the Plan’s direct and indirect investments in improving transit accessibility and efficiency.
Bike and Walk Trips

Trips made in the active transportation category, either by walking or biking, show a modest increase due to plan investments. Strides are being made both at the local land use level and with the percentage of Plan investments dedicated to active transportation supportive projects.

The Plan increases bike and walk trips by a modest 0.18% as a percentage of all daily trips over “business as usual,” but translates to an additional 8500 active transportation trips daily.
Increase Safety and Security

Investments that Help to Reduce the Number and Severity of Traffic Incidents

The Plan has many areas of investments targeted to improve safety and security. The Plan invests in advanced technology applications, often referred to as intelligent transportation systems (ITS). These include closed circuit televisions to monitor and convey real time travel conditions, changeable message signs, traffic detection equipment, and traveler information systems. These high-tech applications allow motorists to choose travel options and allow local and state agencies to more quickly respond to incidents on the roadway. As with other MPOs in the State, this plan recognizes the incorporation of the first performance based planning targets surrounding safety and supports the state targets for this measure. Additional information on performance based planning can be found in Appendix O.

Support Economic Vitality

Transportation infrastructure construction results in a large number of jobs per dollar of investment for the local economy. This indicator gives a snapshot of potential job creation - both direct, or construction-related employment and indirect, or additional jobs created due to spending from those receiving income from direct jobs. The calculations are based on an analysis completed for SJCOG by the University of the Pacific Center for Business and Policy Research.

Construction of the projects outlined in the RTP investment strategy and project lists will support an annual average of 3,400 direct, indirect, and induced full-time jobs in San Joaquin County annually over the life of the Plan. The full economic output benefit to the local economy is estimated at $9.5 billion. An in-depth discussion of job creation potential can be found in Chapter 6, and the full economic analysis report in Appendix S.

Over 85,000 new jobs will be created through the RTP/SCS.
Improve Public Health and Build on Active Transportation

Promoting Active Lifestyles through Improved Linkages between Transportation and Land Use

Now more than ever, the Plan, with its embedded SCS, concentrates on the ways the future built environment can be enhanced with focused, innovative transportation investments. The Plan strives to enhance public health through improving public spaces as a way to provide more opportunities to bike and walk to destinations, for work, play, or other necessary travel. For the first time in its long-range plan, SJCOG introduced new health metrics for scenario evaluation.

In preparing for the 2018 RTP/SCS, SJCOG committed to adopting a methodology for inclusion of health indicators. Investments in land-use and transportation that improve walking-supportive environments, including in transit infrastructure, have been shown to increase physical activity through walking, biking, and walking to transit. To model this, SJCOG has adopted the National Public Health Assessment Model (NPHAM) to predict travel and land use related behaviors (transport walking, leisure walking, and recreation) and health outcomes such as body-mass index (BMI) and the percent of population reporting poor health. NPHAM is well integrated with the Envision Tomorrow scenario planning tool already used by SJCOG, controls for demographics, and is able to provide estimates at the Census block group level.

For the 2018 RTP/SCS cycle, SJCOG piloted the use of NPHAM with draft Scenarios 1, 2a, and 3. This pilot included (1) an analysis of predicted regional behavior and health metrics and (2) a spatially-based equity analysis. The findings showed that more compact scenarios support modest increases in healthy behaviors, reductions in BMI, and decreases in poor health. The full health indicators report can be found in Appendix N.

Active Transportation Investments

This indicator shines a light on the Plan’s focused commitment to build upon the recent successes attributable to the existing commitment of the bicycle/pedestrian funding pool within the Measure K renewal program and the continuation of an increased portion of revenues assigned to the Active Transportation category first envisioned in the 2014 Plan. As a percentage of total funding, the category increased from 1.5 percent of total revenues to 2.6 percent in 2014, representing a 78 percent increase over the 2011 RTP. This commitment continues in the 2018 Plan and is enhanced owing to an infusion of SB1 dollars for active transportation. The additional bikeways attributable to the Plan assume full implementation of the bikeway projects included in the 2012 Regional Bike, Pedestrian, and Safe Routes to School Master Plan, as well as many new projects proposed since that Plan was completed.
Equity and Access

A Plan for Everybody

Included in this section are performance indicators specific to identifying the equitability of Plan investments across all income and minority groups in San Joaquin County. These measures are considered for identified communities of concern only versus the remainder of the region. The measures include: access to high-quality transit, households within 500 feet of a major transportation facility, housing type mix, roadway expenditure benefits, and health outcomes. The full Title VI and Environmental Justice analyses are included in Appendix Q.

Adequate Provision of Housing for a Diverse Population

Housing type is a complementary measure to density—and is also an indicator of housing affordability and availability for all income groups. The projected change in the housing mix demand is both a function of demographic changes and economic realities. The goal for the housing mix indicator has its basis in a study completed for San Joaquin Valley counties entitled Market Demand Analysis for Higher Density Housing in the San Joaquin Valley. Among the findings in the study were that appropriate densities need to be provided to ensure adequate provision of rental housing and that higher-density housing has been historically under-delivered, particularly for renter households. Differences in the projected housing mix between the business as usual condition (based on historical trends) and the Plan provides for increased housing choices for all populations in San Joaquin County as shown in the pie charts (Figures 5.2). The diversity of housing is higher in identified environmental justice communities.
Figure 5.2: Housing Choices in the "Business As Usual" Scenario / Housing Choices in the Plan

**NEW UNITS AS GROWTH - BUSINESS AS USUAL**

- Large Lot (>7,500 sq. ft.): 30%
- Conventional (5,001 - 7,500 sq. ft.): 25%
- Small Lot (<5,000 sq. ft.): 23%
- Multi-Family (Attached): 20%
- Mobile Home/Other: 1%

**NEW UNITS AS GROWTH - PLAN**

- Large Lot (>7,500 sq. ft.): 43%
- Conventional (5,001 - 7,500 sq. ft.): 25%
- Small Lot (<5,000 sq. ft.): 31%
- Multi-Family (Attached): 40%
- Mobile Home/Other: 0%

**NEW UNITS AS GROWTH - ENVIRONMENTAL JUSTICE**

- Conventional (5,001 - 7,500 sq. ft.): 19%
- Small Lot (<5,000 sq. ft.): 25%
- Mobile Home/Other: 0%

**NEW UNITS AS GROWTH - NON ENVIRONMENTAL JUSTICE**

- Large Lot (>7,500 sq. ft.): 6%
- Conventional (5,001 - 7,500 sq. ft.): 28%
- Small Lot (<5,000 sq. ft.): 34%
- Multi-Family (Attached): 32%
- Mobile Home/Other: 0%

**TOTAL UNITS - 2015**

- Large Lot (>7,500 sq. ft.): 26%
- Conventional (5,001 - 7,500 sq. ft.): 41%
- Small Lot (<5,000 sq. ft.): 7%
- Multi-Family (Attached): 23%
- Mobile Home/Other: 3%

**TOTAL UNITS - 2042**

- Large Lot (>7,500 sq. ft.): 24%
- Conventional (5,001 - 7,500 sq. ft.): 40%
- Small Lot (<5,000 sq. ft.): 9%
- Multi-Family (Attached): 24%
- Mobile Home/Other: 3%
Health Equity Metrics

As discussed in the previous section, SJCOG piloted a study with Urban Design for Health (UD4H) to incorporate the NPHAM health model into its scenario evaluation process. As part of the scenario evaluation process, scenario 2a was evaluated based on minority and poverty status. The equity analysis clearly demonstrated that the health gains observed would accrue most in areas with relatively high proportions of low-income and minority households. Details on the analysis can be found in Appendix N.

Communities of Concern (Environmental Justice)

Discussion and Indicators:

Identification of Environmental Justice Communities:

Minority

For purposes of the Environmental Justice analysis for the Plan, SJCOG has utilized the US Census Bureau definitions of different racial and ethnic populations to identify minority status among persons living in San Joaquin County. Minority persons are those who identify as Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, some other race, multiple races, or Hispanic/Latino of any race.

Low Income

Defining “low-income” populations uses the poverty threshold as defined by the US Census. This poverty threshold definition identifies the population in San Joaquin County that falls below a nationally defined basic standard of living.

Defined Environmental Justice Areas

In order to examine the degree to which minority and low-income (i.e., environment justice or EJ) groups benefit from the transportation investments and policies being carried out as part of the Plan, EJ communities must first be defined and mapped.
Figure 5.3

Potential Communities of Concern Map

Communities of Concern for San Joaquin County

Legend

- County Limit
- City Limits
- Highway
- Minority - Over 75%
- Poverty - Over 30%
Transit Accessibility

An equity analysis of the Plan’s bus transit investments was performed for EJ vs. non-EJ communities for both households and employment access to high quality transit areas as defined by SB 375. For San Joaquin County, this includes all rail stations, bus transit hubs and transfer stations, and Bus Rapid Transit (BRT or express bus) routes within the City of Stockton. The results indicated that EJ communities, both in terms of households and employment within walking distance of transit, have significantly better access compared to non-EJ communities. In the Plan, just over 50 percent of the households located in EJ communities have access to high-quality transit compared to only 12 percent for non-EJ areas. These findings are similar for employment access to high-quality transit in EJ communities versus non-EJ communities, with nearly 64 percent of jobs in EJ communities in proximity to high-quality transit versus 24 percent for non-EJ communities.

Based on these results, equitable if not more favorable benefits resulting from transit investments can be inferred for EJ communities. This can be attributed to EJ communities being more geographically concentrated within developed areas of the county where transit service provision is the greatest.

Households Within 500 Feet of A Major Transportation Facility

Given that the proximity to major transportation facilities can increase population exposure to health-based emissions and particulate matter from vehicles, an equity analysis was performed to compare the number and percentage of general population households relative to EJ households located within 500 feet of a major transportation facility. Considering total countywide households in the Plan, 4.2 percent of all households are within 500 feet of any major facility versus 4.0 percent for households in EJ communities. Overall, households in EJ areas represent 31.8 percent of households located near major transportation facilities, while making up 33.8 percent of total households in San Joaquin County. This would indicate a proportional share for EJ communities in the burden of exposure to air pollution as a result of proximity to major transportation facilities.

Roadway Expenditure Benefits

To gauge the extent to which EJ communities proportionately benefit from roadway improvement expenditures compared to the general population, an equity analysis was performed. Using the SJCOG travel demand model, a select link analysis was performed on regionally significant roadways identified for capacity improvements in the Plan. The analysis yields the percentage of vehicle demand whose origin is in an EJ community versus a non-EJ community. Results indicate that approximately 31.5 percent of daily vehicle trips utilizing these improved roadways originate from EJ communities. This indicates that a significant proportion of EJ communities will benefit from future roadway investments resulting from the Plan. While this share is slightly less than the countywide percentage of total EJ households, 33.8 percent, the difference is relatively small at 2.3%.
CONCLUSION

These indicators demonstrate that the Plan, overall, performs better than the “Business as Usual” scenario and improves over current conditions. The performance indicators show real improvements in meeting sustainability. It is also recognized that in some indicators, the Plan performance benefit is incremental despite a different approach in both the investment strategy and in the conceptual land use patterns. This is due in large part to an already well-established built environment. Over time, these incremental improvements will become a substantial part of the urban environment of San Joaquin County with a resulting increase in benefits. The performance measures included in this plan demonstrate a change for the region that meets the needs of our communities and provide a responsible set of metrics for meeting sustainability objectives.
CHAPTER SIX
ECONOMIC VITALITY
Economic Vitality

The previous chapter identifies the transportation projects that make up the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Are these investments fitting the needs of the San Joaquin region? How does the plan perform in advancing the sustainability goals such as reducing greenhouse gas emissions, increasing resident access to transit and active transportation, and improving public health and economic vitality?
The Role of Transportation in Economic Vitality

The history of San Joaquin County has been shaped by transportation

From the first of the 1849 Gold Rush miners, to the completion of the transcontinental railroad, to the completion of the interstate highway system, the San Joaquin region’s story is told through transportation. That story has changed little over time. Logistics, the strategic movement of goods and services from one place to another, continue to be key to economic growth in the region. The future challenge for the area is to build successfully upon this geographic advantage in goods movement and to expand the opportunities for businesses and people in the northern San Joaquin Valley.

As the transportation system in the region continues to mature, the area is poised to embrace new technologies and offer creative, forward-looking solutions for both the movement of goods and people. In working with our partners across the mega-region area, it is clear that goods movement and economic development opportunities must be a coordinated, collective effort.

Transportation is not just logistics

The movement of people continues to have importance in San Joaquin County. Over the past four decades, San Joaquin County has been exporting a commuter workforce alongside agricultural goods and manufactured items on our freeways. These residents have brought back to the region higher wages and increased spending power, and a host of skills and capabilities that can attract new employment opportunities to the region as well.

During the 1960s, the black and white US 99 shields gave way to the familiar green CA-99 signs shaped like miners’ spades.

“Smart growth is economic growth. Bringing more jobs to San Joaquin County and building upon a skilled core of workers already residing here is one more way transportation and regional policies foster economic vitality.”

Former Mayor Brent Ives, City of Tracy
Commute patterns show an untapped economic potential in the San Joaquin County workforce. Due to the lower housing costs in the region, a large number of county residents commute to neighboring counties. These commuters strain the capacity of the transportation network, leading to increased congestion, greenhouse gas emissions, and roadway maintenance costs. Many of these commuters are highly educated and are in white-collar sectors such as business, finance, computers, or engineering. Depending on the data source used, between 85,000 and 120,000 workers travel outside of San Joaquin County to work each day. By far, most commuters travel to the San Francisco Bay Area, primarily Alameda County, when compared to any other area. Because these commuters traverse the constrained Altamont Pass along the I-205/I-580 corridor, backups and delays on this route have become the norm, even as ridership on the Altamont Commuter Express has hit all-time highs.

A variety of forces may be exerting change on the commuting dynamic. San Joaquin County employment opportunities have improved dramatically over the years since the recession. Although substantially lagging other areas of California, particularly the Greater Bay Area, San Joaquin County recovered its pre-recession job high earlier than previously forecasted, and had fully recovered by 2015. Year-over-year job growth has been robust since 2014. The University of the Pacific Center for Business and Policy Research predicts job growth of just over 2 percent in the near term, with construction, services, and financial activities leading the way. Construction is still recovering from labor force growing more slowly, unemployment is predicted to continue to fall, reaching less than 7 percent by 2021.

Since the recession, domestic migration to San Joaquin County from the Bay Area has not reached pre-recession levels. Meaning, fewer workers are opting to accept long commutes in exchange for lower housing prices. Those in-migrants to the county also appear to have lower labor force participation, which may indicate retirees or self-employment (the data referenced does not track self-employed individuals). Observed data may also indicate that after a few years of commuting, more employees are switching to local jobs or telecommuting.

We know the Greater Bay Area, and Sacramento to a lesser extent, continue to struggle with housing provision as labor force participation and employment continue to increase faster than population growth might suggest. These two regions are also prioritizing the issue of affordable housing as not only a local agency issue, but also a regional one. SJCOG will continue close coordination around demographics and commuting with its mega-region partners as part of ongoing dialogue and collaboration.

Opportunities for Economic Development

Transportation has required some “self-help” taxation strategies

The recent past has shown that San Joaquin County can take its economic destiny into its own hands through thoughtful transportation investments. Measure K, the half-cent sales tax for transportation, invested over $700 million in transportation improvements within its first 20 years—many investments with the purpose of expanding economic opportunity to the region. A combination of highway improvements, rail grade separation projects, local bus improvements, and the creation of a regional passenger rail program all have had tangible effects on our economic vitality.
Mega-Region Initiatives

Although San Joaquin County continues to be identified as part of the large, eight-county Central Valley, its positioning at the northern end of that valley and proximate to the Greater San Francisco Bay Area to the west and Sacramento to the north, makes it the center of an economic powerhouse dubbed the “mega-region.” Ever increasing economic and demographic ties have made joint planning between these three regions an imperative. The executive directors of the three regional planning agencies, their elected officials, and staffs have met on a regular basis to converse and plan around topics ranging from goods movement, to regional economic development, to coordination of demographic forecasts & planning assumptions, to forums on policy issues of mutual concern. Several important projects and future initiatives have grown from these meetings.

An ongoing study, begun in 2016, to study the planning assumptions in the three-MPO’s regional plans (SJCOG, Metropolitan Transportation Commission - MTC, and Sacramento Area Council of Governments - SACOG) to look at what additional greenhouse gas reduction targets might come from joint planning efforts and to look at which assumptions carried the most risk of disrupting predicted outcomes in the plans. The final report looks at the ways the MPO’s can best present plausible future versions of their plans that can meet state goals, while providing the best possible transportation outcomes.
MTC initiated the first comprehensive look at goods movement in the mega-region area. The study, set to wrap up in mid-2019, (the Northern California Mega-Region Goods Movement Study) aims to create a shared and consistent inter-regional vision identifying how to effectively and efficiently conduct goods movement through and within the communities of northern California while maximizing benefits and minimizing costs and impacts to residents and firms. The study partners include SJCOG, SACOG, and the Association of Monterey Bay Area Governments (AMBAG), along with MTC. Study outcomes will address goods movement clusters, transportation & land-use challenges, workforce training needs, and a strategic implementation plan for five to ten critical focus areas.

The three mega-region partners, SJCOG, MTC & SACOG, have been coordinating planning assumptions and demographic forecasts over the last several years; SJCOG has set-aside funding from its SB1 Sustainable Transportation Formula Planning Grants to assist in the expansion of the current economic modeling platform utilized by the Association of Bay Area Governments (ABAG) to include San Joaquin County. This expansion will not only assist San Joaquin County in a more robust quantification of the economic benefits of its RTP, but also help the mega-region partners consider economic development as collaborative and synergistic across the entire region – policy questions, strategies, and assumptions can be tested as economic variables for their effect on the mega-region in its totality.
Tracy: Silicon Valley East

The City of Tracy has been characterized by some as the “Silicon Valley East.” A large proportion of Tracy residents have white-collar jobs in the San Francisco Bay Area and commute to work via Interstate 580 (I-580) and Altamont Corridor Express trains.

For the purposes of this chapter, white-collar jobs are “Management, business, science, and arts” jobs as defined by the U.S. Census Bureau’s American Community Survey (ACS).

After dipping significantly during the recession, the percentage of Tracy white-collar jobs returned to 2006 levels in 2012, ahead of countywide jobs returning to pre-recession levels in 2015. More details on employment comparisons between the City of Tracy, San Joaquin County and Santa Clara County can be found in Figures 6.1-6.4.
Figure 6.1

PERCENT OF PERSONS EMPLOYED

Source: US Census, percent of persons in civilian labor force, population age 16+ years in each industry.
The City of Lathrop is one of Northern California’s fastest growing and most comprehensive Master Planned Communities. Its current population is over 20,000 residents. The City experienced the highest percentage of population growth of all cities in San Joaquin County with a 22.5 percent increase between 2010 and 2016. Like many of the cities in San Joaquin County, Lathrop’s geographic placement plays a role in the city’s ability to attract both business and residents. As reported by the City of Lathrop, the economic potential for the City includes the following development projects: River Islands, which includes a 325-acre employment center and is projected to create 17,000 new jobs; Mossdale Village, a 2500-unit Masterplanned community which is also planned for nearly 1 million square feet of retail/office space; and the Central Lathrop Specific Plan, site for a power center and nearly 4.5 million square feet of office commercial.
The City of Lodi’s economy is anchored in the manufacturing, retail, health care, and hospitality industries. In addition, agriculture contributes to the local economy, with wine grapes being the largest crop. The 90,000 acres of vineyards produce annually a crop worth in excess of $350 million. Nearly 40 percent of California’s premium wine grapes are grown in Lodi, according to the City. The Lodi-Woodbridge area has been a respected part of California’s wine industry for over 100 years. Today, some of the State’s most important wineries rely on grapes grown in the Lodi-Woodbridge region including Robert Mondavi. Over 60 wineries grace the area.
City of Manteca
With its relatively low costs and proximity to the San Francisco Bay and Sacramento areas, the City of Manteca has attracted many commercial and industrial businesses, and is a popular place to live for commuters to the San Francisco Bay area. It is one of the fastest growing cities in the region, experiencing a 14.3 percent population increase between 2010 and 2016. The current population of Manteca is over 73,000.

Between 2006 and 2014, new residential land use activity from the City (participating in SJCOG’s Regional Traffic Impact Fee Program-RTIF) was 2,597 of the total 5,420 single-family units in the County, with multi-family residential units accounting for 250 units out of the region’s 755-unit total. In 2017 the City reported the highest single family permit activity with 619 out of the County’s 1,583 total. This strong residential growth is citywide and is accompanied by a similar increase in shopping, dining, and recreational opportunities throughout the community. The pace of both residential and commercial growth makes the City one of the most successful in terms of economic revitalization activity in the region.

City of Stockton
The City of Stockton is the largest of the seven cities in the County with a population of over 300,000 residents. Its relative size, economy, population, and land area makes its development trends of regional interest. The City has fourteen fully improved industrial and business parks, nine of which contain rail access. All industrial parks offer easy freeway access and are located within approximately five to fifteen minutes of either the airport or seaport.

The past 20 years saw a significant northward migration and expansion of commercial activity in the Stockton Area. Stockton has evolved into a multi-nucleated city with several pockets of intense office or retail development, each serving functionally in
some characteristic manner of a traditional central business district. Stockton’s economy has diversified from historically agriculture-based to include all market sectors. In fact, in 2016 alone, the City made $11,995 on business licenses.

Creating Sustainable Transportation Systems Builds San Joaquin’s Economic Competitiveness

Rail, highways, air freight, and waterways are the main ways to move goods from one place to another and San Joaquin County has been blessed with resources in all four areas. Whether it involves moving wine from a winery to overseas, fertilizer from overseas to the San Joaquin Valley, building materials from Turkey to Fresno, or milk from Merced to the East Bay, it moves through San Joaquin County. This will become more and more true over time, and recognizing the need to maintain, enhance, and sometimes overhaul our transportation options in the region will determine our success at improving economic vitality. The following are ways the San Joaquin region will continue to build upon that legacy.
In 1932, the Port of Stockton was founded as an independent governmental district. Today, the Port of Stockton is the second largest inland seaport (after Port of Portland in Oregon) and is either the fourth or fifth largest port in California (Stockton and the Port of San Diego have traded places a couple of times.) The last 10 years have seen the Port of Stockton experience its greatest growth and the potential seems limitless with new docks, the deepening of the channel, and the exploitation of the Rough and Ready Island complex.

The port has continued to add new tenants with an increase in customers and continues hold its ground with cargo volume since its record year in 2014 as the economic recovery from the recession was in full swing. The port supports 5,500 jobs and is a major employer in the region.
Access to the Port of Stockton has improved with the Port of Stockton Expressway off of State Route 4 and the completion, in early 2017, of the extension of the Crosstown Freeway, providing direct freeway access to the Port of Stockton complex. This $140 million-dollar project not only improved access and goods movement, but eliminated most truck traffic in the Boggs Track neighborhood. Prior to its construction 6,500 vehicles and 4,400 long-haul trucks, with their attendant emissions, traveled through the neighborhood daily.

The Port of Stockton is California’s farthest inland deepwater port.

Prioritizing highway improvements that bolster the economic centers

San Joaquin County is among the most truck-intensive locations in California. This is the result of excellent highway access. Interstate 5 (I-5) and Highway 99 provide outstanding north-south connections. Interstate 205 (I-205) and Highway 120 provide the southern half of the region great east-west connections. I-580 is primarily a route through the region but provides economic opportunity in the Tracy area. Highway 12 provides an east-west connection to the Bay Area in the north serving, in large part, a farm-to-market purpose.

Over the last several years, improvements to these highways include safety features on State Route 12, the widening of I-205 and enhanced acceleration and deceleration lanes. The widening of I-5 through Stockton was completed in 2016, vastly improving traffic flow and adding the first HOV lanes in San Joaquin County. Major widenings and improvements on Highway 99 were also completed in late 2016, with the opening of the reconstructed Mariposa Road interchange. While there is a benefit to reduced congestion in the region with these projects, the main value is the capacity to move trucks, which have a far greater economic value than a single occupant automobile.

Future improvements in these corridors are focused on new HOV lanes for I-205, improvements at I-5 Mossdale Wye, and operational/reconstruction projects for the Highway 99, Highway 120 interchange. In the Tracy area, reconstructed interchanges are planned at International Parkway (formerly Mountain House Parkway) at both I-580
and I-205; the need for these is primarily driven by the large numbers of logistics and warehousing facilities being added in the Cordes Ranch Business Park.

As the investments in the Plan unfold, there will be additional freeway widening but a greater reliance on operational improvements such as auxiliary lanes, longer acceleration and deceleration lanes, and improvements to accommodate Surface Transportation Assistance Act (STAA) rated trucks. Logistics remains at the heart of the San Joaquin County economy and these improvements will further the attractiveness of the region for economic growth.

**Strengthening connectivity of key regional arterials**

San Joaquin Council of Governments (SJCOG) continues to invest in regional arterial improvements that provide access to job growth sites. The completion of the Arch-Sperry Corridor widening in late 2013 is an example of this improved access; however, with continued job growth and cargo handling at the Stockton Airport and projected job growth attributable to the new Amazon facility, additional widening, operational, transit service, and trip reduction activities will be necessary to support goods movement and employee access.

Additional improvements to support existing and future job growth are planned for McKinley Avenue in Manteca, International Parkway in Tracy, Eight Mile Road in Stockton, and River Road in Ripon are just a few other locations that are calling for the same kind of investment. These locations have been master planned as future job growth corridors in San Joaquin County.

“Every resident of the SJV depends on the movement of goods for food, housing, clothing, and most other aspects of daily life.”

– 2013 San Joaquin Valley Goods Movement Plan
While the Stockton Airport has struggled to attract and maintain consistent air passenger service, Alligent Air has now established and expanded service in recent years. Passenger flights now serve Las Vegas, Phoenix, and San Diego. On the cargo side, the airport is now handling three daily flights in support of three area Amazon fulfillment operations (two near Tracy) and a new Amazon warehouse near the airport. However, the airport continues to hold a large amount of untapped potential. The airport’s runways and taxiways need some additional maintenance but the terminal has undergone improvements.

As of 2017, San Joaquin County has adopted a Master Plan that will outline capital enhancements to enhance passenger service and strengthen the existing commercial and cargo activity. The current capital project list includes nearly $100 million dollars in maintained and improvements, including expansion of the terminal to accommodate international travel – a project that was added to the Measure K project list in 2016. With the continued improvement of the Arch-Sperry Corridor and Airport Way corridors, the Stockton Airport will continue to play a vital part in attracting new business opportunities and industries to the region.
While railroads are not large employers in the region, the resulting synergy of trucks, warehousing, and supply is interrelated. Rail is a critical link to the full-service transportation network that is prominent in San Joaquin County (Figure 6.5). The importance of the county’s railroad network continues to grow, with inbound commodities to the San Joaquin Valley accounting for about 29 percent of the non-through flows and originating in locations including the San Francisco Bay Area, Southern California, the Central Coast region, and outside of California. Outbound tonnage comprises about 22 percent of all non-through moves. Agricultural commodities and food products dominate the inbound and outbound tonnage for both truck and rail accounting for over one-third of the inbound and outbound truck tonnage and rail carload tonnage.

The network includes approximately 200 miles of Class I railroads owned by Union Pacific Railroad and Burlington Northern Santa Fe (BNSF). Significant rail expansion projects are further distinguishing the county as a premier location for logistics operations. In Stockton, BNSF operates an intermodal rail facility on 425 acres. The facility was updated with expanding loading/unloading track and an additional 300 truck/container parking stalls in 2016. In Lathrop, Union Pacific operates a 109-acre intermodal rail facility.

Union Pacific is planning to expand the facility to meet domestic cargo demand, with a first phase increase to 400,000 units lifted annually, and a second phase increase to 730,000 units annually. The expansion project will triple the facility's capacity to meet goods movement needs, improving the region's economic competitiveness.

San Joaquin County also features approximately 50 miles of short-line railroads. The Stockton Terminal and Eastern Railroad provide rail service to a variety of industries in the Stockton area, including steel, chemical, and bulk goods. It offers over 800,000 square feet of integral warehouse facilities, in addition to providing interchange services with the major railroads and the Central California Traction Company (CCT).
Strategies for Catalyzing Economic Development

Attracting jobs = reduced commute = people working where they live

If an aspect of smart growth is reducing the length of work trips, then San Joaquin County needs more job growth to reduce the average work trip length. According to the 2010 Federal Census, at 31.5 miles one-way, the San Joaquin region is in the top 10 in the country when it comes to average work trip length. The future of this county is not in exporting workers to the Bay Area or Sacramento, but in building a better jobs/housing balance right in our communities. Increased investments in active transportation, compact and mixed-use development, high quality transit, and community investments will work to create an environment that attracts white-collar jobs to the region.

Making transportation investments that achieve this end are among the goals of this Plan and the investment strategies encompassed in this RTP/SCS. Examples of using transportation to catalyze these goals include a recent combined call for projects for the Measure K Bicycle/Pedestrian/Safe Routes to School program and the Smart Growth Incentive Program.
Keeping graduates in the region

Attracting and retaining college graduates to the region is vital to catalyze a shift from a local economy based on goods movement to a balanced, innovative economy. The San Joaquin region is home to the University of the Pacific and San Joaquin Delta College. Many concepts have been explored regarding how to retain graduates so they can find work in the region where they live. The role of youth, education, and business in the economic development of both the county and the San Joaquin Valley may include strategies such as offering “incubator space” for students to work as interns or even for new graduates to work within a business, nonprofit, or governmental agency. These work spaces and opportunities may help students gain direct experience in the field and position graduates for future job openings within the business or agency. Other strategies involve more active job recruitment directed toward graduates of these campuses for job openings in the region.
Direct Economic Impact of the RTP

The Center for Business and Policy Research at the University of the Pacific conducted an economic impact analysis of the four future transportation “scenarios” presented to the public and policy makers as the possible foundation for the 2018 Plan. Those comparisons are enumerated in the full report in the Technical Appendix.

The final list of projects and strategic financial investments total over 300 discrete expenditures and $11.5 billion respectively. To analyze the economic impacts of these investments, a model of the economy, called “impact analysis for planning” or IMPLAN was utilized. This model is in a sense a general accounting system of transactions between industries, businesses, and consumers that estimates the range of economic impacts. Using the IMPLAN modelling software, extremely detailed Social Accounting Matrices and Multiplier Models of the San Joaquin County economy enables an in-depth examination of the impacts of the projects.

This model, enables one to examine the impact structure of each investment. For example, in the case of a construction project, the model can trace the project expenditures through the supply chain, from the construction contractor and its employees (direct impacts), to its suppliers and to their employees and onward to further levels of suppliers, employees, and their suppliers (indirect impacts). It also examines the effects from all the associated income to employees and their household purchases (induced impacts). The model thereby allows the generation of an estimate of how the original investment is multiplied through additional activity in the economy.

The direct economic impact on the San Joaquin County economy from the $11.46 billion worth of project investments in the Plan are reported in the Figure 6.6. After excluding some $49.1 million in right-of-way acquisition costs, since they represent a transfer of assets, the remaining $11.41 billion in projects are estimated through our model to generate some 58,000 direct jobs and $3.2 billion in direct labor income over the 25-year investment planning horizon. In terms of the total change in the value of production (output), the investment equates to an $9.6 billion direct impact.

The economic analysis done for the 2018 RTP/SCS shows that over the 25-year period, the Plan will generate significant employment in San Joaquin County.
Figure 6.6 Direct Impacts of the Plan investments

Output, $9,614,059,189

Labor Income, $3,171,011,951

Investment**, $11,410,943,807
**Not including right-of-way acquisition worth $49.1 Million

Figure 6.7 San Joaquin County Employment Impacts of the Plan

Induced Effect
Indirect Effect
Other Impacts

This analysis shows that over the 25-year period, the Plan will generate significant employment in San Joaquin County. Over the 2018–2042 period, the Plan calls for the spending of over $11.5 billion on transportation improvement projects. The economic analysis shows this will create an average of 3,600 jobs per year in San Joaquin County. The main beneficiaries will be construction workers, placing an employment floor under this volatile sector. However, job increases will also include workers in professional, supply and service firms that support the effort. Further, workers throughout the economy will feel the impact as construction-related workers and firms increase their spending in sectors like retailing and consumer services.

These investments are more significant than just their project associated impacts, as these infrastructure investments will also enhance the County’s economic competitiveness. These are long-term benefits that will endure beyond the projects life. Among the many long-term benefits from this sort of investment are reduced travel times because of the reduced congestion these investments generate, increased labor markets that allow labor to move more efficiently through a variety of transit modes across the County, and particularly given the growing importance transportation and logistics these investments will also make its goods movement system more efficient and better position it to enhance its competitive advantage.

Therefore, despite the value and importance of the projects immediate impacts focusing on it alone omits potential effects from enhancing the County’s attractiveness as a business location, including viability for corporate headquarters, and growing high-wage job opportunities because of its increased connectivity. Benefits may also include supporting the County’s travel and tourism industry.

Finally, as it enhances accessibility, these investments should benefit the County’s overall quality of life. SJCOG is continuously working to upgrade its economic modeling capabilities to quantify these additional economic benefits to the region. Recent studies of these long-term impacts in Southern California suggest that the competitive impacts could be more than double the project construction and operation impacts alone.
CONCLUSION

This analysis demonstrates how the San Joaquin region has strong economic advantages as well as untapped potential with its existing transportation network and facilities. San Joaquin has growing economic centers, an educated job force, and a housing market that attracts residents. Transportation is the critical piece to tie all of those concepts together in a unified strategy toward economic development. As a result, the Plan moves the region in the direction of economic competitiveness through its investment strategies—both directly with added jobs and through making the region more viable for attracting and keeping businesses with quality of life amenities for working residents.
CHAPTER SEVEN
TECHNOLOGICAL INNOVATIONS
Innovations in Technology

Technology influences many aspects of our lives including how we communicate with each other, where we live and work, and the personal choices we make. In recent years, the intersection between transportation and technology innovations has been growing at an exponential rate. The private sector has been rapidly testing new ideas and products such as ridesharing using mobile applications, using automation for package deliveries, and exploring the viability of self-driving vehicles. This has led to new private-public partnerships in the transportation sector and opportunities to build upon best practices.
It is important to study these technologies because they have the potential to stimulate economic growth, increase efficiency, and improve quality-of-life for residents in the San Joaquin County. However, because many of these innovations are still in the infancy stage, it is difficult to predict what type of public funding opportunities will be available for these initiatives in the future. In the short-term, SJCOG will be conducting further research and use policy recommendations to support the implementation of new technologies in the region.

**Connected Autonomous Vehicles**

Connected/Automated Vehicles (CAVs) encompass a suite of technology advancements that allow a vehicle to coordinate with other vehicles to enhance safety and efficiency (connected) and be operated without a human driver (automated). CAVs can be broken up into two distinct innovative technologies that are being simultaneously developed: autonomous operation and connected vehicle operation. These emerging technologies have the potential to transform how we travel every day, ranging from improving safety on the road to increasing traffic efficiency.

Autonomous vehicles use tools such as satellite mapping and onboard sensing to operate without human input, while connected vehicle operation uses real-time information and intelligent transportation systems for vehicles to communicate with each other and roadway infrastructure. Connected vehicle operation is further broken down into Vehicle to Vehicle (V2V) communication and Vehicle to Infrastructure (V2I) communication.

**Existing Initiatives**

While autonomous vehicle design and development are largely being driven by the private sector, public agencies are looking at ways to safely update our current infrastructure to facilitate CAV deployment. There are also many examples of private companies partnering with public agencies to test CAV pilot programs. Examples of these ongoing efforts include:

- **Connected Vehicle Pilot Deployment – One California Project**: This multimodal initiative led by Caltrans, MTC, METRO, and SANDAG aims to enable safe networked wireless communications between vehicles, infrastructure, and personal communications devices.

- **Strategic Transit Automation Research (STAR) Plan**: In December 2017, the Federal Transit Administration (FTA) released a five-year plan to explore potential benefits of vehicle automation for public transit. The FTA will utilize enabling research, strategic partnerships, and integrated partnerships.

- **Department of Motor Vehicles (DMV)-Proposed Driverless Testing and Deployment Regulations**: Regulations for post-testing deployment of autonomous vehicles will establish requirements for manufacturers to meet prior to operation on California’s public roads. In December 2017, these proposed regulations were released for public review.
Next Steps

In the future, Vehicle to Vehicle (V2V) communication must be integrated with Vehicle to Infrastructure (V2I) communication and Intelligent Transportation Systems to allow a vehicle to be connected to the roadway system. If this is achieved, it has been argued that vehicle collisions and congestion should decrease. SJCOG is exploring ways to facilitate the adoption of infrastructure technologies and is working with its regional partners to develop the supportive policies needed to aid CAV deployment in the San Joaquin County. Tools such as incentive programs and planning grants can bring innovation into the region by encouraging local jurisdictions and private companies to test pilot projects. Infrastructure such as lane width, road striping, traffic signalization, pedestrian walkways, and congestion monitoring also need to be modernized to allow for a CAV fleet.

A future regional innovation grant program will be created by SJCOG to fund infrastructure modernization projects. First steps in establishing the grant program will include identifying funding sources and working with a technical advisory committee to develop program criteria, project eligibility and scoring metrics. The types of projects to eventually be funded is speculative at this time; however; projects being considered for funding in other areas include:

- Transit and/or Freight Signal Priority
- Mobile Accessible Pedestrian Signal System
- Freight Dynamic Travel Planning/Performance
- Dynamic Transit Operations
- Dynamic Speed Harmonization
- Probe-Enabled Traffic Monitoring
- Probe-Based Pavement Maintenance
Self-Driving Cars

To this day, petroleum gasoline and diesel have been the primary energy source used to power passenger vehicles and light-duty trucks. Vehicles that run on gasoline and diesel produce larger quantities of greenhouse gas emissions and criteria pollutants when compared to their alternative fuel counterparts, leading to harmful air quality concentrations.

The State of California is actively working to increase fuel efficiencies, promote alternative fuel vehicles, improve air quality, and decrease dependency on petroleum gasoline using policies and regulations. However, disadvantaged communities in the San Joaquin Valley face more challenges than other regions when it comes to new technologies due to unique socioeconomic factors such as low income and lack of resources. Regional efforts to support state policies focus heavily on electricity and natural gas as the main fuel alternatives. Other examples of alternative fuels include hydrogen fuel cell, biodiesel, and ethanol.

Existing Initiatives

A variety of programs at the state and regional level are aimed at accelerating fleet electrification to meet California standards and goals. Not only do these programs improve air quality standards, reduce petroleum use, help achieve greenhouse gas emission reduction goals, but they also improve public health and attract investments and high-quality jobs.

- **Incentive Programs:** The San Joaquin Valley Air Pollution Control District (Air District) offers a myriad of grants, incentive programs, and resources for residents, public agencies, and businesses in the San Joaquin Valley.

- **Infrastructure Plans:** Valley Takes Charge! is a program implemented by the Air District to tackle issues raised in the District’s 2014 Plug-in Electric Vehicle (PEV) Readiness Plan. The 2014 Plan thoroughly examines the barriers, opportunities, and next steps needed for widespread PEV implementation in the Valley.

- **Public Fleet:** The Regional Transit District is the fourth in the nation to operate fully electric buses. The California Energy Commission awarded RTD, in partnership with Proterra, Inc., with a pair of 100% battery-electric buses and the funding for an automated fast-charging station. The RTD fleet also contains low-emission diesel-electric hybrid buses which reduce carbon monoxide, hydrocarbons, and particulate matter up to 90%, and oxides of nitrogen up to 50%.

- **State-level Regulations:** SB 350, the Clean Energy and Pollution Reduction Act of 2015, describes the importance of widespread transportation electrification for meeting state climate goals and meeting federal air quality standards. SB 1275, vehicle retirement and replacement, is the Charge Ahead California Initiative that aims at phasing out high polluting vehicles.

“In once autonomous vehicles replace today’s cars, near misses in the nation’s 300,000 or so signalized intersections won’t be near misses. They’ll be carefully orchestrated movements under the control of computers…” – NBC MACH
Next Steps

- Assist local jurisdictions and transit operators in securing AFV grant programs

- Work with the Air District and partners to implement recommendations from the 2014 PEV Readiness Plan

- Actively search for regional level funding opportunities and assist local jurisdictions and transit operators in securing AFV grant funding

The San Joaquin Valley Air Pollution Control District (Air District) offers a myriad of grants, incentive programs, and resources for residents, public agencies, and businesses in the San Joaquin Valley.

In addition to passenger vehicle use, CAVs are also being developed for the goods movement sector. SJCOG encourages partner agencies and transit operators to support widespread transportation electrification by partnering with state agencies to advance California standards and goals. An existing model is the California Electric Vehicle (EV) Ready Communities Challenge grant program. This program seeks to fund the development of a “blueprint” of actions and milestones to make a community EV ready – with an emphasis on charging infrastructure deployment in disadvantaged communities.

Self-Driving Cars Will Turn Intersections Into High-Speed Ballet

by NBC NEWS / Mar. 09, 2017 / 4:31 PM ET
Transit

As technology innovations like CAVs and alternative fuels become more prevalent, traditional public transit will have many opportunities and potential to adapt to changing times. The state and federal governments are currently conducting pilot programs to test the feasibility of technologies such as driverless buses and the effects of real-time ridership data. Other transit initiatives include fleet electrification, the process of converting all conventional fuel buses to run on electricity alone, and “on-demand micro-transit”, a transit type that acts like a hybrid of a fixed-route bus and a door-to-door personal ride.

Existing Initiatives

In San Joaquin County, the Regional Transit District (RTD) has started to experiment with micro-transit supplementation on top of their regular fixed routes. In October 2017, RTD partnered with Uber Technologies to provide transportation to residents living outside of RTD service areas and previously serviced by general Dial-a-Ride vans. Residents may use a phone line or the Uber phone app to hail a driver, but the requirements of this program stipulate that rides must end or originate from an area not serviced by RTD and end or originate from one of eight transit centers. This pilot program has been successful thus far, with many users trying out the service within the first few weeks of implementation opportunities and find ways of making rural transit a more cost-effective service.
A few cities in the U.S. have tested out micro-transit pilot programs to see how they measure up to traditional transit. Kansas City’s one-year pilot program had agency-owned vans driven by agency-employed drivers to pick up passengers on routes that were mapped as they drove. However, less than 0.1% of the Kansas City population had utilized the service in the year it was offered, which could have been attributed to insufficient marketing. Chariot, the Ford-owned van service, ran into logistical problems in San Francisco because the vans were idling in bus stops and the middle of the street. LA Metro sent out a request for proposals in October 2017 for a microtransit pilot project to see if on-demand vans are the supplement needed for public transit service.

Next Steps

The path forward for public transit may have transit providers take on more of a travel broker role and form strategic relationships with private companies while still providing certain traditional transit services, such as the RTD example above. Logistic issues such as rider education and infrastructure changes will need to accompany any microtransit additions to a region. SJCOG will be working with local transit providers to help identify funding to pursue pilot program opportunities and find ways of making rural transit a more cost-effective service.
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CHAPTER EIGHT
A FRAMEWORK FOR MOVING FORWARD: CHALLENGES & OPPORTUNITIES
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This chapter provides an overview of the ongoing challenges as well as the future opportunities and strategies to meet these challenges head on.
Beyond the Past Successes

Through its role as Regional Transportation Planning Agency for San Joaquin County, the San Joaquin Council of Governments (SJCOG) will forge ahead, providing a forum for regional policy discussions on growth, transportation, environmental management, housing, open space, air quality, fiscal management, and economic development. SJCOG—with its member agencies, regional partners, and community stakeholders—will seriously consider all sides of every issue through consensus building and collaborations. SJCOG recognizes these are essential elements to successful implementation of the Plan.

SJCOG believes the Plan investment strategy is a step towards meeting the air quality, environmental, economic, and mobility needs in the San Joaquin region. It will be an effective tool for a comprehensive transportation vision backed by ambitious, but achievable, predicted development.

Some of the project successes from the previous Plan include:

- First High Occupancy Vehicle Lane in San Joaquin County on I-5.
- First full electric bus vehicle fleet on the Martin Luther King Jr. (Bus Rapid Transit) corridor in South Stockton.
- Facilitating improved safety and goods movement through grade separations on Eight Mile Road, Lower Sacramento Road, and Harney Lane.
- Increasing public transit ridership -- Altamont Corridor Express was up to 1.3 million boardings (a year) on the service from San Joaquin to San Jose. Regional Transit District had approximately 4 million trips in a year.
- Building a project shelf by performing project study reports and designs for several new projects including: I-205 HOV 8-Lane Widening, I-5 Mossdale Wye Widening, State Route 120 6-Lane Widening, and the State Route 99/120 Connector Project.
- Funding over $19 million in Measure K funding for Bicycle/Pedestrian/Safe Routes to School projects and Smart Growth projects.
Actions Implemented since the adoption of first RTP/SCS

Strategies implemented (or efforts underway) during the previous Plan include:

- Developing of a complete streets policy for inclusion in the update of the Plan (for 2018). The Plan represents a continuing commitment to high level of investment into active transportation projects. Complete streets concepts, which considers bicycle lanes as a matter in a roadway transportation expansion, are encouraged when place-making and Smart Growth programs are implemented in the San Joaquin region.

- Advancing years of Measure K funding into a single “call for projects” in order to maximize efficiencies in project selection process -- this included grant writing assistance for Active Transportation project applicants.

- Establishing partnerships with beyond the San Joaquin region’s borders to examine Goods Movement in the San Joaquin Valley and the Mega-region (Sacramento/Bay Area).

- Exceeding the obligation (encumbrance) of federal funds to deliver air quality and road rehabilitation projects through expedited project delivery strategies.

- Examining future bus transit needs against predicted revenue in the Regional Transit Systems Plan and identifying implications on future funding policy and project financing.

- Expanding public outreach strategies for input in regional planning process.

- Implementing a 3-county Transportation Demand Management Program (known as dibs).

- Engagement of an RTP/SCS Implementation Working Group immediately after Plan adoption.
Additional Strategies and Investments Should Funds Become Available

Despite the Plan’s billion-dollar investment strategy, it is important to acknowledge that there will be continuing challenges involved in the delivery of the Plan.

As described throughout the Plan, the funding needs far exceed the amount of funds available. The result is an “illustrative” list of projects representing unfunded needs (shown in Technical Appendix U). In addition, these projects are not in the Plan for a multitude of other reasons including undefined scope and implementation schedule. Below is a brief overview of those projects that may be considered upon the availability of funds and meeting the necessary (other) requirements for a change to the Regional Transportation Plan.

• **Technological Innovations**: Information simply not available to ascertain technology readiness, application or implementation -- This includes factors such as quantifying costs to implement or operate, capital investment needs, and impact of technological advancement to those very needs.

• **Tri-Valley-San Joaquin Valley Rail Authority**: The establishment of this Authority will provide an opportunity to maximize transit connectivity commuter travel between BART (Bay Area Rapid Transit) and Altamont Corridor Express (ACE) rail systems in the Tri-Valley area at the Altamont Pass. Assembly Bill 758 will start with a feasibility report (in 2018) to examine a wide-range of transportation solutions and then will put together a financing strategy implementing recommended solutions. The collaboration of public agencies and the public in the Tri-Valley-San Joaquin Valley Area from the onset is the best jumpstart to this interregional planning process.

• **ACE Sacramento Extension and Related Multimodal Stations**: The Plan includes project development work for an ACE Sacramento Extension, but the operations and capital investments are unfunded. At the time of this plan, the San Joaquin Regional Rail Comission is actively pursuing grant funding opportunities to address project funding needs.

  • **Construction of I-205 HOV (HOT) Lanes**: The estimated total project cost is over $444 million. This state highway improvement, like many others on the Tier 2 Unfunded List, cannot move forward without adequate funding.

  • **Unfunded operations for Expanded Bus Transit Service**: Bus and rail transit agencies also feel the burn of funding constraints. Operations funding to finance rail and bus transit frequencies or transit line expansions are costly and experience increases due to labor and employment benefit costs. Operations, in particular, is a category of need where there are highly limited financial resources available to support these activities. Bus operators in the San Joaquin region, like many operators in other regions, continuously weigh their abilities to finance additional bus transit frequency or expansion of transit lines. In some cases cuts to existing transit service are a hard financial reality.
• **Unfunded Streets and Roads Maintenance:**

Pavement conditions continue to decline due to insufficient funding to properly fix and/or maintain streets and roads. Even during the Plan is public outreach process, maintenance continues to be a top priority for transportation investments. Yet, the challenges continue in this Plan to address the delayed maintenance backlog.

This backlog comprises streets falling into disrepair due to limited funding. The backlog exists because agencies must make hard decisions to invest in preventative maintenance on specific streets while letting some streets simply deteriorate. When streets continue to deteriorate, as evidenced by potholes and pavement cracking, the cost for repairs can be many times more than the cost of preventative maintenance strategies.

The 2016 California Statewide Local Streets and Roads Needs Assessment surveyed California’s 58 counties and 482 cities and captured data from more than 99 percent of the state’s local streets and roads.

According to the 2016 Report, the local system is facing a $73 billion funding shortfall to bring pavements into good condition, to address deficient bridges, and to fix essential components such as storm drains, sidewalks, and signage. It is estimated that $3.5 billion is needed annually just to maintain local streets and roads in their current condition; however, current funding lags behind at $1.9 billion per year. Bringing local streets and roads to optimal condition would take an estimated $7 billion annually.
Advancing Active Transportation in San Joaquin County

The 2018 RTP/SCS provides $305.4 million of funding to provide active transportation infrastructure projects and community enhancements to support infill and transit-oriented development. These projects include education, encouragement, and enforcement programs in support of walking and bicycling as well as planning and transit integration projects. These investments recognize that for short trips, walking and bicycling can serve as alternatives to the automobile and provide connectivity to transit as both the “first and last mile” of travel. Funding for these investments comes primarily through the state Active Transportation Program and Measure K local transportation sales tax program, but also the federal Congestion Mitigation and Air Quality Improvement Program and other sources.

Since the adoption of the previous 2014 Plan, SJCOG has devoted considerable efforts into advancing funding for active transportation projects and assisting project sponsors into incorporating “complete” streets principles into project designs. These near-term efforts have coalesced into considerable funding being made available through the Active Transportation Program and Measure K through the early years of the 2018 Plan.

Active Transportation Program

The Active Transportation Program (ATP) was created in 2013 by Senate Bill 99 and Assembly Bill 101 to promote the increased use of active modes of transportation, such as biking & walking. ATP Guidelines distribute the total annual funding capacity between three separate programs with 10% going to small urban/rural areas with populations of 200,000 or less, 40% going to Metropolitan Planning Organizations (MPO) in urban areas with populations greater than 200,000 and 50% going to a statewide program. All funding must be competitively awarded with the requirement that 25% of the funds in each program benefit disadvantaged communities. The ATP has two separate grant processes—one led by the State and the other led by the nine large MPOs including SJCOG. To date, four funding cycles of the ATP have been completed, while the fourth cycle will be completed after the adoption of the 2018 RTP/SCS. The results of the previous ATP cycles are described below, with many of these projects being delivered in the early years of the 2018 Plan.
SJCOG board approved using $50,000 in Measure K funds to provide consultant assistance to local jurisdictions for applications for the first ATP Cycle. 29 applications were submitted by San Joaquin County jurisdictions, among 770 applications statewide that requested a total of over $1 billion.

Four projects from the City of Stockton received approximately $3 million from the statewide portion of ATP Cycle 1, including funding for an updated Bicycle Master Plan and a new Safe Routes to School Plan that were both adopted in December 2017.

During the regional portion of ATP Cycle 1, the SJCOG Board approved eight projects from the cities of Lathrop, Lodi, Ripon, Stockton, Tracy, and the County of San Joaquin to receive a combination of $2.97 million in ATP funds and $1.5 million of Regional Surface Transportation Program (RSTP) funds. The SJCOG Board approved using these RSTP funds from the 25% SJCOG regional share to supplement the limited ATP funds available.

For ATP Cycle 2, no discretionary funding was available to provide consultant assistance or to supplement the regional ATP funding set aside for SJCOG. SJCOG staff offered technical assistance to local jurisdictions for the preparation of grant applications, including providing mapping support and providing assistance related to Disadvantaged Communities and census data.

16 applications from the region were part of the 617 applications statewide which competed for approximately $180 million in Statewide ATP funds. These 617 applications requested a total of over $1 billion. The City of Stockton and the County of San Joaquin were the only local jurisdictions to submit ATP applications for Cycle 2. The City of Stockton received $396,000 in Statewide ATP funding for their Greater Downtown Active Transportation Plan project. During the Regional portion of ATP Cycle 2, the SJCOG approved awarding all of $2.9 million available for the City of Stockton’s Miner Avenue Complete Streets project.

During Cycle 3, eight applications from the Cities of Lodi, Stockton, Tracy, and San Joaquin County were part of the 456 applications statewide which competed for approximately $122.8 million in statewide ATP funds. These 456 applications requested a total of nearly $1 billion. The California Transportation Commission (CTC) did not recommend any statewide ATP Cycle 3 funding for projects in San Joaquin County. Cycle 3 was highly competitive due to only two years of funding being available, and no San Joaquin County projects met the scoring threshold. For the regional portion, there were not enough ATP funds to fully fund the top ranked projects. As a result, partially funding three of the larger projects in Stockton, along with fully funding projects in Lodi and Tracy and partially funding a project from RTD. To provide benefits throughout San Joaquin County and allow some immediate benefits for bicyclists, pedestrians, and students. The top three projects recommended in the City of Stockton were just short of being ranked high enough to receive statewide, and SJCOG recommended programming some seed money for preliminary phases would allow them to compete better for ATP Cycle 4 and other funding sources such as Measure K, Congestion Mitigation and Air Quality Improvement Program (CMAQ), Highway Safety Improvement Program (HSIP), or Cap & Trade in the future to complete the projects. Subsequently, two of the City of Stockton’s projects received CMAQ funding to fully fund the projects.

The passage of Senate Bill 1 directs $100 million annually from the Road Maintenance and Rehabilitation Account to the Active Transportation Program (ATP) beginning in Fiscal Year 2017/18. The 2017 ATP Augmentation Guidelines were adopted by the CTC on June 28. The guidelines specified that MPOs use the funds to advance projects awarded through the 2017 Regional ATP Cycle 3 and to fund projects from the 2017 Regional ATP Contingency List. Because all other projects on the previously adopted contingency project list for ATP Cycle 3 had been fully funded, either through ATP funds or CMAQ funds, SJCOG staff examined the project scores of the remaining projects submitted in ATP Cycle 3 that had been resubmitted to be considered for the ATP Augmentation Funds. As a result, SJCOG recommended two of the remaining three unfunded projects be fully funded with ATP Augmentation Funds, and two of the other projects could be advanced.
• **Unfunded Active Transportation:** As stated throughout the Plan, there are more project needs than there are revenue sources. The public investment in bicycle and pedestrian facilities is essential to not only improve air quality but also to enhance public health. Yet, the ongoing challenge is the growing number of unfunded active transportation projects.

It is therefore critical to drive investment decisions through performance metrics and determine where best to invest in active transportation. The key would be a focus on filling gaps in bicycle networks.

In addition, it is important to capitalize on an existing strategic advantage—and that is the prevalence of bicycle groups, coalitions, non-profit active transportation organizations, and public health advocate. Working together to collaborate and to consult on the investment decisions will build effective partnerships to get projects from conception to construction.

Through joint discussions about funding the highest priorities and needs, the end result will be a walking and bicycle system that can be truly viable as a transportation mode in the San Joaquin region.
• **“Self-Help”:** There simply is not enough funding (at any level—federal, state, local) to address street maintenance, roadway capital improvements (new construction projects, interchange improvements, and roadway expansions). New construction for congested roadways are simply “shelved” due to the lack of funding to analyze solutions through studies or to begin project development phases such as environmental or design work. Jump-starting these project development efforts becomes risky to agencies when there is no expected construction funding.

Measure K, San Joaquin’s half-cent transportation sales tax, has been around since 1990. Even with the infusion of hundreds of millions of dollars through its “self-help” approach, the local “grass roots” efforts to address transportation needs cannot do it all. Measure K is already projected to be millions of dollars under earlier financial forecasts and therefore predicted to have a funding shortfall in delivering all the identified transportation improvements. Growing, unfunded transportation needs remain an issue in this self-help county.
Measure K

The Measure K Renewal Ordinance and Expenditure Plan as passed by the voters of San Joaquin County in 2006 includes a Bicycle, Pedestrian, and Safe Routes to School Funding Program. The Measure K Expenditure Plan specifies that 60% of the funds will be allocated according to a competitive process. The Expenditure Plan also specifies a minimum of $65 million in federal transportation funding or Measure K funding will be made available during the life of the Measure K Renewal program for smart growth incentives to local jurisdictions in San Joaquin County. These funds will be available for infrastructure improvements that will assist local agencies in better integrating transportation and land use, such as street calming, walkable community projects, transit amenities and alternative modes of transportation. These funds will be available to enhance infill development, neighborhood revitalization and downtown improvements.

As part of the adoption of the 2017 Measure K Strategic Plan, the SJCOG Board approved a combined Call for Projects for the Measure K Bicycle, Pedestrian, and Safe Routes to School Competitive Program and the Smart Growth Incentive Program in Fall 2017. A total of $19.63 million was made available, with $3.85 million will be available for the Bicycle, Pedestrian, and Safe Routes to School Competitive Program, $7.78 million for the Smart Growth Incentive Program, and $8 million from the former Measure K debt service reserve fund that will be available for either program. In addition, SJCOG set aside $170,000 to provide project and application development assistance to local agency project sponsors. These funds were divided with $20,000 each to the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, and Tracy, $25,000 to the City of Stockton, and $25,000 to the County of San Joaquin.

A total of 40 applications were received through the Call for Projects, with funding awarded to 21 projects and plans in February 2018 “Measure K helps provide vital transportation funding for our region,” said San Joaquin County Supervisor and SJCOG Chair Kathy Miller. “These important projects will help meet the mobility needs for people of all ages and abilities throughout San Joaquin County by improving and enhancing the existing bicycle and pedestrian network and providing safe routes to schools. These projects will help improve safety and support infill development and neighborhood revitalization throughout our region.”
The commuting patterns of San Joaquin County have been increasing in the last few decades. In the early 1980’s there were fewer than 10,000 San Joaquin residents that commuted outside the county for work. As of 2016, there are over 100,000 commuters, coming into and leaving from San Joaquin County.

An increasing number of commuters create challenges for the county’s transportation infrastructure, but it also creates opportunities to leverage regional advantages and create new employment opportunities. Understanding commute times will help with solving congestion and how far residents are traveling.

In the last 30 years, there has been a dramatic increase in commuters. These trends indicate that there is an upward trend for those primarily commuting over the Altamont Pass along I-205 and I-580. San Joaquin residents commuting from the San Joaquin region account for more than 74 percent of the daily commuters.

In San Joaquin County, there are in-commuters of 39,336 and out-commuters of 68,320 daily. Many that live in San Joaquin County and commute may do so because of the affordable housing prices in San Joaquin and locational accessibility to Bay Area (or Sacramento) employment opportunities.
Transit Connectivity Between BART and ACE

In 2017 Governor Jerry Brown signed Assembly Bill 758, which establishes the Tri-Valley-San Joaquin Valley Regional Rail Authority. The 15 members are as: (a) The Bay Area Rapid Transit District; (b) The City of Dublin; (c) The City of Lathrop; (d) The City of Livermore; (e) The City of Manteca; (f) The City of Pleasanton; (g) The City of Stockton; (h) The City of Tracy; (i) The County of Alameda; (j) The County of San Joaquin; (k) The Livermore Amador Valley Transit Authority; (l) The Mountain House Community Services District; (m) The San Joaquin Regional Rail Commission; (n) The City of Danville; (o) The City of San Ramon.

The authority will be responsible for preparing a feasibility report to include the following elements:

1) Identify preferred entity or entities to deliver transit connectivity between the systems

2) Develop funding and financing plan

3) Proposed schedule for completion of transit connectivity

4) Preliminary design for the connectivity project or projects

Source: Alameda-San Joaquin Regional Rail Working Group
Air Quality Role in the Regional Transportation Future

The San Joaquin Valley is currently designated as nonattainment for the National Ambient Air Quality Standards (NAAQS) for 8-hour ozone, and PM2.5; however, it has a maintenance plan for PM10.

In 1997, the San Joaquin Valley was designated a "maintenance area" for carbon monoxide (CO) by the Environmental Protection Agency. A 20-year maintenance plan was developed to see the Valley's carbon monoxide levels drop to acceptable levels.

On November 30, 2017, the Environmental Protection Agency stated the Valley's 20-year maintenance plan was expiring, and that the Valley's carbon monoxide is at acceptable levels. This finding does affect the amount of Congestion Mitigation and Air Quality (CMAQ) funding the region will receive. Because of San Joaquin County's maintenance status for CO, the region had received a multiplication factor in the CMAQ apportionment formula. Upon achieving acceptable levels of CO, this factor is removed, so CMAQ apportionments are reduced by 10-15 percent starting in Fiscal Year 2018/2019.

Staying the Course

The anticipated maintenance status of CO still does not change the course for the region to implement transportation alternatives to driving alone. The Plan invests in a multimodal transportation system comprised of a robust public transit system. If anything, the Valley's geography is a continual reminder that the work is never done for policy makers in the San Joaquin region in order to build bicycle infrastructure, to improve mass transit, and to explore innovative transportation solutions.

Air Quality and the San Joaquin Valley

Air quality issues are prevalent due to the geography of the region. The San Joaquin region is located in the federally designated San Joaquin Valley Air Basin. The borders of the Basin are defined by mountain and foothill ranges to the east and west. The northern border is consistent with the county line between San Joaquin and Sacramento Counties. The southern border is less defined, but is roughly bounded by the Tehachapi Mountains and, to some extent, the Sierra Nevada range. According to the San Joaquin Valley Air Pollution Control District, this geography creates a “giant bowl” that makes the Valley susceptible to air quality problems. The climate in the Valley—long, sunny summer days and cold winter nights—is ideal for growing the Valley's renowned agricultural crops. An undesired effect of this type of environment, however, is that it incubates the components of ozone or smog. In the winter, residential fireplaces contribute to tons of dangerous particulate pollution into the skies.

The reduction in federal air quality funding will mean less money to fund air quality improvement projects than in previous years; nonetheless, the Plan’s commitment to robust public transit remains steadfast.
**Economic Recovery & Revitalization**

San Joaquin County’s geographical location near major ports, main highways, and rail services positions the region for greater economic opportunity. Goods predominately travel through I-5, I-99, I-205, and the Port of Stockton. The abundance of land in San Joaquin County serves as a hub for warehousing and transportation of goods. For example, the City of Tracy and the City of Manteca have been experiencing a large amount of growth in the warehousing sector. The placement of warehousing in the southern part of San Joaquin County has made it easier to access the Bay Area and Silicon Valley. Commercial space has been growing in the city of Lathrop and the city of Stockton as it attracts more companies to the area.

In addition, San Joaquin County is characterized by its rich agricultural soils and farming activities. It encompasses nearly 920,000 acres of agriculturally productive lands and is ranked 7th in California as the largest producer in agricultural goods. In 2015, the San Joaquin agricultural production of goods was valued at $2.73 billion, with the top 4 crops being: almonds, milk, walnuts, and grapes. Many of the agricultural goods produced in San Joaquin County are shipped worldwide.

Employment rates in San Joaquin County have gone through trends in the last several years. During the recession of 2008, employment numbers were at 218,114. After the recession in 2010, employment numbers were at an all-time low of 195,804, with an unemployment rate of 16.5 percent. In 2012, employment numbers began to rise up until 2016, when numbers surpassed pre-recession for employed population.

Since then, unemployment rates in San Joaquin County have been on a downward trend. According to the University of Pacific, in the next 20 years, it is expected that employment will increase by more than 65,000 jobs.

![Photo Credit: Mary Hinkle](image-url)
A Future with More Economic Opportunities and Transportation Mobility

There are promising signs toward economic recovery, which also suggests a lot of promise for building sustainable communities. Other economic recovery signs include drops in home foreclosures and new businesses and retail starting to fill in the vacant storefronts. In addition, while unemployment rates are falling, housing prices are rising. The recovery has been slow, but the key is that it keeps moving.

The gradual upswing will help local jurisdictions (with land use authority) have more windows of opportunity to direct future development in urbanized areas and to advance the sustainability goals of the Plan. In fact, in order for the plan to successfully meet its goals, it must rely heavily on infrastructure that must be complemented with supportive land use strategies. The target result is long-term economic growth. The Plan addresses this issue by investing in a transportation future where multimodal transportation improvements can be pathways for the region to increase local jobs and reduce travel. Living wage jobs and business expansion/retention can be real outcomes of investment decisions.

The Plan affords greater mobility through strategies that expand bicycle/pedestrian networks, provide accessibility to transit, and target transportation alternatives (to driving alone). Furthermore, maintaining the transportation system and strategic investments in roadway expansion remain an integral piece of the Plan’s multi-pronged investment strategy. The Plan will lead to a more resilient San Joaquin economy and create a transportation system serving all residents of all incomes.
This is only a snapshot of the many challenges and opportunities that lie ahead as we move forward in creating sustainable communities. The clear policy goals and strategies outlined in the Plan, however, provide a “Plan of Action” that represents the feedback received from public agencies, community members, businesses, and other stakeholders. The Plan also shows that it performs in delivering these strategies. It fits the bill for the region while addressing climate change through its integrated land use and transportation planning efforts.
## SAN JOAQUIN COUNCIL OF GOVERNMENTS

### PROFESSIONAL STAFF

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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