San Joaquin County

Regional Congestion Management Program

2024 Update

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Chapter 1. Background and Legislative Framework

1.1 PROGRAM HISTORY

Between 1991 and 2021, the San Joaquin County Association of Governments (SJCOG) implemented a Congestion Management Program that followed the State legislative requirements (California Government Code 65088-65089.10). In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), required metropolitan areas with population exceeding 200,000, such as San Joaquin County, to implement a Federal Congestion Management Process (23 U.S.C. 134 and 49 U.S.C. 5303). Passage of the Metropolitan Transportation Planning Final Rule including the implementation of a Federal Congestion Management Process occurred in 2007 (23 CFR 450.320). Concurrent with these Federal legislative changes, the Measure K Renewal Ordinance, approved by San Joaquin County voters in November 2006, required SJCOG to fully implement a regional congestion management program by January 1, 2008 - referred hereafter as the Regional Congestion Management Program (RCMP).

By 2012, SJCOG had tailored its' State compliant RCMP to meet the Federal Congestion Management Process (CMP) legislative requirements (pursuant to 23 CFR 450.320 (f)). The 2012 RCMP established methods and guidelines to meet the federal requirements and to better integrate the RCMP process with SJCOG's other regional transportation planning and programming functions. As part of the 2013 Federal Metropolitan Planning Organization certification review process, the Federal Highway Administration (FHWA) found SJCOG's 2012 RCMP compliant with Federal regulations (see Appendix A). Subsequent RCMP updates in 2016 and 2018 expanded the RCMP performance measures, RCMP monitoring, and aligned the RCMP with SJCOG's Regional Transportation Impact Fee (RTIF) program.

To reduce State and Federal legislative redundancy and improve program efficiency, SJCOG and its member agencies moved to "opt out" of the State Congestion Management Program requirements in 2019/20. California Government Code 65088.3 provides State designated Congestion Management Agencies the option to opt-out of the State requirements governing congestion management if a majority of jurisdictions that account for the majority of the population of a given County pass resolutions in support of opting out. In December 2019, SJCOG's Board of Directors passed Resolution R-20-16 authorizing the SJCOG Executive Director to start the process of opting out of State Congestion Management Program requirements.

There are eight jurisdictions in San Joaquin County including Cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy and San Joaquin County. As of 2024, all jurisdictions except San Joaquin County had passed resolutions to opt-out of the State requirements – effectively meeting the opt-out requirement (see Appendix B for a listing of approved "opt-out" resolutions). The SJCOG Letter to Jurisdictions dated 12/30/19 (see Appendix B) outlined the NEXT STEPS to executed over the last five years. These steps involved a series of actions to taken by jurisdictions in compliance with the outlined directives. The plan emphasized a structured and phased approach to ensure successful implementation. As such, this update specifically describes SJCOG's Regional Congestion Management Program pursuant to the Federal Congestion Management Process.

1.2 FEDERAL CMP LEGISLATIVE BACKGROUND

The Federal transportation legislation, America's Transportation Infrastructure Act, continues the congestion management process established by SAFETEA-LU . A federal Congestion Management Process (CMP) is required in metropolitan areas with population exceeding 200,000, known as Transportation Management Areas (TMAs) (23 CFR Section 450.320 (a)). Federal requirements also state that in all TMAs, the CMP shall be developed and implemented as an integrated part of the metropolitan transportation planning process (23 CFR Section 450.320 (b)). Given that SJCOG is a designated TMA within a federal air quality non-attainment area; the federal requirements for implementing the federal CMP apply in San Joaquin County.

A key focus of the Federal CMP aims to reduce single-occupant-vehicle (SOV) travel while minimizing the need for increasing SOV roadway capacity. It also provides additional resources for the development and deployment of new congestion management technologies. For areas designated as non-attainment of Federal air quality standards such as San Joaquin County, the Federal Congestion Management Process stipulates (23 CFR 450.320 (d)) that Federal funds may not be programmed for any project that results in a significant increase in the carrying capacity of single occupancy vehicles (i.e., new general purpose lanes with the exception of safety improvements or the elimination of bottlenecks) unless the project is addressed through a federally compliant congestion management process. For SOV capacity increasing projects proposed to be advanced with Federal funds, an analysis is required to demonstrate that all reasonable travel demand reduction and operational management strategies have been implemented to the fullest extent possible on the subject roadway (23 CFR 450.320 (e)). If the analysis demonstrates that despite these strategies additional SOV capacity is still required, the Federal CMP will identify all reasonable strategies to effectively manage the SOV facility in the future.

The Congestion Management Process Guidebook (Federal Highway Administration, 2013) states the following regarding single occupant vehicle capacity increasing projects and requirements to incorporate demand and system management strategies if such a project is ultimately warranted:

> "*In TMAs that are designated as non-attainment or maintenance areas for ozone or carbon monoxide federal regulations require certification that any project resulting in a significant increase in single occupant vehicle carrying capacity (with the exception of safety improvements and bottleneck elimination projects) be identified or addressed through the CMP. In these areas, the CMP must provide an appropriate analysis of reasonable travel demand reduction and operational management strategies.*
>
> *Additionally, the identified need for additional SOV capacity does not obviate the need for operational and demand management improvements to address congestion. In TMAs that are designated as non-attainment or maintenance areas for ozone or carbon monoxide, federal regulations require that in cases where additional SOV capacity is warranted, the CMP must identify all reasonable strategies to manage the SOV facility safely and effectively and identify travel demand reduction and operational management strategies appropriate for the corridor."*

The federal CMP is intended to serve as a systematic process that provides for safe and effective integrated management and operation of the multimodal transportation system.

Federal requirements stipulate that Metropolitan Planning Organization (MPO) Regional Transportation Plans (RTPs) and CMPs must be revisited periodically and updated to ensure consistency. It is important for MPOs (such as SJCOG) to have a procedure in place to ensure that all FTIP projects comply with the Federal CMP. It is also recommended for MPOs to define "safety" and "bottleneck" projects in advance so there is less confusion about which projects may be exempt from the requirement for SOV analysis. Identification and quantification of enhanced opportunities for more aggressive employer-based travel demand management implementation or application of system management strategies within a given corridor is required by the federal CMP. Hence, as part of future updates, SJCOG's RCMP may entail development of additional objectives and performance measures beyond those described herein.

In addition to the Federal mandates for implementing a federal CMP, elements of the following State planning mandates have been integrated into the RCMP:

- Assembly Bill 1358 (California Government Code 65040.2, 65302) for addressing multimodal "complete streets" concepts in city/county general plan circulation elements.
- Senate Bill 375 – The Sustainable Communities and Climate Protection Act of 2008 requires Metropolitan Planning Organizations to develop "Sustainable Communities Strategies" (SCSs) to achieve quantifiable targets for reducing greenhouse gas emissions through more efficient land use development and better coordination between land use and transportation. SB 375 streamlines the environmental review process for certain new development projects located near transit stations.
- Senate Bill 743 - Removes Level of Service (LOS) standards for identifying California Environmental Quality Act (CEQA) impacts for land use developments and most transportation projects and replaces it with vehicle miles traveled (VMT).

Consistent with the implementation of SB 743 CEQA streamlining legislation, the RCMP discontinues the use of LOS for the evaluation of RCMP congestion deficiencies.

1.3 SJCOG RCMP AND FEDERAL CONGESTION MANAGEMENT PROCESS

In recognition that metropolitan areas face unique travel congestion conditions and have different visions on how to address traffic congestion, Federal guidelines allow MPOs flexibility to design their own structured processes for addressing the Federal congestion management requirements (Congestion Management Process: A Guidebook, 2011). The Federal statutes/requirements are provided in **Appendix C.**

As defined in the *Congestion Management Process Guidebook (Federal Highway Administration, 2013),* the congestion management process is comprised of the following eight steps. These steps flow directly from the Federal legislative requirements (23 CFR 450.323 (a) and 450.323 (b)).

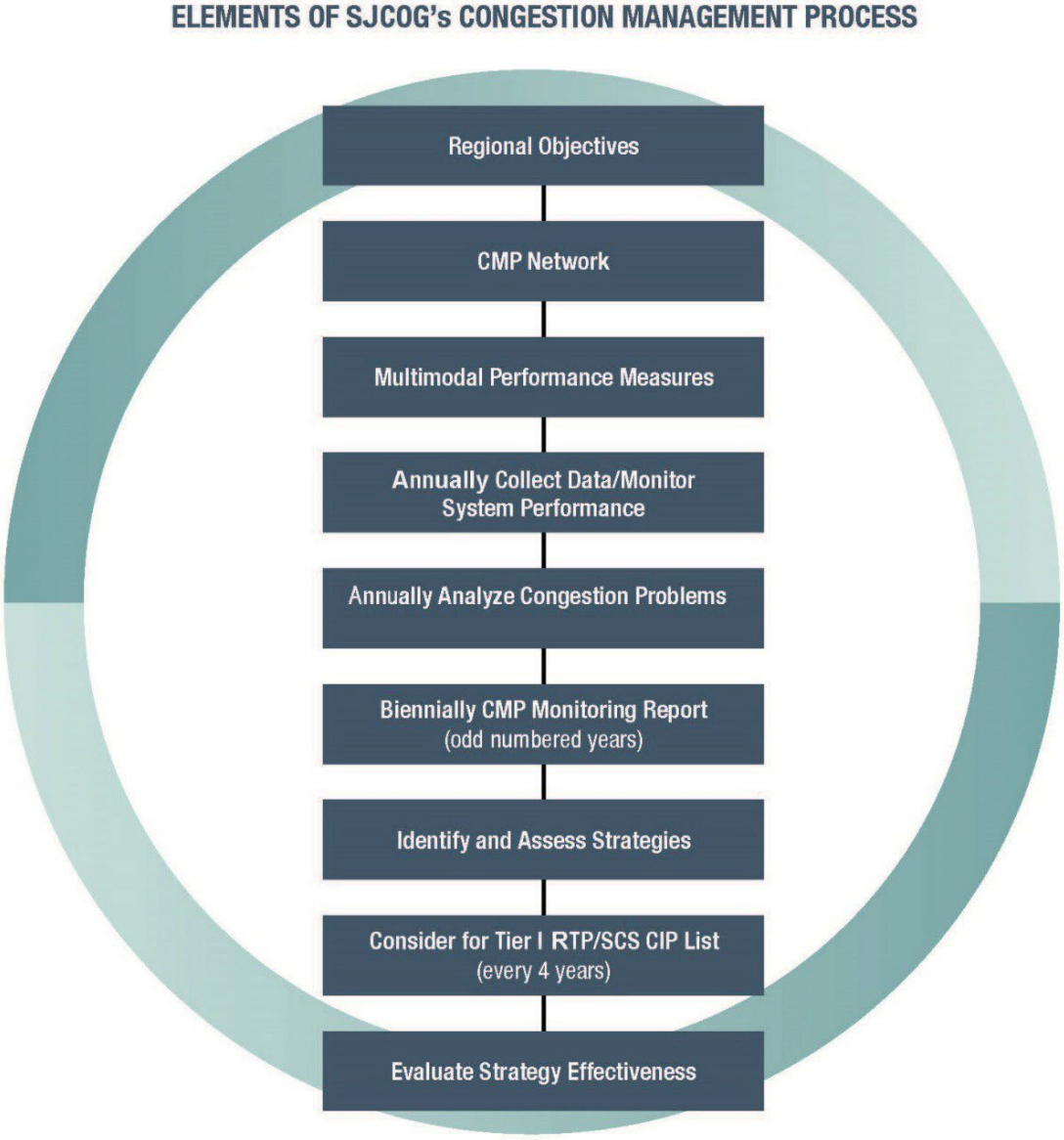
1. Develop Regional Objectives
2. Define CMP Network
3. Develop Multimodal Performance Measures
4. Collect Data/Monitor System Performance
5. Analyze Congestion Problems and Needs
6. Identify and Assess Strategies
7. Program and Implement Strategies

8. Evaluate Strategy Effectiveness

The SJCOG RCMP process is illustrated in **Figure 1-1.** These elements are described in the following eight chapters described below.

- **RCMP Objectives** (Chapter 2). Describes the role of SJCOG's RCMP Steering Committee and describes the RCMP objectives (23 CFR 450.323 (c)(2)).
- **Define RCMP Network** (Chapter 3). SJCOG has designated a RCMP network of regional roadways as the basis for complying with the Federal CMP requirements. The RCMP network defines the geographic boundaries/network and area of application (23 CFR 450.323 (c)(3)). This not only clearly defines where the federal regulations apply, but better ensures that their application is appropriately focused only on transportation facilities of regional significance. A Regional Bikeway Network and Multimodal Corridor Network are also defined to allow more refined multimodal operational assessments.
- **RCMP Performance Measures** (Chapter 4). Defines selected performance measures to track multimodal performance on the RCMP network. Performance measures provide the metric to gauge system performance and track progress achieving the congestion management objectives. As program implementation continues, refinement of these measures and/or additional performance measures can be established as part of future RCMP updates. In addition to meeting the requirement for a "performance measurement element" in the RCMP, these measures create a framework for measuring the effectiveness of congestion relief projects and strategies including the effectiveness of non-capacity increasing alternatives to single occupant vehicle capacity (23 CFR 450.323 (b) and 450.323 (c)(2)).
- **RCMP Monitoring Program** (Chapter 5). Describes the comprehensive data monitoring program that will systematically provide requisite information to monitor regional congestion within San Joaquin County. Data and methodologies to quantify RCMP performance measures under multiple analysis scales (i.e., countywide, corridor, segment, intersection) are described. The RCMP Monitoring Program is administered by SJCOG. All traffic information collected as part of the SJCOG RCMP data monitoring program is made available to member and partner agencies upon request (23 CFR 450.323 (c)(3)).
- **Analyze Congestion Problems and Needs** (Chapter 6). Describes the application of the congestion and reliability metrics to map and identify RCMP deficient corridors (23 CFR 450.323 (c)(4)).
- **Identify and Assess Strategies** (Chapter 7). Describes the identification and prioritization of congestion reduction strategies for addressing RCMP deficient corridors. This establishes the framework for funding and implementation of projects that maintain or improve the transportation performance thresholds of the RCMP (23 CFR 450.323 (c)(4)). It also establishes the process for determining when new single occupancy vehicle capacity is warranted.
- **Program Implementation** (Chapter 8). Describes the initial set of currently planned improvements that address the RCMP deficient corridors and how the RCMP integrates with SJCOG's other planning and programming processes. It also describes the FHWA MPO Certification Process and review of RCMP consistency with federal requirements (23 CFR 450.323 (c)(5)).
- **Evaluate Strategy Effectiveness** (Chapter 9). Describes how the program effectively meets federal requirements and how program effectiveness is to be tracked over time (23 CFR 450.323 (c)(6)).

Figure 1-1: *SJCOG RCMP Process*



Chapter 2. RCMP Objectives

2.1 RCMP STEERING COMMITTEE

The Congestion Management Process Guidebook (Federal Highway Administration, 2013) recommends when developing a Federal CMP, the MPO should establish a broad working team or steering committee that is comprised of the MPO's member agencies, State Department of Transportation and public transportation providers.

Consistent with past updates of the RCMP, SJCOG created a RCMP Steering Committee composed of representatives from its' member agencies. In addition, Caltrans and the Federal Highway Administration (FHWA) were also solicited to participate in the RCMP Steering Committee. RCMP Steering Committee members are transportation professionals with expertise and local knowledge of their respective jurisdictions' transportation systems and congestion-related challenges. SJCOG meet with the RCMP Steering Committee at key junctures during development of the RCMP Update to provide direction and review interim materials. The RCMP Steering Committee plays an integral part in the development of SJCOG's RCMP network definition and performance metrics used to identify deficient corridors and inform SJCOG's performance-based planning/programming process. The RCMP Steering Committee will continue to periodically convene to provide input during future RCMP updates and RCMP monitoring reporting.

2.2 RCMP OBJECTIVES

To align the RCMP with the SJCOG's Regional Transportation Plan (RTP), RCMP objectives were developed to support RTP Policies. The RCMP objectives include:

- Improve **Operational Efficiency**
- Facilitate **Goods Movement**
- Increase use and mode shift to the **Transit System**
- Increase use and mode shift to the **Bike System**
- Support investment in and development of **Complete Streets**
- Improve **Safety**
- Support proactive **System Management**
- Support proactive **Travel Demand Management**
- Support proactive **Travel Demand Management**

Pursuant to the National Performance Management Measures Final Rule (23 CFR Part 490), recipients of Federal-aid highway funds, such as SJCOG, must also track progress toward the following national goals:

- **Congestion Reduction**: to achieve a significant reduction in congestion on the National Highway System.
- **System Reliability**: to improve the efficiency on the National Highway System.
- **Freight Movement and Economic Vitality**: to improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- **Environmental Sustainability:** to enhance the performance of the transportation system while protecting and enhancing the natural environment

2.3 RCMP OBJECTIVES AND PERFORMANCE MEASUREMENT

Given that no single performance measure can adequately address all objectives related to system performance, the RCMP monitors multiple performance measures to gauge progress towards meeting RCMP objectives. The following guidance was used to determine the most effective choices for performance measurement selection:

- **Applicability** – The performance measures are consistent with Federal requirements.
- **Ease of Use** – The required data should be readily available as part of an established monitoring process and easily applied at a countywide, sub-regional, or corridor-based scale.
- **Sensitivity** – The performance measures must be sensitive to changes in the RCMP system.
- **Comprehensible** – The performance measures must be easy to understand.

The RCMP performance measures are used to:

1. Track progress toward meeting RCMP objectives;
2. Track progress towards meeting Federal goals described in the National Performance Management Measures Final Rule (23 CFR Part 490);
3. Track congestion reduction strategies and projects on RCMP deficient corridors;
4. Update SJCOG's Regional Transportation Plan (RTP) and aid SJCOG in project prioritization;
5. Identify State and Federal Transportation Improvement Program (STIP/FTIP) projects; and,
6. Inform Regional Transportation Improvement Fee (RTIF) funding decisions.

Figure 2-1 maps the RCMP performance measure objectives with the RTP Goals.

Figure 2-1: *Mapping RCMP Objectives and Performance Measures with RTP Goals and Objectives*

	RCMP Objectives Support of RTP Goals							
	RCMP Objective	**RCMP Objective**	**RCMP Objective**	**RCMP Objective**	**RCMP Objective**	**RCMP Objective**	**RCMP Objective**	**RCMP Objective**
	Operational Efficiency	Goods Movement	Transit System	Bike System	Complete Streets	Safety	System Management	Travel Demand Management
RCMP Performance Measure Descriptions	Objective is to prioritize operational and demand management strategies over adding roadway capacity to address congestion. RCMP monitors and measures the operational efficiency (congestion and reliability) of the regional transportation system.	Objective is to promote economic development in San Joaquin County by reinforcing compliance with STAA design criteria on the RCMP network. RCMP monitors and measures STAA-compliant inventory of intersections and supports STAA retrofit improvements to accommodate STAA rated truck movements.	Objective is to provide equitable access to public transit services and promote transit to accommodate future demand. RCMP monitors and measures the transit system's ability to serve a percentage of the overall population.	Objective is to promote mode shift to active transportation through the development of a Regional Bikeway Network. RCMP establishes a RCMP Bikeway Network and monitors the ratio of completed to total regional bikeway miles.	Objective is to develop and implement a systemic methodology to strengthen the prioritization process for multimodal (pedestrian/bike/transit) projects during discretionary funding cycles. RCMP monitors Multimodal Quality of Service for existing conditions on designated RCMP multimodal corridors.	Objective is to systemically improve the safe movement of people and goods to reduce fatal and serious injury collisions by reinforcing the prioritization process for safety related projects during competitive grant and discretionary funding cycles. RCMP monitors the Federal PM1 Safety metrics for existing conditions on designated RCMP roadways and countywide.	Objective is to maintain the RCMP network infrastructure pavement in good or fair condition by prioritizing rehabilitation and maintainance projects through State and Local (Measure K) formula funding. RCMP monitors the Federal PM2 Pavement Condition metrics for existing conditions on designated RCMP roadways.	Objective is to improve operations on the regional transportation network through implementation of employer-based TDM strategies. RCMP measures and monitors TDM benefits (trip and VMT reductions) through the number of employers/employees who participate in the eTRIP and Dibs programs.
Correlation of RCMP PM Support to RTP Goals/Objectives								
RTP Goal A Enhance the Environment for Existing and Future Generations and Conserve Energy	Supports Goal		Supports Goal	Supports Goal	Supports Goal			Supports Goal
RTP Goal B Maximize Mobility & Accessibility	Supports Goal	Supports Goal	Supports Goal	Supports Goal	Supports Goal		Supports Goal	Supports Goal
RTP Goal C Increase Safety & Security	Supports Goal	Supports Goal			Supports Goal	Supports Goal	Supports Goal	
RTP Goal D Preserve the Efficiency of the Existing Transportation System	Supports Goal						Supports Goal	Supports Goal
RTP Goal E Support Economic Viability	Supports Goal	Supports Goal					Supports Goal	
RTP Goal F Promote Interagency Coordination & Public Participation for Transportation Decision-Makers & Planning Efforts	Supports Goal	Supports Goal	Supports Goal	Supports Goal	Supports Goal	Supports Goal	Supports Goal	Supports Goal
RTP Goal G Maximize Cost Effectiveness	Supports Goal						Supports Goal	Supports Goal
RTP Goal H Improve the Quality of Life for Residents	Supports Goal		Supports Goal	Supports Goal	Supports Goal	Supports Goal	Supports Goal	Supports Goal

Chapter 3. RCMP Network Definition

3.1 INTRODUCTION

The purpose of the Regional Congestion Management Program (RCMP) is to monitor congestion, identify congestion problems, and establish a programming mechanism aimed at reducing congestion. Designation of a regional transportation system supports RCMP monitoring activities and focuses the implementation of the RCMP on a core network of key transportation facilities that facilitate regional travel within San Joaquin County.

3.2 RCMP ROADWAY NETWORK

The RCMP network at a minimum reflects all roadways designated as part of the National Highway System (NHS). If the Federal Highway Administration (FHWA) updates the NHS network, SJCOG will amend the RCMP network to reflect such changes. In addition to the NHS designated roadways, SJCOG in coordination with the RCMP Steering Committee selected several non-NHS roadways for inclusion in the RCMP network. The RCMP roadway network is shown in **Figure 3-1.**

As shown in **Table 3-1,** the RCMP network consists of a total 503 centerline miles of which 415 miles are on NHS designated roadways and 89 on non-NHS roadways. RCMP facilities are summarized in tabular form in **Appendix D**.

Table 3-1: RCMP Network by Centerline Miles

Jurisdiction	RCMP NHS Centerline Miles	RCMP Non-NHS Centerline Miles	Total RCMP Network Centerline Miles
Escalon	0	0	0
Lathrop	7	0	7
Lodi	7	0	7
Manteca	21	8	29
Ripon	0	1	1
Stockton	66	2	68
Tracy	27	4	31
County	33	57	90
State Highway	253	16	270
TOTAL	**415**	**89**	**503**

SJCOG and its member agencies can consider modifying the RCMP network during normal RCMP update cycles. The following guidelines should be considered when adding non-NHS roadways to amend the RCMP network:

- Roadway is included on the Regional Transportation Impact Fee (RTIF) network;
- Roadway functions as a principal arterial, as described by the FHWA's Functional Classification Guidelines;
- Roadway is reclassified as a major arterial in a jurisdiction's general plan; or
- An existing RCMP roadway is significantly extended or realigned.

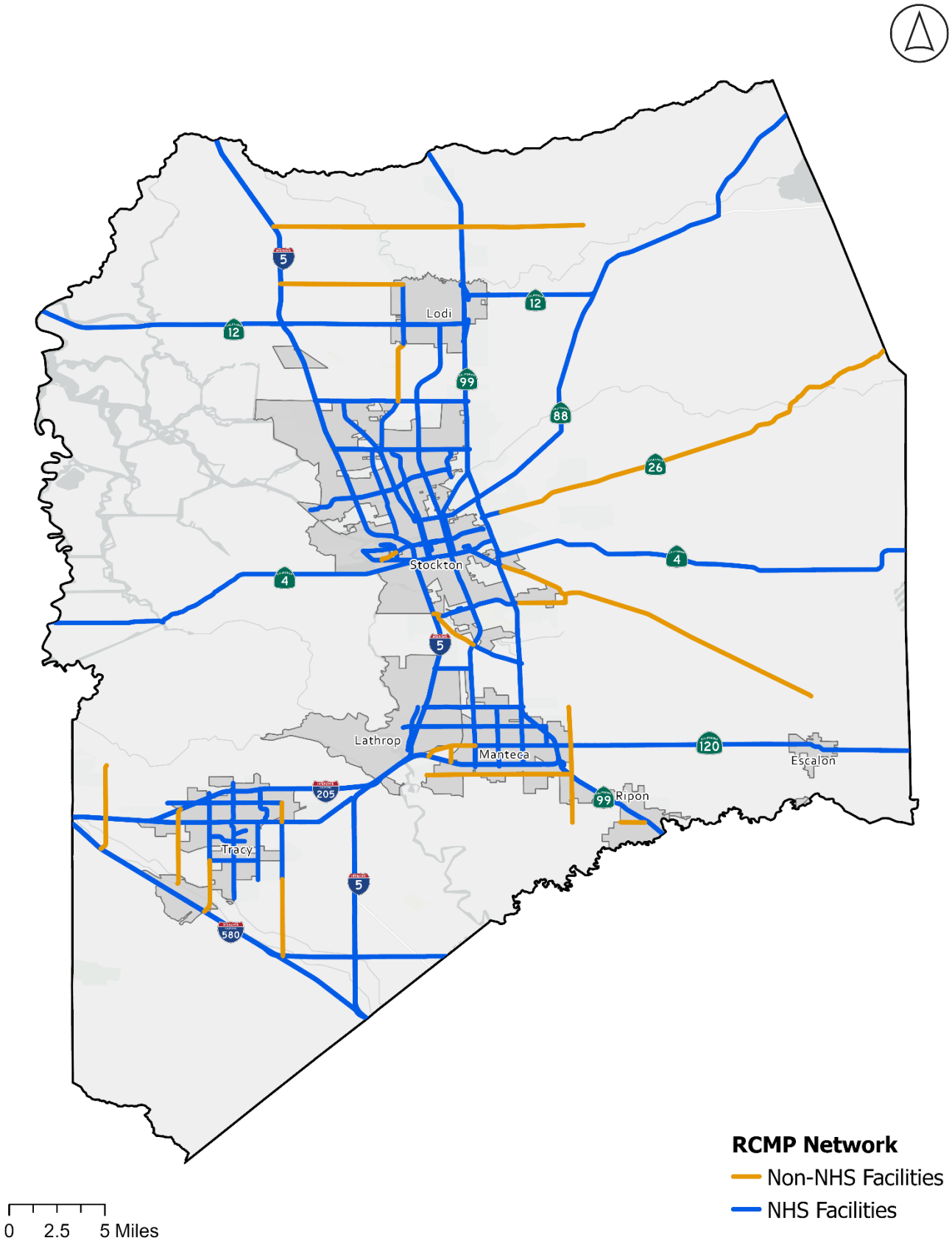
Given that the RCMP is a monitoring program, planned/future roadways that meet one or more of the criteria above should not be amended into the RCMP until constructed and open to traffic. As noted above, all newly designated NHS roadways will be amended into the RCMP network.

3.3 RCMP BICYCLE NETWORK

The provision of bicycling facilities is an important component of the SJCOG's program to encourage multimodal transportation. SJCOG has developed the Bicycle, Pedestrian, and Safe Routes to School Plan. A key deliverable of this plan is the formal designation of a regional bikeway network. This regional bikeway network includes existing and future Class I Multi-use trails, Class II Bike Lanes, Class III Bike Route, and Class IV Protected Bike Path facilities that will comprise a continuous uninterrupted network of facilities across the entire county. The regional bikeway network provides a mechanism for tracking performance and ultimate completion of the bikeway network.

The regional bikeway network will help guide future bicycle performance measure development and infrastructure improvements needs. The designated bicycle network may change over time depending on the presence, quality, or connectivity of existing or planned infrastructure (as defined during periodic updates of the regional bikeway network). The designated bicycle network will be available with the monitoring report as part of the periodic update.

Figure 3-1: *RCMP Roadway Network*



3.4 RCMP MULTIMODAL CORRIDORS

Federal mandates require the consideration of all major modes of travel as part of a Congestion Management Process. Additionally, the California Complete Streets Act (AB 1358) requires counties and cities to include policies that take all roadway users into consideration (bicyclists, pedestrians, transit riders, motorists, children, senior citizens, mobility impaired, and freight movers) as part of their general plan updates. In recognition of these legislative mandates, SJCOG, in coordination with its member agencies, has identified a sub-set of the RCMP network to be designated as RCMP multimodal corridors. RCMP multimodal corridors are defined as sections of the RCMP roadway network where pedestrian, bicyclist, transit passenger, and motorist quality of service are analyzed. The concepts and method to compute multimodal quality of service are documented in the Highway Capacity Manual (HCM).

The multimodal quality of service as applied specifically to RCMP multimodal corridors allows a more meaningful and focused RCMP multimodal performance measure tracking mechanism. It will also provide greater flexibility to local agencies for identifying improvement strategies. It will be particularly applicable to corridors where lane capacity improvements to improve vehicular operations may be infeasible or undesirable due to high costs, limited right-of-way, lack of political support, and/or institutional constraints.

The selection of multimodal corridors is limited to roadways identified as part of the RCMP network and do not operate as limited access facilities, such as freeways or expressways. The following criteria was also used to select multimodal corridors:

- Roadway is a state highway that serves as a city's or community's main street;
- Roadway possesses "Complete Streets" characteristics, meaning they have limited additional right-of-way and the existing right-of-way is shared by many types of users (motorists, pedestrians, bicyclists, and transit passengers); and,
- Roadway traverses areas with existing or future urbanized development patterns.

Based on the above criteria, 19 RCMP roadways were designated as RCMP multimodal corridors. These are shown in **Figure 3-2** and listed by jurisdiction in **Table 3-2.** Both the table and figure indicate existing baseline and future corridors. Future RCMP multimodal corridors will be evaluated when development patterns warrant a multimodal analysis. The potential for new multimodal corridors is evaluated during each 4-year RCMP update cycle.

Figure 3-2: *RCMP Multimodal Corridors*

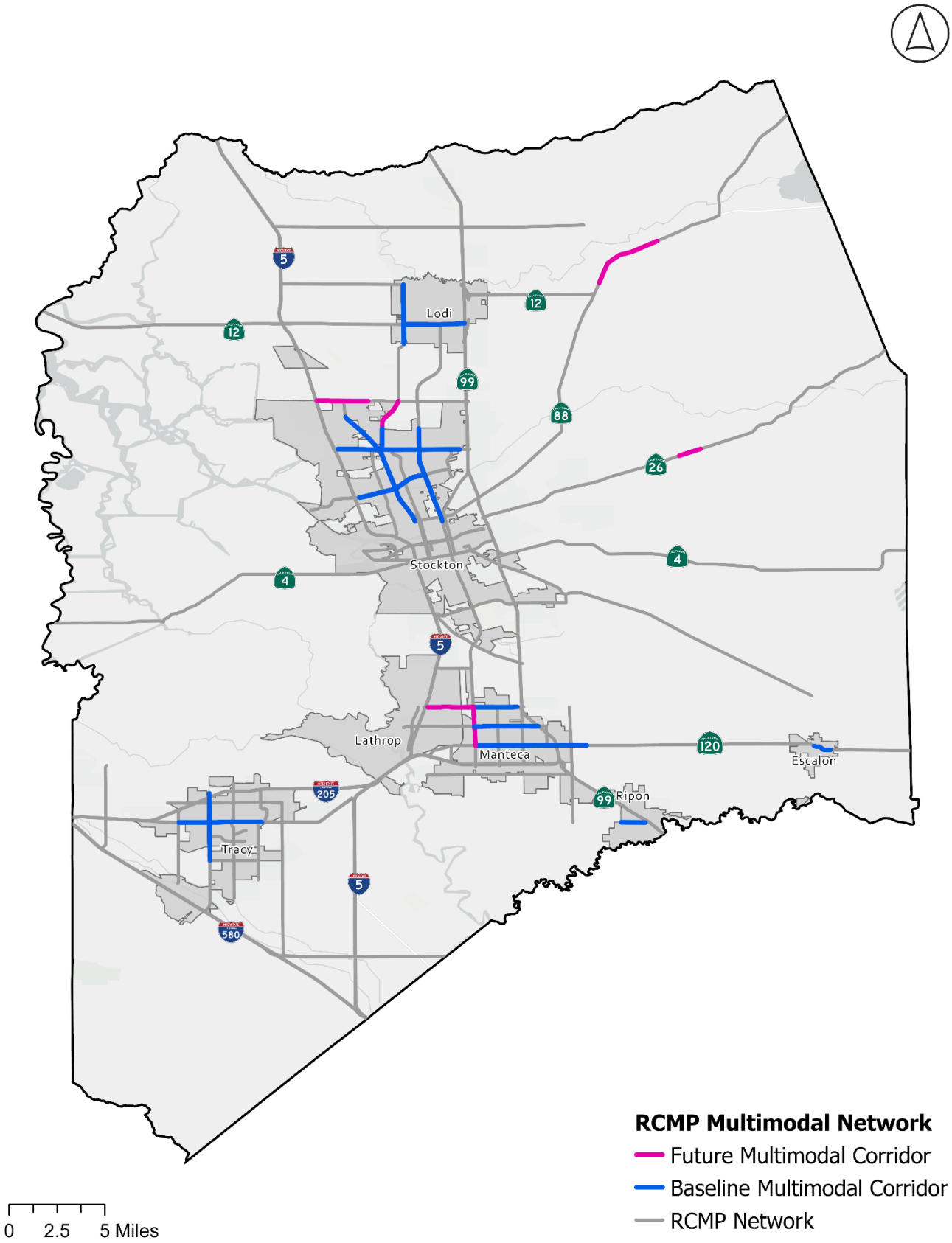


Table 3-2: *RCMP Multimodal Corridors*

ID	Roadway	Multimodal Segment	Status	Jurisdiction
1	SR-120	McHenry Ave-Escalon Bellota Rd to David Dr	Baseline	Escalon
2	SR-88	Brandt Rd to eastern town limit of Lockeford	Future	County
3	SR-26	N Granada Ln to N Market St	Future	County
4	Lathrop Rd	Old Harlan Rd to Airport Wy	Future	Lathrop/ County/ Manteca
		Airport Wy to Crestwood Ave	Baseline	Manteca
5	Airport Rd	Lathrop Rd to Yosemite Ave	Future	Manteca
6	Louise Ave	Airport Wy to SR-99	Baseline	Manteca
7	Yosemite Ave	Airport Wy to Northwoods Ave-Commerce Ave	Baseline	Manteca
8	SR-12/Kettleman Ln	Lower Sacramento Rd to Cherokee Ln	Baseline	Lodi
9	Lower Sacramento Rd	Turner Rd to E Harney Ln	Baseline	Lodi
10	Main St	Jack Tone Rd to Stockton Ave	Baseline	Ripon
11	March Ln	Da Vinci Dr-Quail Lakes Dr to West Ln	Baseline	Stockton
12	Eight Mile Rd	Interstate-5 to Davis Rd	Future	Stockton/ County
13	Pacific Ave	Lower Sacramento Rd to W Harding Wy	Baseline	Stockton
14	Thornton Rd	A G Spanos Blvd to Lower Sacramento Rd	Baseline	Stockton
15	Hammer Ln	Kelley Dr to Maranatha Dr	Baseline	Stockton
16	Lower Sacramento Rd	Royal Oaks Dr to Hammer Ln	Baseline	Stockton
		Eight Mile Rd to Hammer Ln	Future	Stockton
17	West Ln-Airport Wy	E Morada Ln to Roosevelt St	Baseline	Stockton
18	11th St	Lammers Rd to N MacArthur Dr (west)	Baseline	Tracy
19	Corral Hollow Rd	Clover Rd to Valpico Rd	Baseline	Tracy

Chapter 4. RCMP Performance Measures

4.1 INTRODUCTION

Congestion management is the application of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods. A congestion management process, or CMP, is a systematic and regionally accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs.

A performance measure is "an analytical planning tool that is used to quantitatively evaluate transportation improvements and to assist in determining effective implementation actions, considering all modes and strategies." Performance measures provide the basis for evaluating the operating conditions of the regional transportation system, identifying the location and severity of congestion, identifying gaps in transit service, indicating insufficient pedestrian or bicycle access, or indicating unsafe facilities or areas.

4.2 STATUTORY REQUIREMENTS

Establishment of multimodal performance measures is a Federal CMP requirement. Federal directives outlined in 23 CRR 450.320 (b) require the congestion management process to result in multimodal system performance measures and strategies that can be reflected in the regional planning documents, such as the Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP). As such, SJCOG's RCMP must include a performance element that includes performance measures to evaluate current and future multimodal system performance for the movement of people and goods. The performance measures should incorporate highway and roadway system performance, and measures established for the frequency and routing of public transit, and for the coordination of transit service provided by separate operators. These performance measures shall support mobility, air quality, land use, and economic objectives, and shall be used in the development of the capital improvement program (Chapter 7).

With the passage of the Federal Performance Management Rule in 2018 (23 CFR Part 490), state Departments of Transportation (DOTs) and Metropolitan Transportation Organizations (MPOs) are required to implement the Federal performance measures. Under the final performance rule, state DOTs (e.g., Caltrans) are responsible to submit performance targets and periodic reports on progress to those targets to Federal agencies on an annual basis. MPOs, such as SJCOG, are required to establish targets for the same performance measures on all public roads in the MPO planning area. SJCOG elected to support the statewide targets selected by Caltrans.

State transportation planning guidance is consistent with these Federal initiatives. In February 2010, Caltrans released *Smart Mobility 2010: A Call to Action for the New Decade*. Later, The Caltrans Smart Mobility Framework (SMF) Guide has been updated and posted online in 2020. This Guide, which has been posted and used internally in Caltrans, is a starting point for those working to implement multimodal and sustainable transportation strategies in California. The SMF Guide (2020) is an update to the Smart Mobility 2010: A Call to Action for the New Decade, which is more commonly referred to as the Smart Mobility Framework. This

document provides a broad planning framework to help guide multimodal and sustainable transportation planning and development along with providing tools and techniques to assess how plans, programs, and projects meet 'smart mobility' goals throughout the state. The fundamental premise of the Smart Mobility Framework (SMF) is to ensure that planning or programming decisions for transportation improvements are performance based (i.e., quantitative), transparent, and address sustainable, equitable, accessible, and economically viable outcomes and objectives. Consistent with the SMF, new guidance has been published by the State to inform the development of transportation plans/studies. These include:

- Corridor Planning Guidebook (Caltrans, 2022);
- Climate Change Emphasis Area Guidance for Corridor Planning (California Transportation Commission, 2022)
- Active Transportation Emphasis Area Guidance for Corridor Planning (California Transportation Commission, 2022)
- Comprehensive Multimodal Corridor Plan Guidelines (California Transportation Commission, 2018);
- SB-1 Accountability and Transparency Guidelines (California Transportation Commission, 2023); and,
- Health in Transportation Corridor Planning Framework (2019).

These State planning guidance documents reinforce performance-based planning and programming. The latter being informed by the application of performance metrics that allow for the selection and prioritization of improvement projects in a transparent and understandable way to both the public and decision makers.

Both federal and state transportation funding programs, particularly competitive programs, are currently driven by performance-based criteria. Funding for multimodal transportation improvements is now greatly influenced by federal/state objectives related to air quality/climate change, environmental justice, social equity and return on investment (benefit-cost criteria). To be competitive for procuring limited discretionary transportation funding, SJCOG and its member agencies must document to a much greater degree how the recommended capital improvements address these important objectives/initiatives.

4.3 PURPOSE OF TRANSPORTATION PERFORMANCE MEASURES

The purpose of RCMP transportation performance measures is to monitor how well the regional transportation system is meeting the goals and objectives of the RCMP, RTP and the Federal Performance Rule. While goals and objectives establish benchmarks for the intended operation of the transportation system, performance measures and data are used to track progress in reaching these benchmarks. Goals define the overall transportation aims of the region: e.g., "provide a transportation system that is safe, reliable, and efficient." Objectives are measurable embodiment of the goals: e.g., "reduce the total cost of accidents in the region."

Performance measures are the "yardsticks" by which SJCOG determines how well the objectives are being met: e.g., "number of accidents by severity", "total cost of accidents". Data collection is determined by the performance measures and provides the information for these measures.

4.4 MONITORING-BASED PERFORMANCE MEASURES

There are two classifications of performance measures typically used by transportation agencies: monitoring-

based and model-based. Monitoring-based performance measures are determined empirically by direct measurement in the field (e.g., traffic volumes, accidents by type). They allow agencies to track success in achieving goals and objectives based on real outcomes. Model-based performance measures are estimated by analytical tools or models (e.g., land use allocation models and travel demand models). They are typically used to evaluate various alternative scenarios under future year conditions (e.g., as part of Sustainable Community Strategies its SJCOG evaluates future plan alternatives) and are not based on real outcomes.

The RCMP exclusively addresses monitoring-based performance measures for the following reasons:

- Model-based performance measures depend on the capabilities of the model being used and the assumptions that go into building the model. Only partial validation is possible (e.g., comparing ground counts to model results at the screenline level).
- Monitoring-based performance measures provide “ground-truth” data for tracking the accuracy of measures that have been projected using models. They are used to answer, “Are we trending in the right direction to achieve our goals and objectives?”
- Monitoring-based performance measures can be directly traced to valid data sources that can be tracked and compared over time. They are used to answer, “What is actually happening as we implement our goals and objectives?”.

4.5 PERFORMANCE MEASURE SELECTION CRITERIA

The following principles for selecting among different possible performance measures were exercised as part of this study.

- Performance measures must reflect the goals and objectives of the agency. Performance measures are the yardsticks for measuring how well a particular transportation alternative meets the goals and objectives of the agency. Hence, any suggested performance measure must be capable of being tied to one or more agency goals or objectives.
- The purpose of performance measures is to inform decisions. Performance measures are useful only to the extent that they can inform policy, planning, programming, budgeting, or management decisions.
- Performance measures should enable decision makers to identify tradeoffs between potentially conflicting goals or objectives. Consider a hypothetical case of trying to “maximize mobility at the minimum cost.” It is impossible to simultaneously optimize over more than one measure. In this case, it would require performance measures for both cost and mobility to enable decision makers to identify the tradeoffs among alternatives between cost and mobility; (i.e., answering the question “how much mobility are we buying at what cost?”).

These principles in turn suggest several others:

- Performance measures should ideally be as commensurate as possible. Metrics that are measurable across all regions and/or applicable to differing scales of analysis allows for an "apples-to-apples" comparison and makes for better statewide or regional decision making (for funding or comparing progress). When a number of performance measures are used to evaluate transportation alternatives, decision makers should make tradeoffs between these measures in a consistent manner. This is the main rationale for benefit-cost analysis, where market values are used to identify tradeoffs between measures such as cost, travel time, reliability, safety, and environmental effects.

- Performance measures should be easily understood by decision makers and the general public. Concepts such as cost and accident totals are easily communicated to decision makers and the general public, whereas technical concepts such as "buffer index", as a measure of travel time reliability, may require detailed explanation to be fully understood.
- The number of performance measures should be as few in number as possible. A common maxim among political scientists who study policymaking is that a decision maker can simultaneously consider only seven "plus or minus" factors at one time. Hence, too many performance measures will confuse rather than inform.

Based on the aforementioned principles, the following criteria were used to select performance monitoring measures for the RCMP:

- Performance measures should align with Federal transportation goals and objectives.
- Performance measures should continue to inform current goals and objectives of the RCMP.
- Performance measures should be applicable to both rural and urban areas of San Joaquin County.
- Performance measures should be capable of being linked to specific decisions on transportation investments.
- Performance measures should not impose substantial resource requirements on SJCOG or its member agencies.
- Performance measures for should be normalized to provide equitable comparisons among all sub-areas of the County if desired.

Federal and State legislation also influenced the selection of RCMP performance measures. These are described below.

Integration with Federal Performance Based Planning Framework

The Moving Ahead for Progress in the 21st Century Act (MAP-21) included the establishment of a performance- and outcome-based program, known as "Performance Based Planning," with the objective to invest in projects that will make progress toward the achievement of the national goals for the transportation. This framework has been carried forward in subsequent Federal transportation funding bills including the America's Transportation Infrastructure Act legislation. Passage of the Federal Performance Management Rule required state Departments of Transportation (DOTs) and Metropolitan Transportation Organizations (MPOs) to implement the Federal performance measures by 2018.

FHWA is required to establish performance measures to assess performance in 12 areas. Three measures are established for assessing the performance of the NHS under the National Highway Performance Program (NHPP). Two measures assess reliability: (1) Percent of Person-Miles Traveled on the Interstate System That Are Reliable (the Interstate Travel Time Reliability measure); and, (2) Percent of Person-Miles Traveled on the Non-Interstate NHS That Are Reliable (the Non-Interstate NHS Travel Time Reliability measure). Both of these measures assess Level of Travel Time Reliability (LOTTR), defined as the ratio of the 80th percentile travel time to a "normal" travel time (50th percentile). Data are derived from the travel time data set using either the National Performance Management Research Data Set (NPMRDS) or equivalent. A third measure, Percent Change in Tailpipe CO2 Emissions on the NHS from the Calendar Year 2017, assesses environmental performance. This measure is calculated using data on fuel use and VMT. In 2023, the final measure was

amended regarding FHWA's regulations governing national performance management measures and establishes a method for the measurement and reporting of greenhouse gas (GHG) emissions associated with transportation (GHG measure). The FHWA finalized a reference year of 2022 as part of this measure.

The performance measure to assess freight movement on the Interstate is: Percentage of the Interstate System Mileage providing for Reliable Truck Travel Times (i.e., Truck Travel Time Reliability (TTTR) Index). This measure also uses the Travel Time Data Set of NPRMDS, but unlike the LOTTR which uses a threshold to determine reliability, TTTR Index is expressed as an average for the entire applicable area.

Three measures are established under the Congestion Mitigation and Air Quality (CMAQ) program including two measures for traffic congestion: (1) Annual Hours of Peak-Hour Excessive Delay Per Capita; and, (2) Percent of Non-SOV Travel. Data for these two measures are derived from the travel time data set of NPMRDS. The second measure was developed to recognize the role of lower-emissions modes in meeting air quality goals. The third measure under the CMAQ program is Total Emissions Reduction. This measure uses data from the CMAQ Public Access System to calculate total emission reductions for applicable criteria pollutants or precursors.

The Federal performance measures were thematically split into the three groupings under the rubric of "Performance Management" (PM) as shown below. Depending on the performance measure, different geographic and network representations apply (e.g., all roadways, Interstate Highway System (IHS) only, Non-IHS National Highway System, National Highway System). These are noted after each measure. Given that the RCMP is specific to the RCMP network that reflects a mix of IHS, NHS and Non-NHS roadways, not all metrics are directly applicable to RCMP reporting. Additionally, some metrics, such as those that pertain to vehicular emissions, are outside the scope of the RCMP and are more appropriately addressed as part of other planning efforts (e.g., air quality conformity requirements during RTP/SCS updates) or will be addressed by Caltrans or Caltrans data analysis tools. The Federal performance measures that will not be monitored at this time as part of the RCMP are listed with an "*" below.

- PM1: Safety
    - Number of Fatalities (all roadways)
    - Rate of Fatalities (per 100 million VMT) (all roadways)
    - Number of Serious Injuries (all roadways)
    - Rate of Serious Injuries (per 100 million VMT) (all roadways)
    - Number of Non-Motorized Fatalities and Serious Injuries (all roadways)
- PM2: Transportation Asset Management
    - Percent of Interstate Highway System (IHS) pavement in Good condition (IHS only)
    - Percent of IHS pavement in Poor condition (IHS only)
    - Percent of non-IHS National Highway System (NHS) pavement in Good condition (Non-IHS NHS)
    - Percent of non-IHS NHS pavement in Poor condition (Non-IHS NHS)
    - Percent of NHS bridges by deck area in Good condition (NHS only)
    - Percent of NHS bridges by deck area in Poor condition (NHS only)
- PM3: System Reliability, Freight, Congestion, and Air Quality
    - Percent of person-miles traveled on the IHS that are reliable (IHS only)
    - Percent of person-miles traveled on the non-IHS NHS that are reliable (Non-IHS NHS)

- Percent change in tailpipe CO2 emissions on NHS compared to 2022 level (NHS only)*
- Truck Travel Time Reliability (TTTR) Index (IHS only)
- Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita (NHS only in urbanized TMAs in federal non-attainment areas)
- Percent of Non-Single Occupancy Vehicle (SOV) Travel
- Total Emissions Reduction (all Projects)*

State DOTs (e.g. Caltrans) are directly responsible to submit performance targets and periodic reports on progress to those targets to Federal agencies on an annual basis. MPOs, such as SJCOG, are required to establish targets specific to their planning area, or support the statewide targets, and report on progress on an annual basis. SJCOG accepted the statewide targets and per agreement with Caltrans, SJCOG began this reporting requirement in 2019.

To more efficiently complete the required reporting tasks for both SJCOG's Federal CMP and the Federal Performance Management Rule, SJCOG has integrated many of the PM1-3 Federal performance measures as RCMP performance measures. See also section 3.15 for a description of those PM1-3 measures not reported by the RCMP.

SB 743 and Vehicle Miles Travelled

Senate Bill (SB) 743 was signed into law in 2013, with the intent to better align California Environmental Quality Act (CEQA) practices with statewide sustainability goals related to efficient land use, greater multi-modal choices, and greenhouse gas reductions. The provisions of SB 743 became effective Statewide on July 1, 2020. Under SB 743, automobile delay, traditionally measured as level of service (LOS) will no longer be considered an environmental impact under CEQA. Instead, impacts will be determined by changes to VMT.

Given the shift to vehicle miles of travel (VMT) for CEQA purposes, there has been greater interest on the part of transportation agencies to incorporate VMT into other planning processes. Although VMT is a general but robust measure of vehicle activity, it is not a good indicator for identifying congestion, bottlenecks or high delay "hotspot" locations. As such, it has limited utility as a primary metric for congestion management. However, VMT is a primary input for regional air quality analyses and for developing VMT rates for safety analysis. Also, when applied on a per household or per capita basis, VMT can also be an indicator of land use efficiency (i.e., land use patterns that facilitate less vehicle trips and/or shorter vehicle trip lengths). VMT is computed by multiplying traffic volume by segment length and can be applied to any scale (region, sub-region, corridor).

VMT estimates by jurisdiction are published by Caltrans on an annual basis (publications typically lag by approximately two years). VMT data is developed as part of the Federal Highway Performance Monitoring System (HPMS). The HPMS program uses a sample-based method that combines traffic counts stratified by functional classification of roadways and volume group to produce sample based geographic estimates of VMT. HPMS VMT estimates are considered "ground truth" by the 1990 Federal Clean Act Amendments (November 15, 1990). HPMS VMT estimates can be used to validate baseline travel demand models and to track modeled VMT forecasts over time. HPMS VMT estimates are reported for each county by local jurisdiction, state highway use, and other state/federal land roadways e.g., State Parks, US Bureau of Land Management, US Forest Service, US Fish and Wildlife Service.

Due to being a federal non-attainment area, San Joaquin County's HPMS sampling requirements achieve the desired 90/10 confidence level for VMT estimation. However, the statistical veracity of the San Joaquin County's HPMS sample diminishes at the sub-county scale (i.e., Cities).

Table 4-1 lists the RCMP performance measures including source, measure of effectiveness, and data source for each metric. RCMP performance measures will be monitored using analysis tools and software procedures developed to streamline their quantification and reduce costs. As RCMP program implementation continues, refinement of these measures and/or the development additional performance measures is anticipated.

Table 4-1: *RCMP Performance Measures*

Category of Objectives	Source	Measure of Effectiveness	Performance Measure	Data Sources
Operational Efficiency	RCMP	Congestion (congested speeds)	Percent of miles (on IHS and non-IHS NHS and RCMP network) that are congested (when congested speed is less than 60% of free flow speed).	FHWA: NPMRDS
Operational Efficiency	PM3	Travel Time Reliability (TTR) Index (80% and 95% travel time) (All vehicles)	Percent of Person-miles of travel (on IHS and non-IHS NHS) that are reliable (TTR)	FHWA: NPMRDS Caltrans: AADT Vehicle Occupancy (Surveys, CHTS)
Operational Efficiency	RCMP	Travel Time Reliability (TTR) Index (80% and 95% travel time) (All vehicles)	Percent of miles (on IHS and non-IHS NHS) that are reliable (TTR)	FHWA: NPMRDS
Operational Efficiency	RCMP	Congestion & TTR (95% travel time)	"Facility Specific" that are congested and/or unreliable. Provides basis for identifying RCMP deficient corridors.	FHWA: NPMRDS
Goods Movement & Operational Efficiency	RCMP	STAA Intersections	Track STAA-compliant intersections listed as part of Interregional Truck Operations on I-5 and SR-99 and STAA Routes Study	SJCOG RCMP
Goods Movement & Operational Efficiency	PM3	Truck Travel Time Reliability Index (80% and 95% travel time)	Percentage of IHS mileage that are reliable (TTTR)	FHWA: NPMRDS
Goods Movement & Operational Efficiency	RCMP	Truck Congestion & TTR (95% travel time)	"Facility Specific" that are congested (congested speed less than 60% of free flow truck speed) and/or unreliable. Provides basis for identifying RCMP deficient corridors.	FHWA: NPMRDS
Traffic Congestion	PM3	Non-Single Occupancy Vehicle (SOV) Travel for Stockton Urbanized Zone Area (UZA)	Percent of Non-Single Occupancy Vehicle (SOV) Travel	US Census: ACS Journey to Work Supporting Data: Replica
Traffic Congestion	PM3	Peak Hour Excessive Delay (PHED) for Stockton UZA	Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita (only for NHS)	FHWA: NPMRDS U.S. Census: population data

Category of Objectives	Source	Measure of Effectiveness	Performance Measure	Data Sources
Transit System	RCMP	Transit Coverage	Population & employment within ½-mile walking distance of a transit stop	Transit Agencies: transit data U.S. Census: population data VMIP2 Land Use Data: household and employment data
Transit System	RCMP	Transit Frequency	Level of service for service frequency of transit vehicles per hour (Transit Capacity and Quality of Service Manual)	Transit Agencies: transit line information
Regional Bikeway Network	RCMP	Percent Completed of Regional Bikeway Network	Ratio of completed to total Regional Bikeway Network miles, listed by jurisdiction.	SJCOG: bike network completion
Complete Streets	RCMP	RCMP Multimodal Corridor Quality of Service (transit, bike, pedestrian)	Multimodal quality of service for existing conditions on designated corridors (transit, bike, pedestrian).	HCM 7th Edition – Quality of Service SJCOG: Infrastructure Improvements, transit service schedules, traffic counts
Travel Demand Management	RCMP	Commuter VMT Reduction	Track San Joaquin County employer and employee participation rates for commute to work mode.	SJCOG - Dibs
Travel Demand Management	RCMP	VMT Per Capita	Land Use Efficiency	VMT: HPMS Population: Department of Finance
Safety	PM1	Fatal Collisions & Rates	Number of fatalities Fatalities per 100 million VMT	Collision/incident data: FARS/SWITRS VMT data: HPMS, SJCOG, local counts
Safety	PM1	Serious Injury Collisions & Rates	Number of serious injuries Serious injuries per 100 million VMT	Collision/incident data: TIMS/SWITRS VMT data: HPMS, SJCOG, local counts
Safety	PM1	Number of Collisions	Number of non-motorized fatalities and non-motorized serious injuries	Collision/incident data: SWITRS
System Management	PM2	PCI / PSI / IRI / Qualitative	PM2 Percentage of pavements of the Interstate System in Good Condition & Poor Condition	Local Agency Pavement Management Systems or Caltrans (for State Highways)

Category of Objectives	Source	Measure of Effectiveness	Performance Measure	Data Sources
System Management	PM2	PCI / PSI / IRI / Qualitative	Percentage of pavements of the non-Interstate NHS in Good Condition & Poor Condition	Local Agency Pavement Management Systems or Caltrans (for State Highways)
System Management	PM2	PCI / PSI / IRI / Qualitative	Percentage of NHS bridges classified as in Good Condition & Poor Condition	Local Agency Pavement Management Systems or Caltrans (for State Highways)

4.6 OPERATIONAL EFFICIENCY

Two Federal performance measures form the basis for tracking operational efficiency of passenger vehicles and heavy-duty trucks on the RCMP network respectively. Both measures rely on NPMRDS speed data from FHWA (see section 3.1 Vehicle Speed Data Source for a description of the NPMRDS). The two measures are Congestion and Travel Time Reliability and are described below.

Congestion

The Federal definition from the National Performance Management Measures Rule is used to define congestion for the RCMP. The congestion threshold is triggered if observed peak hour average speed is less than 60 percent of free-flow speed, with a minimum limit of 20 mph. This metric is scalable and can be reported as a percentage of a defined network of roadways including: 1) percent of congested centerline miles on Interstate Highway System; 2) percent of congested centerline miles on the National Highway System; and, 3) percent of congested centerline miles on the RCMP network. In addition, the congestion metric can also be applied on a segment-by-segment basis (i.e., facility specific). This finer granularity provides the basis for identifying RCMP deficient corridors for which congestion relief project and strategies can be identified for inclusion in the RCMP CIP (see Chapter 6). The congestion metrics will be applied to all vehicles and just heavy-duty trucks. The latter applications will address the Goods Movement RCMP objectives.

Travel Time Reliability

Travel time reliability accounts for the variance in travel times associated with motorized travel. FHWA and Federal Guidance have emphasized the use of travel time reliability as a key metric – particularly for congestion management. In 2015, FHWA published Incorporating Travel-Time Reliability into the Congestion Management Process: A Primer. Consistent with this guidance and the desire to include the Federal performance measures within the RCMP, SJCOG has incorporated reliability into the RCMP.

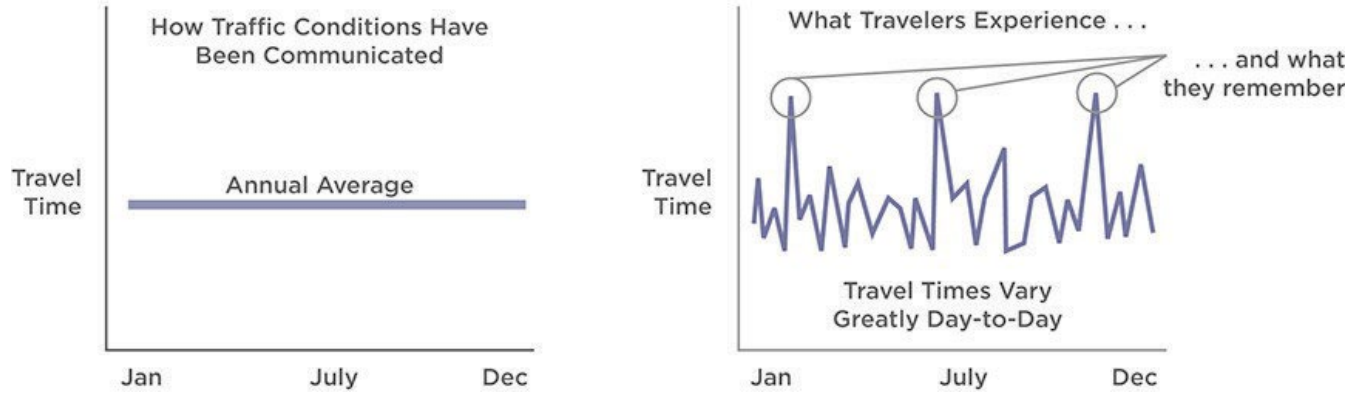
The Federal definition from the National Performance Management Measures Rule is used to define reliability for the RCMP. The thresholds for identifying unreliable road segments (with an 80th percentile travel time more than 1.5 times longer than the average travel time (50th percentile) (Level of Travel Time Reliability or LOTTR). Given that the Highway Capacity Manual (7th Edition) defines travel time reliability using the 95th percentile travel time, both the 80th and 95th percentile travel time reliability metrics will be monitored.

The amount of extra time a person needs to account for above the average travel time to ensure being on time 95% of the time (approximately one day late per month). If a commute trip usually takes 30 minutes, but there are periodic issues with weather or traffic incidents that can cause the commute to take 45 minutes, the buffer time would be 15 minutes, causing the commuter to be 15 minutes early on an average day, and late only occasionally. The BTI normalizes buffer time by controlling for distance. The BTI is simply the ratio of Buffer Time against the average travel time and can expressed as a percentage. The percentage shows the amount of buffer time relative to average travel time.

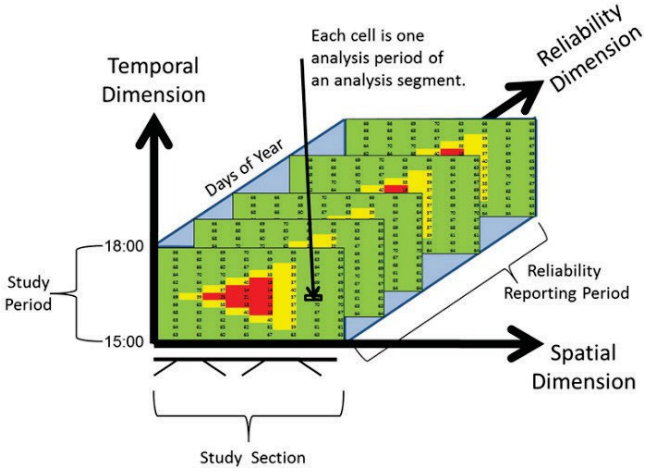
The relationship between travel time reliability indices is shown in **Figure 4-1**. A key factor to remember when reviewing travel time reliability results is that they are not the same as congestion or delay. A highly congested trip that is always or nearly always congested will likely have a very good reliability rating because it is predictable.

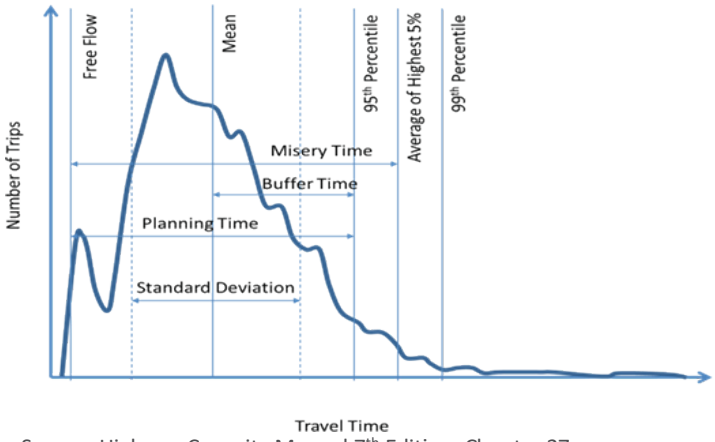
Both congestion and reliability measures can be translated to percent of person-miles of travel by applying a vehicle occupancy factor (potential sources include the California Household Travel Survey) to the VMT estimate and recomputing the percentage.

Figure 4-1: *Travel Time Reliability*



Source: Travel-Time Reliability: Making it There On-Time, All the Time, Federal Highway Administration, FHWA-HOP-06-070





Source: Highway Capacity Manual 7th Edition, Chapter 37

4.7 TRAFFIC CONGESTION

The two national performance management measures established under CMAQ for traffic congestion are non-single occupancy vehicle traveland annual hours of peak hour excessive delay (PHED). As of January 1, 2022 both measures only apply to urban areas exceeding a population of 200,000. The only urban area exceeding this threshold is the Stockton urban area.

Non-Single Occupancy Vehicle Travel

Non-SOV travel aims to promote multimodal transportation options and increase vehicle occupancy to reduce pollutant emissions and congestion. Per Federal Guidance, the selected source for the analysis will be the American Community Survey Journey to Work data. The percent of non-SOV travel will be calculated using the formula below:

$$\text{Percent of Non SOV Travel} = 100\% - \%\ \text{SOV}$$

where:
Non-SOV travel = the percent of employed commuters, rounded to the nearest tenth of a percent, who primarily do not commute by driving alone in a car, van, or truck, including those who telecommute

SOV = percent estimate for cars, trucks, or vans—drive alone

Peak Hour Excessive Delay Measure

Traffic congestion is evaluated using the PM3 measure for CMAQ, specifically focusing on annual hours of PHED per capita. Excessive delay is determined by comparing observed travel times to either 20 mph or 60% of the posted speed limit, whichever is greater for each segment of the NHS in an urbanized area. The resulting PHED metric is derived by dividing the total excessive delay during peak periods by the population of an urbanized area.

4.8 GOODS MOVEMENT MEASURES

The movement of goods throughout San Joaquin County is critical to the economic health of the region. Freight traverses the county using many modes, including trucks, rail, and ship. Trucks, however, are the predominant mode of goods transport in the county, and the focus of a performance measures for goods movement as detailed below.

STAA Compliance

The Surface Transportation Assistance Act (STAA) was passed in 1982 by the federal government to govern the movement of trucks and trailers. STAA vehicles are large commercial trucks that meet federal size regulations (48 to 53 feet from kingpin to rear-axle). In California, the STAA network consists of the National Network (generally, interstate freeways and approved state highways) and Terminal Access (state highways). Roadways that are part of the STAA network must be designed to accommodate the STAA-sized trucks.

A diagram of STAA sized vehicles is provided in **Figure 4-2**. **Figure 4-3** provides a map of the STAA network in San Joaquin County.

Figure 4-2: *Diagram of STAA-sized Trucks*

Roadways that are part of the STAA network are designated based on the general adherence to the following:

- The route is a geometrically typical component of the Interstate system, serving to link principal cities and densely developed portions of the states;
- The route is a high-volume route utilized extensively by large vehicles for interstate commerce;

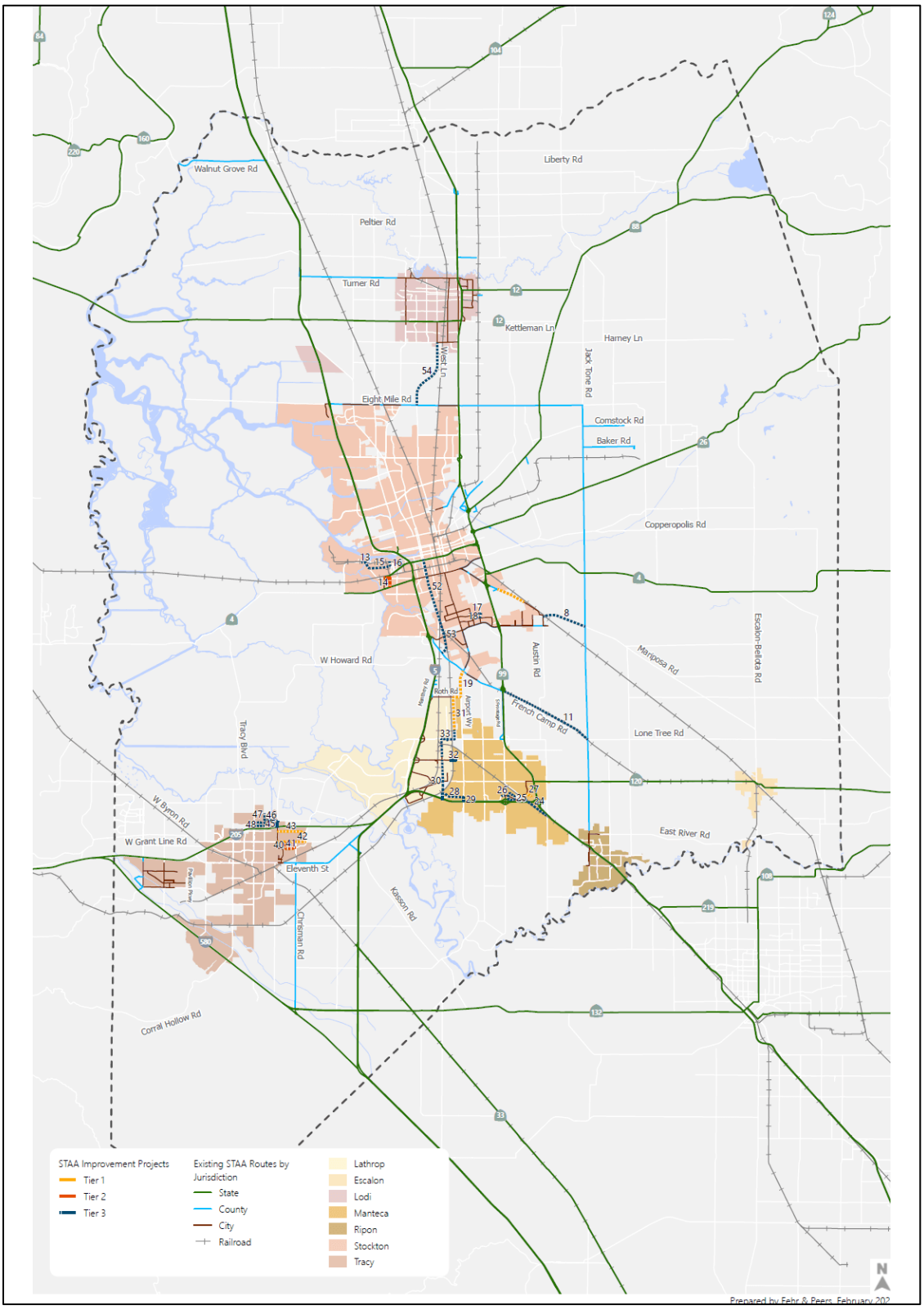
- The route does not have any restrictions precluding use by conventional combination vehicles;
- The route has adequate geometrics to support safe operations, considering sight distance, severity and length of grades, pavement width, horizontal curvature, shoulder width, bridge clearances and load limits, traffic volumes and vehicle mix, and intersection geometry;
- The route consists of lanes designed to be a width of 12 feet or more or is otherwise consistent with highway safety;
- The route does not have any unusual characteristics causing current or anticipated safety problems.

SJCOG tracks STAA related improvements by coordinating with local agency STAA applications. Given the priority of enhancing Terminal Access connectivity to the STAA National Network, the STAA turn radius compliance of I-5, SR 99 and I-580 ramp intersections is tracked.

STAA Truck Operations

The congestion and reliability metrics discussed previously will also applied to exclusively to just heavy-duty trucks. Given that the heavy-duty truck population is reported separately by the NPMRDS, the congestion and reliability thresholds can be developed specifically for the truck fleet and operations in isolation.

Figure 4-3: *San Joaquin County STAA Network*



Map Source: San Joaquin County, created by Fehr & Peers

4.9 TRANSIT SYSTEM MEASURES

San Joaquin County is diverse with respect to transit service and land use types. While Stockton is the most urbanized area in the county, many areas of Stockton and other cities in the county are predominantly suburban while much of the unincorporated areas of the county are rural. As such, transit providers must tailor their services to balance residents' needs with funding constraints.

The RCMP contains two performance measures for transit system measures: 1) coverage and 2) frequency, as detailed below. These measures do not differentiate between urban and rural areas. It is acknowledged that the transit target objectives may not be reasonable for rural areas of the County.

Coverage

Transit service coverage is assessed using a ½ mile distance from transit stops countywide based on linear buffers (roadway distances). Circle buffers (airline radius) may be used where linear roadway information is unavailable.

Circle buffers are the easiest way to calculate a service area. All points within a given range of a facility, in this case a ½ mile from a bus stop, are considered to be within its service area. The method does not take into account barriers or network gaps that might prevent all locations within that circle from being as easily accessible.

Linear buffers evaluate the service area from the network point of view. All points accessible via roadways or other features included in the network data within a ½ mile are included in the service area. The Service Area tool in the ArcGIS Network Analyst extension will assign a given buffer around network features to generate a service area polygon. The buffer tapers to a point where the network distance reaches the analysis distance of

½ mile. In places where the accessible network forms a closed block, the block will be filled regardless of the network buffer and is considered to be completely accessible.

In **Figure 4-4,** the bold lines are portions of the network that are within ½ mile of the bus stop. The red circle is the airline radius ½ mile buffer. The green polygon is the linear buffer service area. These two examples are somewhat simplified. In the top example, note that in the lower left quadrant, the large blocks have more than 600' grid separation, but are still filled when completely surrounded by accessible streets. The upper quadrants are missing a connection to the street along the primary x axis and are therefore deemed mostly inaccessible within the ½ mile parameter. The bottom example is an actual location within San Joaquin County and demonstrates how freeways (I-5 running north-south on the west) and natural features (river/canal running east-west on the north) can also serve as barriers to transit accessibility.

Further information on transit stops and their relation to San Joaquin County's residential population and employment will be available in 2024 Monitoring Report.

Frequency

The goal of evaluating peak period transit frequency is to determine the likelihood that travelers could utilize transit regularly. Generally speaking, higher frequencies allow travelers more flexibility to take transit when they

need to, as opposed to being reliant on the few scheduled occasions that service operates. All transit agencies strive to offer high frequencies within the limits of their funding. However, this goal may run at odds with providing coverage throughout the agency's service area if resources are reallocated to higher frequency routes.

For the fixed-route local and deviated fixed-route bus services, peak period transit quality of service in San Joaquin County may be best described using the thresholds for urban scheduled transit service, as shown in **Table 4-2**. It defines quality of service in terms of headways (time between transit vehicles) and is often evaluated using published schedules. Quality of service is better for more frequent transit service and the measures can be applied to buses, trains, and ferries. This performance measure will be analyzed using published transit schedules for fixed route service.

Figure 4-4: *Examples of Transit Coverage Analysis - Circle Versus Linear Distances*

Table 4-2: *Countywide Transit Service Quality of Service Criteria*

Quality of Service	Vehicles per Hour	Headway (minutes)	Comments
A	> 6	< 10	Passengers don't need schedules
B	5 to 6	10 to 14	Frequent service, passengers consult schedules
C	3 to 4	15 to 20	Maximum desirable time to wait if transit vehicle missed
D	2	21 to 30	Service unattractive to choice riders
E	1	31 to 60	Service available during hour
F	< 1	> 60	Service unattractive to all riders

Source: *Transit Capacity and Quality of Service Manual* (TCQSM), Transportation Research Board, Washington, DC, 1999, Part 5.

4.10 BIKEWAY SYSTEM MEASURES

SJCOG has developed a regional bikeway network that establishes routes of regional significance for bicyclists. There are many other elements that create a supportive environment for bicycling, including bikeway types, parking, shower and locker facilities, and wayfinding signage which are best addressed in the Regional Transportation Plan. The RCMP performance measure will focus on the bikeway network's completion.

Bikeway Network Completion

The total number of existing regional bikeway miles will be compared to the entire network's mileage to establish baseline conditions by jurisdiction. As regional bikeways are constructed or programmed, SJCOG will track the ratio of completed bikeways compared to regional network and report the percent completed by jurisdiction.

4.11 COMPLETE STREETS MEASURES

In order to provide viable choices to SOVs and to support the intent of Federal legislation, SJCOG monitors bicycling, walking, and transit performance along Multimodal Corridors (as identified in Chapter 3) with the intent of identifying opportunities to improve alternatives to driving alone. These measures evaluate:

- Presence and geometrics of bikeway facilities;
- Presence and geometrics of pedestrian walkways; and
- Transit passenger, bicyclist, and pedestrian quality of service.

SJCOG has established Multimodal Corridors as detailed in Chapter 3. These corridors are generally located in areas that are characterized by a predominance of shared roadway users (pedestrians, bicyclists, transit passengers, and motorists) and where roadway widening is infeasible or undesirable. These corridors are not the only roadways on the RCMP that need to accommodate multiple user types. All RCMP roadways with adjacent land uses need to provide access for all user types. However, these designated Multimodal Corridors will receive the benefit of a quality of service analysis for all travel modes, which will independently and objectively evaluate how well that segment serves pedestrians, bicyclists, transit users, and drivers, allowing jurisdictions to balance their mitigation efforts across modes.

Multimodal Corridors

SJCOG established a baseline quality of service analysis for all four major modes of travel (walking, biking, taking transit, and driving) on designated Multimodal Corridors using the Highway Capacity Manual's Urban Streets Facilities methodology. This method interactively compares the quality of service of a corridor between the different modes of travel. A number of factors are accounted for in order to assess the quality of service for each mode of travel. These factors are summarized below by each mode of travel.

Factors Affecting Pedestrian Quality of Service

- Pedestrian density (only under crowded conditions)
- Sidewalk presence and clear width
- Vehicle volume and speed in adjacent travel lane
- Bicycle lane, shoulder, and outside vehicle lane widths

- Buffer presence and width
- On-street parking utilization
- Permitted left turn, right-turn-on-red volumes
- Cross-street motor vehicle volumes and speeds
- Crossing length
- Average pedestrian delay
- Right-turn channelizing island presence

Factors Affecting Bicyclist Quality of Service

- Vehicle volume and speed in outside travel lane
- Heavy vehicle percentage
- Pavement condition
- Bicycle lane presence
- Bicycle lane, shoulder, and outside vehicle lane widths
- On-street parking utilization
- Number of access points on right side
- Cross-street width

Factors Affecting Transit Passenger Quality of Service

- Access to transit (pedestrian link Quality of Service)
- Wait for transit (frequency)
- Excess wait time due to late bus/train arrival
- Actual bus travel speed
- Bus stop amenities
- On-board crowding

Factors Affecting Motorist Quality of Service

- Posted versus actual speed
- Intersection delay

The most recent baseline multimodal quality of service was established with the 2016 RCMP Monitoring Report update. The monitoring report in this cycle will update the multimodal quality of service. Future updates should be performed if traffic volumes significantly change, major transit scheduling changes occur, or major roadway treatments and improvements are implemented. The analysis includes the collection of infrastructure and time-of-day data, such as counts, on-street parking occupancies, and transit schedules for existing conditions. The AM and PM peak-hours were summarized by segment and direction. A summary of the bicyclist and transit passenger quality of service criteria is shown in **Table 4-3**.

A summary of the pedestrian quality of service criteria, which compares the pedestrian quality of service on urban streets to walkway crowding, is shown in **Table 4-4**. A summary of the motorist quality of service criteria is shown

in **Table 4-5**.

Table 4-3: *Bicyclist and Transit Passenger Quality of Service Criteria for Urban Streets*

Quality of Service Grade	Score
A	≤ 2.00
B	> 2.00 and ≤ 2.75
C	> 2.75 and ≤ 3.50
D	> 3.50 and ≤ 4.25
E	> 4.25 and ≤ 5.00
F	> 5.00

Source: *Highway Capacity Manual* (HCM) 7th Edition, Transportation Research Board, Washington, DC, 2022.

Table 4-4: *Pedestrian Quality of Service Criteria (Quality of Service on Urban Streets Compared to Crowding)*

Pedestrian QOS Score	Quality of Service by Average Pedestrian Space (square feet per person)					
	> 60	> 40 and ≤ 60	> 24 and ≤ 40	> 15 and ≤ 24	> 8 and ≤ 15 [1]	≤ 8 [1]
≤ 2.00	A	B	C	D	E	F
> 2.00 and ≤ 2.75	B	B	C	D	E	F
> 2.75 and ≤ 3.50	C	C	C	D	E	F
> 3.50 and ≤ 4.25	D	D	D	D	E	F
> 4.25 and ≤ 5.00	E	E	E	E	E	F
> 5.00	F	F	F	F	F	F

1 In cross-flow situations, the LOS E-F threshold in 13 square feet per person.

Source: *Highway Capacity Manual* (HCM) 7th Edition, Transportation Research Board, Washington, DC, 2022.

Table 4-5:*Motorist Quality of Service Criteria for Urban Streets*

Travel Speed as a Percentage of Base Free-Flow Speed	Quality of Service Grade by Critical Volume-to-Capacity Ratio [1]	
	≤ 1.0	> 1.0
> 85%	A	F
> 67% and ≤ 85%	B	F
> 50% and ≤ 67%	C	F
> 40% and ≤ 50%	D	F
> 30% and ≤ 40%	E	F
≤ 30%	F	F

[1] The critical volume-to-capacity (v/c) ratio is based on consideration of the through movement v/c ratio at each boundary intersection in the subject direction of travel. The critical v/C is the largest ratio of those considered.

Source: *Highway Capacity Manual* (HCM) 7th Edition, Transportation Research Board, Washington, DC, 2022.

4.12 TRAVEL DEMAND MANAGEMENT MEASURES

SJCOG has established countywide programs to address travel demand management (TDM), implemented through SJCOG's Dibs program (https://www.dibsmyway.com/). The main purpose of the demand management program is to reduce the number of single-occupant vehicles during peak demand times by providing incentives for carpooling, taking transit, walking, biking, or traveling off-peak. San Joaquin County is also part of the San Joaquin Valley Air Pollution Control District (SJVAPCD), which has a Federally mandated employer-based trip reduction program (Rule 9410 or eTrip) for businesses that employ 100 or more full time employees.

Through its' Dibs program, SJCOG tracks the San Joaquin County employer and employee participation rates for commute to work mode. Based on this information, VMT reduction benefits of employees who shift from single occupant vehicles to non-SOV or alternative modes (transit) will be estimated.

4.13 VEHICLE MILES TRAVELED

Given the shift to vehicle miles of travel (VMT) under CEQA pursuant to SB 743, there has been greater interest to incorporate VMT into other local and regional transportation planning processes. Although VMT is a robust measure of vehicle activity, it is not a good indicator for identifying bottlenecks or high delay "hotspot" locations. As such, it has limited utility as a metric for identifying congestion. Conversely, VMT does provide an indication of overall system utilization and is a direct indicator of land use efficiency and on-road mobile source emissions.

The VMT data was sourced from Replica while estimates of population are from the California Department of Finance. Replica is a data aggregation service that compiles roadway user information by mode, origin/destination, demographics, and trip purpose using mobile source data such as cell phones and connected vehicles. The Replica VMT calculator was used calculate the VMT within each jurisdiction.

The RCMP reports a VMT per capita performance metric. **Table 4-6** shows the 2022 VMT per capita for each jurisdiction in San Joaquin County VMT which was estimated by multiplying the vehicle volumes by the length of the road segment. This method was applied to all roadways in each jurisdiction in San Joaquin County, which resulted in an estimate for each jurisdiction's average daily VMT for 2022. It should be noted that this RCMP VMT/capita metric does not to inform SB 743 related project-level CEQA analyses. Replica VMT estimates are boundary-based (i.e., VMT conforms to the jurisdictional boundaries) and do not reflect the portion of a trip that occurs outside a given jurisdiction as required under SB 743.

Table 4-6: *2022 Vehicle Miles Traveled (VMT) per Capita by Jurisdiction*

Jurisdiction 2022	Total VMT (1,000)	Population (1/1/2022)	Daily VMT Per Capita
Escalon	62.45	7,472	8.36
Lathrop	1,260.97	28,701	43.93
Lodi	737.12	66,348	11.11
Manteca	1,315.94	83,498	15.76
Ripon	589.75	16,013	36.83
Stockton	3,867.08	320,804	12.05
Tracy	1,423.94	93,000	15.31
County (Unincorporated Area)	8,785.06	163,397	53.77
San Joaquin Total	18,042.31	779,233	23.15

4.14 SAFETY MEASURES

In order to assess the relative safety of RCMP roadway segments, collision rates can be used to compare the frequency of collisions with the amount of traffic present on a given facility segment. Key metrics include fatal collision rate, serious injury collision rate, and the total collision rate by collisions per million vehicle miles for RCMP designated roadways. The following equation is used to calculate collision rates for a given segment:

$$R = \frac{C \times 1{,}000{,}000}{V \times 365 \times N \times L}$$

where:

R = the collision rate in collisions per million vehicle miles
C = the total number of collisions
V = daily traffic volume of the highway segment
N = the number of years of data
L = the length of the highway segment

Three sources of collision data for estimating collision rates include the Fatality Analysis Reporting System (FARS), Transportation Injury Mapping System (TIMS) or the Statewide Integrated Traffic Records System (SWITRS). The source of the traffic volume needed to compute VMT is published Caltrans data for the state highway system. Count sources for non-state highway traffic volumes include SJCOG RTIF, local agency traffic fee programs, and local traffic studies.

4.15 SYSTEM MANAGEMENT MEASURES

System management measures apply directly to the Federal PM2 performance measures. These are:

- Percentage of pavements of the Interstate System in Good Condition & Poor Condition
- Percentage of pavements of the non-Interstate NHS in Good Condition & Poor Condition
- Percentage of NHS bridges classified as in Good Condition & Poor Condition

Pavement management systems are encouraged by FHWA and Caltrans. Additionally, agencies with projects programmed in the State Transportation Improvement Program (STIP) must certify that they have a pavement management system in place with every allocation request sent to the California Transportation Commission (LAPG Section 23.2; Exhibit 23-L). Pavement condition can be determined using either the Pavement Condition Index (PCI), Pavement Serviceability Index (PSI) or the International Roughness Index (IRI) depending on what is reported by the local agency or Caltrans. Pavement Condition Index (PCI), an ASTM D6433 standard, is the most accepted performance measurement used by many California local agencies to measure the structural condition of pavement and to make planning and funding decisions. PCI data is readily collected, resource light to collect, and is comparable across local, regional and statewide jurisdictions. Pavement Serviceability Index (PSI) is based on the AASHO Road Test's present serviceability rating (PSR) is based on a 5-point rating system but goes beyond a simple assessment of ride quality. Per the Federal Performance Measurement Rule, FHWA advocates the use of the International Roughness Index (IRI) as the preferred measure over PCI for local roadways. Although an appropriate performance measure for high speed highway facilities as a measurement of ride quality or functionality, IRI is not applicable for the 5,500 miles of lower speed NHS roadways in California. Unreliable IRI data collection technology as applied to low speed facilities, prohibitive cost/training for IRI data collection technology, and the lack of clarification on measurement units for certain types of distressed pavements, are several issues with IRI applications.

Given the varied use of these pavement condition metrics, SJCOG advocates local flexibility in the choice of pavement condition measurement types.

4.16 FEDERAL MEASURES NOT TRACKED BY THE RCMP

Given that a countywide baseline on-road mobile source emissions analysis is performed every four years as part of SJCOG RTP/SCS updates (required as part of the Federal Transportation Conformity Rule), and that vehicle emissions are not an integral component of the Federal Congestion Management Process, the RCMP will not monitor or report all the Federal PM3 emissions performance measures, but two related to non-SOV travel and PHED. Reporting of the remaining measures will be deferred to RTP/SCS updates. Similarly, the RCMP will only monitor and report the Federal PM2 safety performance measure for the RCMP network. Given that the Federal PM2 safety metrics apply to all roadways, countywide reporting may be deferred to Caltrans/SJCOG.
These include:

- Percent change in tailpipe CO2 emissions on NHS compared to 2022 level (Not Monitored); and,
- Total Emissions Reduction (Not Monitored).

Chapter 5. RCMP Monitoring Program

5.1 INTRODUCTION

Measuring regional congestion and related RCMP performance measures requires an ongoing systematic monitoring program. It is also a required element of a Federal CMP (CFR 23 450.320 (c)(3)). This chapter describes the RCMP Monitoring Program and provides information on what, where, how, and when data collection occurs.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) is the Federal transportation funding bill signed into law in 2012 that first established a performance- and outcome-based program known as "Performance Based Planning". The objective of performance-based planning is to establish a transparent and performance- based framework for the identification of projects that will make progress toward the achievement of the national goals for transportation. Selection of these projects for funding also referred to as performance-based programming is the key step towards implementation. Subsequent Federal funding bills (i.e., Fixing America's Surface Transportation (FAST) Act of 2016 and America's Transportation Infrastructure Act of 2019) have carried forward the same performance management framework.

To assist in these efforts, the National Performance Management Measures Final Rule (23 CFR Part 490) was passed in 2023. As part of performance management, recipients of Federal-aid highway funds, such as SJCOG, would make transportation investments to achieve performance targets that make progress toward the following national goals:

- **Congestion Reduction**: to achieve a significant reduction in congestion on the NHS.
- **System Reliability**: to improve the efficiency on the NHS.
- **Freight Movement and Economic Vitality**: to improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- **Environmental Sustainability**: to enhance the performance of the transportation system while protecting and enhancing the natural environment.

As described in Chapter 2 and Chapter 4, the RCMP integrates these goals into its objectives and performance measures respectively.

Descriptions of the monitoring needs to inform and quantify the RCMP performance measures are described in the following sections. Although monitoring is continuous, the processing of monitoring data to inform certain performance measures is performed on a staggered (i.e., every other year) basis. For instance, biennial reporting (every odd numbered year) is required of the Federal PM1-3 performance metrics. The staggering of performance measure processing serves to reduce annual RCMP workload requirements in recognition that on an annual basis dramatic shifts in the metrics typically do not occur.

5.2 VEHICLE SPEED DATA SOURCE

Pursuant to the National Performance Management Measures Final Rule, the preferred data for complying with the National Highway Performance Program (NHPP) is the National Performance Management Research Data Set

(NPMRDS) from FHWA. The NPMRDS provides average speed data (five-minute averaging time) for federally defined roadway segments designated as part of the National Highway System (NHS). A map of the designated NHS in San Joaquin County is provided in Chapter 3. The FHWA NPMRDS speed data is provided at no cost for state DOTs and MPOs. However, it only covers roadways that are on the NHS. Since the NPMRDS does not cover non-NHS arterial roadways, speed data for any/all non-NHS arterial roadways on SJCOG's CMP network must be purchased or obtained from alternative sources.

NPMRDS data for the previous year (January-December 12-months) will be retrieved from the NPMRDS web-portal. Data will be filtered to isolate average peak hour conditions (see Data Collection Times) for both passenger vehicles and heavy-duty trucks respectively. The only data "cleansing" applied will be to filter/remove extreme high-speed outliers (e.g., 90+ mph). All data will be processed and summarized based on NPMRDS segmentation.

5.3 SPEED DATA COLLECTION TIMES

Given the desire to reflect annual average weekday conditions, 12 consecutive months of NPMRDS data must be filtered to isolate average weekday conditions: Tues-Thurs AM/PM peak periods for passenger vehicles and heavy-duty truck vehicles separately. To identify the AM/PM peak hour, the peak periods between 6:00 AM to 9:00 PM and 4:00 PM and 7:00 PM are to be used to identify the most congested continuous 60-minute span for both passenger vehicles and trucks respectively. Given that free flow speed (i.e., prevailing average speed as vehicle density expressed as passenger vehicles per lane per mile approaches zero) is a key variable for calculating congestion, free flow segment speed can be estimated using NPMRDS data recorded between the hours of midnight and 3 AM.

5.4 SEGMENT TRAFFIC COUNTS

To develop collision rates vehicle miles traveled (VMT) estimates are required. For holistic countywide collision rates, HPMS VMT estimates will be used. To determine segment specific collision rates, VMT is estimated by multiplying segment length by a given segment's annual average daily traffic (AADT) volume. Caltrans annually publishes AADT traffic volumes for the state highway system. There is not a systematic data collection source for non-state highway traffic counts in San Joaquin County. New data collection for traffic counts will not be required as part of the RCMP. SJCOG will rely on its member agencies and Caltrans to share available count data as necessary. If traffic count data is not available, SJCOG will use baseline travel demand model volumes in lieu of counts for segment VMT estimation.

5.5 MULTIMODAL QUALITY OF SERVICE CORRIDORS DATABASE

RCMP multimodal corridors are defined as sections of the RCMP roadway network where pedestrian, bicyclist, transit passenger, and motorist quality of service are to be analyzed. The concepts and method to compute multimodal quality of service is documented in the Highway Capacity Manual (see Chapter 3 for a map of RCMP Multimodal Corridors). For designated RCMP multimodal Corridors, the following baseline inputs were used to operationalize the HCM multimodal quality of service procedure.

Infrastructure Characteristics

- Crosswalk Widths

- Segment Lengths
- Number of Lanes
- Speed Limits
- Number of Bus Stops on Each Segment
- Presence of Right Turn Islands
- Median Type

Traffic and signal information

- Cycle Length
- Whether Signal System is Coordinated
- Peak Hour 2-way volumes
- Directional Volume Distribution
- Number of Large Barrier Objects
- Cross Sectional Widths
- Number of left/right access points along the segment
- Bus Stop Amenities
- Pavement Condition
- Presence of Left Turn Pockets
- Green time to cycle length ratio (g/c) for through movement
- Walk Phase Timing
- PHF
- "K" Factor

Transit System information

- Frequency
- Load Factor
- Rider Trip Length
- Bus On-Time Performance
- Scheduled Speed

Many of these quality of service inputs are infrastructure based as opposed to demand based. As such, much of this data can be collected outside the typical commute hours (7:00 to 9:00 AM and 4:00 to 6:00 PM). Absent streetscape alterations, infrastructure characteristics do not vary significantly over time. Transit system information can also be readily collected and updated from information provided on transit agency websites or published transit schedules. SJCOG will be responsible for updating the quality of service traffic demand information inputs using count data or baseline model volumes. Local agencies will be relied on to inform SJCOG of any streetscape alterations that require modification of the quality of service inputs. SJCOG is responsible for updating all non-infrastructure quality of service inputs which are mostly related to traffic counts, transit services (frequency and routing) and posted speed limits.

5.6 NON-NHS SPEED DATA FUNDING

SJCOG is responsible for funding the RCMP Monitoring Program. This may include the purchase of speed data for

non- NHS roadways designated as part of the RCMP network (i.e., NPMRDS speed data for the NHS is available for free).

5.7 COLLISION DATA

There are several sources for collision data. Either the Fatality Analysis Reporting System (FARS), Transportation Injury Mapping System (TIMS) or the Statewide Integrated Traffic Records System (SWITRS) data sources can be used for processing safety related metrics. FARS is free to access and is limited to just fatality data. TIMS is free to access and is limited to just fatality and injury data. SWITRS data is free and is the "raw" source data that informs both the FARS and TIMS databases. SWITRS data reports both fatality, injury, as well as property damage only collisions. SWITRS requires processing to map. All three collision databases can be sourced for past years upon request. In addition, Caltrans is developing a web-based Crash Data Dashboard that can provide PM1 specific metrics automatically.

5.8 PAVEMENT CONDITION

Pavement condition will be determined using either the Pavement Condition Index (PCI), Pavement Serviceability Index (PSI) or the International Roughness Index (IRI) depending on what is reported by the local agency or Caltrans. Caltrans reports on all the Federal PM2 pavement condition performance measures on the Interstate Highway System (IHS) and the National Highway System (NHS). For potions of the RCMP network that are not designated as part of the NHS, SJCOG and its member agencies will be responsible for collecting pavement condition data. This data will be submitted by to SJCOG on a biennial basis.

5.9 NON-SINGLE OCCUPANCY VEHICLE SHARE

Non-SOV data will be sourced from the American Community Survey (ACS) Journey to Work data. Non-SOV share measure will include walking, biking, and public transit as travel modes. In the case that ACS may not be enough of a sample to represent all non-SOV shares, big data mode shares will be used in conjunction.

5.10 VEHICLE MILES TRAVELED PER CAPITA

Countywide VMT will be based on published estimates from the Highway Performance Monitoring System (HPMS). Population estimates by jurisdiction will be based on Department of Finance.

5.11 DATA SHARING

SJCOG can share RCMP performance measure data with its jurisdictions and the public, upon request upon request.

Chapter 6. Analyze Congestion Problems and Needs

6.1 ROADWAY PERFORMANCE (COMBINED METRIC)

The RCMP combines congestion and reliability measures to diagnose and assess roadway performance issues. These combined metrics serve as the primary basis for determining deficient corridors on RCMP network. Congestion reduction strategies and resulting improvement projects that aim to reduce or solve diagnosed roadway performance problems are described in Chapter 7 and Chapter 8.

Table 6-1 describes each combination of congestion and reliability thresholds. The threshold for heavy congestion is triggered when observed average peak hour speed is less than 60 percent of the free-flow speed. The threshold for unreliable road segments is triggered when the 95th percentile peak hour travel time is more than 1.5 times longer than the 50th percentile peak hour travel time (i.e., average). Both these metrics are based on thresholds for congestion delay and reliability established in the MAP-21 and other Federal regulations rule.

Table 6-1: *Congestion and Reliability Thresholds*

	Reliable	Moderately Reliable	Unreliable
Performance Metric	BTI[1] < 1.25	BTI[1] > = 1.25	BTI[1] > = 1.5
Uncongested[2] (>= 60 % of free-flow)	Predictable and efficient	Not always predictable, but usually efficient	Unpredictable, but not often congested
Congested[2] (< 60% of free-flow)	Predictable and often congested	Not always predictable, but often congested	Unpredictable, but often congested

[1]Buffer Time Index – Measures percentage of travel time devoted to being on time above and beyond average travel time

[2]Free flow speeds was estimated for each segment based on NPMRDS data during the hours of midnight and 3 AM

6.2 PRELIMINARY DEFICIENT CORRIDOR SELECTION

If the data is available, to identify deficient RCMP corridors based on the combined speed-based congestion and reliability metrics, the following criteria is applied:

- Corridor contains segments that experience high congestion during the AM or PM peak period over three miles in length for either total traffic or heavy trucks over multiple consecutive monitoring cycles;
- Corridor contains multiple continuous or semi-continuous segments that experience both high congestion and have very unreliable travel times during the AM or PM peak period for either total traffic or heavy trucks over multiple consecutive monitoring cycles.

The deficient corridors identified should be considered preliminary. As described in the criteria, it is

recommended that at least two rounds of consecutive biennial monitoring be performed to verify the roadway performance by SJCOG and the RCMP Steering Committee. In this cycle, since the data is not fully available, preliminary deficient corridor analysis is not carried out, and will be available in 2024 Monitoring Report. However, **Figure 6-1** through **Figure 6-5** show the deficient corridors from 2023. Congestion management strategies to address the congestion and unreliability experience along these corridors is described in the following section.

Based on the combined speed-based congestion and reliability results, a list of deficient corridors was identified and are listed below.

1. I-205: County Limit to Grant Line Road
2. I-580: Corral Hollow Road to S Chrisman Road
3. SR-99: County Limit to SR-120
4. Main St: County Limit to Escalon Avenue/McHenry Avenue
5. S Airport Way: Arch-Airport Road to E Charter Way
6. E Charter Way: Mariposa Road/Diamond Street to S Roberts Road
7. W Eight Mile Road: I-5 to SR-99
8. SR-12: I-5 to S Cherokee Lane
9. SR-12: SR-99 to N SR-88

Figure 6-1: *AM Peak Hour Congestion and Reliability (October 2022 – October 2023)*

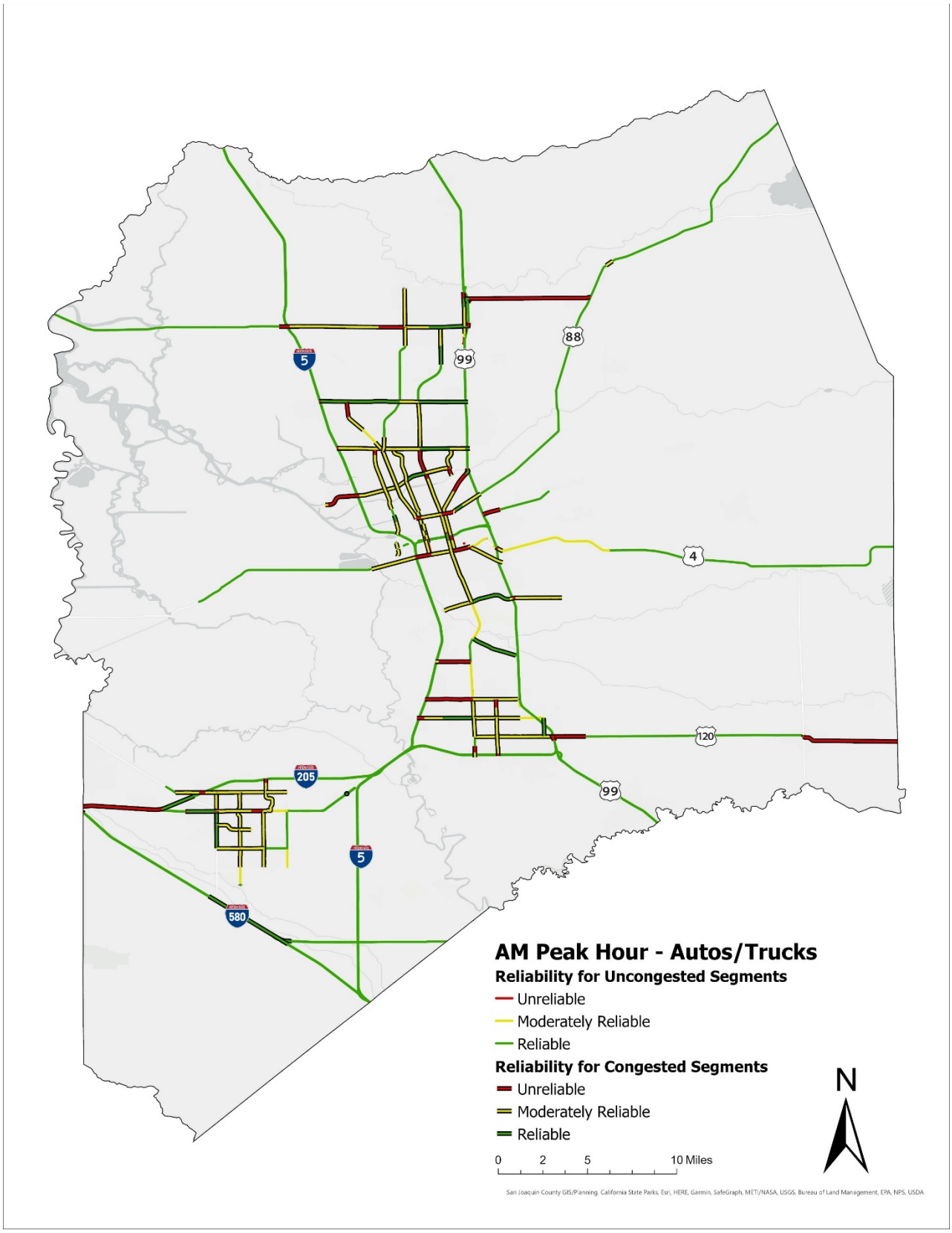


Figure 6-2: *PM Peak Hour Congestion and Reliability (October 2022 – October 2023)*

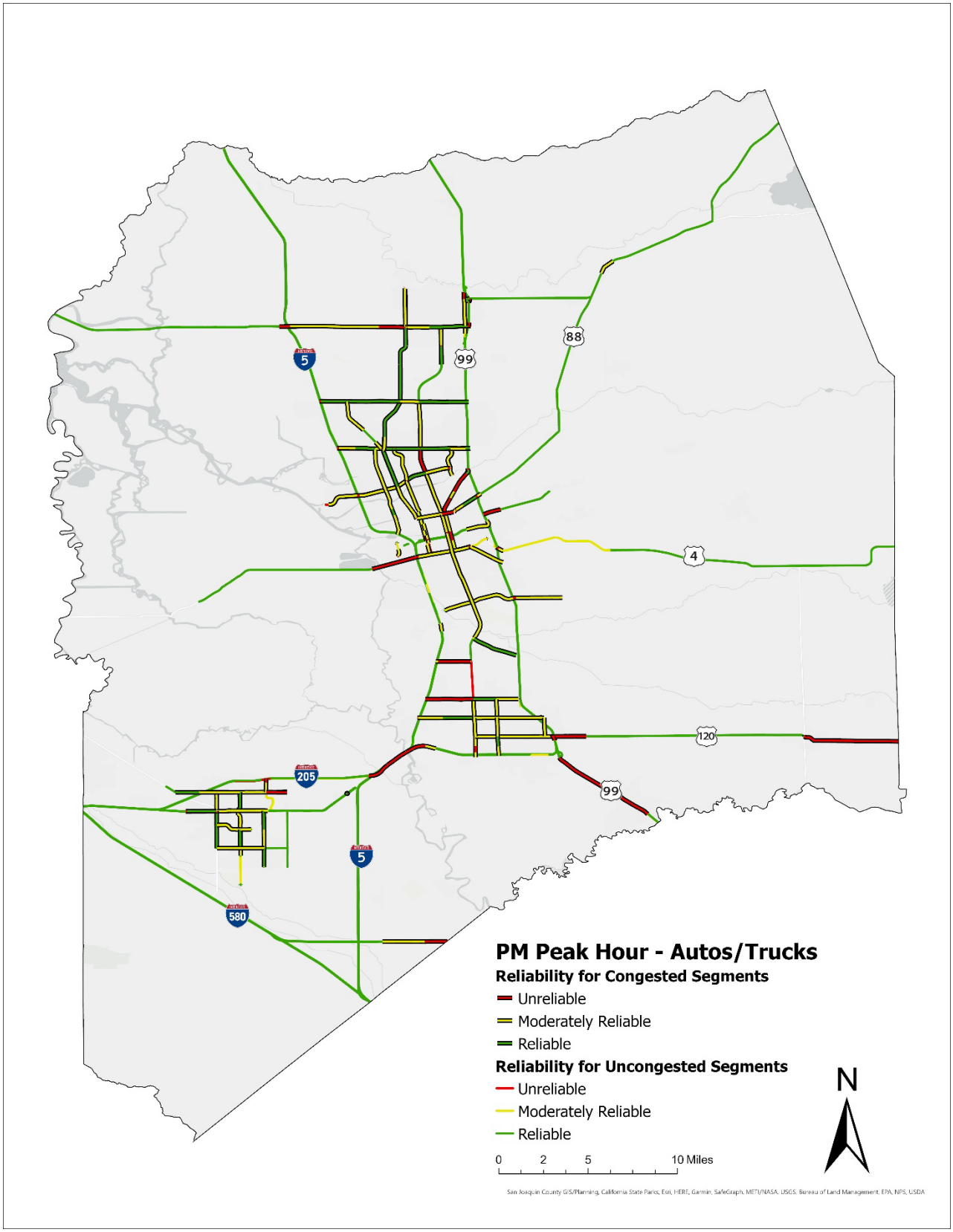


Figure 6-3: *AM Peak Hour Truck Congestion and Reliability (October 2022 – October 2023)*

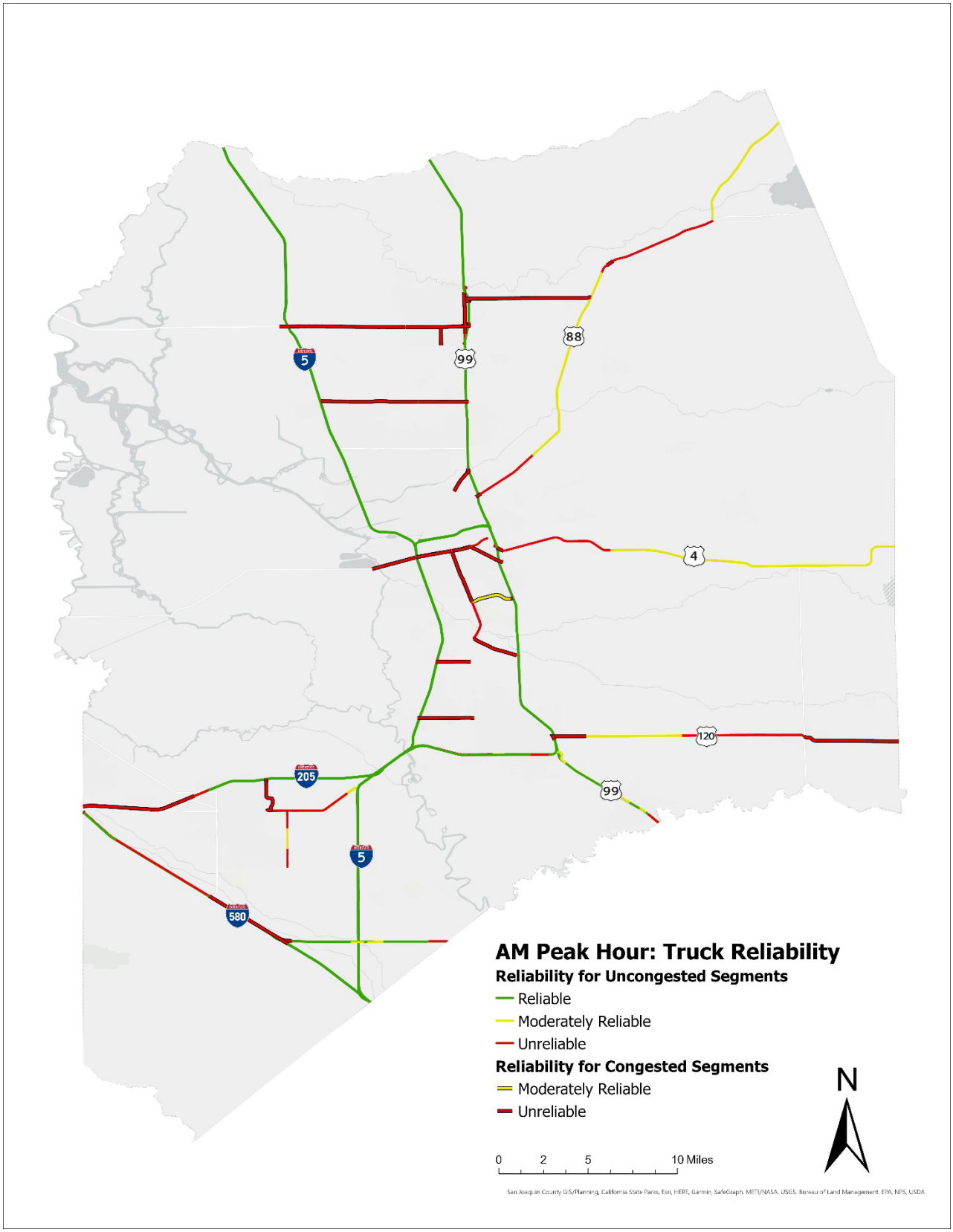


Figure 6-4: *PM Peak Hour Truck Congestion and Reliability (October 2022 – October 2023)*

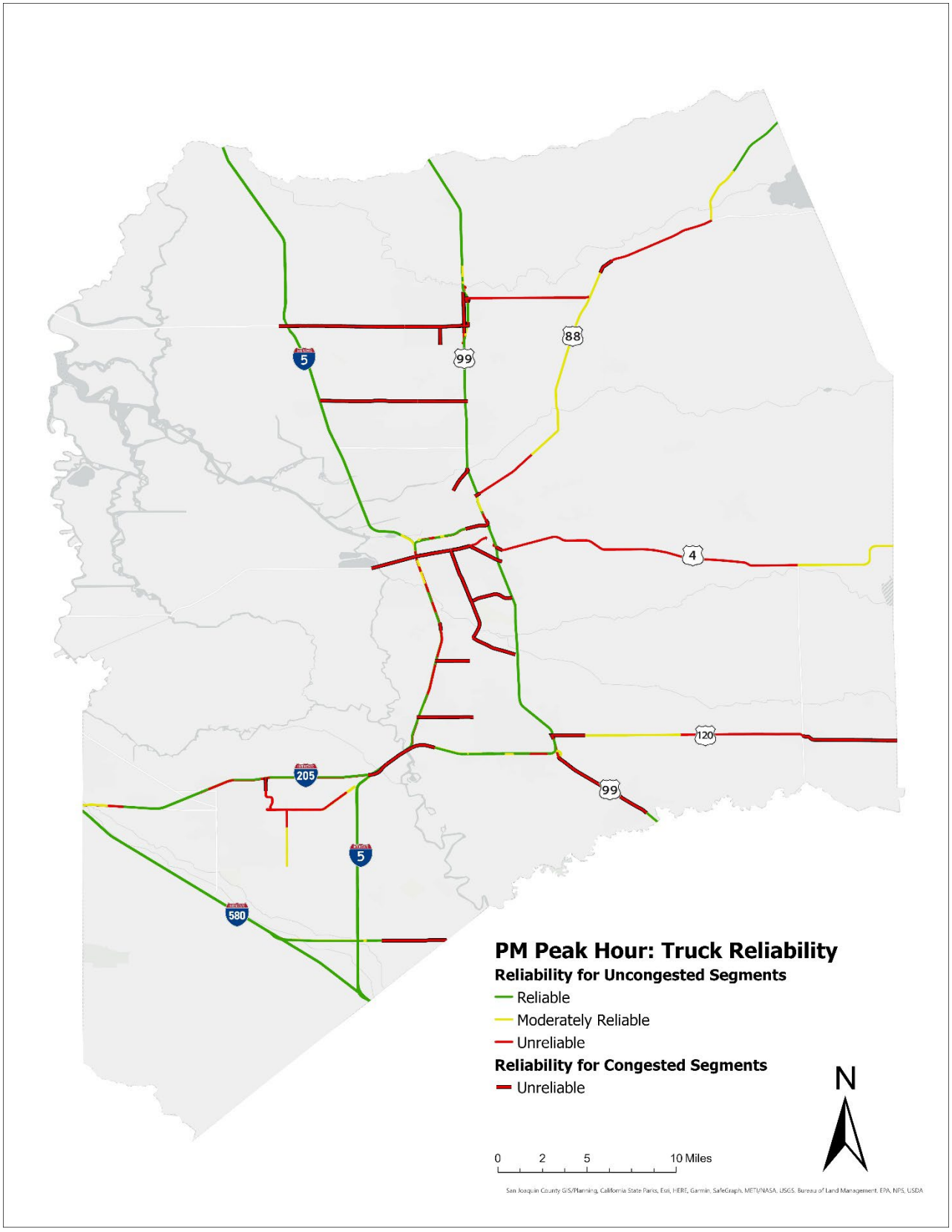
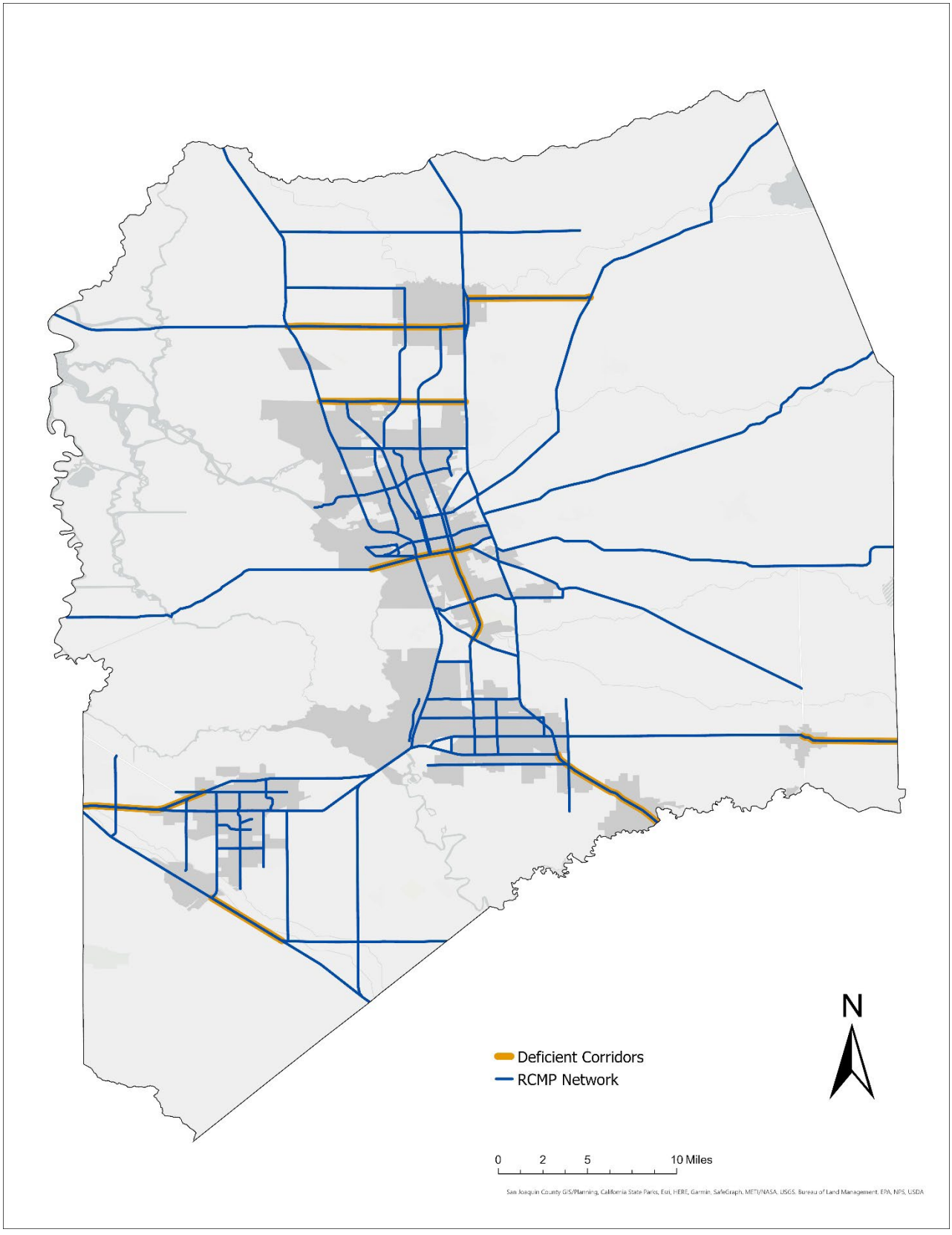


Figure 6-5: *Preliminary RCMP Deficient Corridors (October 2022 – October 2023)*



Chapter 7. Identify and Assess Strategies

7.1 CONGESTION REDUCTION STRATEGIES

The *Congestion Management Process Guidebook (Federal Highway Administration, 2013)* lists applicable CMP congestion reduction strategies to address CMP deficiencies. These strategies are provided below.

Demand Management Strategies

Travel Demand Management (TDM), nonautomotive travel modes, and land use management can all help to provide travelers with more options and reduce the number of vehicles or trips during congested periods. These include strategies that substitute communication for travel or encourage regional cooperation to change development patterns and/or reduce sprawl.

1. Promoting Alternatives
    - Programs that encourage transit use and ridesharing, such as marketing/outreach for transit and travel demand management (TDM) services
    - Pedestrian and bicycle improvements and other strategies that promote nonmotorized travel
2. Managing and Pricing Assets
    - Congestion pricing strategies, including high occupancy toll (HOT) lanes
    - Parking management
    - Pricing fees for parking spaces by the number of persons in the vehicle and the time of day or location
    - Pricing fees for the use of travel lanes by the number of persons in the vehicle and the time of day
    - Increasing intercity freight rail or port capacity to reduce truck use of highways
3. Work Patterns
    - Flexible work hour programs
    - Telecommuting programs
4. Land Uses
    - Land use controls or zoning to support/encourage mixed use development and TDM friendly neighborhoods
    - Growth management restrictions such as urban growth boundaries
    - Development policies that support transit-oriented designs for corridors and communities involving homes, jobsites, and shops
    - Incentives for high-density development, such as tax incentives

Traffic Operations Strategies

These strategies focus on getting more out of what we have. Rather than building new infrastructure, many transportation agencies have embraced strategies that deal with operation of the existing network of roads. Many of these operations-based strategies are supported by the use of enhanced technologies or Intelligent Transportation Systems (ITS).

1. Highway/Freeway Operations
    - Metering traffic onto freeways
    - Reversible commuter lanes
    - Access management

- Movable median barriers to add capacity during peak periods
- Automated toll collection improvements
- Conversion of HOV lanes to High Occupancy Toll (HOT) lanes
- Bus-only shoulder lanes

2. Arterial and Local Roads Operations
    - Optimizing the timing of traffic signals
    - Restricting turns at key intersections
    - Geometric improvements to roads and intersections
    - Converting streets to one-way operations
    - Transit signal priority
    - Access management
    - Traffic calming
    - Road diets (narrowing or removing of travel lanes, often on undivided multilane facilities – e.g. converting from a 4-lane cross-section to a 3-lane cross-section)
3. Other Operations Strategies
    - Faster and anticipatory responses to traffic incidents (incident management)
    - Traveler information systems
    - Improved management of work zones
    - Identifying weather and road surface problems and rapidly targeting responses
    - Anticipating and addressing special events, including emergency evacuations, that cause surges in traffic
    - Better freight management, especially reducing delays at border crossings

Public Transportation Strategies

Improving transit operations, improving access to transit, and expanding transit service can help reduce the number of vehicles on the road by making transit more attractive or accessible. These strategies may be closely linked to strategies in the previous two categories (demand management and traffic operations). As with traffic operations, transit operations are often enhanced by ITS.

1. Operations Strategies
    - Realigned transit service schedules and stop locations.
    - Providing real-time information on transit schedules and arrivals using vehicle location data
    - Providing travelers with information on travel conditions as well as alternative routes and modes
    - Monitoring the security of transit patrons, stations, and vehicles
    - Enhanced transit amenities and safety
    - Universal farecards for regions with multiple transit agencies
    - Transit signal priority
    - Bus rapid transit Capacity Strategies
    - Reserved travel lanes or rights-of-way for transit operators, including use of shoulders during peak periods.
    - More frequent transit or expanded hours of service.
    - Expanding the transit network through new bus and rail services
2. Accessibility Strategies
    - Improvements to bicycle and pedestrian facilities that provide access to transit stops.
    - Provisions for bicycles on transit vehicles and at transit stops (bikes on trains and buses, secure

bicycle parking at stops)

Road Capacity Strategies

This category of strategies addresses adding more base capacity to the road network, such as adding additional lanes and building new highways, as well as redesigning specific bottlenecks (such as interchanges and intersections) to increase their capacity. Given the expense and possible adverse environmental impacts of new single-occupant vehicle capacity, management and operations strategies should be given due consideration before additional capacity is considered.

- Constructing new HOV or HOT lanes
- Removing bottlenecks
- Intersection improvements
- Center turn lanes
- Overpasses or underpasses at congested intersections
- Closing gaps in the street network
- Add travel lanes on major freeways and streets (including truck climbing lanes on grades)

Based on the above guidance, a toolbox of RCMP congestion reduction strategies was developed and is provided in **Table 7-1**. The RCMP Strategy Toolbox includes a Strategy ID that will be used to cross reference congestion relief improvements that are either currently planned within the ten preliminary RCMP deficient corridors or will be planned in the future. It also provides an indication of the applicability of a given strategy to local arterial operations or access-controlled freeway operations.

7.2 CONGESTION REDUCTION STRATEGY PRIORITIES

While the individual congestion reduction strategies generally follow the Federal guidance, the strategies are listed in priority order by facility type (i.e., local arterial and freeway) based on greatest applicability.

Local Arterial Priority Congestion Reduction Strategies

- Transportation Demand Management (SJCOG Dibs Program)
- Traffic Operations (signal timing, synchronization, adaptive signal control, control type change (i.e., converting to roundabout)
- Intelligent Transportation Systems
- Transit (New or enhanced frequency of service)
- Active Transportation (Pedestrian/Bike facilities and treatments)
- Single Occupant Vehicle Widening (roadway / intersection widening)

Freeways Priority Congestion Reduction Strategies

- Transportation Demand Management
- Transportation System Management (e.g., Park and Ride Lots, Ramp Metering)
- Integrated Corridor Management (ITS)
- Managed Lanes (e.g., HOV/HOT lanes, Part-Time Use of Shoulder, Toll Lanes, Truck Climbing Lanes)
- Interchange/Ramp Improvements (e.g., non-SOV capacity increasing)
- Regional Transit (New or enhanced frequency of service).
- Passenger Rail Service (New or enhanced frequency of service).
- Add Single Occupant Vehicle Widening (General Purpose Lane, Auxiliary Lanes over a mile in

length, Ramp or Interchange Widenings)

An overview of the general strategy types applied to each preliminary RCMP deficient corridor will be available with the monitoring report as part of the periodic update. Strategies are identified as either High / Medium / Low emphasis ranking. The ranking denotes the degree of relevance a selected strategy is anticipated to have on a given corridor. The latter was primarily based on the existing infrastructure characteristics of the corridors (freeway versus local arterial, number of signalized intersections, existing transit service lines, freeway parallel capacity potential, north-south or east-west orientation etc.). For strategies that currently include programmed/planned improvements (see Chapter 8), these strategies were identified as "High" emphasis as these strategies already have planning traction which indicates there is support for implementation.

7.3 CAPACITY INCREASING PROJECTS

When SOV capacity increasing projects are programmed/planned on the RCMP network, the Federal CMP requires that SJCOG demonstrate that all reasonable travel demand reduction and operational management strategies appropriate for the corridor have been considered prior to adding SOV capacity. This assessment is not required if it can be demonstrated the need for additional SOV capacity addresses a safety or bottleneck condition (23 CFR 450.320 (d)). If SOV capacity is implemented, the Federal CMP requires (23 CFR 450.320 (e)) that SJCOG identify all reasonable strategies to manage the SOV facility safely and effectively in the future.

Capacity bottlenecks are typically characterized by non-continuous provision in the number of general purpose thru-lanes resulting in recurring congestion. Safety issues on a given roadway or corridor are typically characterized by collision rates. To facilitate the determination of whether a safety issue exists on a given RCMP roadway segment, mapped roadway collision rates can be examined. The network fatality collision and serious injury rate maps will be available with the monitoring report as part of the periodic update.

To address these Federal requirements, SJCOG will examine each SOV capacity increasing improvement using its Congestion Management Process Evaluation of RTP Regional Roadway SOV Capacity Increasing Projects process. This process is performed as part of each RTP/SCS update. In this cycle, the RTP is currently being updated, so the RTP projects are not available. The process of applying RCMP strategies to deficient segments will be available in the monitoring report. The RCMP Congestion Management Process Evaluation of RTP Regional Roadway SOV Capacity Increasing Projects process applies to only those SOV capacity increasing projects on the RCMP network.

Table 7-1: *RCMP Strategy Tool-Box*

STRATEGY TOOL BOX			
Strategy ID	**Strategy Type**	**Applicability**	**Strategy Improvement Options**
A	**Demand Management Strategies**	Arterials/Freeways	Employer-based Outreach and SOV Trip Reduction Options, Commuter Benefit Options, Regional Rideshare, Trip Planning; Vanpool Formation; Transit Pricing/Fare Incentives; Bik/Ped Programs and Subsidies; Shuttle Services; Electric Vehicle subsidies; Employee Surveys/Planning. See SJCOG Dibs Program
B	**Arterial Operational Strategies**	Arterials	Intersection Channelization (provision of turn lanes, raised medians, etc.), Intersection Control Evaluations, Signal Coordination (includes detection systems); Signal Timing; Signal Priority; One-way/Two-way conversions; Road Diet; Traffic Calming; Access Management (Turn Restrictions; reducing/consolidating driveway access; raised medians/turn channelization).
C	**Managed Lanes Strategies**	Freeways	Auxiliary Lanes, Ramp Metering, HOV/HOT Lanes, HOV Bypass; Part Time Use of Shoulder; Reversible Lanes; Transition Lanes;
D	**Land Use/Growth Management Strategies**	Arterials/Freeways	TOD; Incentives for Densification; Land Use Controls; Zoning; Urban Growth Boundaries;
E.1	**Rubber Tire Public Transit Strategies**	Arterials/Freeways	New Service Lines, Increased Service Frequencies, Realigned Bus Schedules; Bus Rapid Transit,
E.2	**Passenger Rail Public Transit Strategies**	Arterials/Freeways	Light Rail Expansion; Increased Frequency of Service; Realigned Schedules for Commuters
F	**Active Transportation Strategies**	Arterials	Sidewalk or Class II/III bikeway gap closures. Converting Class II bikeways to Class IV (buffered); Ped/bike facilities near transit stations/stops; Provisions for bicycles on transit vehicles (bus or rail) and transit stops; Access to Transit; Intersection bulb-outs; mid-block planter islands; pedestrian enhancements, widening sidewalks, a planted buffer; Rectangular rapid flash beacon treatments;
G.1	**ITS Strategies**	Arterials	Adaptive Signal Control; Traffic sensors/traffic detection; Traffic signal controllers; Fiber Optic or wireless communication system at the intersections; Vehicle detector stations;
G.2	**ITS Strategies (Integrated Corridor Management)**	Arterials/Freeways	See: C; G.1; Adaptive Signal Control at Ramps +1 Service Street Intersection; Integrated Corridor Management (ICM) Communications equipment to connect all the field devices in the corridor including parallel routes; Video and data information to City/County/Caltrans TMC; Network equipment and software upgrades in local agency TMC to receive the data.
G.3	**ITS Strategies (Traveler Information Systems)**	Arterials/Freeways	Real Time Transit Vehicle Arrival Information; Variable Message Signs;
H	**TSM Strategies**	Arterials/Freeways	Park-and-Ride Lots; Expansion of Existing P&R Lots; P&R Amenities; Fringe Lots; Parking Management/Pricing;
I	**Incident Management Strategies**	Arterials/Freeways	Service Patrols; Part-Time Use of Shoulder
J.1	**Safety Improvement Strategies (Rural)**	Arterials	Systemic Safety Assessments; HSM Counter Measures for Rural Roadways and Curves
J.2	**Safety Improvement Strategies (Urban)**	Arterials	Systemic Safety Assessments; HSM Counter Measures for Intersections and Mid-Block - Focus on Ped/Bike
K	**SOV Roadway Capacity**	Arterials/Freeways	Intersections/Interchanges; Remove Bottlenecks; Lanes; Center Turn Lanes; Gap Closures; Roadway Extensions.

Chapter 8. Program Implementation

8.1 INTRODUCTION

The RCMP provides a framework for the funding and implementation of projects that aim to achieve the objectives of RCMP as measured through monitoring of the RCMP transportation performance measures and identification of the preliminary deficient corridors.

8.2 PROJECTS IDENTIFIED BY THE RCMP

The purpose of a Federal CMP is to identify actual projects, programs, and strategies to address identified congestion issues. An obvious starting point for RCMP strategy development and prioritization is SJCOG's RTP/SCS financially constrained Tier 1 project list that specifically aims to address congestion on one or more of the preliminary RCMP deficient corridors. The project list of SJCOG RTP Teir I improvements for RCMP deficient corridors will be available with the monitoring report as part of the periodic update. For each project the RTP Project ID and RCMP Strategy ID would be provided including a short description. For each preliminary deficient corridor identified, the projects are ordered by RCMP Strategy priority as defined in Chapter 7. It is recommended that at least two rounds of consecutive biennial monitoring be performed to verify the roadway performance by SJCOG and the RCMP Steering Committee. During future RCMP updates, addressing the preliminary RCMP deficient corridors, and adding or removing projects/corridors should be considered for inclusion and prioritization for incorporation into the RTP Tier 1 list of improvements. These include:

- Capital projects intended to reduce congestion on RCMP deficient corridors/roadways regardless of project funding source. This may include projects funded by Measure K funds, Local Transportation Funds, federal funds or developer fees.
- TDM programs that reduce SOV travel or encourage the use of alternates to the SOV.
- Transit related projects designed to increase transit utilization or reduce SOV use.
- Active transportation projects that promote the mode shift from SOV use.
- Projects funded by the Regional Traffic Impact Fee (RTIF).
- Multimodal improvement projects that are not on the RCMP designated network but will improve RCMP network operations or reduce SOV trips (improvements that parallel facilities RCMP deficient corridors).

The RCMP Congestion Management Process Evaluation of RTP Regional Roadway SOV Capacity Increasing Projects process (described in Chapter 7) should be applied to those improvements that increase SOV capacity. These are projects denoted by RCMP Strategy "K". Note that this is considered the last priority strategy to consider for addressing congestion on the RCMP network. The RCMP Regional Roadway Project Review and Formation Process will be documented as part of each RTP/SCS update.

8.3 RCMP INTEGRATION

RCMP implementation focuses on integrating the RCMP into SJCOG's other regional transportation planning and planning/programming functions. How the RCMP integrates with SJCOG's regional planning process is shown in

Figure 8-1. **Figure 8-2** illustrates in greater detail this relationship. Integration of the RCMP in SJCOG's RTP CIP Tier I selection process serves to influence and inform state/federal programming decisions (i.e., RTIP/FTIP) consistent with federal performance-based planning/programming initiatives.

Figure 8-1: *SJCOG RCMP Integration with Regional Planning Process*

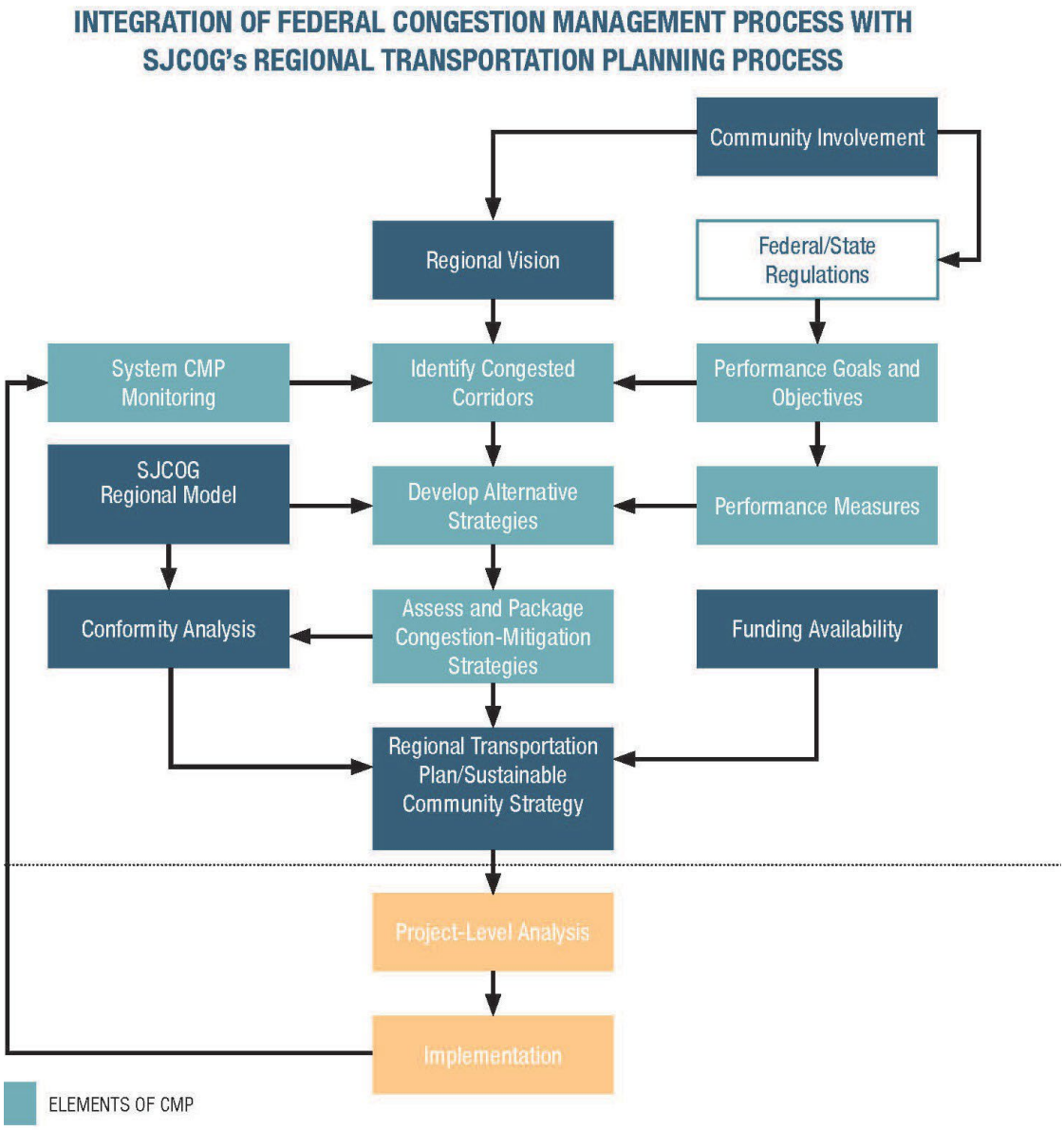
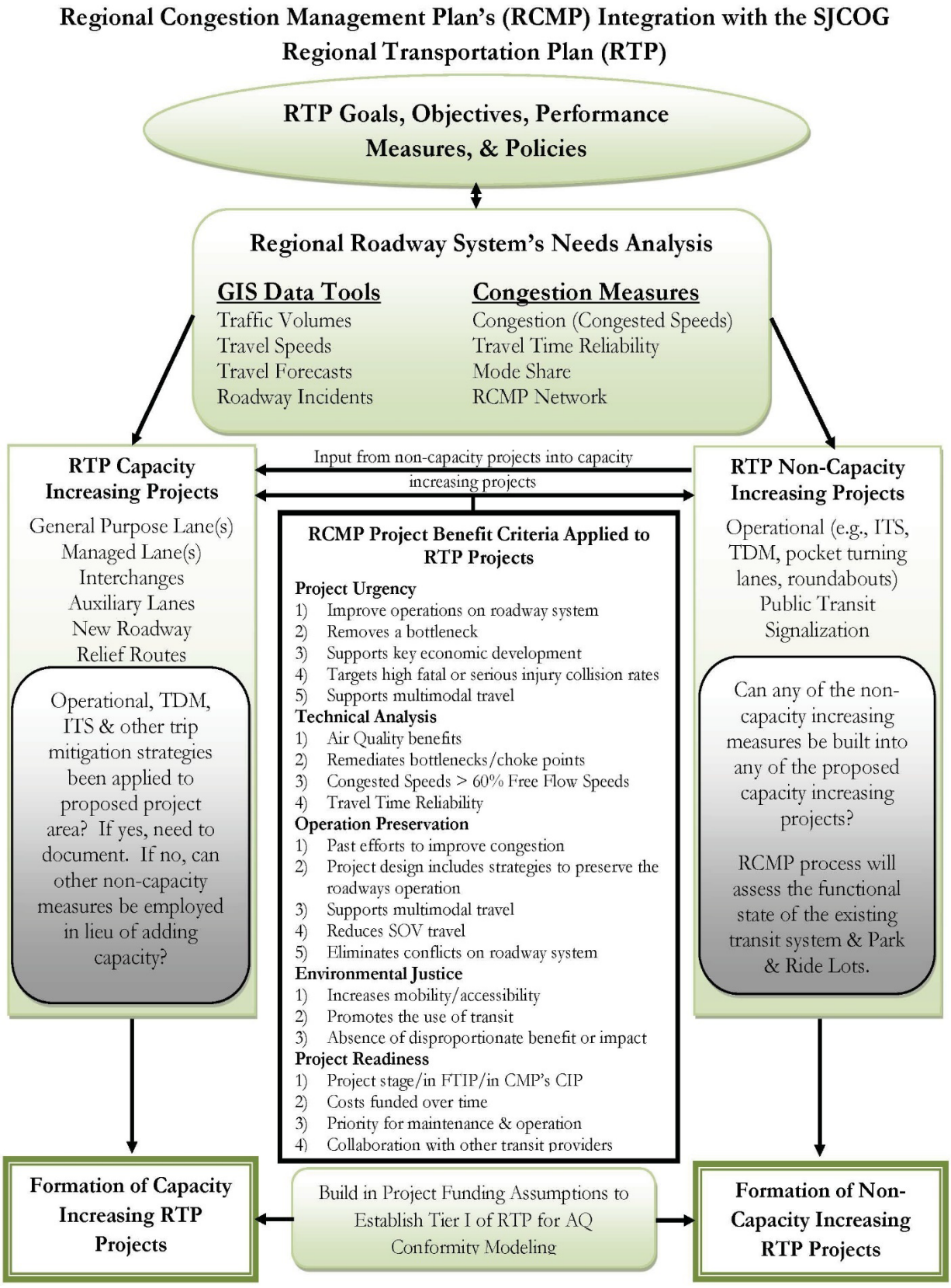


Figure 8-2: *RCMP Integration with the RTP*



8.4 RCMP IMPLEMENTATION

Key process tasks performed by SJCOG to implement the RCMP include:

- RCMP Monitoring Schedule – Annual (but staggered every other year for certain metrics)
- RCMP Performance Report Schedule – Biennial (every odd numbered year) – to coincide with Federal Reporting Requirements (National Performance Rule)
- Evaluation/Identification of RCMP Deficiencies (every odd numbered year – to be informed by completion of the RCMP Performance Report).
- RCMP Program Update (every four years – even numbered year). The RCMP update will provide SJCOG its' RCMP Steering Committee the opportunity to revisit all the elements of SJCOG's RCMP (e.g., network, monitoring, performance metrics, deficient corridors, improvement strategies, etc.) to determine what is working and what elements need improvement and to consider modifications as appropriate. Any new legislation affecting the RCMP will also be reflected during the four-year cycle update.

In addition, to facilitate SJCOG's RCMP integration the following documents should be considered.

SJCOG Overall Work Program

The OWP should specifically call out the RCMP process scheduled to occur in the coming fiscal year (Monitoring and/or Reporting). It should also indicate the information flow into the development of the impending update to SJCOG's RTP/SCS. During every fourth and even numbered year – the OWP should specifically call out the RCMP update task.

SJCOG RTP/SCS Tier I CIP List

SJCOG's Project Selection Criteria are used to select projects during discretionary transportation funding cycles (state and federal) must specifically recognize (and provide added points or weight) to projects identified through the RCMP. This includes the criteria used to evaluate projects nominated for SJCOG's call-for-projects that explicitly address regional goals and priorities including those included in the RCMP. This will incentivize SJCOG's member agencies to recognize and use the RCMP as a resource. This will also make state/federal competitive grant applications submitted by SJCOG or its member agencies ostensibly more competitive.

Relationship to RTP and RTIP/FTIP

Annual RCMP monitoring is a key mechanism that feeds into the regional transportation planning and programming process during SJCOGs RTP and FTIP updates. Operational issues and related improvements identified through the RCMP monitoring process should be addressed as part of state/federal programming cycles. To better promote performance-based programming, proposed improvements that flow from the RCMP are given greater funding priority by SJCOG during discretionary fund programming cycles.

SJCOG's member agencies have a vested interest in implementing the RCMP given that projects that flow from the program are given greater weight (funding priority) during discretionary state/federal program cycles and would more fully meet the performance-based scoring criteria of many state/federal competitive grant funding programs. It is anticipated that local agency sponsorship of improvements that address RCMP deficient corridors would improve their competitiveness (be "scored" more favorably) for selection by SJCOG. Potentially applicable local/state/federal funding sources listed in **Table 8-1**. For a complete list of federal funding sources see the most recently approved SJCOG Federal Transportation Improvement Program.

Table 8-1: *Potential RCMP Funding Sources*

Funding Sources	
Local Sources	**Use of Funds**
Measure K	Flexible
HUTA/Gas Tax Subvention Funds	Roadway
Prop 42	Roadway/Complete Streets/Transit Capital
Regional / Local Development Impact Fees (DIF)	Primarily Roadway Capital
General Fund	Flexible
Transit Fares	Transit Operations
Local Transportation Funds (LTF)	Transit Operations
Local Transportation Funds (LTF Non Motorized)	Active Transportation and Complete Streets
State Funding Sources	**Use of Funds**
SB-1 Grant: Congested Corridors Program (CCP)	Roadway/Active/Complete Streets
SB-1 Grant: Sustainable Communities (SC)	Active/Complete Streets/Roadway
SB-1 Grant: Local Partnership Program (LPP)	Roadway/Active/Complete Streets
SB-1 Grant: Trade Corridor Enhancement Program (TCEP)	Roadway
SB-1 Transit and Intercity Rail Capital Program (TIRCP)	Transit/Rail Capital
SB-1 State of Good Repair Program (SGR)	Transit Capital
State Transit Assistance (STA)+SB-1 Augment	Transit Operations
State Highway Operations and Protection Program (SHOPP) - SB-1 Augment	Roadway
STIP: RIP	Roadway/Active/Complete Streets
STIP: IIP	Roadway
Public Transportation Account (PTA)	Transit/Rail Operations
Highway Maintenance (HM)	Roadway
ATP (Competitive)	
Statewide Call	Active Transportation and Complete Streets
MPO Call	Active Transportation and Complete Streets
Prop 1A and Prop 1B (when they are appropriate)	Flexible
Cap and Trade Funding	
Low Carbon Transit Operations Program (LCTOP)	Transit/Rail Capital/Operations
ATP	Active Transportation and Complete Streets
Affordable Housing and Sustainable Communities	Transit/Rail Capital/Active
Transit and Intercity Rail Capital Project (TICRP)	Transit/Rail Capital
Low Carbon Transit Operations Program	Transit/Rail Capital/Operations
Zero Emission Truck and Bus Pilot Projects	Transit Capital
Enhanced Fleet Modernization Program Plus-Up	Rail Capital
Transportation Development Act (TDA) funds	Transit Capital/Operations
Federal Funding Sources	**Use of Funds**
Federal Transit Formula (FTA) (5307, 5311, 5339 Combined)	Transit Capital/Operating
Federal Transit Formula (FTA) 5310	Transit Capital/Operating
Surface Transportation Block Grant Program (STBGP) (formally RSTP)	Flexible
Highway Safety Improvement Program (HSIP)	Roadway
Highway Bridge Replacement and Rehabilitation Program (HBRRP)	Roadway Bridge
Rail/Highway Grade Crossing Protection (USC Section 130)	Rail Capital
High Priority Projects and Demo	Rail Capital
BUILD (previously TIGER)	Rail Capital
Federal Rail Assistance (FRA) (grants for safety)	Rail Capital
Consolidated Rail Infrastructure and Safety Improvement (CRISI)	Rail Capital
Community Development Block Grant (CDBG)	Active Transportation and Complete Streets
Federal Lands Access Program (FLAP)	Roadway/Active/Complete Streets on or adjacent to Federal Lands
National Scenic Byways Program (SBP)	Roadway

8.5 FHWA MPO CERTIFICATION REVIEW

On a four-year cycle, FHWA performs a MPO Certification Review. The MPO Certification Review documents SJCOG's planning/programming process over the previous four years and determines if it complies with all federal transportation planning requirements. As part of this review, SJCOG's compliance with the Federal Congestion Management Process requirements is determined. The following SJCOG RCMP requirements are typically reviewed:

- Compliance with the Federal RCMP Performance Measurement responsibilities including the Federal PM1-3 reporting requirements (see Chapter 4)
- Compliance with the Federal RCMP Monitoring Program responsibilities (see Chapter 5)
- Compliance with RCMP integration with SJCOG's RTP Tier I CIP selection process for addressing RCMP deficient corridors (see Chapter 7 and 8)
- Compliance with programmed/planned single occupant vehicle capacity increasing projects (i.e., RCMP Regional Roadway Project Review and Formation Process (see Chapter 7 and 8).

As part of SJCOG's administration of the Measure K Program, SJCOG must make annual findings that the RCMP is being implemented.

8.6 IMPLEMENTATION RESPONSIBILITIES

As the designated TMA and MPO for San Joaquin County, SJCOG is required to implement a Federal CMP (Title 23 U.S.C Sec. 450.320). In addition, SJCOG must annually determine compliance with the Measure K Renewal Ordinance. SJCOG works collaboratively with its member agencies to address its federal/state/regional transportation planning and programming needs. SJCOG's RCMP process is legislatively integrated with its' state and federal planning/programming processes. RCMP implementation responsibilities for each agency in San Joaquin County are summarized in **Table 8-2** and the participating agencies are listed in **Table 8-3**.

Table 8-2: *RCMP Implementation Responsibilities*

RCMP Task	SJCOG	Jurisdictions	Caltrans D-10	Public
Prepare Plan/Updates	Lead Agency	Technical Support/Concurrence	Concurrence	Input
Define RCMP Network	Lead Agency	Input	Input	Input
Performance Measure Development	Lead Agency	Input	Input	Input
Monitoring / Data Collection	Lead Agency	Input	Input	Input
Analyze Congestion Problems	Lead Agency	Concurrence	Input	Input
Identify and Assess Improvement Strategies	Lead Agency	Technical Support/Concurrence	Concurrence	Input
Program and Implement Strategies	Lead Agency	Technical Support/Concurrence	Technical Support/Concurrence	Input
Evaluate Strategy Effectiveness	Lead Agency	Technical Support	Concurrence	Input

Table 8-3: *SJCOG Member and Partner Agencies*

Participating Agencies	Participating Transit Providers
California Department of Transportation	Escalon E-Trans
County of San Joaquin	Lodi Grapeline
City of Escalon	Manteca Transit
City of Lathrop	Ripon Blossom Express
City of Lodi	Tracy Tracer
City of Manteca	San Joaquin Regional Transit District
City of Ripon	San Joaquin Regional Rail Authority
City of Tracy	
City of Stockton	

Chapter 9. Evaluate Strategy Effectiveness

9.1 INTRODUCTION

The federal CMP is intended to serve as a systematic process that provides for safe and effective integrated management and operation of the multimodal transportation system. As described in the introduction, the congestion management process includes the following eight steps:

1. Develop Regional Objectives
2. Define CMP Network
3. Develop Multimodal Performance Measures
4. Collect Data/Monitor System Performance
5. Analyze Congestion Problems and Needs
6. Identify and Assess Strategies
7. Program and Implement Strategies
8. Evaluate Strategy Effectiveness

Implementation of each of these steps are described herein in successive order as chapters. The key federal legislative drivers and guidance documents that guided the development of this RCMP update include:

Federal Legislative Framework:

- Federal MPO Planning Regulations (23 U.S.C. 134 and 49 U.S.C. 5303) and (23 CFR 450.320)
- National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program (23 CFR 490)

Federal Guidance Documents:

- *Advancing Metropolitan Planning for Operations – An Objective-Driven Performance-Based Approach: A Guidebook* (FHWA, February 2010)
- *Congestion Management Process: A Guidebook* (FHWA, April 2011)
- I*ncorporating Reliability into the Congestion Management Process: A Primer* (FHWA, February 2015).

9.2 STRATEGY EFFECTIVENESS

To adequately assess the effectiveness of the RCMP strategies, SJCOG will continuously monitor the effectiveness of all strategies and projects in the RCMP that are implemented between RCMP updates (4-year cycle). Biennial RCMP Monitoring Reports will quantify and continually update the RCMP performance measures to inform this process. The deficient corridor identification process described in Chapter 7-8 includes a variety of planned/programmed transportation improvement projects. This includes investment in modes other than single occupant vehicle capacity such as public transit, active transportation, operations, system management and demand management programs (i.e., dibs). These RCMP deficient corridor related strategies and projects will be tracked and effectiveness monitored through the quantification of the RCMP performance measures. The RCMP embraces the 3C Process: Continuing, Comprehensive, and Cooperative. The 8-Step framework is an on-going (Continuing) process that will be implemented on an annual basis. The management and evaluation of RCMP network congestion encompasses all modes of travel throughout San Joaquin County (Comprehensive) with

assistance of numerous agencies including all of SJCOG's member agencies, public transportation providers and Caltrans (Cooperative).

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APPENDIX A:
FHWA CERTIFICATION REVIEW

Appendix A: FHWA Certification Review

FHWA Resource Center Comments on San Joaquin Council of Governments Congestion Management Process and Travel Demand Forecasting

Congestion Management Process

REGULATORY BASIS

Federal legislation and regulations require that TMAs…

"…shall address congestion management through a process that provides for safe and effective integrated management and operation of multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 USC and title 49 USC, Chapter 53 through the use of travel demand reduction and operational management strategies."

Federal legislation allows that State laws, rules, or regulations pertaining to congestion management systems or programs may constitute the congestion management process, if the FHWA and the FTA find that the State laws, rules, or regulations are consistent with, and fulfill the intent of the purposes of 23 USC 134 and 49 USC 5303. (23 CFR 450.320(f)

BACKGROUND

During the 1990's, in a coordinated review with FTA, FHWA determined that the existing Congestion Management Program process in California could form the foundation of California's federally mandated Congestion Management System (CMS). FHWA received a significant number of letters from various regional and local agencies throughout California supporting the State's request that the State CMP be accepted.

As the designated Congestion Management Agency for San Joaquin County, the SJCOG is required to maintain the state-mandated CMP for the county. Implementation of the state mandated CMP meets many of the requirements for the federal CMP, but not all. Those components of the federal CMP frame the discussion for the certification review.

FINDINGS

Components

The SJCOG implements a State and Federally-mandated congestion management process as documented in the 2012 update of the Regional Congestion Management Program (RCMP). The SJCOG should be complimented for the level of documentation and recent production of this document. The RCMP seeks to monitor congestion, identify congestion problems and establish a programming mechanism aimed at reducing congestion. The RCMP focusses on a core network of key transportation facilities within San Joaquin County. It also attempts to ensure that new land uses are developed in tandem with the necessary transportation improvements by coordinating the land use, air quality and transportation planning processes.

The RCMP document has good maps illustrating the relevant roadway network and specific intersections subject to appropriate analyses. The RCMP is multimodal in nature and identifies thirteen corridors applicable to a method to compute multimodal level of service (MMLOS).

The system monitoring program seems to be well documented as to how, when and where data collection activities are performed.

Per State statutes, the RCMP establishes level of service (LOS) standards to provide a measurement against which the RCMP system can be evaluated. The CMP sets in motion requirements for each jurisdiction to monitor the LOS status of its CMP intersections and segments. If operating at LOS E or lower, the county or city must prepare a deficiency plan. A regular monitoring program is required for the local jurisdictions and Caltrans to assess LOS on the CMP network. LOS data is displayed in a number of tables in Section 4 of the RCMP document.

SJCOG appears to have done a good job in developing a range of performance measures related to operational efficiency, intersection flows, goods movement, transit performance and employer trip reduction programs. They are multimodal in nature which is an important federal requirement. There was some discussion of the staff considering a measure to monitor the impacts of non-recurring congestion, such as incident clearance time. A land use impact analysis program is an important component of the RCMP.

Once a corridor has been identified as deficient for the LOS standard, then a major evaluation ensues of a variety of strategies for addressing the congestion issues. SJCOG examines a wide variety of strategies, including car and vanpooling, bus, rail and bike improvements, as well as, incident response, traveler information systems, park & ride lots, land use analysis and other TDM strategies (see TDM Action Plan).

The integration of the RCMP with long range planning activities occurs within the context of the Regional Transportation Plan's (RTP) goals, objectives, performance measures and stated policies. Projects examined through the RCMP process exhibit benefit criteria for inclusion in the RTP, such as, project urgency, air quality benefits and SOV travel reduction to name a few. Figure 7 in the 2012 RCMP documentation is a creditable effort to diagram the relationships.

There seems to be an adequate level of interaction from Caltrans and other planning partners in conducting the RCMP analyses and selection of mitigation strategies. For SOV projects, SJCOG and partner agency staff is part of the Project Development Team process led by Caltrans.

Effectiveness Evaluation of implemented Strategies

Under 23 CFR 450.320(c)(6), all TMAs are expected to have a process for periodically evaluating the effectiveness of implemented congestion relief strategies. The purpose is to direct federal funding at the strategies that are giving us the greatest benefits for the dollars spent. There may be an opportunity to expand the documentation on this item – perhaps some "before and after" studies of selected implemented strategies and projects to gauge their effectiveness.

Analysis of Single Occupant Vehicle (SOV) Improvements

There is an analysis requirement for non-attainment areas for ozone and or carbon monoxide under 23 CFR 450.320(e) which applies to the San Joaquin region. Under 23 CFR 450.320(a), where general purpose lanes are determined to be an appropriate strategy to reduce congestion, then explicit consideration should be given to travel demand management and operational strategies could be complementary to the SOV project as a way of stretching that investment for as long as possible. While SJCOG does analyze TDM and operational improvements, there may be an opportunity to improve documentation of the TDM and operational strategies selected to be implemented in tandem with capacity increasing projects.

The SJCOG staff provided an example (Roth Road) of a proposed SOV project with the desk audit materials. The project formation process uses quantifiable measures to tie back the project strategies to the RTP's goals, objectives and performance measures. For this particular project a number of operational strategies were offered to bridge the gap between the current condition and the project completion. The Federal Team encourages the SJCOG staff, working with its partners, to continue consideration of appropriate TDM and other complementary strategies to implement in tandem with capacity expansion. There may be an opportunity to enhance this analysis in the Corridor Systems Management Plan phase of activities, obviously with the cooperation of Caltrans.

The federal review team found SJCOG's CMP to be in compliance with Federal regulations.

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APPENDIX B:
STATE CMP REQUIREMENT LOCAL AGENCY OPT-OUT RESOLUTIONS

RESOULTION NO. 02-20

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ESCALON, CALIFORNIA, EXEMPTING THE CITY OF ESCALON FROM THE STATE-MANDATED CONGESTION MANAGEMENT PROGRAM

WHEREAS, in 1990 the voters of California passed Proposition 111 and the requirement that urbanized counties develop and implement a Congestion Management Program; and

WHEREAS, the legislature and governor established the specific requirements of the Congestion Management Program by passage of legislation which was a companion to Proposition 111 and is encoded in California Government Code Section 65088 to 65089.10; and

WHEREAS, the San Joaquin Council of Governments (SJCOG) has been designated as the Congestion Management Agency responsible for San Joaquin County's Congestion Management Program; and

WHEREAS, California Government Code Section 65088.3 allows urbanized counties to be exempt from the Congestion Management Program based on resolutions passed by local jurisdictions representing a majority of a county's jurisdictions with a majority of the county's population; and

WHEREAS, the Congestion Management Program is outdated and increasingly out of step with current regional, State, and federal planning processes and requirements, including new State requirements for transportation performance measures related to greenhouse gas reduction; and

WHEREAS, on December 5, 2019, the SJCOG Board of Directors took action to direct SJCOG staff to work with local jurisdictions to prepare the necessary resolutions to exempt San Joaquin County from the Congestion Management Program.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Escalon hereby resolves, declares, determines, and orders as follows:

1. That the above recitations are true and correct.

2. That the City of Escalon hereby elects to be exempt from the Congestion Management Program as described in California Government Code Section 65088 to 65089.10.

PASSED, APPROVED, AND ADOPTED this 18th day of February 2020, by the following vote:

AYES: Councilmembers KRUMEICH, MURKEN, ALVES, and Mayor SWIFT
NOES:
ABSTAIN:
ABSENT: Councilmember LAUGERO

ROBERT SWIFT, Mayor

ATTEST:

JAMIE PIRES, Deputy City Clerk

RESOLUTION NO. 20-4764

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LATHROP ELECTING TO BE EXEMPT FROM THE STATE MANDATED CONGESTION MANAGEMENT PROGRAM

WHEREAS, in 1990 the voters of California passed Proposition 111 and the requirement that urbanized counties develop and implement a Congestion Management Program; and

WHEREAS, the San Joaquin Council of Governments (SJCOG) has been designated as the Congestion Management Agency responsible for San Joaquin County's Congestion Management Program; and

WHEREAS, the San Joaquin Council of Governments (SJCOG) Regional Congestion Management Program (RCMP) is required to abide by the State Congestion Management Program (SCMP); and

WHEREAS, California Government Code Section 65088.3 allows urbanized counties to be exempt from the State Congestion Management Program based on resolutions passed by local jurisdictions representing a majority of a county's jurisdictions with a majority of the county's population; and

WHEREAS, the State Congestion Management Program is outdated and increasingly out of step with current regional, State, and federal planning processes and requirements, including new State requirements for transportation performance measures related to greenhouse gas reduction; and

WHEREAS, on December 5, 2019, the SJCOG Board of Directors adopted Resolution R-20-16 to direct SJCOG staff to work with local jurisdictions to prepare the necessary resolutions to exempt San Joaquin County from the State Congestion Management Program; and

WHEREAS, the City Council finds that the proposed action to opt out of the State Congestion Management Program is exempt according to the California Environmental Quality Act (CEQA) Article 5 §15061 by the "Common Sense Exemption" that CEQA applies only to projects that have a potential for causing a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Lathrop based on substantial evidence in the administrative record of proceedings and pursuant to its independent review and consideration, declares and elects the City of Lathrop to be exempt from the State Congestion Management Program in accordance with California Government Code §65088.3.

The foregoing resolution was passed and adopted this 10th day of August 2020, by the following vote of the City Council, to wit:

AYES: Akinjo, Lazard, Salcedo, Torres-O'Callaghan, and Dhaliwal

NOES: None

ABSENT: None

ABSTAIN: None

Sonny Dhaliwal, Mayor

ATTEST:

Teresa Vargas, City Clerk

APPROVED AS TO FORM:

Salvador Navarrete, City Attorney

RESOLUTION NO. 2020-113

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LODI, CALIFORNIA, ELECTING TO BE EXEMPT FROM THE CONGESTION MANAGEMENT PROGRAM

==========

WHEREAS, the San Joaquin Council of Governments (SJCOG) Regional Congestion Management Program (RCMP) is required to abide by State Congestion Management Plan (SCMP); and

WHEREAS, pursuant to California Government Code §65088.3, an exemption clause allows a county to "opt out" of the SCMP if the majority of jurisdictions that represent the majority of the county's population adopt resolutions "opting out" of the SCMP; and

WHEREAS, in December 2019, SJCOG's Board of Directors passed and adopted Resolution R-20-16 authorizing SJCOG's Executive Director to start the process of "opting out" of the SCMP; and

WHEREAS, staff recommends exempting City of Lodi from State-mandated Congestion Management Program in conjunction with San Joaquin Council of Governments' effort to achieve County-wide exemption in accordance with California Government Code §65088.3.

NOW, THEREFORE, BE IT RESOLVED that the Lodi City Council does hereby elect to be exempt from State-mandated Congestion Management Program in conjunction with San Joaquin Council of Governments' effort to achieve County-wide exemption in accordance with California Government Code §65088.3.

Dated: June 3, 2020

==========

I hereby certify that Resolution No. 2020-113 was passed and adopted by the City Council of the City of Lodi in a regular meeting held June 3, 2020, by the following vote:

AYES: COUNCIL MEMBERS – Chandler, Mounce, Nakanishi, and Mayor Kuehne

NOES: COUNCIL MEMBERS – None

ABSENT: COUNCIL MEMBERS – None

ABSTAIN: COUNCIL MEMBERS – None

Pamela M. Farris

PAMELA M. FARRIS
Assistant City Clerk

The foregoing document is certified to be a correct copy of the original on file in the City Clerk's Office.
Pamela M. Farris
Assistant City Clerk, City of Lodi

2020-113

By: Pamela M. Farris
Dated: 6/8/2020

RESOLUTION R2020-29

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MANTECA, STATE OF CALIFORNIA, ELECTING TO BE EXEMPT FROM THE STATE CONGESTION MANAGEMENT PLAN PURSUANT TO SECTION 65088.3 OF THE CALIFORNIA GOVERNMENT CODE

WHEREAS, General Plan Air Quality Element Policy AQ-P-1 is to, "Cooperate with other agencies to develop a consistent and coordinated approach to reduction of air pollution and management of hazardous air pollutants"; and

WHEREAS, General Plan Land Use Element Implementation Measure LU-I-7 states that, "The City will continue to cooperate with planning efforts among local jurisdictions to minimize the impacts of growth to Manteca and in the south San Joaquin County area': and

WHEREAS, General Plan Circulation Element Policy C-P-1 directs that, "The City shall strive to balance levels of service (LOS) for all modes (vehicle, transit, bicycle, and pedestrian) to maintain a high level of access and mobility, while developing a complete and efficient circulation system"; and

WHEREAS, General Plan Circulation Element Policy C-P-19 directs that, "The City shall coordinate with neighboring jurisdictions, including Caltrans, San Joaquin Council of Governments (SJCOG), San Joaquin County, the City of Lathrop, and the City of Ripon to pursue funding"; and

WHERAS, General Plan Circulation Element Implementation Measure C-I-8 states that, "The City will coordinate with Caltrans and SJCOG to make sure that projects in the City's Circulation Element and Major Street Master Plan are included in long range planning documents, including the Caltrans Long Range Plan, the SJCOG Regional Transportation Plan, and the San Joaquin County Congestion Management Program."; and

WHEREAS, in 1990 the voters of California passed Proposition 111 and the requirement that urbanized counties develop and implement a Congestion Management Program; and

WHEREAS, the legislature and governor established the specific requirements of the Congestion Management Program by passage of legislation which was a companion to Proposition 111 and is encoded in California Government Code Section 65088 to 65089.10; and

WHEREAS, the San Joaquin Council of Governments (SJCOG) has been designated as the Congestion Management Agency responsible for San Joaquin County's Congestion Management Program; and

WHEREAS, California Government Code Section 65088.3 allows urbanized counties to be exempt from the Congestion Management Program based on resolutions passed by local jurisdictions representing a majority of a county's jurisdictions with a majority of the county's population; and

WHEREAS, the Congestion Management Program is outdated and increasingly out of step with current regional, State, and federal planning processes and requirements, including new State requirements for transportation performance measures related to greenhouse gas reduction; and

WHEREAS, on December 5, 2019, the SJCOG Board of Directors took action to direct SJCOG staff to work with local jurisdictions to prepare the necessary resolutions to exempt San Joaquin County from the Congestion Management Program; and

WHEREAS, the State Code of Regulations, California Environmental Quality Act, Section 15061(b)(3), Review for Exemption, states that a project is exempt from CEQA if electing to be exempt from the State Congestion Management Plan is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. It can be seen with certainty that there is no possibility that electing to be exempt from the State Congestion Management Plan may have a significant effect on the environment, said election is not subject to CEQA; and

WHEREAS, the City Council has considered all information related to this matter, as presented at the public meetings of the City Council identified herein, including any supporting reports by City Staff, and any information provided during public meetings.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Manteca, as follows:

1. The City Council hereby finds that the facts set forth in the recitals to this Resolution are true and correct, and establish the factual basis for the City Council's adoption of this Resolution.

2. The City Council hereby finds that electing be exempt from the State Congestion Management Plan (SCMP) with other jurisdictions within San Joaquin County is exempt from CEQA. It can be seen with certainty that there is no possibility that electing to be exempt from the SCMP may have a significant effect on the environment. CEQA applies only to projects that have the potential for causing a significant effect on the environment. Electing to be exempt from the SCMP pursuant to Section 65088.3 of the California Government Code is exempt under Section 15061(b)(3) of the CEQA Guidelines, "common-sense" exemption because the CMP is an obsolete performance-based planning program that is not consistent with current transportation metrics used for CEQA analysis. Furthermore, other similar, applicable regional, state, and Federal transportation planning processes and

requirements have weakened and supplanted the SCMP. Thus, electing to be exempt from the SCMP has no potential significant impact on the environment.

3. Electing to be exempt from the State Congestion Management Plan is consistent with the goals, policies and implementation measures of the adopted General Plan.

4. The City of Manteca elects to be exempt from the State Congestion Management Program as described in California Government Code Section 65088 to 65089.10.

5. This Resolution shall take effect immediately upon its adoption.

I HEREBY CERTIFY that the foregoing Resolution was duly adopted by the City Council of the City of Manteca at a public meeting of said City Council held on the 18th day of February, 2020, by the following vote:

AYES: Breitenbucher, Moorhead, Nuño, Singh, Cantu

NOES: None

ABSENT: None

ABSTAIN: None

MAYOR: _____
BENJAMIN J. CANTU
Mayor

ATTEST: _____
CASSANDRA CANDINI-TILTON
Acting City Clerk

RESOLUTION NO. 20-10

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIPON EXEMPTING THE CITY OF RIPON FROM THE STATE-MANDATED CONGESTION MANAGEMENT PROGRAM (SCMP)

WHEREAS, in 1990 the voters of California passed Proposition 111 and the requirement that urbanized counties develop and implement a Congestion Management Program; and

WHEREAS, the legislature and governor established the specific requirements of the Congestion Management Program by passage of legislation which was a companion to Proposition 111 and is encoded in California Government Code Section 65088 to 65089.10; and

WHEREAS, the San Joaquin Council of Governments (SJCOG) has been designated as the Congestion Management Agency responsible for San Joaquin County's Congestion Management Program; and

WHEREAS, California Government Code Section 65088.3 allows urbanized counties to be exempt from the Congestion Management Program based on resolutions passed by local jurisdictions representing a majority of a county's jurisdictions with a majority of the county's population; and

WHEREAS, the Congestion Management Program is outdated and increasingly out of step with current regional, State, and federal planning processes and requirements, including new State requirements for transportation performance measures related to greenhouse gas reduction; and

WHEREAS, on December 5, 2019, the SJCOG Board of Directors took action to direct SJCOG staff to work with local jurisdictions to prepare the necessary resolutions to exempt San Joaquin County from the Congestion Management Program.

NOW, THEREFORE, BE IT RESOLVED, That the City Council of the City of Ripon hereby resolves, declares, determines, and orders as follows:

1. That the above recitations are true and correct.
2. That the City of Ripon hereby elects to be exempt from the Congestion Management Program as described in California Government Code Section 65088 to 65089.10.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Ripon this 10th day of March, 2020, by the following vote:

RESULT: **ADOPTED BY CONSENT VOTE [UNANIMOUS]**
MOVER: Leo Zuber, Council Member
SECONDER: Michael Restuccia, Council Member
AYES: Restuccia, Uecker, Parks, de Graaf, Zuber

THE CITY OF RIPON,
A Municipal Corporation

By _____
JACOB PARKS, Mayor

ATTEST:

By: _____
LISA ROOS, City Clerk

SAN JOAQUIN COUNCIL OF GOVERNMENTS

555 E. Weber Avenue • Stockton, California 95202 • P 209.235.0600 • F 209.235.0438 • www.sjcog.org

12/30/19

Dear Representative of San Joaquin County,

SJCOG started the "Opt Out" process with the goal of significantly reducing the administrative burden passed upon jurisdiction staff and saving SJCOG money on tasks to meet California Congestion Management Program (CMP) statutes. More specifically, "Opting Out" of State CMP:

- Removes the need to submit project referral applications and environmental documentation for land use review
- Removes the follow up from jurisdictions about project and mitigation measure updates
- Eliminates the chance of losing State and Federal funding due to non-compliance with the LOS threshold, and
- Eliminates the need to submit updates to complete seven-year capital improvement program.

On December 5, 2019, SJCOG's Board of Directors' unanimously approved Resolution R-20-16 (Attachment A) and authorized the San Joaquin Council of Governments (SJCOG) Executive Director to start the process of "Opting Out" of State CMP.

So What Are the Next Steps?

After receiving SJCOG Board's approval, SJCOG must ask for your assistance in passing resolutions by your Board of Supervisors/City Council by **June 30, 2020**. Without your help, SJCOG cannot move forward "Opting Out" of State CMP.

As SJCOG is not the first Congestion Management Agency to "Opt Out" of State CMP, SJCOG can refer jurisdiction(s) to previously generated staff reports, resolutions, and/or supporting documentation. Attached are two examples from Los Angeles County and City of San Gabriel. SJCOG recommends jurisdiction(s) duplicate or reference these staff report(s) in preparation of your own staff report. In terms of a resolution, SJCOG had previously generated a sample resolution that is within December 2019's Board staff report.

Staff feels comfortable jurisdiction(s) will be able to generate a staff report and resolution with these examples. In addition, SJCOG will be available over the phone or in-person to answer any questions throughout a jurisdiction's "opt out" process. If you wish to meet in-person, please feel to email me a list of dates and times. Staff will be in contact periodically to see how your process is going and plans to be in attendance of your Board of Supervisors/City Council at the time of approval.

Thank you and do not hesitate to contact me at Yokoyama@SJCOG.ORG.

Sincerely,

Travis Yokoyama

ATTACHMENT A - Opt Out of State RCMP Requirements - Dec 2019 Board
ATTACHMENT B - Example (County of Los Angeles)
ATTACHMENT C - Example (City of San Gabriel)

December 2019
SJCOG Board

STAFF REPORT

SUBJECT: California Congestion Management Program (CMP) Opt-Out

RECOMMENDED ACTION: Approve Resolution R-20-16 and Authorize SJCOG Executive Director to Start the Process of Opting Out of State CMP

DISCUSSION:

SUMMARY:

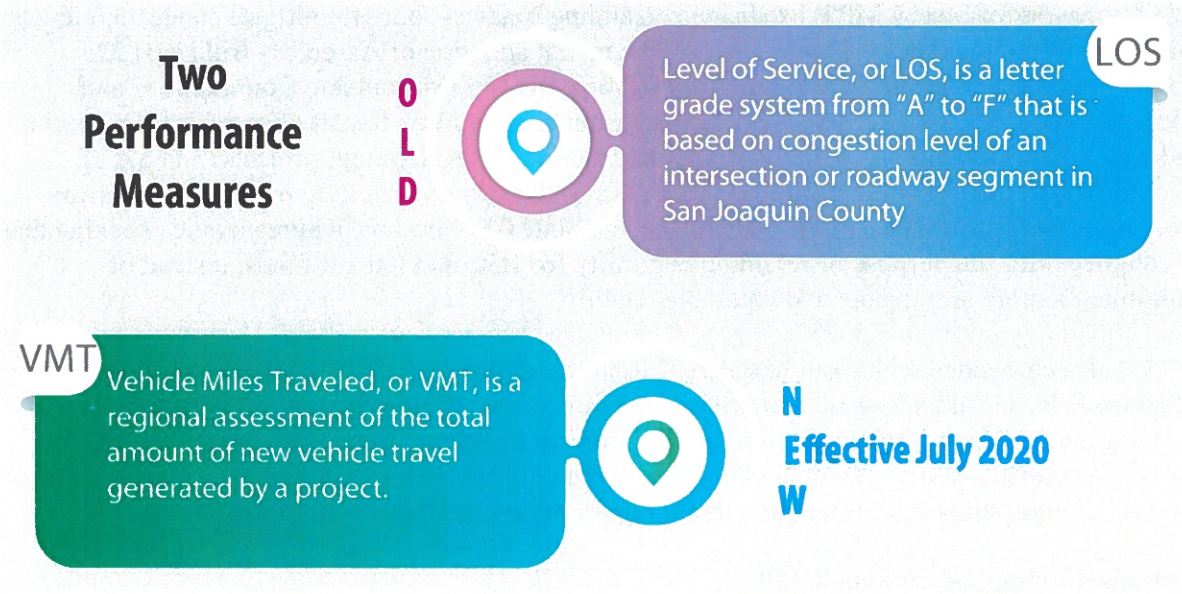
State law allows SJCOG to "Opt Out" of State CMP with no loss of gas tax revenues as long as a majority of local agencies representing a majority of the county's population pass resolutions in support. SJCOG staff is seeking support from all local agencies to "opt out" thereby reducing the administrative burden to comply with outdated level-of-service requirements.

Like other Congestion Management Agencies (CMA) in California, San Joaquin Council of Governments (SJCOG) is at a "crossroads" on the issue of "Opting Out" of California's Congestion Management Program (CMP). "Opting Out" of CMP does the following:

- Removes the need to submit project referral applications and environmental documentation for land use review
- Removes the follow up from jurisdictions about project and mitigation measure updates
- Eliminates the chance of losing State and Federal funding due to non-compliance with the LOS threshold, and
- Eliminates the need to submit updates to complete seven-year capital improvement program.

Staff concludes these benefits, along with the chance of building a new CMP that fulfills our Federal CMP requirements and better fit the needs of our stakeholders, should be strongly considered by SJCOG's Board. By state law, SJCOG is required to prepare and update a CMP biennially for San Joaquin County. Initiated by the passage of Proposition 111 of 1990 (Increasing the state gas tax from 9 to 18 cents), the State CMP was later supported by adoption of San Joaquin County Local Measure K on 2006. The intent of the CMP process tied new tax revenue source to a coordinated process to review land use development and transportation programs with the intent to reduce traffic congestion.

The state CMP requires the transportation system to be measured using Level of Service (LOS), a letter grade system from "A" to "F" based on congestion level. To date, the CMP LOS analysis "piggybacks" on the transportation impact analysis to meet California Environmental Quality Act (CEQA) requirements for a project (i.e., Mitigated Negative Declaration, Environmental Impact Report, etc.) – local agencies usually use the same analysis for both purposes. However, per Senate Bill 743 (Steinberg 2013) all jurisdictions will be required to use Vehicle Miles Traveled (VMT) rather than LOS in CEQA documents starting in July 2020. At that point, the CMP LOS analysis would be an additional requirement on jurisdictions that would potentially conflict with the impacts and mitigation measures found in CEQA. "Opting out" eliminates this conflict.



RECOMMENDATION:

SJCOG staff recommends the SJCOG Board of Directors approve Resolution R-20-16 (Appendix B) and authorize the Executive Director to start the process of opting out of California CMP, in accordance with State CMP statute.

FISCAL IMPACT:

Opting out of State CMP eliminates the need to staff activities for state CMP compliance. For this current fiscal year, SJCOG staff anticipates the Board adopted, budgeted resources for the Congestion Management Program (Work Element # 801.04) will be reduced by approximately 25%, a reduction of $45,000. These savings would come from a combination of funding sources including Measure K and FHWA Planning. In addition to an annual savings, every two years, SJCOG spends $150,000 for consultant services related to state CMP updates which would no longer be necessary. Any savings can be reallocated to other eligible work items in SJCOG's OWP. State gas tax revenue will continue to flow to local jurisdictions. Local jurisdictions will also experience savings in their own activities related to state CMP compliance.

BACKGROUND:

For SJCOG and jurisdictions alike, the continued administration of the State CMP may not have the value it once had in improving the region's transportation system.

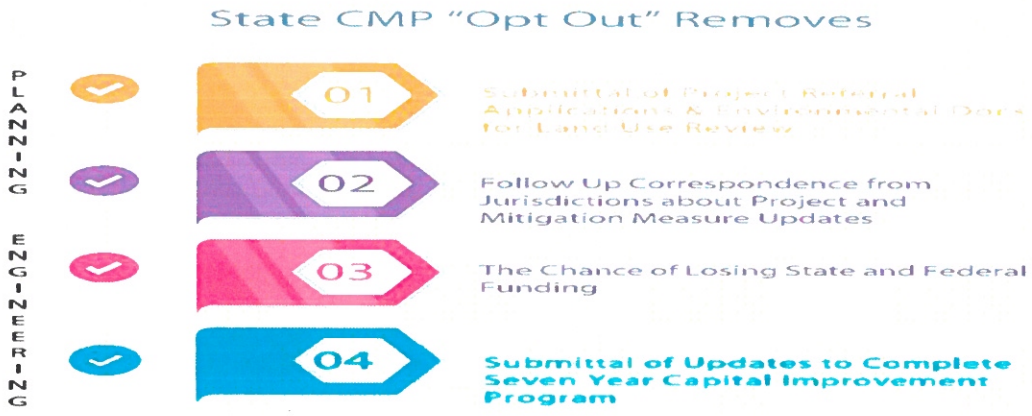
Seven incorporated cities, the County of San Joaquin, and SJCOG share various State CMP statutory responsibilities; including monitoring traffic count locations on select arterials, implementing transportation improvements, adoption of travel demand management and land use ordinances, and mitigating congestion impacts.

The framework of State CMP is predicated on adding roadway lanes to mitigate congestion levels, with LOS as the main performance metric. The recent adoption of Assembly Bill (AB) 32: California Global Warming Solutions Act of 2006), SB 375 (Sustainable Communities and Climate Protection Act of 2008), SB 743 (Environmental quality: transit oriented infill projects, judicial review streamlining for environmental leadership development projects) and SB 32 (California Global Warming Solutions Act of 2006) directly or indirectly moved CEQA away from LOS as a performance metric. Therefore, the State CMP became a bureaucratic checklist that is completed for the purpose of retaining eligibility for state and federal funds; instead of promoting a more sustainable and equitable region.

LOS is also embedded within our Measure K Renewal Ordinance of 2006 as a performance metric. Measure K Renewal Ordinance and programs will be updated after the opt out is completed. "Opting out" of State CMP is the first task in building a platform to consider new ways of measuring transportation system performance along with VMT that complement efforts to combat climate change, support sustainable, vibrant communities and improve mobility.

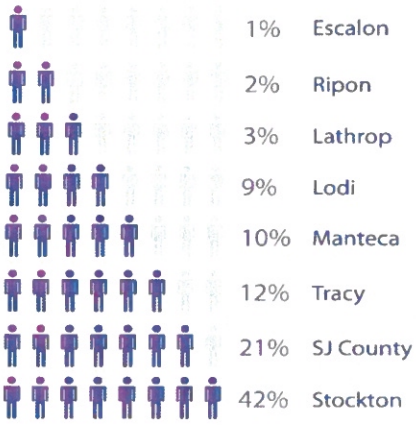
<u>Reasons to "Opt Out" of State CMP</u>

SJCOG has listed the reasons for "Opting Out" of State CMP on next page. In short, our current outdated form of measuring performance along our regional roadway system has been costly and tedious with little to no benefit to either jurisdiction nor SJCOG.



"Opt Out" Process

Pursuant to California Government Code §65088.3, counties may "Opt Out" of the CMP requirement with no loss of gas tax revenues if the majority of jurisdictions that represent the majority of the county's population pass resolutions that request to "Opt Out" of California CMP. SJCOG needs a minimum of 5 jurisdictions approve resolutions by City Council/Board of Supervisors; of which one must be City of Stockton or the County. Based on American Factfinder, City of Stockton accounts for 42% of total population in San Joaquin County.



Should the "Opt Out" occur, SJCOG staff anticipates immediate implementation. Planning and Engineering staff will no longer have to perform duties related to the state CMP.

Examples

SJCOG will not be the first to "Opt Out" of State CMP in California and even in San Joaquin Valley. The following agencies have either already opted out, are currently in the process, or passed a resolution that recommends "Opt Out" of State CMP.

"Opted Out"

- Fresno Council of Governments (Fresno County) – 1997
- Sacramento Transportation Authority (Sacramento County) – 1996
- San Diego Association of Governments (San Diego County) – 2009
- San Luis Obispo Council of Governments (San Luis Obispo County) – 1997
- Santa Cruz County Regional Transportation Commission (Santa Cruz County) – 2000
- Sonoma County Transportation Authority (Sonoma County) – 2000s

In the Process of "Opting Out"

- Los Angeles Metro (Los Angeles County) – Board passed a resolution initiating process in June 2018. City of Los Angeles and 45 other member jurisdictions passed resolutions to "Opt Out" by June 2019.

Passed a Resolution (3000 Revised) that encourages their counties to "Opt Out"

- Metropolitan Transportation Commission (Member Counties with CMAs include Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano)

Alternative Considered

SJCOG can continue to fulfill the requirements as required by State CMP and move forward with updating the current CMP. We do not recommend this alternative as SJCOG has examined multiple ways of adapting the state legislative requirements to better fit the needs of our stakeholders and found little benefit of preserving State CMP. Opting out of the CMP gives SJCOG the flexibility to implement mobility improvements through the programs and projects in

the Long Range Transportation Plan adopted by the Board, while furthering improvements to transportation capacity, choice and cost-effectiveness.

Determination

CMP LOS analysis was originally a pioneering effort in coordinated transportation planning, but now will become a burdensome and duplicative requirement for local agencies that is out of step with statewide transportation goals and greenhouse gas emission targets. To reiterate the reasons to "Opt Out" of State CMP, the following requirements would be removed:

- Submittal of project referral application & environmental documents for land use review;
- Follow up correspondence from jurisdictions about project & mitigation measure updates;
- The chance of losing State & Federal funding; And
- Submittal of updates to complete seven-year capital improvement program.

SJCOG staff sees merit in "opting out" of the State CMP and does recommend jurisdictions start the "Opt Out" process that results in the adoption of resolutions by City Councils/Board of Supervisors. SJCOG staff prefers all jurisdictions adopt resolutions to "Opt Out" State CMP; however, the minimum requirement of 5 jurisdictions that includes City of Stockton or San Joaquin County is acceptable.

Impact to Measure K Program

There is a linkage between Measure K projects and the CMP. The Measure K Program, in Section 7 of the Ordinance, identifies requirements of Measure K Projects to the adopted Congestion Management Program. It further goes into technical detail about state CMP requirements, which identified earlier in this staff report, are now antiquated. If and when this region "Opts Out" of State CMP, the Measure K ordinance will require an amendment to remove these outdated references.

This can occur during the annual Call for Amendments to the Measure K Ordinance conducted by SJCOG Board. Appendix E is an excerpt from the Measure K Ordinance and illustrates the strikeover (deleted) text and new text that would be submitted for the proposed Measure K amendment. Ultimately, updates of SJCOG's CMP will achieve the goal of meeting Federal CMP requirements while adding policies, information, and/or action items that better supports the needs of jurisdictions within San Joaquin County.

Jurisdiction Review

This staff report was distributed on 10/31/19 to primarily Planning staff for review with comments and questions due at 5:00 PM on 11/21/19. SJCOG felt Planning staff would be the most incentivized for "Opting Out" of State CMP due to the current staff time needed to receive and respond to SJCOG letters and provide updates to projects and associated mitigation measures.

As of 11/21/19, no comments were received from Planning Staff. On 11/22/19, San Joaquin County left a voicemail to request clarity on possibly whom would be right department to take

forth a recommendation to their Board of Supervisors. On 11/25/19, SJCOG emailed San Joaquin County to provide clarification and availability to discuss "Opting Out" of State CMP more in detail, if needed.

COMMITTEE ACTIONS:

- ***Technical Advisory Committee*** – Unanimously approved on 11/14/19.
  - City of Lodi was provided a recommended implementation deadline of July 1, 2020.
  - City of Ripon received assurance that there are no drawbacks by SJCOG "Opting Out" of State CMP.
  - City of Tracy was provided clarity on minimum participation requirement of jurisdictions to "Opt Out" of State CMP.
- ***Management & Finance Committee*** – Unanimously approved on 11/20/19.
  - Cities of Tracy and Ripon asked similar questions as Cities of Lodi and Ripon at TAC.
  - City of Stockton asked why SJCOG did not "Opt Out" earlier. SJCOG noted SB 743 implementation in 2020 was the main factor to "Opt Out."
- ***Citizens Advisory Committee*** – Unanimously approved on 11/20/19.
  - Sierra Club was provided clarification on SB 743 and received assurance that there are no drawbacks by SJCOG "Opting Out" of State CMP.
- ***Executive Committee*** - *Unanimously* approved on 11/22/19.
  - City of Lodi was provided clarity on VMT.
  - City of Ripon was provided clarity that staff currently follow s both federal and state CMP statutes. This request will opt SJCOG out of state CMP statutes.

NEXT STEPS:

Staff will move forward with the follow steps:

- Monitor and provide information/advise while jurisdictions move forward with the resolution process with their City Councils/Board of Supervisors;
- Work with our jurisdictions while amending CMP to fulfill federal CMP statutes and better fit the needs of jurisdictions in San Joaquin County;
- Plan to amend San Joaquin County's Measure K in 2020 and replace State CMP requirements with reference that Measure K will comply with Federal CMP requirements; And
- Update other SJCOG documents, like SJCOG's Overall Work Program, to reflect the removal of State CMP statutes.

ATTACHMENTS:

A. SJCOG Resolution R-20-16
B. Sample Resolution for City / County
C. State Statutes Related to Congestion Management Programs

D. List of Current & Past CMAs and Sources
E. Draft Measure K Renewal Ordnance of 2006 Amended
F. Draft SJCOG Overall Work Program Updated

Prepared by: Travis Yokoyama, Associate Regional Planner

RESOLUTION
SAN JOAQUIN COUNCIL OF GOVERNMENTS

R-20-16

RESOLUTION RECOMMENDING OUR JURISDICTIONS ADOPT RESOLUTIONS TO OPT OUT OF STATE CONGESTION MANAGEMENT PROGRAM (CMP)

WHERESAS, the San Joaquin Council of Governments (SJCOG) serves as the Congestion Management Agency (CMA) for San Joaquin County; and

WHEREAS, pursuant to the passage of Proposition 111 of 1990 and Measure K of 2006, SJCOG must follow guidelines set forth by California Government Code 65088; and

WHEREAS, SJCOG must prepare and update a CMP biennially for San Joaquin County that includes an element defining the CMP system, an element establishing level of service (LOS) standards, a system-wide multimodal performance element, a program for analyzing the impact of land use decisions, and a seven-year capital improvement program; and

WHEREAS, SJCOG must monitor the regional roadway network set forth by the policies of most recent CMP update; and

WHEREAS, jurisdictions can be held accountable for deficient roadways/intersections; and

WHEREAS, adoptions of Assembly Bill (AB) 32 California Global Warming Solutions Act of 2006), SB 375 (Sustainable Communities and Climate Protection Act of 2008), SB 743 (Environmental quality: transit oriented infill projects, judicial review streamlining for environmental leadership development projects) and SB 32 (California Global Warming Solutions Act of 2006) directly or indirectly moved CEQA away from LOS as a performance metric; and

WHEREAS, fulfilling State CMP requirements has become burdensome and duplicative requirement for local agencies that is out of step with statewide transportation goals and greenhouse gas emission targets; and

WHEREAS, pursuant to California Government Code 65088.3, SJCOG can opt out of State CMP requirements if the majority of local governments, collectively comprised of the city councils and the county board of supervisors, which in total also represent a majority of the population in the county, each adopt resolutions electing to be exempt from the congestion management program; and

WHEREAS, the option of "Opting Out" of State CMP has been reviewed by our jurisdictions

and approved by the San Joaquin Council of Governments' Board on December 5, 2019.

NOW, THEREFORE BE IT RESOLVED that staff of the eight jurisdictions in San Joaquin County are recommended to submit a resolution to city council that opts a jurisdiction out of responsibilities of State CMP set forth by California Government Code 65088.

PASSED AND ADOPTED this 5th day of December 2019 by the following vote of the San Joaquin Council of Governments, to wit;

AYES: Councilmember Andrade, Stockton; Councilmember Jobrack, Stockton; Supervisor Miller, SJC; Councilmember Murken, Escalon; Mayor Rickman, Tracy; Councilmember Singh, Manteca; Vice Mayor Wright, Stockton; Mayor Zuber, Ripon.

NOES: None.

ABSENT: Mayor Dhaliwal, Lathrop; Supervisor Elliot, SJC; Mayor Pro Tem Kuehne, Lodi; Supervisor Winn, SJC.

for DOUG KUEHNE
Chair

Resolution No. 2020-08-11-1103

STOCKTON CITY COUNCIL

RESOLUTION EXEMPTING THE CITY OF STOCKTON, FROM THE STATE-MANDATED CONGESTION MANAGEMENT PROGRAM

In 1990, the voters of California passed Proposition 111 and the requirement that urbanized counties develop and implement a Congestion Management Program; and

The legislature and governor established the specific requirements of the Congestion Management Program by the passage of legislation which was a companion to Proposition 111 and is encoded in California Government Code sections 65088 to 65089.10; and

The San Joaquin Council of Governments (SJCOG) has been designated as the Congestion Management Agency responsible for San Joaquin County's Congestion Management Program; and

California Government Code section 65088.3 allows urbanized counties to be exempt from the State Congestion Management Program based on resolutions passed by local jurisdictions representing a majority of a county's jurisdictions with a majority of the county's population; and

The State Congestion Management Program is outdated and increasingly out of step with current regional, State, and federal planning processes and requirements, including new State requirements for transportation performance measures related to greenhouse gas reduction; and

On December 5, 2019, the SJCOG Board of Directors took action to direct SJCOG staff to work with local jurisdictions to prepare the necessary resolutions to exempt San Joaquin County from the State Congestion Management Program; now, therefore,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STOCKTON, AS FOLLOWS:

1. The City Council finds the facts set forth in the recitals to this Resolution are true and correct and establish the factual basis for the City Council's adoption of this Resolution.

2. The City Council finds that the proposed action of electing to be exempt from the State Congestion Management Plan falls under the exemption under section 15061 (b) (3) [the common sense exemption] of the California Environmental Quality Act (CEQA), because CEQA applies only to projects which have the potential for causing a significant effect on the environment. The action will remove the City's administrative and reporting obligations for the State Congestion Management Plan and therefore, has no potential for causing a significant effect on the environment.

3. The City Council elects to exempt the City of Stockton from the State Congestion Management Program pursuant to California Government Code section 65088.3, as that program is described in California Government Code sections 65088 to 65089.10.

4. The City Manager is hereby authorized to take whatever actions are necessary and appropriate to carry out the purpose and intent of this Resolution.

PASSED, APPROVED, and ADOPTED August 11, 2020.

for MICHAEL D. TUBBS
Mayor of the City of Stockton

ATTEST:

ELIZA R. GARZA, CMC
City Clerk of the City of Stockton

RESOLUTION 2020-127

EXEMPTING THE CITY OF TRACY FROM THE STATE-MANDATED CONGESTION MANAGEMENT PROGRAM IN CONJUNCTION WITH SAN JOAQUIN COUNCIL OF GOVERNMENTS' (SJCOG) EFFORT TO ACHIEVE COUNTYWIDE EXEMPTION ONCE A MAJORITY OF THE SAN JOAQUIN COUNTY'S LOCAL GOVERNMENTS HAD ADOPTED SIMILAR RESOLUTIONS

WHEREAS, Following the passage of Proposition 111 in 1990, one of the SJCOG's programs (i.e. SJCOG's Regional Congestion Management Program (RCMP)) is required to abide by SCMP and pursuant to California Government Code 65088.3, an exemption clause allows a county to "opt out" of SCMP after the majority of the jurisdictions that account for the majority of the county's population adopt resolutions that exempts them from the SCMP, and

WHEREAS, SJCOG took notice of this exemption clause as Senate Bill (SB) 743 implementation nears and level of service (LOS) as the primary performance metric is replaced by vehicle miles traveled (VMT), and SJCOG is currently collaborating with jurisdictions in San Joaquin County to "opt out" of SCMP, and

WHEREAS, In December 2019, SJCOG's Board of Directors passed Resolution R-20-16 and authorized SJCOG's Executive Director to start the process of "opting out" of SCMP, and

WHEREAS, SJCOG's December 2019 Board Staff Report, Resolution R-20-16 references the administrative benefits and cost savings of exempting from SCMP, and

WHEREAS, If SJCOG is successful in "opting out" of SCMP, SJCOG can rebuild their RCMP to fulfill federal CMP requirements along with considering the incorporation of data that meets the information demands of jurisdictions, and

WHEREAS, If SJCOG successfully "opts out" of the SCMP, the City provided its support given the following elements are included in subsequent updates to the region's Congestion Management Program (CMP):

1) SJCOG should ensure that the current proportion of the CMP funding to the City is preserved, and
2) SJCOG should ensure traffic operations are taken into account by providing funding to help Tracy maintain operations at acceptable level, and
3) The CMP should accommodate funding projects that addresses the cut-through traffic in the City, and

WHEREAS, The proposed action is exempt from CEQA per section 15061 (b) (3), the General Rule and the General Rule can be applied when it can be seen with certainty that the activity will not have a significant effect on the environment;

NOW, THEREFORE, BE IT RESOLVED, That the City Council of the City of Tracy hereby elects for the City of Tracy to be exempt from the Congestion Management Program as described in the California Government Code Section 65088 et seq.

* * * * * * * * *

The foregoing Resolution 2020-127 was passed and adopted by the Tracy City Council on the 21st day of July, 2020, by the following vote:

AYES:	COUNCIL MEMBERS: ARRIOLA, RANSOM, VARGAS, YOUNG, RICKMAN
NOES:	COUNCIL MEMBERS: NONE
ABSENT:	COUNCIL MEMBERS: NONE
ABSTAIN:	COUNCIL MEMBERS: NONE

MAYOR

ATTEST:

CITY CLERK

APPENDIX C:
FEDERAL STATUTES: CONGESTION MANAGEMENT PROCESS

Appendix C: Federal Statutes: Congestion Management Process

23 CFR § 450.322[1] Congestion Management Process in Transportation Management Areas

(a) The transportation planning process in a TMA shall address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 U.S.C. and title 49 U.S.C. Chapter 53 through the use of travel demand reduction (including intercity bus operators, employer-based commuting programs such as a carpool program, vanpool program, transit benefit program, parking cash-out program, shuttle program, or telework program), job access projects, and operational management strategies.

(b) The development of a congestion management process should result in multimodal system performance measures and strategies that can be reflected in the metropolitan transportation plan and the TIP.

(c) The level of system performance deemed acceptable by State and local transportation officials may vary by type of transportation facility, geographic location (metropolitan area or subarea), and/or time of day. In addition, consideration should be given to strategies that manage demand, reduce single occupant vehicle (SOV) travel, improve transportation system management and operations, and improve efficient service integration within and across modes, including highway, transit, passenger and freight rail operations, and non-motorized transport. Where the addition of general purpose lanes is determined to be an appropriate congestion management strategy, explicit consideration is to be given to the incorporation of appropriate features into the SOV project to facilitate future demand management strategies and operational improvements that will maintain the functional integrity and safety of those lanes.

(d) The congestion management process shall be developed, established, and implemented as part of the metropolitan transportation planning process that includes coordination with transportation system management and operations activities. The congestion management process shall include:

  (1) Methods to monitor and evaluate the performance of the multimodal transportation system, identify the underlying causes of recurring and non-recurring congestion, identify and evaluate alternative strategies, provide information supporting the implementation of actions, and evaluate the effectiveness of implemented actions;

  (2) Definition of congestion management objectives and appropriate performance measures to assess the extent of congestion and support the evaluation of the effectiveness of congestion reduction and mobility enhancement strategies for the movement of people and goods. Since levels of acceptable system performance may vary among local communities, performance measures should be tailored to the specific needs of the area and established cooperatively by the State(s), affected MPO(s), and local officials in consultation with the operators of major modes of transportation in the coverage area, including providers of public transportation;

  (3) Establishment of a coordinated program for data collection and system performance monitoring to define the extent and duration of congestion, to contribute in determining the causes of congestion, and evaluate the efficiency and effectiveness of implemented actions. To the extent possible, this data collection program should be coordinated with existing data sources (including archived operational/ITS data) and coordinated with operations managers in the metropolitan area;

  (4) Identification and evaluation of the anticipated performance and expected benefits of appropriate congestion management strategies that will contribute to the more effective use and improved safety of existing and future transportation systems based on the established performance measures. The following categories of strategies, or combinations of strategies, are examples of what should be appropriately considered for each area:

    (i) Demand management measures, including growth management, and congestion pricing;

    (ii) Traffic operational improvements;

[1] Code of Federal Regulations, 23 CFR § 450.322 - Congestion management process in transportation management areas. https://www.law.cornell.edu/cfr/text/23/450.322

(iii) Public transportation improvements;
(iv) ITS technologies as related to the regional ITS architecture; and
(v) Where necessary, additional system capacity.

(5) Identification of an implementation schedule, implementation responsibilities, and possible funding sources for each strategy (or combination of strategies) proposed for implementation; and

(6) Implementation of a process for periodic assessment of the effectiveness of implemented strategies, in terms of the area's established performance measures. The results of this evaluation shall be provided to decision makers and the public to provide guidance on selection of effective strategies for future implementation.

(e) In a TMA designated as nonattainment area for ozone or carbon monoxide pursuant to the Clean Air Act, Federal funds may not be programmed for any project that will result in a significant increase in the carrying capacity for SOVs (i.e., a new general purpose highway on a new location or adding general purpose lanes, with the exception of safety improvements or the elimination of bottlenecks), unless the project is addressed through a congestion management process meeting the requirements of this section.

(f) In TMAs designated as nonattainment for ozone or carbon monoxide, the congestion management process shall provide an appropriate analysis of reasonable (including multimodal) travel demand reduction and operational management strategies for the corridor in which a project that will result in a significant increase in capacity for SOVs (as described in paragraph (d) of this section) is proposed to be advanced with Federal funds. If the analysis demonstrates that travel demand reduction and operational management strategies cannot fully satisfy the need for additional capacity in the corridor and additional SOV capacity is warranted, then the congestion management process shall identify all reasonable strategies to manage the SOV facility safely and effectively (or to facilitate its management in the future). Other travel demand reduction and operational management strategies appropriate for the corridor, but not appropriate for incorporation into the SOV facility itself, shall also be identified through the congestion management process. All identified reasonable travel demand reduction and operational management strategies shall be incorporated into the SOV project or committed to by the State and MPO for implementation.

(g) State laws, rules, or regulations pertaining to congestion management systems or programs may constitute the congestion management process, if the FHWA and the FTA find that the State laws, rules, or regulations are consistent with, and fulfill the intent of, the purposes of 23 U.S.C. 134 and 49 U.S.C. 5303.

(h) Congestion management plan. A MPO serving a TMA may develop a plan that includes projects and strategies that will be considered in the TIP of such MPO.

(1) Such plan shall:
(i) Develop regional goals to reduce vehicle miles traveled during peak commuting hours and improve transportation connections between areas with high job concentration and areas with high concentrations of low-income households;
(ii) Identify existing public transportation services, employer-based commuter programs, and other existing transportation services that support access to jobs in the region; and
(iii) Identify proposed projects and programs to reduce congestion and increase job access opportunities.

(2) In developing the congestion management plan, an MPO shall consult with employers, private and nonprofit providers of public transportation, transportation management organizations, and organizations that provide job access reverse commute projects or job-related services to low-income individuals.

23 CFR § 500.109[2] CMS

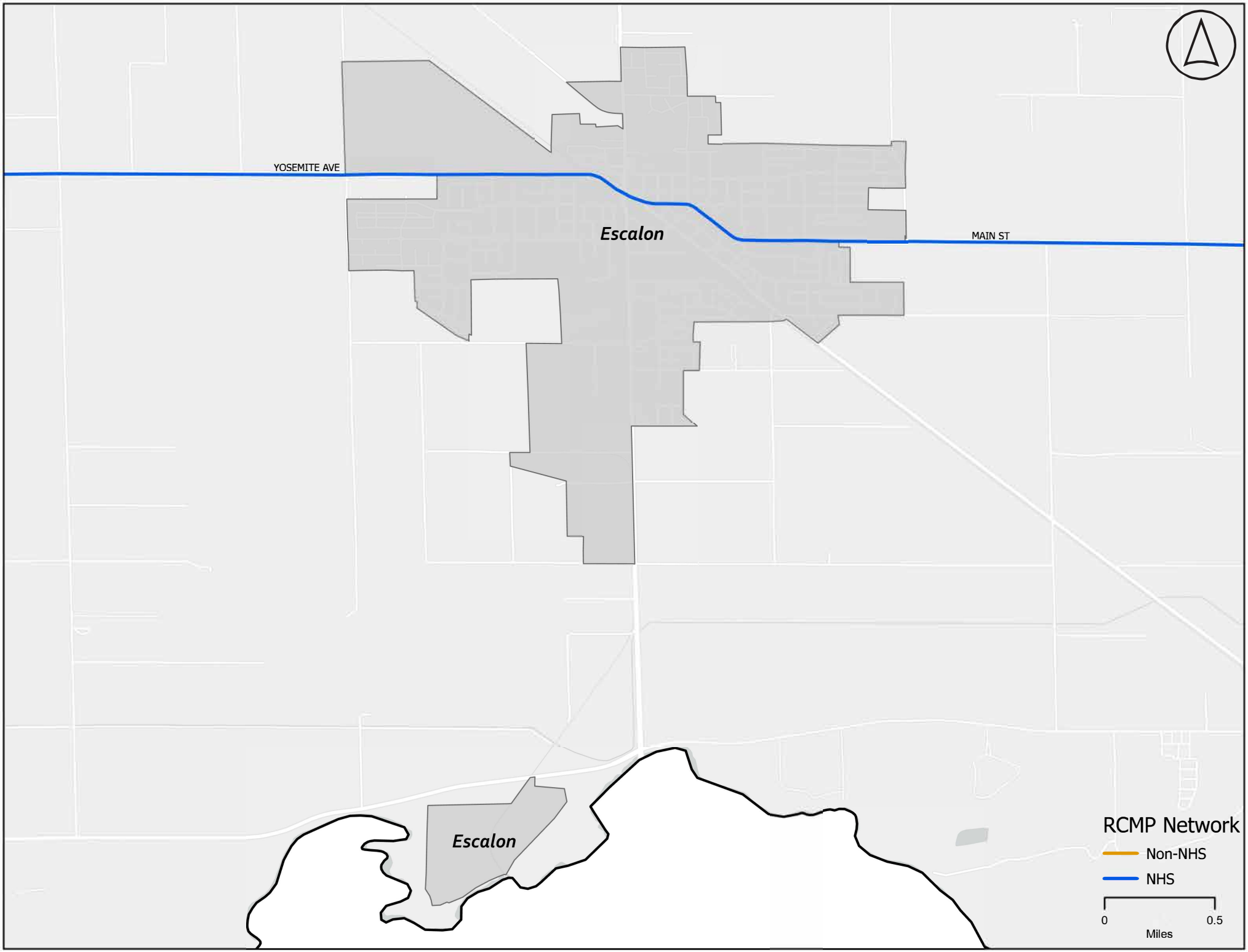
(a) For purposes of this part, congestion means the level at which transportation system performance is unacceptable due to excessive travel times and delays. Congestion management means the application of

[2] Code of Federal Regulations, 23 CFR § 500.109 – CMS. https://www.law.cornell.edu/cfr/text/23/500.109

strategies to improve system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods in a region. A congestion management system or process is a systematic and regionally accepted approach for managing congestion that provides accurate, up-to-date information on transportation system operations and performance and assesses alternative strategies for congestion management that meet State and local needs.

(b) The development of a congestion management system or process should result in performance measures and strategies that can be integrated into transportation plans and programs. The level of system performance deemed acceptable by State and local officials may vary by type of transportation facility, geographic location (metropolitan area or subarea and/or non-metropolitan area), and/or time of day. In both metropolitan and non-metropolitan areas, consideration needs to be given to strategies that manage demand, reduce SOV travel, and improve transportation system management and operations. Where the addition of general purpose lanes is determined to be an appropriate congestion management strategy, explicit consideration is to be given to the incorporation of appropriate features into the SOV project to facilitate future demand management strategies and operational improvements that will maintain the functional integrity of those lanes.

APPENDIX D:
RCMP NETWORK LIST OF ROADWAYS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MAIN ST
Escalon
RCMP Network
Non-NHS
NHS
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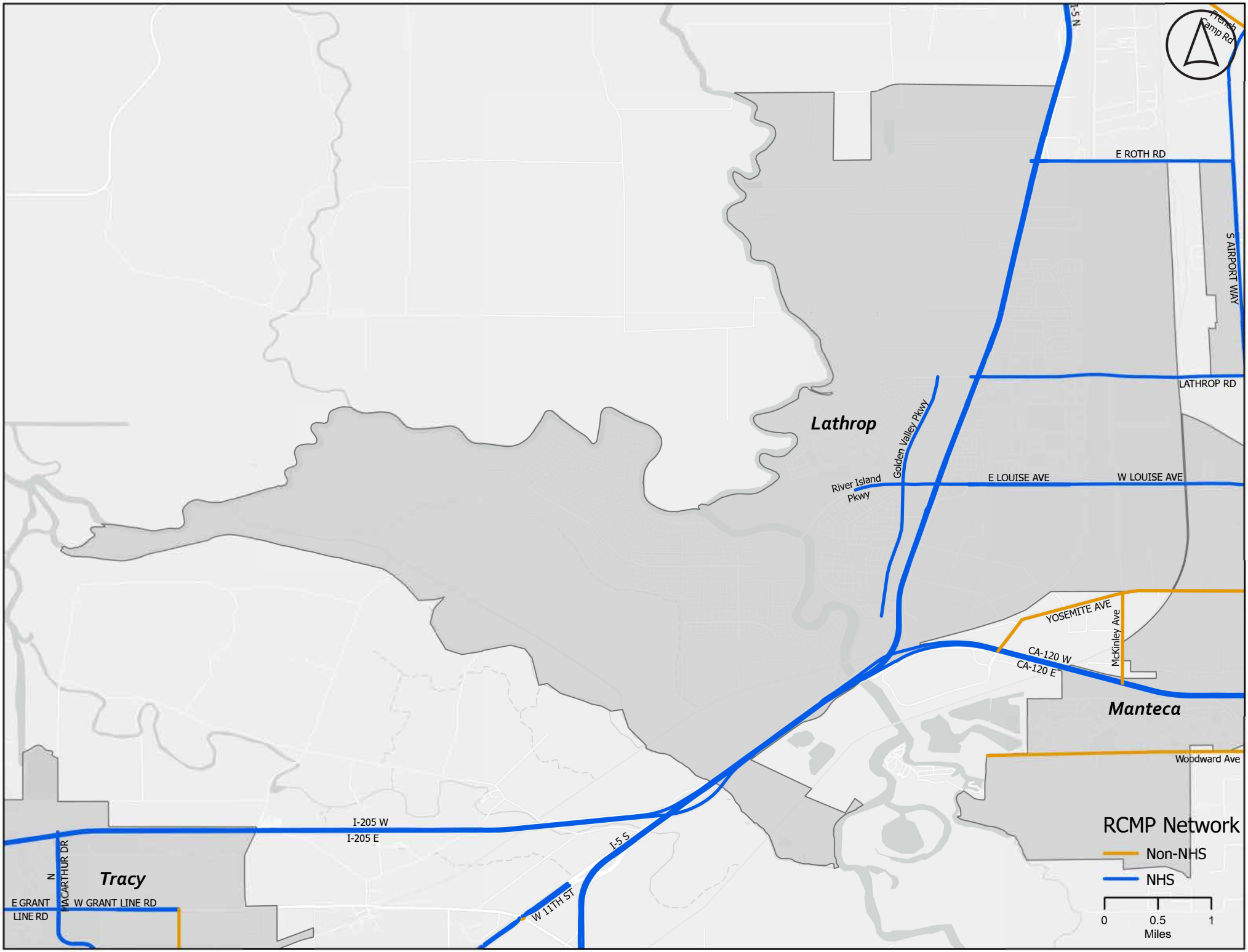
0.5
Miles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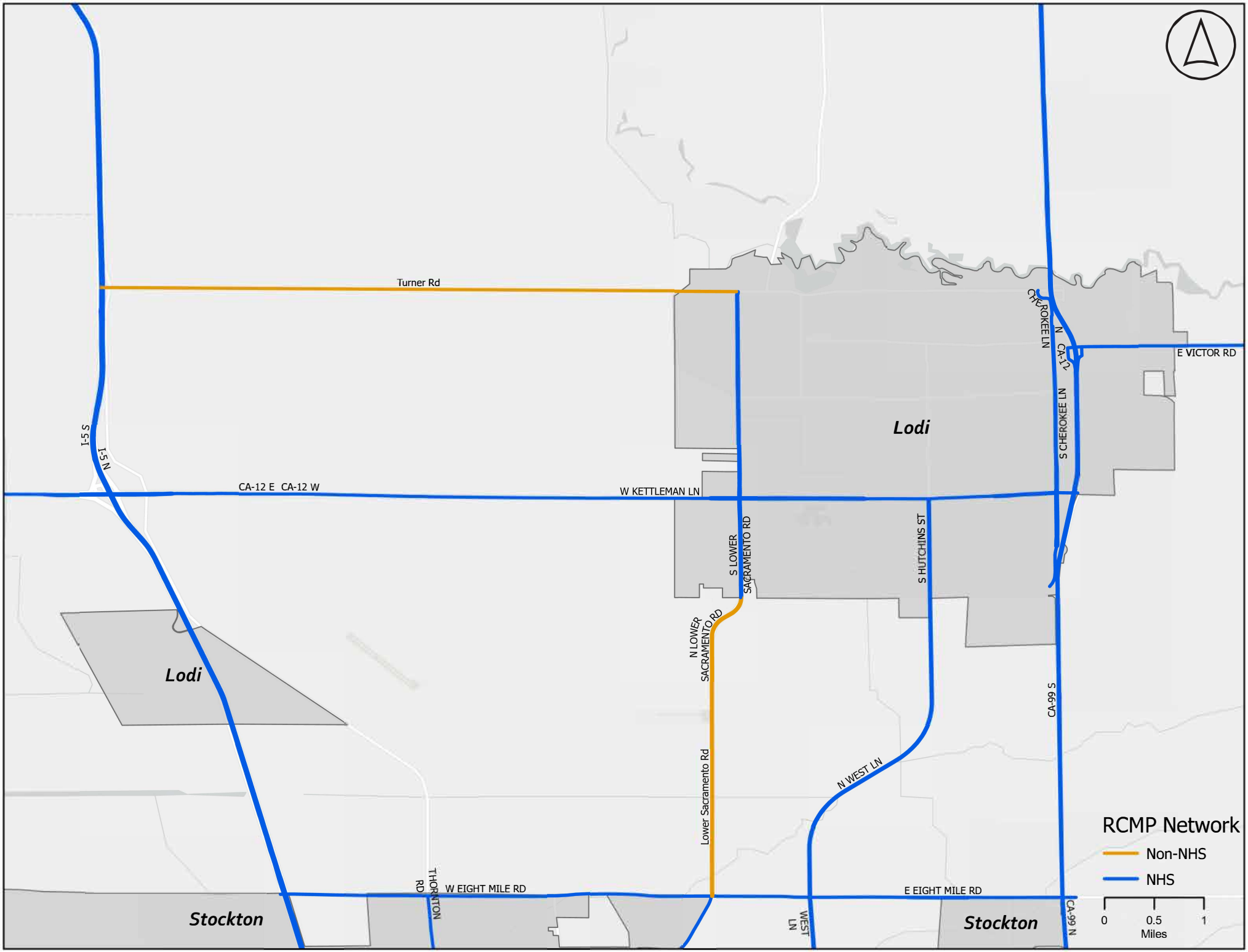
French Camp Rd
E ROTH RD
S AIRPORT WAY
LATHROP RD
Lathrop
Golden Valley Pkwy
River Island Pkwy
E LOUISE AVE
W LOUISE AVE
YOSEMITE AVE
McKinley Ave
CA-120 W
CA-120 E
Manteca
Woodward Ave
I-205 W
I-205 E
I-5 S
N MACARTHUR DR
Tracy
E GRANT LINE RD
W GRANT LINE RD
W 11TH ST
RCMP Network
Non-NHS
NHS
0
0.5
1
Miles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I-5 S
I-5 N
CA-12 E CA-12 W
W KETTLEMAN LN
S LOWER SACRAMENTO RD
S HUTCHINS ST
N LOWER SACRAMENTO RD
Lower Sacramento Rd
N WEST LN
WEST LN
THORNTON RD
W EIGHT MILE RD
E EIGHT MILE RD
CHEROKEE LN
N CA-12
S CHEROKEE LN
E VICTOR RD
CA-99 S
CA-99 N
Lodi
Lodi
Stockton
Stockton
RCMP Network
Non-NHS
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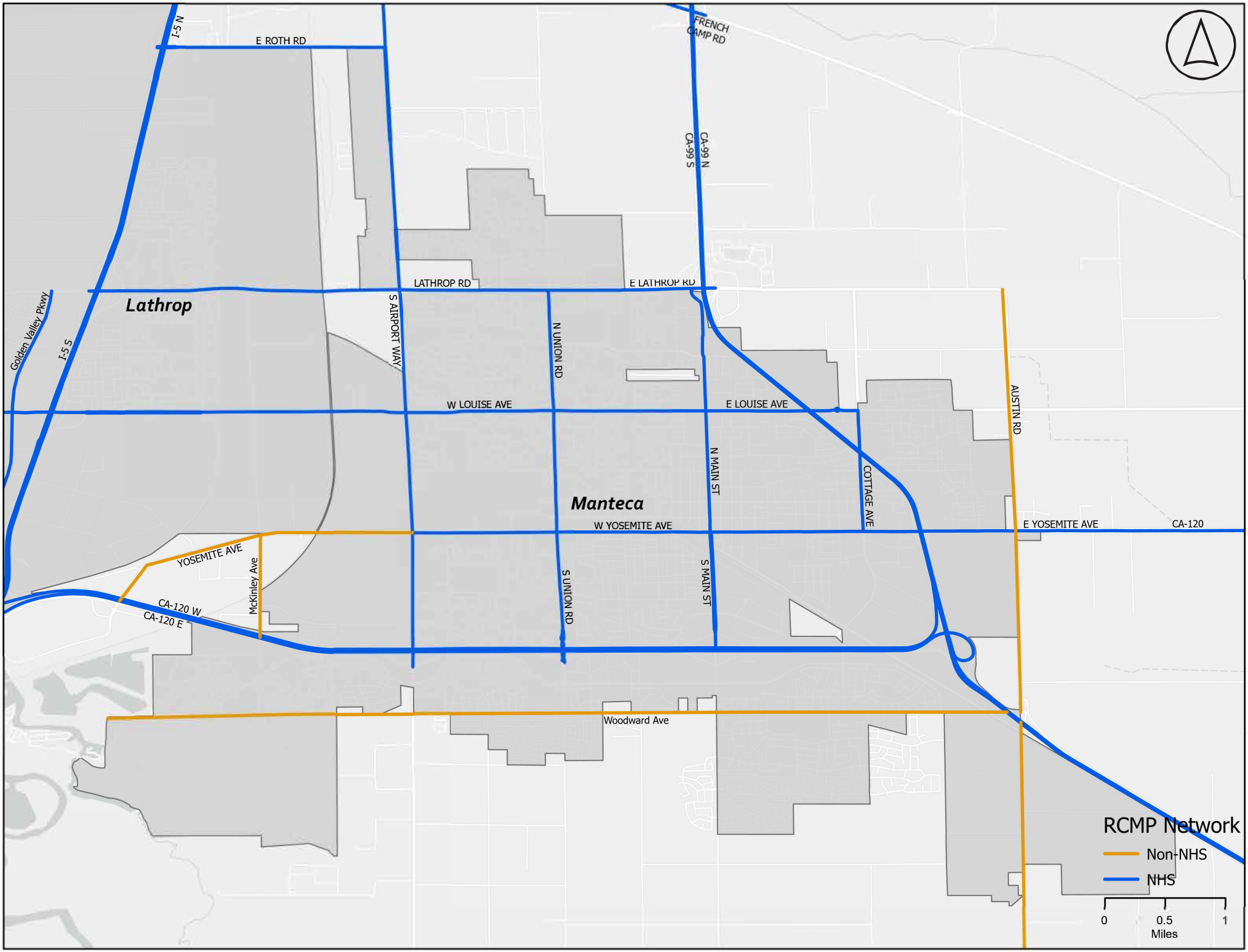
1
Miles


I-5 N
E ROTH RD
FRENCH CAMP RD
CA-99 S
CA-99 N
LATHROP RD
E LATHROP RD
Lathrop
Golden Valley Pkwy
I-5 S
S AIRPORT WAY
N UNION RD
W LOUISE AVE
E LOUISE AVE
AUSTIN RD
N MAIN ST
COTTAGE AVE
Manteca
W YOSEMITE AVE
E YOSEMITE AVE
CA-120
YOSEMITE AVE
McKinley Ave
CA-120 W
CA-120 E
S UNION RD
S MAIN ST
Woodward Ave
RCMP Network
Non-NHS
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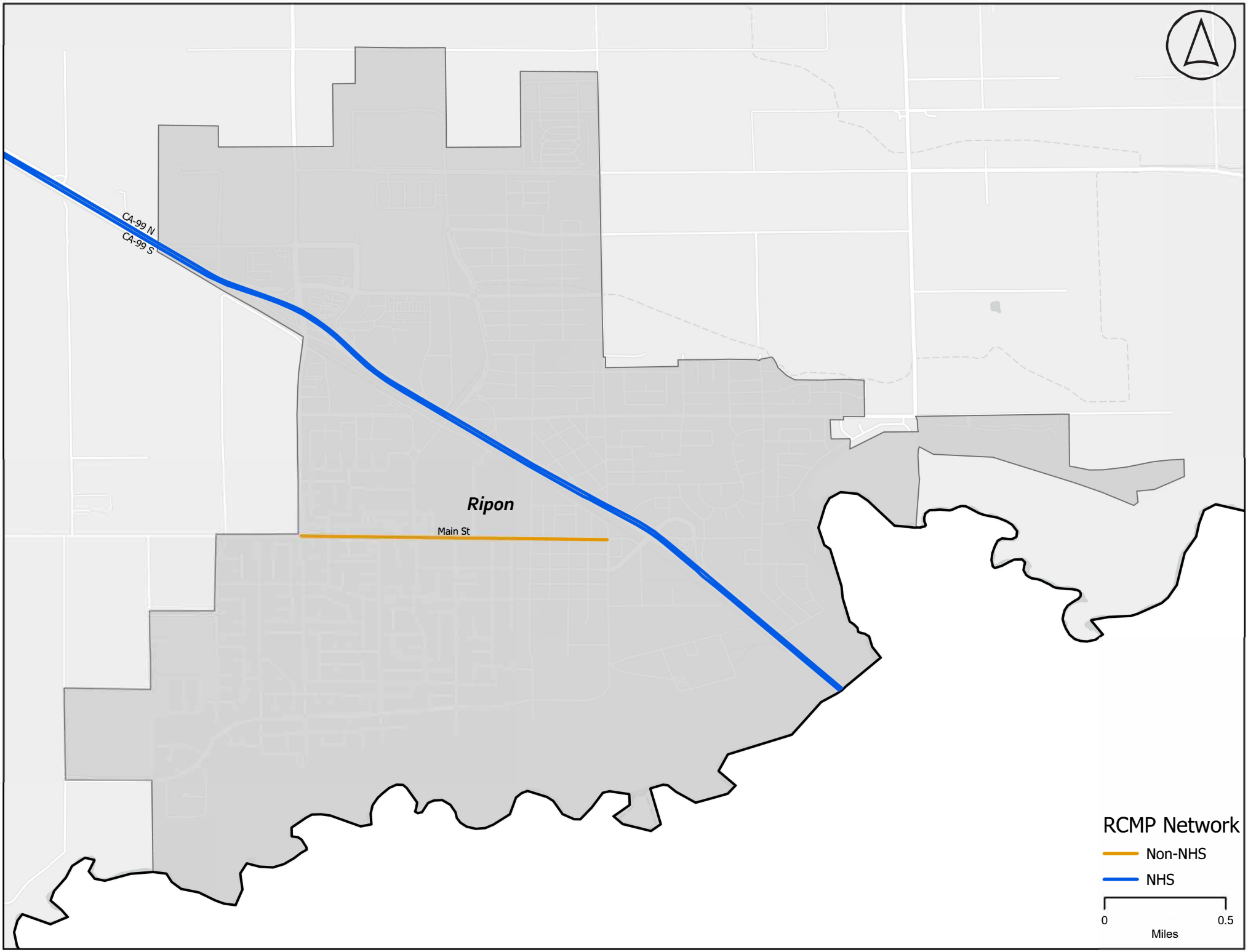
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CA-99 S
Ripon
Main St
RCMP Network
Non-NHS
NHS
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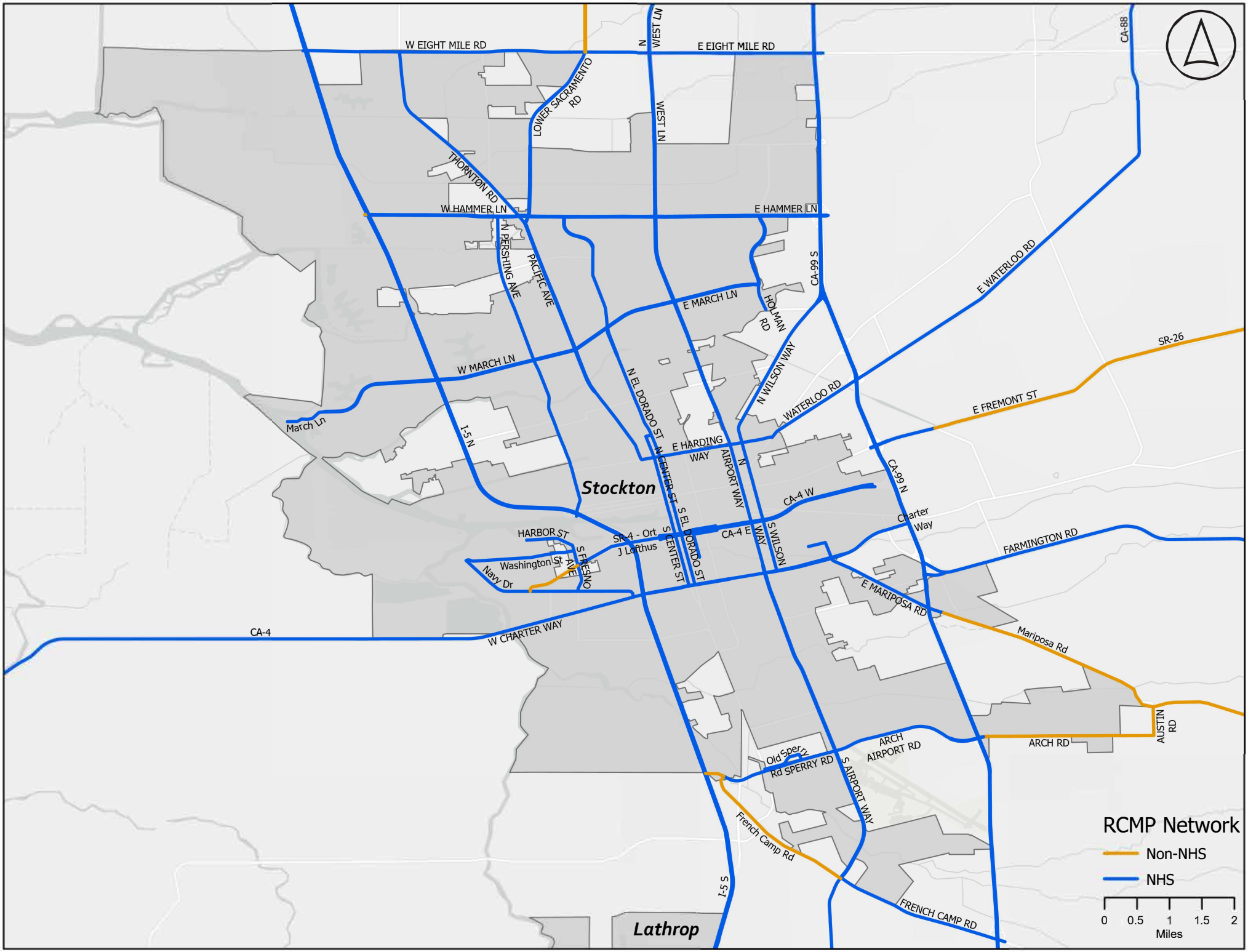
0.5
Miles


W EIGHT MILE RD
E EIGHT MILE RD
N WEST LN
WEST LN
LOWER SACRAMENTO RD
THORNTON RD
W HAMMER LN
E HAMMER LN
N PERSHING AVE
PACIFIC AVE
CA-99 S
HOLMAN RD
E MARCH LN
W MARCH LN
March Ln
I-5 N
N EL DORADO ST
N CENTER ST
N WILSON WAY
WATERLOO RD
E WATERLOO RD
SR-26
E FREMONT ST
E HARDING WAY
N AIRPORT WAY
CA-99 N
Stockton
CA-4 W
CA-4 E
S CENTER ST
S EL DORADO ST
S WILSON WAY
Charter Way
HARBOR ST
SR-4 - Ort J Lofthus
S FRESNO AVE
Washington St
Navy Dr
FARMINGTON RD
E MARIPOSA RD
CA-4
W CHARTER WAY
Mariposa Rd
AUSTIN RD
ARCH RD
ARCH AIRPORT RD
Old Sperry Rd
SPERRY RD
S AIRPORT WAY
French Camp Rd
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FRENCH CAMP RD
Lathrop
CA-88
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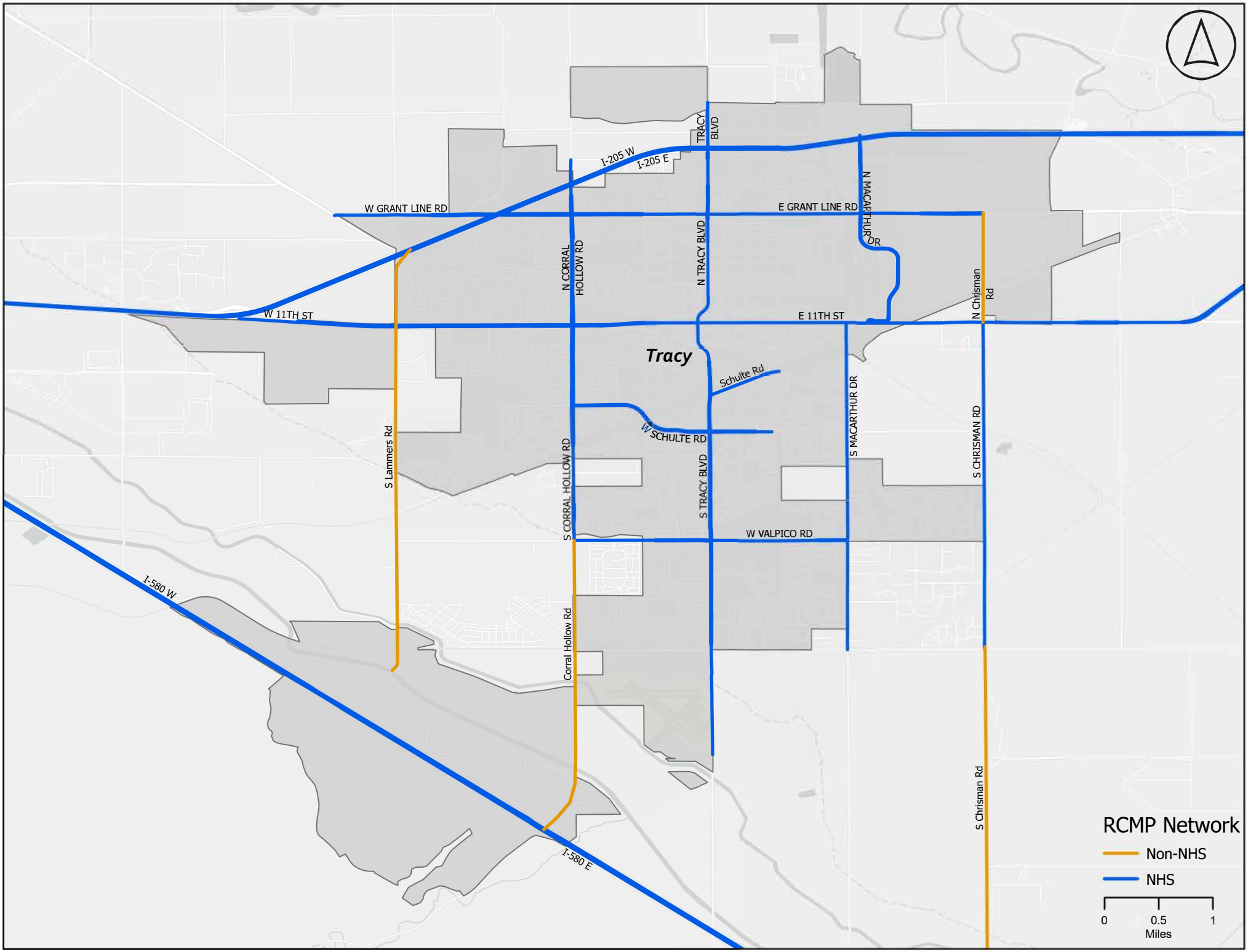
Miles


Tracy
I-205 W
I-205 E
TRACY BLVD
W GRANT LINE RD
E GRANT LINE RD
N MACARTHUR DR
N CORRAL HOLLOW RD
N TRACY BLVD
N Chrisman Rd
W 11TH ST
E 11TH ST
Schulte Rd
W SCHULTE RD
S Lammers Rd
S CORRAL HOLLOW RD
S TRACY BLVD
S MACARTHUR DR
S CHRISMAN RD
W VALPICO RD
I-580 W
Corral Hollow Rd
I-580 E
S Chrisman Rd
RCMP Network
Non-NHS
NHS
0
0.5
1
Miles

Road Name	*Boundary*	*Direction*	*Start Longitude*	*Start Latitude*	*End Longitude*	*End Latitude*
I-5 N	I-580	W	-121.32601	37.58524	-121.3334549	37.59101111
I-5 N	CA-132	N	-121.34206	37.60049	-121.34284	37.63236
I-5 N	CA-33	N	-121.34294	37.64101	-121.34309	37.68182
I-5 N	Kasson Rd	N	-121.34307	37.68659	-121.34347	37.74345
I-5 N	I-205	E	-121.33666	37.76337	-121.3316	37.76711
I-5 N	CA-4/Charter Way	N	-121.29535	37.92967	-121.29665	37.93326
I-5 N	CA-4	N	-121.29786	37.93952	-121.29828	37.94209
I-5 N	CA-12	N	-121.37369	38.06163	-121.39514	38.1116
I-5 N	Turner Rd	N	-121.3999	38.12071	-121.39907	38.14206
CA-120 W	CA-99 (South)	S	-121.19067	37.79473	-121.18984	37.79141
CA-120 W	Union Rd	W	-121.22105	37.78351	-121.22897	37.78348
CA-120 W	Airport Way	W	-121.23898	37.78346	-121.24665	37.78343
CA-4 E	S Stanislaus St	E	-121.28687	37.95045	-121.28371	37.95099
CA-99 N	CA-120	W	-121.18145	37.77644	-121.18504	37.77921
CA-99 N	French Camp Rd/Exit 246	N	-121.21735	37.82959	-121.21858	37.85908
CA-99 N	Clark Dr	N	-121.22454	37.90916	-121.22854	37.91912
CA-99 N	Mariposa Rd	N	-121.22886	37.91991	-121.23359	37.93167
CA-99 N	E Main St	N	-121.23651	37.94808	-121.23806	37.95186
CA-99 N	CA-88/Waterloo Rd	N	-121.24676	37.97248	-121.24992	37.98264
CA-99 N	Cherokee Rd	N	-121.25057	37.98708	-121.2527	37.99234
CA-99 N	E Woodbridge Rd/Exit 268	N	-121.26129	38.15167	-121.26166	38.16084
CA-99 N	Acampo Rd	N	-121.26176	38.16363	-121.26221	38.17507
CA-99 N	San Joaquin/Sacramento County Line	N	-121.27947	38.23241	-121.28711	38.24437
CA-120	CR-J5/Jack Tone Rd	W	-121.0925	37.79808	-121.14318	37.79765
YOSEMITE AVE	French Camp Rd	W	-120.99683	37.79737	-121.09166	37.79809
CA-12	CA-88	E	-121.1149675	38.17851125	-121.06814	38.19785
CA-88	CA-12/Victor Rd	N	-121.1735	38.11628	-121.16236	38.13871
MAZE BLVD	CR-J3/S River Rd	E	-121.273756	37.63829	-121.24776	37.6397
W CHARTER WAY	I-5/W Charter Way	E	-121.33239	37.9275	-121.29862	37.93653
CA-99 S	E Main St	S	-121.24041	37.95718	-121.2393	37.95439
CA-99 S	Farmington Rd/Ladd Tract Rd	S	-121.23914	37.95402	-121.23726	37.94937
FARMINGTON RD	CR-J5/S Jack Tone Rd	E	-121.23057	37.94178	-121.14803	37.9421
FARMINGTON RD	CR-J6/Escalon Bellota Rd	E	-121.14803	37.9421	-121.00024	37.93004
CA-4	CR-J14/Milton Rd	E	-121.00024	37.93004	-120.9264057	37.94487991
S CORRAL HOLLOW RD	W Schulte Rd	N	-121.4529	37.71059	-121.45298	37.72858
S CORRAL HOLLOW RD	I-205-BR/W 11th St	N	-121.45298	37.7287	-121.453	37.7382
W 11TH ST	CR-J2/N Corral Hollow Rd	E	-121.4762	37.73916	-121.45321	37.73924
W GRANT LINE RD	CR-J2/N Corral Hollow Rd	W	-121.43514	37.75417	-121.45314	37.75421
W GRANT LINE RD	I-205/Naglee Rd	W	-121.45334	37.75421	-121.45985	37.7542
W GRANT LINE RD	W Byron Rd	W	-121.46671	37.75417	-121.48486	37.75396
S AIRPORT WAY	Lathrop Rd	N	-121.25303	37.81176	-121.25378	37.82651
S AIRPORT WAY	E Roth Rd	N	-121.25378	37.82651	-121.2555	37.85558
S AIRPORT WAY	E Hazelton Ave	N	-121.27039	37.94159	-121.27258	37.94943
S AIRPORT WAY	E Main St	N	-121.27258	37.94943	-121.27417	37.95536
N AIRPORT WAY	E Weber Ave	N	-121.27417	37.95536	-121.27446	37.95639
N AIRPORT WAY	E Fremont St	N	-121.27446	37.95639	-121.27554	37.96036
E YOSEMITE AVE	CA-99	E	-121.19816	37.79749	-121.19204	37.79748
W LOUISE AVE	I-5	E	-121.29696	37.81183	-121.29651	37.81184
E LOUISE AVE	5th St/Howland Rd	E	-121.29154	37.8118	-121.27743	37.81181
W LOUISE AVE	CR-J3/Airport Way	E	-121.27743	37.81181	-121.25303	37.81176
ROTH RD	S Harlan Rd	E	-121.28128	37.85553	-121.28045	37.85559
E ROTH RD	CR-J3/S Airport Way	E	-121.28045	37.85559	-121.25585	37.85559
S TRACY BLVD	W Beechnut Ave	N	-121.43471	37.72521	-121.43618	37.73676
N TRACY BLVD	I-205-BR/W 11th St	N	-121.43618	37.73676	-121.43638	37.73968
N TRACY BLVD	CR-J4/W Grant Line Rd	N	-121.43638	37.73968	-121.43503	37.75417
N TRACY BLVD	I-205	N	-121.43503	37.75417	-121.43506	37.7625
N MACARTHUR DR	I-205	N	-121.41462	37.76152	-121.41476	37.7638
N MAIN ST	Alameda St	N	-121.21651	37.79741	-121.21676	37.80465
N MAIN ST	Louise Ave	N	-121.21676	37.80465	-121.21704	37.81194
N MAIN ST	E Lathrop Rd	N	-121.21738	37.821	-121.21878	37.82631
E FREMONT ST	N Cardinal Ave	E	-121.24449	37.97041	-121.23264	37.97385
WEST LN	E Alpine Ave	N	-121.27825	37.97034	-121.2811963	37.97794493
WEST LN	E Eight Mile Rd	N	-121.29494	38.03687	-121.29616	38.05746
N WEST LN	E Armstrong Rd	N	-121.29616	38.05746	-121.27844	38.08646
W HAMMER LN	CR-J3/West Ln	E	-121.32519	38.02104	-121.295	38.02086
E HAMMER LN	Holman Rd	E	-121.29477	38.02086	-121.27173	38.02108
N PERSHING AVE	W Acacia St/Picardy Dr	N	-121.31175	37.95832	-121.31201	37.9593
N EL DORADO ST	March Ln	N	-121.29931	37.98002	-121.30552	37.99625
N EL DORADO ST	CR-J8/Hammer Ln	N	-121.30856	38.00725	-121.3152	38.02086
S LOWER SACRAMENTO RD	W Lodi Ave/W Sargent Rd	N	-121.30646	38.11558	-121.30661	38.13006
N LOWER SACRAMENTO RD	W Elm St	N	-121.30661	38.13006	-121.30668	38.13692
N LOWER SACRAMENTO RD	W Turner Rd	N	-121.30668	38.13692	-121.30666	38.14547
HOLMAN RD	CR-J8/E Hammer Ln	N	-121.27178	38.00589	-121.27152	38.02108
W MARCH LN	N Pershing Ave	E	-121.3398984	37.98474879	-121.32192	37.98894
W MARCH LN	Pacific Ave	E	-121.32192	37.98894	-121.31277	37.99127
N WILSON WAY	E Weber Ave	N	-121.27156	37.95578	-121.27185	37.95684
N WILSON WAY	E Harding Way	N	-121.2741	37.9652	-121.2756	37.97062
S CHEROKEE LN	CA-99/Century Blvd	N	-121.26132	38.1027	-121.26036	38.10843
E DR MARTIN LUTHER KING JR BLVD	CR-J7/Mariposa Rd	E	-121.27039	37.94159	-121.25754	37.94431
WEST LN	E Swain Rd	N	-121.29063	38.00219	-121.29406	38.01093
I-205 E	11th St	E	-121.52588	37.74204	-121.50343	37.74062
I-205 E	CR-J13/Tracy Blvd	E	-121.45877	37.75576	-121.43995	37.76266
I-580 W	Mtn House Pky/Patterson Pass Rd	W	-121.45907	37.6736	-121.53236	37.71786
S FRESNO AVE	Harbor Ave	N	-121.31222	37.94365	-121.31322	37.94737
S LOWER SACRAMENTO RD	CA-12/W Kettleman Ln	N	-121.30624	38.10108	-121.30646	38.11488
N PERSHING AVE	W Hammer Ln	N	-121.32991	38.01618	-121.32997	38.02018
I-5 N	Louise Ave	N	-121.30061	37.79287	-121.29683	37.80793
I-5 N	El Dorado St	N	-121.28092	37.85917	-121.27752	37.87256
I-5 N	Fremont St/Pershing Avenue	W	-121.30734	37.95248	-121.30965	37.95363
I-5 N	Michigan Ave	N	-121.33573	37.96554	-121.33617	37.96668
I-5 N	Alpine Ave	N	-121.33662	37.96781	-121.33729	37.96949
I-5 N	March Ln	N	-121.33926	37.9744	-121.34182	37.98092
I-5 N	Peltier Rd	N	-121.39909	38.149	-121.40216	38.18598
CA-120 W	Yosemite Ave	W	-121.25745	37.78335	-121.28281	37.78834
CA-4 E	CA-99	E	-121.25013	37.96041	-121.24597	37.96081
CA-99 N	2nd St	N	-121.109929	37.73040178	-121.11734	37.73663
CA-99 N	Jack Tone Rd	W	-121.13326	37.74668	-121.13885	37.75034
CA-99 N	Main St (North)	N	-121.19194	37.80035	-121.21586	37.82184
CA-99 N	Morada Ln	N	-121.25814	38.02518	-121.25832	38.0364
CA-99 N	Harney Ln	N	-121.25995	38.08916	-121.26006	38.09889
CA-99 N	Peltier Rd	N	-121.26225	38.17763	-121.26258	38.18939
CA-99 N	Liberty Rd	N	-121.26927	38.21638	-121.27772	38.22968
CA-99 N	E Collier Rd	N	-121.26345	38.20687	-121.26772	38.21393
I-205 W	Mountain House Pky	W	-121.50538	37.7409	-121.52587	37.74219
I-205 W	11th St	W	-121.47032	37.75133	-121.49549	37.74126
I-205 W	MacArthur Dr	W	-121.33517	37.76701	-121.41069	37.76493
CA-120	Calla Rd	W	-121.14318	37.79765	-121.16602	37.79756
W KETTLEMAN LN	Ham Ln	E	-121.30646	38.1154	-121.28815	38.11543
I-5 S	Westley Safety Rest Area	E	-121.33359	37.5907	-121.32583	37.58469
I-5 S	CA-33	S	-121.34394	37.74486	-121.34351	37.68707
I-5 S	Kasson Rd	S	-121.3429	37.75856	-121.34398	37.75281
I-5 S	11th St	W	-121.33228	37.76702	-121.33871	37.7624
I-5 S	Michigan Ave	S	-121.33752	37.96923	-121.33696	37.96778
CA-120 E	Union Rd	E	-121.24665	37.78308	-121.23953	37.78311
CA-120 E	Airport Way	E	-121.28306	37.78802	-121.25842	37.78303
CA-120 E	Yosemite Ave	E	-121.30109	37.78786	-121.29107	37.78996
CA-99 S	Austin Rd	S	-121.18703	37.78102	-121.18161	37.77635
CA-120 W	CA-120	S	-121.19067	37.79473	-121.18984	37.79141

Road Name	*Boundary*	*Direction*	*Start Longitude*	*Start Latitude*	*End Longitude*	*End Latitude*
CA-99 S	E Main St	S	-121.24041	37.95718	-121.23864	37.95278
CA-99 S	CA-4	S	-121.24556	37.96906	-121.24369	37.96539
CA-99 S	Wilson Way	S	-121.25822	38.01721	-121.25801	38.00567
CA-99 S	Eight Mile Rd	S	-121.26013	38.08705	-121.25961	38.05804
CA-99 S	Harney Ln	S	-121.26029	38.10548	-121.26031	38.10453
CA-99 S	Cherokee Ln	S	-121.25858	38.1136	-121.26008	38.10646
CA-99 S	E Collier Rd	S	-121.27976	38.23245	-121.27361	38.22277
E WATERLOO RD	Eight Mile Rd	N	-121.20729	38.01635	-121.1887	38.05804
CA-12	Cherry St	E	-121.15007	38.16343	-121.1452	38.16679
CA-88	Martin Ln	E	-121.0163888	38.27443172	-120.94269	38.31613
CA-132 E	S Chrisman Rd	E	-121.40176	37.63871	-121.40122	37.63864
CA-132	CA-33/S Ahern Rd/W Vernalis Rd	E	-121.32437	37.63801	-121.29167	37.63802
MAIN ST	CR-J6/CR-J7/Escalon BL Rd/McHenry Ave	W	-120.9232819	37.79357	-120.984082	37.7942315
CA-4 E	CR-J2/Tracy Blvd	E	-121.5699391	37.89087148	-121.46668	37.90215
N CORRAL HOLLOW RD	W Byron Rd	N	-121.45298	37.73941	-121.45298	37.74091
W 11TH ST	S Chrisman Rd	E	-121.41369	37.73968	-121.39831	37.7398
W 11TH ST	CR-J4/W Grant Line Rd/Kasson Rd	E	-121.39831	37.7398	-121.35193	37.7529
S AIRPORT WAY	CR-J9/French Camp Rd	N	-121.2555	37.85558	-121.25357	37.87369
S AIRPORT WAY	E Charter Way	N	-121.26214	37.92007	-121.27039	37.94159
N UNION RD	W Alameda St/Kelly Dr	N	-121.23491	37.79741	-121.23517	37.80682
N UNION RD	Northgate Dr	N	-121.23527	37.81199	-121.23566	37.8199
W YOSEMITE AVE	Main St	E	-121.23491	37.79741	-121.21651	37.79741
E YOSEMITE AVE	Cottage Ave/Spreckles Rd	E	-121.20496	37.79745	-121.19816	37.79749
W LOUISE AVE	N Main St	E	-121.23527	37.81199	-121.21704	37.81194
LATHROP RD	CR-J3/S Airport Way	E	-121.2754708	37.82664806	-121.25378	37.82651
S TRACY BLVD	Sycamore Pky	N	-121.43462	37.69602	-121.43456	37.70483
S TRACY BLVD	W Schulte Rd	N	-121.43457	37.71059	-121.43471	37.72508
S CHRISMAN RD	W Schulte Rd	N	-121.39809	37.71066	-121.3982	37.72522
S MACARTHUR DR	W Schulte Rd	N	-121.41639	37.71064	-121.41648	37.72515
N MACARTHUR DR	CR-J4/E Grant Line Rd	N	-121.41369	37.73968	-121.41455	37.75423
S MAIN ST	Yosemite Ave	N	-121.21628	37.79558	-121.21651	37.79741
WEST LN	E March Ln	N	-121.28886	37.99771	-121.29056	38.00203
W HAMMER LN	Meadow Ave/Don Ave	E	-121.3561992	38.02127	-121.3454	38.02122
W HAMMER LN	CR-J8/Thornton Rd	E	-121.32999	38.02087	-121.32519	38.02104
N PERSHING AVE	Country Club Blvd	N	-121.31332	37.96417	-121.31514	37.96947
N PERSHING AVE	W March Ln	N	-121.31721	37.97467	-121.32192	37.98894
PACIFIC AVE	W March Ln	N	-121.30556	37.97844	-121.31261	37.99134
PACIFIC AVE	CR-J10/Lowr Sacramento Rd/Rivara Rd	N	-121.32055	38.01109	-121.32388	38.0196
E HARDING WAY	N Wilson Way	E	-121.27821	37.97018	-121.2756	37.97062
S EL DORADO ST	CA-4/Ort Lofthus Fwy	N	-121.28846	37.9478	-121.28899	37.94983
N EL DORADO ST	E Acacia St	N	-121.29116	37.95764	-121.29249	37.9626
N EL DORADO ST	E Cleveland St	N	-121.29383	37.96753	-121.29577	37.97231
E EIGHT MILE RD	CA-99	E	-121.29616	38.05746	-121.26129	38.05742
THORNTON RD	N Pershing Ave/MacDuff Ave	N	-121.32532	38.02119	-121.32974	38.02603
THORNTON RD	Wagner Heights Rd	N	-121.32974	38.02603	-121.33907	38.03551
THORNTON RD	W Eight Mile Rd	N	-121.35036	38.0456	-121.35183	38.05766
S CHEROKEE LN	E Lodi Ave	N	-121.26043	38.12342	-121.26051	38.13102
N CHEROKEE LN	CA-99/E Turner Rd	N	-121.26079	38.13729	-121.26093	38.14058
E MARCH LN	CR-J3/West Ln	E	-121.30552	37.99625	-121.29078	38.00197
S WILSON WAY	E Hazelton Ave	N	-121.26796	37.94261	-121.26994	37.94985
N WILSON WAY	Waterloo Rd	N	-121.27291	37.96076	-121.2741	37.9652
N WILSON WAY	E Alpine Ave	N	-121.27127	37.98335	-121.26877	37.98781
LOWER SACRAMENTO RD	Eight Mile Rd	N	-121.32274	38.03688554	-121.31058	38.05761
N LOWER SACRAMENTO RD	E Harney Ln	N	-121.31044	38.08653	-121.30624	38.10108
S FRESNO AVE	CA-4/Ort Lofthus Fwy	N	-121.31211	37.93749803	-121.312	37.94282
ARCH AIRPORT RD	S El Dorado St	E	-121.27924	37.8961	-121.2759	37.89535
SPERRY RD	CR-J3/S Airport Way	E	-121.2759	37.89535	-121.2554	37.90178
DIAMOND ST	E Anderson St	N	-121.25587	37.94547	-121.25692	37.94809
E ANDERSON ST	Diamond St	E	-121.26033	37.94758	-121.25758	37.94824
HOLMAN RD	E March Ln	N	-121.27076	38.00126	-121.27189	38.00549
I-205 W	Grant Line Rd	W	-121.43989	37.76292	-121.45809	37.75633
I-580 E	CA-132	E	-121.45473	37.67051	-121.41412	37.64587
I-205 E	Mountain House Pky	E	-121.55639	37.7431	-121.53683	37.74273
I-205 E	MacArthur Dr	E	-121.43056	37.76281	-121.41837	37.76359
I-205 E	I-5	E	-121.41098	37.76465	-121.3349	37.76676
I-580 W	Chrisman Rd	W	-121.33746	37.59408	-121.39485	37.63463
I-580 W	CA-132	W	-121.39762	37.63623	-121.40494	37.6408
I-5 N	Manthey Rd/Mossdale Rd	E	-121.32023	37.77539	-121.31392	37.77994
I-5 N	CA-120	E	-121.31038	37.78251	-121.30605	37.78523
I-5 N	Roth Rd	N	-121.28842	37.83011	-121.28283	37.85183
I-5 N	Mathews Rd	N	-121.27772	37.87498	-121.27828	37.8791
I-5 N	French Camp Rd	N	-121.27939	37.88523	-121.28206	37.89271
I-5 N	Downing Ave	N	-121.28492	37.90072	-121.28814	37.90967
I-5 N	8th St	N	-121.29065	37.91653	-121.29302	37.92312
I-5 N	Hammer Ln	N	-121.35236	38.00755	-121.35712	38.01825
I-5 N	Eight Mile Rd	N	-121.36004	38.02422	-121.37139	38.05446
CA-120 W	I-5	W	-121.29016	37.7902	-121.29505	37.79035
CA-4 E	S Wilson Way	E	-121.27778	37.952	-121.2748	37.95253
CA-4 E	Filbert St	E	-121.26604	37.95489	-121.25915	37.95819
CA-120 E	CA-120/Yosemite Ave	N	-121.188	37.78514	-121.1904	37.79444
CA-99 N	Wilson Way	N	-121.25368	37.99477	-121.25703	38.00325
CA-99 N	Hammer Ln	N	-121.25749	38.00451	-121.25807	38.01967
CA-99 N	Cherokee Ln	N	-121.26012	38.10185	-121.26007	38.10546
CA-99 N	CA-12/Kettleman Ln	N	-121.25933	38.109	-121.25832	38.11358
CA-99 N	CA-12/Victor Rd	N	-121.25719	38.11882	-121.25736	38.13413
CA-99 N	E Turner Rd/Exit 267A	N	-121.25752	38.13711	-121.25912	38.14082
CA-12 E	Terminous Dr	E	-121.5796876	38.12577783	-121.49298	38.11531
CA-12	Guard Rd	E	-121.49298	38.11531	-121.42262	38.11604
CA-12 E	I-5	E	-121.42262	38.11604	-121.40437	38.11591
CA-12 E	Moore Rd	E	-121.39663	38.11592	-121.32715	38.11552
W KETTLEMAN LN	Lower Sacramento Rd	E	-121.32715	38.11552	-121.30665	38.1154
W KETTLEMAN LN	CA-99/E Kettleman Ln	E	-121.28815	38.11543	-121.26047	38.1163
CA-12	Brandt Rd	N	-121.16236	38.13871	-121.15877	38.14694
CA-12	Jack Tone Rd	N	-121.15877	38.14694	-121.15438	38.1573
CA-12	6th St	E	-121.1149675	38.17851125	-121.08392	38.192
E WATERLOO RD	Alpine Rd	E	-121.24789	37.98604	-121.20729	38.01635
CA-88	Liberty Rd	N	-121.06814	38.19785	-121.05109	38.23606
E MARIPOSA RD	CA-26/E Charter Way/Diamond St	W	-121.23793	37.93568	-121.25489	37.94412
I-205 E	Grant Line Rd	E	-121.495	37.74112	-121.46746	37.7522
I-580 W	CR-J2/Corral Hollow Rd	W	-121.41381	37.64608	-121.45449	37.67078
I-580 W	San Joaquin/Alameda County Line	N	-121.53693	37.72119	-121.55595	37.73807
I-5 N	11th St	N	-121.34354	37.74848	-121.34226	37.75877
I-5 N	Lathrop Rd	N	-121.29398	37.81586	-121.29152	37.82217
I-5 N	Monte Diablo Ave	W	-121.31781	37.95607	-121.32317	37.95626
I-5 N	Country Club Blvd	N	-121.33227	37.95908	-121.33409	37.96147
I-5 N	Benjamin Holt Dr	N	-121.34447	37.9876	-121.34996	38.00147
I-5 N	CR-J11/W Walnut Grove Rd	N	-121.40649	38.19218	-121.42815	38.22264
I-5 N	San Joaquin/Sacramento County Line	N	-121.43272	38.22913	-121.44754	38.25439
CA-120 W	Main St	W	-121.19468	37.78352	-121.20997	37.78352
CA-99 N	Milgeo Ave	W	-121.1204	37.7392	-121.12846	37.74384
CA-99 N	Austin Rd	W	-121.146	37.75446	-121.17731	37.77326
CA-99 N	Lathrop Rd	N	-121.2168	37.82446	-121.21726	37.8275
CA-99 N	Arch Rd	N	-121.2188	37.8649	-121.22114	37.9007
CA-99 N	CA-4/Farmington Rd	N	-121.2344	37.93788	-121.23483	37.94145
CA-99 N	CA-4	N	-121.23896	37.95405	-121.23987	37.9563
CA-99 N	CA-26/Fremont St	N	-121.24334	37.96523	-121.24541	37.9693
CA-99 N	Eight Mile Rd	N	-121.25829	38.03851	-121.2592	38.05417
CA-99 N	Armstrong Rd	N	-121.25943	38.05755	-121.25987	38.0867

Road Name	Boundary	Direction	Start Longitude	Start Latitude	End Longitude	End Latitude
CA-99 N	Jahant Rd/Woodson Rd	N	-121.26264	38.19168	-121.26298	38.2042
W 11TH ST	CR-J13/N Tracy Blvd	E	-121.45299	37.73925	-121.43638	37.73968
W 11TH ST	Holly Dr/Central Ave	E	-121.43638	37.73968	-121.426	37.7397
E 11TH ST	N MacArthur Dr	E	-121.426	37.7397	-121.41656	37.73972
E YOSEMITE AVE	CA-99 (North)	W	-121.1682093	37.79758	-121.19061	37.79753
E VICTOR RD	CA-88/E Victor Rd	E	-121.25673	38.13761	-121.16236	38.13871
CA-88	Kettleman Ln	N	-121.1887	38.05804	-121.1735	38.11628
CA-12	Elliott Rd/Tully Rd	N	-121.1530732	38.16010718	-121.1500848	38.16341926
CA-12	CA-12	E	-121.08392	38.192	-121.06814	38.19785
CA-132 E	I-5	E	-121.39362	37.63829	-121.34839	37.63767
CA-132 E	S Koster Rd	E	-121.33941	37.63768	-121.32437	37.63801
S AIRPORT WAY	Wawona St	N	-121.2522	37.7852	-121.25221	37.79011
S AIRPORT WAY	W Yosemite Ave	N	-121.25221	37.79011	-121.25222	37.79733
S AIRPORT WAY	Louise Ave	N	-121.25222	37.79733	-121.25303	37.81176
N AIRPORT WAY	E Park St	N	-121.27554	37.96036	-121.27608	37.96232
N AIRPORT WAY	E Harding Way	N	-121.27608	37.96232	-121.2773073	37.96685018
S UNION RD	W Yosemite Ave	N	-121.23442	37.78972	-121.23491	37.79741
N UNION RD	W Louise Ave	N	-121.23517	37.80682	-121.23527	37.81199
LATHROP RD	Old Harlan Rd	E	-121.28907	37.82636	-121.28824	37.82636
LATHROP RD	Union Rd	E	-121.25378	37.82651	-121.23593	37.82643
E LATHROP RD	CA-99/N Main St	E	-121.23593	37.82643	-121.2207176	37.82659004
S TRACY BLVD	W Valpico Rd	N	-121.43456	37.70483	-121.43457	37.71059
W VALPICO RD	S Tracy Blvd	E	-121.4529	37.71059	-121.43473	37.71059
S CHRISMAN RD	W Valpico Rd	N	-121.3981	37.69616	-121.39809	37.71066
N MACARTHUR DR	Pescadero Ave	N	-121.41455	37.75423	-121.41462	37.76152
S MAIN ST	Moffat Blvd	N	-121.21589	37.78531	-121.21628	37.79558
N WEST LN	W Harney Ln	N	-121.27844	38.08646	-121.2787	38.1009
W HAMMER LN	N Pershing Ave	E	-121.3454	38.02122	-121.32999	38.02087
N PERSHING AVE	W Harding Way	N	-121.31201	37.9593	-121.31332	37.96417
N PERSHING AVE	W Benjamin Holt Dr	N	-121.32197	37.98909	-121.32926	38.00858
N PERSHING AVE	W Meadow Ave	N	-121.32926	38.00858	-121.32991	38.01618
PACIFIC AVE	W Alpine Ave	N	-121.29823	37.96731	-121.30556	37.97844
W HARDING WAY	N El Dorado St	E	-121.29791	37.96683	-121.29383	37.96753
E HARDING WAY	N California St	E	-121.29383	37.96753	-121.28862	37.96843
N EL DORADO ST	E Harding Way	N	-121.29249	37.9626	-121.29383	37.96753
W EIGHT MILE RD	CR-J8/Thornton Rd	E	-121.37204	38.05793	-121.35183	38.05766
W EIGHT MILE RD	CR-J10/Lower Sacramento Rd	E	-121.3333402	38.05760021	-121.31058	38.05761
THORNTON RD	Ag Spanos Blvd	N	-121.33907	38.03551	-121.35036	38.0456
S CHEROKEE LN	CA-12/E Kettleman Ln	N	-121.26018	38.11038	-121.26025	38.11632
S CHEROKEE LN	E Vine St	N	-121.26025	38.11632	-121.26043	38.12342
S WILSON WAY	CA-4/Lafayette St/Washington St	N	-121.26994	37.94985	-121.27076	37.9529
WATERLOO RD	Cherokee Rd/N D St	N	-121.26891	37.97177	-121.26772	37.97319
WATERLOO RD	N Filbert St	E	-121.26711	37.97359	-121.26183	37.97704
W DR MARTIN LUTHER KING JR BLVD	S El Dorado St	E	-121.29625	37.93703	-121.28602	37.93891
E DR MARTIN LUTHER KING JR BLVD	CR-J3/Airport Way	E	-121.28602	37.93891	-121.27058	37.94156
LOWER SACRAMENTO RD	Ponce De Leon Ave	N	-121.3230708	38.02116795	-121.32267	38.0301
MAIN ST	CA-120/CR-J6/Jackson Ave/McHenry Ave	W	-120.99595	37.79696	-120.9964	37.79713
CA-4	Roberts Rd	E	-121.46668	37.90215	-121.33239	37.9275
E MARCH LN	Holman Rd	E	-121.29056	38.00203	-121.27428	38.00571
N CORRAL HOLLOW RD	CR-J4/W Grant Line Rd	N	-121.45301	37.74172	-121.45314	37.75405
W 11TH ST	S Lammers Rd	E	-121.49758	37.74022	-121.47728	37.73916
W 11TH ST	I-5	E	-121.35151	37.75315	-121.34533	37.75748
E GRANT LINE RD	Holly Dr	W	-121.41465	37.75423	-121.42592	37.7542
W GRANT LINE RD	CR-J13/N Tracy Blvd	W	-121.42592	37.7542	-121.43503	37.75417
CA-99 N	E Clarksdale Rd/Exit 267B	N	-121.26113	38.1462	-121.26121	38.14952
I-580 E	I-5	E	-121.39456	37.63399	-121.33777	37.59391
I-580 E	Chrisman Rd	E	-121.40524	37.64053	-121.39762	37.63589
S AIRPORT WAY	Arch Airport Rd/Sperry Rd	N	-121.25332	37.87384	-121.2547	37.90196
S AIRPORT WAY	Ralph Ave	N	-121.2547	37.90196	-121.26214	37.92007
S UNION RD	Wawona St	N	-121.23409	37.78452	-121.23442	37.78972
N UNION RD	Lathrop Rd	N	-121.23566	37.8199	-121.23593	37.82643
W YOSEMITE AVE	Union Rd	E	-121.25222	37.79733	-121.23491	37.79741
E YOSEMITE AVE	Powers Ave	E	-121.21651	37.79741	-121.20496	37.79745
E LOUISE AVE	S Harlan Rd	E	-121.29476	37.81181	-121.29202	37.8118
W LOUISE AVE	N Union Rd	E	-121.25303	37.81176	-121.23527	37.81199
E LOUISE AVE	Cottage Ave	E	-121.21704	37.81194	-121.19879	37.81198
S TRACY BLVD	W Linne Rd	N	-121.43444	37.68247	-121.43462	37.69602
W VALPICO RD	S MacArthur Dr	E	-121.43457	37.71059	-121.41639	37.71064
S CHRISMAN RD	I-205-BR/W 11th St	N	-121.3982	37.72522	-121.39831	37.73962
S MACARTHUR DR	Valpico Rd	N	-121.41639	37.69625	-121.41639	37.71064
S MACARTHUR DR	I-205-BR/E 11th St	N	-121.41648	37.72515	-121.41656	37.73972
N MAIN ST	CA-99	N	-121.21704	37.81194	-121.21727	37.8184
FRENCH CAMP RD	CR-J3/S Airport Way	W	-121.22037	37.86042	-121.25332	37.87352
E FREMONT ST	N Alpine Rd	E	-121.23264	37.97385	-121.19486	37.98779
WEST LN	E Bianchi Rd	N	-121.28377	37.984	-121.28886	37.99771
WEST LN	CR-J8/E Hammer Ln	N	-121.29406	38.01093	-121.29477	38.02086
WEST LN	Morada Ln	N	-121.29478	38.02105	-121.29494	38.03687
E HAMMER LN	CA-99	E	-121.27173	38.02108	-121.2641453	38.02108
N PERSHING AVE	W Mendocino Ave	N	-121.31514	37.96947	-121.31697	37.97403
PACIFIC AVE	W Benjamin Holt Dr	N	-121.31266	37.9915	-121.32055	38.01109
E HARDING WAY	CR-J3/West Ln/N Airport Way	E	-121.28862	37.96843	-121.27821	37.97018
E HARDING WAY	Waterloo Rd	E	-121.2756	37.97062	-121.26918	37.97186
S EL DORADO ST	E Hazelton Ave	N	-121.28605	37.93901	-121.28846	37.9478
S EL DORADO ST	E Fremont St	N	-121.28924	37.95068	-121.29116	37.95764
N EL DORADO ST	E Alpine Ave	N	-121.29577	37.97231	-121.29931	37.98002
N EL DORADO ST	Swain Rd	N	-121.30563	37.99636	-121.30856	38.00725
ARCH AIRPORT RD	CA-99/Kingsley Rd	E	-121.2547	37.90196	-121.22496	37.90424
ARCH RD	Austin Rd	E	-121.22201	37.90498	-121.183899	37.9053732
E EIGHT MILE RD	CR-J3/West Ln	E	-121.31058	38.05761	-121.29634	38.05746
S CHEROKEE LN	E Victor Rd	N	-121.26051	38.13102	-121.26079	38.13729
S HUTCHINS ST	CA-12/W Kettleman Ln	N	-121.27871	38.10124	-121.27893	38.11542
W MARCH LN	I-5	E	-121.36628	37.9775	-121.34412	37.98444
W MARCH LN	N El Dorado St	E	-121.31261	37.99134	-121.30565	37.99616
S WILSON WAY	E Main St	N	-121.27102	37.95384	-121.27156	37.95578
N WILSON WAY	E Fremont St	N	-121.27185	37.95684	-121.27291	37.96076
N WILSON WAY	Sanguinetti Ln	N	-121.2756	37.97062	-121.27157	37.98282
N WILSON WAY	CA-99	N	-121.26877	37.98781	-121.25919	38.0015
WATERLOO RD	CA-99	E	-121.26183	37.97704	-121.25186	37.98349
E DR MARTIN LUTHER KING JR BLVD	CA-4/CA-26/CA-99/Main St	E	-121.25564	37.94482	-121.24344	37.95117
HARBOR ST	S Fresno Ave	E	-121.32353	37.94889	-121.31361	37.94787
W SCHULTE RD	S Tracy Blvd	E	-121.45298	37.72858	-121.43486	37.72508
COTTAGE AVE	E Louise Ave	N	-121.19817	37.79788	-121.19879	37.81198
I-205 W	San Joaquin/Alameda County Line	W	-121.53678	37.74289	-121.55641	37.74325
I-205 W	CR-J13/Tracy Blvd	W	-121.41923	37.76372	-121.42985	37.76308
I-580 E	CR-J2/Corral Hollow Rd	E	-121.53198	37.71726	-121.45963	37.67349
I-580 E	Mtn House Pky/Patterson Pass Rd	S	-121.55619	37.73784	-121.53822	37.72184
I-5 S	I-580	S	-121.34324	37.63344	-121.34303	37.60047
I-5 S	Manthey Rd/Mossdale Rd	W	-121.31151	37.78211	-121.31558	37.77916
I-5 S	Louise Ave	S	-121.29183	37.82219	-121.29435	37.8157
I-5 S	Fremont St/Pershing Avenue	E	-121.32646	37.95623	-121.31796	37.95586
I-5 S	Country Club Blvd	S	-121.33647	37.96653	-121.3361	37.96561
I-5 S	Alpine Ave	S	-121.3424	37.98159	-121.33949	37.97418
I-5 S	Benjamin Holt Dr	S	-121.35735	38.01802	-121.35267	38.00754
CA-120 E	Main St	E	-121.22929	37.78315	-121.22176	37.78316
CA-4 W	S El Dorado St	W	-121.28386	37.95137	-121.28672	37.95086
CA-99 S	2nd St	E	-121.1287	37.74375	-121.1254	37.7419
CA-99 S	Clark Dr	S	-121.2332	37.93011	-121.22903	37.91978
CA-99 S	CA-4/Farmington Rd	S	-121.23802	37.95124	-121.23726	37.94937

Road Name	Boundary	Direction	Start Longitude	Start Latitude	End Longitude	End Latitude
CA-99 S	Cherokee Rd	S	-121.25758	38.00315	-121.2529	37.99231
CA-99 S	Hammer Ln	S	-121.25851	38.03692	-121.25832	38.02264
CA-99 S	Armstrong Rd	S	-121.26025	38.10123	-121.26015	38.09034
CA-99 S	CA-12/Kettleman Ln	S	-121.25766	38.13437	-121.25746	38.11919
I-5 S	CA-132	S	-121.34351	37.68243	-121.34336	37.64211
I-5 S	I-205	W	-121.31911	37.77658	-121.32817	37.77008
I-5 S	CA-120	S	-121.29709	37.80835	-121.30264	37.78826
I-5 S	Lathrop Rd	S	-121.28322	37.85173	-121.28859	37.83072
I-5 S	Mathews Rd	S	-121.28239	37.89271	-121.27972	37.88527
I-5 S	8th St	S	-121.29718	37.93404	-121.29594	37.9303
I-5 S	CA-4	E	-121.31203	37.95454	-121.30888	37.95299
I-5 S	Monte Diablo Ave	S	-121.33442	37.96145	-121.33321	37.95964
I-5 S	March Ln	S	-121.3503	38.00158	-121.34483	37.98767
I-5 S	Hammer Ln	S	-121.37176	38.05448	-121.36062	38.02461
I-5 S	CR-J11/W Walnut Grove Rd	S	-121.44773	38.25389	-121.43323	38.22917
CA-120 E	CA-99 (South)	E	-121.20998	37.78318	-121.19465	37.78321
CA-99 S	Hammett Rd/Exit 234	S	-121.11834	37.73718	-121.1100769	37.73028748
CA-99 S	Milgeo Ave	E	-121.1374	37.74895	-121.13334	37.74649
CA-99 S	Arch Rd	S	-121.22873	37.91905	-121.2244	37.90828
CA-99 S	Mariposa Rd	S	-121.23535	37.94379	-121.23483	37.93983
CA-99 S	Morada Ln	S	-121.25944	38.05516	-121.25851	38.03982
CA-99 S	CA-12/Victor Rd	S	-121.26014	38.14206	-121.25782	38.13732
CA-99 S	E Turner Rd/Exit 267A	S	-121.26154	38.15136	-121.26142	38.14773
CA-99 S	Jahant Rd/Woodson Rd	S	-121.27196	38.22018	-121.26411	38.20773
CA-99 S	Liberty Rd	S	-121.28729	38.24429	-121.28227	38.23638
E YOSEMITE AVE	Calla Rd	E	-121.19061	37.79753	-121.1682093	37.79758
CA-120	CR-J5/Jack Tone Rd	E	-121.16602	37.79756	-121.14318	37.79765
MAIN ST	Cleveland Ave	E	-120.984082	37.7942315	-120.9232819	37.79357
CA-12	Terminous Dr	W	-121.42262	38.11604	-121.49298	38.11531
CA-12 W	I-5	W	-121.32715	38.11552	-121.39612	38.1161
W KETTLEMAN LN	Ham Ln	W	-121.26047	38.1163	-121.28815	38.11543
E VICTOR RD	CA-99/E Victor Rd	W	-121.16236	38.13871	-121.25673	38.13761
CA-88	Eight Mile Rd	S	-121.1735	38.11628	-121.1887	38.05804
CA-12	CA-12/Victor Rd	S	-121.15877	38.14694	-121.16236	38.13871
CA-12	Elliott Rd/Tully Rd	W	-121.1452	38.16679	-121.15007	38.16343
CA-12	6th St	W	-121.06814	38.19785	-121.08392	38.192
CA-88	CA-12	S	-121.05109	38.23606	-121.06814	38.19785
CA-132 W	I-5	W	-121.32437	37.63801	-121.3368	37.63793
E WATERLOO RD	Alpine Rd	S	-121.1887	38.05804	-121.20729	38.01635
CA-88	Liberty Rd	W	-120.94269	38.31613	-121.0163888	38.27443172
FARMINGTON RD	CR-J5/S Jack Tone Rd	W	-121.00024	37.93004	-121.14803	37.9421
S CORRAL HOLLOW RD	W Schulte Rd	S	-121.45321	37.73924	-121.45324	37.7287
W 11TH ST	I-205	W	-121.47677	37.73937	-121.48975	37.73992
W 11TH ST	CR-J2/N Corral Hollow Rd	W	-121.43638	37.73968	-121.45298	37.73941
E 11TH ST	Holly Dr/Central Ave	W	-121.41656	37.73972	-121.426	37.7397
W GRANT LINE RD	CR-J13/N Tracy Blvd	E	-121.45314	37.75405	-121.43514	37.75417
W GRANT LINE RD	I-205/Naglee Rd	E	-121.48486	37.75396	-121.46672	37.75402
S AIRPORT WAY	Lathrop Rd	S	-121.2555	37.85558	-121.25378	37.82651
S AIRPORT WAY	CR-J9/French Camp Rd	S	-121.25485	37.90192	-121.25357	37.87369
N AIRPORT WAY	E Weber Ave	S	-121.27554	37.96036	-121.27446	37.95639
N UNION RD	W Louise Ave	S	-121.23566	37.8199	-121.23527	37.81199
W LOUISE AVE	S Manthey Rd	W	-121.29651	37.81184	-121.29696	37.81183
LATHROP RD	Old Harlan Rd	W	-121.25378	37.82651	-121.2754708	37.82664806
E ROTH RD	S Harlan Rd	W	-121.25585	37.85559	-121.28045	37.85559
N TRACY BLVD	I-205-BR/W 11th St	S	-121.43514	37.75417	-121.43638	37.73968
S MACARTHUR DR	Valpico Rd	S	-121.41648	37.72515	-121.41639	37.71064
S MACARTHUR DR	W Schulte Rd	S	-121.41656	37.73972	-121.41648	37.72515
N MACARTHUR DR	CR-J4/E Grant Line Rd	S	-121.41479	37.76152	-121.41465	37.75423
N MAIN ST	Alameda St	S	-121.21704	37.81194	-121.21676	37.80465
N MAIN ST	CA-99	S	-121.21759	37.82467	-121.21738	37.821
E FREMONT ST	CA-99	W	-121.23264	37.97385	-121.24453	37.97049
E FREMONT ST	N Cardinal Ave	W	-121.19486	37.98779	-121.23264	37.97385
WEST LN	E Alpine Ave	S	-121.28903	37.99765	-121.28391	37.98396
WEST LN	E March Ln	S	-121.29428	38.01088	-121.29085	38.00214
N WEST LN	E Eight Mile Rd	S	-121.27861	38.08646	-121.29634	38.05746
W HAMMER LN	N Pershing Ave	W	-121.32532	38.02119	-121.32999	38.02107
E HAMMER LN	CR-J3/West Ln	W	-121.27174	38.02127	-121.29478	38.02105
N PERSHING AVE	W Mendocino Ave	S	-121.32192	37.98894	-121.31721	37.97467
N PERSHING AVE	W Benjamin Holt Dr	S	-121.32991	38.01618	-121.32926	38.00858
PACIFIC AVE	W Alpine Ave	S	-121.31277	37.99127	-121.30556	37.97844
W HARDING WAY	Pacific Ave/N Madison St	W	-121.29383	37.96753	-121.29791	37.96683
E HARDING WAY	N California St	W	-121.27821	37.97018	-121.28862	37.96843
N EL DORADO ST	E Alpine Ave	S	-121.30565	37.99616	-121.29931	37.98002
W EIGHT MILE RD	CR-J8/Thornton Rd	W	-121.31058	38.05761	-121.3333402	38.05760021
THORNTON RD	Ag Spanos Blvd	S	-121.35183	38.05766	-121.35036	38.0456
S LOWER SACRAMENTO RD	CA-12/W Kettleman Ln	S	-121.30678	38.13006	-121.30665	38.1157
N LOWER SACRAMENTO RD	W Elm St	S	-121.30681	38.14547	-121.30684	38.13692
W MARCH LN	N Pershing Ave	W	-121.31282	37.99142	-121.32197	37.98909
E MARCH LN	N El Dorado St	W	-121.29085	38.00214	-121.30563	37.99636
S CENTER ST	Hazelton Ave	S	-121.29031	37.94961	-121.28941	37.94631
N CENTER ST	Weber Ave	S	-121.29247	37.95753	-121.29136	37.95351
N CENTER ST	Acacia St	S	-121.29514	37.96731	-121.2938	37.9624
N CENTER ST	Harding Way	S	-121.2969	37.9718	-121.29514	37.96731
S WILSON WAY	E Charter Way	S	-121.26994	37.94985	-121.26796	37.94261
N WILSON WAY	E Fremont St	S	-121.2741	37.9652	-121.27291	37.96076
N WILSON WAY	E Harding Way	S	-121.27157	37.98282	-121.2756	37.97062
N WILSON WAY	Sanguinetti Ln	S	-121.26877	37.98781	-121.27127	37.98335
WATERLOO RD	E Harding Way	S	-121.26772	37.97319	-121.26891	37.97177
S FRESNO AVE	CA-4/Charter Way	S	-121.312	37.94282	-121.31211	37.93749803
SPERRY RD	S El Dorado St	W	-121.2554	37.90178	-121.2759	37.89535
DIAMOND ST	CA-26/E Dr Martin Luther King Jr Blvd	S	-121.25692	37.94809	-121.25587	37.94547
E ANDERSON ST	S B St	W	-121.25758	37.94824	-121.26033	37.94758
HARBOR ST	Port Rd 13	W	-121.31361	37.94787	-121.32353	37.94889
HOLMAN RD	E McAllen Rd	S	-121.27189	38.00549	-121.27076	38.00126
I-205 W	11th St	W	-121.49549	37.74126	-121.50538	37.7409
I-205 W	MacArthur Dr	W	-121.41069	37.76493	-121.41923	37.76372
I-580 E	I-5	E	-121.33777	37.59391	-121.33359	37.5907
I-580 E	Chrisman Rd	E	-121.39762	37.63589	-121.39456	37.63399
I-580 E	CR-J2/Corral Hollow Rd	E	-121.45963	37.67349	-121.45473	37.67051
I-5 S	CA-33	S	-121.34351	37.68707	-121.34351	37.68243
I-5 S	El Dorado St	S	-121.27801	37.87469	-121.27888	37.86766
I-5 S	Fremont St/Pershing Avenue	E	-121.31796	37.95586	-121.31203	37.95454
I-5 S	Michigan Ave	S	-121.33696	37.96778	-121.33647	37.96653
I-5 S	Benjamin Holt Dr	S	-121.35267	38.00754	-121.3503	38.00158
I-5 S	Eight Mile Rd	S	-121.37403	38.06168	-121.37176	38.05448
I-5 S	San Joaquin/Sacramento County Line	S	-121.44806	38.25476	-121.44773	38.25389
CA-120 E	Main St	E	-121.22176	37.78316	-121.20998	37.78318
CA-4 W	S El Dorado St	W	-121.28672	37.95086	-121.29398	37.94987
CA-4 W	S Stanislaus St	W	-121.27809	37.9523	-121.28386	37.95137
CA-4 W	Filbert St	W	-121.24896	37.96096	-121.25809	37.95869
CA-99 S	Jack Tone Rd	E	-121.14667	37.75452	-121.1374	37.74895
CA-99 S	CA-120	S	-121.18984	37.79141	-121.18703	37.78102
CA-99 S	Main St (North)	S	-121.217	37.82441	-121.21608	37.82185
CA-99 S	French Camp Rd/Exit 246	S	-121.21908	37.86587	-121.2189	37.86142
CA-99 S	E Main St	S	-121.23864	37.95278	-121.23802	37.95124
CA-99 S	Morada Ln	S	-121.25851	38.03982	-121.25851	38.03692
CA-99 S	Peltier Rd	S	-121.26282	38.18901	-121.26276	38.18665
CA-99 S	Liberty Rd	S	-121.28227	38.23638	-121.27976	38.23245

Road Name	*Boundary*	*Direction*	*Start Longitude*	*Start Latitude*	*End Longitude*	*End Latitude*
CA-99 S	E Collier Rd	S	-121.27361	38.22277	-121.27196	38.22018
WATERLOO RD	CA-99	W	-121.24789	37.98604	-121.25058	37.98434
MAIN ST	CA-120/CR-J6/Jackson Ave/McHenry Ave	E	-120.99683	37.79737	-120.9964	37.79713
E MARIPOSA RD	CA-26/E Charter Way/Diamond St	S	-121.25572	37.94506	-121.25489	37.94412
E 11TH ST	N MacArthur Dr	W	-121.41369	37.73968	-121.41656	37.73972
S AIRPORT WAY	CA-120	S	-121.2522	37.7852	-121.25218	37.78124
ROTH RD	I-5	W	-121.28127	37.85565	-121.28285	37.85565
FRENCH CAMP RD	CA-99	E	-121.22037	37.86042	-121.21704	37.85942
E FREMONT ST	CA-99	W	-121.24453	37.97049	-121.24696	37.96951
N PERSHING AVE	I-5/W Fremont St	S	-121.31175	37.95832	-121.31244	37.95422
ARCH AIRPORT RD	CA-99/Kingsley Rd	W	-121.22294	37.90486	-121.22423	37.90455
E EIGHT MILE RD	CA-99	W	-121.25753	38.05743	-121.26129	38.05742
S HUTCHINS ST	W Harney Ln	S	-121.27886	38.10124	-121.27886	38.10101
E MARCH LN	CR-J3/West Ln	W	-121.29063	38.00219	-121.29085	38.00214
N CENTER ST	Cleveland St	S	-121.29698	37.97201	-121.2969	37.9718
S FRESNO AVE	CA-4/Ort Lofthus Fwy	S	-121.31222	37.94365	-121.312	37.94282
DIAMOND ST	CA-26/E Dr Martin Luther King Jr Blvd	S	-121.25587	37.94547	-121.25572	37.94506
E ANDERSON ST	S B St	W	-121.26033	37.94758	-121.26078	37.94747
HARBOR ST	S Fresno Ave	W	-121.31334	37.94774	-121.31361	37.94787
E MARCH LN	Holman Rd	W	-121.27193	38.00589	-121.27373	38.0059
HOLMAN RD	E March Ln	S	-121.27193	38.00589	-121.27189	38.00549
I-205 E	11th St	E	-121.50343	37.74062	-121.495	37.74112
I-580 W	Mtn House Pky/Patterson Pass Rd	W	-121.53236	37.71786	-121.53693	37.72119
I-5 N	Kasson Rd	N	-121.34347	37.74345	-121.34354	37.74848
I-5 N	I-205	E	-121.3316	37.76711	-121.32023	37.77539
I-5 N	Roth Rd	N	-121.28283	37.85183	-121.28092	37.85917
I-5 N	French Camp Rd	N	-121.28206	37.89271	-121.28492	37.90072
I-5 N	8th St	N	-121.29302	37.92312	-121.29535	37.92967
I-5 N	Turner Rd	N	-121.39907	38.14206	-121.39909	38.149
I-5 N	CR-J11/W Walnut Grove Rd	N	-121.42815	38.22264	-121.43272	38.22913
CA-99 N	Milgeo Ave	W	-121.12846	37.74384	-121.13326	37.74668
CA-99 N	Main St (North)	N	-121.21586	37.82184	-121.2168	37.82446
CA-99 N	French Camp Rd/Exit 246	N	-121.21858	37.85908	-121.2188	37.8649
CA-99 N	Arch Rd	N	-121.22114	37.9007	-121.22454	37.90916
CA-99 N	Mariposa Rd	N	-121.23359	37.93167	-121.2344	37.93788
CA-99 N	Wilson Way	N	-121.25703	38.00325	-121.25749	38.00451
CA-99 N	Hammer Ln	N	-121.25807	38.01967	-121.25814	38.02518
CA-99 N	Eight Mile Rd	N	-121.2592	38.05417	-121.25943	38.05755
CA-99 N	CA-12/Kettleman Ln	N	-121.25832	38.11358	-121.25719	38.11882
CA-99 N	San Joaquin/Sacramento County Line	N	-121.28711	38.24437	-121.28801	38.24578
N BECKMAN RD	CA-99/E Victor Rd	N	-121.25736	38.13413	-121.25673	38.13761
CA-132 E	S Chrisman Rd	E	-121.40122	37.63864	-121.39362	37.63829
N CORRAL HOLLOW RD	CR-J4/W Grant Line Rd	N	-121.45314	37.75405	-121.45314	37.75421
W 11TH ST	S Lammers Rd	E	-121.47728	37.73916	-121.4762	37.73916
E GRANT LINE RD	N MacArthur Dr	W	-121.41455	37.75423	-121.41465	37.75423
S UNION RD	CA-120	N	-121.23398	37.78178	-121.23409	37.78452
N MACARTHUR DR	I-205	N	-121.41476	37.7638	-121.41475	37.76471
FRENCH CAMP RD	CR-J3/S Airport Way	W	-121.25332	37.87352	-121.25357	37.87369
WEST LN	E March Ln	N	-121.29056	38.00203	-121.29063	38.00219
W HAMMER LN	I-5	E	-121.35952	38.0213	-121.35724	38.02128
N PERSHING AVE	W March Ln	N	-121.32192	37.98894	-121.32197	37.98909
PACIFIC AVE	W March Ln	N	-121.31261	37.99134	-121.31266	37.9915
S EL DORADO ST	E Charter Way	N	-121.28602	37.93891	-121.28605	37.93901
S EL DORADO ST	CA-4/Ort Lofthus Fwy	N	-121.28899	37.94983	-121.28924	37.95068
ARCH AIRPORT RD	CR-J3/S Airport Way	E	-121.25485	37.90192	-121.2547	37.90196
W EIGHT MILE RD	I-5/Carlton E Forbes Fwy	E	-121.37333	38.0579	-121.37204	38.05793
N CHEROKEE LN	CA-99/E Turner Rd	N	-121.26093	38.14058	-121.25931	38.14577
W MARCH LN	I-5	E	-121.34412	37.98444	-121.34212	37.98459
W MARCH LN	Pacific Ave	E	-121.31277	37.99127	-121.31261	37.99134
N WILSON WAY	Sanguinetti Ln	N	-121.27157	37.98282	-121.27127	37.98335
WATERLOO RD	Cherokee Rd/N D St	E	-121.26772	37.97319	-121.26711	37.97359
WATERLOO RD	CA-99	E	-121.25186	37.98349	-121.25058	37.98434
W DR MARTIN LUTHER KING JR BLVD	I-5	E	-121.29683	37.93698	-121.29625	37.93703
E DR MARTIN LUTHER KING JR BLVD	CR-J3/Airport Way	E	-121.27058	37.94156	-121.27039	37.94159
DIAMOND ST	CA-26/E Dr Martin Luther King Jr Blvd	N	-121.25572	37.94506	-121.25587	37.94547
S FRESNO AVE	Harbor Ave	N	-121.31322	37.94737	-121.31334	37.94774
I-5 S	Roth Rd	S	-121.27888	37.86766	-121.2814	37.859
I-5 S	El Dorado St	S	-121.2786	37.87897	-121.27801	37.87469
I-5 S	French Camp Rd	S	-121.2886	37.90988	-121.28568	37.90176
I-5 S	Downing Ave	S	-121.29372	37.92411	-121.29095	37.91639
I-5 S	CA-4/Charter Way	S	-121.29853	37.94172	-121.29816	37.93954
I-5 S	Eight Mile Rd	S	-121.39594	38.11211	-121.37403	38.06168
I-5 S	CA-12	S	-121.39952	38.14282	-121.4004	38.12108
I-5 S	Turner Rd	S	-121.403	38.18664	-121.39949	38.1494
I-5 S	Peltier Rd	S	-121.42901	38.22317	-121.40765	38.19308
CA-4 W	S Stanislaus St	W	-121.27502	37.95284	-121.27809	37.9523
CA-4 W	S Wilson Way	W	-121.25809	37.95869	-121.26604	37.95521
CA-4 W	Filbert St	W	-121.24657	37.9613	-121.24896	37.96096
CA-99 N	CA-99	N	-121.23908	37.95434	-121.23987	37.9563
CA-99 S	Jack Tone Rd	E	-121.17403	37.77053	-121.14667	37.75452
CA-99 S	CA-120/Yosemite Ave	S	-121.21608	37.82185	-121.19247	37.80106
CA-99 S	Main St (North)	S	-121.21748	37.82819	-121.217	37.82441
CA-99 S	Lathrop Rd	S	-121.2189	37.86142	-121.21762	37.83131
CA-99 S	French Camp Rd/Exit 246	S	-121.22105	37.89985	-121.21908	37.86587
CA-99 S	CA-26/Fremont St	S	-121.25009	37.9824	-121.24741	37.9735
CA-99 S	CA-88/Waterloo Rd	S	-121.25149	37.98878	-121.25076	37.98701
CA-99 S	E Woodbridge Rd/Exit 268	S	-121.26236	38.17256	-121.26189	38.15964
CA-99 S	Acampo Rd	S	-121.26276	38.18665	-121.26251	38.17761
CA-99 S	Peltier Rd	S	-121.26337	38.20553	-121.26282	38.18901
CA-12 W	Brannan Island Rd	W	-121.49298	38.11531	-121.5796876	38.12577783
CA-12 W	Guard Rd	W	-121.40088	38.11607	-121.42262	38.11604
W KETTLEMAN LN	Moore Rd	W	-121.30665	38.11558	-121.32715	38.11552
W KETTLEMAN LN	Lower Sacramento Rd	W	-121.28815	38.11543	-121.30646	38.11558
CA-12	CA-88/E Victor Rd	W	-121.06814	38.19785	-121.1149675	38.17851125
CA-88	Kettleman Ln	S	-121.16236	38.13871	-121.1735	38.11628
CA-12	Brandt Rd	S	-121.15438	38.1573	-121.15877	38.14694
CA-12	Jack Tone Rd	S	-121.1500848	38.16341926	-121.1530732	38.16010718
CA-12	Cherry St	W	-121.08392	38.192	-121.1149675	38.17851125
CA-132 W	S Chrisman Rd	W	-121.34734	37.63789	-121.39463	37.63862
CA-132	S Koster Rd	W	-121.29167	37.63802	-121.32437	37.63801
MAZE BLVD	CA-33/S Ahern Rd/W Vernalis Rd	W	-121.24776	37.6397	-121.273756	37.63829
E MARIPOSA RD	CA-99	E	-121.25489	37.94412	-121.23793	37.93568
W 11TH ST	S Lammers Rd	W	-121.45322	37.73941	-121.47619	37.73937
W GRANT LINE RD	CR-J2/N Corral Hollow Rd	E	-121.46189	37.75403	-121.45332	37.75405
S AIRPORT WAY	Ralph Ave	S	-121.27058	37.94156	-121.26229	37.92003
S AIRPORT WAY	E Charter Way	S	-121.27258	37.94943	-121.27058	37.94156
S UNION RD	Wawona St	S	-121.23491	37.79741	-121.23442	37.78972
N UNION RD	W Yosemite Ave	S	-121.23517	37.80682	-121.23491	37.79741
N UNION RD	Northgate Dr	S	-121.23593	37.82643	-121.23566	37.8199
E LOUISE AVE	N Main St	W	-121.19879	37.81198	-121.21704	37.81194
LATHROP RD	I-5	W	-121.28824	37.82636	-121.28907	37.82636
E LATHROP RD	Union Rd	W	-121.2207176	37.82659004	-121.23593	37.82643
W VALPICO RD	CR-J2/S Corral Hollow Rd	W	-121.43473	37.71059	-121.4529	37.71059
W VALPICO RD	S Tracy Blvd	W	-121.41639	37.71064	-121.43457	37.71059
S CHRISMAN RD	W Valpico Rd	S	-121.3982	37.72522	-121.39809	37.71066
S MAIN ST	CA-120	S	-121.21643	37.79556	-121.21589	37.78531
S MAIN ST	Moffat Blvd	S	-121.21651	37.79741	-121.21643	37.79556
N MAIN ST	Yosemite Ave	S	-121.21676	37.80465	-121.21651	37.79741

Road Name	*Boundary*	*Direction*	*Start Longitude*	*Start Latitude*	*End Longitude*	*End Latitude*
FRENCH CAMP RD	CA-99	E	-121.25332	37.87352	-121.22037	37.86042
WEST LN	E Bianchi Rd	S	-121.29078	38.00197	-121.28903	37.99765
WEST LN	Morada Ln	S	-121.29634	38.05746	-121.29513	38.03687
N WEST LN	E Armstrong Rd	S	-121.27886	38.1009	-121.27861	38.08646
W HAMMER LN	I-5	W	-121.3454	38.02137	-121.3561963	38.02141076
W HAMMER LN	Meadow Ave/Don Ave	W	-121.32999	38.02107	-121.3454	38.02137
N PERSHING AVE	W March Ln	S	-121.32926	38.00858	-121.32197	37.98909
N PERSHING AVE	W Meadow Ave	S	-121.32997	38.02018	-121.32991	38.01618
PACIFIC AVE	W Harding Way	S	-121.30556	37.97844	-121.29823	37.96731
PACIFIC AVE	W March Ln	S	-121.32069	38.01105	-121.31282	37.99142
E HARDING WAY	CR-J3/West Ln/N Airport Way	W	-121.2756	37.97062	-121.27821	37.97018
E HARDING WAY	N Wilson Way	W	-121.26918	37.97186	-121.2756	37.97062
N EL DORADO ST	March Ln	S	-121.30856	38.00725	-121.30563	37.99636
W EIGHT MILE RD	I-5/Carlton E Forbes Fwy	W	-121.35183	38.05766	-121.37204	38.05793
E EIGHT MILE RD	CR-J10/Lower Sacramento Rd	W	-121.29634	38.05746	-121.31058	38.05761
S CHEROKEE LN	E Vine St	S	-121.26064	38.13102	-121.26057	38.12341
S CHEROKEE LN	E Lodi Ave	S	-121.26093	38.13728	-121.26064	38.13102
N CHEROKEE LN	E Victor Rd	S	-121.26103	38.14215	-121.26093	38.13728
E MARCH LN	CR-J3/West Ln	W	-121.27373	38.0059	-121.29063	38.00219
S WILSON WAY	E Hazelton Ave	S	-121.27076	37.9529	-121.26994	37.94985
S WILSON WAY	CA-4/Lafayette St/Washington St	S	-121.27156	37.95578	-121.27102	37.95384
N WILSON WAY	E Main St	S	-121.27185	37.95684	-121.27156	37.95578
N WILSON WAY	E Weber Ave	S	-121.27291	37.96076	-121.27185	37.95684
N WILSON WAY	Waterloo Rd	S	-121.2756	37.97062	-121.2741	37.9652
N WILSON WAY	E Alpine Ave	S	-121.25919	38.0015	-121.26877	37.98781
WATERLOO RD	Cherokee Rd/N D St	W	-121.26183	37.97704	-121.26711	37.97359
WATERLOO RD	N Filbert St	W	-121.25186	37.98349	-121.26183	37.97704
E DR MARTIN LUTHER KING JR BLVD	S El Dorado St	W	-121.27058	37.94156	-121.28605	37.93901
E DR MARTIN LUTHER KING JR BLVD	CR-J3/Airport Way	W	-121.25572	37.94506	-121.27039	37.94159
LOWER SACRAMENTO RD	Pacific Ave/Thornton Rd	S	-121.32285	38.0301	-121.323199	38.02118366
LOWER SACRAMENTO RD	Ponce De Leon Ave	S	-121.31058	38.05761	-121.32274	38.03688554
W MARCH LN	Brookside Rd	W	-121.34418	37.98461	-121.36628	37.97761
S TRACY BLVD	Tracy Municipal Airport	S	-121.43462	37.69602	-121.43444	37.68247
I-580 E	CA-132	E	-121.41412	37.64587	-121.40524	37.64053
I-5 S	Kasson Rd	S	-121.34398	37.75281	-121.34394	37.74486
I-5 S	11th St	S	-121.33871	37.7624	-121.3429	37.75856
I-5 S	I-205	W	-121.32817	37.77008	-121.33228	37.76702
I-5 S	CA-4/Charter Way	S	-121.29816	37.93954	-121.29718	37.93404
I-5 S	CA-4	S	-121.30888	37.95299	-121.29853	37.94172
I-5 S	Monte Diablo Ave	E	-121.33321	37.95964	-121.32646	37.95623
CA-120 E	Yosemite Ave	E	-121.29107	37.78996	-121.28306	37.78802
CA-120 E	I-5	E	-121.30605	37.78523	-121.30109	37.78786
CA-99 S	Arch Rd	S	-121.2244	37.90828	-121.22105	37.89985
CA-99 S	Clark Dr	S	-121.22903	37.91978	-121.22873	37.91905
CA-99 S	Mariposa Rd	S	-121.23483	37.93983	-121.2332	37.93011
CA-99 S	CA-4/Farmington Rd	S	-121.23726	37.94937	-121.23535	37.94379
CA-99 S	CA-26/Fremont St	S	-121.24741	37.9735	-121.24556	37.96906
CA-99 S	CA-88/Waterloo Rd	S	-121.25076	37.98701	-121.25009	37.9824
CA-99 S	Cherokee Rd	S	-121.2529	37.99231	-121.25149	37.98878
CA-99 S	E Woodbridge Rd/Exit 268	S	-121.26189	38.15964	-121.26185	38.15787
CA-99 S	Acampo Rd	S	-121.26251	38.17761	-121.26236	38.17256
CA-99 S	San Joaquin/Sacramento County Line	S	-121.28812	38.24561	-121.28729	38.24429
CA-12	CA-99/E Victor Rd	S	-121.25673	38.13761	-121.25766	38.13437
CA-132	CA-33/S Ahern Rd/W Vernalis Rd	W	-121.28959	37.63809	-121.29167	37.63802
CA-99 N	E Main St	N	-121.23896	37.95405	-121.23908	37.95434
W 11TH ST	S Lammers Rd	W	-121.47619	37.73937	-121.47677	37.73937
W 11TH ST	CR-J2/N Corral Hollow Rd	W	-121.45298	37.73941	-121.45322	37.73941
CA-99 S	E Clarksdale Rd/Exit 267B	S	-121.26165	38.15344	-121.26154	38.15136
S UNION RD	CA-120	S	-121.23437	37.78468	-121.23427	37.782
S CHRISMAN RD	I-205-BR/W 11th St	S	-121.39831	37.7398	-121.39831	37.73962
FRENCH CAMP RD	CR-J3/S Airport Way	E	-121.25357	37.87369	-121.25332	37.87352
WEST LN	CR-J8/E Hammer Ln	S	-121.295	38.02105	-121.295	38.02086
E HAMMER LN	CR-J3/West Ln	W	-121.29478	38.02105	-121.295	38.02105
E HAMMER LN	Holman Rd	W	-121.27153	38.02127	-121.27174	38.02127
E HAMMER LN	CA-99	W	-121.25641	38.02122	-121.25978	38.02128
N PERSHING AVE	W Mendocino Ave	S	-121.31721	37.97467	-121.31697	37.97403
N PERSHING AVE	W March Ln	S	-121.32197	37.98909	-121.32192	37.98894
E HARDING WAY	Waterloo Rd	W	-121.26891	37.97177	-121.26918	37.97186
W EIGHT MILE RD	I-5/Carlton E Forbes Fwy	W	-121.37204	38.05793	-121.37333	38.0579
N CHEROKEE LN	CA-99/E Turner Rd	S	-121.26306	38.14576	-121.26103	38.14215
S LOWER SACRAMENTO RD	CA-12/W Kettleman Ln	S	-121.30665	38.1157	-121.30665	38.1154
HOLMAN RD	CR-J8/E Hammer Ln	S	-121.27174	38.02127	-121.27173	38.02108
W MARCH LN	I-5	W	-121.34276	37.98472	-121.34418	37.98461
W MARCH LN	Pacific Ave	W	-121.31266	37.9915	-121.31282	37.99142
W MARCH LN	N El Dorado St	W	-121.30563	37.99636	-121.30579	37.99624
S CENTER ST	CA-4/Lafayette St/Washington St	S	-121.29054	37.95047	-121.29031	37.94961
E ANDERSON ST	Diamond St	W	-121.25705	37.94837	-121.25758	37.94824
HOLMAN RD	E McAllen Rd	S	-121.27076	38.00126	-121.27026	38.00025
S LOWER SACRAMENTO RD	CA-12/W Kettleman Ln	S	-121.30665	38.1154	-121.30664	38.11447
N PERSHING AVE	W Hammer Ln	S	-121.32999	38.02087	-121.32997	38.02018
W SCHULTE RD	CR-J2/S Corral Hollow Rd	W	-121.45298	37.7287	-121.45324	37.7287
COTTAGE AVE	E Yosemite Ave	S	-121.19817	37.79788	-121.19816	37.79749
I-580 W	CR-J2/Corral Hollow Rd	W	-121.45449	37.67078	-121.45907	37.6736
I-5 N	CA-4	N	-121.29828	37.94209	-121.30734	37.95248
I-5 N	Fremont St/Pershing Avenue	W	-121.30965	37.95363	-121.31781	37.95607
I-5 N	Monte Diablo Ave	W	-121.32317	37.95626	-121.33227	37.95908
I-5 N	Country Club Blvd	N	-121.33409	37.96147	-121.33573	37.96554
I-5 N	Peltier Rd	N	-121.40216	38.18598	-121.40649	38.19218
I-5 N	San Joaquin/Sacramento County Line	N	-121.44754	38.25439	-121.44771	38.25485
CA-120 W	Union Rd	W	-121.22897	37.78348	-121.23898	37.78346
CA-120 W	Airport Way	W	-121.24665	37.78343	-121.25745	37.78335
CA-120 W	Yosemite Ave	W	-121.28281	37.78834	-121.29016	37.7902
CA-120 W	I-5	W	-121.29505	37.79035	-121.31151	37.78211
CA-99 N	Jack Tone Rd	W	-121.13885	37.75034	-121.146	37.75446
CA-99 N	Austin Rd	W	-121.17731	37.77326	-121.18145	37.77644
CA-99 N	CA-120	N	-121.18504	37.77921	-121.188	37.78514
CA-99 N	Lathrop Rd	N	-121.21726	37.8275	-121.21735	37.82959
CA-99 N	Morada Ln	N	-121.25832	38.0364	-121.25829	38.03851
CA-99 N	Harney Ln	N	-121.26006	38.09889	-121.26012	38.10185
CA-99 N	Cherokee Ln	N	-121.26007	38.10546	-121.25933	38.109
CA-99 N	E Turner Rd/Exit 267A	N	-121.25912	38.14082	-121.26113	38.1462
CA-99 N	E Woodbridge Rd/Exit 268	N	-121.26166	38.16084	-121.26176	38.16363
CA-120	French Camp Rd	W	-121.09166	37.79809	-121.0925	37.79808
CA-132 E	I-580	E	-121.41103	37.64374	-121.40176	37.63871
MAIN ST	CR-J6/CR-J7/Escalon BL Rd/McHenry Ave	W	-120.9964	37.79713	-120.99683	37.79737
W 11TH ST	CR-J2/N Corral Hollow Rd	E	-121.45321	37.73924	-121.45299	37.73925
E 11TH ST	N MacArthur Dr	E	-121.41656	37.73972	-121.41369	37.73968
W 11TH ST	CR-J4/W Grant Line Rd/Kasson Rd	E	-121.35193	37.7529	-121.35151	37.75315
W GRANT LINE RD	I-205/Naglee Rd	W	-121.45985	37.7542	-121.46671	37.75417
N AIRPORT WAY	E Harding Way	N	-121.27818	37.97007	-121.27821	37.97018
ROTH RD	I-5	E	-121.28286	37.85553	-121.28128	37.85553
S CHRISMAN RD	I-205-BR/W 11th St	N	-121.39831	37.73962	-121.39831	37.7398
N MAIN ST	E Lathrop Rd	N	-121.21878	37.82631	-121.2188	37.82663
N WEST LN	W Harney Ln	N	-121.2787	38.1009	-121.2787	38.10101
E HAMMER LN	CR-J3/West Ln	E	-121.295	38.02086	-121.29477	38.02086
PACIFIC AVE	W Harding Way	N	-121.29791	37.96683	-121.29823	37.96731
N EL DORADO ST	CR-J8/Hammer Ln	N	-121.3152	38.02086	-121.3152	38.02101
ARCH AIRPORT RD	CA-99/Kingsley Rd	E	-121.22496	37.90424	-121.22291	37.90475

Road Name	*Boundary*	*Direction*	*Start Longitude*	*Start Latitude*	*End Longitude*	*End Latitude*
ARCH RD	CA-99/Kingsley Rd	E	-121.22291	37.90475	-121.22201	37.90498
E MARCH LN	N El Dorado St	E	-121.30565	37.99616	-121.30552	37.99625
E MARCH LN	CR-J3/West Ln	E	-121.29078	38.00197	-121.29056	38.00203
S CHEROKEE LN	CA-99/Century Blvd	N	-121.26036	38.10843	-121.26018	38.11038
E DR MARTIN LUTHER KING JR BLVD	CR-J7/Mariposa Rd	E	-121.25754	37.94431	-121.25564	37.94482
E DR MARTIN LUTHER KING JR BLVD	CA-4/CA-26/CA-99/Main St	E	-121.24344	37.95117	-121.24315	37.95125
S FRESNO AVE	CA-4/Ort Lofthus Fwy	N	-121.312	37.94282	-121.31222	37.94365
CA-120	French Camp Rd	E	-121.14318	37.79765	-121.0925	37.79808
E ANDERSON ST	Diamond St	E	-121.25758	37.94824	-121.25705	37.94837
N PERSHING AVE	W Hammer Ln	N	-121.32997	38.02018	-121.32999	38.02087
COTTAGE AVE	E Yosemite Ave	N	-121.19816	37.79749	-121.19817	37.79788
E WATERLOO RD	CA-99	W	-121.20729	38.01635	-121.24789	37.98604
CA-132 W	I-580	W	-121.40223	37.63954	-121.40248	37.63962
YOSEMITE AVE	CR-J6/CR-J7/Escalon BL Rd/McHenry Ave	E	-121.09166	37.79809	-120.99683	37.79737
CA-99 N	E Main St	N	-121.23651	37.94808	-121.23896	37.95405
CA-4	CR-J6/Escalon Bellota Rd	W	-120.9264057	37.94487991	-121.00024	37.93004
MAIN ST	CA-120/Jackson Ave/Kern St	E	-120.9964	37.79713	-120.99595	37.79696
S CORRAL HOLLOW RD	W Valpico Rd	S	-121.45324	37.72858	-121.4529	37.71059
W 11TH ST	CR-J13/N Tracy Blvd	W	-121.426	37.7397	-121.43638	37.73968
W 11TH ST	N MacArthur Dr	W	-121.39831	37.7398	-121.41369	37.73968
CA-99 S	E Clarksdale Rd/Exit 267B	S	-121.26185	38.15787	-121.26165	38.15344
S AIRPORT WAY	E Roth Rd	S	-121.25357	37.87369	-121.2555	37.85558
S AIRPORT WAY	Arch Airport Rd/Sperry Rd	S	-121.26229	37.92003	-121.25485	37.90192
N AIRPORT WAY	E Fremont St	S	-121.27608	37.96232	-121.27554	37.96036
N AIRPORT WAY	E Park St	S	-121.2773073	37.96685018	-121.27608	37.96232
N UNION RD	W Alameda St/Kelly Dr	S	-121.23527	37.81199	-121.23517	37.80682
W YOSEMITE AVE	CR-J3/Airport Way	W	-121.23491	37.79741	-121.25222	37.79733
E LOUISE AVE	I-5	W	-121.29202	37.8118	-121.29476	37.81181
E LOUISE AVE	S Harlan Rd	W	-121.27743	37.81181	-121.29154	37.8118
LATHROP RD	CR-J3/S Airport Way	W	-121.23593	37.82643	-121.25378	37.82651
ROTH RD	I-5	W	-121.28045	37.85559	-121.28127	37.85565
S TRACY BLVD	W Valpico Rd	S	-121.43486	37.72508	-121.43473	37.71059
N TRACY BLVD	CR-J4/W Grant Line Rd	S	-121.43506	37.7625	-121.43514	37.75417
S CHRISMAN RD	W Schulte Rd	S	-121.39831	37.73962	-121.3982	37.72522
S MACARTHUR DR	W Linne Rd	S	-121.41639	37.71064	-121.41639	37.69625
N MACARTHUR DR	I-205-BR/E 11th St	S	-121.41465	37.75423	-121.41369	37.73968
N MACARTHUR DR	Pescadero Ave	S	-121.41476	37.7638	-121.41479	37.76152
N MAIN ST	Louise Ave	S	-121.21738	37.821	-121.21704	37.81194
WEST LN	CR-J8/E Hammer Ln	S	-121.29513	38.03687	-121.295	38.02105
W HAMMER LN	CR-J8/Thornton Rd	W	-121.295	38.02105	-121.32532	38.02119
E HAMMER LN	Holman Rd	W	-121.2641421	38.02125	-121.27153	38.02127
N PERSHING AVE	W Acacia St/Picardy Dr	S	-121.31332	37.96417	-121.31201	37.9593
N PERSHING AVE	Country Club Blvd	S	-121.31697	37.97403	-121.31514	37.96947
E HARDING WAY	N El Dorado St	W	-121.28862	37.96843	-121.29383	37.96753
N EL DORADO ST	E Cleveland St	S	-121.29931	37.98002	-121.29577	37.97231
ARCH RD	CA-99/Kingsley Rd	W	-121.18456	37.90535	-121.22183	37.90512
THORNTON RD	W Hammer Ln	S	-121.32974	38.02603	-121.32532	38.02119
THORNTON RD	Wagner Heights Rd	S	-121.35036	38.0456	-121.33907	38.03551
S CHEROKEE LN	CA-12/E Kettleman Ln	S	-121.26057	38.12341	-121.26047	38.1163
N LOWER SACRAMENTO RD	W Lodi Ave/W Sargent Rd	S	-121.30684	38.13692	-121.30678	38.13006
W MARCH LN	I-5	W	-121.32197	37.98909	-121.3399054	37.9848947
W MARCH LN	Pacific Ave	W	-121.30579	37.99624	-121.31266	37.9915
S CENTER ST	CA-4/Lafayette St/Washington St	S	-121.29136	37.95351	-121.29054	37.95047
N CENTER ST	Fremont St	S	-121.2938	37.9624	-121.29247	37.95753
W DR MARTIN LUTHER KING JR BLVD	I-5	W	-121.28605	37.93901	-121.29629	37.93714
E DR MARTIN LUTHER KING JR BLVD	CR-J7/Mariposa Rd	W	-121.24344	37.95117	-121.25572	37.94506
N LOWER SACRAMENTO RD	E Armstrong Rd	S	-121.30639	38.10108	-121.31059	38.08653
HOLMAN RD	E March Ln	S	-121.27173	38.02108	-121.27193	38.00589
W SCHULTE RD	CR-J2/S Corral Hollow Rd	W	-121.43486	37.72521	-121.45298	37.7287
I-205 W	Mountain House Pky	W	-121.52587	37.74219	-121.53678	37.74289
I-205 W	CR-J13/Tracy Blvd	W	-121.42985	37.76308	-121.43989	37.76292
I-205 W	I-5	W	-121.32817	37.77008	-121.33517	37.76701
I-580 E	Mtn House Pky/Patterson Pass Rd	E	-121.53822	37.72184	-121.53198	37.71726
I-5 S	Lathrop Rd	S	-121.28859	37.83072	-121.29183	37.82219
I-5 S	Roth Rd	S	-121.2814	37.859	-121.28322	37.85173
I-5 S	Country Club Blvd	S	-121.3361	37.96561	-121.33442	37.96145
I-5 S	Alpine Ave	S	-121.33949	37.97418	-121.33752	37.96923
I-5 S	March Ln	S	-121.34483	37.98767	-121.3424	37.98159
I-5 S	Hammer Ln	S	-121.36062	38.02461	-121.35735	38.01802
CA-120 E	CA-99 (South)	E	-121.19465	37.78321	-121.188	37.78514
CA-120 E	Union Rd	E	-121.23953	37.78311	-121.22929	37.78315
CA-4 W	S Wilson Way	W	-121.26604	37.95521	-121.27502	37.95284
CA-99 S	Austin Rd	E	-121.18161	37.77635	-121.17403	37.77053
CA-99 S	CA-120/Yosemite Ave	S	-121.19247	37.80106	-121.19067	37.79473
CA-99 S	Lathrop Rd	S	-121.21762	37.83131	-121.21748	37.82819
CA-99 S	CA-4	S	-121.24369	37.96539	-121.24041	37.95718
CA-99 S	Hammer Ln	S	-121.25832	38.02264	-121.25822	38.01721
CA-99 S	Eight Mile Rd	S	-121.25961	38.05804	-121.25944	38.05516
CA-99 S	Armstrong Rd	S	-121.26015	38.09034	-121.26013	38.08705
CA-99 S	CA-12/Kettleman Ln	S	-121.25746	38.11919	-121.25858	38.1136
CA-99 S	Jahant Rd/Woodson Rd	S	-121.26411	38.20773	-121.26337	38.20553
CA-120	French Camp Rd	E	-121.0925	37.79808	-121.09166	37.79809
W KETTLEMAN LN	Lower Sacramento Rd	W	-121.30646	38.11558	-121.30665	38.11558
CA-132 W	I-580	W	-121.40248	37.63962	-121.40494	37.6408
CA-132 W	I-5	W	-121.3368	37.63793	-121.34734	37.63789
N CORRAL HOLLOW RD	I-205-BR/W 11th St	S	-121.45322	37.73941	-121.45321	37.73924
N CORRAL HOLLOW RD	CR-J4/W Grant Line Rd	S	-121.45334	37.75421	-121.45332	37.75405
W GRANT LINE RD	CR-J13/N Tracy Blvd	E	-121.43514	37.75417	-121.43503	37.75417
W GRANT LINE RD	I-205/Naglee Rd	E	-121.46672	37.75402	-121.46189	37.75403
E YOSEMITE AVE	CA-99	W	-121.19061	37.79753	-121.19204	37.79748
E LOUISE AVE	I-5	W	-121.29476	37.81181	-121.29651	37.81184
E LOUISE AVE	S Harlan Rd	W	-121.29154	37.8118	-121.29202	37.8118
LATHROP RD	I-5	W	-121.28907	37.82636	-121.29103	37.82635
N TRACY BLVD	I-205	S	-121.43506	37.76336	-121.43506	37.7625
W VALPICO RD	S Tracy Blvd	W	-121.43457	37.71059	-121.43473	37.71059
S MACARTHUR DR	W Linne Rd	S	-121.41639	37.69625	-121.41639	37.69605
N WEST LN	W Harney Ln	S	-121.27886	38.10101	-121.27886	38.1009
W HAMMER LN	I-5	W	-121.35817	38.02144	-121.35957	38.02144
PACIFIC AVE	W Harding Way	S	-121.29823	37.96731	-121.29791	37.96683
ARCH RD	CA-99/Kingsley Rd	W	-121.22183	37.90512	-121.22294	37.90486
E EIGHT MILE RD	CR-J3/West Ln	W	-121.29616	38.05746	-121.29634	38.05746
THORNTON RD	W Hammer Ln	S	-121.32532	38.02119	-121.32519	38.02104
N LOWER SACRAMENTO RD	W Turner Rd	S	-121.30666	38.14562	-121.30681	38.14547
S WILSON WAY	E Charter Way	S	-121.26796	37.94261	-121.26784	37.9421
S WILSON WAY	CA-4/Lafayette St/Washington St	S	-121.27102	37.95384	-121.27076	37.9529
WATERLOO RD	Cherokee Rd/N D St	W	-121.26711	37.97359	-121.26772	37.97319
WATERLOO RD	CA-99	W	-121.25058	37.98434	-121.25186	37.98349
FARMINGTON RD	CA-4/CA-99	W	-121.23057	37.94178	-121.2348032	37.94123958
W DR MARTIN LUTHER KING JR BLVD	I-5	W	-121.29629	37.93714	-121.29683	37.93698
E DR MARTIN LUTHER KING JR BLVD	CR-J3/Airport Way	W	-121.27039	37.94159	-121.27058	37.94156
DIAMOND ST	E Anderson St	S	-121.25705	37.94837	-121.25692	37.94809
I-205 E	Mountain House Pky	E	-121.53683	37.74273	-121.52588	37.74204
I-205 E	I-5	E	-121.3349	37.76676	-121.32023	37.77539
I-5 N	CA-33	N	-121.34309	37.68182	-121.34307	37.68659
I-5 N	11th St	N	-121.34226	37.75877	-121.33666	37.76337
I-5 N	El Dorado St	N	-121.27752	37.87256	-121.27772	37.87498
I-5 N	Downing Ave	N	-121.28814	37.90967	-121.29065	37.91653
I-5 N	CA-4/Charter Way	N	-121.29665	37.93326	-121.29786	37.93952

Road Name	*Boundary*	*Direction*	*Start Longitude*	*Start Latitude*	*End Longitude*	*End Latitude*
I-5 N	Michigan Ave	N	-121.33617	37.96668	-121.33662	37.96781
I-5 N	Alpine Ave	N	-121.33729	37.96949	-121.33926	37.9744
I-5 N	Hammer Ln	N	-121.35712	38.01825	-121.36004	38.02422
I-5 N	CA-12	N	-121.39514	38.1116	-121.3999	38.12071
CA-120 W	Main St	W	-121.20997	37.78352	-121.22105	37.78351
CA-4 E	S El Dorado St	E	-121.29382	37.94902	-121.28687	37.95045
CA-99 N	2nd St	N	-121.11734	37.73663	-121.1204	37.7392
CA-99 N	CA-120/Yosemite Ave	N	-121.1904	37.79444	-121.19194	37.80035
CA-99 N	Clark Dr	N	-121.22854	37.91912	-121.22886	37.91991
CA-99 N	CA-4/Farmington Rd	N	-121.23483	37.94145	-121.23651	37.94808
CA-99 N	Cherokee Rd	N	-121.2527	37.99234	-121.25368	37.99477
CA-99 N	Armstrong Rd	N	-121.25987	38.0867	-121.25995	38.08916
CA-99 N	CA-12/Victor Rd	N	-121.25736	38.13413	-121.25752	38.13711
CA-99 N	Liberty Rd	N	-121.27772	38.22968	-121.27947	38.23241
CA-132 E	I-5	E	-121.34839	37.63767	-121.33941	37.63768
CA-132	CA-33/S Ahern Rd/W Vernalis Rd	E	-121.29167	37.63802	-121.28959	37.63809
W GRANT LINE RD	CR-J2/N Corral Hollow Rd	W	-121.45314	37.75421	-121.45334	37.75421
S AIRPORT WAY	CA-120	N	-121.25218	37.78124	-121.2522	37.7852
E LOUISE AVE	I-5	E	-121.29651	37.81184	-121.29476	37.81181
E LATHROP RD	CA-99/N Main St	E	-121.2188	37.82663	-121.215885	37.82667
E ROTH RD	CR-J3/S Airport Way	E	-121.25585	37.85559	-121.2555	37.85558
S TRACY BLVD	W Schulte Rd	N	-121.43471	37.72508	-121.43471	37.72521
FRENCH CAMP RD	CA-99	W	-121.21704	37.85942	-121.22037	37.86042
E FREMONT ST	CA-99	E	-121.24689	37.96942	-121.24449	37.97041
WEST LN	CR-J8/E Hammer Ln	N	-121.29477	38.02086	-121.29478	38.02105
E HAMMER LN	CA-99	E	-121.25979	38.02112	-121.25641	38.02122
N PERSHING AVE	W Mendocino Ave	N	-121.31697	37.97403	-121.31721	37.97467
PACIFIC AVE	CR-J10/Lowr Sacramento Rd/Rivara Rd	N	-121.32388	38.0196	-121.32393	38.0197
N EL DORADO ST	March Ln	N	-121.30552	37.99625	-121.30563	37.99636
THORNTON RD	W Hammer Ln	N	-121.32519	38.02104	-121.32532	38.02119
CA-12 E	CA-12	E	-121.39554	38.11592	-121.39273	38.11611
S LOWER SACRAMENTO RD	CA-12/W Kettleman Ln	N	-121.30646	38.1154	-121.30646	38.11558
LOWER SACRAMENTO RD	Pacific Ave/Thornton Rd	E	-121.32404	38.01957	-121.32357	38.01992
ARCH AIRPORT RD	Cr-J9/S French Camp Rd	E	-121.27965	37.89632	-121.27924	37.8961
DIAMOND ST	E Anderson St	N	-121.25692	37.94809	-121.25705	37.94837
E ANDERSON ST	S B St	E	-121.26078	37.94747	-121.26033	37.94758
S LOWER SACRAMENTO RD	CA-12/W Kettleman Ln	N	-121.30646	38.11488	-121.30646	38.1154
CA-4 W	Byron Hwy (South)	W	-121.46668	37.90215	-121.5699391	37.89087148
CA-4	CR-J2/Tracy Blvd	W	-121.33239	37.9275	-121.46668	37.90215
W CHARTER WAY	Roberts Rd	W	-121.29862	37.93653	-121.33239	37.9275
FARMINGTON RD	Farmington Rd/Ladd Tract Rd	W	-121.14803	37.9421	-121.23057	37.94178
N CORRAL HOLLOW RD	I-205-BR/W 11th St	S	-121.45323	37.74177	-121.45322	37.73941
N CORRAL HOLLOW RD	W Byron Rd	S	-121.45332	37.75405	-121.45323	37.74177
W 11TH ST	S Chrisman Rd	W	-121.35213	37.75306	-121.39831	37.7398
W 11TH ST	CR-J4/W Grant Line Rd/Kasson Rd	W	-121.34561	37.75775	-121.35174	37.75331
E GRANT LINE RD	N MacArthur Dr	E	-121.42592	37.7542	-121.41465	37.75423
W GRANT LINE RD	Holly Dr	E	-121.43503	37.75417	-121.42592	37.7542
S AIRPORT WAY	CA-120	S	-121.25221	37.79011	-121.2522	37.7852
S AIRPORT WAY	Wawona St	S	-121.25222	37.79733	-121.25221	37.79011
S AIRPORT WAY	W Yosemite Ave	S	-121.25303	37.81176	-121.25222	37.79733
S AIRPORT WAY	Louise Ave	S	-121.25378	37.82651	-121.25303	37.81176
S AIRPORT WAY	E Hazelton Ave	S	-121.27417	37.95536	-121.27258	37.94943
N AIRPORT WAY	E Main St	S	-121.27446	37.95639	-121.27417	37.95536
S UNION RD	CA-120	S	-121.23442	37.78972	-121.23437	37.78468
W YOSEMITE AVE	Union Rd	W	-121.21651	37.79741	-121.23491	37.79741
E YOSEMITE AVE	Main St	W	-121.20496	37.79745	-121.21651	37.79741
E YOSEMITE AVE	Powers Ave	W	-121.19816	37.79749	-121.20496	37.79745
E YOSEMITE AVE	Cottage Ave/Spreckles Rd	W	-121.19204	37.79748	-121.19816	37.79749
W LOUISE AVE	5th St/Howland Rd	W	-121.25303	37.81176	-121.27743	37.81181
W LOUISE AVE	CR-J3/Airport Way	W	-121.23527	37.81199	-121.25303	37.81176
W LOUISE AVE	N Union Rd	W	-121.21704	37.81194	-121.23527	37.81199
S TRACY BLVD	W Linne Rd	S	-121.43471	37.70483	-121.43462	37.69602
S TRACY BLVD	Sycamore Pky	S	-121.43473	37.71059	-121.43471	37.70483
S TRACY BLVD	W Schulte Rd	S	-121.43618	37.73676	-121.43486	37.72521
N TRACY BLVD	W Beechnut Ave	S	-121.43638	37.73968	-121.43618	37.73676
S CHRISMAN RD	W Linne Rd	S	-121.39809	37.71066	-121.3981	37.69616
WEST LN	E Harding Way	S	-121.2813512	37.97790306	-121.27825	37.97034
N PERSHING AVE	I-5/W Fremont St	S	-121.31201	37.9593	-121.31175	37.95832
N PERSHING AVE	W Harding Way	S	-121.31514	37.96947	-121.31332	37.96417
PACIFIC AVE	W Benjamin Holt Dr	S	-121.32404	38.01957	-121.32069	38.01105
N EL DORADO ST	Swain Rd	S	-121.3152	38.02086	-121.30856	38.00725
ARCH AIRPORT RD	CR-J3/S Airport Way	W	-121.22423	37.90455	-121.2547	37.90196
E EIGHT MILE RD	CR-J3/West Ln	W	-121.26129	38.05742	-121.29616	38.05746
THORNTON RD	N Pershing Ave/MacDuff Ave	S	-121.33907	38.03551	-121.32974	38.02603
S HUTCHINS ST	W Harney Ln	S	-121.27893	38.11542	-121.27886	38.10124
S CENTER ST	Charter Way	S	-121.28941	37.94631	-121.28739	37.93878
S CHEROKEE LN	CA-99/Harney Ln	S	-121.26036	38.10843	-121.26132	38.1027
S CHEROKEE LN	CA-99/Century Blvd	S	-121.26047	38.1163	-121.26036	38.10843
S LOWER SACRAMENTO RD	E Harney Ln	S	-121.30664	38.11447	-121.30639	38.10108
S FRESNO AVE	CA-4/Ort Lofthus Fwy	S	-121.31322	37.94737	-121.31222	37.94365
WEST LN	E Swain Rd	S	-121.295	38.02086	-121.29428	38.01088
ARCH AIRPORT RD	Cr-J9/S French Camp Rd	W	-121.2759	37.89535	-121.27924	37.8961
COTTAGE AVE	E Yosemite Ave	S	-121.19879	37.81198	-121.19817	37.79788
I-205 W	Grant Line Rd	W	-121.45809	37.75633	-121.47032	37.75133
I-580 E	San Joaquin/Alameda County Line	S	-121.55707	37.73859	-121.55619	37.73784
I-5 S	I-580	S	-121.34303	37.60047	-121.33359	37.5907
I-5 S	CA-132	S	-121.34336	37.64211	-121.34324	37.63344
I-5 S	Manthey Rd/Mossdale Rd	W	-121.31558	37.77916	-121.31911	37.77658
I-5 S	CA-120	W	-121.30264	37.78826	-121.31151	37.78211
I-5 S	Louise Ave	S	-121.29435	37.8157	-121.29709	37.80835
I-5 S	Mathews Rd	S	-121.27972	37.88527	-121.2786	37.87897
I-5 S	French Camp Rd	S	-121.28568	37.90176	-121.28239	37.89271
I-5 S	Downing Ave	S	-121.29095	37.91639	-121.2886	37.90988
I-5 S	8th St	S	-121.29594	37.9303	-121.29372	37.92411
I-5 S	CA-12	S	-121.4004	38.12108	-121.39594	38.11211
I-5 S	Turner Rd	S	-121.39949	38.1494	-121.39952	38.14282
I-5 S	Peltier Rd	S	-121.40765	38.19308	-121.403	38.18664
I-5 S	CR-J11/W Walnut Grove Rd	S	-121.43323	38.22917	-121.42901	38.22317
CA-120 E	Airport Way	E	-121.25842	37.78303	-121.24665	37.78308
CA-99 S	2nd St	E	-121.1254	37.7419	-121.11834	37.73718
CA-99 S	Milgeo Ave	E	-121.13334	37.74649	-121.1287	37.74375
CA-99 S	Wilson Way	S	-121.25801	38.00567	-121.25758	38.00315
CA-99 S	Harney Ln	S	-121.26031	38.10453	-121.26025	38.10123
CA-99 S	Cherokee Ln	S	-121.26008	38.10646	-121.26029	38.10548
CA-99 S	CA-12/Victor Rd	S	-121.25782	38.13732	-121.25766	38.13437
CA-99 S	E Turner Rd/Exit 267A	S	-121.26142	38.14773	-121.26014	38.14206
CA-12 W	I-5	W	-121.39612	38.1161	-121.40088	38.11607
CA-132 W	S Chrisman Rd	W	-121.39463	37.63862	-121.40223	37.63954
MAIN ST	CR-J6/CR-J7/Escalon BL Rd/McHenry Ave	E	-120.99683	37.79737	-120.9964	37.79713
E MARIPOSA RD	CA-99	E	-121.23793	37.93568	-121.23071	37.9327
S CORRAL HOLLOW RD	W Schulte Rd	S	-121.45324	37.7287	-121.45324	37.72858
E GRANT LINE RD	N MacArthur Dr	E	-121.41465	37.75423	-121.41455	37.75423
W GRANT LINE RD	CR-J2/N Corral Hollow Rd	E	-121.45332	37.75405	-121.45314	37.75405
N AIRPORT WAY	E Harding Way	S	-121.27821	37.97018	-121.27818	37.97007
E LATHROP RD	CA-99/N Main St	W	-121.215885	37.82667	-121.2188	37.82663
E ROTH RD	CR-J3/S Airport Way	W	-121.2555	37.85558	-121.25585	37.85559
S TRACY BLVD	W Schulte Rd	S	-121.43486	37.72521	-121.43486	37.72508
E 11TH ST	I-205-BR/E 11th St	W	-121.41369	37.73968	-121.41656	37.73972

Road Name	Boundary	Direction	Start Longitude	Start Latitude	End Longitude	End Latitude
N MACARTHUR DR	I-205	S	-121.41475	37.76471	-121.41476	37.7638
S MAIN ST	CA-120	S	-121.21589	37.78531	-121.21586	37.78318
WEST LN	E Harding Way	S	-121.27825	37.97034	-121.27821	37.97018
WEST LN	E March Ln	S	-121.29085	38.00214	-121.29078	38.00197
PACIFIC AVE	W March Ln	S	-121.31282	37.99142	-121.31277	37.99127
THORNTON RD	CR-J10/Lowr Sacramento Rd/Rivara Rd	S	-121.32409	38.01965	-121.32404	38.01957
N EL DORADO ST	March Ln	S	-121.30563	37.99636	-121.30565	37.99616
N EL DORADO ST	CR-J8/Hammer Ln	S	-121.3152	38.02101	-121.3152	38.02086
ARCH AIRPORT RD	CR-J3/S Airport Way	W	-121.2547	37.90196	-121.25485	37.90192
S CENTER ST	Charter Way	S	-121.28739	37.93878	-121.28736	37.93868
N WILSON WAY	Sanguinetti Ln	S	-121.27127	37.98335	-121.27157	37.98282
N WILSON WAY	CA-99	S	-121.25801	38.00567	-121.25919	38.0015
ARCH AIRPORT RD	Cr-J9/S French Camp Rd	W	-121.27924	37.8961	-121.27965	37.89632
SPERRY RD	CR-J3/S Airport Way	W	-121.25485	37.90192	-121.2554	37.90178
S FRESNO AVE	Harbor Ave	S	-121.31334	37.94774	-121.31322	37.94737
W MARCH LN	Brookside Rd	W	-121.36628	37.97761	-121.36851	37.97757
W SCHULTE RD	S Tracy Blvd	W	-121.43471	37.72521	-121.43486	37.72521
I-205 E	Grant Line Rd	E	-121.46746	37.7522	-121.45877	37.75576
I-205 E	CR-J13/Tracy Blvd	E	-121.43995	37.76266	-121.43056	37.76281
I-205 E	MacArthur Dr	E	-121.41837	37.76359	-121.41098	37.76465
I-580 W	Chrisman Rd	W	-121.39485	37.63463	-121.39762	37.63623
I-580 W	CA-132	W	-121.40494	37.6408	-121.41381	37.64608
I-5 N	I-580	N	-121.33647	37.59332	-121.34206	37.60049
I-5 N	CA-132	N	-121.34284	37.63236	-121.34294	37.64101
I-5 N	Manthey Rd/Mossdale Rd	E	-121.31392	37.77994	-121.31038	37.78251
I-5 N	CA-120	N	-121.30605	37.78523	-121.30061	37.79287
I-5 N	Louise Ave	N	-121.29683	37.80793	-121.29398	37.81586
I-5 N	Lathrop Rd	N	-121.29152	37.82217	-121.28842	37.83011
I-5 N	Mathews Rd	N	-121.27828	37.8791	-121.27939	37.88523
I-5 N	March Ln	N	-121.34182	37.98092	-121.34447	37.9876
I-5 N	Benjamin Holt Dr	N	-121.34996	38.00147	-121.35236	38.00755
I-5 N	Eight Mile Rd	N	-121.37139	38.05446	-121.37369	38.06163
CA-120 W	CA-99 (South)	S	-121.18984	37.79141	-121.19468	37.78352
CA-4 E	S Stanislaus St	E	-121.28371	37.95099	-121.27778	37.952
CA-4 E	S Wilson Way	E	-121.2748	37.95253	-121.26604	37.95489
CA-4 E	Filbert St	E	-121.25915	37.95819	-121.25013	37.96041
CA-99 N	E Main St	N	-121.23806	37.95186	-121.23896	37.95405
CA-99 N	CA-4	N	-121.23987	37.9563	-121.24334	37.96523
CA-99 N	CA-26/Fremont St	N	-121.24541	37.9693	-121.24676	37.97248
CA-99 N	CA-88/Waterloo Rd	N	-121.24992	37.98264	-121.25057	37.98708
CA-99 N	Acampo Rd	N	-121.26221	38.17507	-121.26225	38.17763
CA-99 N	Peltier Rd	N	-121.26258	38.18939	-121.26264	38.19168
CA-99 N	Jahant Rd/Woodson Rd	N	-121.26298	38.2042	-121.26345	38.20687
CA-99 N	E Collier Rd	N	-121.26772	38.21393	-121.26927	38.21638
CA-12 E	I-5	E	-121.40437	38.11591	-121.39663	38.11592
W KETTLEMAN LN	Lower Sacramento Rd	E	-121.30665	38.1154	-121.30646	38.1154
WATERLOO RD	CA-99	E	-121.25058	37.98434	-121.24789	37.98604
MAIN ST	CA-120/CR-J6/Jackson Ave/McHenry Ave	W	-120.9964	37.79713	-120.99683	37.79737
E MARIPOSA RD	CA-99	W	-121.23071	37.9327	-121.23793	37.93568
E MARIPOSA RD	CA-26/E Charter Way/Diamond St	N	-121.25489	37.94412	-121.25572	37.94506
CA-99 S	E Main St	S	-121.2393	37.95439	-121.23914	37.95402
S CORRAL HOLLOW RD	W Schulte Rd	N	-121.45298	37.72858	-121.45298	37.7287
N CORRAL HOLLOW RD	I-205-BR/W 11th St	N	-121.453	37.7382	-121.45298	37.73941
N CORRAL HOLLOW RD	W Byron Rd	N	-121.45298	37.74091	-121.45301	37.74172
W GRANT LINE RD	CR-J13/N Tracy Blvd	W	-121.43503	37.75417	-121.43514	37.75417
CA-99 N	E Clarksdale Rd/Exit 267B	N	-121.26121	38.14952	-121.26129	38.15167
S AIRPORT WAY	CR-J9/French Camp Rd	E	-121.25357	37.87369	-121.25332	37.87384
E YOSEMITE AVE	CA-99	E	-121.19204	37.79748	-121.19061	37.79753
W LOUISE AVE	S Manthey Rd	E	-121.29734	37.81183	-121.29696	37.81183
E LOUISE AVE	S Harlan Rd	E	-121.29202	37.8118	-121.29154	37.8118
LATHROP RD	I-5	E	-121.29103	37.82635	-121.28907	37.82636
N TRACY BLVD	I-205	N	-121.43506	37.7625	-121.43506	37.76336
W VALPICO RD	S Tracy Blvd	E	-121.43473	37.71059	-121.43457	37.71059
S MACARTHUR DR	W Linne Rd	N	-121.41639	37.69605	-121.41639	37.69625
E 11TH ST	I-205-BR/E 11th St	E	-121.41656	37.73972	-121.41369	37.73968
S MAIN ST	CA-120	N	-121.21586	37.78318	-121.21589	37.78531
WEST LN	E Harding Way	N	-121.27821	37.97018	-121.27825	37.97034
E HARDING WAY	Waterloo Rd	E	-121.26918	37.97186	-121.26891	37.97177
E EIGHT MILE RD	CR-J3/West Ln	E	-121.29634	38.05746	-121.29616	38.05746
E EIGHT MILE RD	CA-99	E	-121.26129	38.05742	-121.25753	38.05743
N LOWER SACRAMENTO RD	W Turner Rd	N	-121.30666	38.14547	-121.30666	38.14562
S HUTCHINS ST	W Harney Ln	N	-121.2787	38.10101	-121.27871	38.10124
HOLMAN RD	CR-J8/E Hammer Ln	N	-121.27152	38.02108	-121.27153	38.02127
S WILSON WAY	E Charter Way	N	-121.26784	37.9421	-121.26796	37.94261
S WILSON WAY	CA-4/Lafayette St/Washington St	N	-121.27076	37.9529	-121.27102	37.95384
N WILSON WAY	CA-99	N	-121.25919	38.0015	-121.25747	38.00443
FARMINGTON RD	CA-4/CA-99	E	-121.2348032	37.94123958	-121.23057	37.94178
HARBOR ST	S Fresno Ave	E	-121.31361	37.94787	-121.31334	37.94774
W MARCH LN	Brookside Rd	E	-121.36851	37.97745	-121.36628	37.9775
E MARCH LN	Holman Rd	E	-121.27428	38.00571	-121.27186	38.00576
HOLMAN RD	E McAllen Rd	N	-121.27026	38.00025	-121.27076	38.00126
HOLMAN RD	E March Ln	N	-121.27189	38.00549	-121.27178	38.00589
W SCHULTE RD	CR-J2/S Corral Hollow Rd	E	-121.45324	37.72858	-121.45298	37.72858
W SCHULTE RD	S Tracy Blvd	E	-121.43486	37.72508	-121.43471	37.72508
S TRACY BLVD	Tracy Municipal Airport	N	-121.43443	37.68205	-121.43444	37.68247
W SCHULTE RD	S MacArthur Dr	E	-121.43471	37.72508	-121.4264989	37.72513
W SCHULTE RD	S Tracy Blvd	W	-121.4264989	37.72513	-121.43471	37.72521
W GRANT LINE RD	N MacArthur Dr	W	-121.3983	37.75428	-121.41455	37.75423
W GRANT LINE RD	S Bird Rd	E	-121.41455	37.75423	-121.3982753	37.75412978
S CORRAL HOLLOW RD	CR-J13/S Tracy Blvd	N	-121.45314	37.75421	-121.45333	37.76137476
S CORRAL HOLLOW RD	CR-J4/W Grant Line Rd	S	-121.45333	37.76137476	-121.45334	37.75421
TRACY BLVD	Howard Rd	N	-121.43506	37.76336	-121.4350904	37.76904487
TRACY BLVD	I-205	S	-121.4350904	37.76904487	-121.43506	37.76336
S SAN JOAQUIN ST	E Hazelton Ave	N	-121.285019	37.94510926	-121.28559	37.94722
S SAN JOAQUIN ST	Charter Way/Martin Luther King Blvd	S	-121.28559	37.94722	-121.285019	37.94510926
S SAN JOAQUIN ST	E Weber Ave	N	-121.28559	37.94722	-121.2863787	37.95021522
S SAN JOAQUIN ST	E Hazelton Ave	S	-121.2863787	37.95021522	-121.28559	37.94722
S GOLDEN GATE AVE	Farmington Rd/Ladd Tract Rd	S	-121.235417	37.94409468	-121.23057	37.94178
S GOLDEN GATE AVE	Farmington Rd/Ladd Tract Rd	N	-121.23057	37.94178	-121.23415	37.94337
AUSTIN RD	Arch Rd	S	-121.1840502	37.91181971	-121.183899	37.9053732
Mountain House Pkwy	I-205	N	-121.5351176	37.71958092	-121.5314985	37.74253866
Corral Hollow Rd	I-580	S	-121.4529083	37.71058452	-121.4569678	37.67203208
Mountain House Pkwy	I-205	S	-121.5314985	37.74253866	-121.5308124	37.78239746
Schulte Rd	Tracy Blvd	W	-121.4347564	37.7300077	-121.42552	37.73321446
S Lammers Rd	California Aqueduct	S	-121.4766573	37.73945373	-121.4771804	37.69325088
S Chrisman Rd	CA-132	S	-121.3980344	37.69640791	-121.3975345	37.638559
S Lammers Rd	W 11th St	S	-121.4747379	37.74940718	-121.4766573	37.73945373
AUSTIN RD	W Ripon Rd	S	-121.179246	37.77461649	-121.178642	37.73936861
Woodward Ave	S Woodward Ave	W	-121.2888116	37.7750463	-121.1808782	37.77583143
YOSEMITE AVE	Airport Wy	E	-121.2522136	37.79734042	-121.2704827	37.79709983
Golden Valley Pkwy	Sadler Oak Dr	S	-121.3031412	37.79395219	-121.3002256	37.81181786
McKinley Ave	Yosemite Ave	N	-121.2704827	37.79709983	-121.2705321	37.78484006
YOSEMITE AVE	CA-120	E	-121.2704827	37.79709983	-121.2873813	37.78918959
AUSTIN RD	CA-99	S	-121.1798714	37.79758447	-121.1792669	37.77583149
AUSTIN RD	CA-120	S	-121.1814508	37.82648999	-121.1798714	37.79758447
French Camp Rd	Airport Wy	S	-121.2536069	37.87352113	-121.27965	37.89632
French Camp Rd	I-5	W	-121.27965	37.89632	-121.2836881	37.89693777
Mariposa Rd	Austin Rd	W	-121.1838369	37.91177818	-120.9982657	37.83474179

Road Name	Boundary	Direction	Start Longitude	Start Latitude	End Longitude	End Latitude
Mariposa Rd	Stagecoach Rd	W	-121.23071	37.9327	-121.1838369	37.91177818
Washington St	Navy Dr	W	-121.337003	37.94435331	-121.3129789	37.94653732
SR-4 - Ort J Lofthus	Navy Dr	W	-121.3121618	37.9432536	-121.322717	37.93747747
Navy Dr	S Fresno Ave	W	-121.312129	37.9374981	-121.2998225	37.93627129
Navy Dr	SR-4	W	-121.312129	37.9374981	-121.322717	37.93747747
SR-4 - Ort J Lofthus	S Fremont St	W	-121.3006777	37.94830126	-121.3121618	37.9432536
SR-4 - Ort J Lofthus	I-5	W	-121.3006777	37.94830126	-121.290405	37.95004412
SR-26	N Maket St	W	-121.0822612	38.02148529	-120.9420321	38.09643674
Lower Sacramento Rd	E Armstrong Rd	N	-121.310586	38.08653094	-121.3105593	38.05758891
Turner Rd	I-5	W	-121.399408	38.14616576	-121.3068975	38.1456318
Peltier Rd	E Elliot Rd	E	-121.262735	38.18921208	-121.1705629	38.19053411
Peltier Rd	I-5	W	-121.4046024	38.18942555	-121.262735	38.18921208
Navy Dr	W Washington St	W	-121.322717	37.93747747	-121.337003	37.94435331
Charter Way	S Golden Gate Ave	W	-121.2384946	37.95268526	-121.24315	37.95125
March Ln	Buckley Core Wy	W	-121.36851	37.97748589	-121.3767777	37.97528915
E YOSEMITE AVE	CA-99 (North)	W	-121.16602	37.79756	-121.1682093	37.79758
E YOSEMITE AVE	Calla Rd	E	-121.1682093	37.79758	-121.16602	37.79756
LATHROP RD	CR-J3/S Airport Way	E	-121.28824	37.82636	-121.2754708	37.82664806
LATHROP RD	Old Harlan Rd	W	-121.2754708	37.82664806	-121.28824	37.82636
E LATHROP RD	CA-99/N Main St	E	-121.2207176	37.82659004	-121.2188	37.82663
E LATHROP RD	Union Rd	W	-121.2188	37.82663	-121.2207176	37.82659004
MAIN ST	CR-J6/CR-J7/Escalon BL Rd/McHenry Ave	W	-120.984082	37.7942315	-120.9964	37.79713
MAIN ST	Cleveland Ave	E	-120.9964	37.79713	-120.984082	37.7942315
WEST LN	E Alpine Ave	N	-121.2811963	37.97794493	-121.28377	37.984
WEST LN	E Harding Way	S	-121.28391	37.98396	-121.2813512	37.97790306
N AIRPORT WAY	E Harding Way	N	-121.2773073	37.96685018	-121.27818	37.97007
N AIRPORT WAY	E Park St	S	-121.27818	37.97007	-121.2773073	37.96685018
W MARCH LN	N Pershing Ave	E	-121.34212	37.98459	-121.3398984	37.98474879
W MARCH LN	I-5	W	-121.3399054	37.9848947	-121.34276	37.98472
W HAMMER LN	Meadow Ave/Don Ave	E	-121.35724	38.02128	-121.3561992	38.02127
W HAMMER LN	I-5	W	-121.3561963	38.02141076	-121.35817	38.02144
E HAMMER LN	CA-99	E	-121.2641453	38.02108	-121.25979	38.02112
E HAMMER LN	Holman Rd	W	-121.25978	38.02128	-121.2641421	38.02125
LOWER SACRAMENTO RD	Ponce De Leon Ave	N	-121.32357	38.01992	-121.3230708	38.02116795
LOWER SACRAMENTO RD	Pacific Ave/Thornton Rd	S	-121.323199	38.02118366	-121.32393	38.0197
LOWER SACRAMENTO RD	Eight Mile Rd	N	-121.32267	38.0301	-121.32274	38.03688554
LOWER SACRAMENTO RD	Ponce De Leon Ave	S	-121.32274	38.03688554	-121.32285	38.0301
W EIGHT MILE RD	CR-J10/Lower Sacramento Rd	E	-121.35183	38.05766	-121.3333402	38.05760021
W EIGHT MILE RD	CR-J8/Thornton Rd	W	-121.3333402	38.05760021	-121.35183	38.05766
W KETTLEMAN LN	CA-99/E Kettleman Ln	E	-121.26047	38.1163	-121.25838	38.11628
W KETTLEMAN LN	Ham Ln	W	-121.25838	38.11628	-121.26047	38.1163
CA-12	CA-88	E	-121.1588076	38.1468498	-121.1530732	38.16010718
CA-12	Elliott Rd/Tully Rd	N	-121.15438	38.1573	-121.1530732	38.16010718
CA-12	CA-88/E Victor Rd	W	-121.1530732	38.16010718	-121.1588076	38.1468498
CA-12	Jack Tone Rd	S	-121.1530732	38.16010718	-121.15438	38.1573
CA-12	CA-88	E	-121.1500848	38.16341926	-121.1451925	38.16679507
CA-12	CA-88/E Victor Rd	W	-121.1451925	38.16679507	-121.1500848	38.16341926
SR-26	N Alpine Rd	W	-121.19486	37.98779	-121.0982798	38.01632469
SR-26	N Granada Ln	W	-121.0982798	38.01632469	-121.0822612	38.02148529
CA-12	CA-88	E	-121.16236	38.13871	-121.1588076	38.1468498
CA-12	CA-88/E Victor Rd	W	-121.1588076	38.1468498	-121.16236	38.13871
CA-12	CA-88	E	-121.1439674	38.16758254	-121.1149675	38.17851125
CA-12	CA-88/E Victor Rd	W	-121.1149675	38.17851125	-121.1439674	38.16758254
CA-12	Elliott Rd/Tully Rd	N	-121.1500848	38.16341926	-121.15007	38.16343
CA-12	Jack Tone Rd	S	-121.15007	38.16343	-121.1500848	38.16341926
CA-12	CA-88	E	-121.1530732	38.16010718	-121.1500848	38.16341926
CA-12	CA-88/E Victor Rd	W	-121.1500848	38.16341926	-121.1530732	38.16010718
CA-12	6th St	E	-121.1452	38.16679	-121.1451925	38.16679507
CA-12	6th St	E	-121.1451925	38.16679507	-121.1149675	38.17851125
CA-12	Cherry St	W	-121.1451925	38.16679507	-121.1452	38.16679
CA-12	Cherry St	W	-121.1149675	38.17851125	-121.1451925	38.16679507
CA-12	CA-88	E	-121.1451925	38.16679507	-121.1439674	38.16758254
CA-12	CA-88/E Victor Rd	W	-121.1439674	38.16758254	-121.1451925	38.16679507
River Island Pkwy	Golden Valley Pwky	E	-121.3002253	37.81183193	-121.3066465	37.81102513
River Island Pkwy	Golden Valley Pkwy	W	-121.29734	37.81183	-121.3002253	37.81183193
Main St	S Jack Tone Rd	W	-121.1422375	37.73953814	-121.1239874	37.73932407
N Chrisman Rd	W 11th St	S	-121.3983	37.75428	-121.39831	37.7398
Old Sperry Rd	S McKinley Ave	W	-121.26234	37.89994	-121.2705042	37.89786531
E Lafavette St	S San Joaquin St	W	-121.2863787	37.95021522	-121.281151	37.95109912
E Washington St	S San Joaquin St	W	-121.2866685	37.95119108	-121.2814473	37.9520698
E Cleveland St	N Center St	W	-121.29698	37.97201	-121.29577	37.97231
Thornton Rd	Rivara Rd	S	-121.32519	38.02104	-121.32409	38.01965
CA-4 E	CR-J2/Tracy Blvd	E	-121.64093	37.89039	-121.5699391	37.89087148
CA-4 W	Byron Hwy (South)	W	-121.5699391	37.89087148	-121.64093	37.89039
I-5 N	I-580	W	-121.3334549	37.59101111	-121.33647	37.59332
MAZE BLVD	CR-J3/S River Rd	E	-121.28959	37.63809	-121.273756	37.63829
MAZE BLVD	CA-33/S Ahern Rd/W Vernalis Rd	W	-121.273756	37.63829	-121.28959	37.63809
CA-99 N	2nd St	N	-121.10681	37.72818	-121.109929	37.73040178
CA-99 S	Hammett Rd/Exit 234	S	-121.1100769	37.73028748	-121.10752	37.72834
MAIN ST	CR-J6/CR-J7/Escalon BL Rd/McHenry Ave	W	-120.88644	37.79147	-120.9232819	37.79357
MAIN ST	Cleveland Ave	E	-120.9232819	37.79357	-120.88644	37.79147
CA-4	CR-J14/Milton Rd	E	-120.9264057	37.94487991	-120.84377	37.94475
CA-4	CR-J6/Escalon Bellota Rd	W	-120.84377	37.94475	-120.9264057	37.94487991
CA-88	Martin Ln	E	-121.05109	38.23606	-121.0163888	38.27443172
CA-88	Liberty Rd	W	-121.0163888	38.27443172	-121.05109	38.23606
CA-12 E	Terminous Dr	E	-121.58605	38.12854	-121.5796876	38.12577783
CA-12 W	Brannan Island Rd	W	-121.5796876	38.12577783	-121.58605	38.12854
Peltier Rd	CA-99	E	-121.4046024	38.18942555	-121.262735	38.18921208
Turner Rd	N Lower Sacramento Rd	E	-121.399408	38.14616576	-121.3068975	38.1456318
Lower Sacramento Rd	Eight Mile Rd	S	-121.310436	38.08653103	-121.3104093	38.05758899
March Ln	Brookslide Rd	E	-121.36851	37.97748589	-121.3767777	37.97528915
Peltier Rd	SR-99	W	-121.262735	38.18921208	-121.1705629	38.19053411
SR-26	N Granada Ln	E	-121.19486	37.98779	-121.0982798	38.01632469
SR-26	County Line	E	-121.0822612	38.02148529	-120.9420321	38.09643674
Mariposa Rd	Austin Rd	E	-121.23071	37.9327	-121.1838369	37.91177818
Mariposa Rd	Escalon-Bellota Rd	E	-121.1838369	37.91177818	-120.9982657	37.83474179
AUSTIN RD	Mariposa Rd	N	-121.1840502	37.91181971	-121.183899	37.9053732
AUSTIN RD	E Yosemite Ave	N	-121.1798714	37.79758447	-121.1792669	37.77583149
AUSTIN RD	E Lathrop Rd	N	-121.1814508	37.82648999	-121.1798714	37.79758447
AUSTIN RD	CA-99	N	-121.179246	37.77461649	-121.178642	37.73936861
Main St	S Stockton Ave	E	-121.1422375	37.73953814	-121.1239874	37.73932407
Woodward Ave	CA-99	E	-121.2888116	37.7750463	-121.1808782	37.77583143
S Chrisman Rd	W Linne Rd	N	-121.3980344	37.69640791	-121.3975345	37.638559
Corral Hollow Rd	W Valpico Rd	N	-121.4529083	37.71058452	-121.4569678	37.67203208
S Lammers Rd	W 11th St	N	-121.4766573	37.73945373	-121.4771804	37.69325088
S Lammers Rd	I-205	N	-121.4747379	37.74940718	-121.4766573	37.73945373
Mountain House Pkwy	Byron Rd	N	-121.5314985	37.74253866	-121.5308124	37.78239746
Mountain House Pkwy	I-580	S	-121.5351176	37.71958092	-121.5314985	37.74253866
Schulte Rd	N Central Ave	E	-121.4347564	37.7300077	-121.42552	37.73321446
N Chrisman Rd	W Grant Line Rd	N	-121.3983	37.75428	-121.39831	37.7398
Golden Valley Pkwy	W Lathrop rd	N	-121.3002256	37.81181786	-121.2955133	37.826351
Golden Valley Pkwy	River Islands Pkwy	S	-121.3002256	37.81181786	-121.2955133	37.826351
Golden Valley Pkwy	River Islands Pkwy	N	-121.3031412	37.79395219	-121.3002256	37.81181786
River Island Pkwy	S Manthey Rd	E	-121.29734	37.81183	-121.3002253	37.81183193
River Island Pkwy	McKee Blvd	W	-121.3002253	37.81183193	-121.3066465	37.81102513
YOSEMITE AVE	CA-120	W	-121.2704827	37.79709983	-121.2873813	37.78918959
McKinley Ave	CA-120	S	-121.2704827	37.79709983	-121.2705321	37.78484006
YOSEMITE AVE	McKinley Ave	W	-121.2522136	37.79734042	-121.2704827	37.79709983

Road Name	*Boundary*	*Direction*	*Start Longitude*	*Start Latitude*	*End Longitude*	*End Latitude*
French Camp Rd	Arch Airport Rd	E	-121.27965	37.89632	-121.2836881	37.89693777
French Camp Rd	Arch Airport Rd	N	-121.2536069	37.87352113	-121.27965	37.89632
Old Sperry Rd	E Sperry Rd	E	-121.26234	37.89994	-121.2705042	37.89786531
Charter Way	CA-99	E	-121.2384946	37.95268526	-121.24315	37.95125
Navy Dr	W Charter Way	E	-121.312129	37.9374981	-121.2998225	37.93627129
Navy Dr	S Fresno Ave	E	-121.312129	37.9374981	-121.322717	37.93747747
Navy Dr	SR-4	E	-121.322717	37.93747747	-121.337003	37.94435331
Washington St	S Fresno St	E	-121.337003	37.94435331	-121.3129789	37.94653732
E Washington St	S Stanislaus St	E	-121.2866685	37.95119108	-121.2814473	37.9520698
E Lafayette St	S Stanislaus St	E	-121.2863787	37.95021522	-121.281151	37.95109912
SR-4 - Ort J Lofthus	S Center St	E	-121.3006777	37.94830126	-121.290405	37.95004412
SR-4 - Ort J Lofthus	I-5	E	-121.3006777	37.94830126	-121.3121618	37.9432536
SR-4 - Ort J Lofthus	S Fresno St	E	-121.3121618	37.9432536	-121.322717	37.93747747
E Cleveland St	N El Dorado St	E	-121.29698	37.97201	-121.29577	37.97231
SR-26	N Market St	E	-121.0982798	38.01632469	-121.0822612	38.02148529
Thornton Rd	W Hammer Ln	N	-121.32519	38.02104	-121.32409	38.01965
W CHARTER WAY	I-5/W Charter Way	N	-121.29862	37.93653	-121.29683	37.93698
E KETTLEMAN LN	CA-99/E Kettleman Ln	N	-121.25838	38.11628	-121.25736	38.11627

APPENDIX E:
COMPLETE STREET QUALITY OF SERVICE

APPENDIX E: Complete Street Quality of Service

State and federal mandates require the consideration of all major modes of travel as part of a Congestion Management Program (CMP). Additionally, the California Complete Streets Act (AB 1358) requires counties and cities to include policies that take all roadway users into consideration (bicyclists, pedestrians, transit riders, motorists, children, senior citizens, mobility impaired, and freight movers) as part of their general plan updates. This places greater emphasis on the shared right of way environment within these communities that have a state highway serving as "Main Street". Congestion on state routes that pass through developed communities is a focus issue in San Joaquin County. In recognition of these legislative mandates, SJCOG, in coordination with its member agencies, has identified a sub-set of the RCMP network to be designated as RCMP multimodal corridors. RCMP multimodal corridors are defined as sections of the RCMP roadway network where pedestrian, bicyclist, transit passenger, and motorist levels of service are analyzed. The concepts and method to compute multimodal quality of service (MMQOS) is documented in the Highway Capacity Manual 7th Edition. This procedure is described in greater detail below.

Multimodal QOS Evaluation Methodology

The phrase, "Complete Streets" in present-day planning and policy lexicons introduces confusion about the meaning of the phrase. Streets considered complete are those which meet the transportation needs for all users, such as pedestrians, bicyclists, transit riders, children, older adults, differently abled people, freight vehicle drivers, and taxis. However, many roadways do not serve all of these user types, nor are all roadways intended for use by everyone. For example, most freeways prohibit access by pedestrians and bicyclists. Most trails prohibit access by motorized vehicles. However, if a roadway provides access to some type of land use, such as a retail store, civic building, school, residence, or employment, it can be expected that a variety of people will use that roadway. The degree to which a street is considered complete depends on several factors, including who are the likely and the desired users.

Urban Streets Methodology (HCM 7th Edition)

The HCM 7th Edition Urban Streets is an integrated methodology that evaluates multimodal quality of service (QOS). QOS is analyzed for each of the four primary roadway users: pedestrians, bicyclists, motorists, and transit passengers. The multimodal QOS methodology utilizes a number of factors, most of which are infrastructure-related, to assess a qualitative QOS score based on user perception. Roadways are analyzed for each mode in one-hour increments for each direction of travel.

There is no single QOS score in the Urban Streets methodology that combines results for all travel modes. Combining the scores into an overall roadway score has the potential to mask important deficiencies for a certain mode because of weighting. To illustrate, a roadway with large volumes of vehicles and a favorable QOS for motorists may subsume QOS deficiencies for other roadway users if a singular multimodal QOS score were analyzed for the corridor.

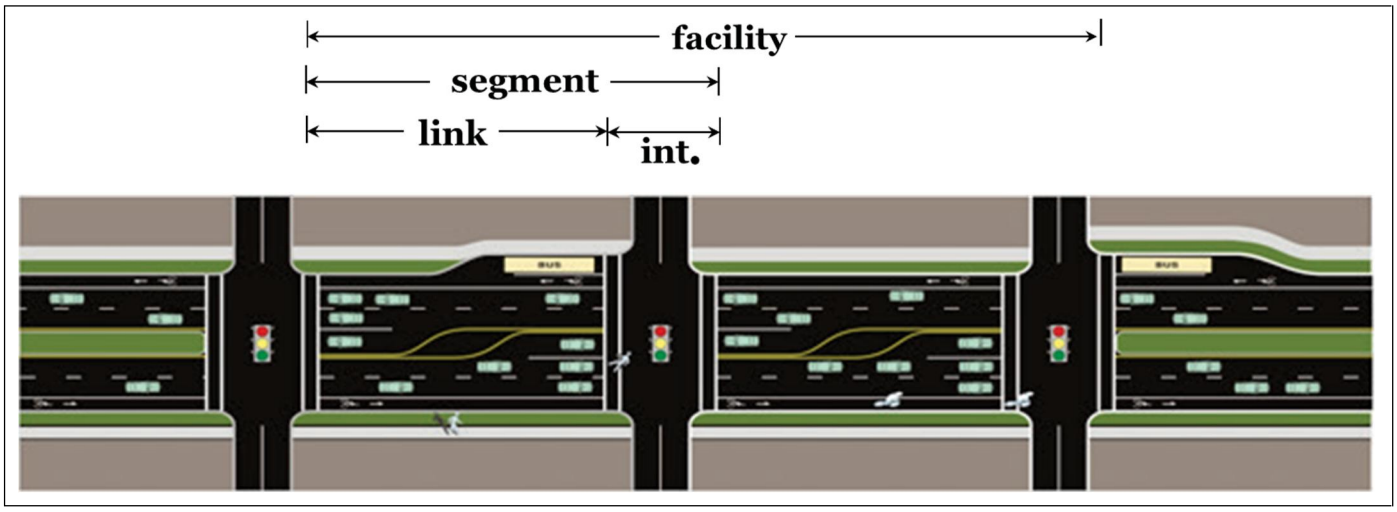
The QOS for each mode is analyzed individually, although input factors can affect the analysis for more than one travel mode. For example, the percent of occupied on-street parking is a factor for both the bicyclist and pedestrian

QOS. Generating QOS scores for each roadway user type allows the comparison of the quality of service amongst the different modes. Furthermore, the individual scores facilitate quantification and examination of tradeoffs between modes for a given streetscape design feature or strategy, which assist with the analysis of project alternatives and prioritization of pedestrian, bicyclist, motorist, and transit passenger facility improvements.

This methodology can also enable local jurisdictions to adopt a street classification system that is multimodal and identifies priority users for which QOS thresholds can be established. Traditional street classification systems (Freeway, Arterial, Collector, Local) tend to be derived from a motorist's perspective. As such, thresholds are established for motorist QOS, but have not been established for other modes. A multimodal classification system may expand or redefine the streets to include transit, pedestrian, or bicyclist priority. Thus, QOS thresholds could be established for the priority mode by the street classification. As an example, central business district roadways could have QOS thresholds for pedestrian and transit access but no thresholds for motorist or bicyclist access.

As illustrated in Exhibit 1, the methodology analyzes and provides the directional QOS results for a facility, which is a combination of two or more segments (roadway link with a downstream intersection that is typically signalized). Additionally, pedestrian and bicyclist QOS analysis and results further divide each segment into the links and downstream intersections. When reviewing QOS results, it's suggested that attention is paid to the component results, as the facility scores have the potential to mask deficiencies.

Exhibit 1 – Multimodal QOS Analysis Components



Factors included in the evaluation of QOS for each mode are based on the roadway user's perspective, as described below, for pedestrians, bicyclists, and transit passengers.

Pedestrian QOS Factors

The following factors lead to a superior level of service for pedestrians on an urban street:

- Providing a walkway on both sides of the roadway with ample width that allows side-by-side walking

- Distancing the walkway away from vehicular traffic using bike lanes, shoulders, on-street parking, buffers, trees, and landscaping
- Reducing vehicle volumes and speeds, particularly those closest to the walkway
- Limiting delay for pedestrians at signalized intersections
- Providing raised medians that can serve as pedestrian refuges at both signalized and unsignalized locations
- Removing permitted left turn movements by vehicles at signalized intersections
- Prohibiting right turn movements on red by vehicles
- Narrowing the crossing distances at intersections

A pedestrian density QOS can override the pedestrian quality of service calculations if sidewalk crowding is an issue. This may be the case in dense urban areas or near stadiums or concert halls before or after major events.

Bicyclist QOS Factors

The following factors lead to a superior level of service for bicyclists on an urban street:

- Providing bikes lanes on both sides of the roadway with ample width
- Excellent pavement condition that is free of potholes, damage, and debris
- Distancing or buffering the bike lane away from vehicular traffic as much as possible
- Reducing vehicle volumes and speeds, particularly those closest to the bike lane
- Reducing the number of trucks, particularly those closest to the bike lane
- Removing or reducing on-street parking
- Narrowing the crossing distances at intersections
- Providing bike lanes through intersections
- Limiting the number of commercial driveways or driveways serving high-density residential buildings along the street
- Limiting or reducing the number of unsignalized intersections along the street

Transit Passenger QOS Factors

Transit passenger quality of service can be derived for buses, streetcars, and light rail operating on surface streets. The following factors lead to a superior quality of service for transit passengers on an urban street:

- Reliable transit service with frequencies of 15 minutes or less
- Higher transit travel speeds
- High quality walkways leading to the transit stops (derived from the pedestrian QOS score)
- Numerous transit stop locations with benches and shelters
- On-board crowding less than 80%, meaning passengers can have a choice of seats

Safety Factors

The methodology does not include collisions as a factor. However, perceived safety is incorporated into the methodology by way of vehicle volumes and speeds along the corridor links as well as the number of conflicting vehicle movements at intersections.

Example Study Facilities

Nineteen RCMP Multi-Modal corridors were designated as RCMP Multi- Modal corridors by SJCOG during the 2024 RCMP Update cycle to establish baseline Multi-Modal QOS information. These Multi-Modal corridors are as follows:

Exhibit 2 – RCMP Multimodal Corridors *(Source: SJCOG RCMP Report, 2024)*

ID	Roadway	Multimodal Segment	Status	Jurisdiction
1	SR-120	McHenry Ave-Escalon Bellota Rd to David Dr	Baseline	Escalon
2	SR-88	Brandt Rd to eastern town limit of Lockeford	Future	County
3	SR-26	N Granada Ln to N Market St	Future	County
4	Lathrop Rd	Old Harlan Rd to Airport Wy	Future	Lathrop/ County/ Manteca
		Airport Wy to Crestwood Ave	Baseline	Manteca
5	Airport Rd	Lathrop Rd to Yosemite Ave	Future	Manteca
6	Louise Ave	Airport Wy to SR-99	Baseline	Manteca
7	Yosemite Ave	Airport Wy to Northwoods Ave-Commerce Ave	Baseline	Manteca
8	SR-12/Kettleman Ln	Lower Sacramento Rd to Cherokee Ln	Baseline	Lodi
9	Lower Sacramento Rd	Turner Rd to E Harney Ln	Baseline	Lodi
10	Main St	Jack Tone Rd to Stockton Ave	Baseline	Ripon
11	March Ln	Da Vinci Dr-Quail Lakes Dr to West Ln	Baseline	Stockton
12	Eight Mile Rd	Interstate-5 to Davis Rd	Future	Stockton/ County
13	Pacific Ave	Lower Sacramento Rd to W Harding Wy	Baseline	Stockton
14	Thornton Rd	A G Spanos Blvd to Lower Sacramento Rd	Baseline	Stockton
15	Hammer Ln	Kelley Dr to Maranatha Dr	Baseline	Stockton
16	Lower Sacramento Rd	Royal Oaks Dr to Hammer Ln	Baseline	Stockton
		Eight Mile Rd to Hammer Ln	Future	Stockton
17	West Ln-Airport Wy	E Morada Ln to Roosevelt St	Baseline	Stockton
18	11th St	Lammers Rd to N MacArthur Dr (west)	Baseline	Tracy
19	Corral Hollow Rd	Clover Rd to Valpico Rd	Baseline	Tracy

These corridors serve multiple users and modes and are characterized by constrained right-of-way making future widenings potentially cost prohibitive. The MMQOS information contained in this appendix can be used as an analysis resource to help the local agencies select and quantify the MMQOS benefits of non-capacity increasing improvement strategies.

Exhibit 3 and Exhibit 4 provide the 2024 baseline RCMP Multi-Modal corridor AM/PM peak hour MMQOS results (pedestrian, bicycle, and transit) for each direction of travel at the facility scale of analysis. The multi-modal corridors and QOS results were updated within the 2024 Monitoring Report.

To help elucidate what conditions each MMQOS grade reflects, Exhibit 5-7 provides picture examples (taken in San Luis Obispo County) of the various LOS grades for pedestrians, bicycle and transit respectively.

Note: Multimodal Quality of Service is based on the user's perspective of a given mode's quality of service. Quality of Service is based on multiple factors including the physical features within the shared right-of-way environment as well as traffic operations and service provisions.

Exhibit 3 - Complete Street Quality of Service Employment AM Peak Hour

ID	Roadway	From	To	Jurisdiction	AM Peak Hour											
					Pedestrian				Bike				Transit			
					NB/EB		SB/WB		NB/EB		SB/WB		NB/EB		SB/WB	
					CSQOS Score	CSQOS QOS	CSQOS Score	CSQOS QOS	CSQOS Score	CSQOS QOS	CSQOS Score	CSQOS QOS	CSQOS Score	CSQOS QOS	CSQOS Score	CSQOS QOS
1	SR-120	McHenry Ave-Escallon Bellota Rd	David Dr	Escalon	3.31	C	4.34	E	4.02	D	4.34	E	6.4	F	5.14	F
4	Lathrop Rd	Airport Wy	Crestwood Ave	Lathrop/County/ Manteca	3.59	D	3.8	D	3.61	D	3.08	C	6.44	F	6.51	F
6	Louise Avenue	Airport Wy	SR-99	Manteca	2.62	B	2.6	B	2.86	C	2.84	C	2.79	C	2.79	C
7	Yosemite Avenue	Airport Wy	Northwoods Ave-Commerce Ave	Manteca	3.19	C	3.29	C	4.57	E	3.96	D	4.54	E	4.29	E
8	SR-12/Kettleman Ln	Lower Sacramento Rd	Cherokee Ln	Lodi	2.7	B	2.63	B	1.64	A	1.59	A	1.58	A	1.57	A
9	Lower Sacramento Rd	Turner Rd	E Harney Ln	Lodi	2.99	C	3.23	C	2.91	C	3.11	C	2.91	C	2.91	C
10	Main St	Jack Tone Rd	Stockton Ave	Ripon	2.31	B	2.33	B	4.48	E	4.2	D	6.36	F	6.32	F
11	March Ln	Da Vinci Dr-Quail Lakes Dr	West Ln	Stockton	2.91	C	2.48	B	1.15	A	1.18	A	2.32	B	2.14	B
13	Pacific Avenue	Lower Sacramento Rd	W Hardying Wy	Stockton	3.21	C	3.63	D	3.39	C	3.59	D	1.98	A	2.12	B
14	Thorton Rd	A G Spanos Blvd	Lower Sacramento Rd	Stockton	4.21	C	4.63	D	4.39	C	4.59	D	2.98	A	3.12	B
15	Hammer Ln	Kelley Dr	Marantha Dr	Stockton	3.72	D	3.69	D	3.97	D	3.89	D	3.22	C	3.59	D
16	Lower Sacramento Rd	Royal Oaks Dr	Hammer Ln	Stockton	3.51	D	3.93	D	3.49	C	4.51	E	5.01	F	5.07	F
17	West Ln-Airport Wy	E Morada Ln	Roosevelt St	Stockton	3.73	D	3.86	D	4.45	E	4.51	E	2.50	B	2.50	B
18	11th St	Lammers Rd	N Macarthur Dr (West)	Tracy	3.67	D	3.6	D	4.07	D	4.08	D	6.41	F	6.41	F
19	Coral Hollow Rd	Clover Rd	Valpico Rd	Tracy	5.05	F	3.4	C	4.09	D	3.7	D	3.24	B	2.32	B

*Highway Capacity Software (HCS)

Note: Facilities with transit MMLOS results of “F” typically had no transit service or were served by one transit route with hourly headways.

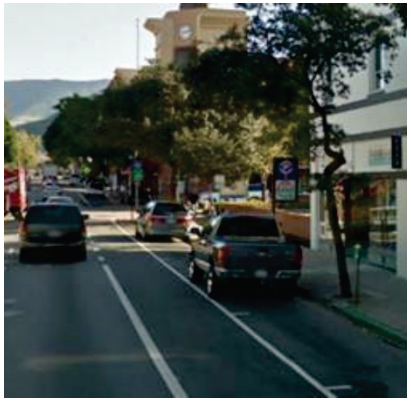
Exhibit 4 - Complete Street Quality of Service Employment PM Peak Hour

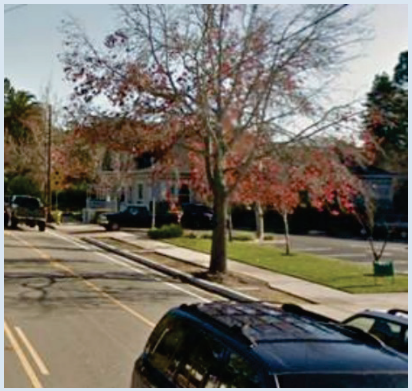
ID	Roadway	From	To	Jurisdiction	PM Peak Hour											
					Pedestrian				Bike				Transit			
					NB/EB		SB/WB		NB/EB		SB/WB		NB/EB		SB/WB	
					CSQOS Score	CSQOS QOS	CSQOS Score	CSQOS QOS	CSQOS Score	CSQOS QOS	CSQOS Score	CSQOS QOS	CSQOS Score	CSQOS QOS	CSQOS Score	CSQOS QOS
1	SR-120	McHenry Ave-Escallon Bellota Rd	David Dr	Escalon	3.49	C	4.27	E	4.03	D	4.27	E	6.47	F	5.11	F
4	Lathrop Rd	Airport Wy	Crestwood Ave	Lathrop/County/ Manteca	3.69	D	3.65	D	3.65	D	3.03	C	6.47	F	6.45	F
6	Louise Avenue	Airport Wy	SR-99	Manteca	2.91	C	3.1	C	3.14	C	3.28	C	2.87	C	2.87	C
7	Yosemite Avenue	Airport Wy	Northwoods Ave-Commerce Ave	Manteca	3.41	C	3.3	C	4.57	E	3.96	D	4.55	E	4.27	E
8	SR-12/Kettleman Ln	Lower Sacramento Rd	Cherokee Ln	Lodi	3.13	C	3.12	C	1.93	A	1.92	A	1.73	A	1.73	A
9	Lower Sacramento Rd	Turner Rd	E Harney Ln	Lodi	3.34	C	3.43	C	3.2	C	3.26	C	2.91	C	2.93	C
10	Main St	Jack Tone Rd	Stockton Ave	Ripon	2.31	B	2.32	B	4.48	E	4.18	D	6.36	F	6.34	F
11	March Ln	Da Vinci Dr-Quail Lakes Dr	West Ln	Stockton	3.1	C	2.91	C	1.14	A	1.15	A	2.32	B	2.32	B
13	Pacific Avenue	Lower Sacramento Rd	W Hardying Wy	Stockton	4.03	D	3.61	D	3.68	D	3.72	D	2.15	B	2.12	B
14	Thorton Rd	A G Spanos Blvd	Lower Sacramento Rd	Stockton	5.03	D	4.61	D	4.68	D	4.72	D	3.15	B	3.12	B
15	Hammer Ln	Kelley Dr	Marantha Dr	Stockton	3.72	D	3.81	D	4.01	D	4.04	D	3.23	C	3.63	D
16	Lower Sacramento Rd	Royal Oaks Dr	Hammer Ln	Stockton	3.59	D	3.9	D	3.52	D	4.41	E	5.03	F	5.05	F
17	West Ln-Airport Wy	E Morada Ln	Roosevelt St	Stockton	4.09	D	3.86	D	4.58	E	4.51	E	2.49	B	2.50	B
18	11th St	Lammers Rd	N Macarthur Dr (West)	Tracy	3.61	D	3.63	D	4.03	D	4.13	D	6.43	F	6.43	F
19	Coral Hollow Rd	Clover Rd	Valpico Rd	Tracy	3.89	D	5.48	F	3.86	D	4.14	D	2.47	B	3.28	C

*Highway Capacity Software (HCS)

Note: Facilities with transit MMLOS results of “F” typically had no transit service or were served by one transit route with hourly headways.

Exhibit 5 - Pedestrian Link Quality of Service (QOS) Summary

QOS	Sample Description	Photo
A **Superior Quality of Service**	• Walkway with ample width that allows side-by-side walking • Walkway is buffered from vehicular traffic using bike lanes, shoulders, on-street parking, buffers, trees, and landscaping • Vehicle volumes and speeds are minimized, particularly those closest to the walkway	 *Image source: Google Maps Street View* Location: Monterey Street between Morro and Chorro
B **Very Good Quality of Service**	*Compared to QOS A results:* • Higher vehicle volumes and speeds due to one-way street system • Less of a buffer between the sidewalk and due lower percentage of parked vehicles	 *Image source: Google Maps Street View* Location: Marsh Street between Broad and Garden

QOS	Sample Description	Photo
C **Good Quality of Service**	*Compared to QOS B results:* • Less distance between traffic and sidewalk • Higher volumes of traffic in the lane closest to sidewalk	 *Image source: Google Maps Street View* Location: Johnson Avenue between Marsh and San Luis
D **Fair Quality of Service**	*Compared to QOS C results:* • Higher vehicle volumes and speeds	 *Image source: Google Maps Street View* Location: Foothill Boulevard Santa Rosa and Chorro

QOS	Sample Description	Photo
E **Poor Quality of Service**	*Compared to QOS D results:* • No sidewalk • Bike lane serves as a shoulder • Higher vehicle volumes	 *Image source: Google Maps Street View* Location: Madonna Road between Oceannaire and Los Osos Valley
F **Very Poor Quality of Service**	• No walkway or shoulder • No buffered area between where pedestrians walk and traveling vehicles • Vehicle volumes and speeds are high	 *Image source: Google Maps Street View* Location: West Lane between West Lane Frontage and Pyrenees in Stockton, CA

Exhibit 6 - Bicyclist Link Quality of Service (QOS) Summary

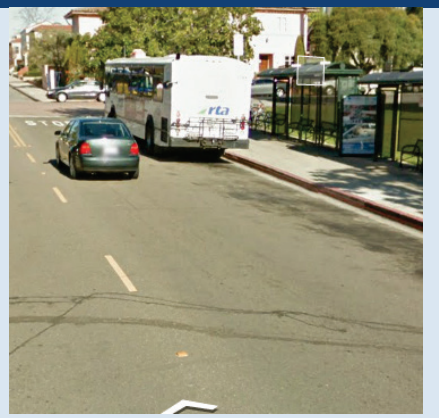
QOS	Sample Description	Photo
A **Superior Quality of Service**	• Bike lane with ample width (buffered bike lane is shown here) • Excellent pavement condition that is free of potholes, damage, and debris • Bike lane positioned away from vehicular traffic • Vehicle volumes and speeds are minimized, particularly those closest to the bike lane • The percentage of heavy trucks is minimal, particularly in the travel lane closest to the bike lane • On-street parking is prohibited	 *Image source: City of Bloomington buffered bike lane* Location: East 3rd Street between Jordan and Bryan, Bloomington, IN
B **Very Good Quality of Service**	*Compared to QOS A results:* • Narrower bike lane width • On-street parking allowed	 *Image source: Google Maps Street View* Location: Johnson Avenue between Monterey and Marsh

QOS	Sample Description	Photo
C **Good Quality of Service**	*Compared to QOS B results:* • Higher vehicle volumes and speeds in lane closest to bike lane	 *Image source: Google Maps Street View* Location: Foothill Boulevard between Broad and Tassajara
D **Fair Quality of Service**	*Compared to QOS C results:* • Higher vehicle volumes and speeds in lane closest to bike lane • Higher percent of heavy vehicles	 *Image source: Google Maps Street View* Location: Johnson Avenue between Laurel and Bishop

QOS	Sample Description	Photo
E **Poor Quality of Service**	*Compared to QOS D results:* • No bike lane • Shoulder width narrow	 *Image source: Google Maps Street View* Location: Osos Street between Pismo and Marsh
F **Very Poor Quality of Service**	• No bike lane • Poor pavement condition • High vehicle volumes and speeds • High percent of on-street parking • Higher percent of heavy vehicles	 *Image source: Google Maps Street View* Location: Osos Street between Pismo and Marsh

Exhibit 7 - Transit Passenger Segment Quality of Service (QOS) Summary

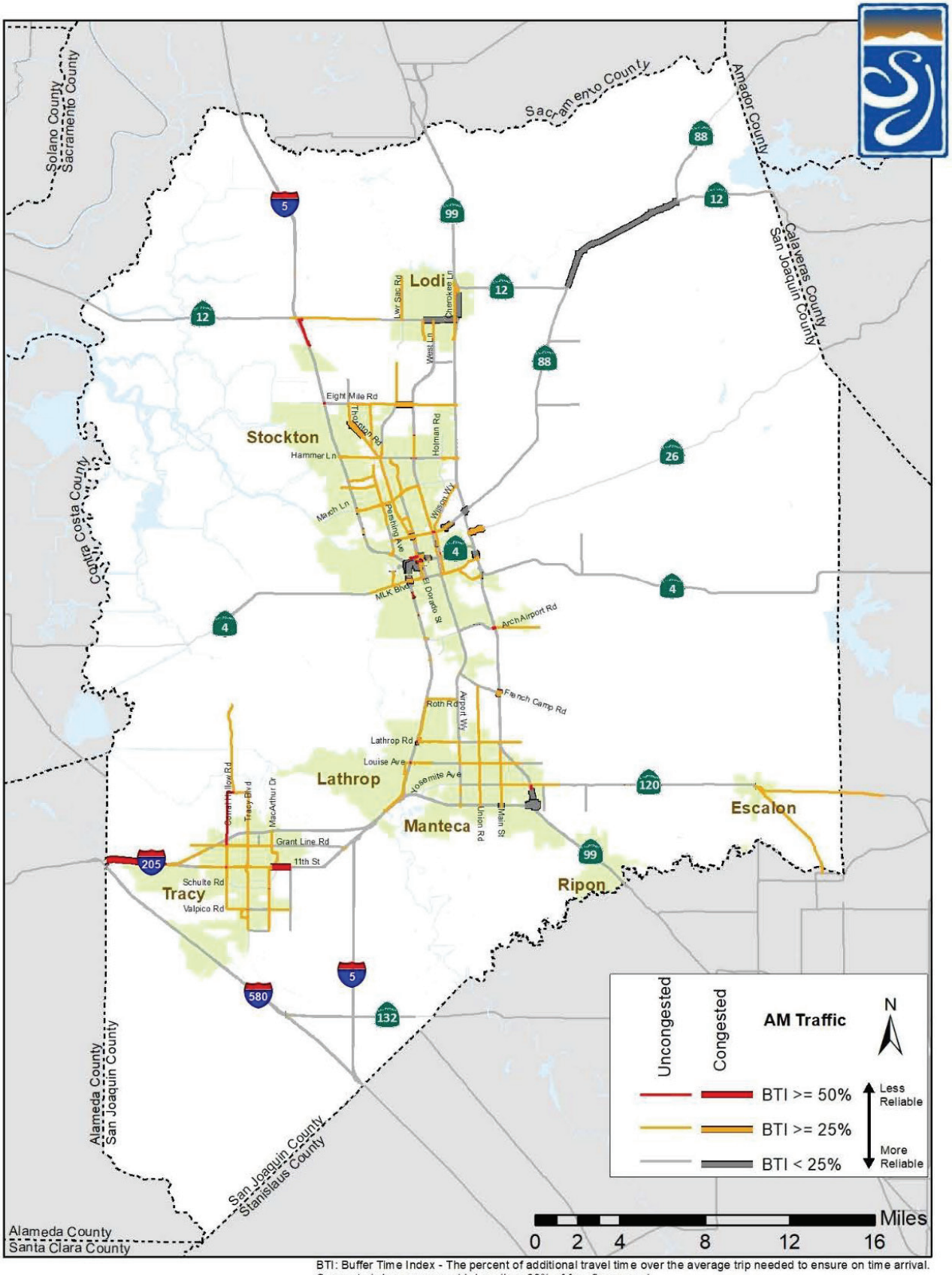
QOS	Sample Description	Photo
A **Superior Quality of Service**	• Reliable transit service with frequencies of 15 minutes or less • Higher transit travel speeds • High quality walkways leading to the transit stops • Numerous transit stop locations with benches and shelters • Passengers can easily find seats on-board	 *Image source: Google Maps Street View* Location: Foothill Boulevard between Chorro and Santa Rosa
B **Very Good Quality of Service**	*Compared to QOS A results:* • Fewer transit stop amenities • Narrower sidewalk that is closer to the vehicle travel lanes	 *Image source: Google Maps Street View* Location: Marsh Street between Broad and Garden

QOS	Sample Description	Photo
C **Good Quality of Service**	*Compared to QOS B results:* • Transit service not as frequent or reliable • Bus speeds lower	 *Image source: Google Maps Street View* Location: Osos Street between Palm and Monterey
D **Fair Quality of Service**	*Compared to QOS C results:* • Transit service not as frequent or reliable • Bus speeds lower • Fewer transit stop amenities	 *Image source: Google Maps Street View* Location: Broad Street between High and Buchon

QOS	Sample Description	Photo
E **Poor Quality of Service**	*Compared to QOS D results:* • Transit service not as frequent or reliable	 *Image source: Google Maps Street View* Location: Johnson Avenue between Lizzie and Ella
F **Very Poor Quality of Service**	• No transit service	 *Image source: Google Maps Street View* Location: Osos Street between Pismo and Marsh

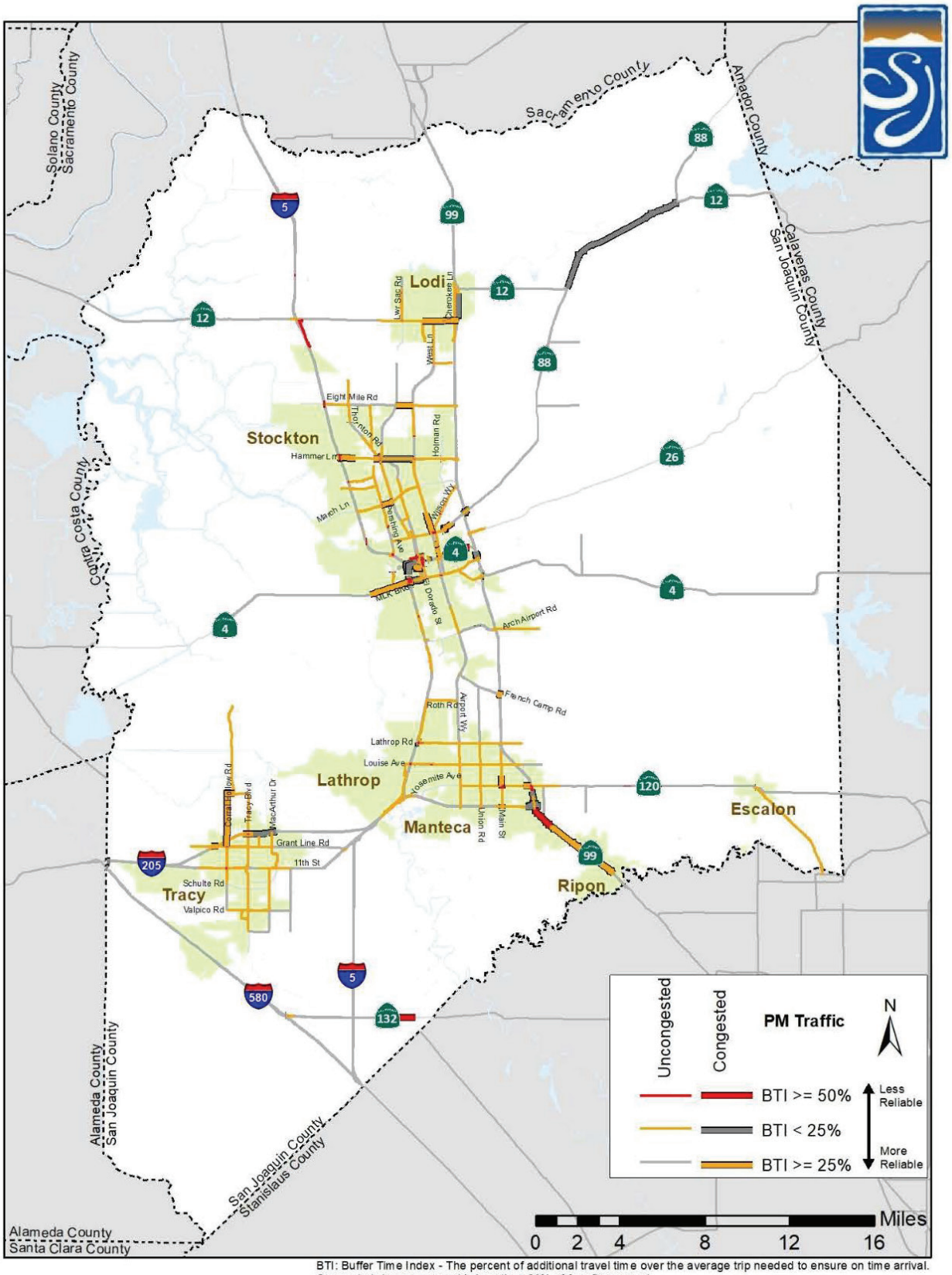
APPENDIX F:
2017-2018 COMBINED CONGESTION AND RELIABILITY METRIC RESULTS

FIGURE 1. 2017 Passenger Vehicle Congestion and Travel Time Reliability, AM Peak Hour



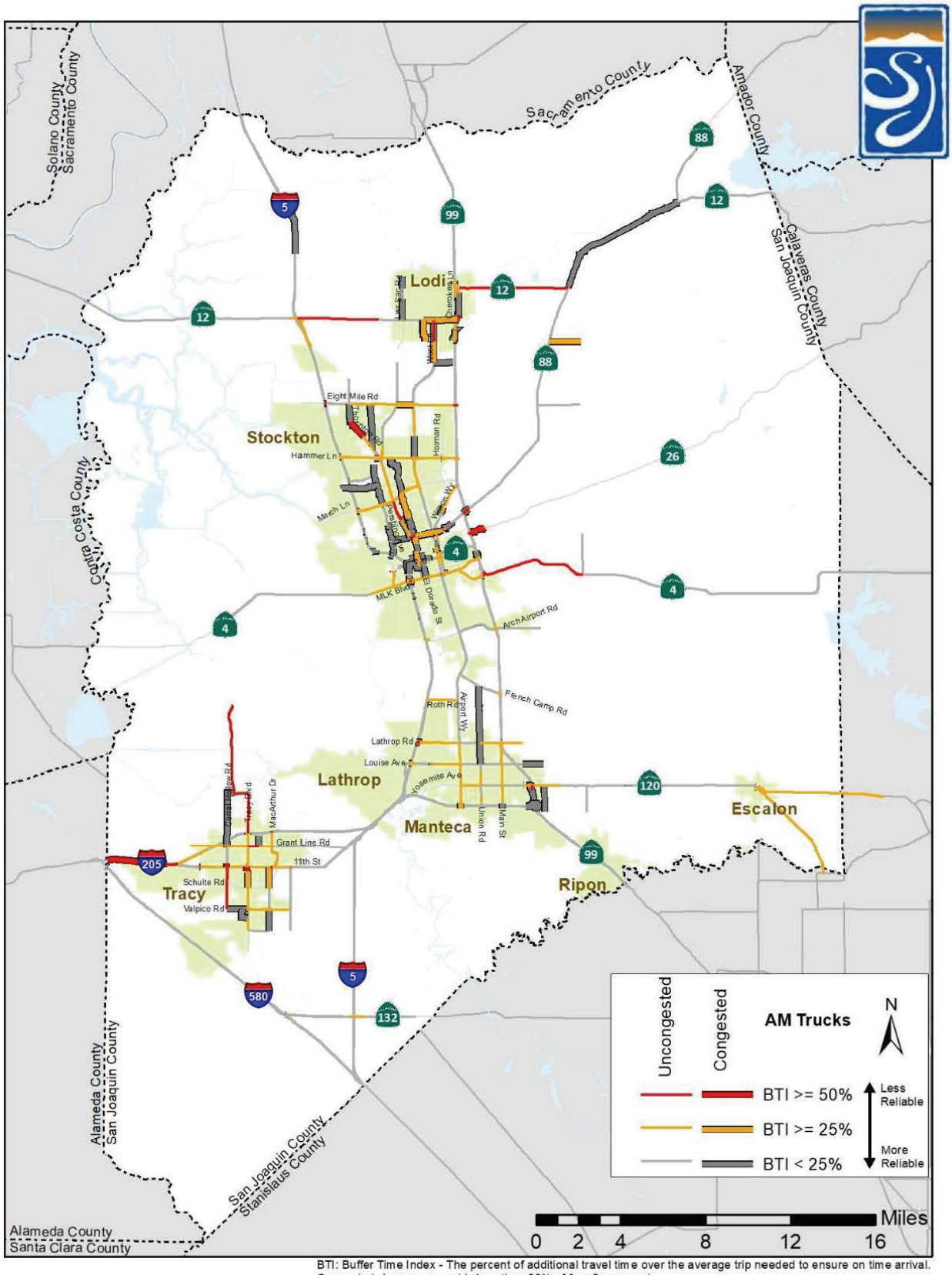
BTI: Buffer Time Index - The percent of additional travel time over the average trip needed to ensure on time arrival.
Congested: Average speed is less than 60% of free flow speed

FIGURE 2. 2017 Passenger Vehicle Congestion and Travel Time Reliability, PM Peak Hour



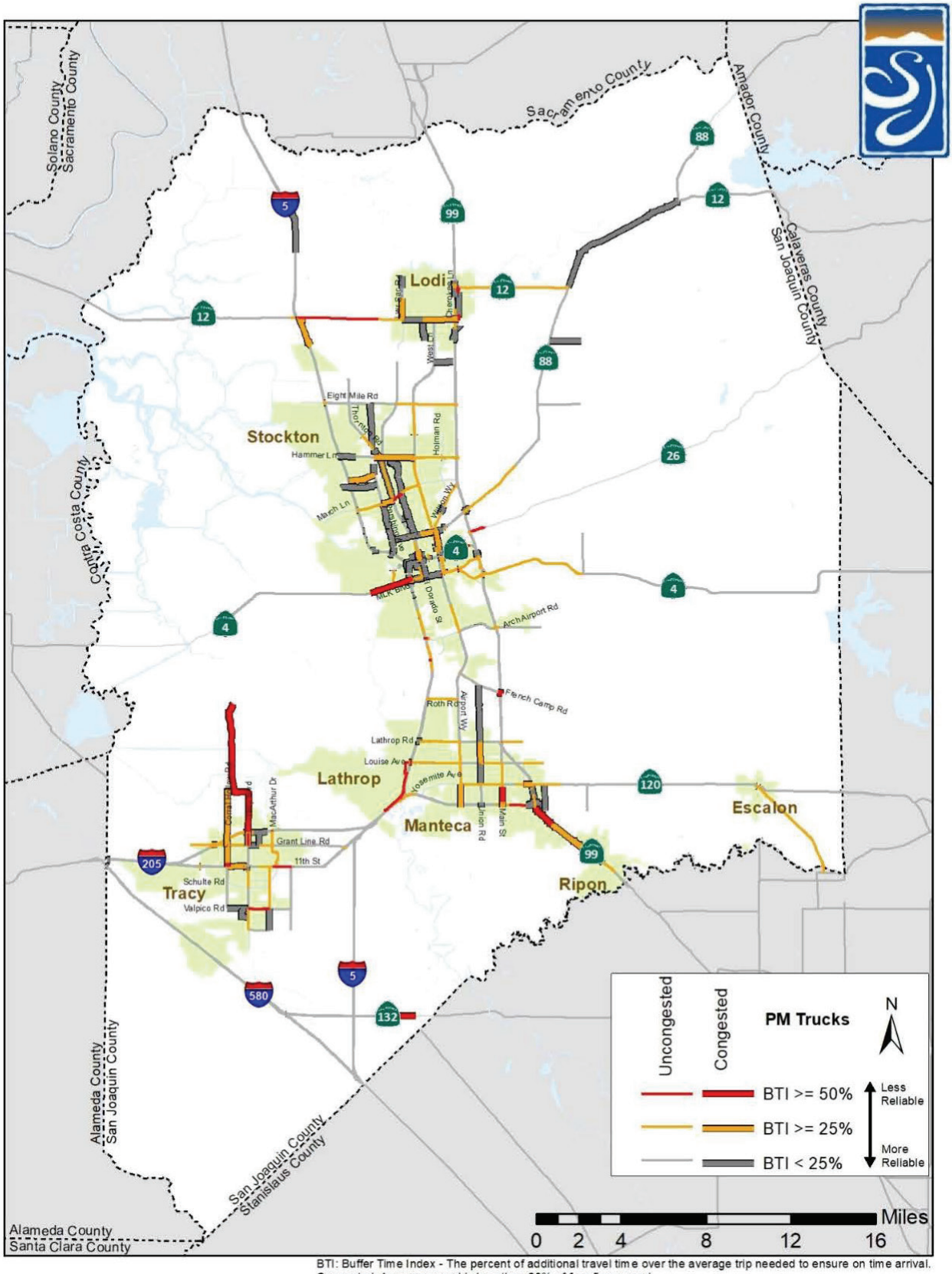
BTI: Buffer Time Index - The percent of additional travel time over the average trip needed to ensure on time arrival.
Congested: Average speed is less than 60% of free flow speed

FIGURE 3. 2017 Truck Congestion and Travel Time Reliability, AM Peak Hour



BTI: Buffer Time Index - The percent of additional travel time over the average trip needed to ensure on time arrival.
Congested: Average speed is less than 60% of free flow speed

FIGURE 4. 2017 Truck Congestion and Travel Time Reliability, PM Peak Hour



BTI: Buffer Time Index - The percent of additional travel time over the average trip needed to ensure on time arrival.
Congested: Average speed is less than 60% of free flow speed

Figure 5. 2018 AM Peak Hour Passenger Vehicle Results

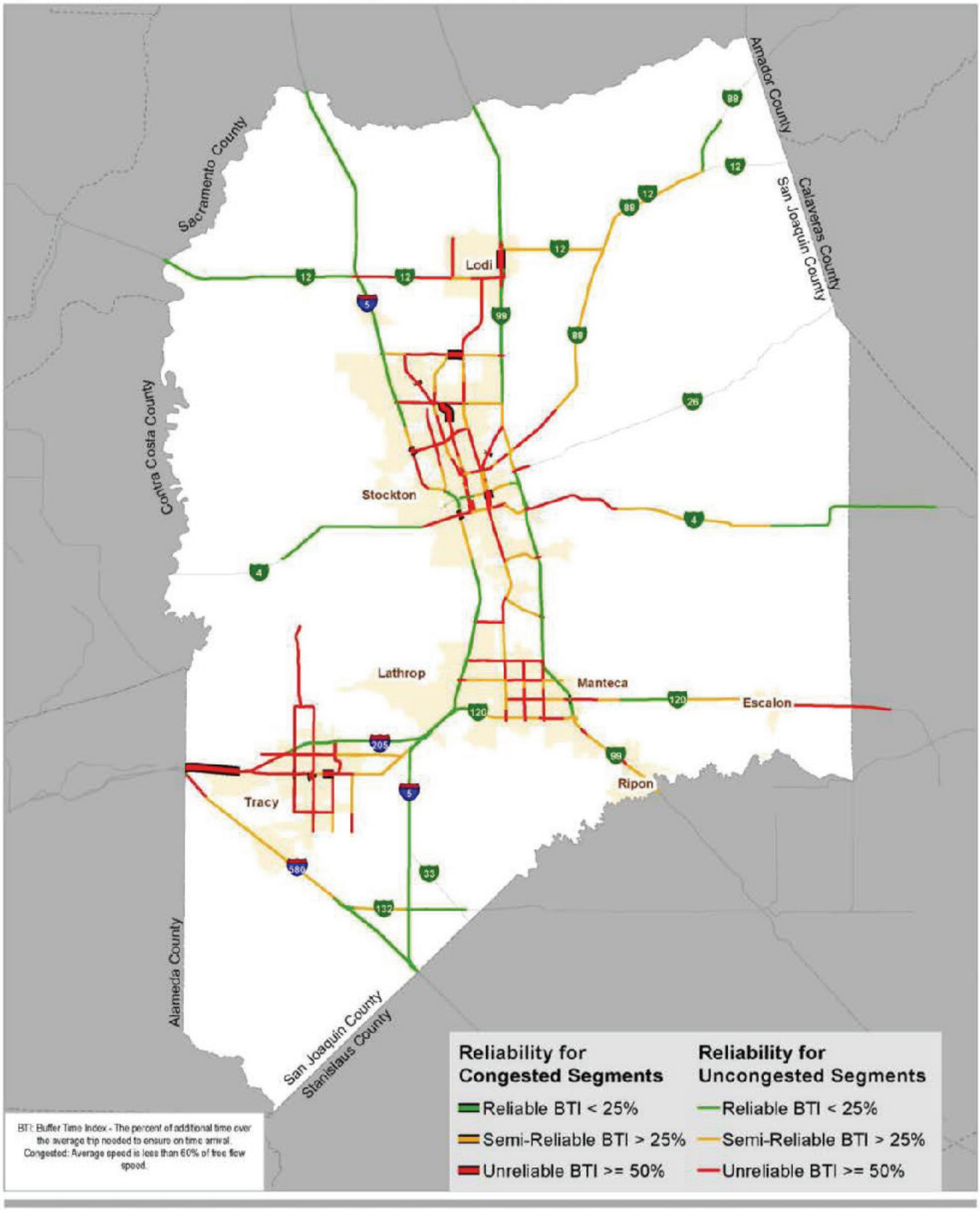


Figure 6. 2018 PM Peak Hour Passenger Vehicle Results

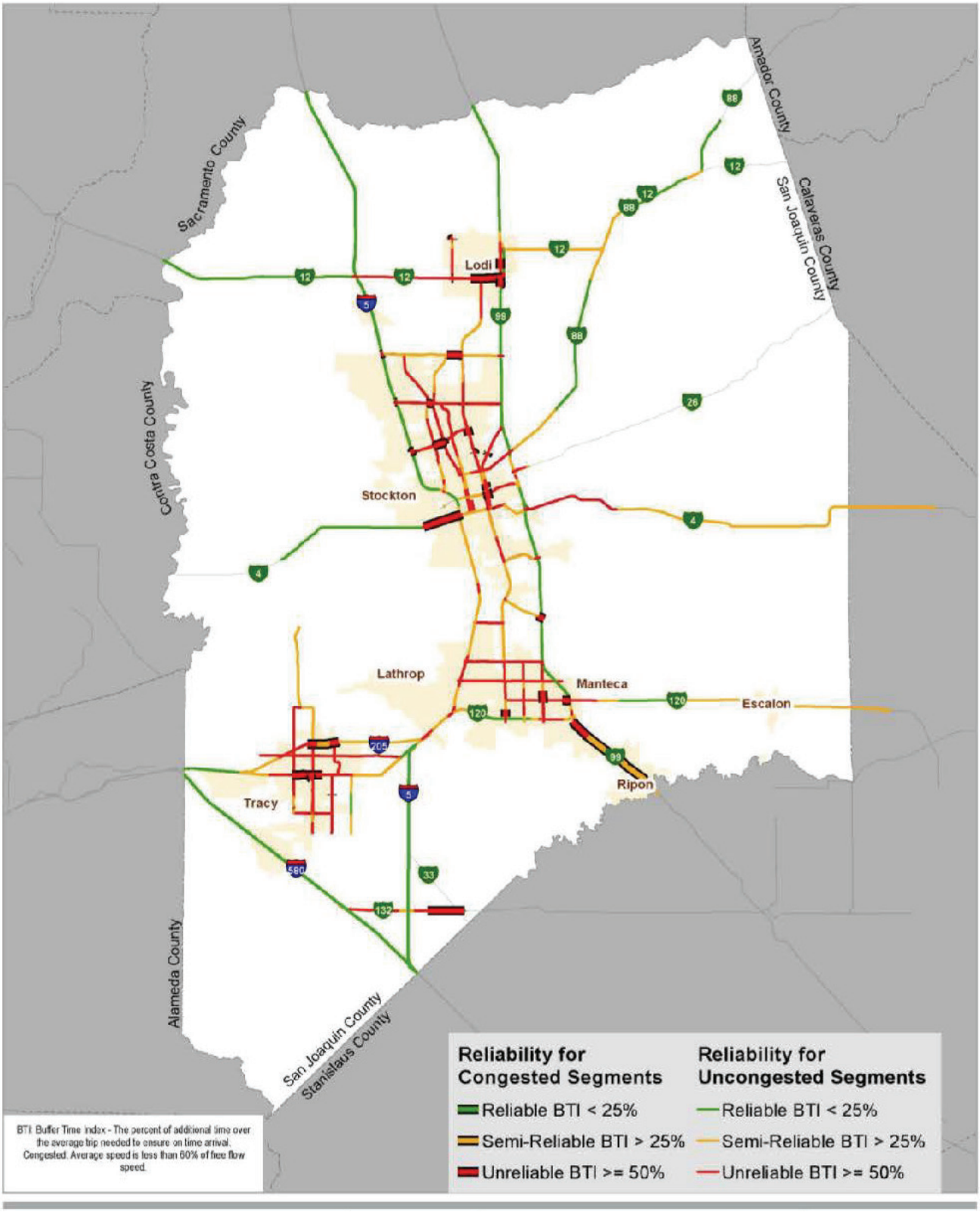


Figure 7. 2018 AM Peak Hour Heavy-Duty Truck Results

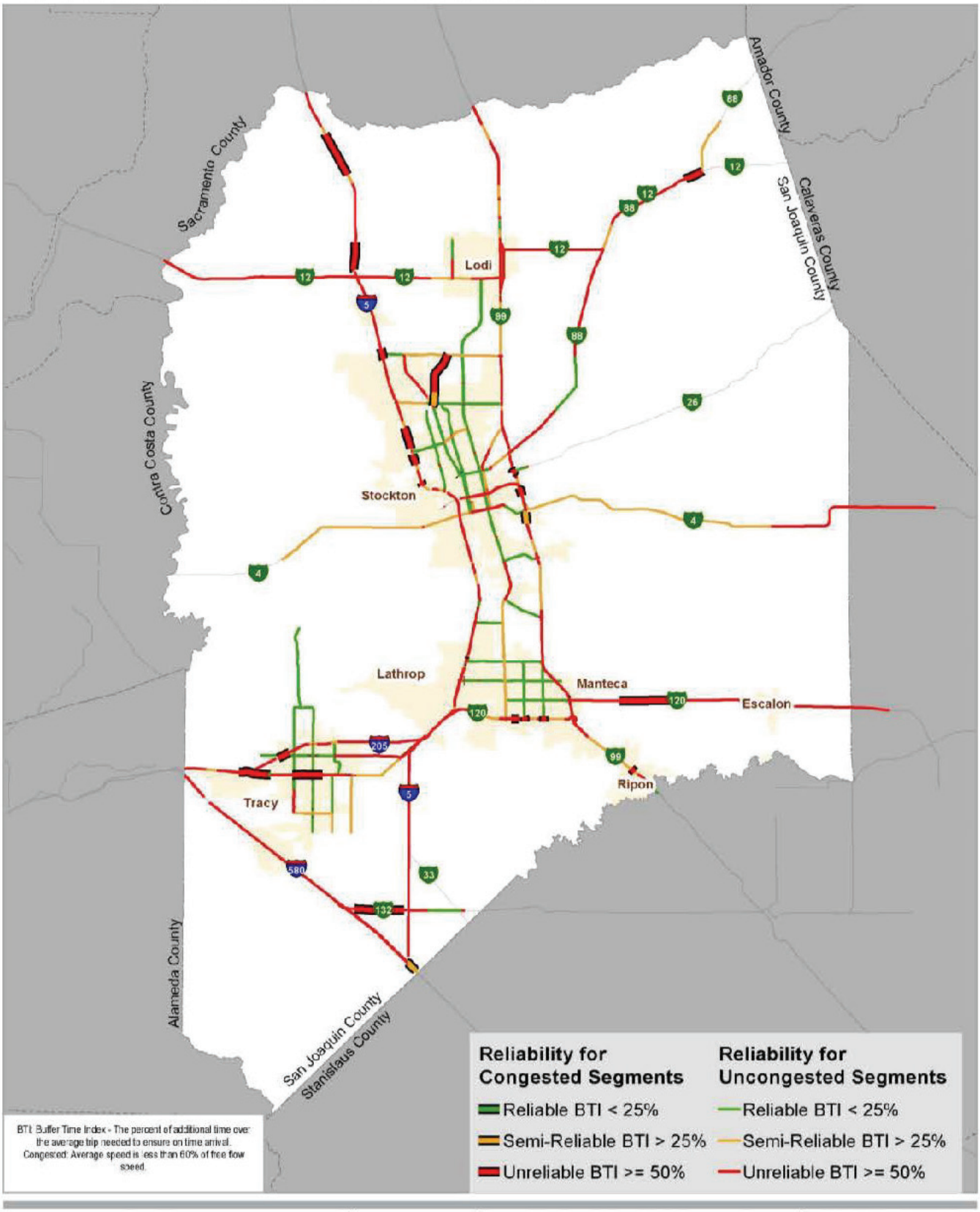
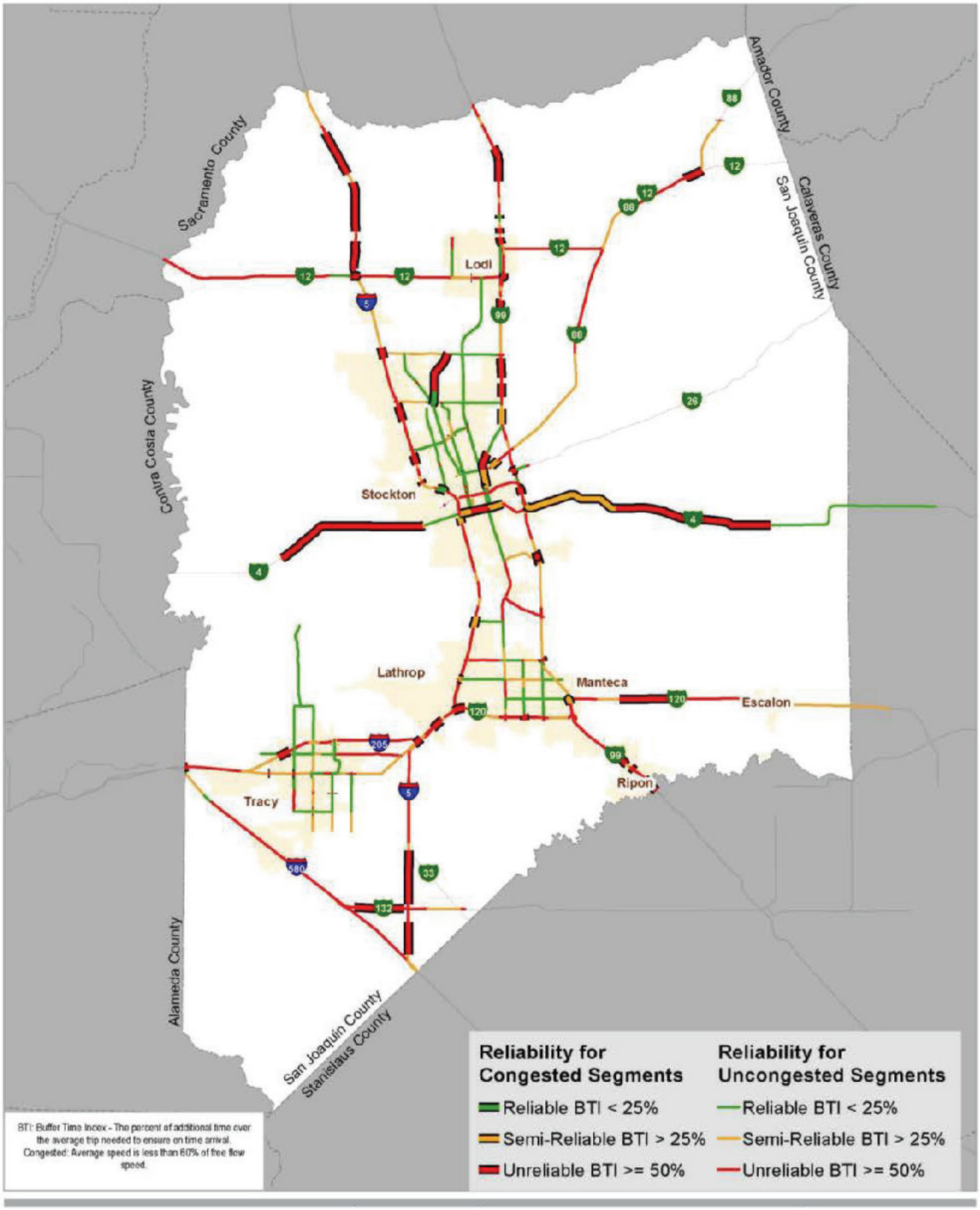


Figure 8. 2018 PM Peak Hour Heavy-Duty Truck Results



APPENDIX G:
(LIST OF TERMS AND ACRONYMS)

Appendix G: List of Terms/Acronyms

AB
Assembly Bill

ACE
Altamont Corridor Express

AADT
Annual Average Daily Traffic. AADT normalizes for seasonal fluctuation in ADT.

ACS
American Community Survey

America's Transportation Infrastructure Act
The Federal Transportation Infrastructure Act promulgated in 2019 that amended Title 23, United States Code, to authorize funds for Federal-aid highways and highway safety construction programs, and for other purposes.

Amtrak
A federal governmental agency that provides intercity railroad passenger service Amtrak also provides commuter rail passenger service by contract.

AQ
Air Quality

ATP
Active Transportation Program

Bikeway Classifications
As defined by the Caltrans Highway Design Manual:

- Class I Bike Path: A paved path within an exclusive right-of-way.
- Class II Bike Lane: Signed and striped lanes within a street right-of-way.
- Class III Bike Route: Preferred routes on existing streets identified by signs only.
- Class IV Bike Route: A bikeway for the exclusive use of bicycles with a (required) physical separation between the bikeway and the through vehicular traffic.

BRT
Bus Rapid Transit - typically a travel corridor that allows buses to operate at higher speeds in their own right-of way minimizing conflicts with automobiles

BTI
Buffer Time Index. Expresses the amount of extra "buffer" time needed to be on-time 95 percent of the time (late one day per month).

Caltrans
California Department of Transportation

CARB
California Air Resources Board

CCP
Congested Corridors Program

CEQA
California Environmental Quality Act.

CDBG
Community Development Block Grant

CIP
Capital Improvement Plan. A community planning and fiscal management tool used to coordinate the location, timing and financing of capital improvements over a multi-year period — usually 4-6 years.

Class I Multiuse Trail
This is a facility that provides mobility for bicycles, pedestrians, and sometimes equestrian users that is completely separated from automobile traffic. They may parallel a roadway or may be an off-road trail.

CMAQ
Congestion Mitigation and Air Quality Program. A category of funds contained in federal funding legislation for projects and activities that reduce congestion and improve air quality in regions not yet attaining federal air quality standards.

CMP
Federal Congestion Management Process. A systematic approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management. Required in Metropolitan Planning Organization areas that are designated Transportation Management Areas. Includes additional requirements if also a Federal Non-attainment area.

Commuter Rail
Conventional rail passenger service within a metropolitan area, usually operating over existing, inter-city railroad tracks.

Complete Streets
Complete Streets is a transportation policy and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation.

Congestion
Congestion is defined when traffic's average peak hour travel speed traveling less than 60% of free flow speed.

Corridor
A broad geographical band that follows a general directional flow connecting major trip origins and destinations. A corridor may contain a number of streets, highways and transit route alignments.

CRISI
Consolidated Rail Infrastructure and Safety Program

CTC
California Transportation Commission

Deficient Corridor
As used in the CMP, a portion of the CMP network where average peak hour travel speed is less than 60% of free flow speed and/or the variability in travel time exceeds a Buffer Time Index of 1.5.

Dibs
Dibs is a program established by the San Joaquin Council of Governments (SJCOG) and is funded by three MPOs (SJCOG, Stanislaus Council of Governments and Merced County Association of Governments to provide various transportation demand management services and information to the three counties of Merced, Stanislaus and San Joaquin. It was established to enhance air quality and help reduce congestion through Transportation Demand Strategies such as carpooling, vanpooling, riding transit and biking and walking.

DIF
Development Impact Fee

DOF
Department of Finance

DOT
Department of Transportation

EIR
Environmental Impact Report

Environmental Justice (EJ)
The fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws and policies.

Expressway
Similar to a freeway but with signal-controlled intersections.

FAA
Federal Aviation Administration.

Farebox Recovery Ratio
Measure of the proportion of operating expenses covered by passenger fares. The ratio divides the farebox revenue by the total operating expenses.

FARS
Fatality Analysis Reporting System

FAST Act
On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or "FAST Act" - the first Federal law in over ten years to provide long-term funding certainty for surface transportation. The FAST Act authorizes $305 billion over fiscal years 2016 through 2020 for the Department's highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology and statistics programs. With its enactment, States and local governments may now move forward with critical transportation projects, like new highways and transit lines, with the confidence that they will have a Federal partner over the long term.

FHWA
Federal Highway Administration.

Fixed-Route Service
Service provided on a regular, fixed-schedule basis along a specific route with vehicles stopping to pick up and deliver passengers to specific locations.

FLAP
Federal Lands Access Program

FRA
Federal Rail Assistance

FTA
Federal Transit Administration

FTIP
Federal Transportation Improvement Program

FY
Fiscal Year. For local public agencies, this is typically July 1 through June 30 of each year.

FFY
Federal Fiscal Year. Typically October 1 through September 30 of each year.

General Plan
A policy document required of cities and counties by state law which describes a jurisdiction’s future development in text and map form. All land use decisions must derive from the GP. The General Plan must contain seven mandatory elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety.

GHG
Greenhouse gas. Gases that effect global climate change. They include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

GIS
Geographic Information System.

Grade Separation
A vertical separation between intersecting roads and or railway tracks.

HBRRP
Highway Bridge Replacement and Rehabilitation Program

HCIP
Highway Safety Improvement Program

HCM
Highway Capacity Manual

HM
Highway Maintenance

HOV
High Occupancy Vehicle that carries more than one passenger. Examples include carpools, vanpools, shuttles, and buses.

HOT Lane
High Occupancy Toll Lane

HPMS
Passenger oHighway Performance Monitoring System

HSR
High-Speed Rail is railroad passenger service that, as defined by California state law, operates at maximum speeds of over 200 miles per hour.

HUTA
Highway Users Tax Account

ID
Identity Document

IHS
Interstate Highway System. A network of controlled-access highways that forms part of the National Highway System in the United States. Construction of the system was authorized by the Federal Aid Highway Act of 1956. The system extends throughout the contiguous United States and has routes in Hawaii, Alaska, and Puerto Rico.

IRI
International Roughness Index

ITS
Intelligent Transportation Systems use transportation technologies, management tools, and electronic services to improve operational efficiencies.

LTF
Local Transportation Funds

LOTTR
Level of Travel Time Reliability.

MAP-21
Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), was signed into law by President Obama on July 6, 2012. Funding surface transportation programs at over $105 billion for fiscal years (FY) 2013 and 2014, MAP-21 is the first long-term highway authorization enacted since 2005. By transforming the policy and programmatic framework for investments to guide the system's growth and development, MAP-21 creates a streamlined and performance-based surface transportation program and builds on many of the highway, transit, bike, and pedestrian programs and policies established in 1991.

MMQOS
Multimodal Quality of Service – procedure documented in the Highway Capacity Manual (HCM) 6th Edition that computes quality of service for all modes within the shared right-of-way including vehicles, transit service, bicyclists and pedestrians.

Mode
One of various forms of transportation, including automobile, transit, bicycle, and walking.

MPO
Metropolitan Planning Organization is the federally-designated agency that is responsible for regional transportation planning in each metropolitan area. SJCOG is the MPO for the San Joaquin region.

NHPP
National Highway Performance Program

NHS
National Highway System. A network of strategic highways within the United States, including the Interstate Highway System and other roads serving major airports, ports, military bases, rail or truck terminals, railway stations, pipeline terminals and other strategic transport facilities.

Multimodal Corridor
Defined roadways in the RCMP network that have been analyzed using the HCM Multimodal Quality of Service procedure.

LCTOP
Low Carbon Transit Operations Program

PCI
Pavement Condition Index

Performance Measure
An analytical planning tool that is used to quantitatively evaluate transportation improvements and to assist in determining effective implementation actions, considering all modes and strategies.

PHED
Peak Hour Excessive Delay

PM1-3
FHWA mandated performance measures required by the Federal Performance Management Measures Rule

- PM1 Performance Measure Rule 1 (Safety)
- PM2 Performance Measure Rule 2 (Pavement and Bridge Condition)
- PM3 Performance Measure Rule 3 (System Performance, Freight, and CMAQ)

PSI
Pavement Serviceability Index

RCMP
Regional Congestion Management Program

ROW
Right-of-Way. The land required for the construction and operation of a transportation facility.

RTIF Development Impact Fee
A fee charged to private developers, usually on a per dwelling unit or per square foot basis, to help fund infrastructure improvements needed to accommodate future development relative to established operational thresholds.

RTIP
Regional Transportation Improvement Program (RTIP). A listing of major highway and transit projects including project costs, funding sources, and development schedules.

RTP
Regional Transportation Plan. A minimum 20-year plan that is required by state and federal law to guide the development of the region's transportation system.

RTPA
Regional Transportation Planning Agency. A state-designated agency responsible for preparing the RTP and the RTIP and administering state transportation funds. SJCOG is the RTPA in the San Joaquin region.

Rule 9410
Also known as eTRIP - Employer Based Trip Reduction Programs adopted by the San Joaquin Valley Air Pollution Control District (SJVAPCD) in December 2009. Rule 9410 requires large employers (those with 100+ employees) located in the San Joaquin Valley – such as San Joaquin County - to establish employee trip reduction programs.

Safe Routes to School
A state and federal program which funds education, encouragement campaigns, and infrastructure improvements to help reduce the amount of traffic congestion around schools.

SAFETEA-LU
Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. Federal legislation signed into law on August 10, 2005 authorizing $244.1 billion for Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009.

SB-1
Senate Bill 1. Commonly referred to as the Road Repair and Accountability Act of 2017 increased the California state fuel tax to provide $54 billion over the next decade to fix roads, freeways and bridges in communities across California and puts more dollars toward transit and safety. These funds are split equally between state and local investments.

SB 45
Senate Bill 45. Commonly referred to as the STIP Reform Bill. This bill created the procedures for administering local grant projects in the State Transportation Improvement Program (STIP) and responsibilities of Regional Transportation Planning Agencies (RTPAs)

SB 375
Senate Bill 375. California senate legislation that helps implement the requirements of Assembly Bill 32, by addressing the greenhouse gas emissions produced by cars and light trucks—which account for nearly 40% of the state's total emissions.

SBP
National Scenic Byways Programs

SC
Sustainable Strategies

SCS
Sustainable Communities Strategy. A SCS is an enhanced land use element, developed as part of each Regional Transportation Plan (RTP) update, that sets forth a growth strategy for the region which combined with the transportation plan strives towards achieving GHG emissions reductions.

SMF
Smart Mobility Framework

STIP
State Transportation Improvement Program

SIP
State Implementation Plan. A document that shows the steps planned to meet federal air quality standards.

SJCOG
San Joaquin Council of Governments

SJV
San Joaquin Valley

SJVAPCD
San Joaquin Valley Air Pollution Control District

Smart Growth
A compact, efficient, and environmentally-sensitive pattern of development that provides people with additional travel, housing, and employment choices by focusing future growth away from rural areas and closer to existing and planned job centers and public facilities, while preserving open space and natural resources.

Smart Mobility Framework
A planning process described in *Smart Mobility 2010: A Call to Action for the New Decade* (Caltrans, February 2010). The fundamental premise of the Smart Mobility Framework (SMF) is to ensure that planning or programming decisions for transportation improvements are performance based (i.e., quantitative), transparent, and address sustainable outcomes and objectives.

SOV
Single occupant vehicle

SR
State Route, as in State Route 99 (SR-99)

STAA
The Surface Transportation Assistance Act regulates the size of trucks and the roadways large trucks can be operated on.

STBGP
Surface Transportation Block Grant Program

STIP
State Transportation Improvement Program. A multi-year program of major transportation projects to be funded by the state. The CTC adopts the STIP every two years based on projects proposed in RTIPs and
from Caltrans.

SWITRS
Statewide Integrated Traffic Records System

TAZ
Traffic Analysis Zone

TCEP
Trade Corridor Enhancement Program

TCQSM
Transit Capacity and Quality of Service Manual.

TDA
Transportation Development Act

TDM
Transportation Demand Management. Programs to reduce demand by automobiles on the transportation system, such as telecommuting, flextime, bicycling, walking, transit use, staggered work hours, and ridesharing.

TICRP
Transit and Intercity Rail Capital Project (

TIMS
Transportation Injury Mapping System

TMA
Transportation Management Association. An administrative body designed to manage the transportation needs of a particular venue, district, or community. In most cases, TMAs are non-profit organizations, and they are usually controlled by members.

TSM
Transportation System Management. Strategies that maximize the number of persons traveling in a corridor or facility. These strategies include traffic flow improvements, ramp metering, and park-and-ride lots.

TTR
Travel Time Reliability – measurement of the variability in travel times on a given roadway typically measured over a continuous 12-month period.

TTTR
Truck Travel Time Reliability – measurement of the variability for trucks in travel times on a given roadway typically measured over a continuous 12-month period.

Urbanized Area
Has the same meaning as is defined in the 1990 federal census for urbanized areas of more than 50,000 population.

U.S. EPA
United States Environmental Protection Agency

Vanpool
A vehicle operating as a ridesharing arrangement, providing transportation to a group of individuals traveling directly between their homes and a regular destination within the same geographic area.

VMT
Vehicle Miles Traveled. The total number of miles traveled on all roadways by all vehicles within a defined area or jurisdiction.

VMT per Capita
Vehicle miles traveled (VMT) per capita is calculated as the total annual miles of vehicle travel divided by the total population in a state or in an urbanized area. VMT per capita can be computed at multiple scales (project-level, area, city, county, region, state).