# SR 166 MULTIMODAL CORRIDOR STUDY

## EXISTING CONDITIONS REPORT DRAFT

DECEMBER 2024


*PHOTO CREDIT: SBCAG (Fred Luna)*

PREPARED FOR:

**SANTA BARBARA COUNTY ASSOCIATION OF GOVERNMENTS**

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Caltrans

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CALIFORNIA 166
SR 166
COMPREHENSIVE CORRIDOR STUDY
Guadalupe to Santa Maria

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**PREPARED FOR SANTA BARBARA COUNTY ASSOCIATION OF GOVERNMENTS**

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# EXECUTIVE SUMMARY

On behalf of the Cities of Guadalupe and Santa Maria and the County of Santa Barbara, the Santa Barbara Council of Governments (SBCAG) is leading the development of the State Route (SR) 166 Comprehensive Corridor Study (CCS). The purpose of the State Route 166 Comprehensive Corridor Study is to identify a package of prioritized multimodal system improvements to improve safety and mobility while facilitating essential agricultural trucking operations on State Route (SR) 166 between the Cities of Guadalupe and Santa Maria and the surrounding area. The study will address all road users and will consider planning for safety, mobility, access management, vehicle emissions reduction, dust abatement, and agricultural goods movement. Implementation of the study will improve the lives of those in the study area, including disadvantaged and underserved communities.

## PROJECT LEADERSHIP

Funded through a Caltrans planning grant, SBCAG in coordination with the participating agencies, is administering and managing the SR 166 CCS. SBCAG has convened a Project Development Team (PDT) with representation from each of the participating agencies:

- Santa Barbara County Association of Governments
- Caltrans
- Santa Barbara County
- City of Guadalupe
- City of Santa Maria

The PDT is charged with providing technical oversight and direction, reviewing interim deliverables, providing input on the needs and priorities of their respective jurisdictions, and ultimately participating in the consensus building process to recommend the multimodal improvement packages for ultimate consideration by the SBCAG Board. The PDT meets on a bi-weekly basis to track progress and facilitate planning coordination during development of the study.

SBCAG has also formed the SR 166 CCS Advisory Committee. This committee includes an expanded list of public and private stakeholder representatives – beyond those from the participating agencies - to ensure that a broad spectrum of perspectives and insights are provided to guide the development of the study. The list of SR 166 CCS Advisory Committee members are as follows:

- Claire Wineman, Grower Shipper Association
- Joseph Rodriguez, CHP
- Garret Matsuura, Santa Maria Valley Railroad
- Judy Wilson, Guadalupe Business Association
- Jason Grossini, County Sheriffs
- Terrence Bircher, MOVE North County
- Ryan Reed, Bonipak Produce

## STUDY AREA

SR 166 is a critical east-west commuter and goods movement corridor connecting the Cities of Guadalupe and Santa Maria. Extending east of Santa Maria SR 166 connects the Central Coast to the southern San Joaquin Valley at I-5. The SR 166 CCS focuses on a seven-mile segment of SR 166 from Guadalupe to Depot Street in Santa Maria shown in **Figure 1**. This segment of SR 166 supports vital functions, including agricultural trade, goods movement, and regional connectivity for diverse users, including motorists, freight operators, pedestrians, bicyclists, and transit riders.

SR 166 has one travel lane in each direction with a posted speed limit of 55 miles per hour (MPH) for the majority of the study corridor. It is a designated safety corridor with a posted daylight headlight section. There are several turning lanes but there are no passing lanes or center median dividers. There are several signalized, 2-way and 4-way stop controlled intersections. In addition, there are numerous unofficial intersections that exist where unimproved dirt roads connect to SR 166. As SR 166 approaches the Santa Maria city limits, the speed limit drops to 45 MPH then 35 MPH within the city limits and an additional travel lane is added. The route is prone to reoccurring travel delays during the traditional AM/PM commuter peak hours as well as an early-morning 6 AM agricultural worker commute which creates westbound delays and queuing between Blosser Road and Depot Street in western Santa Maria.

As a designated Surface Transportation Assistance Act (STAA) Terminal Access route providing connectivity to the National STAA network at US 101, SR 166 is frequently and routinely used by large trucks and agricultural vehicles (48 to 53 ft. from kingpin to rear axle sized vehicles), often at slower speeds than passenger vehicles, and enter/exit the road at unpaved and unmarked locations. Agricultural workers routinely commute and park alongside the route while working in the adjacent fields. The San Bonita Elementary School is also located in the middle of the corridor. The route is a designated transit route for the Guadalupe Flyer service. SR 166 serves as a main street within the cities of Santa Maria and Guadalupe.

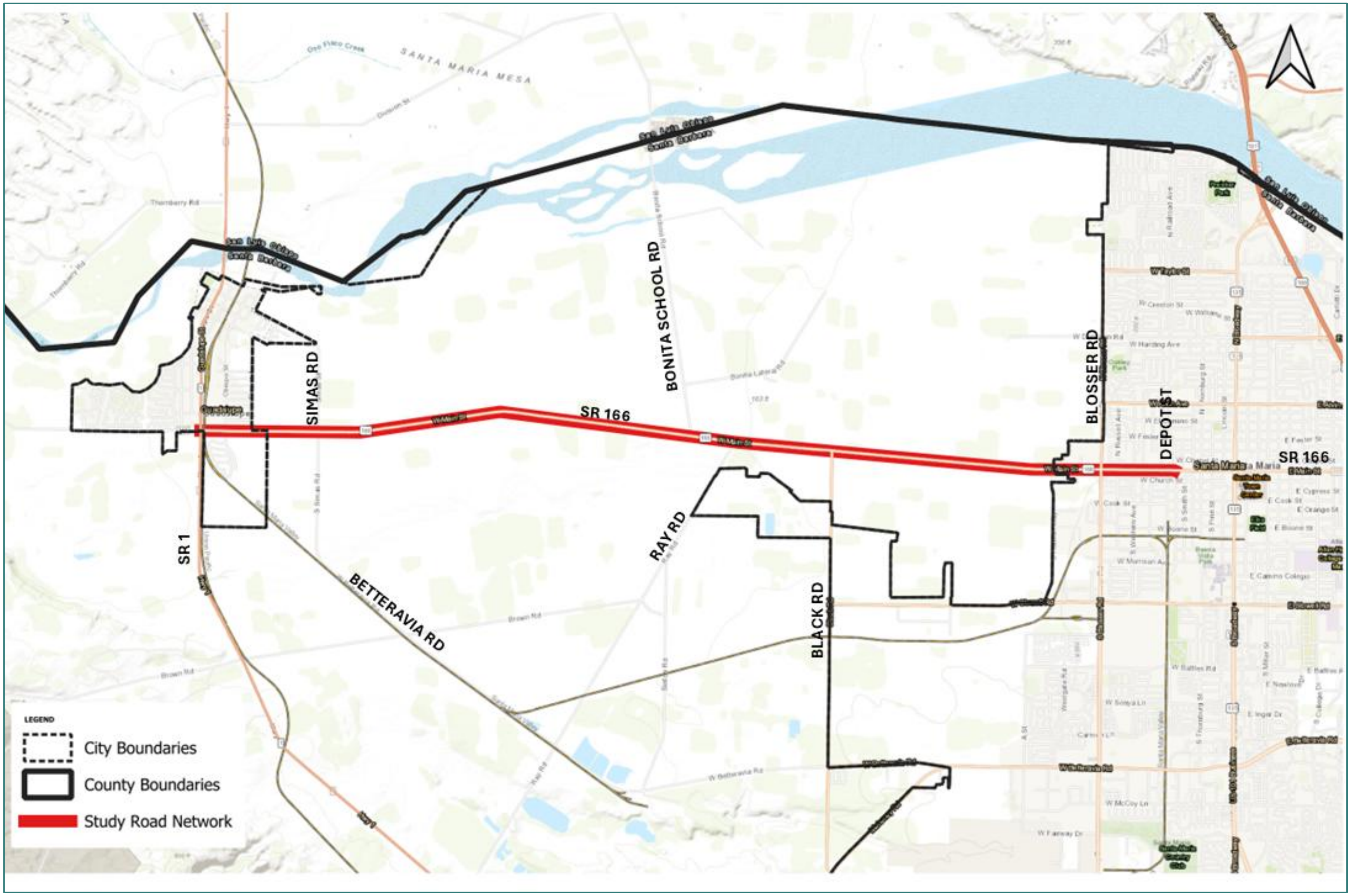


**FIGURE 1: SR 166 CCS STUDY AREA**

## PLANNING CONTEXT

The SR 166 CCS will evaluate the multimodal performance of this corridor (including parallel routes and access roads) consistent with the latest State planning guidelines governing corridor studies in California. Consistency with State corridor planning guidance ensures future eligibility for State SB-1 competitive grant programs. The operative State corridor planning guidance documents include:

- Corridor Planning Guidebook (Caltrans, 2018)
- Comprehensive Multimodal Corridor Plan Guidelines (California Transportation Commission; 2018); and,
- SB-1 Accountability and Transparency Guidelines (California Transportation Commission, 2023)

These guidelines were all developed based on the Caltrans Smart Mobility Framework: A Call to Action for the New Decade (Caltrans, 2010; updated in 2021). The Smart Mobility Framework (SMF) provides a broad planning framework to help guide multimodal and sustainable transportation planning and development along with providing tools and techniques to assess how well plans, programs, and projects meet 'smart mobility' goals. The fundamental premise of the SMF is to ensure that planning or programming decisions for transportation are performance based (i.e., quantitative), transparent, and address sustainable outcomes and objectives.

Numerous state, regional, and local studies have been developed that are relevant to the SR 166 CCS. These studies are listed below and are summarized in **Appendix A**.

**Caltrans**

- Climate Action Plan for Transportation Infrastructure (CAPTI 2021)
- Caltrans System Investment Strategy (CSIS)
- Caltrans District 05 State Route 166 Transportation Concept Report (TCR 2017)
- Caltrans District 5 Active Transportation Plan (November 2022)
- Guadalupe Active Partnership for Signalization and CAPM to Santa Maria
- U.S. 101 Central Coast Freight Strategy (Caltrans, 2016)

**Regional / SBCAG / Central Coast**

- Connected 2050 Regional Transportation Plan (RTP) (SBCAG 2021)
- California Central Coast Sustainable Freight Study (AMBAG, 2024)
- Route 166 Safety and Operational Improvements–Project Development Plan (SBCAG 2012)
- SR 166/Black Road Intersection Improvements Project (SBCAG 2024)
- Understanding Regional Travel Patterns (SBCAG 2024)
- Regional Active Transportation Plan (SBCAG 2015)
- Northern Santa Barbara County Interim California Coastal Trail Study (SBCAG 2020)
- Highway 166 Truck Study Final Report (SBCAG 2003)

**County of Santa Barbara**

- Active Transportation Plan (2023)
- Local Road Safety Plan (2021)

**City of Guadalupe**

- 2042 General Plan (2022)
- Local Road Safety Plan (2022)
- Short Range Transit Plan (2014
- Guadalupe Mobility + Revitalization Plan (2020)
- City of Guadalupe Bicycle and Pedestrian Master Plan (2014)

**City of Santa Maria**

- General Plan (2022)
- Comprehensive General Plan Update (ongoing)
- Major Development Activity (July 2024)
- Active Transportation Plan (2021)
- Short Range Transit Plan for Santa Maria Area Transit (2020)
- Bus Rapid Transit Study, Phase 1 (Santa Maria Regional Transit, 2024)
- Safer Streets for Santa Maria – Local Road Safety Plan (2022)

These studies form the basis from which this study will pivot from.

This Existing Conditions Report provides an overview of the corridor's current conditions, including socioeconomic characteristics, goods movement, traffic operations, safety and collision history, multimodal accessibility, and climate change vulnerability. The report aims to inform future improvements to enhance safety, mobility, and connectivity on SR 166.

## EXISTING CONDITION ANALYSIS SUMMARY AND KEY FINDINGS

The SR 166 corridor serves as a vital link for regional travel and agricultural trade, bridging rural and urban communities. Travel patterns along the corridor are largely influenced by the agricultural economy, which generates significant freight and commuter activity. This dual purpose poses unique challenges in balancing passenger and freight traffic demands. Notably, whereas daily traffic has increased by 19 percent since 2000, heavy-duty truck traffic (i.e., 5+ axle trucks) has increased by over 78%. This larger presence of heavy-duty trucks is primarily due to agricultural operations. As confirmed by 2023 origin-destination data, SR 166 remains the primary freight route for accessing US 101 for goods movement to the north and south of Santa Barbara County.

The corridor traverses disadvantaged communities that face substantial environmental and socioeconomic challenges. Multimodal transportation options along SR 166 are limited, contributing to high-stress conditions for bicyclists and pedestrians, particularly on Obispo Street and Flower Avenue. Safety analyses reveal that, while overall crash rates on the corridor are below state averages, certain segments experience elevated crash volumes, including the intersection at Blosser Road and the section from Black Road to Blosser Road. Key factors contributing to these crashes include unsafe speeds, automobile right-of-way violations, and driving under the influence.

The following provides a summary of analysis methodology and findings from the Study for each section.

## SOCIOECONOMIC AND TRAVEL CHARACTERISTICS

2023 data from Replica, a big data analytics platform, was used to analyze weekday travel patterns and user demographics along SR 166 between Guadalupe and Santa Maria. The findings provide a comprehensive overview of who uses the corridor and why. Below is a summary of key insights:

- SR 166 connects communities with varying socioeconomic characteristics, primarily serving a middle-income, working-age population. A significant proportion of users are Hispanic/Latino, and the age distribution skews toward 18-49. Many travelers are from low-income and minority groups.
- Private vehicles dominate travel on SR 166 (89.7%), with commercial freight making up 8.8%. The primary trip purposes include home-related activities (32.9%), work commutes (20.7%), and shopping or commercial errands.
- Most trips range from 8 to 16 miles, with an average trip distance of 11.5 miles. Trips predominantly originate from single-family homes (36.5%) and retail locations (25.8%).
- The 8.8% share of commercial vehicle trips underscores the corridor's importance as a freight route, supporting regional agricultural and commercial operations.

## GOODS MOVEMENT CHARACTERITICS

SR 166 corridor is a regionally important east-west route connecting US 101 to I-5, serving as a freight artery for agricultural goods between the California Central Coast and the Central Valley. This corridor supports significant commercial truck traffic and supports goods movement for the local agriculture industry.

The analysis focuses on quantifying truck traffic volume and identifying origin-destination patterns to understand how freight moves within the region. Key findings into the existing conditions on truck traffic and goods movement on SR 166are as follows:

- Since 2000, overall traffic on SR 166 has grown by 21%, with an 82% increase in heavy-duty trucks. Truck volumes now range from 990 vehicles near Guadalupe to 1,700 at Depot Street in Santa Maria.
- Origin-destination data (2023) using StreetLight Data confirms SR 166 as a primary freight route, accommodating 33% of AM inbound and 45% of PM outbound regional truck traffic in the region.
- Alternative truck routes including Betteravia Road and SR 1 have seen increased truck activity. The extension of Willow Road and its new interchange with US 101, completed in 2012, has significantly altered traffic patterns, providing a more direct connection for trucks and diverting some traffic away from SR 166. Approximately 10-11% of trucks now use Willow Road to access US 101.
- Despite a significant proportion of truck traffic on SR 166 being 5+ axle commercial vehicles, the corridor is not designated as a STAA (Surface Transportation Assistance Act) truck route.

## INTERSECTION TRAFFIC OPERATIONS ANALYSIS

To measure "nodal" capacity constraints, Level of Service (LOS), a qualitative measure defined in the Highway Capacity Manual (HCM) 7th Edition, was applied to describe existing traffic conditions at study intersections. The analysis applies an acceptable operational threshold of LOS D for both signalized and unsignalized intersections[1]. Traffic counts collected in September 2024 and signal timing information from Caltrans were key inputs to the analysis. Sim-Traffic, a traffic micro-simulation software, was applied to model intersection operations, queuing, and delay.

Key traffic operations findings are as follows:

- All three signalized intersections (Bonita School Road, Blosser Road, and Depot Street) operate acceptably during both AM and PM peak hours.
- Four out of the seven stop-controlled intersections along SR 166 exceed the operational threshold:
  - Obispo Street exceeds the acceptable delay threshold during the PM peak hour with LOS F.
  - Simas Road operates at LOS E (approaching capacity) during the AM peak hour.
  - Ray Road operates acceptably during the AM peak hour but experiences LOS F conditions during the PM peak hour.
  - Black Road exceeds the acceptable threshold during both AM and PM peak hours with LOS F[2]

### ROADWAY TRAVEL TIME RELIABILITY AND CONGESTION

An examination of SR 166 travel times, travel time reliability, and congestion was performed. Twelve months (2023) of speed data from the Federal Highway Administration's (FHWA) National Performance Management Research Data Set (NPMRDS) was used to evaluate traffic conditions during average weekday peak periods. NPMRDS data utilizes INRIX telemetry that processes records reflecting 5-minute averaging times for passenger vehicles and trucks. Based on this data, travel time reliability and congestion are measured using the following metrics:

- **Travel Time Reliability:** This refers to the consistency and predictability of travel times along a corridor. Unreliable travel times mean that trips can take significantly longer than expected due to factors like traffic congestion, incidents, or weather. The key metrics that related to travel time reliability of a given roadway are:
  - **Buffer Time:** A measure of reliability indicating the extra time a traveler should add to their expected travel time to ensure on-time arrival 95% of the time.
  - **Buffer Time Index (BTI):** Normalizes buffer time by expressing it as a percentage of the average travel time. A higher BTI (i.e., greater than 1.5) indicates greater unreliability.
- **Congestion:** Occurs when the demand for road space exceeds capacity, resulting in slower speeds, increased travel times, and reduced traffic flow. This is defined when peak period travel speeds are less than 60 percent of free flow speed[3].

The analysis relies on average speed data from FHWA's NPMRDS for passenger vehicles, heavy-duty trucks, and combined traffic. Twelve months of data was processed focused on average peak period weekday (Tues-Thurs) conditions. The following three peak periods were analyzed:

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[1] Source: City of Santa Maria's General Plan.

[2] This intersection is being converted to signalized intersection in late 2024.

[3] Free flow speed is the speed motorists travel as vehicle density in the traffic stream approaches zero.

- Early AM Peak (5:00-6:00 AM)
- AM Peak Hour (7:00-8:00 AM)
- PM Peak Hour (5:00-6:00 PM)

The analysis reveals distinct patterns for autos, trucks, and combined traffic during the three peak periods:

**Autos:**

- **Early AM Peak:** SR 166 experiences a mix of congested and uncongested conditions, with congestion concentrated in the westbound direction within Santa Maria city limits. Eastbound travel is **reliable**, while eastbound travel is **unreliable**.
- **AM Peak Hour:** SR 166 is generally **reliable and uncongested** except for a portion within Santa Maria that exhibits moderate reliability. This suggests that the early AM peak, influenced by agricultural activity, presents greater challenges for auto travel.
- **PM Peak Hour:** The corridor is primarily **reliable and uncongested** during this period except for within Santa Maria where it is **moderately reliable** and **congested**.

**Trucks:**

- **Early AM Peak:** Truck movement is consistently **moderately reliable to unreliable** but remains uncongested throughout the corridor. This highlights the impact of agricultural activities on truck traffic during this early period.
- **AM Peak Hour:** Truck movement is consistently **uncongested** but generally **moderately reliable and unreliable** throughout SR 166, except within Santa Maria, where it is reliable.
- **PM Peak Hour:** Similar to the AM peak, truck movement is **moderately reliable and unreliable** throughout SR 166, but congestion emerges during this period within Santa Maria.

**Combined Traffic (Autos and Trucks):**

- **Early AM Peak:** The corridor experiences a combination of **reliable and unreliable uncongested** segments, but congestion arises within Santa Maria, indicating a confluence of challenges during this period.
- **AM Peak Hour:** Traffic flow is generally **uncongested** with segments exhibiting either **reliable** or **moderately reliable** travel times.
- **PM Peak Hour:** The corridor is **reliable** westbound and **unreliable** eastbound except within Santa Maria where it is **reliable** but **congested**.

## SAFETY

The safety section of the report focuses on analyzing collision data to identify patterns and collision prone locations along SR 166. The analysis uses five years (2019-2023) of collision data from Statewide Integrated Traffic Records System (SWITRS), accessed through the Transportation Injury Mapping System (TIMS).

Key findings include:

- A total of 471 collisions occurred within the study area during the five-year period, with 7 fatalities and 33 severe injuries. These serious crashes are concentrated at urban intersections within Santa Maria, such as Blosser Road, Depot Street, and Black Road.

- Rear-end collisions (44%) and broadside collisions (21%) are the most common types within the study corridor. The collision types indicate congested conditions and unsafe driving speeds. Broadside collisions relate to right-of-way violations and/or improper turning.
- Unsafe speed is the primary contributing factor for 26% of all collisions. Other significant factors include automobile right-of-way violations (19%) and improper turning (14%)
- Collision density is higher in urbanized areas within Santa Maria, consistent with increased traffic and pedestrian activity. Rural segments of SR 166 have fewer collisions, consistent with lower traffic volumes.
- Most pedestrian and bicycle-related collisions are concentrated along the eastern portion of SR 166, near Blosser Road and Depot Street in Santa Maria.
- All intersections and segments along SR 166 have crash rates below the statewide average.
- As part of this study, a Road Safety Audit (RSA) was conducted on September 16, 2024, to identify safety deficiencies and generate recommendations for improvements. The RSA participants noted several challenges related to truck traffic, passing lanes, and lack of pedestrian and cyclist infrastructure.

### STUDY INTERSECTION SUMMARY

Operational and RSA analysis findings related to the 11 study intersections are summarized in **Table 1**.

#### TABLE 1: PRIMARY COLLISION FACTOR (PCF) VIOLATION CATEGORIES FOR ALL COLLISIONS

| NO. | INTERSECTION | TRAFFIC CONTROL | PEAK HOUR OPERATIONS | COLLISION ANALYSIS | RSA FINDINGS |
|---|---|---|---|---|---|
| 1 | **SR 166 & SR 1** | AWSC | Meets standards during both AM and PM peak hours. | No recorded crashes during 2019-2023. | None noted. |
| 2 | **SR 166 & OBISPO STREET** | TWSC | AM: Meets standard<br>PM: Exceeds standards (LOS F). | 6 collisions (2019-2023), crash rate 0.30 CMV (below state avg 0.36 CMV). | - Incorporate Caltrans' GAPS project.<br>- Design for increased pedestrian volumes.<br>- Add Class II/Buffered Class II bike lane.<br>- Improve lighting/pedestrian crossings.<br>- Slow traffic approaching Guadalupe. |
| 3 | **SR 166 & FLOWER AVENUE** | TWSC | Meets standard during both AM and PM peak hours. | No recorded crashes during 2019-2023. | None noted. |
| 4 | **SR 166 & SIMAS ROAD** | AWSC | AM: Exceeds standards (LOS E).<br>PM: Meets standards | 9 collisions (2019-2023), crash rate 0.40 CMV (below state avg 0.59 CMV). | - Install lighting/signage.<br>- Modify northbound Simas Road approach.<br>- Enhance stop sign visibility.<br>- Add westbound right-turn pocket.<br>- Reduce westbound speed limit. |
| 5 | **SR 166 & BONITA SCHOOL ROAD** | Signalized | Meets standards during both AM and PM peak hours. | 1 collision (2019-2023), crash rate 0.05 CMV (below state avg 0.62 CMV). | - Enhance school zone signage.<br>- Reduce speed limit for school zone.<br>- Improve signal timing for school traffic.<br>- Address pedestrian safety concerns.<br>- Improve visibility for southbound approach. |
| 6 | **SR 166 & RAY ROAD** | TWSC | AM: Meets standards<br>PM: Exceeds standards (LOS F). | 4 collisions (2019-2023), crash rate 0.17 CMV (below state avg 0.36 CMV). | - Realign intersection for better sight distance.<br>- Add northbound left-turn merge lane.<br>- Address drainage issues.<br>- Install lighting.<br>- Evaluate signal warrant due to PM queuing. |
| 7 | **SR 166 & BLACK ROAD** | TWSC (Signal installed 10/2024) | (As TWSC) AM: Exceeds standards (LOS F).<br>PM: Exceeds standards (LOS F). | 5 collisions (2019-2023), crash rate 0.20 CMV (below state avg 0.36 CMV). | No specific RSA recommendations due to ongoing signal improvements. |

| NO. | INTERSECTION | TRAFFIC CONTROL | PEAK HOUR OPERATIONS | COLLISION ANALYSIS | RSA FINDINGS |
|---|---|---|---|---|---|
| 8 | SR 166 & SOUTH/NORTH BLOSSER RD | Signalized | Meets standards during both AM and PM peak hours. | 22 collisions (2019-2023), crash rate 0.40 CMV (below state avg 0.55 CMV). | - Improve pedestrian infrastructure.<br>- Stripe eastbound right-turn pocket.<br>- Update corner treatments for Americans with Disabilities Act (ADA).<br>- Enhance intersection lighting.<br>- Improve bike lane visibility.<br>- Reduce speed limit near Santa Maria city limits. |
| 9 | SR 166 & DEPOT STREET | Signalized | Meets standards during both AM and PM peak hours. | 12 collisions (2019-2023), crash rate 0.27 CMV (below state avg 0.55 CMV). | None noted. |
| 10 | BLACK ROAD & BETTERAVIA RD | AWSC | Meets standards during both AM and PM peak hours. | None specified. | None specified. |

## MULTIMODAL ACCESS

The analysis covers transit, bicycle, and pedestrian access. A summary of key findings for each mode are summarized below.

### Transit Access

- Guadalupe Flyer is Operated by SMOOTH (Santa Maria Organization of Transportation Helpers), the Guadalupe Flyer provides a vital fixed-route connection between Guadalupe and Santa Maria.
- Guadalupe Shuttle is a deviated fixed-route service operating within Guadalupe from Monday to Friday, offering localized transportation options.
- In Fiscal Year 2018, Guadalupe Transit served over 86,000 passengers and achieved a farebox recovery ratio of 16%.
- The study identifies areas with transit-supportive density within a half-mile and quarter mile of a transit stop, as well as areas with this density but located more than half a mile or quarter mile from a stop. Transit-supportive density is defined as a minimum of three dwelling units per acre, per the Transit Capacity and Quality of Service Manual.
- Guadalupe has a transit-supportive population of 6,010 people. Of this population, 880 (15%) live within a quarter mile of a transit stop, leaving 85% outside this range. When considering a half-mile radius, 3,570 persons (59%) live within proximity to a transit stop.
- Santa Maria has a larger transit-supportive population of 96,870 people. However, only 2,970 individuals (3%) are within a quarter mile of a transit stop, with the majority (97%) residing outside this range. At a half-mile radius, 16,210 individuals (17%) are within the proximity of a transit stop.
- The unincorporated areas in the study region do not have any identified transit-supportive population.

### Level of Traffic Stress (LTS) and All Ages and Abilities Bicycle and Pedestrian Analysis

The analysis uses the LTS framework to assess the comfort and safety of bicycle and pedestrian facilities. LTS scores range from 1 (lowest stress) to 4 (highest stress), indicating the suitability of facilities for users of varying ages and abilities.

Results of the bicycle connectivity LTS analysis are summarized as follows:

- The Santa Barbara County Active Transportation Plan (2023) assigned the following scores:
  - LTS 4 scores to SR 166 and Bonita School Road, indicating a high-stress and uncomfortable environment for cyclists.
  - LTS 1 scores to Simas Road, Ray Road, and Black Road, indicating a low-stress environment for cyclists.
  - LTS 3 score to Hanson Way, suggesting that the roadway is medium stress and suitable for more skilled cyclists.
- The Santa Maria Active Transportation Plan (2020) assigns LTS 4 score to Blosser Road.
- The parallel corridors of Obispo Street and Flower Avenue also received LTS 4 due to speed, roadway width, and lack of bicycle facilities.

Results of the pedestrian connectivity LTS analysis are summarized as follows:

- The pedestrian LTS analysis for Obispo Street and Flower Avenue indicates LTS 4 for both streets.
- The pedestrian LTS analysis was not conducted for SR 166 due to the lack of pedestrian facilities and restrictions on pedestrian access at certain intersections.

### NETWORK VULNERABILITY

The network vulnerability section focuses specifically on the potential impacts of climate change on the SR 166 corridor. It is a qualitative assessment using the Caltrans Vulnerability Interactive Mapping Tool (District 5) online mapping tool to evaluate the risks posed by climate-related hazards. The assessment primarily examines the vulnerability of SR 166 to wildfires, extreme temperatures, and changes in precipitation patterns. the analysis uses the Representative Concentration Pathway (RCP) 8.5 scenario, a high-emissions trajectory, to model future climate conditions. Key findings are summarized as follows:

- The analysis indicates that SR 166 itself is not at significant risk of direct impact from wildfires. However, nearby roadways, such as SR 1 north and south of Guadalupe, are identified as having "high" to "very high" wildfire exposure risk. Portions of US 101 north of Santa Maria also face "moderate" wildfire exposure risk.
- The projected changes in 100-year precipitation depth for the study area, including SR 166, are relatively low (less than 5% increase).
- The analysis projects a substantial increase in average 7-day maximum temperatures (6.0°F to 7.9°F) in the study area by 2055.
- While SR 166 might not be directly affected, the wildfire vulnerability of alternative routes makes it a potentially crucial evacuation corridor. If other roads become impassable due to wildfires, SR 166 could experience a surge in traffic from evacuees, placing increased demands on its capacity.
- The combination of increased wildfire exposure in nearby areas and rising temperatures raises concerns about the likelihood and severity of wildfire events.

## INTRODUCTION

The SR 166 CCS aims to enhance safety, mobility, and connectivity along SR 166, from SR 1 in Guadalupe to Depot Street in Santa Maria. The study will ultimately identify improvements that support efficient goods movement, enhance safety, and improve connectivity for all users, including pedestrians, bicyclists, and transit riders.

This *Existing Conditions Report* serves as the foundation for the SR 166 CCS, offering an assessment of the corridor's current conditions within the study area. This report documents existing infrastructure, evaluates safety and traffic operations, and examines multimodal travel patterns and demand within the corridor. The scope of this assessment includes examining existing infrastructure characteristics, corridor operations and collision history of both primary and secondary roadways to inform recommended improvements for safety, goods movement, pedestrian and bicycle connectivity, operational efficiency, and transit transportation accommodation.

### SR 166 CCS EXISTING CONDITION REPORT STRUCTURE

This report contains the following sections:

- **Introduction**, which provides an overview of the study's purpose and objectives.
- **Existing Conditions Performance Assessment**, which defines how the current state of the SR 166 corridor will be assessed using selected performance metrics.
- **Socioeconomic, Background, and Travel Characteristics**, which examines travel demographics and user trip summaries, and disadvantaged community mapping to identify environmental justice priorities.
- **Goods Movement Characteristics,** which examines goods movement trip summaries and truck origin-destination patterns.
- **Physical Features**, which describes SR 166 infrastructure assets as well as parallel facilities that provide alternative routes, and SR 166 study intersections, including their characteristics and forms of traffic control.
- **Intersection Traffic Operations Analysis**, which defines the methodology used for analyzing intersection traffic operations, provides details on data collection and traffic volumes, and presents findings from the existing conditions operations analysis. This analysis will assess nodal operations and capacity constraints along SR 166.
- **Roadway Travel Time Reliability and Congestion Analysis**, assessing traffic flow consistency and peak-hour congestion along the corridor. This analysis will assess the operational performance of SR 166 roadway segments.
- **Safety**, which covers collision data and trends within the study area, study area and corridor-specific collision summaries, collision rate analysis for intersections and segments, key findings from the roadway safety audit, challenges identified in the study, and recommended improvements to enhance safety.

- **Multimodal Connectivity**, which evaluates transit accessibility and existing services as well as the level of traffic stress for bicycles and pedestrians.
- **Network Vulnerability**, which includes climate change vulnerability assessments for the corridor and an exposure assessment of risks such as wildfires, temperature increases, and precipitation changes.
- **Conclusion**, summarizing the key findings and implications of the study.

## EXISTING CONDITIONS PERFORMANCE ASSESSMENT

Performance metrics are applied to "measure" each improvement concepts benefit towards one or more of the study objectives. The selected transportation performance measures are consistent with the Caltrans Smart Mobility Framework (Caltrans, 2010; updated in 2021) and SB-1 Solutions for Congested Corridors Program Guidance (California Transportation Commission, 2022).

The SR 166 CCS will include a performance-based assessment of SR 166 (including side street access and parallel facilities) that serve the mobility needs of the corridor as well as goods movement. Ultimately, potential improvement concepts will be analyzed using a variety of tools to inform the performance metrics including return on investment (i.e., benefit-cost) as a key factor. The SR 166 CCS will apply the performance measures listed in **Table 2.**

### TABLE 2: PERFORMANCE MEASURES

| | | SR 166 Comprehensive Corridor Study | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analysis Purpose | Measure of Effectiveness | SBCAG Travel Demand Model | Streetlight/Replica Big Data | Traffic/Ridership Counts | NPMRDS - Travel Time and Speeds | SWITRS / TIMS - Collisions | Highway Capacity Manual | Operational Software Synchro | Level of Traffic Stress | ArcGIS Network Analyzer | Online Mapping Tools: CalEnvironScreen-4; Caltrans Vulnerability Map; Justice 40 Mapping |
| Baseline Travel Demand | Volume, Ridership, VMT, Throughput | X | X | X | | | | | | | |
| Segment Operations (Baseline): Vehicles | Delay, Density, TTI, Buffer Time, BTI | | | X | X | | X | X | | | |
| Segment Operations (Baseline): Trucks | Delay, Density, TTI, Buffer Time, BTI | | | X | X | | X | X | | | |
| Intersection Operations (Baseline) | Delay, Queuing, LOS | X | | X | | | X | X | | | |
| Transit Ridership (Baseline) | Ridership, VMT | X | | X | | | | | | | |
| Pedestrian/Bike Connectivity | Access Indices | | | | | | | | X | X | |
| Safety | Collision Reduction & Rates | X | | | | X | | | | | |
| EJ/Social Equity | Access, Benefit/Burden | X | X | | | | | | X | X | X |
| Adaptation | Network Vulnerability | X | | | | | | | | X | X |

*Legend* — X (shaded): *Direct or Indirect Application*

## SOCIOECONOMIC, BACKGROUND AND TRAVEL CHARACTERISTICS

This section describes travel demographics and trip characteristics along SR 166, focusing on movement patterns and user profiles between Guadalupe and Santa Maria. The analysis is based on 2023 data from the Replica big data platform. Replica is a big data platform designed for urban planning and analysis of the built environment. It provides insights into mobility patterns, land use, and human activity including traveler demographics such as language, age, income, and race/ethnicity, as well as trip details like purpose, length, and travel modes. This provides an overview of typical weekday travel on SR 166, with full socioeconomic data available in **Appendix B**.

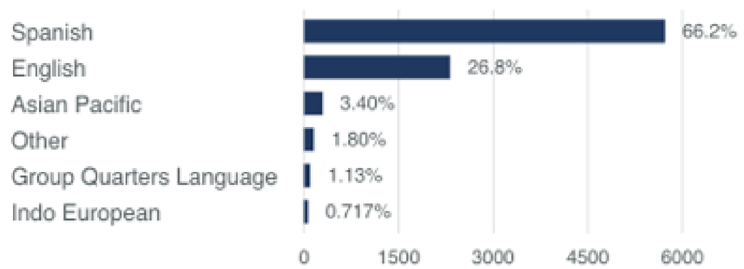
### TRAVEL DEMOGRAPHICS AND TRIP SUMMARY

Replica, a big data analytics platform, generates comprehensive datasets on the built environment, mobility trends, and spatial dynamics across cities and regions. High-level key findings from the Replica data analysis on SR 166 include:

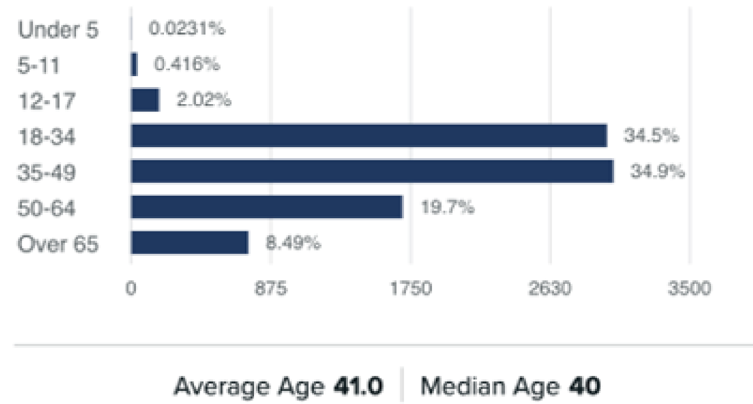
- Demographics: SR 166 primarily serves a middle-income, working-age population with a significant Hispanic/Latino population (72.1%), where Spanish is the primary language for 66.2% of travelers. The age distribution is largely within the 18-49 range, reflecting a middle-aged, active commuting population.
- Travel Mode and Purpose: The corridor is predominantly used by private vehicles (89.7%), with commercial freight composing 8.8% of trips. Key travel purposes are home-related (32.9%) and work commutes (20.7%), with additional trips for shopping and commercial freight.
- Trip Characteristics: Most trips are within an 8-16 mile range. The average trip distance is 11.5 miles, with trips originating primarily from single-family homes (36.5%) and retail locations (25.8%).
- Freight Activity: The relatively high proportion of commercial vehicle trips (8.8%) highlights SR 166 as a key route for freight, critical for supporting regional agricultural and commercial activities. Further insights into freight and truck transportation are described in the following section.

The travel demographic and trip characteristic data highlight SR 166's function as a key corridor for freight, daily commuting and regional access between Guadalupe and Santa Maria. The data also show a significant percentage of commercial vehicle trips, emphasizing SR 166’s importance for goods movement, particularly within the agricultural and commercial sectors. This combination of personal and commercial travel underscores the corridor’s role in supporting both community mobility and economic activity.

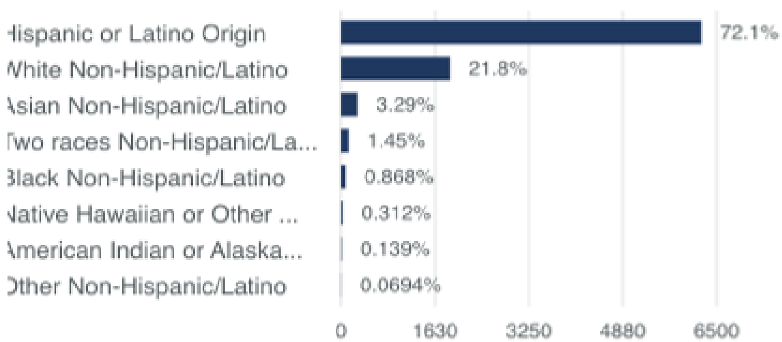
Traveler demographics distributions are illustrated in **Figure 2** and **Figure 3** below.



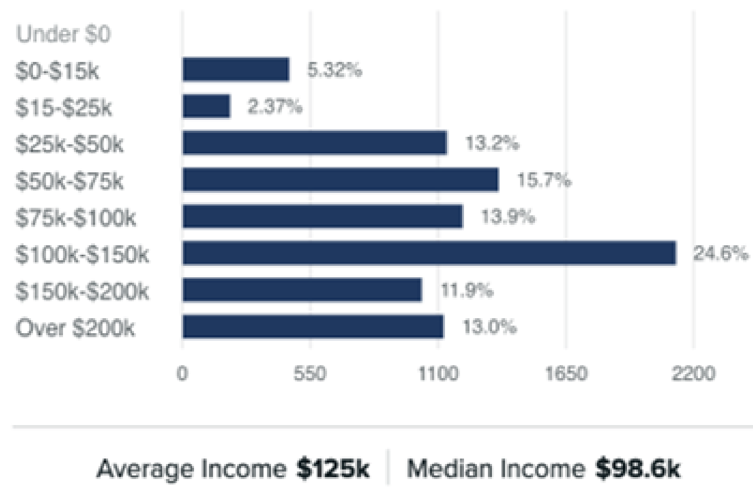

PRIMARY LANGUAGE DISTRIBUTION




AGE DISTRIBUTION




RACE AND ETHNICITY DISTRIBUTION




HOUSEHOLD INCOME DISTRIBUTION

**FIGURE 2: TRAVEL DEMOGRAPHIC DISTRIBUTIONS (SOURCE : REPLICA)**

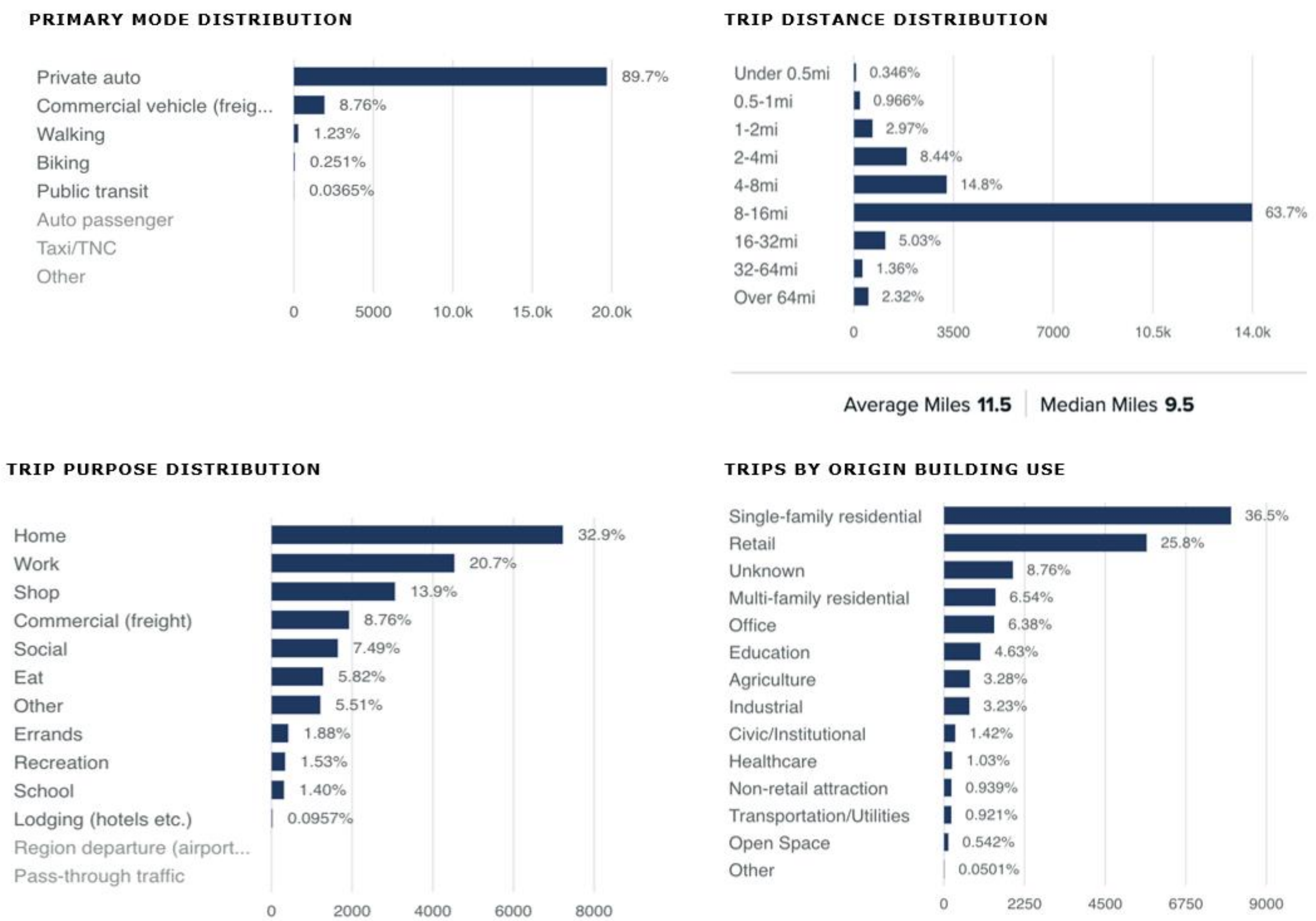



**FIGURE 3: TRIP CHARACTERISTICS SUMMARY (SOURCE: REPLICA)**

## GOODS MOVEMENT

The SR 166 corridor serves as a critical access route for local processing facilities, packing sheds, and logistics hubs, meeting the seasonal and high-volume demands of the agricultural industry. It is an important east-west route that connects US 101 to I-5, which provides access to major ports and the larger state and national highway system. It supports a significant proportion of commercial truck traffic and is frequently used by agricultural vehicles, which often travel at slower speeds than passenger vehicles and access the roadway via unpaved, unmarked points.

The *California Central Coast Sustainable Freight Study* (2024)[4] and the *US 101 Central Coast California Freight Strategy* (2016)[5] establish a vision for improving freight movement in the regio in alignment with broader state freight and climate goals. Data analysis in the studies focused on identifying regional bottleneck locations and included extensive stakeholder engagement through interviews with representatives from the agricultural and shipping industries. Both studies identify SR 166 as a critical east-west corridor connecting US 101 to I-5 and it is frequently cited in both studies as an example of an important freight route that experiences congestion and reliability challenges. The *US 101 Central Coast California Freight Strategy* emphasizes that key connector routes such as SR 166 play a crucial role in boosting commerce between the Central Coast and the Central Valley, which serves as a key trading partner and a vital component of the national freight network.

Stakeholders for both studies suggested several improvements for congested corridors, including SR 166. Recommendations include adding passing lanes, redesigning intersections, expanding capacity, and creating bypasses to reroute freight around urbanized areas. The intersection of US 101 and SR 166 was identified as a high-priority location for upgrades. The *California Central Coast Sustainable Freight Study* recommended operational enhancements such as adding passing lanes on SR 166 to reduce congestion and improve safety. Similarly, the *US 101 Central Coast California Freight Strategy* recommended widening SR 166 from Guadalupe to Santa Maria to four lanes and incorporating access control measures to enhance truck mobility and alleviate congestion.

This section provides an overview of truck and goods movement on SR 166 and compares current truck traffic with findings from prior studies, providing insights into the substantial growth in truck activity along the corridor.

### TRUCK VOLUMES AND FACILITIES

Summarized in **Table 3,** daily traffic volumes on SR 166 between the cities of Guadalupe and Santa Maria range from under 8,900 vehicles near Guadalupe to nearly 23,500 vehicles at east end of the study corridor (Caltrans, Published 2022 State Highway Volumes). Daily truck traffic volumes within

[4] Association of Monterey Bay Area Governments. (2024). *California Central Coast Sustainable Freight Study*. https://ambag.org/plans/regional-freight-planning

[5] Association of Monterey Bay Area Governments. (2016). *US 101 Central Coast California Freight Strategy*. https://ambag.org/reports

the corridor range from about 990 near Guadalupe to just under 1,700 at the Depot Street in Santa Maria. When considering the impact of truck activity, it is important to categorize the truck volumes by vehicle size and trip purpose. Trucks are categorized by the number of axles on the vehicle, ranging from 2 axles to 5 axles. In general, 5 axle trucks reflect Surface Transportation Assistance Act (STAA)-sized vehicles (i.e., 48-53 ft from kingpin to rear axel (KPRA)).

Since 2000, average daily traffic on SR 166 has grown by 21%, with a significant increase in 5+ axle heavy-duty trucks (on average 82%) contributing to operational and safety challenges on the corridor (**Table 3**). Agricultural packing shed locations along the corridor, shown in **Figure 5**, are significant sources of truck traffic, contributing to the heavy-duty vehicle presence on SR 166. Using 2023 origin-destination data from StreetLight Data, this analysis focuses on identifying freight truck usage patterns on SR 166 and other key roadways in the region, including SR 1, SR 135, US 101, and Betteravia Road. The findings presented here update insights from a 2003 truck intercept survey that specifically analyzed travel patterns of 5+ axle heavy trucks. This analysis examines typical weekday peak-hour travel patterns and indicate that SR 166 remains the region's primary freight route, with significant truck traffic traveling in both directions.

#### ENFORCEMENT

STAA truck routes are designated roadways that allow large trucks to operate in accordance with the *Surface Transportation Assistance Act* of 1982. These routes are specifically designed to accommodate longer and wider trucks than those typically allowed on standard roads. The Act permits motor carrier operation of 48-foot and 53-foot semi-trailers on the national highway network and allowed states to permit these "STAA vehicles" on state and local routes as well. Designation of STAA routes is premised on engineering and safety standards (i.e., adequate footprint to accommodate truck turn radius requirements, gross vehicle weight, vertical clearance height etc.)[6]. In California, Caltrans administers these regulations while the California Highway Patrol (CHP) is charged with enforcement. The CHP has the authority to issue citations for violations that involve operating STAA sized equipment on routes that are not formally designated as STAA routes (National Network or Terminal Access Routes) such as SR 166 between the cities of Auburn and Placerville. An STAA violation typically costs $300.

Alternatives to accessing the National Network without using SR 166 include Betteravia Road for southbound trucks, and SR 1 to Willow Road for northbound trucks. Betteravia Road is a California Legal truck route, and Willow Road is a County-designated truck route from SR 1 to US 101.

As shown in **Figure 4**, SR 166 between Guadalupe and Santa Maria is not a designated STAA Terminal Access (T) route. Despite this, the truck data provided in **Table 3** indicates a substantial and growing proportion of truck traffic on SR 166 to be 5+ axle commercial vehicles.

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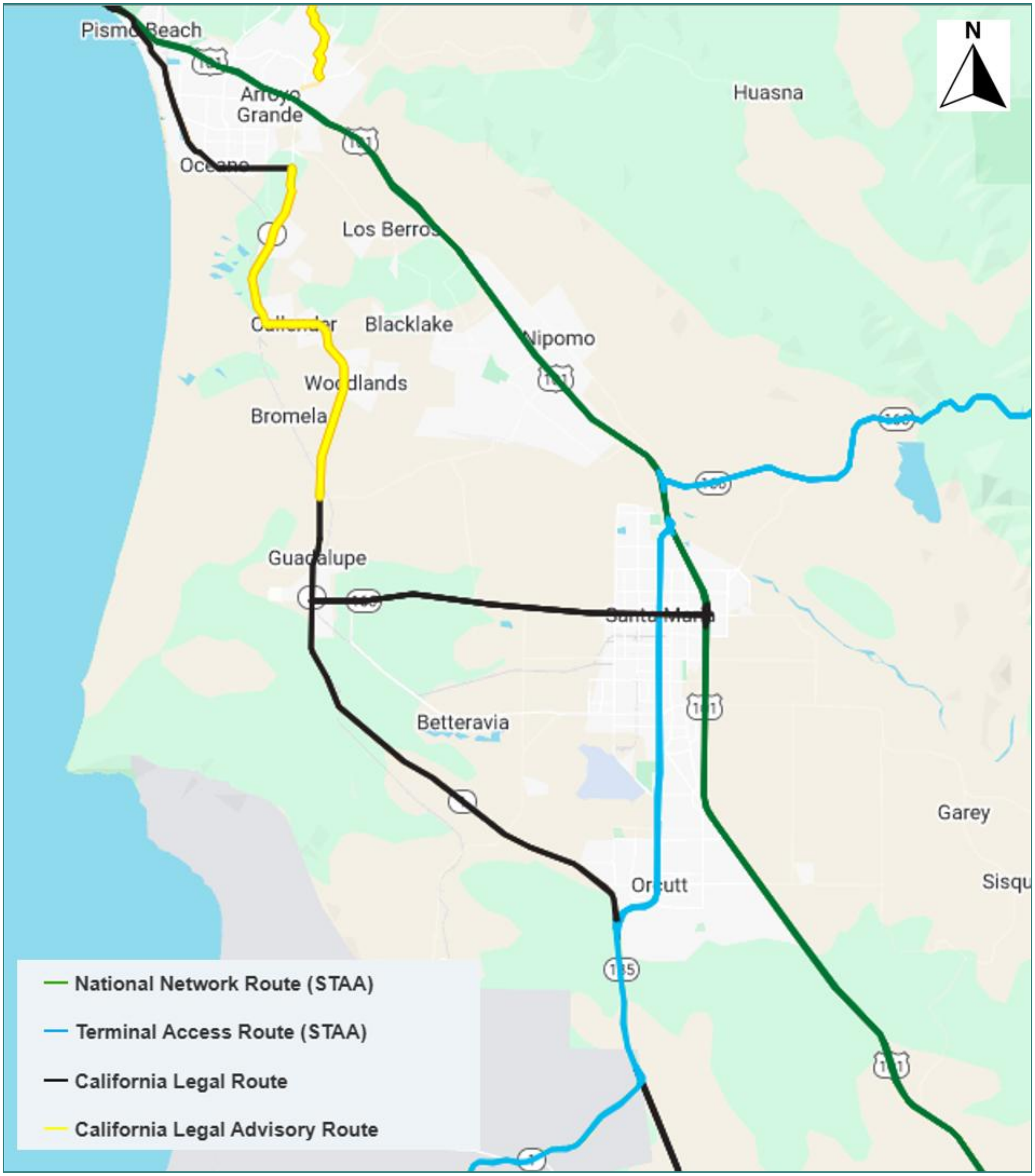
[6] U.S. Code of Federal Regulations at Part 658 "Truck Size and Weight, Route Designations—Length, Width and Weight Limitations" and in the California Vehicle Code at Section 35401.7




*Source : https://quickmap.dot.ca.gov/#a4*

**FIGURE 4: CALIFORNIA TRUCK NETWORK WITHIN STUDY AREA**

**TABLE 3: 2000-2022 TRUCK ANNUAL AVERAGE DAILY TRAFFIC**

| POST MILE | LOCATION | AADT | | | TRUCK AADT | | | 5+ AXLE TRUCK AADT | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2000 | 2022 | % GROWTH | 2000 | 2022 | % GROWTH | 2000 | 2022 | % GROWTH |
| 0.00 | Guadalupe, Jct. Rte 1 | 7,100 | 8,900 | 25% | 510 | 990 | 94% | 190 | 190 | 0% |
| 6.87 | Santa Maria, Blosser Rd. | 10,000 | 14,500 | 45% | 1,100 | 1,740 | 58% | 430 | 610 | 42% |
| 6.87 | Santa Maria, Blosser Rd. | 17,800 | 15,500 | -13% | 1,190 | 1,710 | 44% | 400 | 630 | 58% |
| 7.87 | Santa Maria, Jct. Rte. 135 | 18,700 | 21,000 | 12% | 1,220 | 2,280 | 87% | 630 | 1,140 | 81% |
| 8.93 | Santa Maria, Jct. Rte. 101 | 15,600 | 23,500 | 51% | 530 | 1,880 | 255% | 300 | 1,050 | 250% |
| | <------Break in Route-----> | | | | | | | | | |
| 8.93 | Santa Maria, Jct. Rte. 101 | 2,400 | 3,350 | 40% | 530 | 1,040 | 96% | 300 | 480 | 60% |

*Source: Caltrans, 2000 Truck Traffic Count Report; Caltrans, 2022 Truck Traffic Count Report*

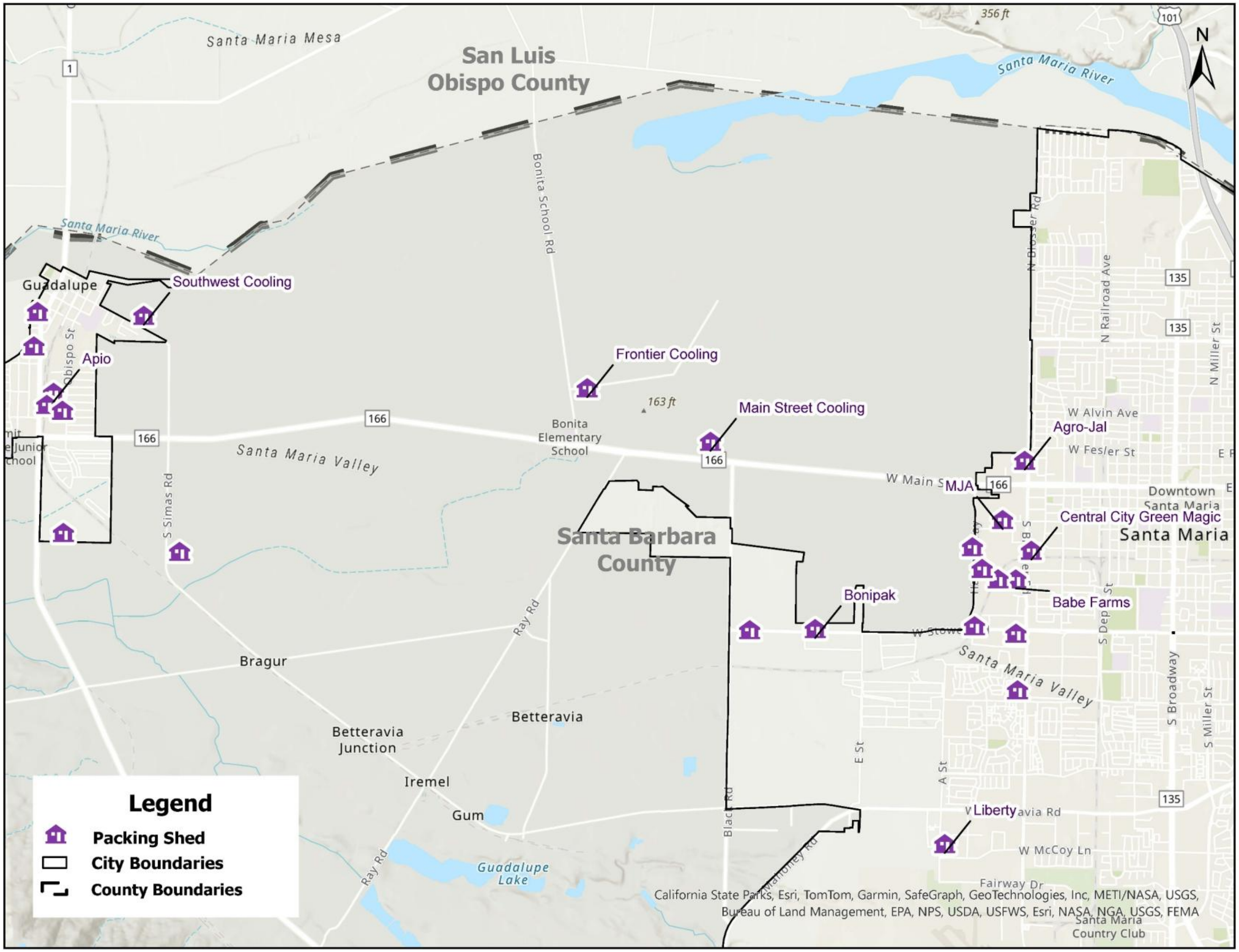



**FIGURE 5: STUDY CORRIDOR AND AGRICULTURAL PACKING SHED LOCATION**

## TRUCK ORIGIN-DESTINATION ANALYSIS

### 2003 Truck Intercept Survey on SR 166

A previous truck study[7] conducted by SBCAG involved performing SR 166 intercept surveys with the California Highway Patrol (CHP) mobile enforcement unit to ascertain heavy-duty truck activity and distributions within and through the City of Santa Maria. The intercept surveys were supplemented with "processing shed" interviews conducted at major Santa Maria/Guadalupe packers. Over 450 surveys were completed. The results were used as a basis for a subsequent study by the City of Santa Maria to assess the necessity and feasibility of redirecting heavy-duty truck activity off SR 166 within the City Limits. Results of the 2003 truck intercept survey indicated that SR 1 and Betteravia were not being used as alternate truck travel routes at that time.

It is important to note that the 2003 surveys were performed on trucks using SR 166, inherently excluding data from trucks that might have chosen SR 1. This means the two surveys are not directly comparable because the methodologies and geographic scopes differ.

### 2023 Origin-Destination Truck Analysis Using Streetlight Data

For this update, mobility data was purchased from *StreetLight Data* that was collected from archived and anonymized freight navigation systems along with cellular phones and other internet connected devices. This type of mobility data is useful for travel analysis throughout the United States. For this study, the analysis was restricted to heavy truck traffic only (5+ axle vehicles). The origin-destination (O-D) analysis identified how heavy trucks approached and departed the SR 166 corridor between SR 1 in Guadalupe and Depot Street in Santa Maria. The O-D results from the 2023 data were tabulated for the typical weekday peak hours.

Results of the Streetlight analysis are summarized in **Table 4** and illustrated in **Figure 6** and **Figure 7**. Results indicate that SR 166 remains the primary east-west freight corridor, with 33% of AM inbound and 45% of PM outbound traffic. Betteravia Road handles 14% of AM inbound and 18% of PM outbound traffic. The 2003 survey did not indicate that Betteravia was used as a notable trucking route at that time. The data also indicates that 27% inbound and 25% outbound traffic is travelling on SR 1. The 2003 truck study did not indicate that SR 1 was being used as a truck route at that time. On a daily basis (**Figure 8** and **Figure 9**), a larger percentage of heavy-duty trucks (18 percent) are traveling from I-5 to access the study area from the east than either from the south or north along US 101. Conversely, outbound trucks (i.e., goods movement) is predominantly traveling south (27 percent) and north (17%) on US 101 with only 3 percent of heavy-duty trucks using SR 166 east of US 101.

It is important to note that the extension of Willow Road and the construction of a new interchange with US 101 in Nipomo, completed in October 2012, appears to have significantly influenced truck traffic patterns in the region. This infrastructure improvement provides a direct connection between Willow Road and US 101, offering an alternative route for trucks that previously used SR 166 and

[7] Highway 166 Truck Study, Final Report, by Strategic Consulting & Research, Produced for Santa Barbara County Association of Governments, August 15, 2003

other local roads to access northbound US 101. Prior to the Willow Road extension, trucks traveling westbound on SR 166 would typically continue to US 101 via existing routes. The new interchange offers a more direct path to US 101, leading to a redistribution of truck traffic. This change is evident in recent data showing that approximately 10-11% of trucks now access US 101 via Willow Road, a shift from patterns observed in 2003.

### FINDINGS

Key findings into existing truck traffic and goods movement conditions on SR 166 and the surrounding road network are summarized as follows:

- SR 166 is a vital east-west transportation corridor connecting US 101 to I-5, facilitating the movement of agricultural goods between the Central Coast and Central Valley. It serves processing facilities, packing sheds, and logistics hubs, meeting the high-volume, seasonal demands of the agricultural industry.
- Both the California Central Coast Sustainable Freight Study (2024) and US 101 Central Coast Freight Strategy (2016) emphasize SR 166's importance as a critical freight route facing congestion and reliability challenges.
- Truck traffic on SR 166 has grown significantly since 2000, with heavy-duty 5+ axle trucks increasing by 82%. Existing daily truck traffic on SR 166 ranges from 990 vehicles near Guadalupe to 1,700 at Depot Street in Santa Maria.
- 2023 Streetlight origin-destination data indicates that SR 166 remains a primary route for both inbound and outbound freight travel with 33% inbound and 45% outbound regional freight travel into and out of Guadalupe and the surrounding areas.
- On a daily basis, a larger percentage of heavy-duty trucks (18 %) are traveling from I-5 to access the study area from the east than either from the south or north along US 101. Conversely, outbound trucks (i.e., goods movement) is predominantly traveling south (27 %) and north (17%) on US 101 with only 3 percent of heavy-duty trucks using SR 166 east of US 101.
- Completed in 2012, the extension of Willow Road and the construction of a new interchange with US 101 in Nipomo, completed in October 2012, have influenced truck traffic patterns in the region. This infrastructure improvement provides a direct connection between SR 1 and US 101 north of SR 166, offering an alternative route for trucks that previously used SR 166 and other roads to access US 101.
- Results of the Streetlight origin-destination data indicates that Betteravia Road and SR 1 are increasingly utilized as alternatives, especially for trucks heading to US 101 southbound. Betteravia Road has seen increased truck traffic (14% inbound, 18% outbound),
- SR 1 and SR 166 are not STAA terminal access routes. Despite this, 2022 Caltrans Truck Traffic counts indicate that the proportion of traffic on SR 166 is 5 axle vehicles, and this volume has continued to increase.

**TABLE 4: FREIGHT ORIGIN-DESTINATION REGIONAL DISTRIBUTION**

COMPARATIVE TRAVEL PATTERNS FOR 5+ AXLE TRUCKS DURING PEAK HOUR PERIODS (2023 AND 2003)

| ROADWAY | 2023 AM INBOUND | 2023 PM OUTBOUND |
|---|---|---|
| SR 166 (MAIN STREET) WEST OF DEPOT STREET | 33% | 45% |
| SR 166 WEST OF US 101 | 25% | 26% |
| SR 166 EAST OF US 101 | 3% | 22% |
| US 101 NORTH OF WILLOW ROAD | 13% | 6% |
| US 101 NORTH OF SR 166 EAST | 3% | 8% |
| US 101 SOUTH OF CLARK AVENUE | 14% | 7% |
| US 101 SOUTH OF SR 135 | 19% | 9% |
| SR 1 NORTH OF MAIN STREET | 27% | 24% |
| SR 135 NORTH OF SR 1 | 7% | 8% |
| BETTERAVIA ROAD WEST OF SR 138 | 14% | 18% |
| CLARK AVENUE EAST OF SR 1 | 9% | 5% |
| CABRILLO HWY (SR 1) NORTH OF CLARK AVENUE | 15% | 8% |

*Source: 2023 StreetLight Data, Heavy Trucks, Origin-Destination Analysis; 2003 Highway 166 Truck Study, SBCAG..*

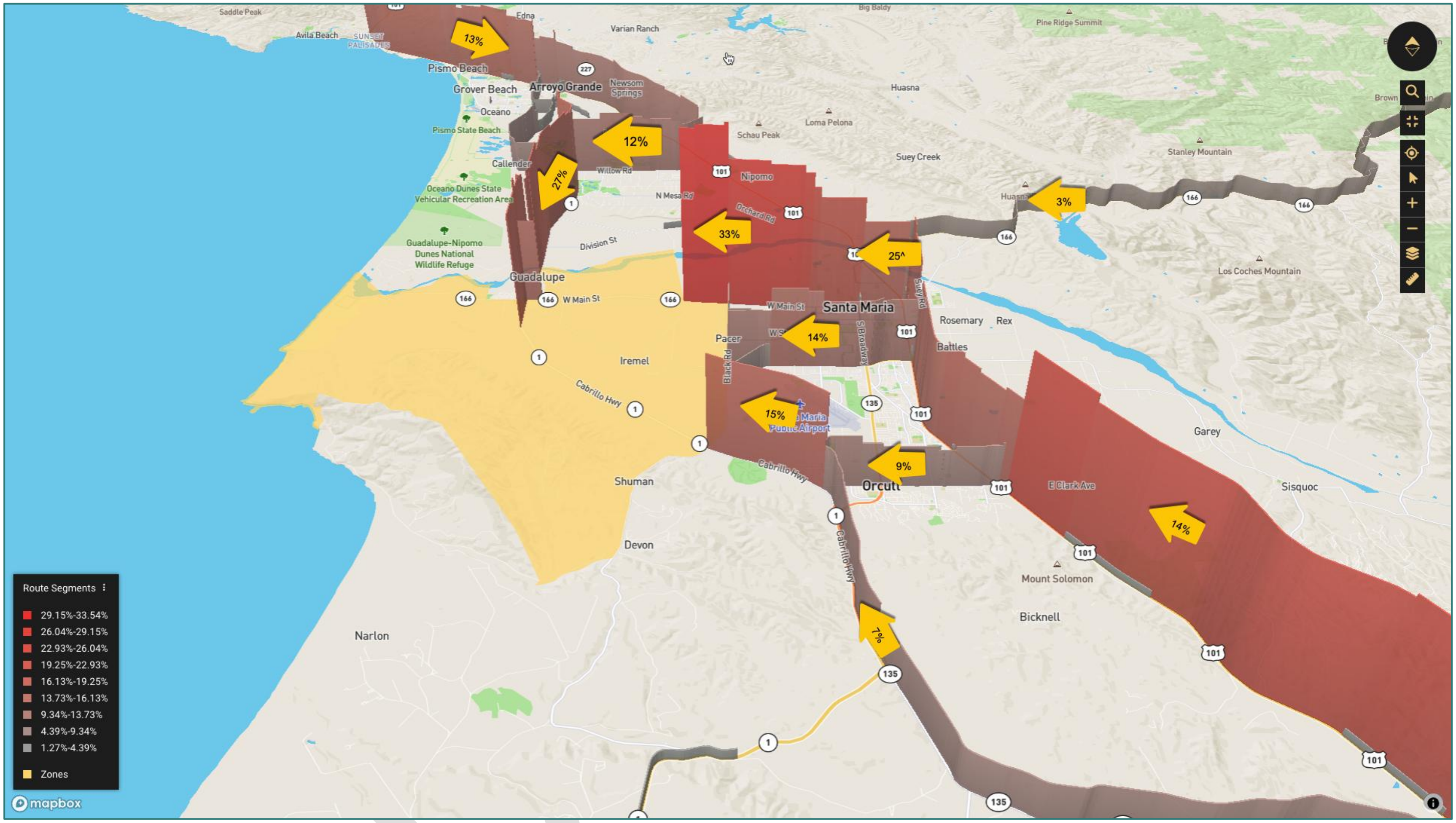



**FIGURE 6: 2023 AM INBOUND TRUCK DISTRIBUTION (SOURCE: STREETLIGHT)**

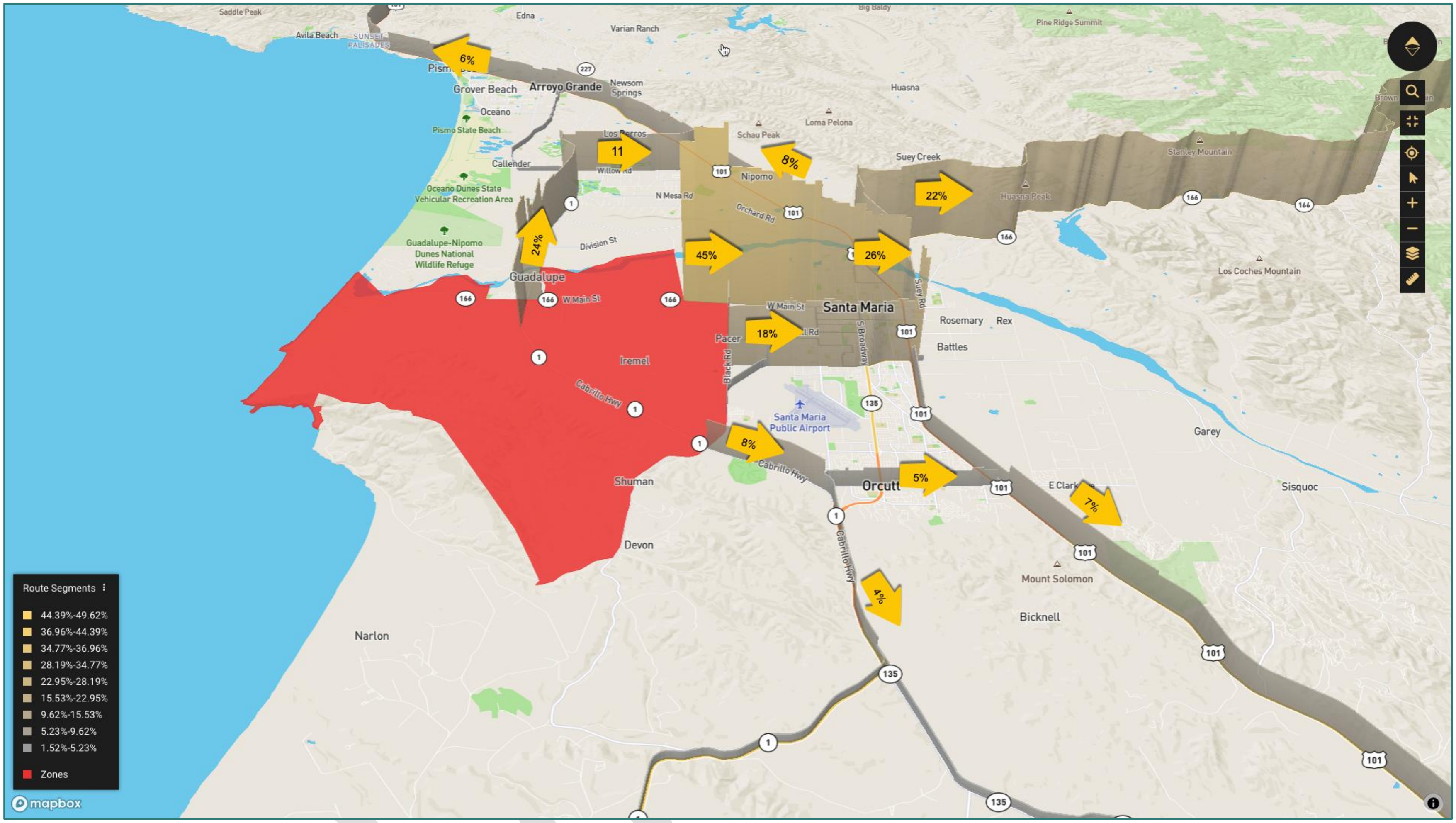



**FIGURE 7: 2023 PM OUTBOUND TRUCK DISTRIBUTION (SOURCE: STREETLIGHT)**

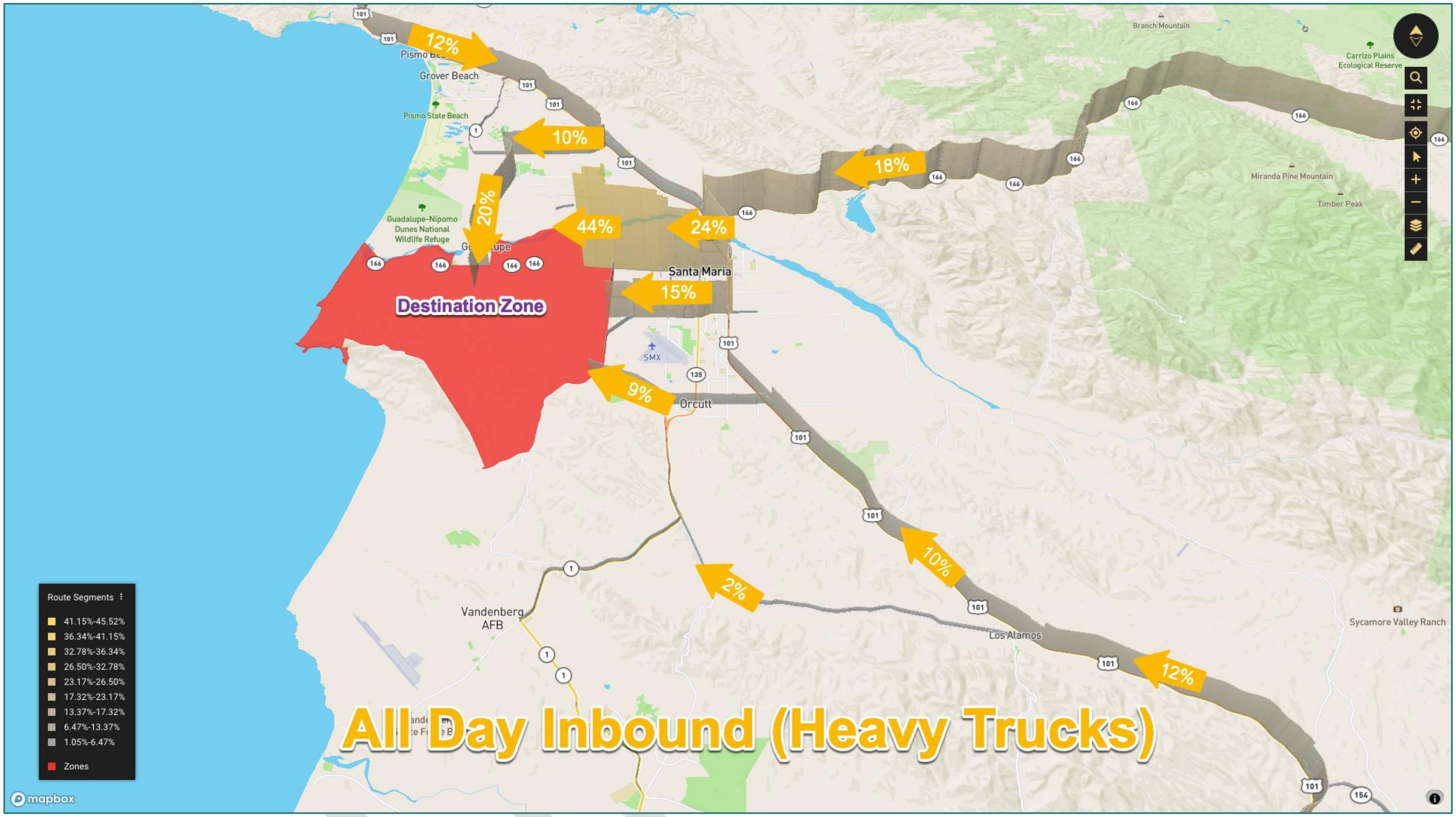



**FIGURE 8: 2023 ALL DAY INBOUND HEAVY TRUCK PERCENTAGE (SOURCE: STREETLIGHT)**

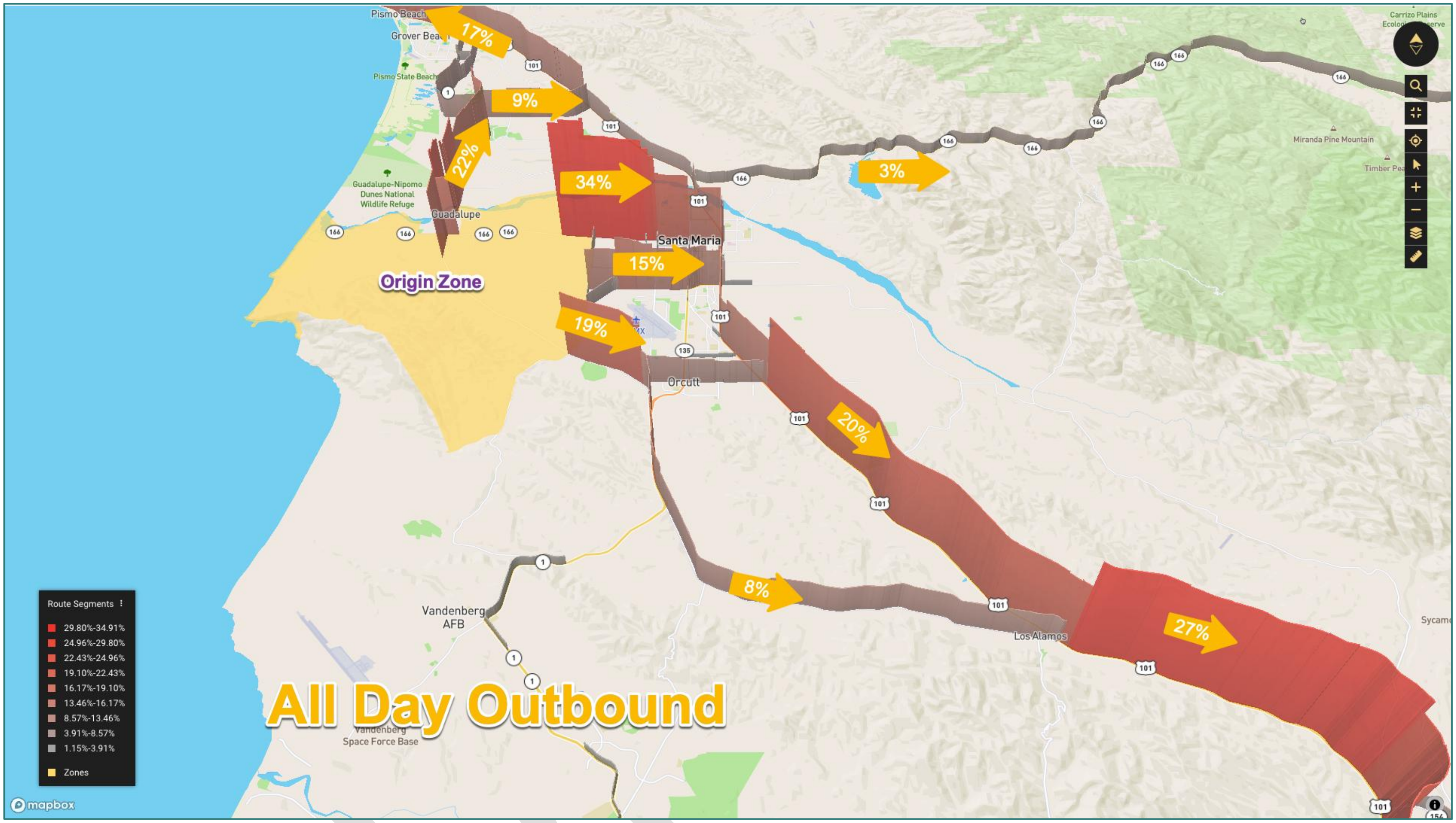



FIGURE 9: 2023 ALL DAY OUTBOUND HEAVY TRUCK PERCENTAGE (SOURCE: STREETLIGHT)

## DISADVANTAGED COMMUNITY MAPPING

SR 166 connects the communities of Guadalupe to the west and Sant Maria to the east. Santa Maria is a city of 110,000 residents with approximately 29,000 households. The median household income is $81,500, and 17.1% of residents live below the poverty line—a rate about 20% higher than the Santa Maria-Santa Barbara, CA Metro Area average and 1.4 times the California average of 12.2%[8]. West of Santa Maria along SR 166 lies the town of Guadalupe, home to about 8,300 residents and 2,100 households, with a median household income of $66,000. In Guadalupe, 27.6% of the population lives below the poverty line, nearly double the poverty rate of the Santa Maria-Santa Barbara Metro Area and more than twice the California average.

The following section provides an overview of disadvantaged characteristics in the communities surrounding SR 166. Data is based on CalEnviroScreen4.0, SJ40 and SBCAG.

### SBCAG ENVIRONMENTAL JUSTICE COMMUNITIES

Regional transportation planning must comply with Title VI of the 1964 Civil Rights Act, which mandates the FHWA to assess environmental justice impacts on minority and low-income populations. SBCAG's Connected 2050 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) provides a regional definition of Environmental Justice (EJ) communities, using block group-level census demographic data detailed in Chapter 4. To identify EJ communities, SBCAG created an Environmental Justice Score based on several indicators: concentrations of minority populations, low-income households, poverty levels, vehicle ownership, elderly and youth populations, English proficiency, education levels, and housing cost burden. Regions scoring in the top 25% for these indicators are designated as EJ communities, ensuring coverage of both rural and urban areas. This scoring method prioritizes population density and indicator concentration over total population size, allowing for a more precise reflection of community needs.

**Figure 10** illustrates the SR 166 study corridor in relation to EJ communities in the surrounding area, ranked by percentile. A color gradient from yellow to dark red indicates varying levels of EJ priority, with darker colors representing higher EJ scores based on SBCAG's definition. Overall, the map shows that SR 166 serves several high-priority EJ communities, both rural and urban. High EJ priority areas (20-25 percentile) are present near Santa Maria and Guadalupe, reflecting significant concentrations of minority, low-income, and vehicle-limited populations.

### AT RISK POPULATION PROFILE

**Figure 11** and **Figure 12** provides demographic information for the cities of Guadalupe and Santa Maria, California. The data includes population, age, household income, home value, languages spoken, disability, poverty level, and business information.

[8] U.S. Census Bureau. (n.d.). *Santa Maria CCD, Santa Barbara County, California: Profile data.* Retrieved November 18, 2024, from https://data.census.gov/profile/Santa_Maria_CCD,_Santa_Barbara_County,_California?g=060XX00US0608392908

- Santa Maria is a city with a population of 110,402 and 3,789 total businesses. The median age is 32.2 years old, and the median household income is $78,719.2 12% of households are below the poverty level.
- Guadalupe is a smaller city with a population of 8,262 and 114 total businesses. The median age is 31.8 years old, and the median household income is $61,731. 28% of households are below the poverty level.
- Santa Maria's population and number of businesses are much larger than Guadalupe's. Santa Maria's population is more than 13 times that of Guadalupe, and its businesses are over 33 times more numerous.12
- While Santa Maria has a higher median household income, it also has a lower percentage of households below the poverty level.12
- Both cities have a significant Spanish-speaking population. However, in Guadalupe, a larger proportion of the population aged 65 and over speaks Spanish and no English (191 people) compared to Santa Maria (1,062 people).12 It is important to consider the difference in overall population when comparing these figures.
- Santa Maria has a much larger daytime population, indicating a larger influx of people for work or other activities.12 This could be due to a larger number of businesses in the city.

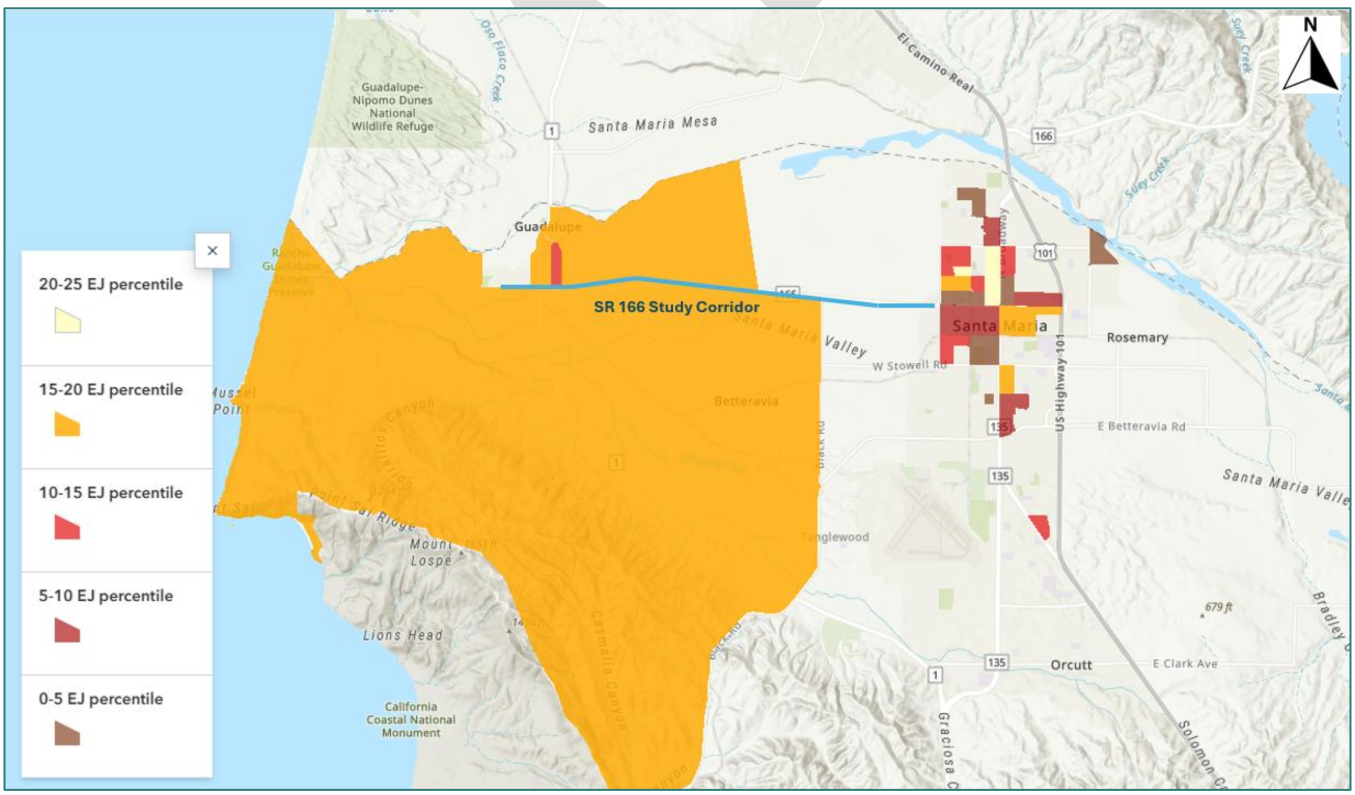



**FIGURE 10: SBCAG EJ COMMUNITIES RELATIVE TO STUDY CORRIDOR**

### OTHER DEFINITIONS AND INDICATORS

This section examines the environmental and socioeconomic vulnerabilities of communities surrounding SR 166 using alternative definitions, including CalEnviroScreen4.0, the Federal Justice40 Climate and Economic Justice Screening Tool, and AB 1550 criteria. These analyses highlight areas of high environmental health risks, economic challenges, and social inequities, particularly around Guadalupe and parts of Santa Maria. Results are summarized as follows:

**CalEnviroScreen4.0 Results (Figure 13):** The area around Guadalupe ranks within the 80-90 percentile for environmental and socioeconomic vulnerability, indicating higher relative levels of pollution and other environmental justice issues. Santa Maria and surrounding areas fall within the 60-70 percentile, suggesting moderate to high vulnerability.

**Federal Justice40 Screening Tool (Figure 14):** According to the Climate and Economic Justice Screening Tool, six of the seven census tracts adjacent to SR 166 within the study area qualify as disadvantaged communities, indicating higher relative climate, economic, and social burdens.

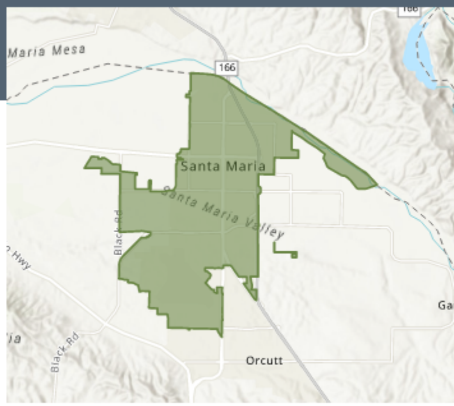
**AB 1550 Low-Income Communities (Figure 15):** The Santa Barbara County Active Transportation Plan identifies areas west of and around SR 166 as disadvantaged communities under AB 1550 criteria, based on income levels below state-designated thresholds.

# AT RISK POPULATION PROFILE

## Santa Maria City, CA

esri

Geography: Place




| 110,402 | 29,238 | 3.75 | 32.2 | $78,719 | $485,701 | 80 | 66 | 81 |
|---|---|---|---|---|---|---|---|---|
| Population | Households | Avg Size Household | Median Age | Median Household Income | Median Home Value | Wealth Index | Housing Affordability | Diversity Index |

### AT RISK POPULATION

- 8,767 Households With Disability
- 13,335 Population 65+
- 1,749 Households Without Vehicle

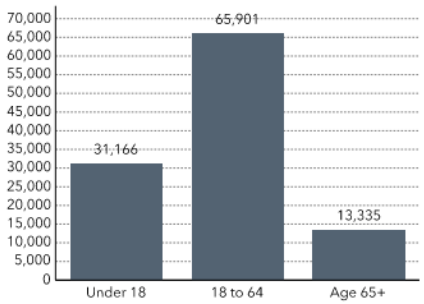
### POVERTY AND LANGUAGE

- 12% Households Below the Poverty Level
- 3,367 Households Below the Poverty Level
- 1,062 Pop 65+ Speak Spanish & No English

### POPULATION AND BUSINESSES

- 99,861 Daytime Population
- 3,789 Total Businesses
- 41,081 Total Employees

### POPULATION BY AGE




| Language Spoken (ACS) | Age 5-17 | 18-64 | Age 65+ | Total |
|---|---|---|---|---|
| **English Only** | **7,503** | **19,356** | **7,004** | **33,863** |
| **Spanish** | **15,715** | **40,512** | **3,710** | **59,937** |
| Spanish & English Well | 14,346 | 22,598 | 1,955 | 38,899 |
| Spanish & English Not Well | 997 | 6,142 | 693 | 7,832 |
| Spanish & No English | 372 | 11,772 | 1,062 | 13,206 |
| **Indo-European** | **0** | **342** | **83** | **425** |
| Indo-European & English Well | 0 | 300 | 79 | 379 |
| Indo-European & English Not Well | 0 | 42 | 4 | 46 |
| Indo-European & No English | 0 | 0 | 0 | 0 |
| **Asian-Pacific Island** | **294** | **2,317** | **941** | **3,552** |
| Asian-Pacific Isl & English Well | 248 | 2,025 | 652 | 2,925 |
| Asian-Pacific Isl & English Not Well | 20 | 271 | 212 | 503 |
| Asian-Pacific Isl & No English | 26 | 21 | 77 | 124 |
| **Other Language** | **425** | **1,257** | **18** | **1,700** |
| Other Language & English Well | 343 | 530 | 0 | 873 |
| Other Language & English Not Well | 28 | 85 | 1 | 114 |
| Other Language & No English | 54 | 642 | 17 | 713 |

Source: This infographic contains data provided by Esri (2024, 2029), ACS (2018-2022), Esri-Data Axle (2024).



Source: This infographic contains data provided by Esri (2024, 2029), ACS (2018-2022), Esri-Data Axle (2024).

**FIGURE 11: AT RISK POPULATION PROFILE FOR SANTA MARIA**

# AT RISK POPULATION PROFILE

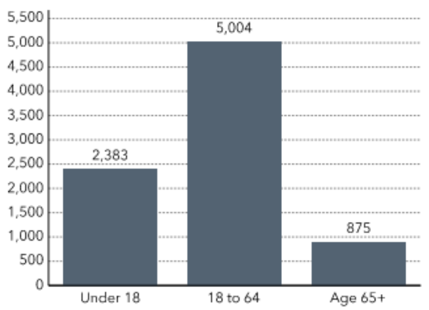
## Guadalupe City, CA

Geography: Place

esri


| 8,262 | 2,144 | 3.85 | 31.8 | $61,731 | $438,053 | 65 | 58 | 75 |
|---|---|---|---|---|---|---|---|---|
| Population | Households | Avg Size Household | Median Age | Median Household Income | Median Home Value | Wealth Index | Housing Affordability | Diversity Index |

### POPULATION BY AGE




### AT RISK POPULATION

- **602** Households With Disability
- **875** Population 65+
- **70** Households Without Vehicle

### POVERTY AND LANGUAGE

- **28%** Households Below the Poverty Level
- **580** Households Below the Poverty Level
- **191** Pop 65+ Speak Spanish & No English

### POPULATION AND BUSINESSES

- **5,571** Daytime Population
- **114** Total Businesses
- **1,388** Total Employees

| Language Spoken (ACS) | Age 5-17 | 18-64 | Age 65+ | Total |
|---|---|---|---|---|
| **English Only** | 583 | 1,176 | 229 | 1,988 |
| **Spanish** | 1,431 | 3,254 | 504 | 5,189 |
| Spanish & English Well | 1,210 | 2,167 | 291 | 3,668 |
| Spanish & English Not Well | 221 | 399 | 22 | 642 |
| Spanish & No English | 0 | 688 | 191 | 879 |
| **Indo-European** | 0 | 0 | 0 | 0 |
| Indo-European & English Well | 0 | 0 | 0 | 0 |
| Indo-European & English Not Well | 0 | 0 | 0 | 0 |
| Indo-European & No English | 0 | 0 | 0 | 0 |
| **Asian-Pacific Island** | 34 | 30 | 18 | 82 |
| Asian-Pacific Isl & English Well | 34 | 30 | 9 | 73 |
| Asian-Pacific Isl & English Not Well | 0 | 0 | 9 | 9 |
| Asian-Pacific Isl & No English | 0 | 0 | 0 | 0 |
| **Other Language** | 32 | 132 | 0 | 164 |
| Other Language & English Well | 32 | 0 | 0 | 32 |
| Other Language & English Not Well | 0 | 73 | 0 | 73 |
| Other Language & No English | 0 | 59 | 0 | 59 |

Source: This infographic contains data provided by Esri (2024, 2029), ACS (2018-2022), Esri-Data Axle (2024).



Source: This infographic contains data provided by Esri (2024, 2029), ACS (2018-2022), Esri-Data Axle (2024).

**FIGURE 12: AT RISK POPULATION PROFILE FOR GUADALUPE**

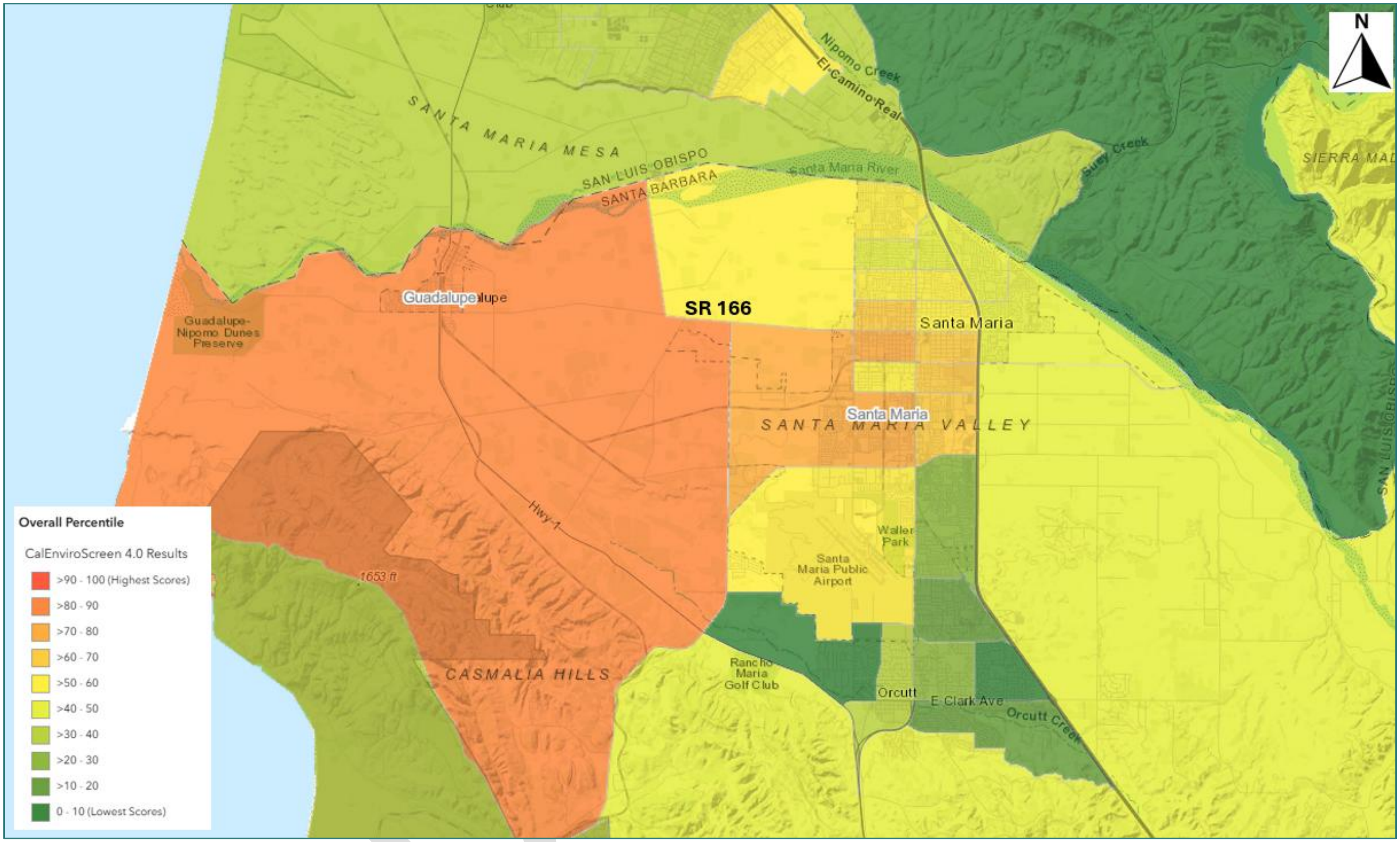



**FIGURE 13: CALENVIROSCREEN 4.0 ENVIRONMENTAL VULNERABILITY SCORES FOR AREAS SURROUNDING SR 166**

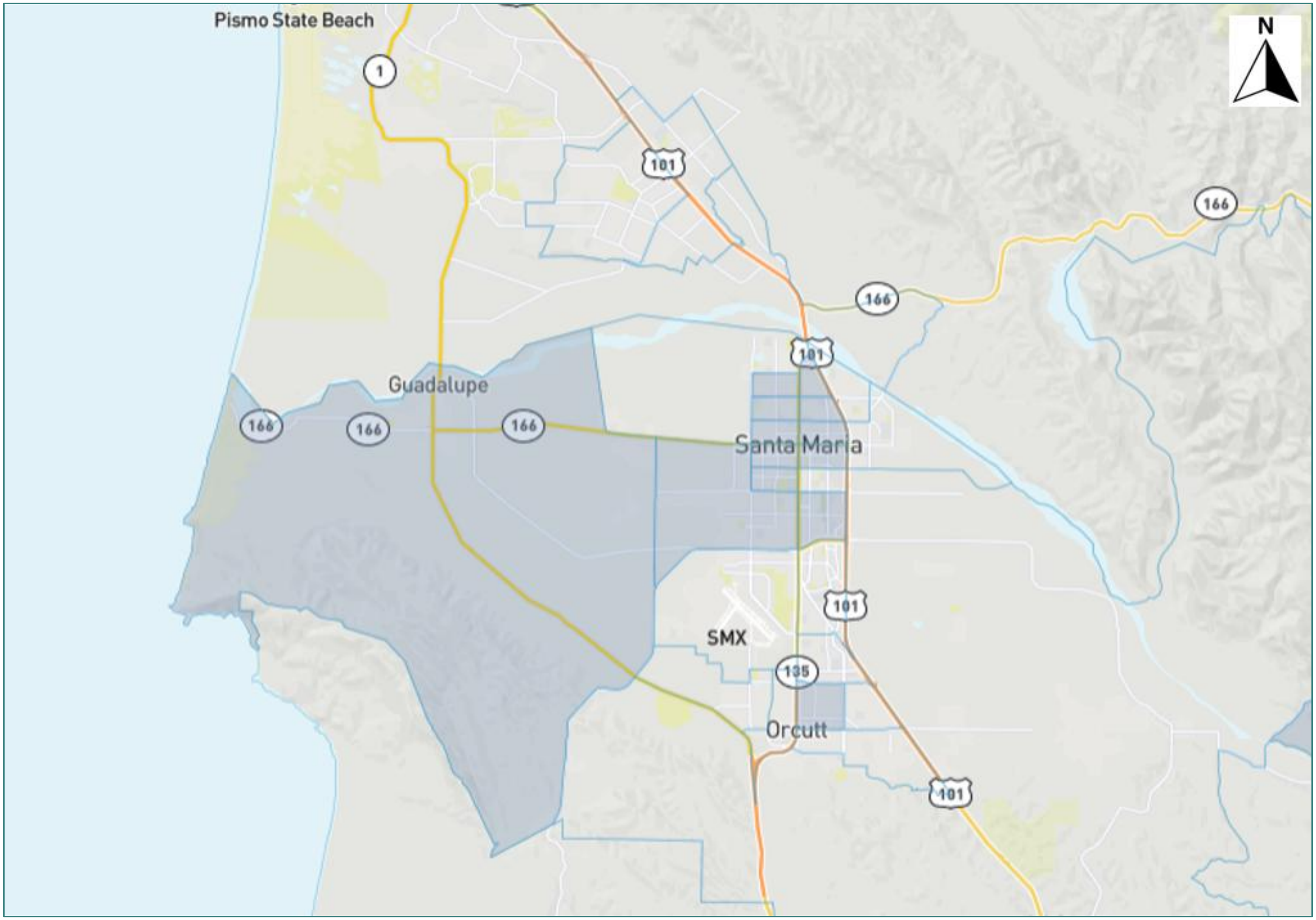



**FIGURE 14: CLIMATE AND ECONOMIC JUSTICE SCREENING TOOL RESULTS**

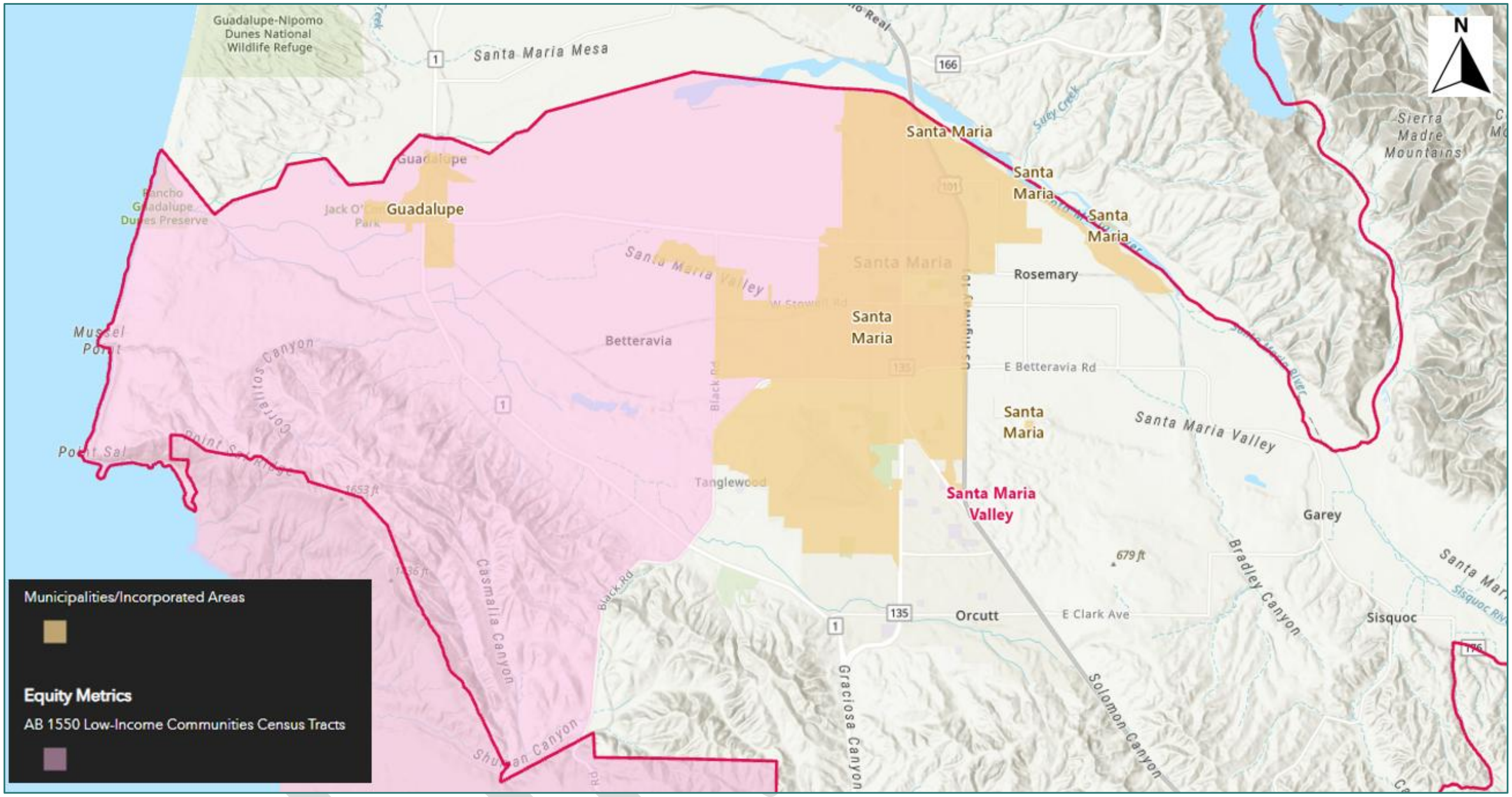



FIGURE 15: AB 1550 LOW-INCOME COMMUNITIES CENSUS TRACTS

## PHYSICAL ROADWAY CHARACTERISTICS

SR 166 is a state highway in California that connects the Central Coast to the southern San Joaquin Valley, linking coastal areas such as Santa Maria and Guadalupe with inland regions of the state. Stretching from SR 1 in Guadalupe (Santa Barbara County) through Santa Maria to SR 99 in Mettler (Kern County), SR 166 is part of the California Freeway and Expressway System but is not part of the National Highway System.

This study focuses on the segment of SR 166 within Santa Barbara County, which extends eastward from the intersection with SR 1 near Guadalupe to the Depot Street intersection in Santa Maria. In this area, SR 166 is a two-lane roadway. West of South Blosser Road, a two-way left-turn lane is provided, and left-turn pockets are present at major intersections.

The FHWA classifies SR 166's functional category as varying along the corridor, ranging from Rural Minor Arterial to Rural Major Collector. Within the study area, SR 166 is classified as a minor arterial.

### PARALLEL FACILITIES

Parallel facilities refer to multimodal infrastructure, including roads and trails, running alongside SR 166 within the study area, providing alternative access and connectivity options. These facilities support both passenger and freight traffic, helping to alleviate congestion on SR 166 and enhance safety by offering alternative routes for local travel and goods movement. Key parallel facilities are described below.

#### Division Street

Division Street is a significant east-west thoroughfare that connects the cities of Guadalupe and Santa Maria. In Guadalupe, Division Street begins near the city's eastern boundary and extends eastward, traversing primarily agricultural landscapes characteristic of the Santa Maria Valley. Upon entering Santa Maria, Division Street continues through residential and commercial areas. The regions flanking Division Street are predominantly agricultural, making it an attractive alternative to the busier Highway 166 for travelers between the two cities.

#### Betteravia Road

Betteravia Road stretches from Simas Road in the west to Foxen Canyon Road and Philbric Road east of Santa Maria. Within the study corridor (Simas to Depot Street in the City of Santa Maria), Betteravia begins at the confluence of Santa Maria Valley Road and Simas Road where it parallels SR 166 from the south to Santa Maria. It is an undivided two-lane County roadway with a varying 5-7 feet of paved shoulder and a posted speed limit of 45 mph within Santa Maria City Limits and 55 mph west of city limits. It traverses agricultural fields along this stretch. At A Street in the City of Santa Maria, Betteravia widens to a divided 4-lane arterial with turn channelization at key intersections. At this juncture Betteravia Road becomes a primary arterial route running east-west through the City of Santa Maria traversing primarily non-residential land uses. East of Broadway (SR 135) Betteravia Road features six travel lanes—three in each direction—along with a center lane designated for left turns.

### Santa Maria Levee Trail

The Santa Maria Levee Trail runs along the Santa Maria River Levee, extending approximately 6.7 miles. Primarily composed of gravel, it has relatively flat profile makes it accessible to users of various fitness levels. Currently, the Santa Maria River Levee Trail Study is assessing the feasibility of further developing this trail segment. The trail is designated as a "Tier 1 Improvement" in the Santa Barbara County Active Transportation Plan.

## NORTH-SOUTH ACCESS ROADS WITH SR 166

- **SR 1** is a north-south, two-lane highway near the study corridor with a painted shoulder on both sides of the roadway. North of SR 166, it has a posted speed limit of 30 mph, and south of SR 166, it has a posted speed limit of 55 mph.
- **Obispo Street** is a two-lane, north-south roadway with a posted speed limit of 35 mph north of SR 166 and 25 mph south of SR 166. There are sidewalks on both sides of the roadway near SR 166.
- **Flower Avenue** is a two-lane, north-south roadway with a posted speed limit of 55 mph. There are sidewalks on both sides of the roadway near SR 166 and an additional sidewalk on the west side of the roadway.
- **Simas Road** is a two-lane, north-south roadway with a posted speed limit of 55 mph. There is a painted shoulder on both sides of the roadway, varying in width from 6 to 8 feet.
- **Bonita School Road** is a north-south roadway with a posted school zone speed limit of 25 mph near SR 166. There is a painted shoulder on both sides of the roadway, approximately 5 to 7 feet wide.
- **Ray Road** is a two-lane, north-south roadway with no posted speed limit. There is a painted shoulder on both sides of the roadway, varying in width from 6 to 8 feet.
- **Black Road** is a two-lane, north-south roadway with a posted speed limit of 55 mph. There is no shoulder on either side of the roadway.
- **Blosser Road** is a north-south roadway within the City of Santa Maria with a posted speed limit of 40 mph. North of SR 166, there are two travel lanes in each direction. South of SR 166, there is one southbound lane and two northbound lanes. There are Class II bike lanes north of SR 166.
- **Depot Street** is a north-south roadway within the City of Santa Maria with a posted speed limit of 30 mph and class II bike lanes. South of SR 166, there are two travel lanes in each direction. North of SR 166, there is one travel lane in each direction.

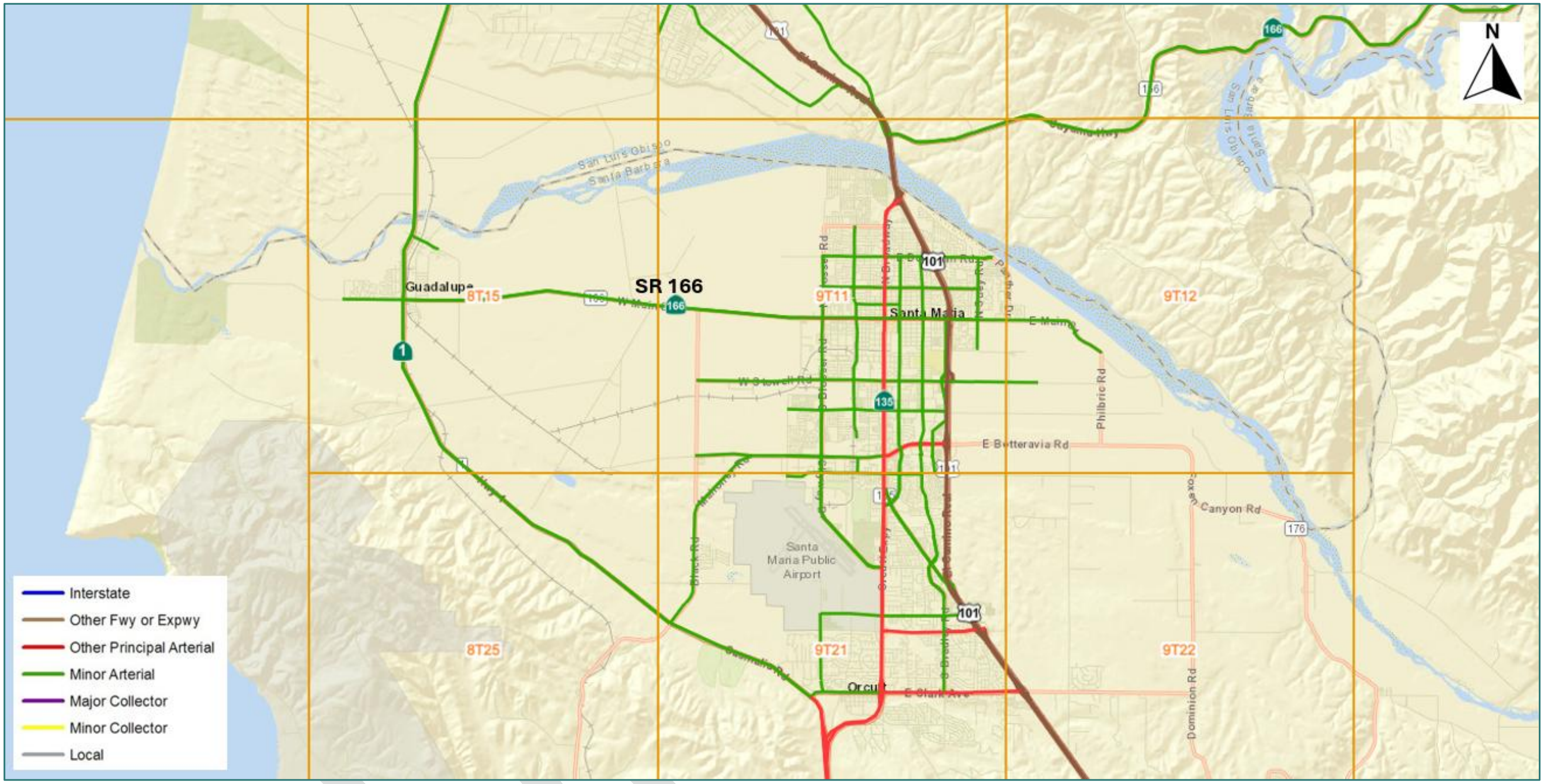



**FIGURE 16: CALIFORNIA ROAD SYSTEM FUNCTIONAL CLASSIFICATION (SOURCE: CALTRANS)**

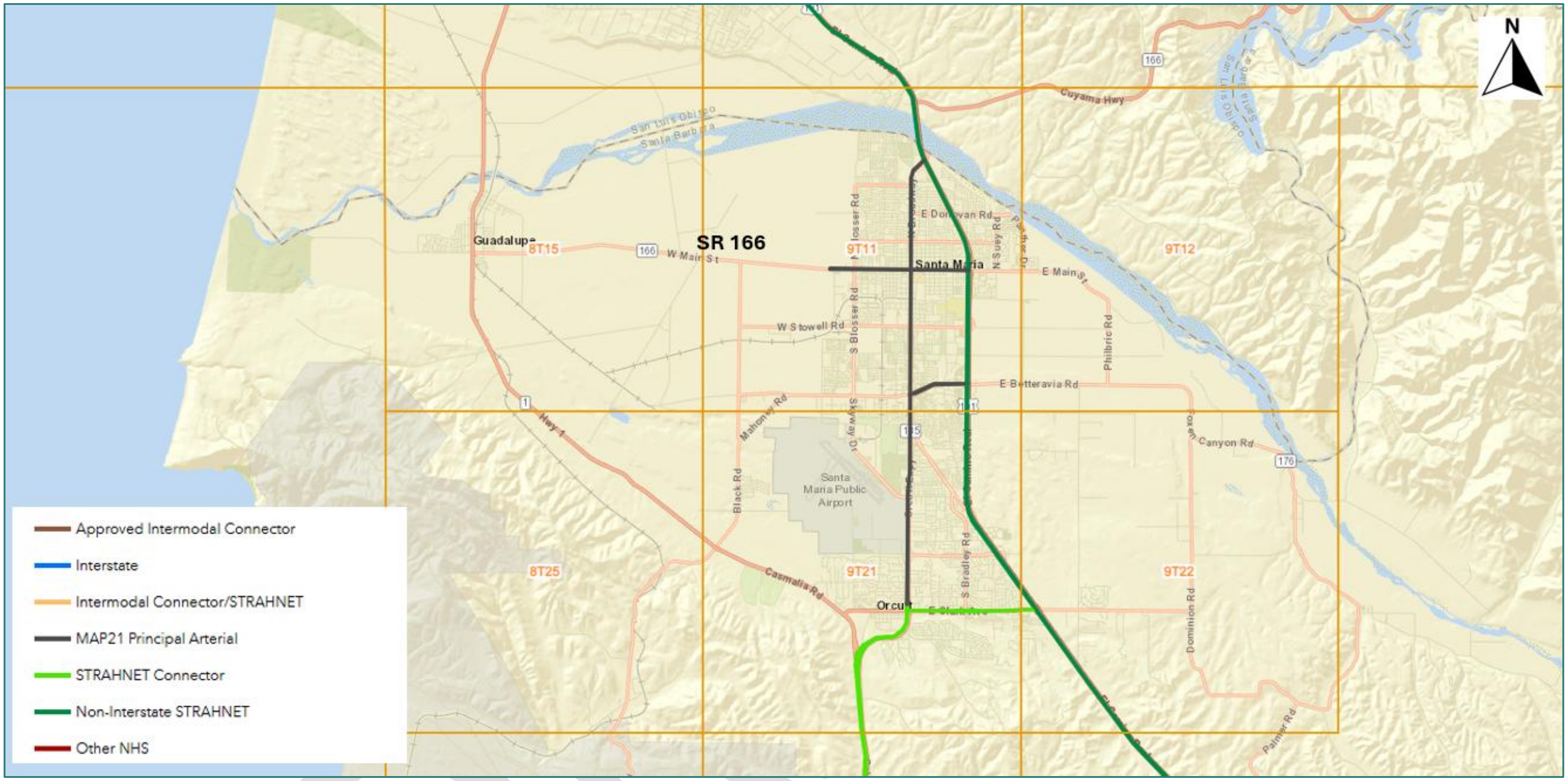



**FIGURE 17: 2023 NATIONAL HIGHWAY SYSTEM CLASSIFICATIONS**

## DATA COLLECTION AND TRAFFIC VOLUMES

Traffic count data for roadways and study intersections were collected in September 2024. For SR 166 segments, Caltrans' most recently published traffic volumes and truck volumes are reported. For the SR 1 at SR 166 and SR 166 at Obispo Street intersections, turn movement counts collected by Caltrans on May 29th to 30th, 2024 were used.

Roadway segment counts were collected for a continuous 72-hour period Tuesday through Thursday. These daily counts also included classification counts for heavy-duty trucks. Intersection turn movement counts were conducted during the AM peak hour (7:00 to 9:00 AM) and PM peak hour (4:00 to 6:00 PM). Average daily volumes within the study area are provided in **Figure 18**. Truck volumes (5+ axel trucks) are provided in **Figure 18** and include the percentage of heavy-duty trucks relative to daily volume.

**Figure 19** illustrates SR 166 traffic volumes by time of day, distinguishing between trucks and all vehicles in 15-minute increments. The data shows a morning peak period beginning as early as 4:30 AM, with the highest morning volume occurring at 6:30 AM. During the afternoon, traffic volumes begin to rise around 10:30 AM and gradually increase throughout the day, peaking at approximately 5:00 PM. Truck volumes remain relatively consistent throughout the day, with slight increases during mid-morning and early afternoon.

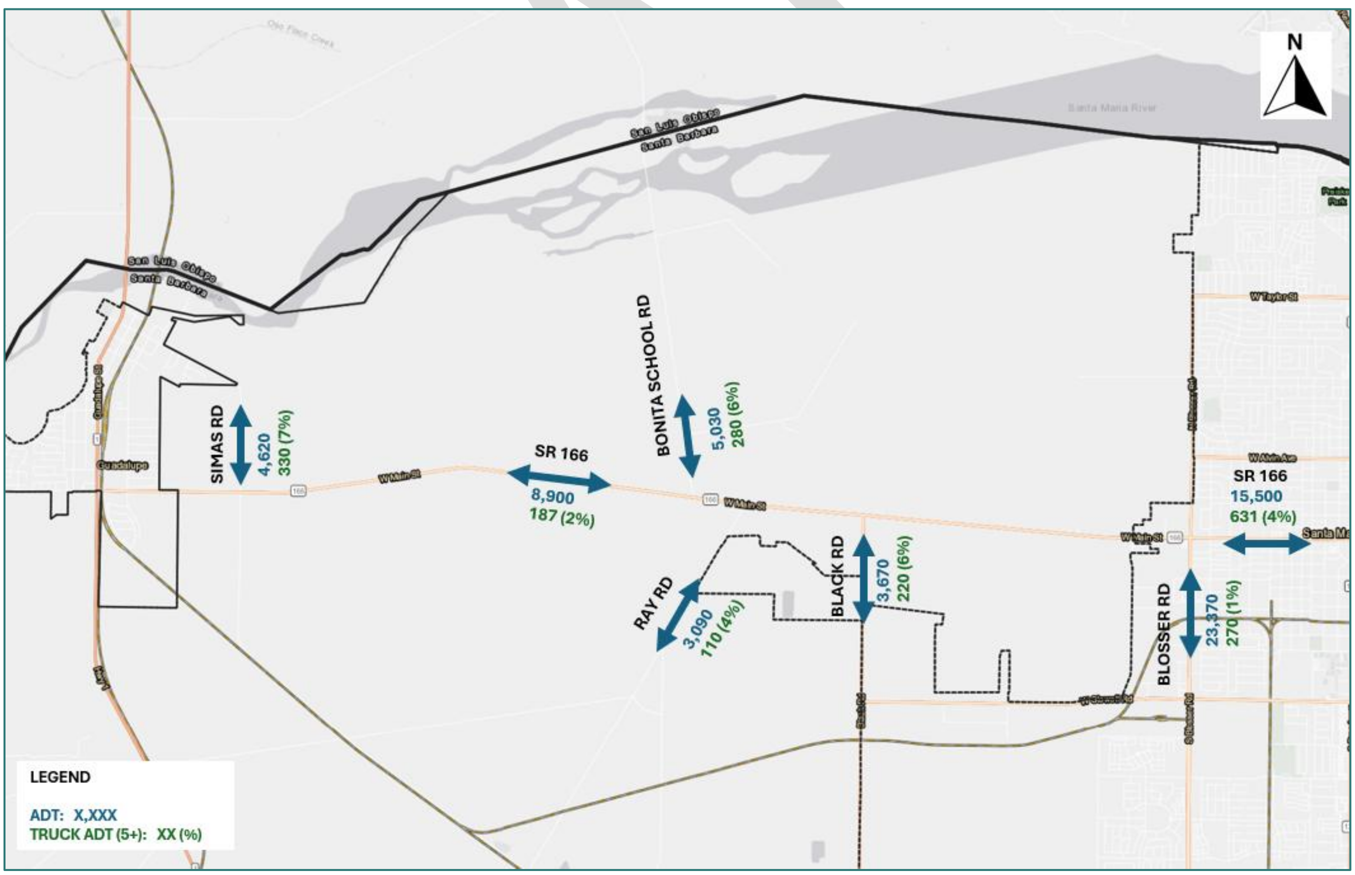
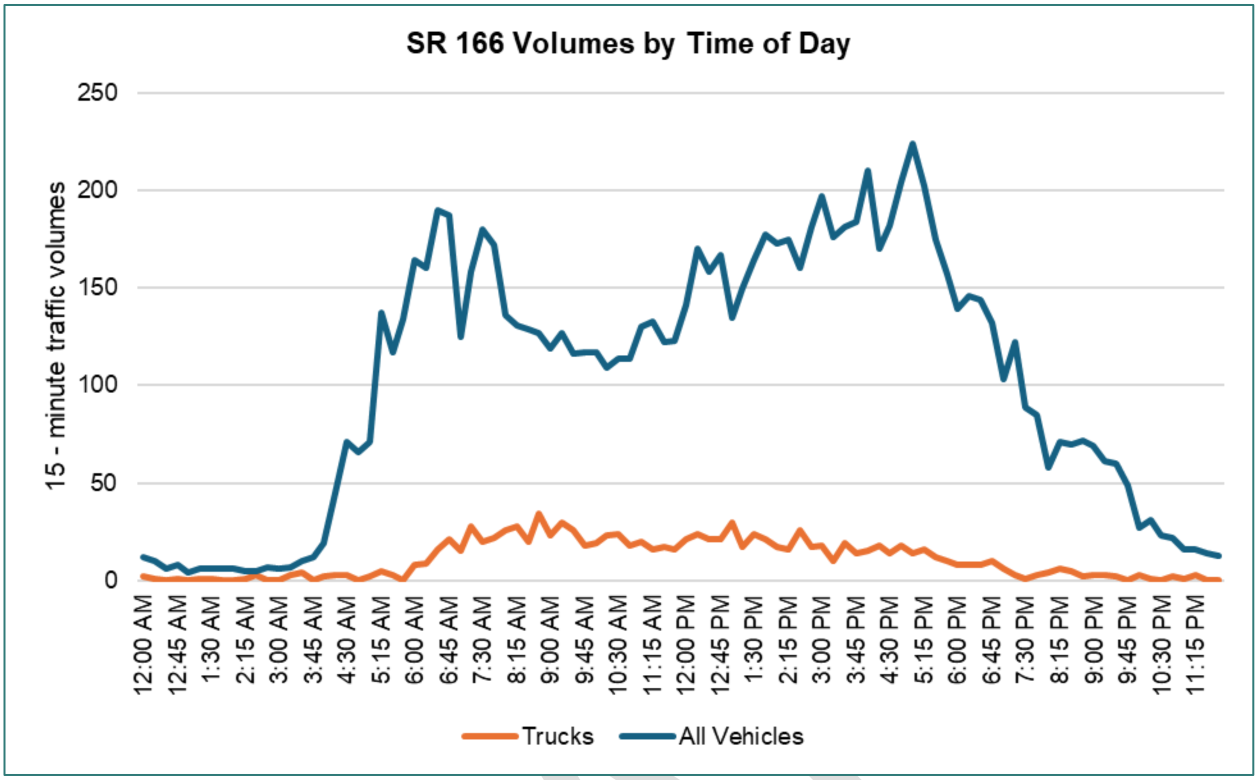



**FIGURE 18: ADT AND TRUCK ADT ON STUDY ROAD NETWORK**




*Data collected from August 27th to August 29th, 2024. Average of the three-day data collection period provided.*

**FIGURE 19: 15-MINUTE TRAFFIC VOLUMES BY TIME OF DAY**

Study intersections include three signalized intersections and seven stop-controlled intersections. Intersections and form of traffic control are summarized in **Table 5**. Peak hour intersection turn movement volumes are summarized in **Figure 20** and **Figure 21.** Detailed traffic count data for roadways and intersections are provided in **Appendix C**. Signal timing information for the signalized intersections was also sourced from Caltrans and can be found in **Appendix D**.

**TABLE 5: STUDY INTERSECTIONS AND FORM OF TRAFFIC CONTROL**

| NO. | INTERSECTION | TRAFFIC CONTROL |
|---|---|---|
| 1 | STATE ROUTE 166 & STATE ROUTE 1 | AWSC |
| 2 | STATE ROUTE 166 & OBISPO STREET | TWSC |
| 3 | STATE ROUTE 166 & FLOWER AVENUE | TWSC |
| 4 | STATE ROUTE 166 & SIMAS ROAD | AWSC |
| 5 | STATE ROUTE 166 & BONITA SCHOOL ROAD | Signal |
| 6 | STATE ROUTE 166 & RAY ROAD | TWSC |

| NO. | INTERSECTION | TRAFFIC CONTROL |
|---|---|---|
| 7 | STATE ROUTE 166 & BLACK ROAD[A] | TWSC (Signal installed 10/2024) |
| 8 | STATE ROUTE 166 & SOUTH BLOSSER ROAD/NORTH BLOSSER ROAD | Signal |
| 9 | STATE ROUTE 166 & DEPOT STREET | Signal |
| 10 | BLACK ROAD & BETTERAVIA ROAD | AWSC |

[a] The intersection of SR 166 and Black Road was a side street stop-controlled intersection when it was counted and observed for the Road Safety Audit (RSA). However, a signal was installed at this location in October 2024.

## TRAFFIC OPERATIONS

This section describes the methods and findings of the traffic operations analysis under existing conditions.

### METHODOLOGY

Traffic operations are assessed at the study intersections summarized in **Table 6** for peak hour delay and LOS based on Highway Capacity Manual (HCM) 7th Edition methodology.

LOS is a qualitative description of traffic flow based on speed, travel time, delay, and freedom to maneuver experienced by motorists using a given roadway facility (e.g., freeway mainline, ramp or intersection). There are six levels, ranging from LOS A being the best operating conditions, to LOS F being the worst. LOS E represents "at-capacity" operation. When volumes exceed capacity a bottleneck develops, resulting in stop-and-go conditions upstream/approaching the bottleneck. These operations are designated as LOS F. **Table 6** presents the LOS criteria for intersections in accordance with the HCM $7^{th}$ Edition methodology.

The methods for determining LOS vary by facility type. There can be alternative LOS methods based on different measures of effectiveness for even the same facility type. The LOS methods used as part of this study are described in the following section.

**TABLE 6: INTERSECTION LOS CRITERIA**

| LOS | TOTAL DELAY PER VEHICLE (SECONDS) | |
|---|---|---|
| | SIGNALIZED [A] | UNSIGNALIZED [B] |
| A | < 10 | < 10 |
| B | > 10 and < 20 | > 10 and < 15 |
| C | > 20 and < 35 | > 15 and < 25 |
| D | > 35 and < 55 | > 25 and < 35 |
| E | > 55 and < 80 | > 35 and < 50 |
| F | > 80 | > 50 |

**Notes**:

A. HCM 6, Chapter 19 (Signalized Intersections)
B. HCM 6, Chapter 20 (Two-Way Stop-Controlled Intersections) and Chapter 21 (All-Way Stop-Controlled Intersections)

### DEFICIENCY CRITERIA

The acceptable LOS threshold for this analysis is assumed to be LOS D for both signalized and unsignalized intersections, this threshold in generally consistent with local agency General Plan thresholds and historical regional thresholds applied by SBCAG and Caltrans.

## INTERSECTION OPERATIONS ANALYSIS

Results of the traffic operations analysis are summarized in **Table 7** with full Synchro reports provided in **Appendix E**. All signalized intersections are found to be operating acceptably during the AM and PM peak hours. The stop-controlled intersections at Obispo Street, Simas Road, Ray Road, and Black Road on SR 166 do not meet jurisdictional LOS policies during one or both peak hours. Results of the traffic operations analysis deficiencies are summarized below:

- **State Route 166 & Obispo Street (TWSC)**: The delay exceeds the acceptable threshold for the side-street movement during the PM Peak hour with 50.27 seconds of delay (LOS F).
- **State Route 166 & Simas Road (AWSC)**: Delay exceeds acceptable operations thresholds during the AM peak hour at LOS E with 44.1 seconds of delay.
- **State Route 166 & Ray Road (TWSC)**: This intersection operates acceptably during AM peak hour but exceeds operations thresholds during the PM peak hour at LOS F with 50.9 seconds of delay.
- **State Route 166 & Black Road (TWSC[9])**: This intersection exceeds operational thresholds during both AM and PM peak hours, with the delays are 54.29 seconds (LOS F) and 66.95 seconds (LOS F), respectively.

State Route 166 & State Route 1 (AWSC), State Route 166 & Bonita School Road (Signal), State Route 166 & South Blosser Road/North Blosser Road (Signal), State Route 166 & Depot Street (Signal), and Black Road & Betteravia Road (AWSC) all meet the local policy thresholds with LOS values in the acceptable range during both peak hours.

95th percentile queue lengths for existing AM and PM peak hours are summarized in **Table 8**. 95th percentile queues are found to be exceeding available storage at the following intersections:

- **State Route 166 & Obispo Street (TWSC)**
- **State Route 166 & South Blosser Road/North Blosser Road (Signal)**
- **State Route 166 & Depot Street (Signal)**

While no intersections are found to be exceeding available storage lengths during the AM peak hour, these queues have been observed to be longer during the “Early AM” peak period from 5:00 AM to 6:00 AM period.

[9] Signal installed 10/2024

**TABLE 7: STUDY INTERSECTION EXISTING TRAFFIC OPERATIONS**

| NO. | INTERSECTION | TRAFFIC CONTROL | AM PEAK HOUR | | PM PEAK HOUR | |
|---|---|---|---|---|---|---|
| | | | DELAY | LOS | DELAY | LOS |
| 1 | STATE ROUTE 166 & STATE ROUTE 1[A] | AWSC | 16.2 | C | 19 | C |
| 2 | STATE ROUTE 166 & OBISPO STREET | TWSC | 8.7 [23.2] | A [D] | **12.1 [50.3]** | **B [F]** |
| 3 | STATE ROUTE 166 & FLOWER AVENUE | TWSC | 2.5 [19.0] | A [C] | 1.1 [16.3] | A [C] |
| 4 | STATE ROUTE 166 & SIMAS ROAD | AWSC | **44.1** | **E** | 35 | D |
| 5 | STATE ROUTE 166 & BONITA SCHOOL ROAD | Signal | 11.4 | B | 11.8 | B |
| 6 | STATE ROUTE 166 & RAY ROAD | TWSC | 2.3 [30.1] | A [D] | **2.9 [50.9]** | **A [F]** |
| 7 | STATE ROUTE 166 & BLACK ROAD[B] | TWSC[a] | **5.8 [54.3]** | **A [F]** | **6.6 [67.0]** | **A [F]** |
| 8 | STATE ROUTE 166 & SOUTH BLOSSER ROAD/NORTH BLOSSER ROAD | Signal | 28.3 | C | 28.4 | C |
| 9 | STATE ROUTE 166 & DEPOT STREET | Signal | 23.2 | C | 26.3 | C |
| 10 | BLACK ROAD & BETTERAVIA ROAD | AWSC | 13.8 | B | 24.7 | C |

[a] The intersection of SR 166 and SR 1 is planned to be signalized.
[b] The intersection of SR 166 and Black Road was a side street stop-controlled intersection when it was counted and observed for the Road Safety Audit (RSA). However, a signal was installed at this location in October 2024.
Note: Key: [Worst stop-controlled delay] for TWSC intersections
Shaded cells with bolded text do not meet jurisdictional Level of Service Policy

**TABLE 8: STUDY INTERSECTION EXISTING 95TH PERCENTILE QUEUES**

| NO. | INTERSECTION | TRAFFIC CONTROL | MOVEMENT | STORAGE (FT) | 95TH PERCENTILE QUEUE (FT) | |
|---|---|---|---|---|---|---|
| | | | | | AM PEAK HOUR | PM PEAK HOUR |
| 1 | STATE ROUTE 166 & STATE ROUTE 1 | AWSC | EBL | 115 | 25 | 20 |
| | | | EBT | - | 120 | 115 |
| | | | WBL/T | - | 70 | 80 |
| | | | WBR | 295 | 20 | 35 |
| | | | NBL/T/R | - | 30 | 85 |
| | | | SBL | 275 | 35 | 55 |
| | | | SBT/R | - | 35 | 60 |
| 2 | STATE ROUTE 166 & OBISPO STREET | TWSC | EBL | 470 | 10 | 5 |
| | | | EBT/R | - | - | - |
| | | | WBL | 340 | 5 | 5 |
| | | | WBT/R | - | - | - |
| | | | NBL | 50 | **55** | 30 |
| | | | NBT | - | 25 | 10 |
| | | | NBR | 50 | 10 | 5 |
| | | | SBL/T/R | - | 35 | 150 |
| 3 | STATE ROUTE 166 & FLOWER AVENUE | TWSC | EBL | 380 | 0 | 0 |
| | | | EBT | - | - | - |
| | | | WBT/R | - | - | - |
| | | | SBL/R | - | 35 | 15 |
| 4 | STATE ROUTE 166 & SIMAS ROAD | AWSC | EBL/T/R | - | 430 | 170 |
| | | | WBL/T/R | - | 70 | 275 |
| | | | NBL/T/R | - | 45 | 120 |
| | | | SBL/T/R | - | 55 | 85 |
| 5 | STATE ROUTE 166 & BONITA SCHOOL ROAD | Signal | EBL | 475 | 30 | 20 |
| | | | EBT | - | 205 | 225 |
| | | | WBT | - | 265 | 370 |
| | | | SBL | - | 155 | 205 |
| 6 | STATE ROUTE 166 & RAY ROAD | TWSC | EBL | 490 | 0 | 0 |
| | | | EBT/R | - | - | - |
| | | | WBL | 500 | 5 | 5 |
| | | | WBT/R | - | - | - |
| | | | NBL/T/R | - | 40 | 55 |
| | | | SBL/T/R | - | 5 | 5 |
| 7 | STATE ROUTE 166 & BLACK ROAD | TWSC[a] | EBL | 350 | 0 | 0 |
| | | | EBT/R | - | - | - |
| | | | WBL | 490 | 5 | 5 |

| NO. | INTERSECTION | TRAFFIC CONTROL | MOVEMENT | STORAGE (FT) | 95TH PERCENTILE QUEUE (FT) | |
|---|---|---|---|---|---|---|
| | | | | | AM PEAK HOUR | PM PEAK HOUR |
| | | | WBT/R | - | - | - |
| | | | NBL/T/R | - | 20 | 115 |
| | | | SBL/T/R | - | 10 | 10 |
| 8 | STATE ROUTE 166 & SOUTH BLOSSER ROAD/NORTH BLOSSER ROAD | Signal | EBL | 130 | 125 | **#422** |
| | | | EBT | - | 160 | 225 |
| | | | WBL | 220 | 185 | 205 |
| | | | WBT | - | 90 | 160 |
| | | | NBL | 150 | 140 | 115 |
| | | | NBT | - | 155 | #336 |
| | | | NBR | 100 | 45 | 45 |
| | | | SBL | 210 | 80 | 90 |
| | | | SBT | - | #523 | 215 |
| | | | SBR | 210 | 95 | 55 |
| 9 | STATE ROUTE 166 & DEPOT STREET | Signal | EBL | 90 | 50 | **105** |
| | | | EBT | - | 195 | 255 |
| | | | WBL | 90 | 55 | 85 |
| | | | WBT | - | 160 | 305 |
| | | | NBL | 60 | 55 | **130** |
| | | | NBT | - | 130 | #286 |
| | | | NBR | - | 5 | 20 |
| | | | SBL | 190 | 115 | 105 |
| | | | SBT | - | #264 | #343 |
| 10 | BLACK ROAD & BETTERAVIA ROAD | AWSC | EBL/T/R | - | 25 | 30 |
| | | | WBL/T/R | - | 30 | 55 |
| | | | NBL/T/R | - | 45 | 155 |
| | | | SBL/T/R | - | 100 | 210 |

[b] The intersection of SR 166 and SR 1 is planned to be signalized.
[a] The intersection of SR 166 and Black Road was a side street stop-controlled intersection when it was counted and observed for the Road Safety Audit (RSA). However, a signal was installed at this location in October 2024.
Note: AWSC and TWSC Queues reported using HCM 7th Edition Methodology
Signalized Intersection Queues reported using Synchro Methodology
Shaded cells with bolded text indicate queues exceeding available storage lengths.
Queue results are anticipated to be greater during AG queue early AM and PM peak hour.

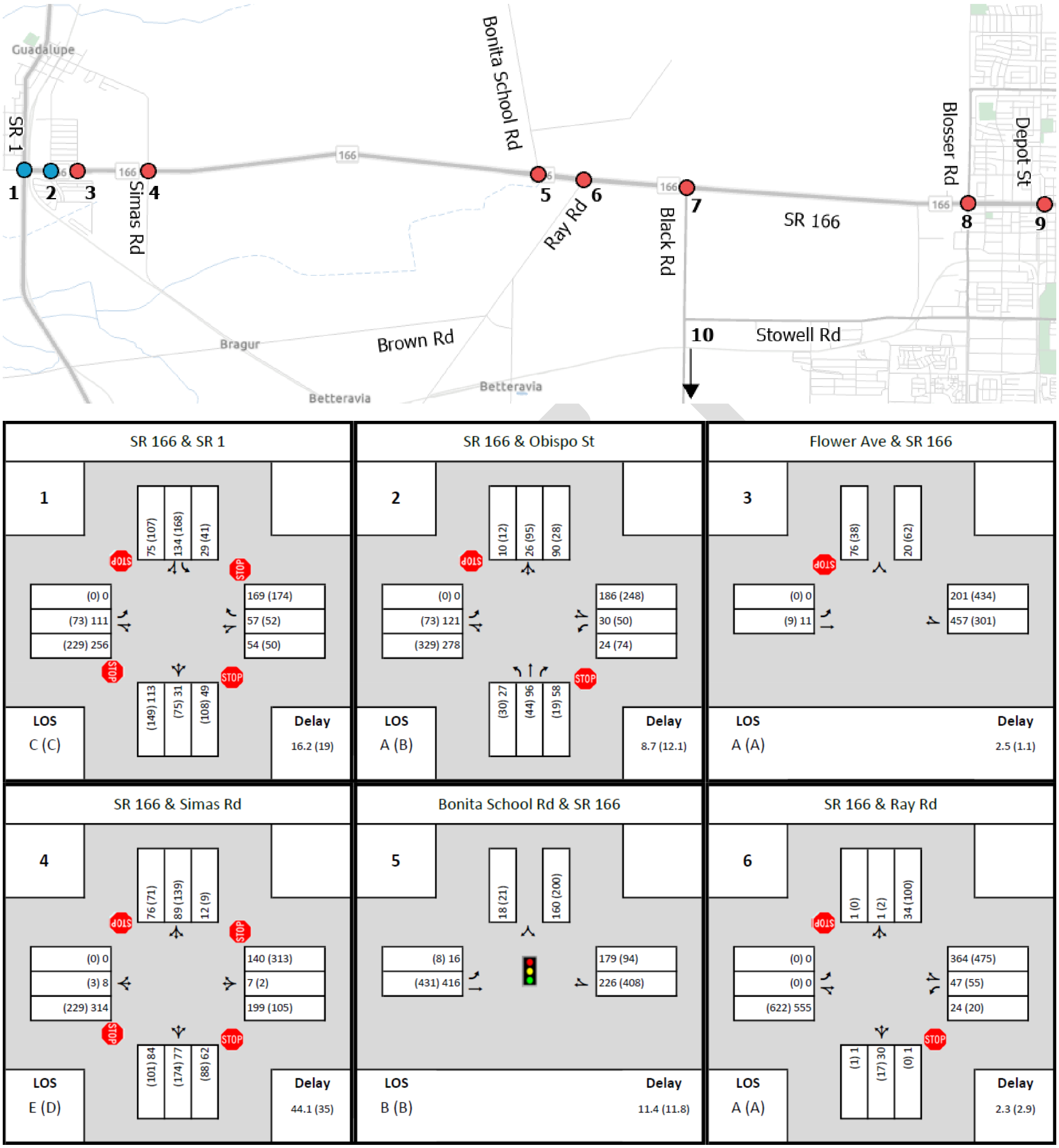
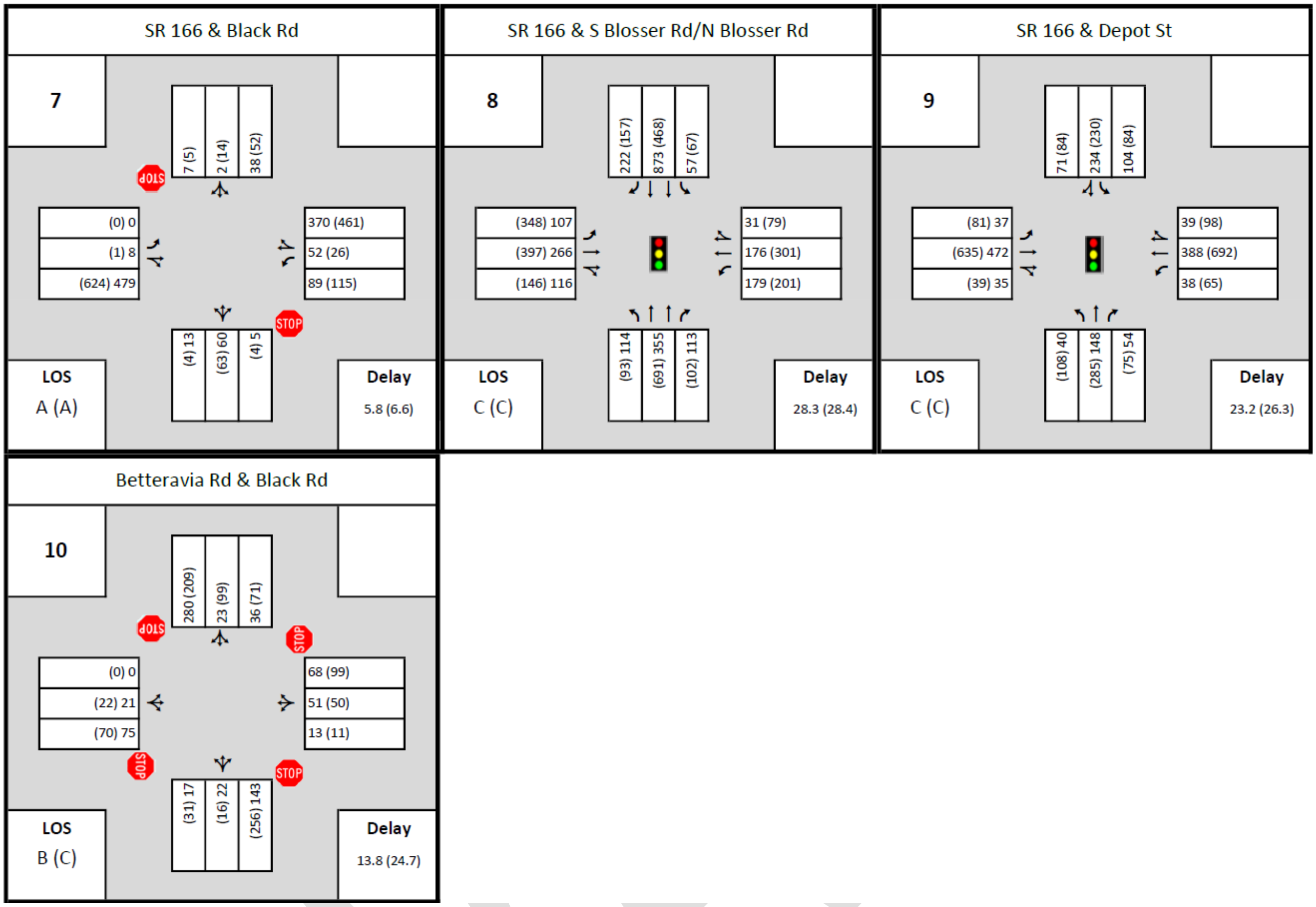



**FIGURE 20: EXISTING CONDITIONS AM/PM PEAK HOUR INTERSECTION TURNING MOVEMENT COUNTS (1 OF 2)**




All Numbers Shown: AM (PM)
Values shown are for Passenger Car Equivalents (PCE)

**FIGURE 21: EXISTING CONDITIONS AM/PM PEAK HOUR INTERSECTION TURNING MOVEMENT COUNTS (2 OF 2)**

## ROADWAY TRAVEL TIME RELIABILITY AND CONGESTION ANALYSIS

Two Federal performance measures form the basis for tracking operational efficiency of all vehicles on SR 166. Both measures rely on NPMRDS speed data from FHWA. The two measures are **Travel Time Reliability** and **Congestion** and are described below.

### ROADWAY TRAVEL TIME RELIABILITY AND CONGESTION

Travel time reliability refers to the consistency and predictability of travel times for passenger vehicles and heavy-duty trucks used for goods movement. It measures how much travel time varies for the same trip on different days. Large variability in travel time indicates unreliability, making it challenging to provide accurate and consistent departure times. Conversely, when variability is minimal, travel time is considered reliable. The main contributors affecting travel time reliability include:

- Normal travel fluctuations
- Physical bottlenecks
- Special events
- Traffic incidents
- Inclement weather
- Traffic control devices
- Work or construction zones

**Congestion** is typically caused by an imbalance between demand and roadway capacity.

#### BUFFER TIME

A commonly used measure of travel time reliability is **Buffer Time**. Buffer time represents the additional time a traveler must plan to ensure on-time arrival 95% of the time—equivalent to being late approximately one day per month. For example, if a commute usually takes 30 minutes but occasionally extends to 45 minutes due to weather or traffic incidents, the buffer time is 15 minutes. On an average day, this means arriving 15 minutes early to avoid being late.

The **Buffer Time Index (BTI)** normalizes buffer time by comparing it to the average travel time. It is calculated as the ratio of buffer time to average travel time, expressed as a percentage. This percentage illustrates how much extra time is needed relative to the typical travel time.

The relationship between travel time reliability indexes is shown in **Figure 22** and **Figure 23**.

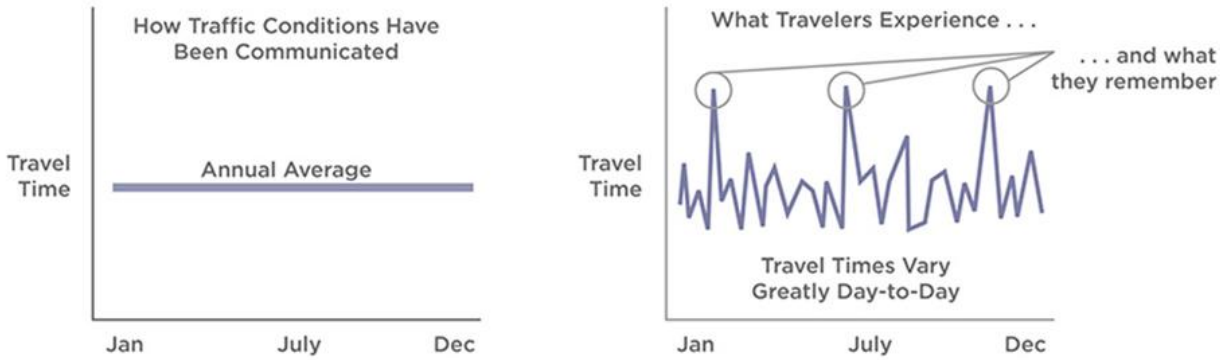



**FIGURE 22. TRAVEL TIME RELIABILITY VARIABLE**[10]

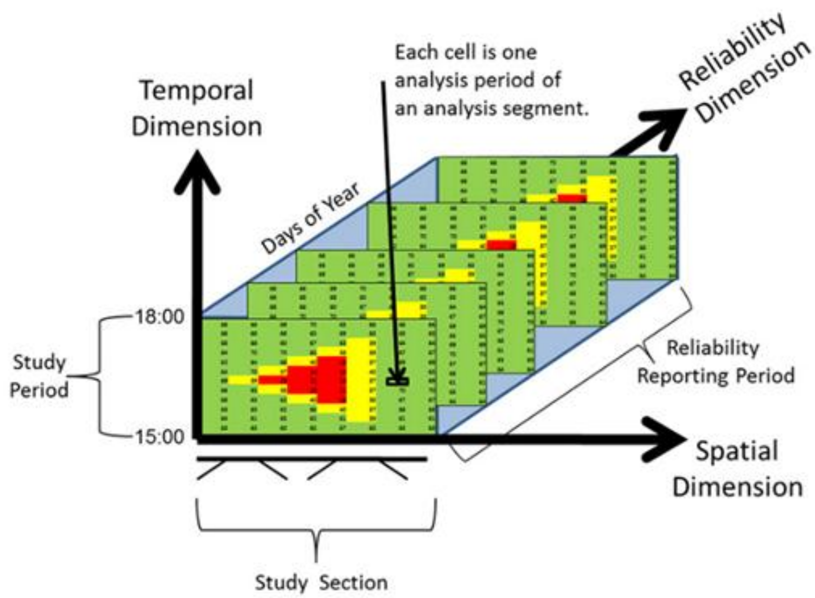



**FIGURE 23. TRAVEL TIME RELIABILITY VARIABLE**[11]

[10] *Travel-Time Reliability: Making It There On-Time, All The Time*, Federal Highway Administration, FHWA-HOP-06-070, Source: Highway Capacity Manual.

[11] *Travel-Time Reliability: Making It There On-Time, All The Time*, Federal Highway Administration, FHWA-HOP-06-070, Source: Highway Capacity Manual.

## DATA COLLECTION AND ANALYSIS METHODOLOGY

To calculate travel time reliability and congestion for SR 166, 12-months of speed data (5-minute averaging times) were obtained from the FHWA National Performance Program's NPMRDS. The data were filtered to represent annual average weekday conditions by isolating average speeds for Tuesday through Thursday during "Early AM", "AM", and "PM" peak periods:

- **Early AM Peak Hour:** 5:00 AM to 6:00 AM
- **AM Peak Hour:** 7:00 AM to 8:00 AM
- **PM Peak Hour:** 5:00 PM to 6:00 PM

Separate analyses were conducted for passenger vehicles, heavy-duty trucks, and combined traffic.

Peak periods were defined as the most congested continuous 60-minute span for both passenger vehicles and trucks. Given SR 166's agricultural surroundings, the analysis focused on early AM peak hours, which reflect traffic patterns influenced by nearby land use.

The free flow speed (FFS) of the corridor was determined by analyzing the fastest vehicle speeds recorded between 12:00 AM and 3:00 AM during peak hours. To identify unreliable road segments, the Level of Travel Time Reliability (LOTTR) threshold was applied. A segment is classified as unreliable if its 95th percentile travel time exceeds 1.5 times the average travel time. This approach aligns with the Highway Capacity Manual (7th Edition), which defines travel time reliability and congestion using thresholds detailed in **Table 9**.

### TABLE 9. CONGESTION AND RELIABILITY PERFORMANCE MEASURES

| | RELIABLE | MODERATELY RELIABLE | UNRELIABLE |
|---|---|---|---|
| BUFFER TIME INDEX | BTI < 1.25 | BTI 1.25-< 1.5 | BTI >= 1.5 |
| UNCONGESTED >= 60% OF FREE FLOW | Predictable and efficient | Not always predictable, usually efficient | Unpredictable, not often congested |
| CONGESTED <60% OF FREE FLOW | Predictable and inefficient | Not always predictable, usually inefficient | Unpredictable, not often congestion |

Source: Highway Capacity Manual, 7th Edition.

## FINDINGS

The analysis highlights that westbound traffic is generally more reliable than eastbound traffic, particularly in the early morning hours. Congestion is mainly concentrated within Santa Maria, especially during the PM peak period. The longer travel times and congestion observed from 5 to 6 AM are likely due to a combination of agricultural activities and commuting patterns. The early morning hours see increased truck traffic related to agricultural operations and a surge in commuters heading to work, especially in industries with early start times. The travel time reliability and congestion analysis can be found in **Appendix F**.

Travel time and congestion patterns are Travel time reliability and congestion analysis results are summarized as follows:

**Autos:**

- **Early AM Period (5:00–6:00 AM)**: Eastbound conditions are generally reliable with moderate reliability within Santa Maria. Westbound conditions are unreliable throughout the corridor and congested within Santa Maria.
- **AM Period (7:00–8:00 AM)**: Eastbound traffic is mostly reliable and uncongested along the corridor, though moderate reliability persists within Santa Maria.
- **PM Period (5:00–6:00 PM)**: Traffic west of Santa Maria remains reliable and uncongested in both directions, while conditions within Santa Maria are moderately reliable and congested.

**Trucks:**

- **Early AM Period (5:00–6:00 AM)**: The entire corridor is moderately unreliable to unreliable but remains uncongested.
- **AM Period (7:00–8:00 AM)**: Traffic west of Santa Maria is unreliable but uncongested in both directions, while within Santa Maria, it is reliable and uncongested.
- **PM Period (5:00–6:00 PM)**: Similar to the AM period, conditions west of Santa Maria are unreliable but uncongested. Westbound traffic within Santa Maria is reliable and uncongested eastbound traffic within Santa Maria is reliable and congested.

**Combined Traffic:**

- **Early AM Period (5:00–6:00 AM)**: Westbound traffic along the corridor is unreliable but uncongested. Eastbound traffic is generally reliable, with moderate reliability but uncongested conditions within Santa Maria.
- **AM Period (7:00–8:00 AM)**: Westbound traffic across the corridor is reliable and uncongested. Eastbound traffic is moderately reliable but uncongested west of Santa Maria and reliable within Santa Maria.
- **PM Period (5:00–6:00 PM)**: Traffic west of Santa Maria remains reliable and uncongested while within Santa Maria westbound traffic is reliable and congested. Eastbound traffic is unreliable and uncongested west of Santa Maria but reliable and congested within Santa Maria.

**Table 10** through **Table 12** summarize the travel time reliability findings for SR 166.

**TABLE 10. AUTOS TRAVEL TIME RELIABILITY**

| SEGMENT | 95TH % TT (MIN) | | | BUFFER TIME INDEX | | | CONGESTED (AVG. TT<60% OF FREE FLOW) | | |
|---|---|---|---|---|---|---|---|---|---|
| PEAK HOUR | Ag AM | AM | PM | Ag. AM | AM | PM | Ag. AM | AM | PM |
| *WESTBOUND* | | | | | | | | | |
| US 101 TO BLOSSER RD | 15 | 5 | 9 | 2.25 | 1 | 1.43 | Yes | No | No |
| BLOSSER RD TO SR 1 | 34 | 16 | 15 | 2.42 | 0.96 | 0.7 | No | No | No |
| *EASTBOUND* | | | | | | | | | |
| US 101 TO BLOSSER RD | 13 | 13 | 19 | 0.53 | 0.47 | 1.12 | No | No | No |
| BLOSSER RD TO SR 1 | 8 | 8 | 9 | 1.49 | 1.38 | 1.29 | No | No | Yes |

**TABLE 11. TRUCKS TRAVEL TIME RELIABILITY**

| SEGMENT | 95TH % TT (MIN) | | | BUFFER TIME INDEX | | | CONGESTED (AVG. TT<60% OF FREE FLOW) | | |
|---|---|---|---|---|---|---|---|---|---|
| PEAK HOUR | Ag AM | AM | PM | Ag. AM | AM | PM | Ag. AM | AM | PM |
| *WESTBOUND* | | | | | | | | | |
| US 101 TO BLOSSER RD | 34 | 30 | 31 | 2.33 | 2.39 | 2.46 | No | No | No |
| BLOSSER RD TO SR 1 | 6 | 7 | 8 | 1.4 | 1.22 | 1.13 | No | No | No |
| *EASTBOUND* | | | | | | | | | |
| US 101 TO BLOSSER RD | 21 | 7 | 40 | 1.5 | 3.4 | 1.14 | No | No | No |
| BLOSSER RD TO SR 1 | 8 | 41 | 9 | 1.41 | 1.11 | 3.18 | No | No | Yes |

**TABLE 12. AUTOS AND TRUCKS TRAVEL TIME RELIABILITY**

| SEGMENT | 95TH % TT (MIN) | | | BUFFER TIME INDEX | | | CONGESTED (AVG. TT<60% OF FREE FLOW) | | |
|---|---|---|---|---|---|---|---|---|---|
| PEAK HOUR | Ag AM | AM | PM | Ag. AM | AM | PM | Ag. AM | AM | PM |
| *WESTBOUND* | | | | | | | | | |
| US 101 TO BLOSSER RD | 30 | 19 | 18 | 1.98 | 1.14 | 0.98 | No | No | No |
| BLOSSER RD TO SR 1 | 12 | 5 | 8 | 3.4 | 0.91 | 1.13 | No | No | Yes |
| *EASTBOUND* | | | | | | | | | |
| US 101 TO BLOSSER RD | 18 | 22 | 24 | 1.09 | 1.37 | 1.59 | No | No | No |
| BLOSSER RD TO SR 1 | 8 | 5 | 9 | 1.5 | 1.11 | 1.14 | No | No | Yes |

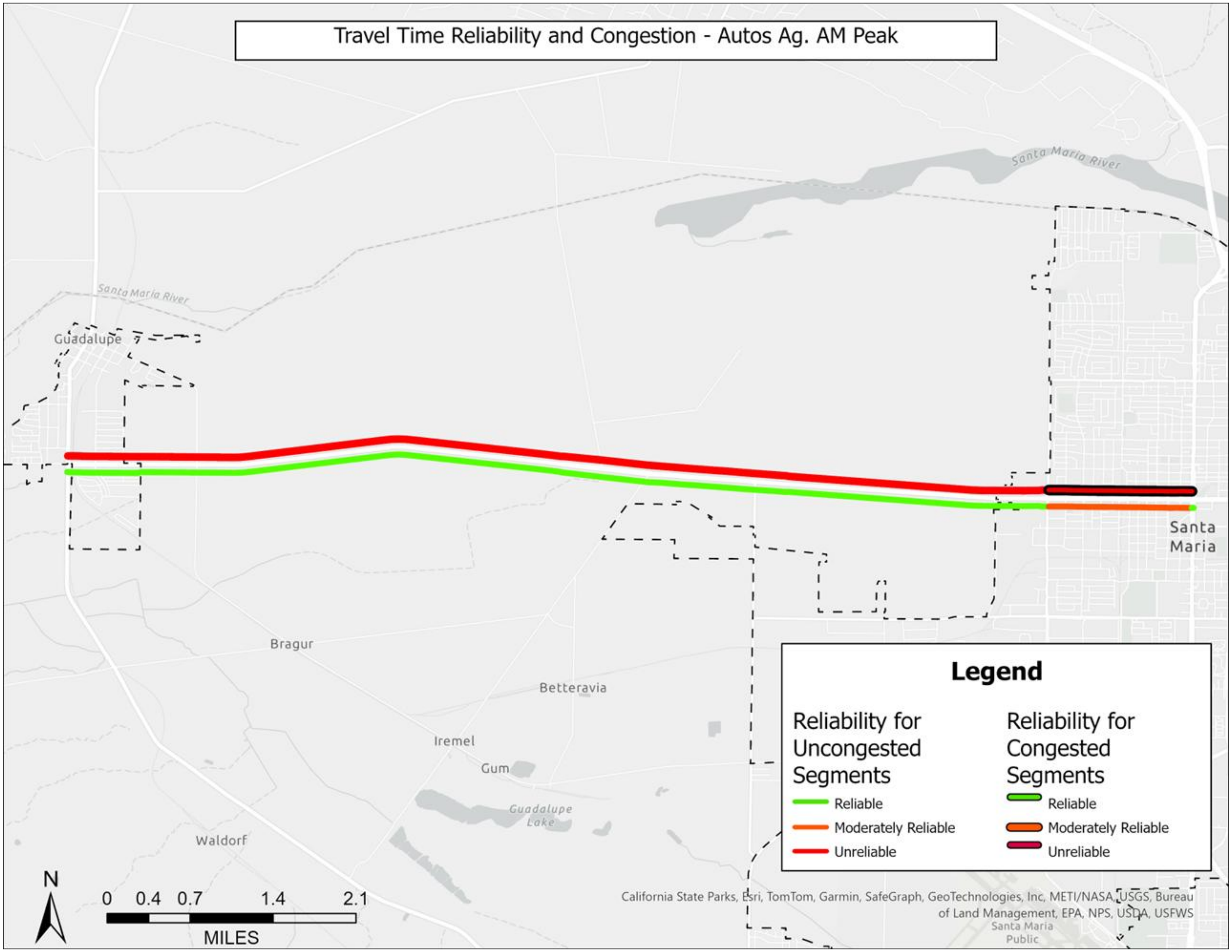



**FIGURE 24. AUTOS EARLY AM PEAK HOUR PERIOD (5:00-6:00AM) RELIABILITY AND CONGESTION**

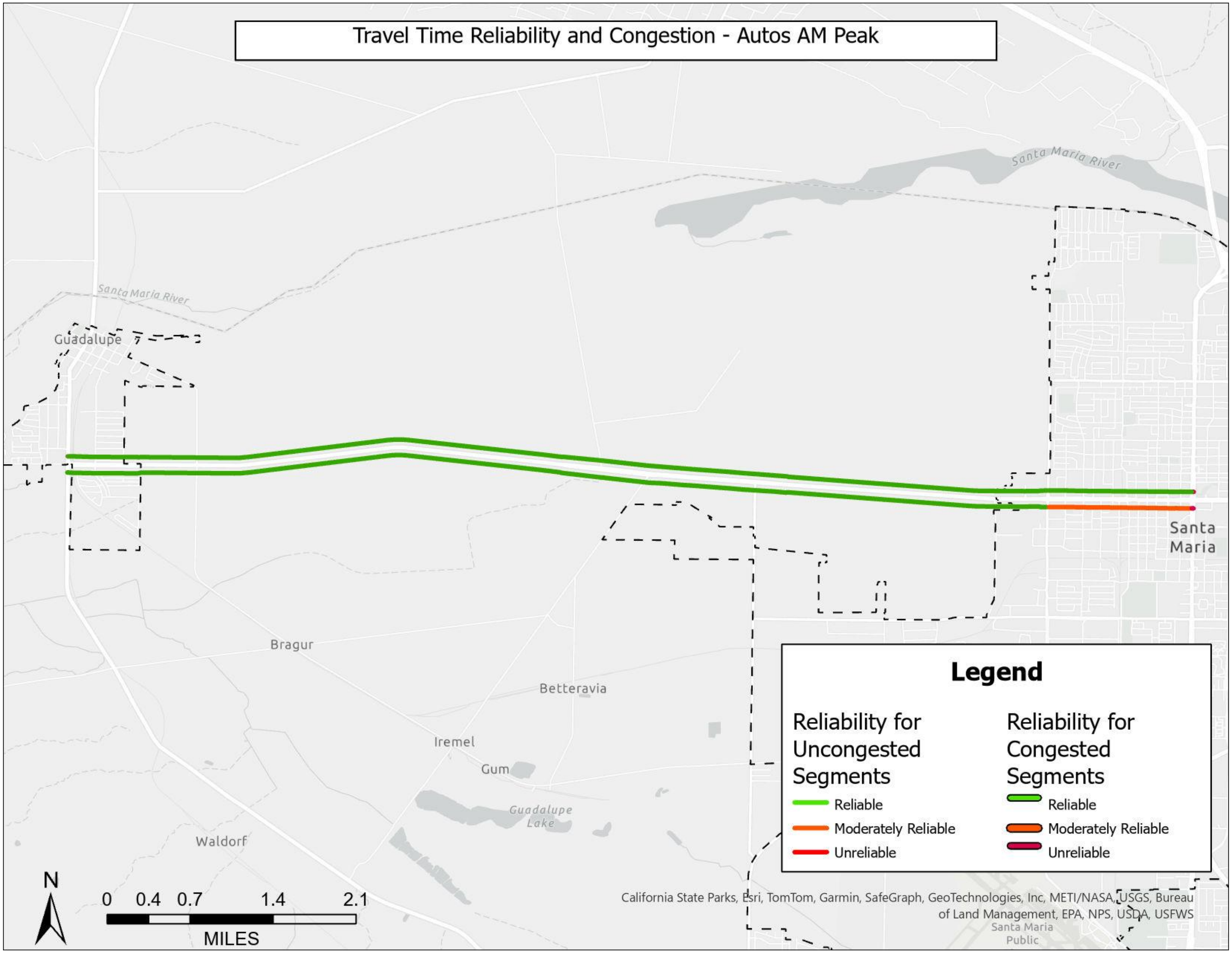



**FIGURE 25. AUTOS AM PEAK HOUR PERIOD (7:00-8:00AM) RELIABILITY AND CONGESTION**

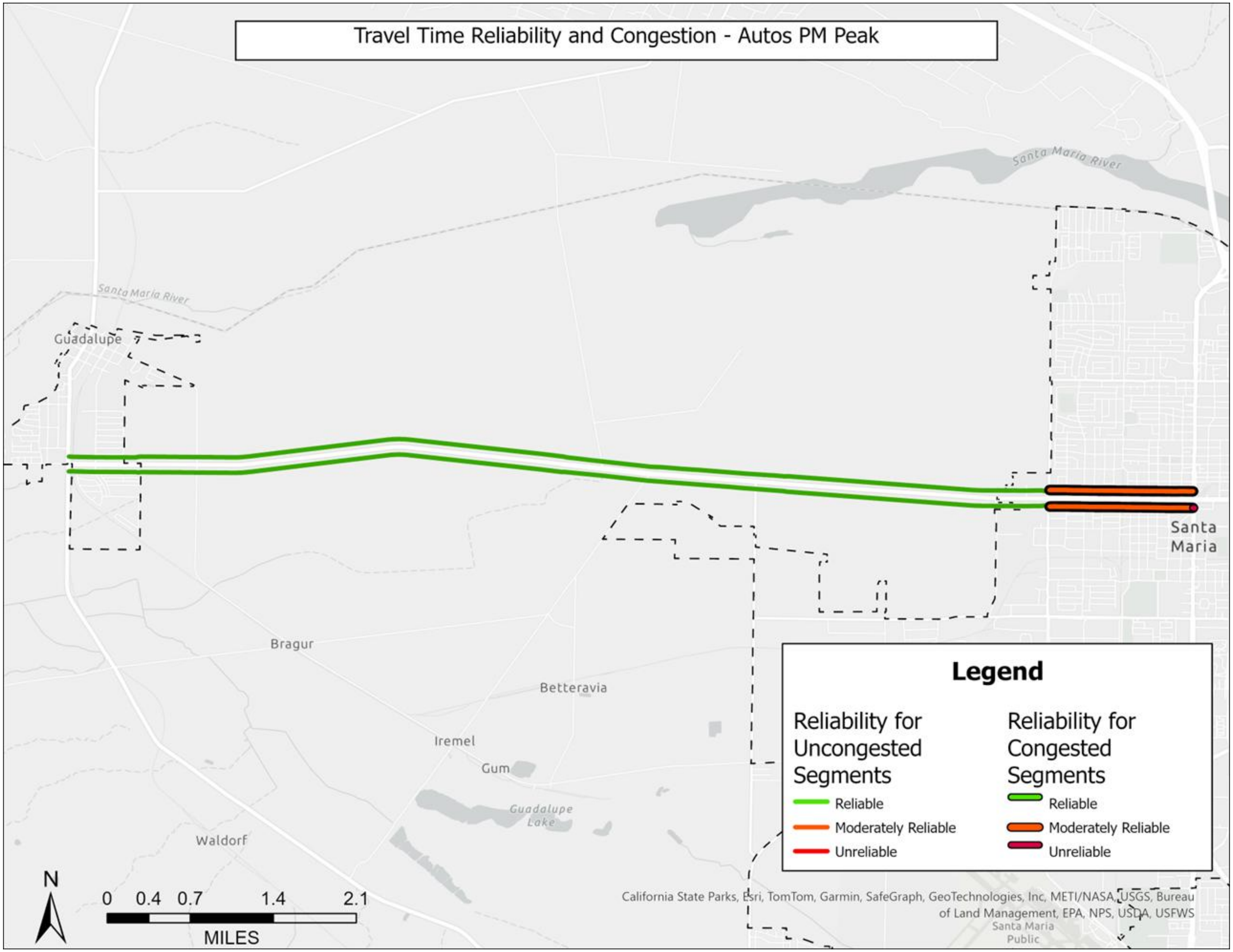



**FIGURE 26. AUTOS PM PEAK HOUR PERIOD (5:00-6:00PM) RELIABILITY AND CONGESTION**

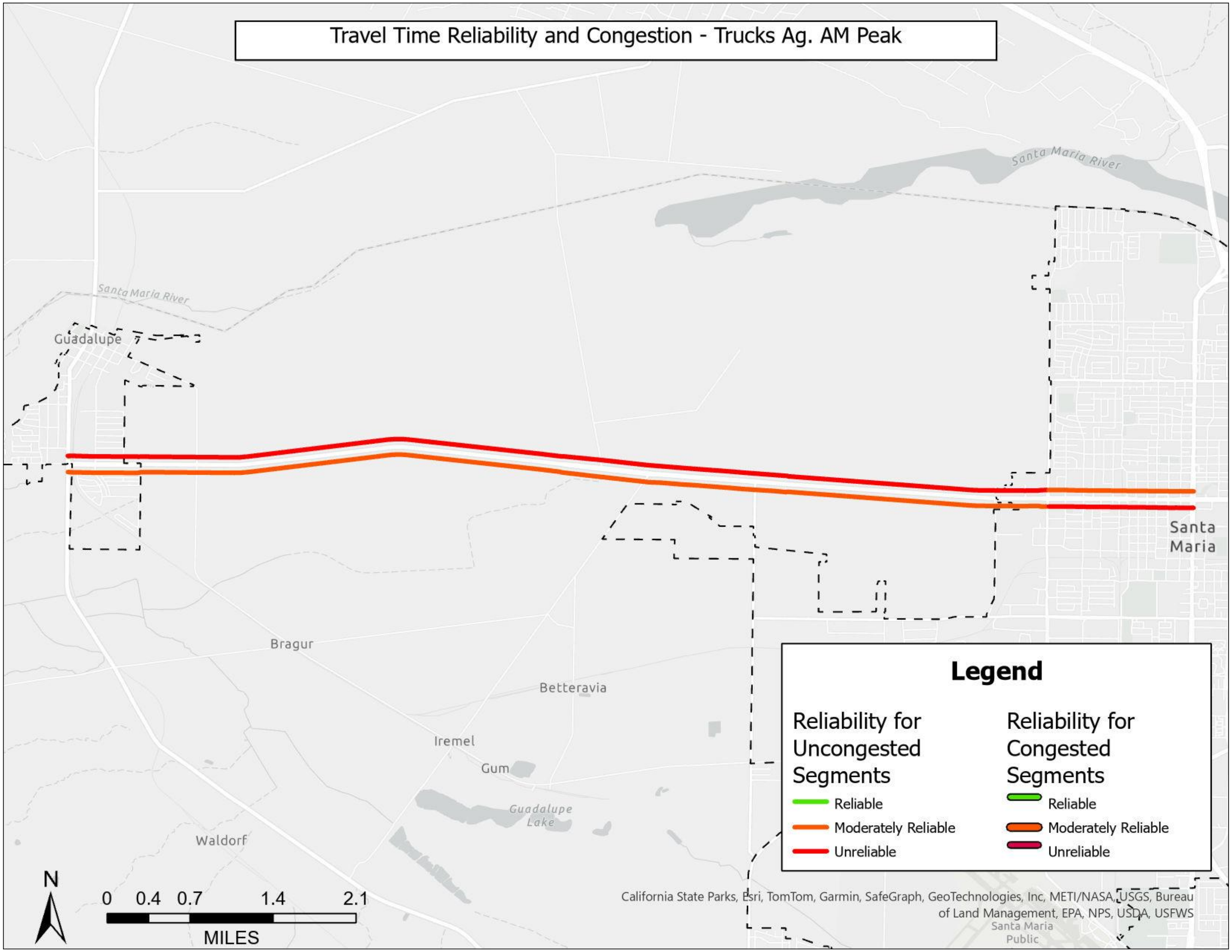



**FIGURE 27. TRUCKS EARLY AM PEAK HOUR PERIOD (5:00-6:00AM) RELIABILITY AND CONGESTION**

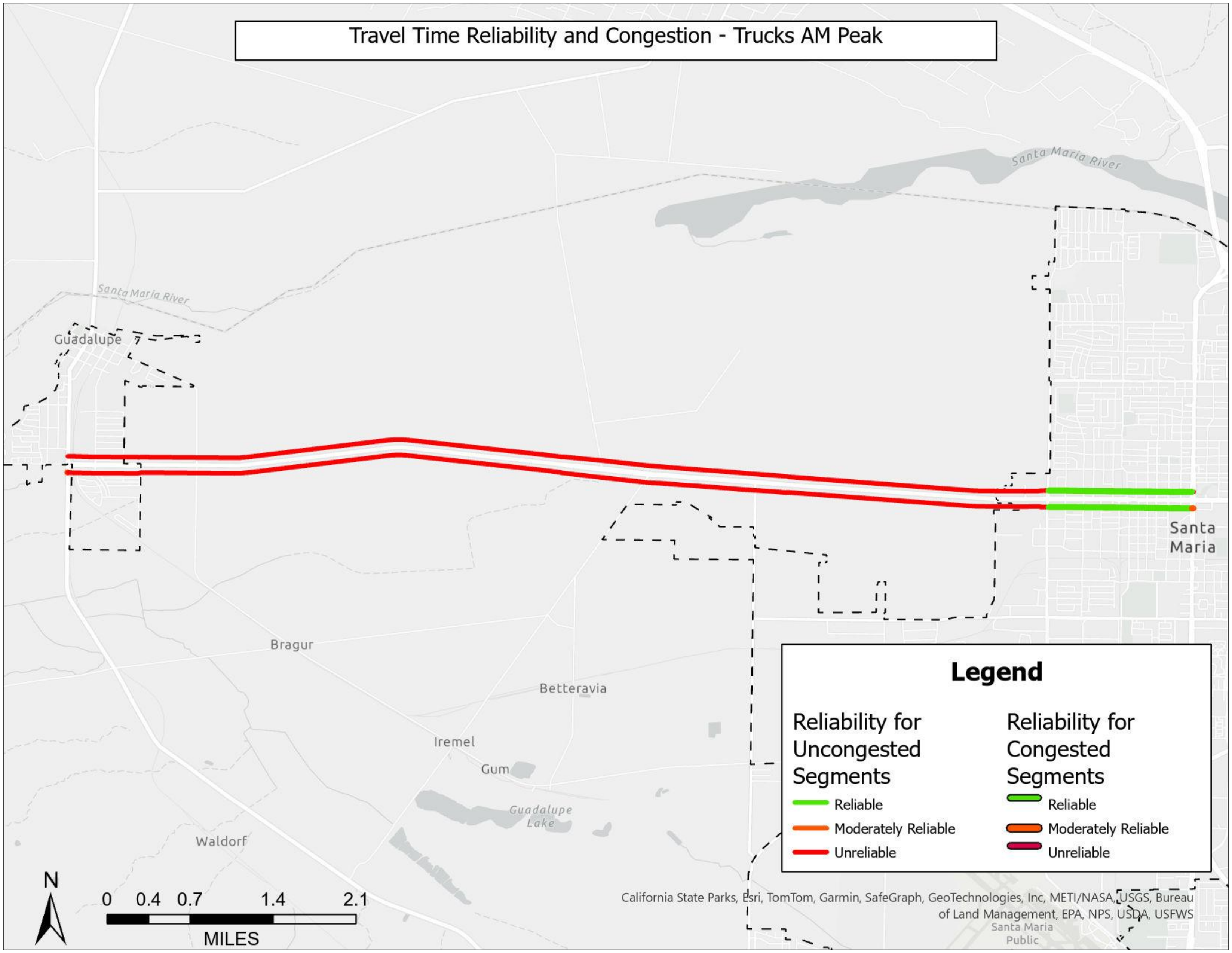



**FIGURE 28. TRUCKS AM PEAK HOUR PERIOD (7:00-8:00AM) RELIABILITY AND CONGESTION**

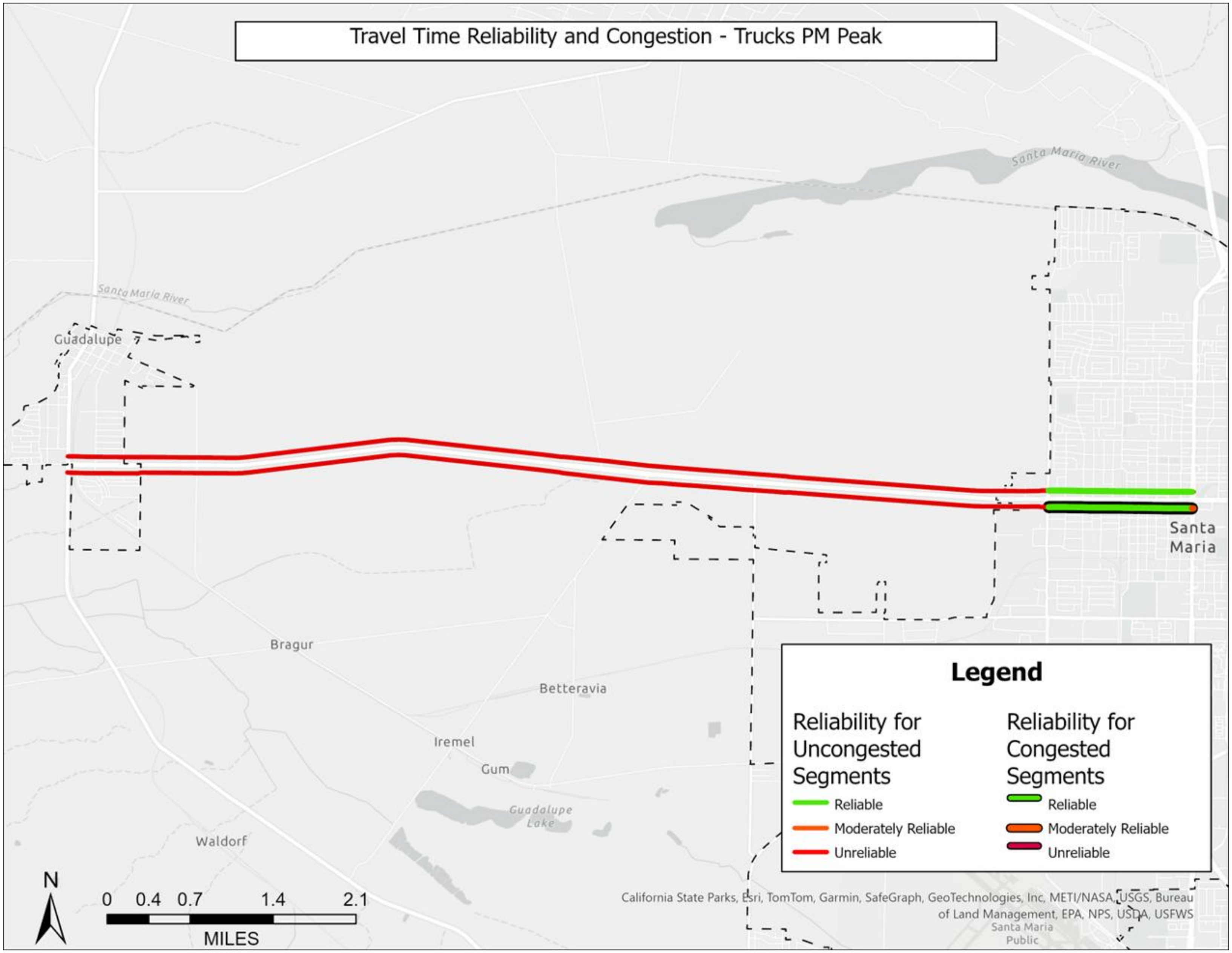



**FIGURE 29. TRUCKS PM PEAK HOUR PERIOD (5:00-6:00PM) RELIABILITY AND CONGESTION**

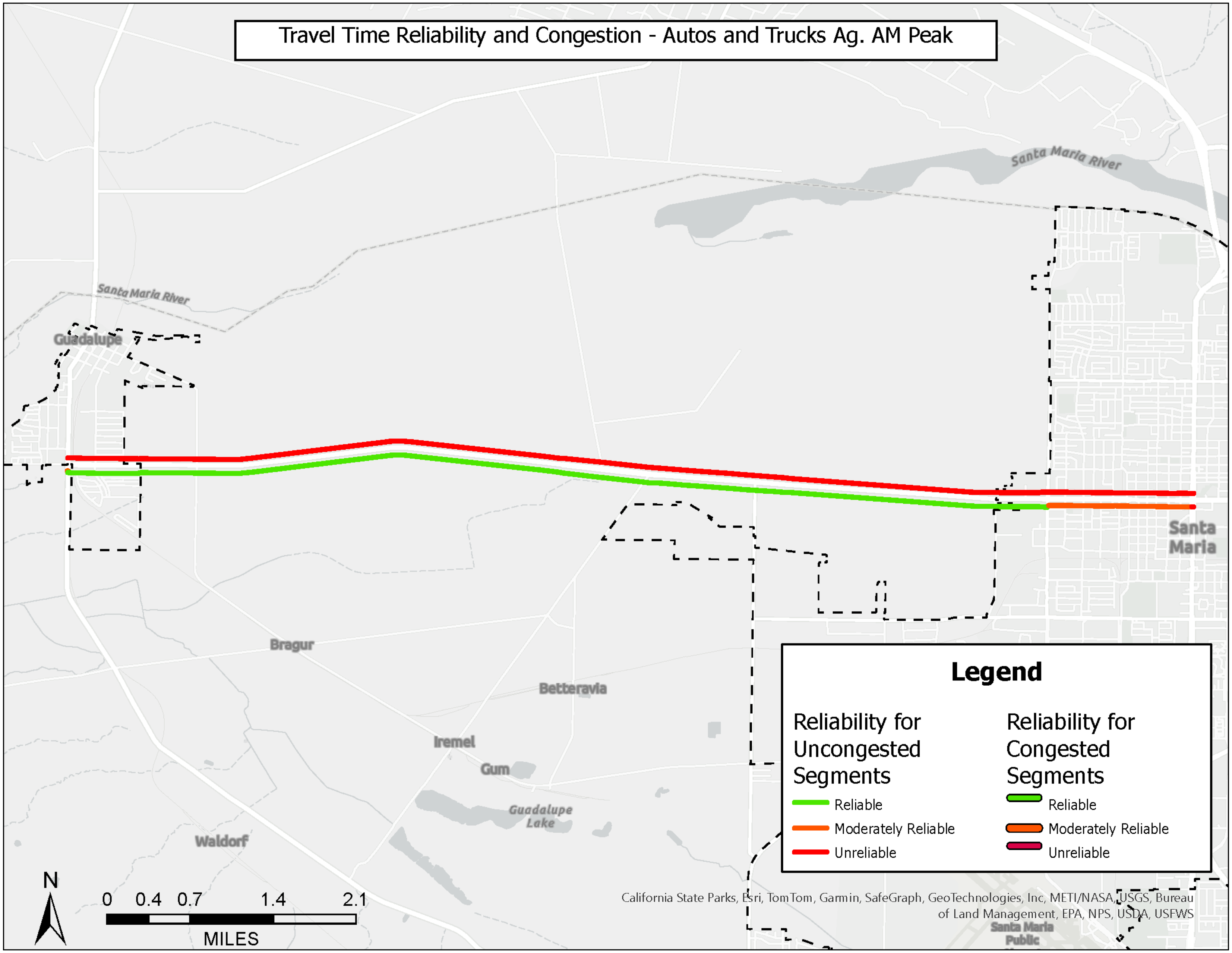



**FIGURE 30. AUTOS AND TRUCKS EARLY AM PEAK HOUR PERIOD (5:00-6:00AM) RELIABILITY AND CONGESTION**

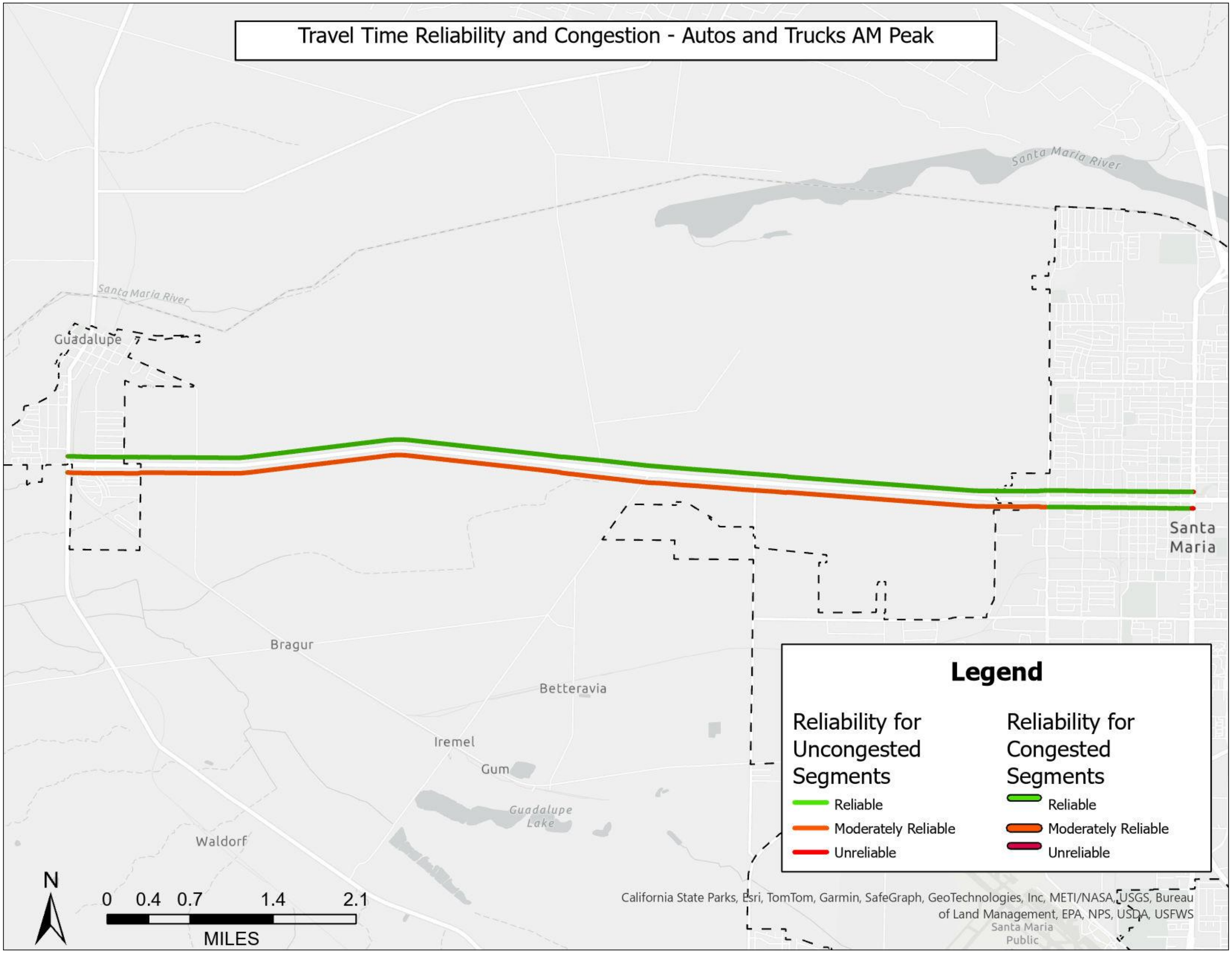



**FIGURE 31. AUTOS AND TRUCKS AM PEAK HOUR PERIOD (7:00-8:00AM) RELIABILITY AND CONGESTION**

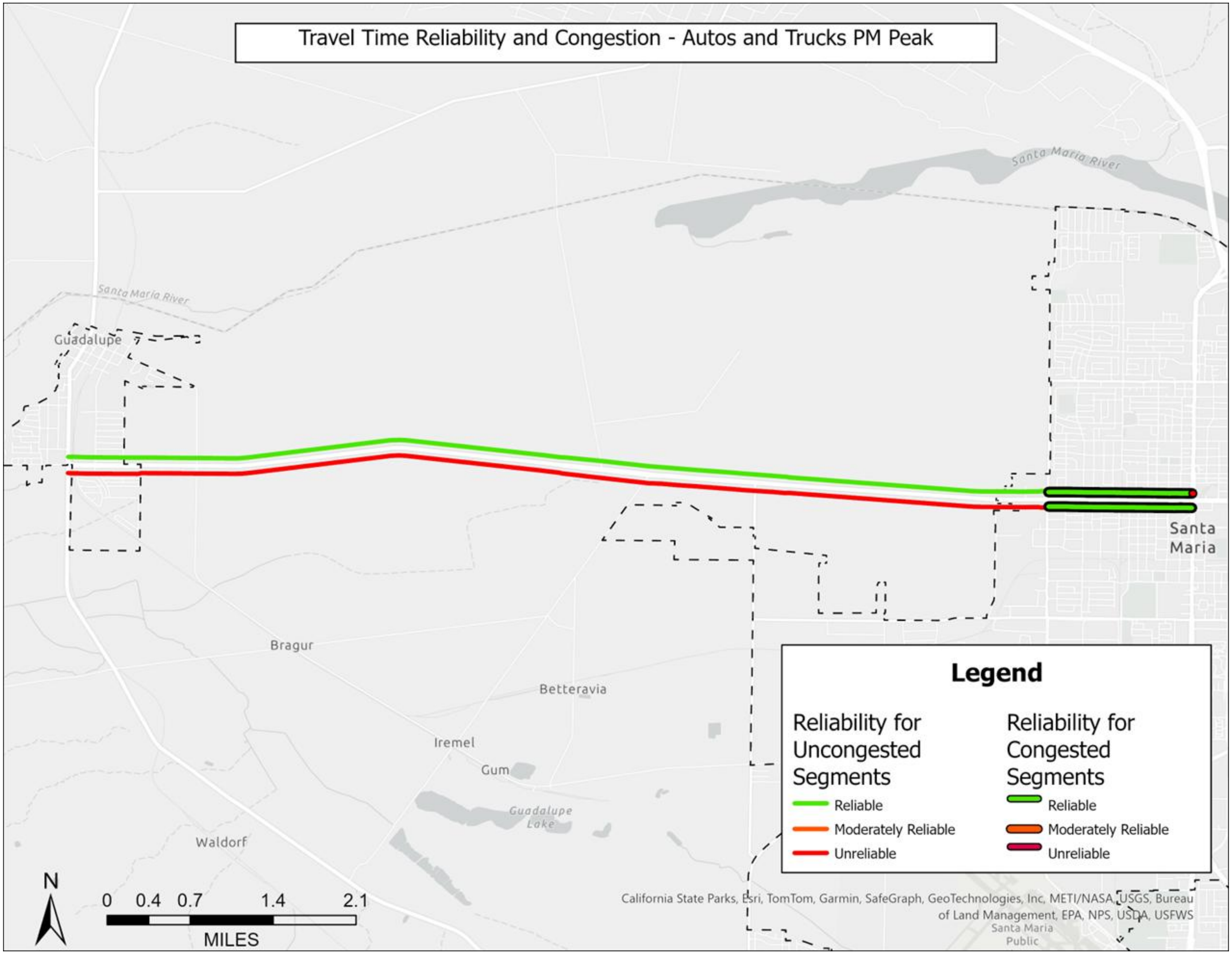



FIGURE 32. AUTOS AND TRUCKS PM PEAK HOUR PERIOD (5:00-6:00PM) RELIABILITY AND CONGESTION

## SAFETY

This section describes existing safety conditions of the study corridor as well as the broader study area and presents collision trends and describes potential emphasis areas resulting from collision data. Safety data, analysis methodology and findings are described in the following sections, with key findings summarized as follows:

- Fatal and severe collisions, including seven fatalities and 33 severe injuries, are primarily concentrated at the intersections with Blosser Road, Depot Street, and Black Road.
- Rear-end collisions (44%) and broadside collisions (21%) are the most common collision types.
- Unsafe speed is the leading primary collision factor, contributing to 26% of all collisions.
- Driving or bicycling under the influence of alcohol or drugs accounts for 25% of fatal and severe collisions, while improper turning and pedestrian-related violations contribute to 22.5% and 10% of fatal and severe crashes, respectively.
- Urbanized areas within Santa Maria exhibit higher collision densities, consistent with increased traffic and pedestrian activity, while rural segments show fewer crashes, consistent with lower traffic volumes. Rural intersections and segments, such as Bonita School Road and Black Road, report few or no pedestrian and cyclist crashes, consistent with lower pedestrian and cyclist volumes.
- All intersections and segments have crash rates below the state average. Locations such as Blosser Road and the SR 166 segment from Black Road to Blosser Road have the highest absolute number of collisions on the study corridor.

### COLLISION DATA

The following summarizes the collisions within the study area from the most recent five years (2019-2023) of SWITRS (Statewide Integrated Traffic Records System) collision data available from TIMS, which includes only injury crashes.

The TIMS is a crash mapping and analysis application[12] developed by SafeTREC to process and geocode crash data available by SWITRS. TIMS provides processed and cleaned SWITRS data, but only includes fatal and injury crashes, excluding all crash reports resulting in only property damage.

Crash records are categorized at three different levels: by collision, by party (vehicle), and by victim. All three levels are linked by a unique Case ID for each collision. Crash records provide all data collected by the reporting officer, including crash identification (jurisdiction, route and postmile, location, date, time), demographics (sex, age, race, sobriety, safety equipment usage), environmental (lighting, weather, road surface), and crash details (primary collision factor, type of collision, vehicle/party type, severity). The codebook detailing the SWITRS crash record data and format is available on the SWITRS website or from TIMS.

[12] Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center, University of California, Berkeley. 2021, https://tims.berkeley.edu/

Collision severity is defined in the Highway Safety Manual (HSM) as follows:

- **Fatal injury:** A collision that results in the death of a person within 30 days of the collision.
- **Severe (incapacitating) injury:** A collision that results in broken bones, dislocation, severe lacerations, or unconsciousness, but not death.
- **Other Visible injury (non-incapacitating):** A collision that results in other visible injuries, including minor lacerations, bruising, and rashes.
- **Possible injury (complaint of pain):** A collision that results in the complaint of non-visible pain/injury, such as confusion, limping, and soreness.
- **Property damage only (PDO):** A collision without injury or complaint of pain but resulting in property damage to a vehicle or other object, commonly referred to as a "fender bender." TIMS does not include non-injury crashes, therefore no PDOs are included in this analysis.

The most severe crashes, characterized as FSI (Fatal or Severely Injured), are the main focus of this analysis.

## STUDY AREA COLLISION SUMMARY

Within the study period from 2019 to 2023, **471** collisions resulting in injury or worse occurred within the study area. **Figure 33** shows the collisions by severity. Of these, 7 collisions resulted in fatal injuries, and 33 led to serious injuries.

As shown in **Figure 34**, clusters of collisions, including multiple incidents involving fatal and severe injuries, are concentrated at the intersection of SR 166 with Bonita School Road and Black Road, as well as the eastern portion of SR 166 near Depot Street and Blosser Road. Collision density tends to be higher in more developed areas, such as intersections in the eastern part of the study area within Santa Maria city limits.

The following sections provide an overview of crash patterns and trends within the study area and study intersections.

### BICYCLE AND PEDESTRIAN COLLISIONS

Pedestrian- and bicycle-related collisions within the study area during the period from 2019 to 2023 are illustrated in **Figure 35**. The highest concentration of these collisions, including those resulting in fatal and severe injuries, occurred along the eastern SR 166 corridor near Blosser Road and Depot Street in the City of Santa Maria. In comparison, rural and less developed areas, such as Simas Road, Brown Road, and Betteravia Road, report few or no collisions, a trend consistent with traffic counts indicating lower pedestrian and cyclist activity. Traffic counts at study intersections reveal significantly higher pedestrian and cyclist volumes within the City of Santa Maria. For instance, during the PM peak hour, eight cyclists and 17 pedestrians were recorded at the Blosser Road intersection, while 16 pedestrians and 18 cyclists were observed at the Depot Street intersection. Conversely, no pedestrian or cyclist activity was documented at intersections along the SR 166 corridor, such as the Bonita School Road and Black Road intersections, during either the AM or PM peak hours.

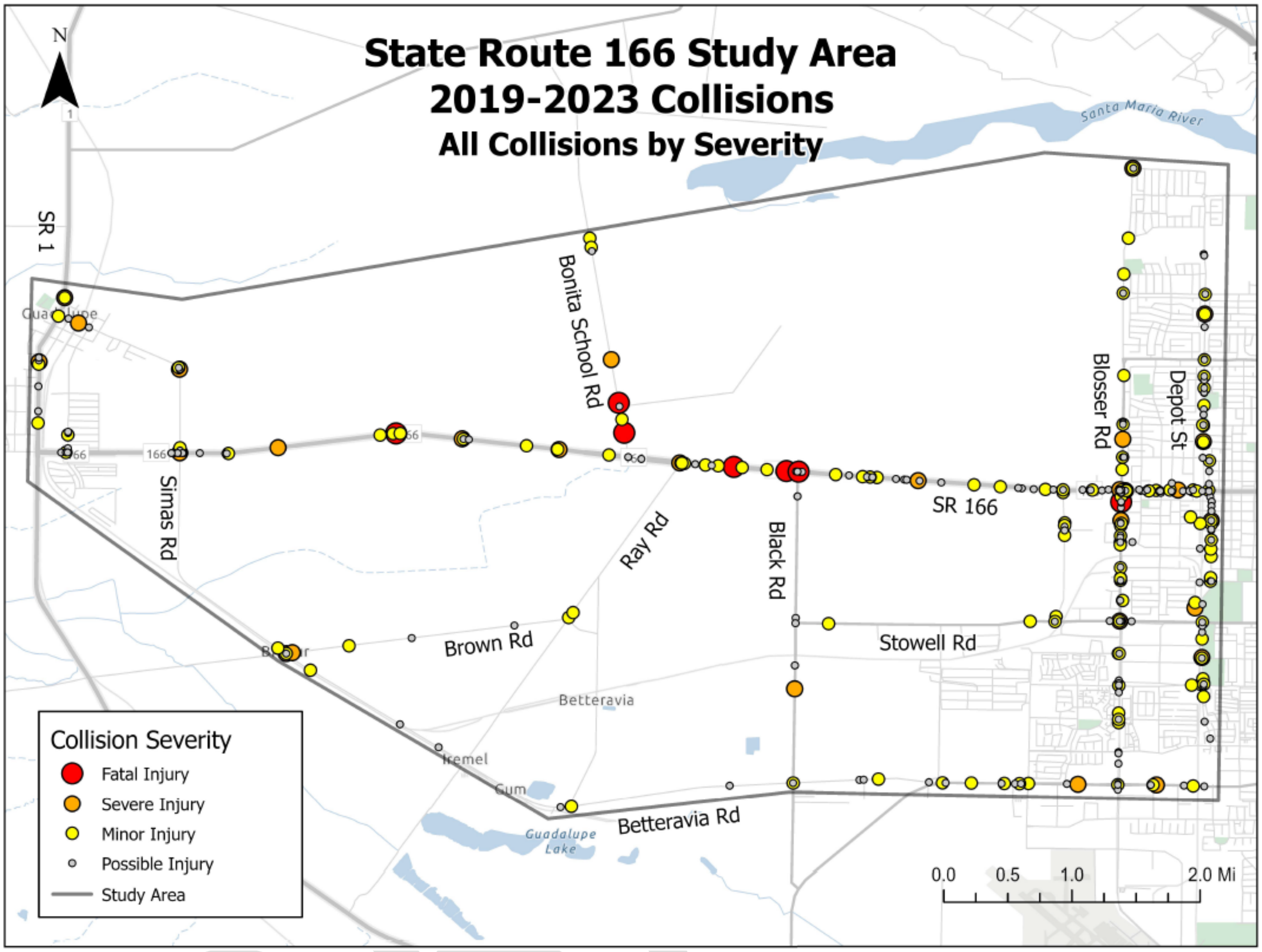



FIGURE 33: STUDY AREA COLLISIONS BY SEVERITY

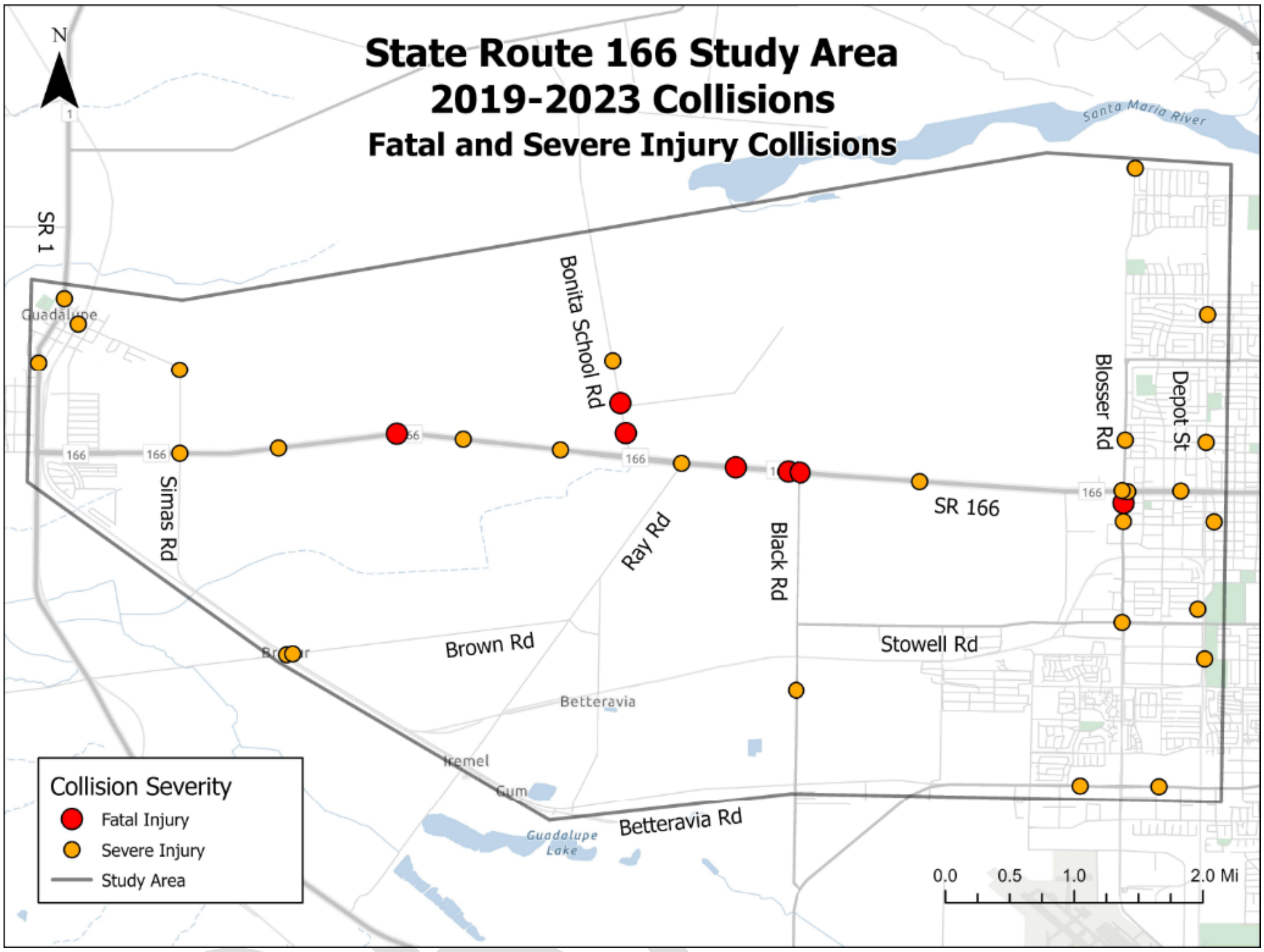



FIGURE 34: STUDY AREA FATAL AND SEVERE INJURY COLLISIONS

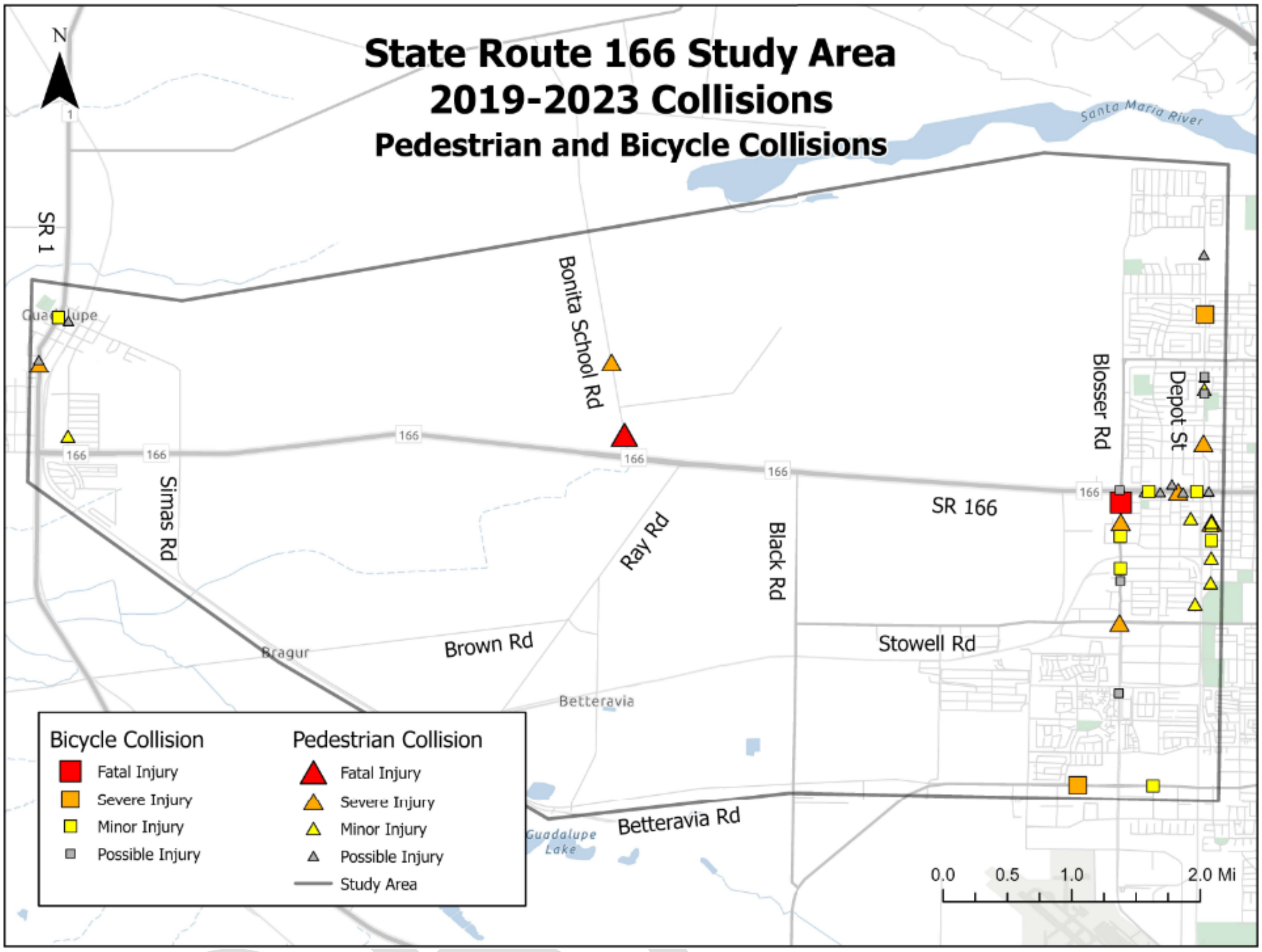



FIGURE 35: PEDESTRIAN AND BICYCLE COLLISIONS

### COLLISION TYPE

The most common primary collision factors for all collisions and for fatal and severe injury collisions on SR 166 from 2019 to 2023 are illustrated in **Figure 36**. For all collisions, unsafe speed is the leading factor, accounting for 26% of collisions, followed by automobile right-of-way violations (19%) and improper turning (14%). Driving or bicycling under the influence of alcohol or drugs and traffic signal/sign violations contribute 14% and 10% of collisions, respectively. In contrast, fatal and severe injury collisions are most commonly caused by driving or bicycling under the influence of alcohol or drugs (25%) and improper turning (23%), with unsafe speed, automobile right-of-way violations, and pedestrian violations each accounting for 10%. This indicates that while unsafe speed is the primary cause of all collisions, impaired driving and improper turning are disproportionately linked to fatal and severe injury collision outcomes.

A breakdown of primary collision factors is provided in **Table 13** and **Table 14**, with all collision reports provided in **Appendix G**.

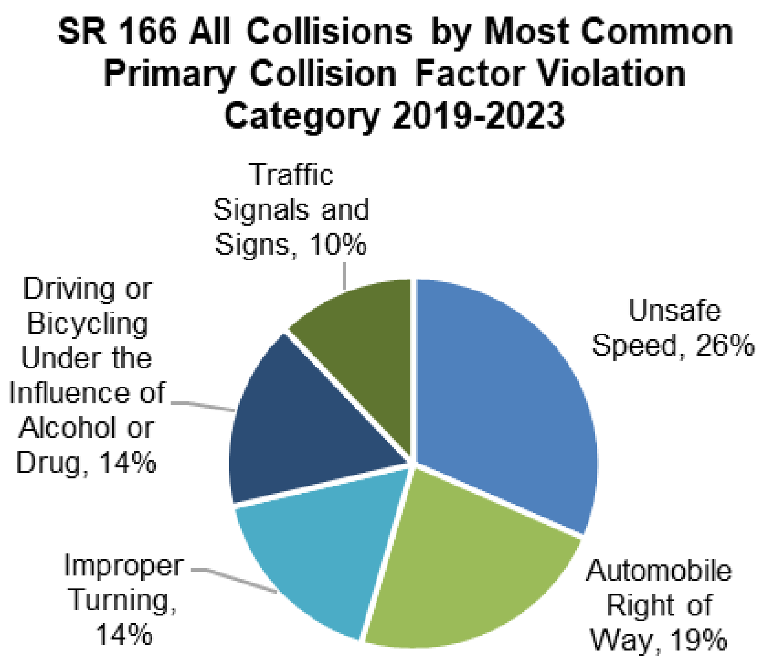



FIGURE 36: PRIMARY COLLISION FACTORS FOR ALL COLLISIONS

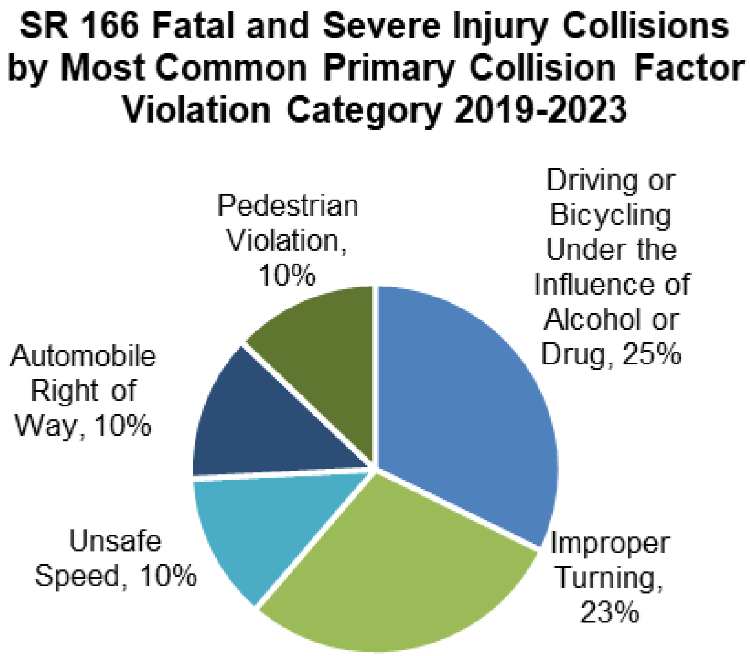



**FIGURE 37: PRIMARY COLLISION FACTORS FOR FATAL/SEVERE INJURY COLLISIONS**

**TABLE 13: PRIMARY COLLISION FACTOR (PCF) VIOLATION CATEGORIES FOR ALL COLLISIONS**

| PCF VIOLATION CATEGORY | COLLISIONS | % |
|---|---|---|
| UNSAFE SPEED | 124 | 26% |
| AUTOMOBILE RIGHT OF WAY | 85 | 18% |
| IMPROPER TURNING | 68 | 14% |
| DRIVING OR BICYCLING UNDER THE INFLUENCE OF ALCOHOL OR DRUG | 67 | 14% |
| TRAFFIC SIGNALS AND SIGNS | 47 | 10% |
| PEDESTRIAN RIGHT OF WAY | 12 | 3% |
| IMPROPER PASSING | 10 | 2% |
| PEDESTRIAN VIOLATION | 10 | 2% |
| WRONG SIDE OF ROAD | 9 | 2% |
| FOLLOWING TOO CLOSELY | 8 | 2% |
| OTHER | 31 | 4% |
| TOTAL | **471** | **100%** |

Source: Statewide Integrated Traffic Records System, January 01, 2019 to December 31, 2023.

**TABLE 14: PRIMARY COLLISION FACTOR (PCF) VIOLATION CATEGORIES FOR FATAL AND SEVERE INJURY COLLISIONS**

| PCF VIOLATION CATEGORY | COLLISIONS | % |
| --- | --- | --- |
| DRIVING OR BICYCLING UNDER THE INFLUENCE OF ALCOHOL OR DRUG | 10 | 25% |
| IMPROPER TURNING | 10 | 25% |
| AUTOMOBILE RIGHT OF WAY | 4 | 10% |
| PEDESTRIAN VIOLATION | 4 | 10% |
| UNSAFE SPEED | 3 | 8% |
| PEDESTRIAN RIGHT OF WAY | 3 | 8% |
| IMPROPER PASSING | 2 | 5% |
| OTHER | 4 | 10% |
| TOTAL | **40** | **100%** |

Source: Statewide Integrated Traffic Records System, January 01, 2019 to December 31, 2023.

## STUDY CORRIDOR COLLISION SUMMARY

While the collision maps cover the broader study area including parallel routes, the following study corridor collision summary data covers only SR 166 within the study boundary.

Collisions are summarized for intersections and roadway segments. Collisions are considered intersection related if they were within 250 feet of the intersection stop bar.

### INTERSECTION SUMMARY

From 2019 to 2023, 95 collisions were reported at study intersections along the SR 166 corridor, including four severe injury collisions and one fatality. The analysis of collision types indicate that broadside collisions (42%) and rear-end collisions (39%) were the most prevalent at intersections. Vehicle-pedestrian collisions accounted for 6% of collisions. Less common collision types, such as head-on (4%) and fixed-object crashes (4%), indicating lane departure issues and roadside hazard risks were not as prevalent.

Unsafe speed was identified as the primary collision factor, contributing to 33% of intersection collisions. This was followed by automobile right-of-way violations and traffic signal/sign violations, each representing 16% of collisions. Other factors included impaired driving (12%) and improper turning (8%).

Together, unsafe speed, right-of-way violations, and traffic signal/sign violations accounted for 65% of all collisions at intersections.

**TABLE 15: INTERSECTION COLLISIONS BY SEVERITY**

| SEVERITY | 2019 | 2020 | 2021 | 2022 | 2023 | TOTAL |
|---|---|---|---|---|---|---|
| FATAL INJURY | 0 | 0 | 0 | 0 | 1 | 1 |
| SEVERE INJURY | 1 | 2 | 0 | 0 | 1 | 4 |
| MINOR INJURY | 5 | 2 | 3 | 4 | 6 | 20 |
| POSSIBLE INJURY | 9 | 19 | 18 | 17 | 7 | 70 |
| TOTAL | **15** | **23** | **21** | **21** | **15** | **95** |

Source: Statewide Integrated Traffic Records System, January 01, 2019 to December 31, 2023.

**TABLE 16: INTERSECTION COLLISIONS BY TYPE**

| COLLISION TYPE | COLLISIONS | % |
|---|---|---|
| BROADSIDE | 40 | 42% |
| REAR-END | 37 | 39% |
| VEHICLE/PEDESTRIAN | 6 | 6% |
| HEAD-ON | 4 | 4% |
| HIT OBJECT | 4 | 4% |
| OTHER | 4 | 4% |
| TOTAL | **95** | **100%** |

Source: Statewide Integrated Traffic Records System, January 01, 2019 to December 31, 2023.

### TABLE 17: INTERSECTION COLLISIONS BY PRIMARY COLLISION FACTOR

| PRIMARY COLLISION FACTOR | COLLISIONS | % |
|---|---|---|
| UNSAFE SPEED | 31 | 33% |
| AUTOMOBILE RIGHT OF WAY | 15 | 16% |
| TRAFFIC SIGNALS AND SIGNS | 15 | 16% |
| DRIVING OR CYCLING UNDER THE INFLUENCE | 11 | 12% |
| IMPROPER TURNING | 8 | 8% |
| PEDESTRIAN RIGHT OF WAY | 3 | 3% |
| PEDESTRIAN VIOLATION | 3 | 3% |
| OTHER | 7 | 7% |
| TOTAL | **95** | **100%** |

Source: Statewide Integrated Traffic Records System, January 01, 2019 to December 31, 2023.

## SEGMENT COLLISION SUMMARY

**Table 18** summarizes collision severity along the SR 166 corridor from 2019 to 2023. Over the five-year period, a total of 52 collisions were reported, with 3 classified as fatal and 4 as severe.

Fatal and severe collisions accounted for 13% of the total 52 collisions, with 3 fatal and 4 severe injury crashes reported. Rear-end collisions (44%) and broadside collisions (21%) were the most frequent types. Less frequent collision types included overturned vehicles (8%) and head-on collisions (6%).

Unsafe speed is the leading primary collision factor, contributing to 22 collisions (42%), followed by improper turning at 12 collisions (25%). Impaired driving and right-of-way violations each accounted for seven collisions (13%).

### TABLE 18: SEGMENT COLLISIONS BY SEVERITY

| SEVERITY | 2019 | 2020 | 2021 | 2022 | 2023 | TOTAL |
|---|---|---|---|---|---|---|
| FATAL INJURY | 1 | 1 | 0 | 0 | 1 | 3 |
| SEVERE INJURY | 1 | 2 | 0 | 1 | 0 | 4 |
| MINOR INJURY | 3 | 2 | 8 | 4 | 3 | 20 |
| POSSIBLE INJURY | 5 | 9 | 6 | 2 | 3 | 25 |
| TOTAL | **10** | **14** | **14** | **7** | **7** | **52** |

Source: Statewide Integrated Traffic Records System, January 01, 2019 to December 31, 2023.

**TABLE 19: SEGMENT COLLISIONS BY COLLISION TYPE**

| COLLISION TYPE | COLLISIONS | % |
|---|---|---|
| REAR-END | 23 | 44% |
| BROADSIDE | 11 | 21% |
| HIT OBJECT | 9 | 17% |
| OVERTURNED | 4 | 8% |
| OTHER | 5 | 10% |
| TOTAL | **52** | **100%** |

Source: Statewide Integrated Traffic Records System, January 01, 2019 to December 31, 2023.

**TABLE 20: SEGMENT COLLISIONS BY PRIMARY COLLISION FACTOR**

| PRIMARY COLLISION FACTOR | COLLISIONS | % |
|---|---|---|
| UNSAFE SPEED | 22 | 42% |
| IMPROPER TURNING | 13 | 25% |
| DRIVING OR CYCLING UNDER THE INFLUENCE | 7 | 13% |
| AUTOMOBILE RIGHT OF WAY | 7 | 13% |
| OTHER | 3 | 6% |
| TOTAL | **52** | **100%** |

Source: Statewide Integrated Traffic Records System, January 01, 2019 to December 31, 2023.

## COLLISION RATE ANALYSIS

The collision data for the study intersections in the corridor were compared with the statewide mean collision rate for a roadway with similar characteristics. This comparative analysis was undertaken using the Rate Quality Control Method (RQCM). Collisions that occurred within 250 feet on the approaches to an intersection were considered as part of the intersection. **Table 21** summarizes the number of collisions involving vehicles, pedestrians and bicyclists that were reposted at the study intersections during the three-year analysis period.

The RQCM flags a location as susceptible to collision if the accident rate exceeds the state crash rate. The analysis method assists in identifying "collision-prone" locations where collision rates are significantly higher than the average collision rate for a street with comparable traffic volume. Beta was set at the 95th percentile confidence level, meaning that the observed collision rate would only occur by chance five times out of one hundred.

All intersections and segments reported crash rates below the state average, though the higher crash volumes at SR 166 and Blosser Rd and the Black Rd to Blosser Rd segment warrant further safety review. The analysis shows that SR 166 at SR 1 and SR 166 at Flower Ave experienced no crashes during the study period, while SR 166 at Bonita School Rd had the lowest crash rate at 0.05 Crashes per million vehicles entering (CMV), significantly below the state average of 0.62 CMV. Intersections at Ray Rd (0.17 CMV), Black Rd (0.20 CMV), and Depot St (0.27 CMV) also reported low crash rates, while Obispo St, Simas Rd, and Blosser Rd had moderate crash rates ranging from 0.30 to 0.40 CMV, with Blosser Rd having the highest crash volume (22 crashes). For roadway segments, all reported crash rates were below the state average of 1.09 CMV, ranging from 0.29 to 0.43 CMV. The segment between Black Rd and Blosser Rd recorded the highest number of crashes (23), followed by SR 166 from SR 1 to Bonita School Rd (19 crashes).

While all intersections and segments reported crash rates below the state average, locations like Blosser Road (highest intersection crash volume with 22 collisions) and the SR 166 segment from Black Road to Blosser Road (highest segment crash volume with 23 collisions) highlight areas with higher absolute crash numbers.

**TABLE 21: STUDY CORRIDOR CRASH RATES**

| | STUDY CORRIDOR CRASH RATES | | | | | | |
|---|---|---|---|---|---|---|---|
| | STUDY INTERSECTIONS | NUMBER OF CRASHES (2019-2023) | DAILY ENTERING VEHICLES | ANNUAL ENTERING VEHICLES (IN MILLIONS) | CRASHES PER MILLION ENTERING VEHICLES (CMV) | STATE CRASH RATE (CMV) | ABOVE STATE RATE? |
| 1 | SR166 AND SR1 | No recorded crashes during the period | | | | | |
| 2 | SR166 AND OBISPO ST | 6 | 10,910 | 3.98 | 0.30 | 0.36 | No |
| 3 | SR166 AND FLOWER AVE | No recorded crashes during the period | | | | | |
| 4 | SR166 AND SIMAS RD | 9 | 12,400 | 4.53 | 0.40 | 0.59 | No |
| 5 | SR166 AND BONITA SCHOOL RD | 1 | 11,620 | 4.24 | 0.05 | 0.62 | No |
| 6 | SR166 AND RAY RD | 4 | 12,920 | 4.72 | 0.17 | 0.36 | No |
| 7 | SR166 AND BLACK RD | 5 | 13,760 | 5.02 | 0.20 | 0.36 | No |
| 8 | SR166 AND BLOSSER RD | 22 | 30,500 | 11.13 | 0.40 | 0.55 | No |
| 9 | SR166 AND DEPOT ST | 12 | 24,760 | 9.04 | 0.27 | 0.55 | No |
| 10 | BETTERAVIA AND BLACK RD | Not included in corridor analysis | | | | | |
| | SEGMENT LOCATION | NUMBER OF CRASHES (2019-2023) | AVERAGE DAILY TRAFFIC | ANNUAL VEHICLE MILES TRAVELED (IN MILLIONS) | CRASHES PER MILLION VEHICLE MILES (CMVM) | STATE CRASH RATE (CMVM) | ABOVE STATE RATE? |
| 1 | SR166 FROM SR1 TO BONITA SCHOOL RD | 19 | 9,300 | 12.73 | 0.30 | 1.09 | No |
| 2 | SR166 FROM BONITA SCHOOL RD TO BLACK RD | 9 | 15,900 | 6.22 | 0.29 | 1.09 | No |
| 3 | SR166 FROM BLACK RD TO BLOSSER RD | 23 | 14,200 | 10.64 | 0.43 | 1.09 | No |

## ROADWAY SAFETY AUDIT

On September 16, 2024 a road safety audit (RSA) along SR 166 study corridor was performed. An RSA is a formal safety performance examination of a roadway. An RSA is a multi-stakeholder, comprehensive effort to identify safety and mobility deficiencies and generate a list of improvements, and insights. The RSA group included representatives from Caltrans, SBCAG, the cities of Guadalupe and Santa Maria, the County of Santa Barbara and the consultant team. The RSA group brought unique backgrounds and perspectives to roadway performance, collision history, safety concerns, and potential improvements[13].

The full RSA report is provided in **Appendix H**. Key findings and challenges are provided below.


FIGURE 38: ROAD SAFETY AUDIT TEAM

## CHALLENGES

The study corridor faces persistent challenges and areas of concern that highlight potential areas for increased attention and future improvements.

- This corridor experiences high volumes of truck traffic with surrounding last use primarily agricultural.

[13] FHWA has identified RSAs as a safety countermeasure.

- Lack of passing lanes, CHP has noted that vehicles pass on the narrow shoulder of the corridor, especially to avoid agricultural vehicles.
- During school release, school bus and staff queuing caused significant traffic on Bonita School Road.
- Lack of pedestrian or bicycle infrastructure creates a hostile environment for non-motorized users.
- City of Santa Maria, County, and CHP have noted that sight distance is an issue during nighttime and fog causing limited visibility.
- Overall lack of lighting along the corridor
- Primary congestion is caused by agricultural vehicles, encouraging alternative routes such as Betteravia Road could relieve congestion EB into Santa Maria
- Lack of safe turning lanes, stops, or signals create long queues
- Drainage ditch parallel to the corridor creates right-of-way (ROW) constraints

## RECOMMENDED IMPROVEMENTS

Due to the nature of the corridor and existing and pending improvements occurring, the primary focus of the corridor among RSA participants was roadway safety and congestion relief. While multimodal improvements are feasible and would allow connection to the Santa Maria Levee Trail, the primary concerns were road conditions, lighting, and speed.

The majority of comments and opinions expressed by attendees were congestion, lack of bicycle and pedestrian infrastructure, and high vehicle speeds.

General comments and recommendations for the corridor as a whole from attendees were as follows:

- Possibility for Intelligent Transportation Systems (ITS) improvements along the corridor.
- Recommendations for public outreach and programs that would provide improved education about trip planning and coordinating with stakeholders.
- Support or freight benefits such as Weigh in Motion and/or automated freight counts.
- Bicycle infrastructure is lacking along the entire corridor, including at intersections.
- Left turn pockets and accelerations lanes for left turning vehicles along SR 166 may improve operations and safety for turning vehicles at high-volume private driveways along the eastern portion of the corridor.
- Based on crash history, the curve between Simas Road and Ray Road should be evaluated for guard rail, chevrons, and curve signs, and other improvements to assist drivers in navigating the turn during low visibility conditions.
- Intersection lighting should be evaluated for improvement.
- Stop signs at all unsignalized intersections should be oversized, include retroreflective tape on poles, and LED borders for additional visibility/awareness due to low visibility conditions (nighttime, fog, and dusk/dawn glare).
- Transverse rumble strips on approaches to intersections to alert drivers of upcoming stops should be implemented.

Recommendations were also discussed and provided for each of the key intersections visited and observed and are described below.

**Intersection 1 - SR 166 and Obispo Street**

- Incorporate the latest improvements proposed by Caltrans as part of GAPS-CAPM project[14] into intersection design
- Design for increased pedestrian volumes due to new schools and development.
- Slow motor vehicles in advance of the approach into Guadalupe. Consider reducing the speed limit in increments of 5 MPH the way that Hwy 126 does upon the approach to City of Fillmore (signage posted + speed feedback signs).
- Utilize existing paved cross section on Obispo Street to add a Class II or Buffered Class II bike lane.
- Improve lighting at the nearby bus stop and pedestrian approaches.
- Move the stops bars on Obispo Street closer to SR 166 to improve line of sight.
- Provide safer crossing and visibility due to long crossing distance for pedestrians.

**Intersection 2 – SR 166 and Simas Road**

- Install lighting and signage at the intersection for visibility.
- Reduce the radius of the turn on the northbound Simas Road approach corner to encourage slower turning movements.
- Install larger and higher visibility stops signs.
- Construct a right turn pocket for the westbound approach to discourage drivers from using the shoulder.
- Reduce the westbound speed limit towards Guadalupe in advance of this intersection.

**Intersection 3 – SR 166 and Bonita School Road**

- Improve school zone signage and striping to raise visibility and awareness.
- Reduce the speed limit along SR 166 within the vicinity of Bonita School Road to be consistent with a school zone.
- Consider circulation improvements and/or signal timing to better handle school bus and parent egress.
- Provide consistent overhead lighting at the signal.
- Provide pedestrian treatments on and across Bonita School Road to provide safe access to all parking and overflow parking areas.
  - Need for coordination with the school to redesign site circulation and access.
  - Better define overflow parking.
  - Provide a safe place to U-turn along Bonita School Road.
  - Perform and implement a County Safe Routes to School (SR2S) plan.
- Improve driver visibility for the southbound approach.

**Intersection 4 – SR 166 and Ray Road**

[14] Guadalupe Active Partnership for Signalization and CAPM to Santa Maria (GAPS-CAPM)

- Realign the intersection to remove the skew and improve sight distance.
- Reconfigure intersection for a northbound left-turn merge lane.
- Clean and maintain drainage infrastructure to avoid flooding during rain events.
- Install intersection lighting.
- Perform signal warrant due to significant queueing during PM peak.

**Intersection 5 – SR 166 and Black Road**

No recommendations were discussed for the intersection at Black Road, likely due to signal construction and improvements being finalized.

**Intersection 6 – SR 166 and Hanson Way**

No recommendations were discussed for the intersection at Hanson Way, likely due to the difficulty in inserting slow-moving left-turning trucks into an uncontrolled vehicle stream, even with the existing center turn lane. Further, volumes are likely not high enough to meet a signal warrant.

**Intersection 7 – SR 166 and Blosser Road**

- Install consistent sidewalk along the southwest quadrant of the intersection and connecting to the Saint Marie Mobil Home Park to the west.
- Stripe a right-turn pocket for the eastbound approach to better define parking and shoulder areas.
- Update corner treatments to meet current ADA requirements.
- Install additional intersection lighting.
- Add green paint to bike lane on the southbound approach to define the bicycle right of way and increase visibility.
- Reduce the speed limit of SR 166 in advance of the Santa Maria city limits.

## MULTIMODAL ACCESS

This section describes the methods and findings for the park and ride lots, transit, bicycle, and pedestrian measures.

### TRANSIT ACCESSIBILITY

The Guadalupe Flyer, operated by SMOOTH (Santa Maria Organization of Transportation Helpers) provides transit service between Guadalupe and Santa Maria, California.

The City of Guadalupe offers both fixed-route and demand-response transit services within Guadalupe and between Guadalupe and Santa Maria. The Guadalupe Shuttle, a deviated fixed-route service, operates Monday through Friday from 10:00 AM to 4:00 PM using a single bus. Meanwhile, the Guadalupe Flyer operates as a fixed-route service connecting Guadalupe and Santa Maria with the following The route operates from 6:30 am to 7:30 pm from Monday to Saturday, and 8:30 am to 6:30 pm on Sundays.

In addition, the City owns one ADA-accessible van to enhance transit accessibility. The City manages the transit system and contracts with SMOOTH for daily operations.

In Fiscal Year 2018, Guadalupe Transit recorded 86,061 passengers' system-wide and achieved a farebox recovery ratio of 16%[15].

A map of routes serving the SR 166 Corridor and the location of bus stops is shown in **Figure 39**. Service is available along the entire length of the SR 166 corridor between the cities of Guadalupe and Santa Maria.

This analysis focuses on the accessibility of transit service in areas deemed transit-supportive. For this study, transit-supportive density was defined as a minimum of three dwelling units per acre, based on the standards cited in the *Transit Capacity and Quality of Service Manual*. Census block-level data from decennial census was used to identify areas with transit-supportive density within a half-mile of a transit stop. Additionally, areas meeting this density criterion but located more than half a mile from a transit stop were also highlighted.

**Table 22** and **Table 23** provides an inventory of transit-supportive land for each urban area along the corridor, along with the percentage of the population accessible within a quarter mile and half-mile of a transit stop, respectively. This information is visualized in Figure **39**.

[15] Triennial Performance Audit, City of Guadalupe Transit, Michael Baker International, October 2019.

TABLE 22: TRANSIT SUPPORTIVE AREAS NEAR SR 166 AND PARALLEL ROUTES SERVED BY TRANSIT (1/4 MILE)

| COMMUNITY | TRANSIT SUPPORTIVE POPULATION | TRANSIT SUPPORTIVE POPULATION WITHIN 1/4 MILE | % OF TRANSIT SUPPORTIVE POPULATION WITHIN 1/4 MILE OF A TRANSIT STOP | % OF TRANSIT SUPPORTIVE POPULATION OUTSIDE 1/4 MILE OF A TRANSIT STOP |
|---|---|---|---|---|
| GUADALUPE | 6,010 | 880 | 15% | 85% |
| SANTA MARIA | 96,870 | 2,970 | 3% | 97% |
| UNINCORPORATED | 0 | 0 | - | - |

TABLE 23: TRANSIT SUPPORTIVE AREAS NEAR SR 166 AND PARALLEL ROUTES SERVED BY TRANSIT (1/2 MILE)

| COMMUNITY | TRANSIT SUPPORTIVE POPULATION | TRANSIT SUPPORTIVE POPULATION WITHIN 1/2 MILE | % OF TRANSIT SUPPORTIVE POPULATION WITHIN 1/2 MILE OF A TRANSIT STOP | % OF TRANSIT SUPPORTIVE POPULATION OUTSIDE 1/2 MILE OF A TRANSIT STOP |
|---|---|---|---|---|
| GUADALUPE | 6,010 | 3,570 | 59% | 41% |
| SANTA MARIA | 96,870 | 16,210 | 17% | 83% |
| UNINCORPORATED | 0 | 0 | - | - |

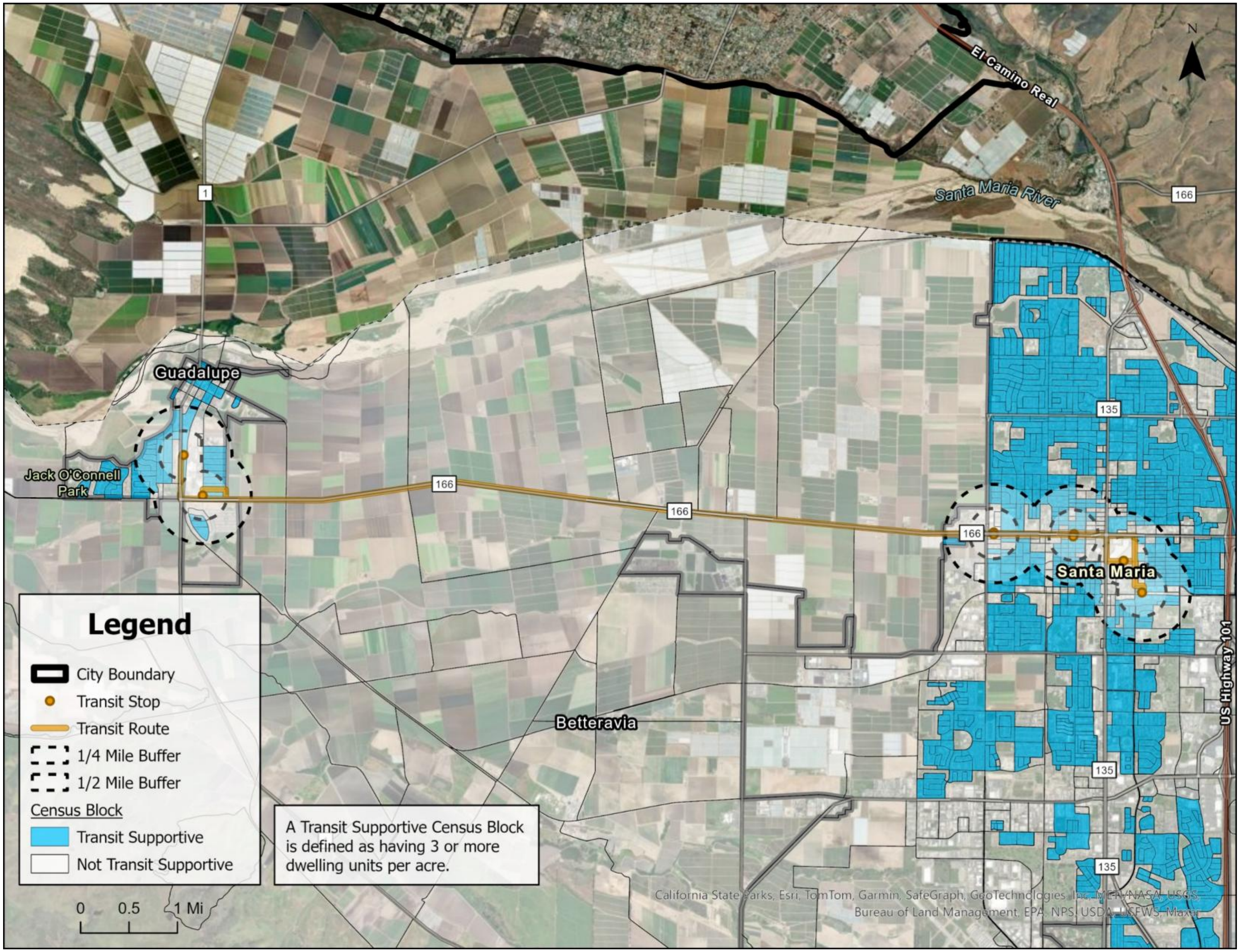



**FIGURE 39: TRANSIT ACCESSIBILITY ON STUDY CORRIDOR**

## LEVEL OF TRAFFIC STRESS AND ALL AGES AND ABILITIES BICYCLE AND PEDESTRIAN ANALYSIS

Level of Traffic Stress (LTS) analyses were conducted for both bicycle and pedestrian facilities respectively. Bicycle LTS was performed based on the methodologies described in the *Mineta Transportation Institutes Report 11-19 Low Stress Bicycling and Network Connectivity*[16] (2012). Given that California does not have an adopted methodology for determining pedestrian LTS, an analysis using the *Oregon Department of Transportation (ODOT) Level of Traffic Stress Analysis Procedures Manual*[17] (2024[18]) was performed. The bicycle LTS results are a combination of new analyses performed as part of the SR 166 CCS as well as like-analyses performed for the Santa Barbara County *Active Transportation Plan* (2023) and the City of Santa *Maria Active Transportation Plan* (2020). Pedestrian LTS was not conducted for the Santa Barbara or Santa Maria ATP. Analysis approach and results are described below.

### BICYCLE CONNECTIVITY – LTS ANALYSIS

Bicycle LTS scores quantify the stress level of a roadway segment through a variety of criteria such as street width (number of lanes), speed limit and/or prevailing speed, presence and width of bike lanes, signals, and presence and width of parking lanes. Bicycle LTS is given a score of 1 through 4, with 1 being the most comfortable for riders and 4 being the least comfortable for riders. Typically, a LTS score of 1 indicates that the stress level of a roadway is tolerable for most riders regardless of skill such as children, while an LTS of 4 indicates that the stress level is better suited for more skilled bicyclists, as shown in **Figure 40**.



[16] Mineta Transportation Institute Report 11-19 Low Stress Cycling and Network Connectivity, May 2012.

[17] Oregon Department of Transportation (ODOT) Level of Traffic Stress Analysis Procedures

[18] Updated regularly, recent update was September 2024.

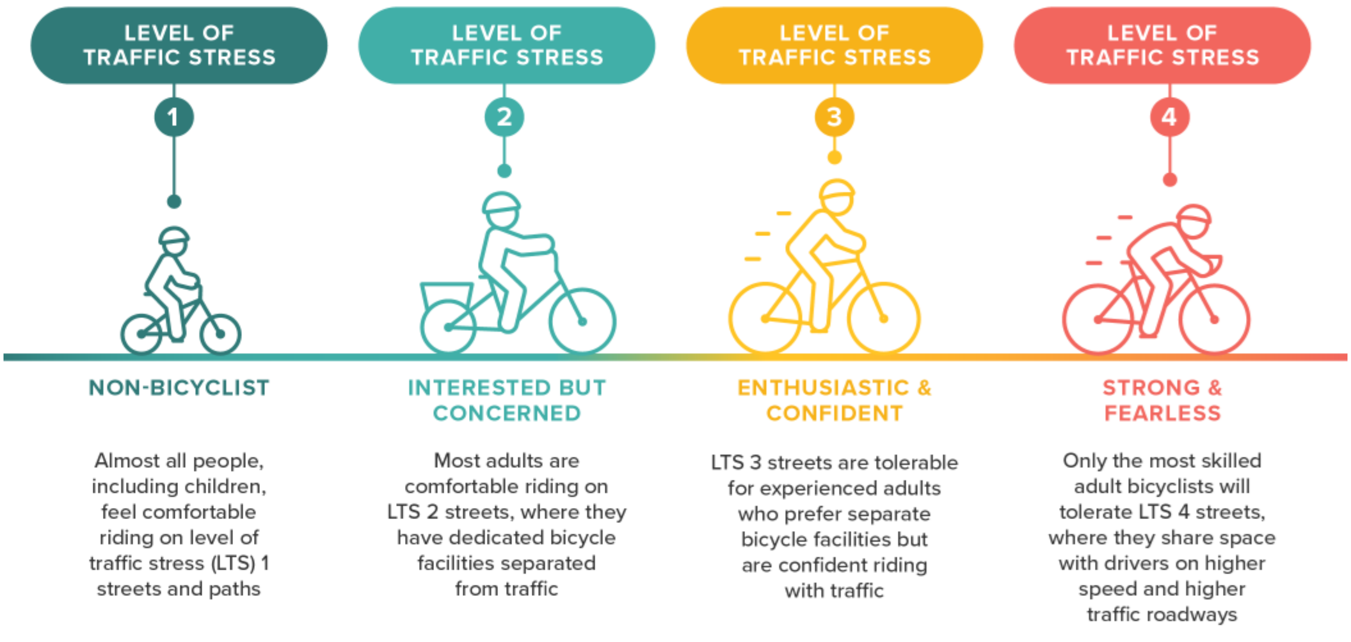



**FIGURE 40. BICYCLE LTS SCORES**

LTS analysis was conducted for Obispo Street and Flower Avenue, LTS analysis for SR 166, Blosser Road, Bonita School Road, Ray Road, and Simas Road were reviewed and repurposed from the recently completed Santa Barbara County *Active Transportation Plan* (2023), SB County ATP Data Tool, and City of Santa Maria *Active Transportation Plan* (2020). **Table 24** summarizes the roadway characteristics and the bicycle LTS along Obispo Street and Flower Avenue. Due to the absence of designated bicycle infrastructure, high speed, and width of roadway Obispo Street, Flower Avenue, and Bonita School Road received LTS scores of 4.

The LTS results for all study roadways are shown in **Figure 41**. SR 166 received an LTS score of 4 due to its high vehicle speeds, one lane per direction, and does not host any designated or marked bicycle facilities. Level of Traffic Stress Analysis conducted and reviewed is included in **Appendix I**.

SR 166 COMPREHENSIVE CORRIDOR STUDY
Guadalupe to Santa Maria

**TABLE 24. ROADWAY CHARACTERISITCS AND BICYCLE LTS**

| STREET | LIMITS | POSTED SPEED (MPH) | BIKE LANE | PARKING LANE | # OF TRAVEL LANES | LTS SCORE[19] |
|---|---|---|---|---|---|---|
| SR 166 | SR 1 to Blosser Road | 55 | No | No | 1 | 4 |
| OBISPO STREET | 4th Street to SR 166 | 35 | No | Yes – NB<br>No – SB | 2 | 4 |
| FLOWER AVENUE | 4th Street to SR 166 | 35 | No | Yes – NB and SB | 2 | 4 |
| SIMAS ROAD | Guadalupe City Limits to Betteravia Road | 25 | No | No | 2 | 1 |
| BONITA SCHOOL ROAD | Santa Barbara County Limits to SR 166 | 55 | No | No | 2 | 4 |
| RAY ROAD | Betteravia to SR 166 | 25 | No | No | 2 | 1 |
| BLACK ROAD | Betteravia to SR 166 | 25 | No | No | 2 | 1 |
| HANSON WAY | Santa Maria City Limits to SR 166 | 45 | No | No | 2 | 3 |
| BLOSSER ROAD | Donovan Road to Betteravia Road | 40 | Yes | No | 4 | 4 |



[19] LTS scores for roadways except for Obispo and Flower are derived from the Santa Barbara County ATP Data Tool and Santa Maria ATP.

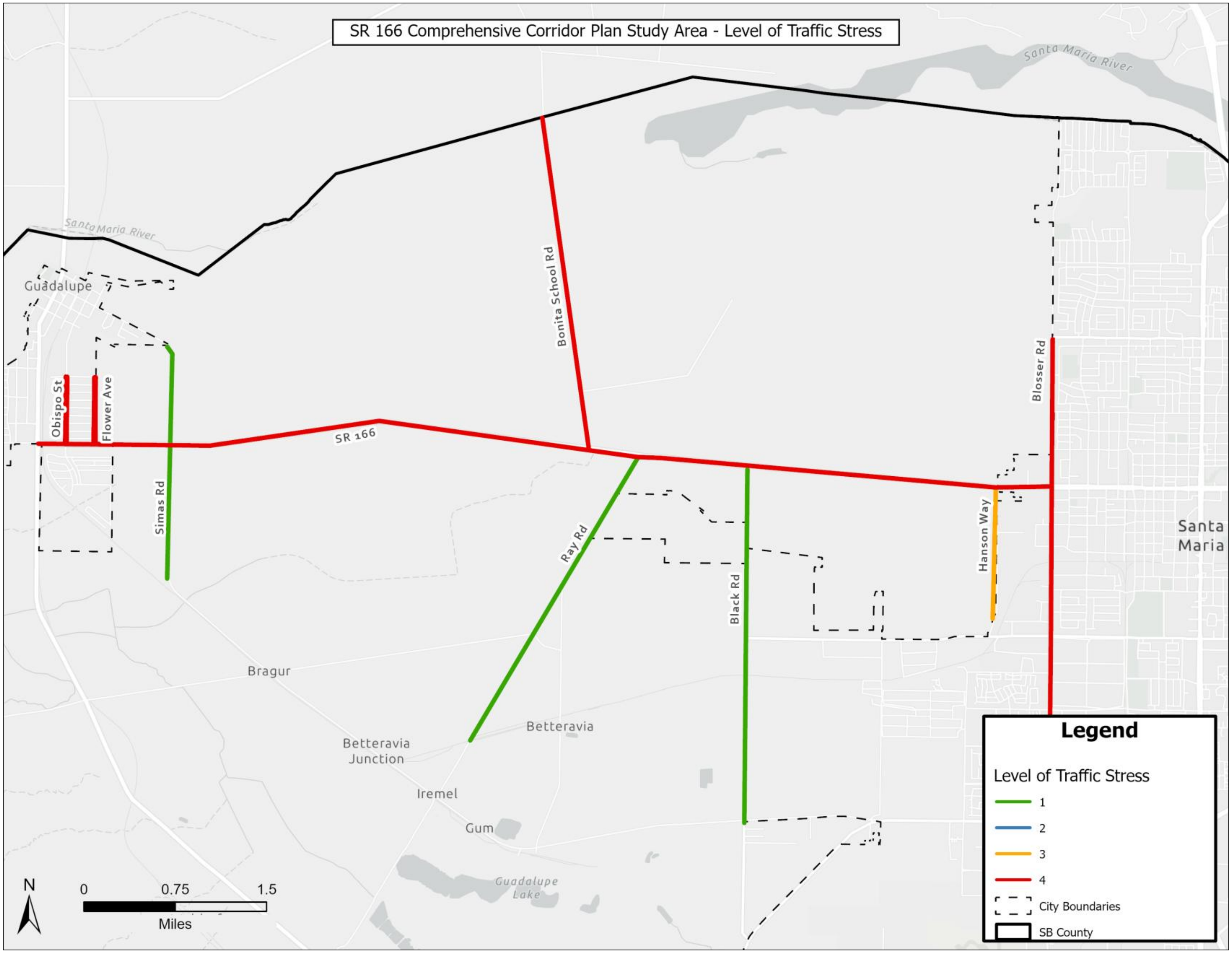



**FIGURE 41. BICYCLE LTS (SANTA BARBARA & SANTA MARIA ATP)**

## PEDESTRIAN CONNECTIVITY

Similar to the Bike LTS methodology, pedestrian LTS also uses several criteria to develop a LTS score of 1 through 4 including the presence of sidewalks, crosswalks, median refuges, traffic volume, and current speed limits. Pedestrian LTS was conducted for Obispo Street and Flower Avenue shown in **Figure 42**.

LTS on SR 166 was not conducted due to the absence of pedestrian facilities and several intersections prohibiting pedestrian traffic on the corridor. Pedestrian LTS was not considered in the Santa Barbara or Santa Maria ATP.

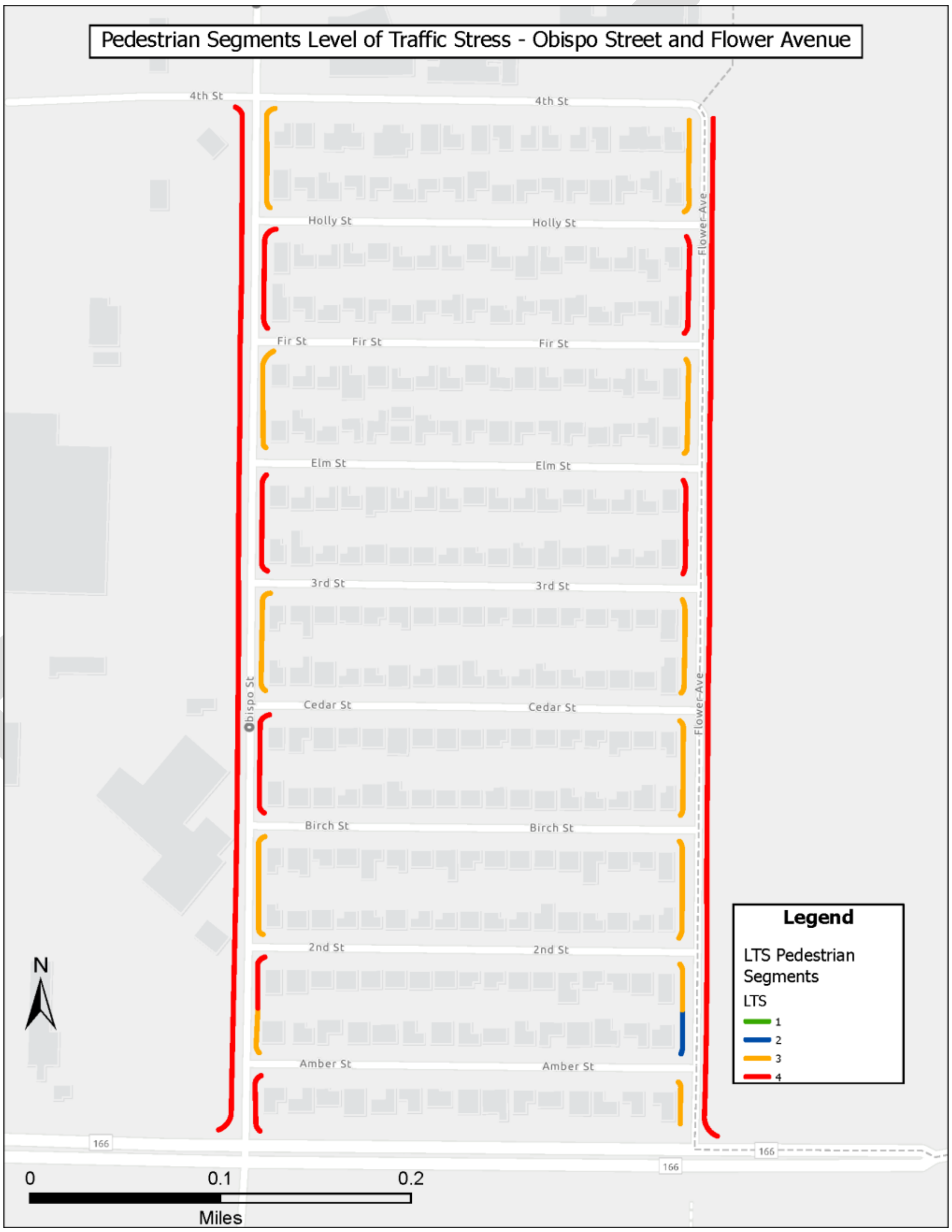



FIGURE 42. PEDESTRIAN LTS ON OBISPO STREET AND FLOWER AVENUE

### LEVEL OF TRAFFIC STRESS FINDINGS

Overall, the study area primarily consists of roadways with bike LTS scores of 4. Simas Road, Ray Road, and Black Road are determined to be LTS 1 while Hanson Way is LTS 3. The variation in scores indicates that the study area is not a welcoming or comfortable environment for bicyclists and pedestrians. High LTS scores indicate that traversing the study area is difficult without a vehicle. While several roadways are only for experienced bicycle riders, there is an opportunity to improve bicycle mobility to and along roadways within the study area. Key findings of all LTS analysis are summarized as follows:

- **SR 166**
  - SR 166 received an LTS 4 score indicating high-stress conditions suitable only for skilled bicyclists attributable to its high vehicle speeds, lack of marked or buffered bicycle facilities, and single travel lane per direction. Pedestrian LTS was not conducted during the Santa Barbara ATP. Pedestrian LTS can be assumed to be LTS 4 based on the corridor speed and absence of sidewalks and crossings.
- **Obispo and Flower Avenue**
  - Bicycle LTS scores for Obispo Street and Flower Avenue are both LTS 4, indicating high-stress conditions suitable only for skilled bicyclists. This is due to the absence of designated bicycle infrastructure, high vehicle speeds (35 mph), and roadway widths.
  - Pedestrian LTS analysis, using the Oregon Department of Transportation methodology, defines LTS on Obispo Street and Flower Avenue as 3 and 4.
  - Pedestrian LTS analysis was not conducted for SR 166 due to the lack of pedestrian facilities and restrictions on pedestrian access at several intersections.
- **Simas Road, Ray Road, and Black Road**
  - Bicycle LTS for Simas, Ray, and Black Roads received an LTS score of 1 in the SB County ATP due to its relatively low speed and number of lanes.
- **Bonita School Road**
  - Bonita School Road received an LTS score of 4 due to high speed and absence of bicycle facilities.

## NETWORK VULNERABILITY

A qualitative assessment of climate preparedness and infrastructure resilience was conducted using available online mapping tools, including the Caltrans Vulnerability Interactive Mapping Tool (District 5). The assessment focused on potential threats such as floods, extreme temperatures, and wildfires.

A climate change vulnerability assessment for SR 166 focused on three primary climate risk factors: wildfire exposure, precipitation, and temperature, while excluding storm surge and sea level rise as non-applicable risks for the study area.

### CLIMATE CHANGE VULNERABILITY ASSESSMENT

A climate change vulnerability analysis was performed for each primary improvement category. This assessment follows the guidance provided in the 2018 Caltrans Climate Change Vulnerability Assessment Summary Report. The report outlines three key action items to evaluate potential climate change impacts on the State's transportation infrastructure—both existing and planned. These action items include:

- Exposure – Will the asset be exposed to climate change?
- Consequence – How will the asset deteriorate and how quickly will such impact occur?
- Prioritizations – Presuming the asset is impacted, how frequent, at what cost and what risk needs to be considered prior to making the investment for improving or replacing the asset?

Acknowledging the ongoing and increasing risks posed by climate change, the Caltrans report identifies four primary climate change factors to assess using these action items. These factors are:

- Wildfire Exposure
- Precipitation
- Temperature
- Storm Surge and Sea Level Rise

Storm Surge and Sea Level Rise are not identified as primary climate change risk factors in the SR 166 study corridor. For Wildfire Exposure, Precipitation, and Temperature, a screening assessment was conducted to evaluate the potential risks, benefits, and impacts to the corridor. Vulnerability maps generated using the Caltrans District 5 Climate Change Vulnerability web-based mapping tool informed these assessments.

### EXPOSURE ASSESSMENT

Climate change vulnerability exposure and the compounded effects of climate-induced hazards on wildfire evacuation planning in the study corridor was assessed based on 2055 horizon year under the high-emissions RCP 8.5 scenario. These exposures are evaluated together, as temperatures and precipitation compound wildfire evacuation by increasing both the speed and intensity of wildfires while degrading evacuation infrastructure.

### WILDFIRE EXPOSURE

**Figure 43** illustrates projected wildfire exposure in 2055 based on the RCP 8.5 scenario, which models a high greenhouse gas emissions trajectory. Roads are color-coded to indicate the level of wildfire exposure: **blue** represents moderate exposure, **red** represents high exposure, and dark **red** signifies very high exposure.

SR 166 is not identified as being at significant wildfire risk. SR 1 north and south of Guadalupe is identified as having "high" and "very high" wildfire exposure risk. North of Santa Maria, US 101 is identified as having "moderate" wildfire exposure risk.

Although SR 166 itself is not identified as being at significant wildfire risk, the vulnerability of alternative routes to wildfire exposure has important implications for SR 166. SR 166 could serve as a critical evacuation route for areas affected by wildfires on nearby roads. If alternative roads become impassable due to wildfire events, SR 166 may experience a surge in traffic volume as vehicles are rerouted.

### PRECIPITATION

**Figure 44** overlays projected wildfire exposure with anticipated percentage changes in 100-year precipitation depth for 2085. The red lines denote areas with high wildfire exposure, while the blue-shaded regions indicate areas likely to experience significant increases in extreme rainfall events.

The map illustrates that the study corridor as well as the surrounding area has a relatively low (<5%) percent change in 100-Year precipitation depth by 2055. The SR 166 corridor itself is predominantly in areas with low to moderate precipitation change, suggesting limited direct flooding impact.

### TEMPERATURE

**Figure 45** illustrates the anticipated increase in the average 7-day maximum temperature in 2085. The background color represents the projected average maximum temperature over a 7-day period in 2085: Dark orange to red (10.0° - 13.9°F increase) indicate regions that are expected to see a substantial rise in maximum temperatures, as indicated by the deep orange and red shades dominating the map. Lighter orange to yellow (6.0° - 9.9°F increase) indicate areas with slightly lower increases, but still significant.

The SR 166 corridor and surrounding areas are projected to experience a **7-day maximum temperature increase of 6.0°F to 7.9°F**, indicating significantly hotter conditions during heat waves.

The combination of **high wildfire exposure** and rising temperatures increases the likelihood and severity of wildfire events along nearby corridors. The map underscores the dual challenges of rising wildfire exposure and temperature increases.

### KEY FINDINGS AND IMPLICATIONS FOR EMERGENCY EVACUATION

Emergency evacuation is influenced by various environmental hazards, such as wildfire risk, extreme weather, and changing precipitation patterns. These challenges underscore the importance of developing alternative connections and enhancing multimodal transportation networks to facilitate safe and efficient evacuations for at-risk communities.

The impact of wildfires on transportation infrastructure is an important consideration in evacuation planning. Wildfires can block roads, making it crucial to have multiple evacuation routes and diverse transportation options available. Additionally, changing precipitation patterns complicate the situation; heavy rainfall can weaken infrastructure and does not necessarily lessen wildfire risks during dry spells, highlighting the need for resilient transportation systems.

Guadalupe has three primary evacuation routes: SR 1 north, SR 1 south, and SR 166 east. Depending on the source location and directionality of the event, one or more of these routes may not be available. Santa Maria has more options, including 101 north, 101 south, SR 135 south, SR 166 east, and SR 166 west, but the total number of evacuation routes remains limited relative to other areas. The accessibility of these routes may be compromised depending on the source and directionality of the event, such as a wildfire or flooding.

According to the Caltrans Climate Change Vulnerability Assessment Tool, much of the region is increasingly vulnerable to wildfires and extreme heat, which can speed up wildfire spread and shorten warning times. As a result, improving multimodal connectivity and ensuring redundancy in evacuation routes is essential for effective evacuations, especially given the potential for reduced response times and health risks such as heat-related illnesses during delays.

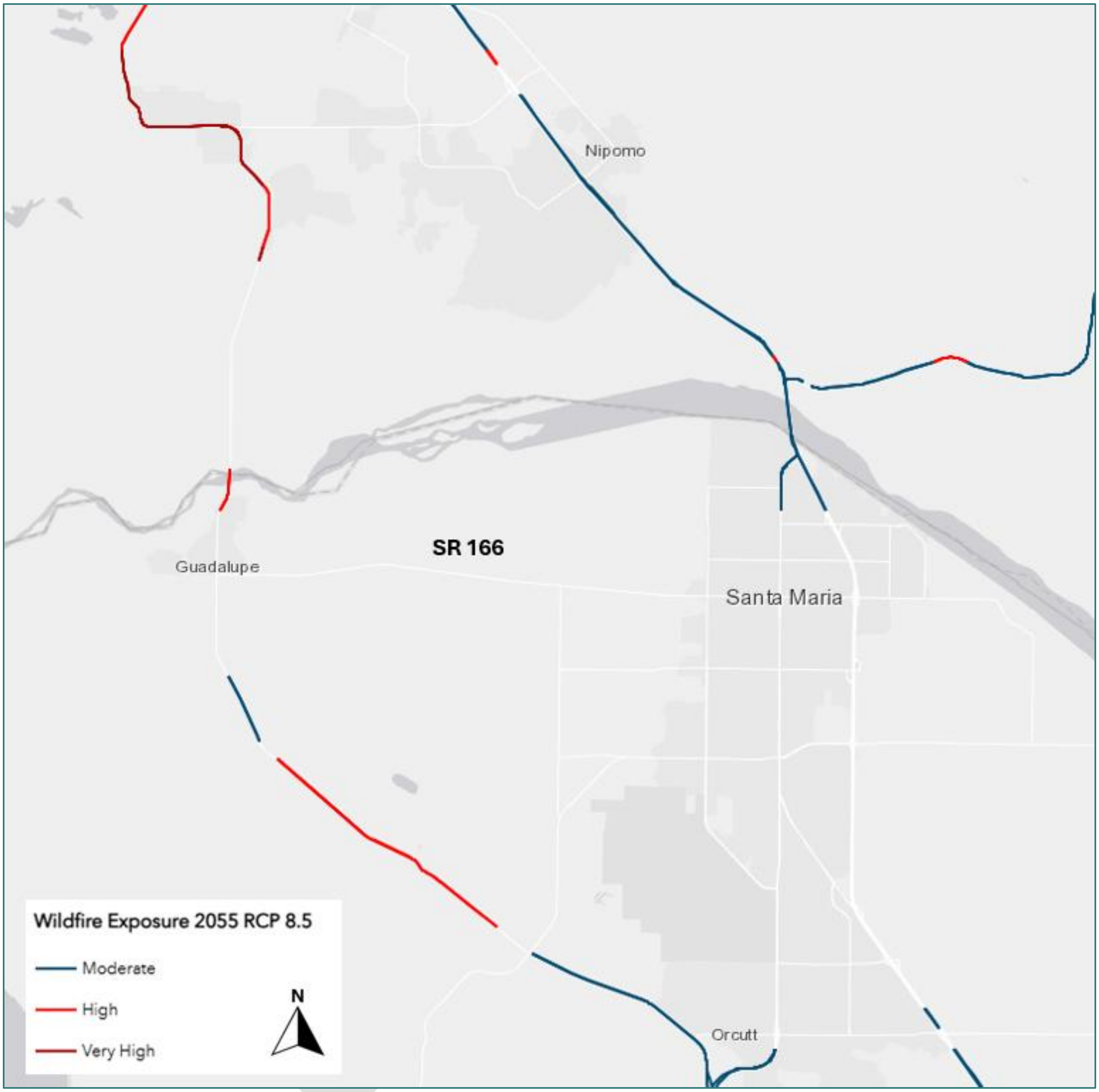



**FIGURE 43: WILDFIRE EXPOSURE IN 2055 (RCP 8.5) SCENARIO**

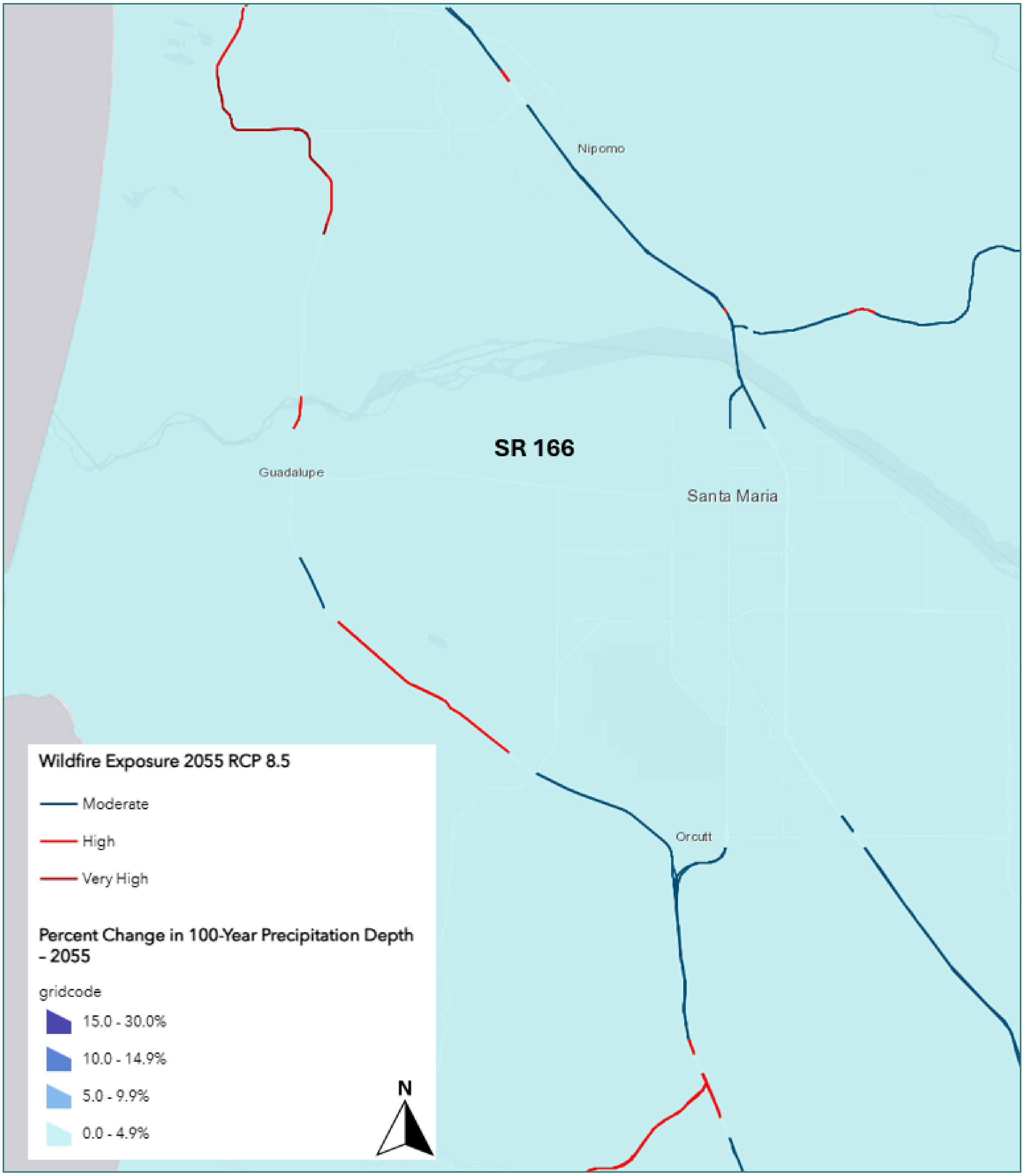



**FIGURE 44: WILDFIRE EXPOSURE AND 100-YEAR PRECIPITATION DEPTH CHANGE IN 2055 (RCP 8.5) SCENARIO**

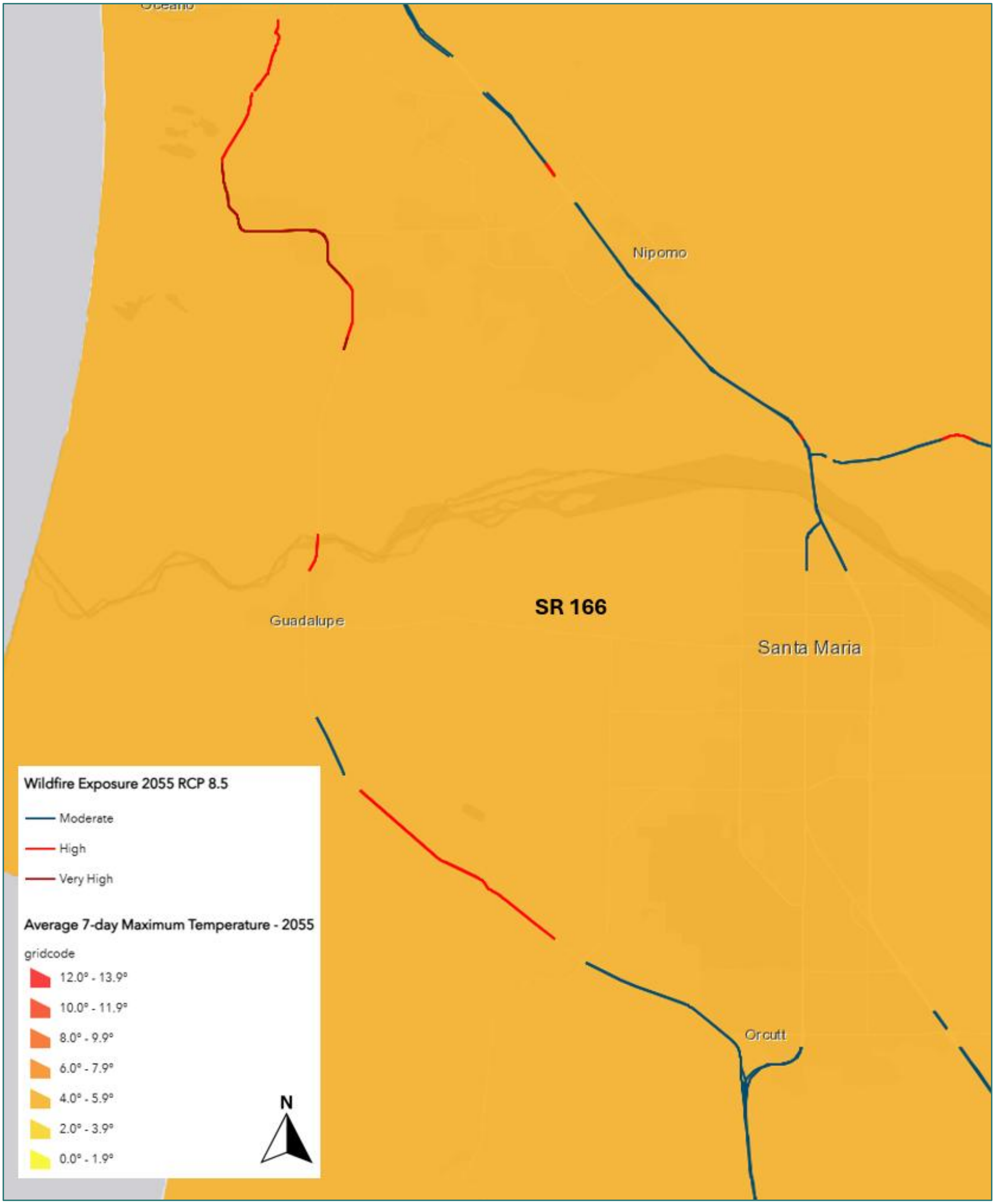



**FIGURE 45: WILDFIRE EXPOSURE AND 7-DAY MAXIMUM TEMPERATURE INCREASE IN 2055 (RCP 8.5) SCENARIO**

## CONCLUSION

The **SR 166 CCS Existing Conditions Report** evaluates the current performance of SR 166 from SR 1 in Guadalupe to Depot Street in Santa Maria. The SR 166 CCS study seeks to improve safety, mobility, and connectivity for all users, including pedestrians, cyclists, transit riders, and freight vehicles, while supporting regional economic vitality and community needs.

By addressing current deficiencies and planning for long-term resilience, the study aims to transform SR 166 into a safer, more efficient, and inclusive corridor that supports economic and community development in Santa Barbara County.

### Socioeconomic and Travel Characteristics

SR 166 is a critical link for both personal and commercial travel. It connects communities with differing socioeconomic characteristics, serving a largely middle-income, working-age population, with a significant Hispanic/Latino population (70+ pecent). The corridor's importance for goods movement is underscored by the substantial proportion of commercial vehicle trips (8.8%), particularly those associated with the agricultural industry.

### Goods Movement

SR 166 connects US 101 to I-5, enabling the movement of agricultural goods between the Central Coast and Central Valley. It supports processing facilities, packing sheds, and logistics hubs, meeting the high-volume, seasonal demands of the agricultural industry. Both the California Central Coast Sustainable Freight Study (2024) and US 101 Central Coast Freight Strategy (2016) highlight SR 166’s importance as a critical freight route, while noting challenges with congestion and reliability.

Truck traffic on SR 166 has grown significantly since 2000, with 5+ axle trucks increasing by 82%. Current daily truck volumes range from 990 vehicles near Guadalupe to 1,700 at Depot Street in Santa Maria. According to 2023 Streetlight origin-destination data, SR 166 remains a major freight route, handling 33% of regional inbound and 45% outbound freight through Guadalupe and nearby areas.

Infrastructure improvements have shifted truck traffic patterns. The 2012 Willow Road extension and US 101 interchange in Nipomo created a direct link between SR 1 and US 101, reducing reliance on SR 166. Streetlight data shows growing use of Betteravia Road and SR 1 as alternative routes, particularly for trucks heading to US 101 southbound. Betteravia Road has seen truck traffic increase by 14% inbound and 18% outbound.

Although SR 1 and SR 166 are not STAA terminal access routes, they continue to carry substantial heavy-duty truck traffic. Caltrans 2022 data shows 5+ axle vehicles account for a growing share of traffic on SR 166, underscoring its ongoing role in regional goods movement.

### Intersection Traffic Operations

While signalized intersections generally operate acceptably, several stop-controlled intersections along SR 166 experience delays exceeding local policy thresholds, particularly during peak hours.

### Roadway Travel Time Reliability and Congestion

Findings from the travel time reliability and congestion analysis reveal varying levels of performance across different peak periods and traffic types. Eastbound traffic tends to be more reliable than westbound traffic, particularly during the early AM and AM periods. Congestion is primarily observed within Santa Maria, particularly during the PM peak hour.

**Safety**

Although overall crash rates along SR 166 are below state averages, the intersections at Blosser Road, Depot Street, and Black Road have the highest relative crash rates along the corridor. Reported crash data indicates that unsafe speed as a leading contributing factor to collisions, while impaired driving and improper turning are disproportionately linked to fatal and severe injury collisions. Pedestrian and bicycle-related collisions are concentrated in Santa Maria.

The Road Safety Audit provides valuable recommendations for mitigating these safety concerns:

- Obispo Street: Incorporate Caltrans GAPS-CAPM improvements, address increased pedestrian volumes, and slow traffic near Guadalupe with speed limit reductions and signage. Add bike lanes, improve bus stop lighting, adjust stop bar placement for better visibility, and enhance pedestrian crossings.
- Simas Road: Add lighting and signage for visibility, reduce turn radii to slow movements, install larger stop signs, and construct a westbound right-turn pocket to prevent shoulder use. Lower westbound speed limits toward Guadalupe.
- Bonita School Road: Improve school zone visibility with better signage and striping, reduce speed limits near the school, and address circulation and signal timing for buses and parents. Provide lighting, pedestrian safety measures, defined overflow parking, a safe U-turn area, and implement a Safe Routes to School plan.
- Ray Road: Realign the intersection to remove skew, improve sight distance, and add a northbound left-turn merge lane. Maintain drainage infrastructure, add lighting, and evaluate signal warrants for PM peak queuing.
- Blosser Road: Add sidewalks connecting to the Saint Marie Mobile Home Park, stripe a right-turn pocket, update ADA corner treatments, install additional lighting, and enhance bike lane visibility with green paint. Reduce speed limits approaching Santa Maria.

**Multimodal Access**

The analysis indicates limited multimodal access, particularly for pedestrians and cyclists. The absence of dedicated bicycle infrastructure and the high-stress environment for both cyclists and pedestrians. Existing transit services provide essential connections between Guadalupe and Santa Maria, but further enhancements could improve accessibility and encourage mode shift.

**Network Vulnerability**

The climate change vulnerability assessment highlights the potential for wildfire events and extreme temperatures to impact the SR 166 corridor, even though the corridor itself may not be directly exposed.

# APPENDIX

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# CONTENTS

# APPENDIX A. PLANNING CONTEXT LITERATURE REVIEW

## *State Route 166 Comprehensive Corridor Study*

## *Existing Conditions – Review Plans and Studies*

## *Summary of State Regulatory Environment and Plans*

- ***Climate Action Plan for Transportation Infrastructure (CAPTI 2021)***
- ***Caltrans System Investment Strategy (CSIS)***
- ***Caltrans District 05 State Route 166 Transportation Concept Report (TCR 2017)***
- ***Caltrans District 5 Active Transportation Plan (November 2022)***
- ***Guadalupe Active Partnership for Signalization and CAPM to Santa Maria***
- ***U.S. 101 Central Coast California Freight Strategy (2016)***
- ***California Central Coast Sustainable Freight Study (2024)***

***Climate Action Plan for Transportation Infrastructure (CAPTI 2021) -*** CAPTI provides a framework that aligns the state's transportation infrastructure investments with the state's climate, health, and social equity goals. CAPTI identifies 10 guiding principles and 8 strategies, encompassing 31 key actions of ongoing and future changes to state transportation planning, project scoping, programming, and mitigation activities needed to align with the CAPTI Investment Framework. The key guiding principles and implementation strategies related to transit are summarized in Table B-1:

| Table B-1 – CAPTI 2021 Key Guiding Principle and Implementation Strategies | |
|---|---|
| Key Guiding Principles | Building toward an integrated, statewide rail and transit network |
| | Investing in networks of safe and accessible bicycle and pedestrian infrastructure |
| | Making safety improvements to reduce fatalities and severe injuries of all users towards zero |
| | Promoting projects that do not significantly increase passenger vehicle travel |
| | Developing a zero-emission freight transportation system |
| | Protecting natural and working lands |
| Key Implementation Strategies | S4.4 Refocus Caltrans Corridor Planning Efforts to Prioritize Sustainable Multimodal Investments in Key Corridors of Statewide and Regional Significance |
| | S4.6 Incorporate Zero-Emission Freight Infrastructure Needs into the California Freight Mobility Plan (CFMP) |
| | S7.1 Leverage Transportation Investments to Incentivize Infill Housing Production |

***Caltrans System Investment Strategy (CSIS) -*** The CSIS and the CSIS CAPTI Alignment Metrics provide an investment framework that will guide transportation investments and decisions to support CAPTI. CSIS is developing scoring metrics that will be used to make funding decisions within state transportation grant programs. Scoring metrics are being developed in the areas of:

- Safety
- Vehicle Miles Traveled
- Accessibility
- Disadvantaged Communities-Access to Destinations & Jobs
- Disadvantaged Communities-Traffic Impacts
- Passenger Mode Shift
- Land Use and Natural and Working Lands
- Freight Sustainability and Freight Efficiency.
- ZEV Infrastructure
- Public Engagement
- Climate Adaptation and Resiliency

***Caltrans District 05 State Route 166 Transportation Concept Report (TCR), 2017*** – State Route (SR) 166 is a state highway that is 96 miles in length, with 32.4 miles located in Santa Barbara County, 38.7 miles in San Luis Obispo County, and the remainder in Kern County. This TCR identifies trends and opportunities for the 71.1 miles of SR 166 within Santa Barbara and San Luis Obispo Counties, and divides SR 166 into two segments for purposes of discussion within the TCR:

- Segment 1 extends 8.93 miles from SR 1 in the City of Guadalupe to US 101 in the City of Santa Maria
- Segment 2 extends east from US 101 to the Kern County line at SR 33

This summary will focus on the TCR's findings for Segment 1, since the study area for this *State Route 166 Comprehensive Corridor Study* is wholly within Segment 1.

Segment 1 begins in Guadalupe at the junction of SR 1 and, for the first quarter of a mile, is classified as a 2-lane principal arterial. SR 166 then transitions to a 2-lane minor arterial for the next six miles as it proceeds through a flat agricultural environment. As SR 166 enters the City of Santa Maria it transitions to a 4-lane principal arterial called Main Street, and it runs through Santa Maria's downtown urban and commercial area. After leaving the study area for the *State Route 166 Comprehensive Corridor Study*, Segment 1 transitions to a 6-lane principal arterial east of the SR 135 intersection.

The TCR notes that in 2017 pavement conditions on segment 1 were largely in fair condition. Segment 1 of SR 166 has a shoulder width of 8 feet or greater for the most part except in downtown Santa Maria. The TCR notes that SR 166 is identified as an existing Class III bike route between SR 1 in Guadalupe and Blosser Road in Santa Maria. In downtown Santa Maria, high traffic volumes and narrow shoulder widths may be an intimidating condition for some bicyclists. The TCR notes that Segment 1 is used for transit by Guadalupe Transit and Santa Maria Regional Transit (SMRT) as described elsewhere in this report.

SR 166, although not listed as an interregional transportation route, is an important route for goods movement as demonstrated by the high percentage of truck traffic connecting the Santa Maria Valley and Central Coast to the Central Valley communities. Trucks make up 5 to 20 percent of total traffic along Segment 1. Due to the proximity of Vandenberg Air Force Base located southwest of Santa Maria and accessible via SR 1, SR166 is designated for transportation of hazardous materials and military transport such as rocket propellants and radioactive materials. As an example, transport of the space shuttle may need to be accommodated.

The TCR notes that the Santa Barbara County Association of Governments' (SBCAG) and San Luis Obispo Council of Governments' (SLOCOG) Regional Transportation Plans (RTP) identified slow agricultural traffic as one of the major transportation issues on SR 166. Operational improvements such as passing lanes, channelization, and signalization and intersection improvements were some of the recommendations for this route. The TCR notes two planned intersection improvement projects on SR 166: SR 1/

166 intersection improvements and SR 166/ Black Road intersection improvements. The SR 1/SR 166 project is currently in the project development phase. The SR 166/Black Road intersection improvement project was completed in fall 2024.

Per the TCR, the **Vision** for SR 166 is “to maintain the existing facility configuration on SR 166 with some multimodal improvements. There are no bottlenecks on Segment 1 or Segment 2, and Congestion is low to moderate.” Per the TCR, the Segment 1 Corridor Performance **Key Findings** are:

- Base Year (2014) Conditions: Congestion is low throughout the corridor in both directions except along sub-segment 1c, where congestion is moderate.
- Horizon Year (2040) Conditions: Congestion is low throughout the corridor in both directions except along sub-segment 1c, where congestion is moderate.
- In both, the base year and horizon year, there are no bottlenecks.

The TCR’s **Corridor Concept** for Segment 1 is “Maintain 2 lane Principal and Minor Arterial to 4-6 lane Principal Arterial Maintain Conventional Highway”. Pavement maintenance and preservation is identified as a key concept. The Corridor Concept also includes the following Multimodal and Operational Improvements:

- Implement Intelligent Transportation Systems
- Operational improvements at intersection SR 166 and SR135 (Note: this intersection is not within the boundaries of the State Route 166 Comprehensive Corridor Study.)
- Coordinate with the Cities of Guadalupe and Santa Maria, the County of Santa Barbara, Santa Barbara County Association of Governments (SBCAG) and San Luis Obispo Council of Governments (SLOCOG) to improve bicycle and pedestrian facilities
- Work closely with local jurisdictions, transit agencies, regional and state agencies, and the community to develop cohesive plans for multimodal travel

Two of the key strategies applicable to Segment 1 and the *State Route 166 Comprehensive Corridor Study* are:

- Work closely with local jurisdictions, transit agencies, regional and state agencies, and the community to develop cohesive plans for multimodal travel and truck route facilities as needed.
- Coordinate with the Cities of Guadalupe and Santa Maria, the County of Santa Barbara, and SBCAG to improve pedestrian and bicycle access along SR 166 in the city of Santa Maria and Guadalupe, where it is feasible.

***Caltrans District 5 Active Transportation Plan (November 2022)*** – This plan is intended to create a network of bicycle and pedestrian facilities with connections to transit within the Central Coast counties of Santa Cruz, Monterey, San Benito, San Luis Obispo and Santa Barbara. The plan aligns with the State Bicycle and Pedestrian Plan, Toward an Active California (2017), which established statewide policies, strategies and actions to achieve the goal of doubling walking, tripling bicycling, and doubling transit use in the State of California.

The plan identifies active transportation needs in eight categories:

- Main Street sidewalk gaps
- Sidewalks in fair or poor condition
- Sidewalks along higher-speed highways
- Stressful pedestrian crossings
- Stressful bicycle crossings
- Stressful bicycle segments
- Infrequent crossings
- Freeway interchange needs

Within the study area, the D5 plan identifies SR 166 as an Intercommunity Rural Connector, except the section within Santa Maris is identified as a Main Street highway. The plan also notes that walking and bicycling are not prohibited on this segment of SR 166. For the study area, the plan identifies the following as the walking and bicycling trip potential and prioritization for SR 166:

- Within Santa Maria City limits – High Potential. The plan identifies improvements on this segment as a Tier 1 priority.
- First 3 miles west of Santa Maria – Low Potential. The plan identifies improvements on this segment as a Tier 2 priority.
- Within and approximately 4 miles to the east of Guadalupe – None to Very Low Potential. The plan identifies improvements on this segment as a Tier 3 priority.

The plan provides more detailed location-based needs for highways within D5. For the study area, the plan identifies the following location-based needs:

| Highway Segment or Freeway Crossing ID | Location | Beginning Postmile | End Postmile | Mode | Type |
|---|---|---|---|---|---|
| cor_8 | Within Guadalupe City limits | 0 | 0.6 | Pedestrian | Corridor |
| cor_215 | From Guadalupe to | 0 | 8.927 | Bicycle | Corridor |

| | | | | | |
|---|---|---|---|---|---|
| | US 101 in Santa Maria | | | | |
| cx_124 | Simas Road | 0.893 | - | Bicycle | Crossing |
| cor_7 | Santa Maria city limits to US 101 | 6.4 | 8.927 | Pedestrian | Corridor |
| cor_215 | Santa Maria city limits to US 101 | 6.4 | 8.927 | Bicycle and/or Pedestrian | Corridor |
| cx_21 | S. Oakley Ave. | 7.243 | - | Pedestrian | Crossing |

***Guadalupe Active Partnership for Signalization and CAPM to Santa Maria*** – This partnership between Caltrans, SBCAG, the City of Guadalupe, California Department of Fish and Wildlife, Central Coast Regional Water Quality Control Board and the U.S. Army Corps of Engineers includes the following planned improvements:

- Upgrade or replace 98 curb ramps to meet ADA standards
- Install 5,550 linear feet of sidewalk to the north and south side of SR 166. On the south side of SR166, the project will add approximately 630 feet of sidewalk past Flower Ave; on the north side of SR 166, the sidewalk will end at Flower Ave.
- Sign Panel and Guardrail Upgrades
- Drainage improvements on the south side of SR 166 from SR 1 to 0.1 miles past Flower Avenue. On the north side of SR 166 from SR 1 to Flower Avenue, a portion of the open drainage ditch would be culverted.
- Intersection improvements at:
    - SR 166/SR 1 - Replace stop controls with signalization incorporating Transportation Management Systems and left turn lanes on north, east and south legs.
    - SR 166/Obispo Street – Signalization with Transportation Management Systems.
    - SR 166/Flower Avenue – Two-way stop sign for traffic control and left turn lanes on north, east and south legs.
    - Union Pacific Railroad Crossing – In association with the SR 166/SR 1 improvements, addition of a pre-signal and raised median, along with upgraded pavement marking and striping.
- Add 1.04 miles of Class II bike lanes on the east and westbound lanes of SR 166 from SR1 to 0.1 miles past Flower Avenue.

***U.S. 101 Central Coast California Freight Strategy (2016) –*** This report developed strategies, projects and programs for freight movement on the Central Coast region, which includes San Benito, Monterey, Santa Cruz, San Luis Obispo, and Santa Barbara counties. The report notes that the region's industries include agriculture, manufacturing, food processing, and other freight-related business clusters which are critical to the region's economy, and the region is one of the most important agricultural production areas in the country, known for its fresh produce and wine grape production. Growth in

Central Coast population centers related to the region's proximity to Silicon Valley in the north and the Los Angeles Metro area in the south has resulted in increased demand for products shipped via freight modes concurrently with an increase in demand for Central Coast products from outside of the region.

This report developed a vision which lays out the strategic direction for this U.S. 101 Corridor Goods Movement System in the Central Coast Region:

> *"The goods movement system in the U.S. 101 Corridor in the Central Coast Region will drive and support the regional economy by creating a technologically advanced, integrated, safe, and efficient multimodal corridor that provides critical connections to international and domestic markets and improves the quality of life of residents."*

The vision is supported by three overarching goals related to 1) Support economic development in the region; 2) Provide for efficient, reliable, well-maintained and safe goods movement along the U.S. 101 corridor; and reduce and mitigated environmental, social, health and economic impacts from goods movement to create a healthy, clean environment and improve quality of life throughout the region.

Santa Maria is identified as one of the key agricultural, food manufacturing, transportation and warehousing clusters along the northern U.S. 101 corridor, and Figure 3.3 identifies Santa Maria as one of the High Concentration employment locations. The plan notes that SR 156/SR 152, SR 46, and SR 41 are the main east-west connecting routes from U.S. 101 to I-5. However, SR 166 is identified as one of the connecting highways that should provide high levels of service to facilitate farm-to-market, and farm-to-factory movements. The report notes that stakeholders identified SR 166 as one of several east-west connectivity routes leading to key freight markets with poor road conditions and delay and reliability issues that affect economic development.

| No. | County | Route or Facility | Project Description | Explicitly Freight? | Composite Score | Measure Addressed | Ratings Explanation |
|---|---|---|---|---|---|---|---|
| 16 | Santa Barbara | U.S. 101 | Relocate and expand Gaviota roadside rest areas Northbound and Southbound to better accommodate freight truck parking | Y | 8 | Truck Parking | Need for additional truck parking for long-haul truckers. |
| 17 | Santa Barbara | U.S. 101 | U.S. 101 from Carpinteria to Santa Barbara: add high-occupancy vehicle lanes to reduce commuter and truck congestion; modify interchange at Hot Springs Road/Cabrillo Boulevard and North Jameson Lane and U.S. 101 | N | 8 | TTD, TTR, Potential Safety Improvement | Addresses poor reliability, delay, and high crash rates along this segment. |
| 18 | Santa Barbara | SR 166 | Add Capacity & Access Control on SR 166 from Guadalupe to Santa Maria: Widen to four lanes to reduce congestion and improve truck mobility | N | 8 | Access/Mobility, TTD, TTR, Adoption of Advanced Technology, Potential Safety Improvement | This is a top priority connection mentioned by stakeholders as this area is a key origin, destination, and staging area for truck freight in the San Luis Obispo/Santa Barbara Counties area. |
| 19 | Santa Cruz | Iowa Pacific | Construct transload facility at Watsonville to facilitate truck loading onto rail, increase rail shipping, and reduce truck traffic on roadways | Y | 10 | Access and Multimodal Connectivity | Accessibility to rail was mentioned as important by stakeholders |
| 20 | Santa Cruz | Union Pacific | Upgrade rail to Federal Rail Administration Class 2 rail, allowing freight train speeds of up to 25 MPH on sections of rail throughout Santa Cruz County | Y | 8 | Access and Multimodal Connectivity | Rail mobility is mentioned as important for stakeholders |

Source: Individual sources for projects are identified in the Table in the Appendix (Section 5). TTD = Travel Time Delay; TTR = Travel Time Reliability.

The report identifies a number of priority projects for the U.S. 101 corridor. The original working paper for the study identified widening of SR 166 between Guadalupe and Santa Maria as a potential project, as shown in the screenshot above, but that project was not forwarded into the final recommended list of projects.

The report includes Intelligent Transportation System (ITS) programs and other recommendations. These include:

- **Changeable Electronic Message Sign (CMS) -** This program would seek to add additional electronic changeable message signs along U.S. 101 and key east-west routes, including State Routes 46, 41, 152, 156, 166, and 135. Signage would provide information related to congestion, scheduled road work, detours, safety information, and recommended truck routes, in addition to information for regular traffic. Signs will be integrated with Caltrans District 5 Traffic Management Center. Signs can either be placed permanently above the roadway or as mobile units placed along the side of the highway. Any new signs need to come with a plan to fund the maintenance, operation, and ongoing communication costs associated with the unit.
- **Closed-Circuit Television Cameras (CCTV) -** Closely linked with the need for CMS is the addition of CCTV monitoring cameras along U.S. 101 and key east-west intersecting routes to fill gaps in the existing CCTV network. In addition to providing a resource to the traveling public, cameras allow responders to quickly find an incident location and operations personnel to monitor weather, congestion, or other conditions of the roadway and transmit that information to changeable message signs or public alert systems.
- **Ramp Metering Program -** This ITS feature is essentially a stop/go light on a highway entrance ramp which controls vehicle entry onto the highway from a slower road in order to maintain the flow of existing highway traffic and prevent bottlenecks.
- **Connected/Automated Vehicles (C/AV) -** The report notes the potential for Connected/Automated Vehicles (C/AV) systems. C/AV are vehicles that are either equipped with Dedicated Short-Range Communications (DSRC), allowing vehicles to communicate with other vehicles or infrastructure equipment. Autonomous vehicles take this technology a step further, as communication with other modes of transportation allows the vehicle to operate on its own. This technology has the potential to revolutionize both freight movement and transportation in general through increases to safety and network efficiency for all users.
- **6.2.2 Grade Crossing Improvement Program –** The report notes highway interchanges and at-grade intersections are a safety concern along the U.S. 101 Corridor. At-grade intersections are recognized as safety challenges due to the high speeds involved and potential for more dangerous types of incidents. Interviews with stakeholders identified highway at-grade intersections as a concern along the corridor. Although the total number of incidents at these locations was low, they represent a significant percent of the injuries caused by truck-related crashes.

- **6.2.3 Freight Parking Program -** A lack of legal and safe truck parking has been identified in numerous plans as a challenge for commercial vehicle movements along the U.S. 101 Corridor. The plan notes that a program should be developed to incentivize the creation of additional truck parking along the U.S. 101 corridor.
- **6.2.4 Truck Route Signage Improvement Program -** Expanding the number of municipalities with designated truck routes and improving truck route education amongst drivers will help focus truck trips on routes that can best handle the traffic. Locally based truck route analyses, improved signage, and improved truck route education programs can improve goods movement into and out of freight nodes located in cities and counties along the

***California Central Coast Sustainable Freight Study (2024)* –** This study evaluates freight movement in the 5-county Central Coast region that includes Santa Barbara, San Luis Obispo, San Benito, Monterey and Santa Cruz Counties. The study is intended to serve as the long-term blueprint for addressing freight movement challenges and for guiding freight investments in consideration of the state CAPTI goals. The Sustainable Freight Study defines a comprehensive set of strategies for improving the performance of and reducing the negative impacts of the regional goods movement system while capitalizing on development opportunities. Additionally, it provides an implementation plan that outlines the next steps, potential funding sources, and planning level cost estimates needed to execute the recommendations.

The report identifies existing transportation conditions in the region. Items of note include:

- SR 166 between Guadalupe and Santa Maria is identified as a 65’ California Legal Route.
- There are 3 truck parking facilities with 41 parking spaces in Santa Barbara County, all located in Santa Maria.
- The Union Pacific Railroad line that runs through Guadalupe and crosses SR 166 within the Comprehensive Corridor study area is identified by the Strategic Rail Corridor Network (STRACNET) as a California Defense Connector Line leading to Vandenberg Space Force Base. STRACNET (see Figure 10) is an interconnected and continuous rail line network consisting of over 36,000 miles of track serving over 120 defense installations that ensures the readiness capability of the national railroad network to support defense deployment and peacetime needs.
- Figure 38 identifies Federal Equity Focus Areas in the area of the Comprehensive Corridor Study Area in Guadalupe (area of persistent poverty) and Santa Maria (disadvantaged community). Figure 40 identifies Caltrans Transportation Equity Index (EQI) Disadvantaged Communities, including most parcels adjoining SR 166.

Table 10 of the study identifies a number of projects identified to “Enhance Freight Throughput and Increase Network Connectivity”. Table 10 does not include any projects on SR 166.

Table 11 of the study identifies projects and programs to “Implement Operational Strategies to Improve Freight Mobility and Safety”. Table 11 includes two projects involving SR 166: 1) design and construct interchange at the U.S. 101/Main Street intersection; and 2) SR 166 Passing Lanes in San Luis Obispo County (east of U.S. 101). Both projects are outside the limits of the Comprehensive Corridor study area.

Table 12 of the study identifies projects to “Support Increased Throughput, Enhanced Operations, and Safety on the Freight Rail Network”. Table 12 includes a number of proposed projects for the Santa Maria Valley Railroad, which parallels SR 166 to the south, and the UPRR that crosses SR 166 just east of U.S. 1. The study does not provide a map of the improvements so it is difficult to ascertain the project’s relevance to the SR 166 Comprehensive Corridor study area, but projects that appear to be near the study area include:

- SMVRR-3 – Guadalupe Emergency Siding Project “in or near Guadalupe”
- SMVRR-8 – Upgrade 6.5 miles of mainline track to heavier rail and adding new supporting ties.
- CT-IL-13 – Guadalupe Siding Extension and Island CTC (LOSSAN # SB-02)

Table 13 of the study identifies projects and programs to “Deploy Technology to Improve Freight Operations and Safety”. Projects of note include:

- SFS-16 – Regionwide ITS Program – Key stakeholders are Caltrans and AMBAG, with the goal of supporting the expansion of the State’s ITS capabilities throughout the Central Coast.

Table 14 of the study identifies projects to Increase Access to Truck Parking, Table 15 identifies projects to “Improve Freight Network Resiliency’ and Table 16 identifies projects to “Mitigate Freight Impacts on Communities and the Environment”. These tables do not identify any projects located within the SR 166 Comprehensive Corridor study area.

## *Summary of Regional Plans*

- ***Connected 2050 Regional Transportation Plan (RTP)/Santa Barbara County Association of Governments (SBCAG August 2021)***
- ***Route 166 Safety and Operational Improvements – Project Development Plan, Santa Barbara County Association of Governments (SBCAG June 2012)***
- ***SR 166/Black Road Intersection Improvements Project (2024)***
- ***Understanding Regional Travel Patterns, SBCAG January 2024***
- ***Regional Active Transportation Plan (SBCAG August 2015)***
- ***Northern Santa Barbara County Interim California Coastal Trail Study (SBCAG November 2020)***
- ***Highway 166 Truck Study Final Report, SBCAG 2003***

***Connected 2050 Regional Transportation Plan (RTP)/Santa Barbara County Association of Governments (SBCAG August 2021)*** – The RTP is a long-range planning document that defines how the region plans to invest in the transportation system over 20+ years based on regional goals, multi-modal transportation needs for people and goods, and estimates of available funding. The RTP includes goals and policies summarized in Table C-1 that are intended to support multimodal transport as part of its Sustainable Communities Strategy (SCS):

| **Table C-1 Connected 2050 RTP/SCS Key Goals and Policies** | |
|---|---|
| **Goal Area 1: Environment** | *Policy 1.1 Land Use* states in part: The planning, construction and operation of transportation facilities shall be coordinated with local land use planning and should encourage local agencies to:<br><br>3. Plan for transit-oriented development consistent with the RTP-SCS by:<br>a. concentrating residences and commercial centers in urban areas near rail stations, transit centers and along transit development corridors; and<br>b. Design and building "complete streets" serving all transportation modes that connect high-usage origins and destinations.<br>4. Preserve open space, agricultural land and sensitive biological areas. |
| **Goal Area 2: Mobility & System Reliability** | *Policy 2.1 Access, Circulation and Congestion* states in part: The planning, construction and operation of transportation facilities shall be coordinated with local land use planning and should encourage local agencies to:<br>1. Enhance access, circulation, and mobility throughout the Santa Barbara region and between neighboring regions<br>2. Reduce congestion, especially on highways and arterials and in neighborhoods surrounding schools in cooperation with schools and school districts<br>3. Reduce travel times for all transportation modes, with equal or better travel times for transit and rail in key corridors. |
| | *Policy 2.3 Alternative Transportation Modes* states in part: Transportation planning and projects shall:<br>1. Encourage alternatives to single-occupancy vehicle trips and the use of alternative modes to reduce vehicle miles traveled and increase bike, walk and transit mode share.<br>2. Provide for a variety of transportation modes and ensure connectivity within and between transportation modes within and outside the Santa Barbara region.<br>3. Plan and provide for ancillary support facilities for alternative transportation, such as bicycle parking.<br>4. Promote inter-regional commuter transit and rail service.<br>5. Promote local and inter-city transit.<br>6. Work to complete the California Coastal Trail through provision and implementation of trail segments and connection in coordination with appropriate agencies. |

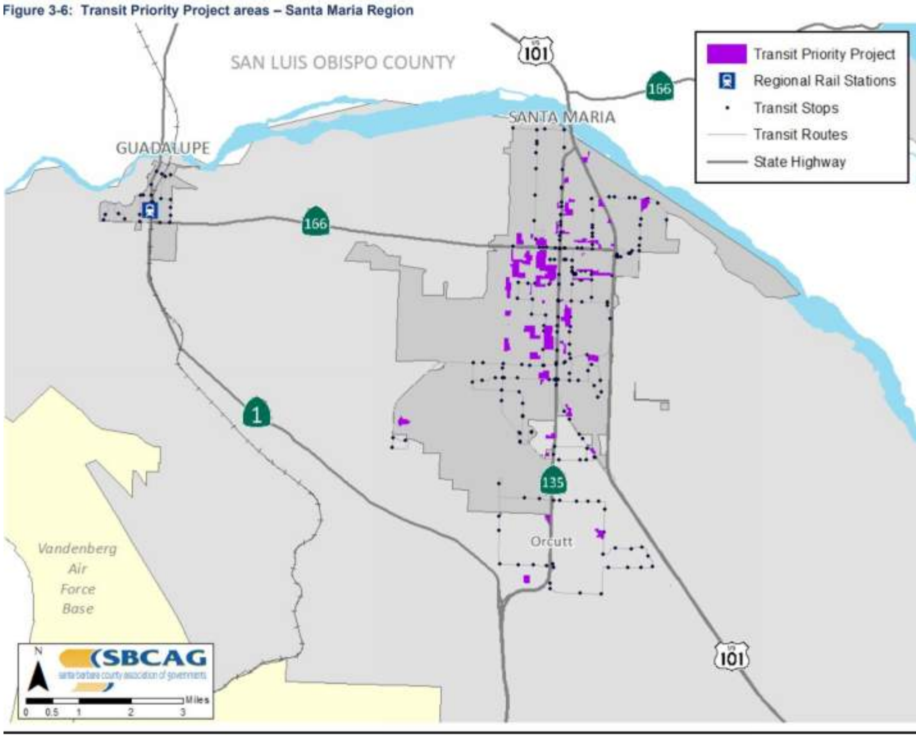
| | |
|---|---|
| | *Policy 2.4 Freight and Goods Movement* states in part: Transportation planning and projects shall facilitate secure and efficient movement of goods and freight in a manner consistent with the general mobility needs of the region by:<br>1. Making efficient use of existing transportation system.<br>2. Identifying and constructing projects to improve freight movement, including rail and highway projects and projects to improve ground access to airports and rail terminals in the region.<br>5. Considering freight and goods movement in the design and planning of all projects.<br>6. Planning for intermodal connectivity (airport, rail and highway) in freight and goods movement. |
| | *Policy 2.5 Transportation System Management (TSM) Technologies* states in part: Transportation planning and projects shall:<br>1. In concert with Caltrans, CHP and local public transit and public works agencies, encourage the deployment and use of best available TSM and Intelligent Transportation System (ITS) technologies to make travel reliable and convenient, increase transportation system efficiency and reduce travel demand through the implementation of system and demand management strategies.<br>2. Promote a jointly maintained and enhanced regional ITS architecture consistent with the Central Coast ITS Strategic Deployment Plan. |
| **Goal Area 3: Equity** | Policy 3.1 Access states in part: The planning, construction and operation of transportation facilities and the system as a whole shall:<br>1. Encourage safe and convenient travel for all users, including the disabled, pedestrians, bicyclists, transit riders and other vehicles.<br>2. Ensure that the transportation needs of all groups, in particular disadvantaged, low income, and minority groups are adequately served and that all groups have equal access to transportation facilities and services.<br>3. Give special attention to the needs of elderly and disabled individuals for improved transportation accessibility and removal of physical barriers, including provisions required under the 1990 Americans with Disabilities Act. |
| **Goal Area 4: Health & Safety** | *Policy 4.1 Safe Roads and Highways* states in part: The planning, construction and operation of transportation facilities and the system as a whole shall:<br>1. Enhance safety of all facilities.<br>2. Ensure design of highways and roads is safe and convenient for travel by all users including the disabled, pedestrians, bicyclists, transit buses, and vehicles.<br>3. Incorporate night sky-friendly lighting, where appropriate, to enhance safety of transportation facilities.<br>5. Maintain consistency with the State Strategic Highway Safety Plan.<br>6. Address the resiliency of new projects to possible future impacts resulting from climate change (e.g. sea level rise and inundation of low-lying areas). |
| | *Policy 4.2 Public Health* states in part: The RTP-SCS shall promote integrated transportation and land use planning that encourages:<br>1. Active transportation to promote alternative modes of transportation and physical activity (transit, biking, walking)<br>2. Development of “complete streets” which safely and conveniently accommodate all transportation modes, including active transportation. |

| Goal Area 5: Prosperous Economy | *Policy 5.4 Transportation Funding* states in part: SBCAG and its member agencies should:<br>4. Make efficient use of funding by maintaining, preserving, or enhancing existing infrastructure for all modes, using low-cost operational improvements, and using performance-based outcomes as the basis for prioritizing and funding projects, where feasible. |
|---|---|

Connected 2050 identifies SR 166 intersection improvements at SR 1 and Black Road as major regional projects for the North County. The plan also identifies SR 166 between Guadalupe and Santa Maria as a local transit route and AMTRAK bus route. SR 166 between Guadalupe and Santa Maria is not designated as a scenic (or scenic eligible) highway but is identified as a California Legal Network truck route.

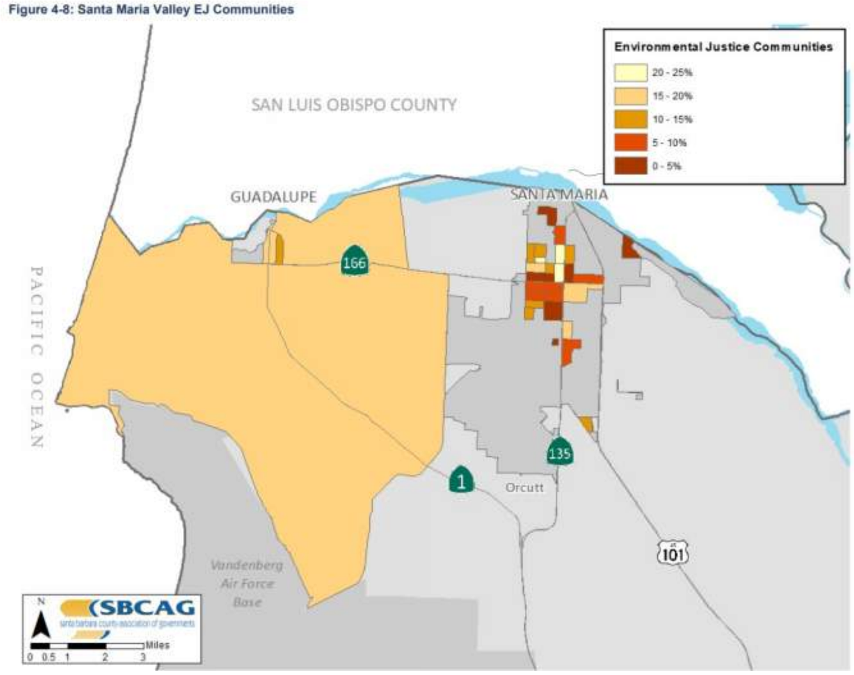
Connected 2050 maps Transit Priority Areas (TPAs), which are defined as areas within one half-mile of all major transit stops that are existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program or applicable Regional Transportation Plan. A "major transit stop" is defined in relevant part as "a site containing an existing rail or bus rapid transit station, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. Although existing transit services within the SR 166 study area do not meet the TPA criteria, the City of Santa Maria has started planning for future BRT service and Connected 2050 does identify several TPAs adjacent to the study area for the *State Route 166 Comprehensive Corridor Study*.

Figure 3-6: Transit Priority Project areas – Santa Maria Region



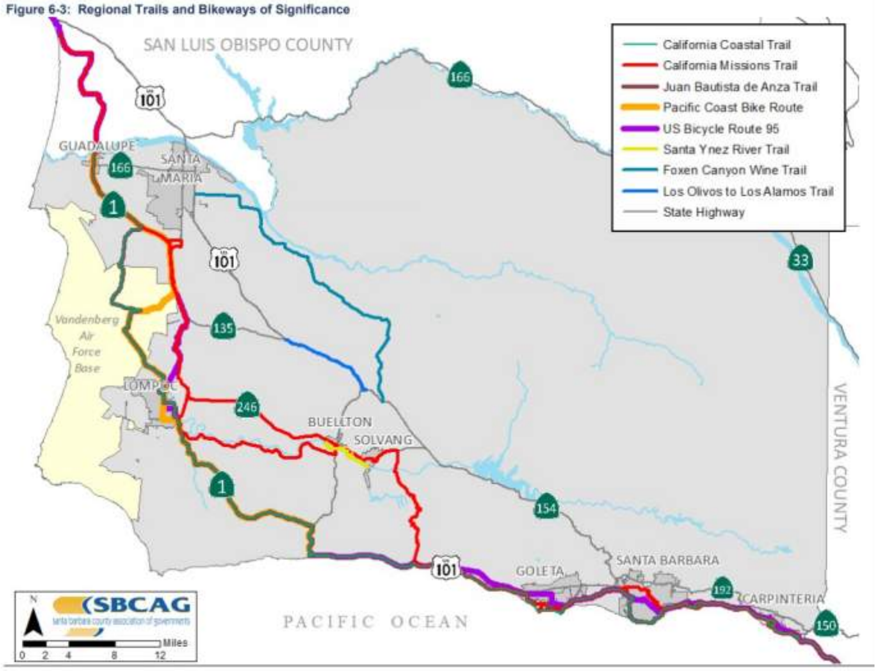
Connected 2050 also maps Enironmental Justice (EJ) Communities within the County. EJ communities are identified on both sides of SR 166 within and 4 miles to the east of Guadalupe. The map also shows EJ communities wihtin Santa Maria, including adjacent to the study area for the *State Route 166 Comprehensive Corridor Study*.

**Figure 4-8: Santa Maria Valley EJ Communities**




Connected 2050 does not identify SR 166 on its Regional Trails and Bikeways of Significance map. However, the map does note the presence of the California Coastal Trail and Pacific Coast Bike Route at the west end of the study area.

**Figure 6-3: Regional Trails and Bikeways of Significance**



***Route 166 Safety and Operational Improvements Project Development Plan (SBCAG June 2012) –*** This plan identifies and prioritizes projects to enhance safety and operations along State Route 166 as identified in the strategic investment plan developed for Santa Barbara County's Measure A Road Repair, Traffic Relieve and Transportation Safety Program. The study divides SR 166 into three segments:

- Western Segment (State Route 1 to State Route 101)
    - Segment 1 – State Route 1 (PM 0.0) to Blosser Road (PM 6.52)
    - Segment 2 – Blosser Road (PM 6.52) to State Route 101 (PM 8.93)

- Eastern Segment (State Route 101 to State Route 33)
    - Segment 3 – State Route 101 (PM 8.93) to State Route 33 (PM74.72)

Following research of available data and previous studies, detailed input received from stakeholders through an extensive public outreach process, including several meetings, and field reviews of the entire corridor, a total of 26 candidate projects were identified. The plan then ranked the projects into Tier 1, 2 or 3, with Tier 1 being the most beneficial and feasible projects and Tier 3 being the least beneficial. Rankings for projects within the study area for the *State Route 166 Comprehensive Corridor Study* are shown in the following table:

| Segment | Rank | Project ID | Project Name |
|---|---|---|---|
| 1 | Tier 1 | A | SR1/SR166 Signalization and Intersection Improvements |
| | | E | Black Road/SR166 Signalization and Intersection Improvements |
| | Tier 2 | B | Simas Road/SR166 Signalization and Intersection Improvements |
| | | G | S. Hanson Way/SR 166 Signalization and Intersection Improvements |
| | | F | Widen SR 166 from 2 to 4 lanes (PM 0.0 – PM 6.7) |
| | Tier 3 | U | CHP Enforcement Pullouts |

Of the above, Projects A, E, and B were recommended to continue forward in the project development process, and concept plans and an implementation strategy were developed for each. Project E (Black Road/SR166) was completed in fall 2024.

***SR 166/Black Road Intersection Improvements Project (2024) –*** This project improves the intersection of SR 166 and Black Road by installing a traffic signal and associated widening improvements consisting of the following:

- Addition of left turn lane for all approaches
- Addition of right turn pocket for strong eastbound to southbound movement
- Addition of bike lanes at the intersection
- Resurfacing of roadway within project limits
- Traffic Signal and lighting
- Signing and striping
- Drainage

This project was included in the *2012 Route 166 Safety and Operational Improvements Plan* and the intersection improvement work was completed in fall 2024.

***Understanding Regional Travel Patterns (SBCAG January 2024)*** – This report was prepared to provide decision-makers and the public with reliable and informative statistics and trends related to transportation, land use, people, mobility, the economy, and social equity in Santa Barbara County. The report includes data analysis for the County as a whole, for each City within the County, and for subregions of the county. SR 166 is located within the North County and Santa Maria Valley (SMV) subregion.

Data of interest for SMV subregion:

- Hispanic workers commuting to the Santa Maria Valley outnumber white non-Hispanic workers by a 2:1 margin (60%/30%).
- Between 2019 and 2022 workers traveling to and from the SMV for work declined by almost 7% (from 49,199 to 45,894).
- The rates in commuting for Hispanic workers show a slight decline in 2021 and a return to 2019 level in 2022. The data shows a decrease in white non-Hispanic workers commuting to Santa Maria Valley.
- The data shows the top 5 cities where SMV workers live outside of the SMV: Nipomo, Lompoc, Arroyo Grande, Santa Barbara and Grover Beach.
- The 7am work hour has the largest number of work trip starts at 13,000.
- The 5am and 6am work trip starts have approximately 4,000 and 7,000 work trip starts respectively.
- The 8am hour also has 7,000 work trip starts. Work trip starts for 9am to 1pm hover just over 3,000 trips, except the noon hour bumps to over 4,000.

Data of interest for Guadalupe:

- Of 2,870 work trips originating in Guadalupe, Santa Maria was the destination for 30.8% of the trips and Guadalupe was the destination for 19.9% of the trips. Approximately 23% of the trips went to San Luis Obispo County.
- Work trips originating in Guadalupe tend to be fairly long, with almost 65% being greater than 8 miles in length.
- Private (single occupant) auto trips comprise 70.7% of work trips originating from Guadalupe. The balance of work trips originating in Guadalupe were auto passengers (22.2%), walking (4.7%) and biking (0.4%).
- Of 2,040 work trips destined for Guadalupe, 40.9% originated in Santa Maria and 27.9% originated in Guadalupe.
- Private (single occupant) auto trips accounted for 58.6% of work trips to Guadalupe. The balance of work trips destined for Guadalupe were auto passengers (33.4%), walking (6.3%) and biking (0.2%).
- Overall mode share for Guadlupe (work and school) includes 0.4% by bicycle and 15.2% by pedestrians.

Data of interest for Santa Maria:

- Of 56,100 work trips originating in Santa Maria, Santa Maria was the destination for 66.1% of the trips and Guadalupe was the destination for 19.9% of the trips. Approximately 23% of the trips went to San Luis Obispo County.
- Work trips originating in Santa Maria tend to be shorter, with approximately 75% less than 8 miles long.

- Private (single occupant) auto trips comprise 54.47% of work trips originating from Santa Maria. The balance of work trips originating in Santa Maria were auto passengers (37.9%), walking (5.0%), biking (0.4%) and transit (0.06%).
- Of 56,100 work trips destined for Santa Maria, 66.2% originated in Santa Maria.
- Private (single occupant) auto trips accounted for 59.5% of work trips to Santa Maria. The balance of work trips destined for Santa Maria were auto passengers (27.7%), walking (8.3%), (2.2%) and transit (1.2%).
- Overall mode share for Santa Maria (work and school) includes 1.7% by bicycle and 8.1% by pedestrians.
- Daily commercial (medium and heavy duty truck) vehicle movement in Santa Barbara County  averaged 52,000 daily trips. Of all cities in Santa Barbar County, Santa Maria had the largest share of commercial vehicle trips with 14,400 daily trips originating in Santa Maria and 13,700 daily trips destined for Santa Maria.

***Regional Active Transportation Plan (SBCAG August 2015)*** – This plan creates a regional vision for improving the bicycle and pedestrian network by integrating the bicycle and pedestrian planning of the region's nine-member government entities. The plan is also intended to establish a base level of eligibility for funding through Active Transportation Program grants for projects in the plan area. The plan includes goals and policies to achieve this vision. The overarching goals are:

- Enhance Mobility
- Increase Connectivity
- Promote Equity for all Users in all Communities
- Improve Safety and Public Health

The plan notes that SR 166 between Guadalupe and Santa Maria is designated as a Class III bike route. Within the Study Area, the Regional AT Plan proposes Class II bike lanes on two disconnected segments of SR 166: 1) Within Guadalupe, from SR1 to the eastern City limits (a distance of ½-mile); and 2) within Santa Maria from Blosser Road to the western City limits (a distance of 2/5-mile). The plan does not include any other proposed bikeway designations for the portion of SR 166 within the study area.

***Northern Santa Barbara County Interim California Coastal Trail Study (SBCAG November 2020)*** – Formal planning for the California Coastal Trail was initiated in the Coastal Act of 1976, which required local jurisdictions to identify an alignment for the Coastal Trail in their Coastal Land Use Plans and Local Coastal Programs. This study identifies an interim alignment of the Northern Santa Barbara segment of the California Coastal Trail. This alignment includes identification of the trail along SR 1 at the SR1/SR166 intersection, and identification of a spur trail from the SR1/SR166 intersection west to the Rancho Guadalupe Dunes Preserve.

***Highway 166 Truck Study Final Report (SBCAG August 2003)*** **–** SBCAG, in partnership with Caltrans, the County of Santa Barbara, and the Cities of Guadalupe and Santa Maria, conducted a study to acquire information on heavy truck activity and movements on Route 166 within and through the City of Santa Maria. The information obtained in this study was to be used to help develop the Santa Maria Downtown Specific Plan and accompanying West Main Street Improvement Concept, with one of the goals being to create an attractive "pedestrian-friendly" business district. The study findings, which were based on surveys of truck drivers on SR 166 at Blosser Road, include:

- Nearly all of the 5+ axle trucks traveling on Route 166 are single trailer vehicles, at 99 percent. The remaining one percent are multiple trailers and are slightly more likely to be carrying non-agricultural products.
- Ninety-eight percent of the 5+ axle trucks traveling on Highway 166 are vans.
- Over half of all trucks traveling on Highway 166 are at least partially loaded (52 percent). Nine out of ten trucks traveling eastbound are loaded (89 percent) and 39 percent of trucks traveling westbound are loaded. Further, only 11 percent of trucks traveling westbound are full, indicating that 89 percent have additional capacity for loading.
- Ninety-seven percent of 5+ axle vehicles traveling on Route 166 are hauling agricultural products out of Santa Maria. Additionally, 96 percent of drivers say they are coming from or going to a packing shed. Overall, 97 percent of trucks traveling on Highway 166 are single trailer, 5 axle, refrigerated vans.
- Ninety-four percent of trucks that were surveyed use US 101 to get to the City of Santa Maria and four percent use Highway 1. The remaining two percent of 5+ axle truck traffic traveling on Highway 166 travel locally within Santa Maria.
- Approximately half of the non-local trucks traveling to the City of Santa Maria on Highway 166 are coming from the south, at 49 percent. Another 38 percent are coming from the north and thirteen percent are coming from the east or central California via Highway 166 east/US-101. For those trucks that utilize US-101 but do not exit at Highway 166, the most common street used to access Highway 166/Main Street is Blosser (50 percent).
- For trucks leaving the City of Santa Maria, forty percent of non-local trucks on Highway 166 are going north, thirty-one percent are going south and 29 percent are going east or to central California via Highway 166 east/US-101. Nearly all the drivers say they will use Highway 166/Main Street to leave Santa Maria, at 99 percent.

# Summary of Local Plans

## *County of Santa Barbara*

- ***Active Transportation Plan (2023)***
- ***Local Road Safety Plan (2021)***

## *City of Guadalupe*

- ***2042 General Plan (2022)***
- ***Local Road Safety Plan (2022)***
- ***Short Range Transit Plan (2014***
- ***Guadalupe Mobility + Revitalization Plan (2020)***
- ***City of Guadalupe Bicycle and Pedestrian Master Plan (2014)***

## *City of Santa Maria*

- ***General Plan (2022)***
- ***Comprehensive General Plan Update (ongoing)***
- ***Major Development Activity (July 2024)***
- ***Active Transportation Plan (2021)***
- ***Short Range Transit Plan for Santa Maria Area Transit (2020)***
- ***Bus Rapid Transit Study, Phase 1 (Santa Maria Regional Transit, 2024)***
- ***Safer Streets for Santa Maria – Local Road Safety Plan (2022)***

## *COUNTY OF SANTA BARBARA*

***Active Transportation Plan (2023) –*** The vision of the Santa Barbara County Active Transportation Plan (ATP) is to inspire people of all ages and abilities to walk, bike, or roll for everyday transportation by providing comfortable, connected, and accessible transportation networks and supporting programs and policies that encourage alternatives to single occupancy vehicle trips.

The results of the public engagement summary for the Santa Maria Valley identified:

- Need for pedestrian amenities and bike lanes throughout the area.
- Wide multi-lane arterial roadways create barriers to active transportation.
- Vehicle speed and distracted drivers are a concern.
- Desire for more trees and/or landscaping in the parkway and the slopes along sidewalks.

The existing conditions analysis notes that SR 166 is identified as a Teir 2 ATP High-Need Corridor. The plan notes that SR 166 between the cities of Santa Maria and Guadalupe lacks sidewalks, bike lanes, and the few crosswalks that exist may need enhanced safety features, according to community input, and that the facility is under Caltrans jurisdiction. The plan does not identify any projects along SR 166 within the project area.

***Local Road Safety Plan (2019) –*** The Local Road Safety Plan (LRSP) is intended to serve as a roadmap for Santa Barbara County to plan and implement safety projects, support California's Strategi Highway Safety Plan goals, and reduce traffic fatalities and serious injuries. The plan does not identify any projects along SR 166 within the project area.

## *CITY OF GUADALUPE*

***2042 General Plan (2022)* –** The Guadalupe General Plan serves as a blueprint for the use and development of land within its planning area. The General Plan was adopted in 2022 and includes the following elements: Land Use; Housing; Circulation; Conservation and Open Space; Safety; Noise; Environmental Justice; Community Design and Historic Preservation; Public Services and Facilities; and Economic Development.

The Circulation Element notes that several projects are planned on SR 166 (W. Main Street). These include the W. Main Street/Guadalupe Street Signalization Project to be constructed by Caltrans will increase safety and operational efficiency of the intersection by installing a traffic signal, pedestrian crossing signals, and railroad crossing improvements. In addition, the plan identifies the West Main Street Improvements of the DJ Farms Specific Plan's Pasadera neighborhood, which requires intersection improvements along W. Main Street at Obispo Street and Flower Avenue. The plan notes that an assessment is underway to determine the suitability and desirability of roundabout designs prepared by Caltrans for these intersections. If roundabouts are proven infeasible at these locations, signalized 4-way intersections will be implemented. Anticipated improvements include ADA-compliant curb ramps and well-lit, signaled crosswalks to improve pedestrian access.

The Circulation Element also notes that SR 166 is one of two planned truck routes in Guadalupe, with the other being SR 1. The plan states that these are "California Legal Routes", and only trucks that are California legal can travel along these two routes. Furthermore, Surface Transportation Assistance Act (STAA) trucks, which are allowed on the National Network, are not allowed to travel on these routes.

The Circulation Element includes the following recommendations and programs relevant to the project area:

- Figure 3.4, Circulation Diagram Part 2 (Transit and Bicycles) identifies SR 166/W. Main Street as a Class II bike route and a bus route.
- *Program CIR-1.1.5.* Within three years of adoption of the Guadalupe 2042 General Plan, the Public Works Department will initiate a process with the City Council to work with Caltrans to improve safety at high accident locations along Guadalupe Street and West Main Street.
- *Program CIR-1.1.6.* Within three years of adoption of the Guadalupe 2042 General Plan, the Public Works Department will initiate a process with the City Council to Work with Caltrans to provide safer pedestrian crossings along West Main Street.

Other items of note from other elements of the General Plan include:

- Environmental Justice Element Policy EJ-1.11 states "The City will prioritize funding to improve bicycle infrastructure."
- Figure 5-2 Habitat Map identifies Potential Waters of the U.S. along SR 166.
- Appendix C identifies Goals, Objectives and Implementing Actions from the 2017 Santa Barbara County Multi-jurisdictional Hazard Mitigation Plan.

Mitigating Action #2016-7 “Improve storm water drainage along Highway 166 and Main Street to the western city limit” is intended to improve and expand capacity of drainage along SR 166 to mitigate chronic flooding, with a planned completion date of January 30, 2019.

| **Mitigation Action # 2016 – 7** | | |
|---|---|---|
| **Project Description:** Improve drainage along Highway 166 and continuing along Main Street in Guadalupe to the western city limit.<br>Improve and expand capacity of drainage along Highway to mitigate chronic flooding along the highway and Main Street, which is an extension of Highway 166. | | |
| **Applicable Hazards** | | |
| Significant | Moderate | Limited |
| ☒ Flooding (Rain Storms)<br>Earthquake | Train Derailment<br>Hazardous Materials Release<br>☒Agriculture (Chemical run off) | ☒Flooding (Dam/Levee Failure)<br>Tsunami |
| **Existing and Potential Resources**: Follow up work should be financed by CalTrans, Measure A funds, or other alternative grant funding source. | | |
| **Responsible Department:** Public Utilities Department, Planning Department, Engineering Department, City Administrator, City Council, Contract City Attorney, and CalTrans. | | |
| **Target Completion Date**: January 30, 2019 | | |
| **Cost Benefit Consideration:**<br>Moderately Cost Beneficial: CalTrans completed a highway shoulder expansion and improved storm drain runoff within the past two years. The improvements eased and increased the flow of water along the highway until reaching the City of Guadalupe, where construction halted. This improved flow and capacity resulted in a higher run off volume which dumped in the storm drain through the City which had not been improved. The solution through the unincorporated area created a chronic flooding problem within Guadalupe in storm drains that were not designed to carry the increased level of flow. The result is a overflowing drains, plugged under passes and water and an unsafe quantity of water and debris through the City of Guadalupe. | | |
| **Status Report:** This is a High priority as the exclusive access to the housing developments west of Pioneer has only one route of escape during a flood which is through areas of flooding. This is a recently identified risk which was created upstream by the improvements of others without mitigating the impact as the water flows toward the ocean. A peripheral concern is in the agricultural chemical runoff which travels without obstruction into the City. | | |

***Local Road Safety Plan (2022) –*** The Guadalupe Local Road Safety Plan (LRSP) is intended to reduce traffic collisions by: 1) Analyzing the factors that previously impacted prominent intersections and roadway segments in the City; and 2) identifying countermeasures for high collision intersections. Two of the highest ranked intersections are within the project area: SR 166/Obispo Street and SR166/SR 1.

The LRSP notes that the *SR 166/Obispo Street Intersection* is warranted for both multi-way stop control and traffic signal control. The LRSP notes that the Pasadera development is going to install a traffic signal control, but until that occurs it is recommended that this intersection to be converted to a multi-way stop control as an interim measure.

For the *SR 166/SR 1 Intersection* the LRSP notes the intersection is warranted for traffic signal control. The LRSP also identifies interim measures that include repainting intersection pavement markings and traffic striping and installation of:

- "Do Not Stop on Tracks" (R8-8) signs.
- Grade Crossing and Intersection Advance Warning (W-10-2) signs.

***Short Range Transit Plan (2014)*** **–** The City of Guadalupe Short Range Transit Plan (SRTP) review and makes recommendations for the City's transit services. The transit services include: The Guadalupe Flyer Express, which provides service from Guadalupe to Santa Maria along SR 166; the Shuttle (a local demand-response service that has since been changed to a fixed route service known as the Guadalupe Flyer Local); and Americans with Disabilities Act (ADA) paratransit service. Both the Guadalupe Flyer Express and Local services use the SR 166 corridor within the project area. The SRTP does not identify any proposed capital improvements for SR 166.

***Guadalupe Mobility + Revitalization Plan (2020)*** **–** The plan intends to enhance connectivity and mobility options within the City by creating a complete streets environment that enhances mobility for pedestrians and cyclists, and by developing solutions that support safety, convenience and efficiency for all modes. SR 1, SR 166, and W. Main Street west of SR 166 were identified as the primary focus areas of the plan.

The plan's design concepts for the portion of SR 166 within the project area:

- Gateway opportunities at the SR 166/SR1, SR 166/Obispo and SR 166/Flower intersections.
- Development of a 2-way Class I shared use path on the north side of SR 166.
- Planting street trees in planting strips on each side of SR 166.
- Re-striping of travel lanes and center turn lane to 12' with 8' shoulders.
- Installation of a bioswale on the south side of SR 166.
- Installation of a sidewalk on the south side of SR 166 with sufficient width to support future retail development.
- Consider upgrades to the SR 166 intersections with Obispo Street and Flower Avenue with either roundabouts or signalization.
- Appendix 5.4 includes an alternative plan for SR 166 that would replace the bioswale on the south side of SR 166 with a slip lane, angled parking and optional permeable paving and rain garden adjacent to the future retail development.

***City of Guadalupe Bicycle and Pedestrian Master Plan (2014):*** The Guadalupe Bicycle and Pedestrian Master Plan (BPMP) is a long-range plan focused on improving the safety and convenience of bicycling and walking in the City of Guadalupe by guiding the planning and development of bicycle and pedestrian infrastructure and programs that enhance bicycling and walking for transportation and recreation.

Bikeway Network - Figure 3-5 Existing Bicycle Network identifies SR 166 as a Class III bike route. Figure 3-6 Bicycle Related Collision Map did not identify any bicycle collisions on SR 166. Figure 3-8 Proposed Bicycle Network identifies the following for the Comprehensive Corridor study area:

- Main Street (SR 166) between State Route 1 and the city limits (which are about 650' east of Flower Avenue) is designated as a proposed Class II Bike Lane per Proposed Improvement #B.2.
- Obispo Street is identified as a proposed Class III bike route north of SR 166 per Proposed Improvement #B.3 and a proposed Class II bike lane south of SR 166 per Proposed Improvement #B.4.

Pedestrian Network - Figure 4-5 Existing Pedestrian Network notes that there is missing sidewalk on the south side of SR 166 between SR 1 and the City limits. Figure 4-6 Pedestrian Related Collision Map identified one pedestrian collision at the SR 166/Obispo Street intersection. Figure 4-7 Proposed Pedestrian Network identifies the following for the Comprehensive Corridor study area:

- Main Street (SR 166) between State Route 1 and the city limits (which are about 650' east of Flower Avenue) is proposed to include a new sidewalk on the south side of the road per Proposed Improvement #P.4.
- Proposed Crosswalk Improvement #P.11 proposes the addition of painted crosswalks at the intersections of Main Street (SR 166) and Flower Avenue (if a signal control is installed), Obispo Street, and Guadalupe Street/Highway 1.

## *CITY OF SANTA MARIA*

***General Plan (2011)* –** The Santa Maria General Plan provides the long-term vision for the community's growth and development. The General Plan was adopted in 1991 and updated in 2011 and includes the following elements: Land Use; Circulation; Noise; Safety; Resource Management, Housing; and Economic Development. Land use patterns are discussed previously in the Land Use and Development section of this chapter.

The Santa Maria Circulation Element evaluates the transportation needs of the City and presents a comprehensive transportation plan to accommodate those needs. The Circulation Element provides guidance for roadways, bikeways, trails, public transit, rail/freight, pedestrian/equestrian, and aviation. Circulation Element items of note relevant to the project area include:

- The Circulation Element identifies SR 166/Main Street as a Primary Arterial road and one of three key east-west roads in Santa Maria, with Betteravia Road and Union Valley Parkway being the other two.
- The Circulation Element does not identify any roadway improvements to the segment of SR 166 west of Depot Street.
- Figure C-2 of the Circulation Element, Existing and Proposed Bikeways Plan, identifies the segment of SR 166 between Blosser Road and the west City limits as a proposed Class II bike lanes.
- Figure C-2 does not identify any bikeway improvements for the section of SR 166 between Blosser Road and Depot Street.
- Figure C-2 identifies a proposed Class I bike path on S. Depot Street from the airport to SR 166. From this point, the plan shows a proposed Class II bike lane continuing on N. Depot Street north of SR 166.
- Figure C-3 identifies a Phased Light Rail Transportation System from Guadalupe to Santa Maria roughly along Betteravia Road to the Santa Maria Valley Railroad south of SR166.
- Figure C-4 identifies potential High Quality Transit Corridor locations in Santa Maria, including SR 166/Main Street.

| **Table D-1 – Santa Maria General Plan Active Transportation and Transit Goals, Policies and Objectives** | |
|---|---|
| **GOAL C.1 Comprehensive Transportation System.** To provide and maintain a comprehensive transportation system that provides for the safe and efficient transport of people and goods throughout the City. | |
| **POLICY C.1.a** Acceptable Levels of Service | The City shall maintain an acceptable peak-hour level of service on all arterials and collectors and at signalized intersections. Service Level "D" on all roadways and at all signalized intersections shall be the levels maintained. |
| | • OBJECTIVE C.1.a.1 Improved Levels of Service. Arterials and collectors with peak hour levels of service worse than D, and all intersections with peak hour levels of service worse than D shall be improved to operate at an acceptable peak-hour level of service within the planning period. |

| | |
|---|---|
| | • OBJECTIVE C.1.b.1 Traffic Signal Spacing. Plan spacing between traffic signals to optimize interconnection, signalize only warranted locations, and strive to implement signal timing that will result in efficient travel times and fuel conservation. |
| **GOAL C.6 Alternative Modes of Transportation.** Provide for the development and use of alternative modes of transportation within an integrated system of transportation facilities. | |
| POLICY C.6.a.1 Promote Alternative Modes of Transportation | Promote the use of alternative transportation modes such as transit, bicycle, pedestrian, airplane, and light rail to relieve traffic congestion and improve air quality. |
| | • OBJECTIVE C.6.a.1 Reduce Vehicle Miles Traveled Reduce vehicle miles traveled and disperse peak hour traffic to better utilize the existing and planned transportation infrastructure. |
| | • OBJECTIVE C.6.a.2 Transit- and Pedestrian-Oriented Developments Development projects and subdivision designs are to be efficiently served by buses, bike routes and pedestrian connections. |
| | IMPLEMENTATION PROGRAMS<br>1. As part of encouraging alternative modes of transportation, the City of Santa Maria shall identify and evaluate alternative long-term transportation modes such as exclusive bus lanes and light rail that can be incorporated into the Santa Maria Transportation System.<br>2. In reviewing discretionary projects, the City will encourage pedestrian-oriented development (POD) and transit-oriented development (TOD). The design, configuration and mix of uses will emphasize a pedestrian-oriented environment and reinforce the use of alternative modes of transportation. (For related policies and programs refer to Land Use Element).<br>3. Review all major projects for their consistency with the goals and policies of the Santa Maria Circulation Element, the Santa Barbara County Congestion Management Plan (CMP) and Air Quality Attainment Plan (AQAP). |
| POLICY C.6.b.1 Transit (Bus Transportation) | Continue to work with transit operators to improve and expand Santa Maria Area Transit (SMAT) service to meet those transit needs that can be reasonably met, with particular emphasis on the needs of the elderly, handicapped, low income, and community college students. |
| POLICY C.6.b.2 - Transit | Offer convenient, safe, and reliable transit services, and provide that the financial stability of the transit system continues. |
| | • OBJECTIVE C.6.b.1 – Transit. Maintain the current level of bus services and expand such services as required when demand levels increase. |
| | IMPLEMENTATION PROGRAMS<br>1. Continue to use the Santa Maria Area Transit to monitor the needs of the community in order to serve the largest possible number of citizens and provide the best possible transit system.<br>2. Plan for the existing transit system's incorporation into the ultimate fixed bus lane and light rail routes as a "feeder" system. |
| POLICY C.6.c.1 – Bicycle and | Develop bicycling and pedestrian facilities as a major transportation and recreational mode to serve the transportation and recreational needs of the |

| | |
|---|---|
| Pedestrian | residents. |
| POLICY C.6.c.2 Safe Streets for Bicycles | Provide safe, efficient and convenient streets for the use of pedestrians and cyclists throughout the City, and where possible, provide separate bikeway access to major destinations (e.g. schools, parks, and commercial and employment centers) to assure safety. |
| | OBJECTIVE C.6.C1 (in part)<br>• The City will coordinate with County and regional agencies to provide a continuous and connected regional bicycle network between the Bikeways Plan diagram and surrounding communities.<br>• The City will strive to complete a connection between the City of Guadalupe and the City of Santa Maria via the Santa Maria River levee trail. The planning of this trail will include coordination with Santa Barbara County Planning and Development and the Santa Barbara County Agricultural Commissioner and may require further CEQA review as this trail is outside the City's jurisdiction. |
| | IMPLEMENTATION PROGRAMS<br>4. Integrate bicycle transportation in all appropriate transportation and recreation programs and facilities. |

Items of note from other elements of the General Plan include:

- Exhibit LU-5 identifies the segment of SR 166 within the City limits as being subject to the Entrada Plan Design Guidelines.
- Safety Element Figure SE-4 shows PG&E Electrical Transmission Lines cross SR 166 at Blosser Road and Depot Street.
- Resources Management Element (RME) Figure RME-8 shows a 10" water transmission line crossing SR 166 at Blosser Road.
- RME Element Figure RME-9 shows that between the west city limits and Broadway, drainage on SR 166/Main Street runs into an existing improved storm drain/channel that drains to a basin near the S. Western Avenue/W. Cook Street intersection.
- RME Element Figure RME-10 shows existing trunk sewer mains run from east to west along SR 166/Main Street towards the Santa Maria Wastewater Treatment Plant that is located on the west side of Black Road, ¼-mile south of SR 166.
- Housing Element Figure F-3 shows that in 2018 the non-white population in neighborhoods bordering SR 166 is between 61-80%, an increase from 2010 figures when the non-white population was between 41-60%.
- Housing Element Figure F-9 shows that between 2015-19 the median income for neighborhoods neighboring SR 166 is less than $55,000, which is far below the statewide median income of $87,100. Figure F-10 further shows that 75-100% of the households neighboring SR 166 are low to moderate income households.

***Comprehensive General Plan Update (ongoing)* –** The City of Santa Maria initiated in 2020 a multi-year effort to comprehensively update the General Plan that is still ongoing. The General Plan Update has included the development of existing conditions reports.

The ***Transportation and Mobility Existing Conditions Report*** (December 2020, by Raimi & Associates) identifies key transportation issues and planning considerations that will be used to inform the Circulation Element in the General Plan Update. This includes an assessment of existing facilities for vehicles, bicycle, pedestrian, transit, and rail and an evaluation of policies and relevant recommendations from other planning documents. Items of note relevant to the project area:

- SR 166 is identified by the City as a Primary Arterial roadway.
- SR 166 is considered part of the California Freeway/Expressway System, the National Highway System, and the Federal Surface Transportation Assistance Act Route truck route (designed to accommodate trucks 48-53' long from kingpin to rear axle).
- The segment of SR 166 from the western City limits to Depot Street is anticipated to operate at Level of Service (LOS) A or B.
- The two studies intersections within the project area (Main/Blosser and Main/Depot) are both projected to operate at LOS B.
- The report includes a breakdown of the truck travel along different segments of the highway system within the City of Santa Maria, including SR 166.
- Santa Maria is located in the electrical service area of Pacific Gas & Electric (PG&E). There are three primary transmission lines located within the city and the two north-south lines are located within the rights-of-way of Blosser Road and Railroad Avenue, crossing the project area.
- An 8" natural gas line owned by SoCalGas passes through Santa Maria in a north-south direction within the Railroad Avenue/Depot Street right-of-way.

The General Plan Update includes a ***Housing and Environmental Justice Existing Conditions Report***. The report notes that 3 of the 4 census tracts that border the project area are identified as disadvantaged communities: is bound by Census Tract 23.06 and 24.02 (north and south of Main Street west of Blosser Road) and 23.04 and 24.03 (north and south of Main Street east of Blosser Road).

- Census Tract 23.04 (north of Main Street and east of Blosser Road) – Socially vulnerable, including high percentage of foreign-born, linguistically isolated, population groups, and high concentration of H-2A housing units; multiple poor health outcomes, including unhealthy rates of COPD, asthma, poor mental health, and lower rates of preventive care use in older adults (65+ years); and heightened pollution exposures (e.g., groundwater threats and impaired water bodies).
- Census Tract 24.02 (south of Main Street and west of Blosser Road) – Socially vulnerable, including a high concentration of linguistically-isolated people; poor health outcomes, including unhealthy rates of asthma and people reporting poor mental health; and heightened pollution exposures to most indicators in CalEnviroScreen 3.0, including cleanup sites, impaired water bodies, solid waste sites and facilities, and some of the highest exposures in the state to pesticide use, groundwater threats, and hazardous waste generators and facilities—resulting in this being the census tract with the highest overall pollution burden in the city.

- Census Tract 24.03(south of Main Street and east of Blosser Road) – Socially vulnerable, including the highest rates of single-parent households and youth percentage in the county, high percentage of foreign-born, Hispanic or Latino, and renter population groups, and a high share of households without access to a vehicle; poor health outcomes, including unhealthy rates of obesity, diabetes, COPD, asthma, and people reporting poor mental health; physical environment that contribute to low walkability scores; and heightened pollution exposures (e.g., groundwater threats, impaired water bodies, and solid waste sites and facilities).

The General Plan Update has also included a public visioning process that is documented in the ***Vision, Guiding Principles, and Areas of Change and Stability*** report (Raimi & Associates, April 2021). The finding relevant to this project is that the Main Street corridor is identified as an "Area of Potential Transformation". The report states: "Some portion of future growth should be along corridors, particularly Main and Broadway. Growth should be complemented with improved design character, beautification, more street trees, more community gathering places, and amenities that make them more inviting, walkable, and bikeable."

***Major Development Activity (July 2024)* –** The City's semi-annual Major Development Activity report notes one project adjacent to the project area. West of Blosser Road and in the 1300 block of W. Main Street, Nutrien AG Solutions has applied for a phased Expansion (Phase 1 outdoor storage and property improvements, Phase 2 a new 6,7000 sq. ft. truck repair facility). Planning permits and currently under review.

***Active Transportation Plan (2021)* –** The Santa Maria Active Transportation Plan (ATP) is intended to support a connected bicycle and pedestrian network to provide safe, affordable, and accessible transportation choices in the community. The plan includes a review of existing conditions, including collision analysis, and a list of recommended pedestrian and bicycle projects. Key findings include:

- Main Street/SR 166 is identified as having a high level of traffic stress for bicyclists due to the number of traffic lanes, traffic volumes and speeds. Within the project area, most intersections along this corridor are identified as having a Medium High Stress level, with two intersections (Main/Kathleen and Main/Blosser) having a High Level of Stress.
- Figure 4 is a Collision Density Heat Map that shows the relative density of bike/ped collisions in Santa Maria. Along SR 166 Within the project area, collision densities are low and medium-low (west of Blosser Road), medium-high (Blosser Road to Depot Street) and high (Depot Street and eastward). Main Street/SR 166 is identified as one of the top three bicycle collision street segments in Santa Maria, and one of the top seven pedestrian collision segments.
- The majority of the pedestrian collisions (45 percent) occurred within crosswalks at intersections. Among these collisions, roughly 58 percent were attributed to a driver failing to yield when the pedestrian had the right of way. Based on this data, treatments that improve pedestrian visibility within crosswalks and increase driver yielding may be recommended.

- The majority (about 57 percent) of bicyclist collisions occurred at intersections, while the remaining 43 percent occurred along segments or approaches. The ATP acknowledges that further analysis of bicycle collisions is required.

The ATP identifies 97.2 miles of existing bikeways and proposes 72.1 additional miles of bikeways through a total of 104 projects. The plan also includes the installation of 900 linear feet of new sidewalks and numerous pedestrian crossing improvements. These plans are shown as Figures D-2 and D-3 and relevant items for the project corridor are identified below:

- The plan does not identify any existing or proposed bicycle facilities on Main Street/SR 166; except, the plan identifies a proposed crossing improvement at Main/Depot Street.
- The plan recommends a Class I shared use path on Blosser Road north and south of Main Street/SR 166.
- The Plan recommends the City install bicycle detection at all actuated intersections, prioritizing those along existing and proposed bikeways
- Nearby bicycle facilities include Class II bike lanes on Blosser Road (north of Main Street/SR 166) and Depot Street (north and south of Main Street/SR 166).

***Short Range Transit Plan for Santa Maria Area Transit (2020)* –** The Short Range Transit Plan (SRTP) provides a comprehensive review of SMAT service as it existed 2020 prior to the COVID-19 pandemic. The SRTP looks ahead to anticipated changes in demographics and demand, and prepares the City to move into the future of transit with defined strategies for growth and development. Chapter 2 of the SRTP includes Goals, Objectives & Performance Standards. Chapter 9 of the SRTP also includes Service Recommendations related to Performance Improvement, Service Enhancement, Policy, and Innovation/Technology. The Plan does not have any goals, policies, implementation measures or service recommendations that directly affect the portion of the SR 165 corridor within the project area.

***Bus Rapid Transit Study, Phase 1 (Santa Maria Regional Transit, 2024)* –** Bus Rapid Transit (BRT) has been discussed as a possible transit solution in the region since as early as 2011. This study was conducted to explore the feasibility of BRT as a way to enhance SMRT's services and opportunities for infill growth along the Broadway (State Route 135) corridor. The identified BRT options do not identify transit routes along the portion of SR 166 within the project area.

***Safer Streets for Santa Maria – Local Road Safety Plan (2022)* -** The Local Road Safety Plan (LRSP) uses data and stakeholder input to identify, analyze, and prioritize safety projects and programs in the City of Santa Maria that will allow residents and visitors to safely access their desired destinations. The Plan addresses the four "E's" (Engineering, Enforcement, Education, and Emergency Services) approach for proactive safety planning, and adds a 5$^{th}$ "E", Emerging Technologies. The end goal of the plan is to: *"To progressively reduce Fatal and Severe Injury crashes in Santa Maria."*

LRSP Tables 4 and 5 identify, respectively, the Top 10 Corridors and Top 10 Intersections for all fatal and severe collisions in Santa Maria from 2013 to 2021. There are two locations from those tables that are within or abutting the SR 166 Comprehensive Corridor study area:

- Blosser Road from Main Street (SR 166) to Stowell Rd. This corridor experienced 4 fatalities and 3 severe collisions. The Table 11 Collision Analysis indicates that the Main St (SR 166)/Blosser Road signalized intersection has a high number of broadside and sideswipe collisions.
- Oakley Avenue at Main Street (SR 166). This unsignalized intersection experienced 2 severe collisions.

LRSP Tables 6 and 7 identify the Top 10 Corridors and Top 5 Intersections for bicycle and pedestrian collisions. The locations identified in Tables 6 and 7 are not within or abutting the SR 166 Comprehensive Corridor study area.

The LRSP also reviewed the City of Santa Maria Active Transportation Plan (ATP), which evaluated SWITRS data from 2013 to 2017. The Main Street corridor from Blosser Road to U.S. 101 was one of the top 3 intersection collision corridors, with 18 bicyclist and 17 pedestrian collisions over the 5 years. The SR 166 Comprehensive Corridor study area encompasses roughly the western half of that corridor. However, the accompanying collision heat map shows that bicycle and pedestrian collisions were clustered primarily along the eastern half of that corridor, east of the Main Street (SR 166)/Depot Street intersection. Per Figure 21 of the LRSP, the ATP included an exercise asking the public to identify areas where they perceived bicycle and safety issues. The segment of Main Street (SR 166) within the study area was not identified as a perceived area of concern.

The LRSP identifies a variety of programmatic strategies intended to improve safety for vulnerable users and others. For example, implementing protecting bike lanes and reducing conflict zones for cars/bikes along high collision corridors is identified as a general strategy. For pedestrian safety, one of the strategies is to provide safe crossing opportunities at locations with high pedestrian-crossing violations and at high crash occurrence intersections and corridors.

The LRSP also includes location-specific engineering countermeasures intended to improve safety and reduce collisions at noted intersections and corridors. For the Main Street Corridor (Blosser Rd to US 101), the identified countermeasures include a package of projects for signalized intersections including: Improved signal hardware (Highway Safety Improvement Program or HSIP Countermeasure S02), Improved signal timing (HSIP Countermeasure S03), and Advanced Dilemma-Zone Detection (HSIP Countermeasure S04).

Figure D-1 General Plan 2011 Figure C-4, Potential High Quality Transit Corridor

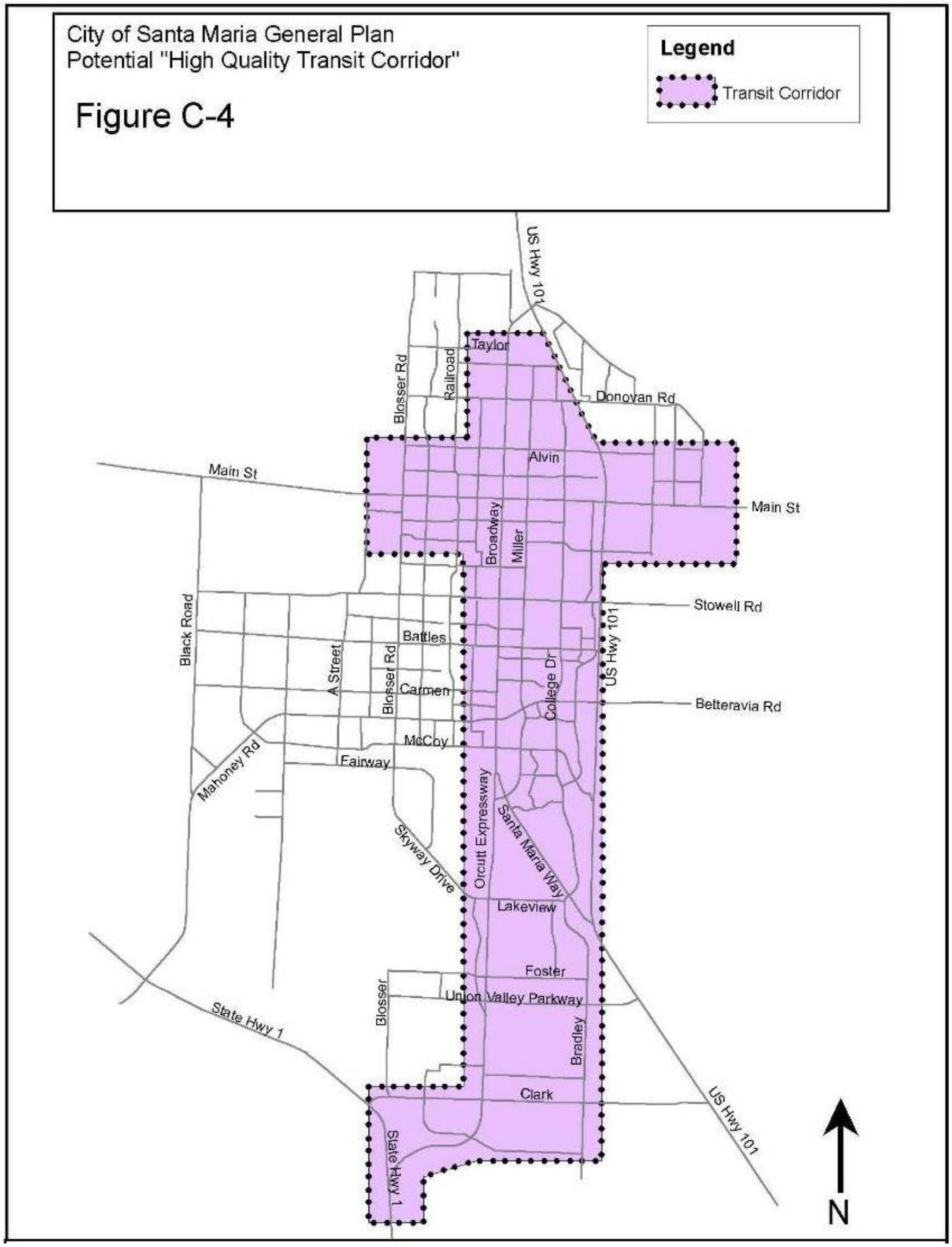


Figure D-2 - Segment Level of Service
(General Plan Update Transportation & Mobility Existing Conditions Report Figure 5)

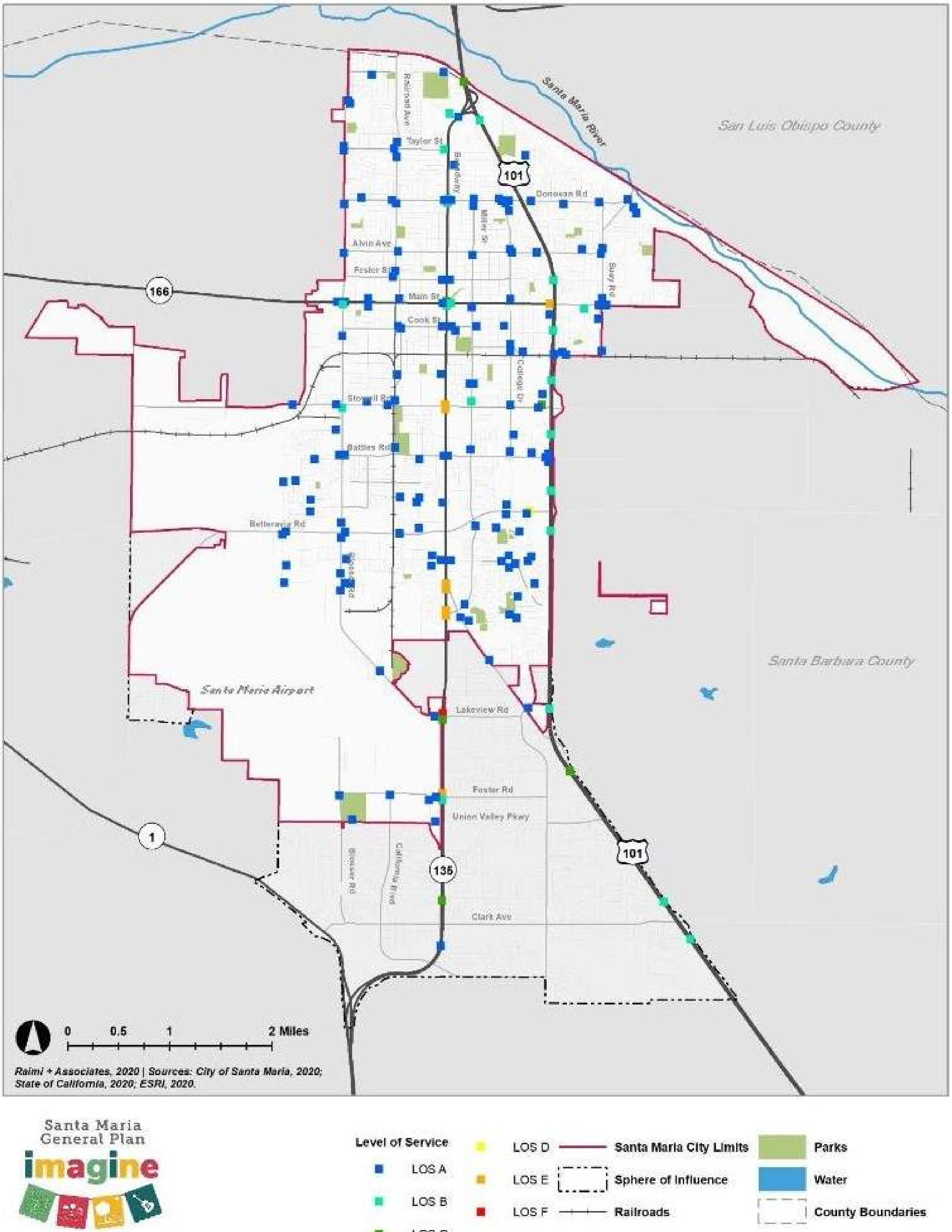


Figure D-3 - Intersection Level of Service
(General Plan Update Transportation & Mobility Existing Conditions Report Figure 6)

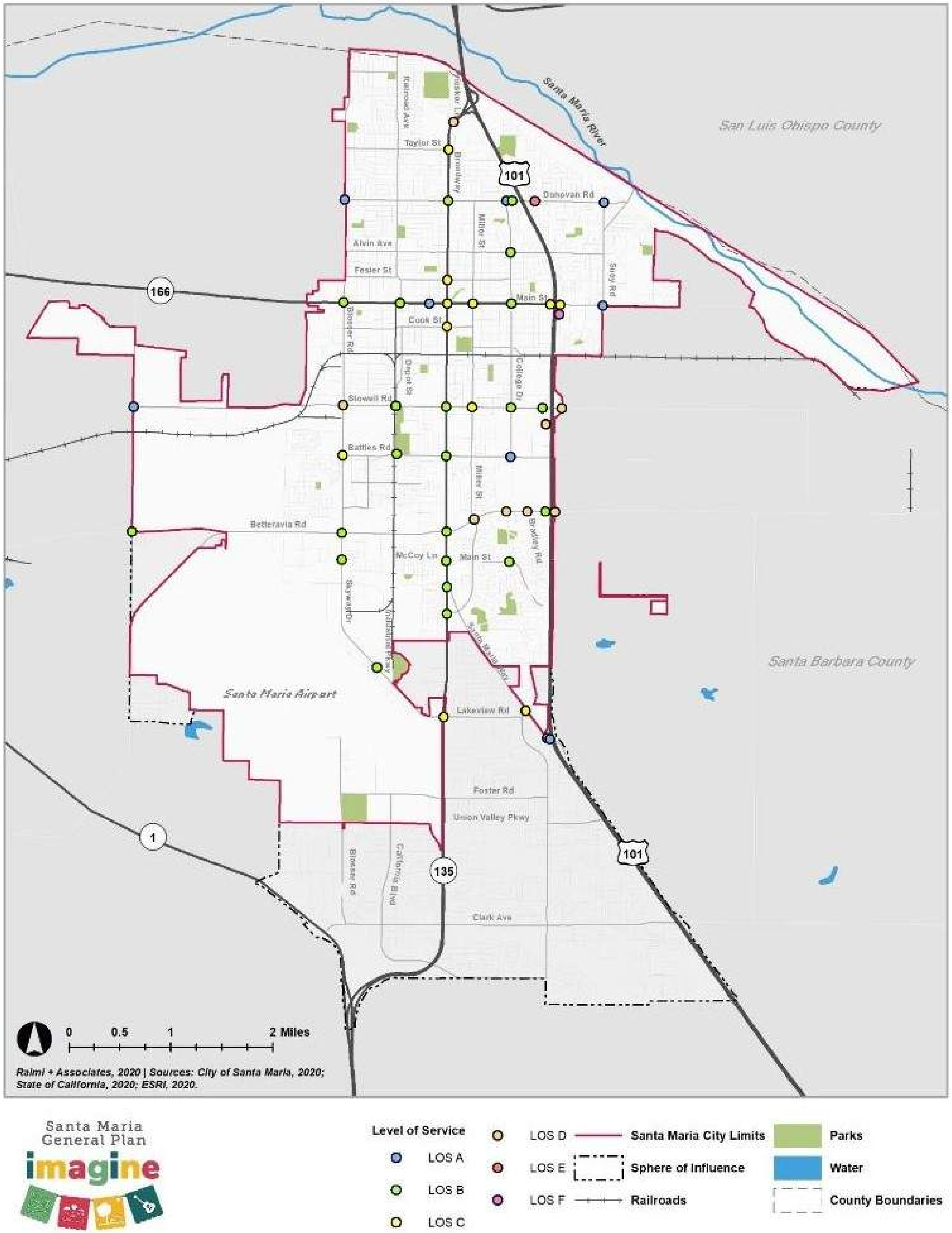


Figure D-4 – Bicycle and Pedestrian Collision Heat Map
(Active Transportation Plan Figure 4)

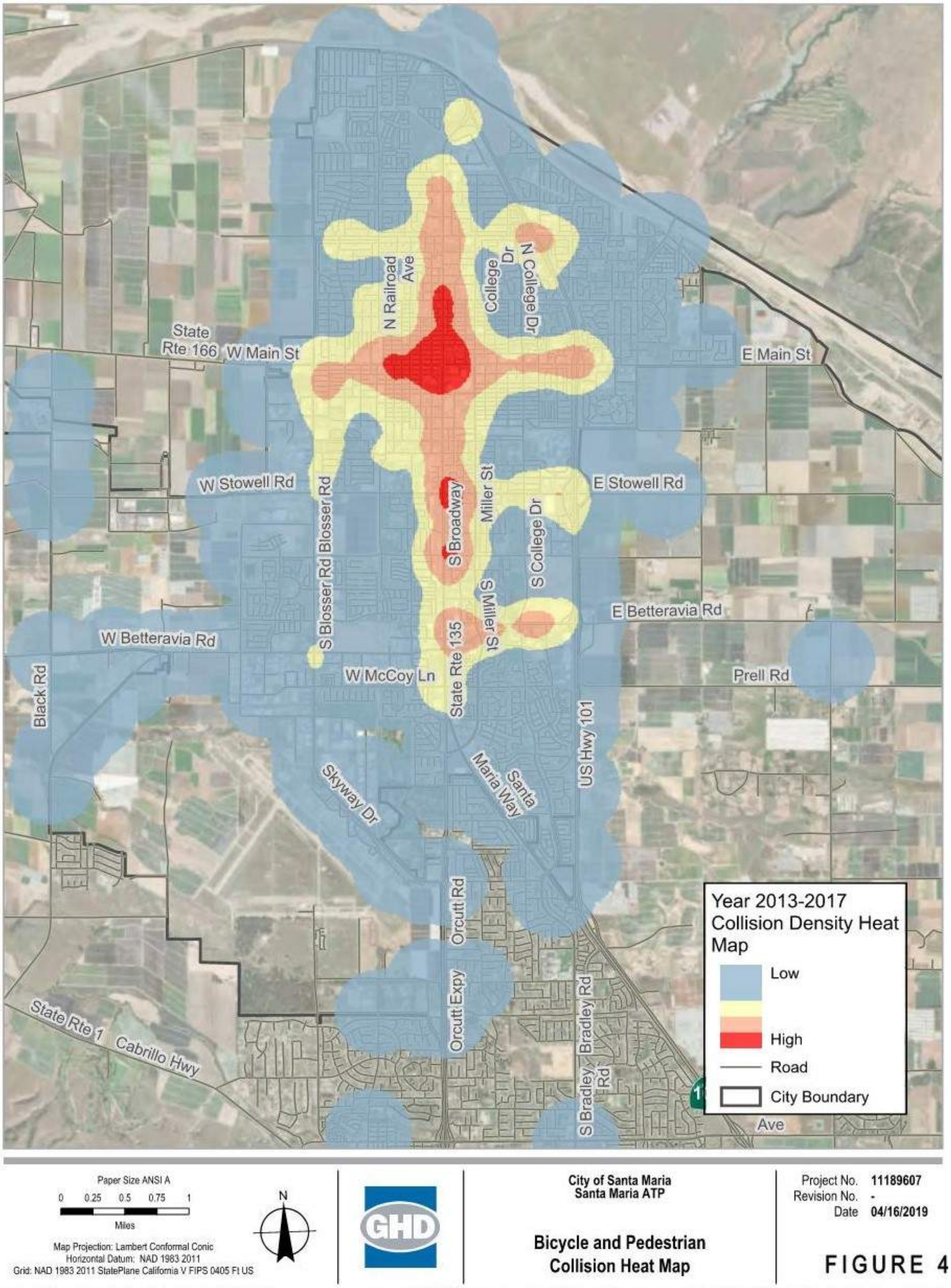


Figure D-5 – Recommended Bicycle Projects
(Active Transportation Plan Figure 21)

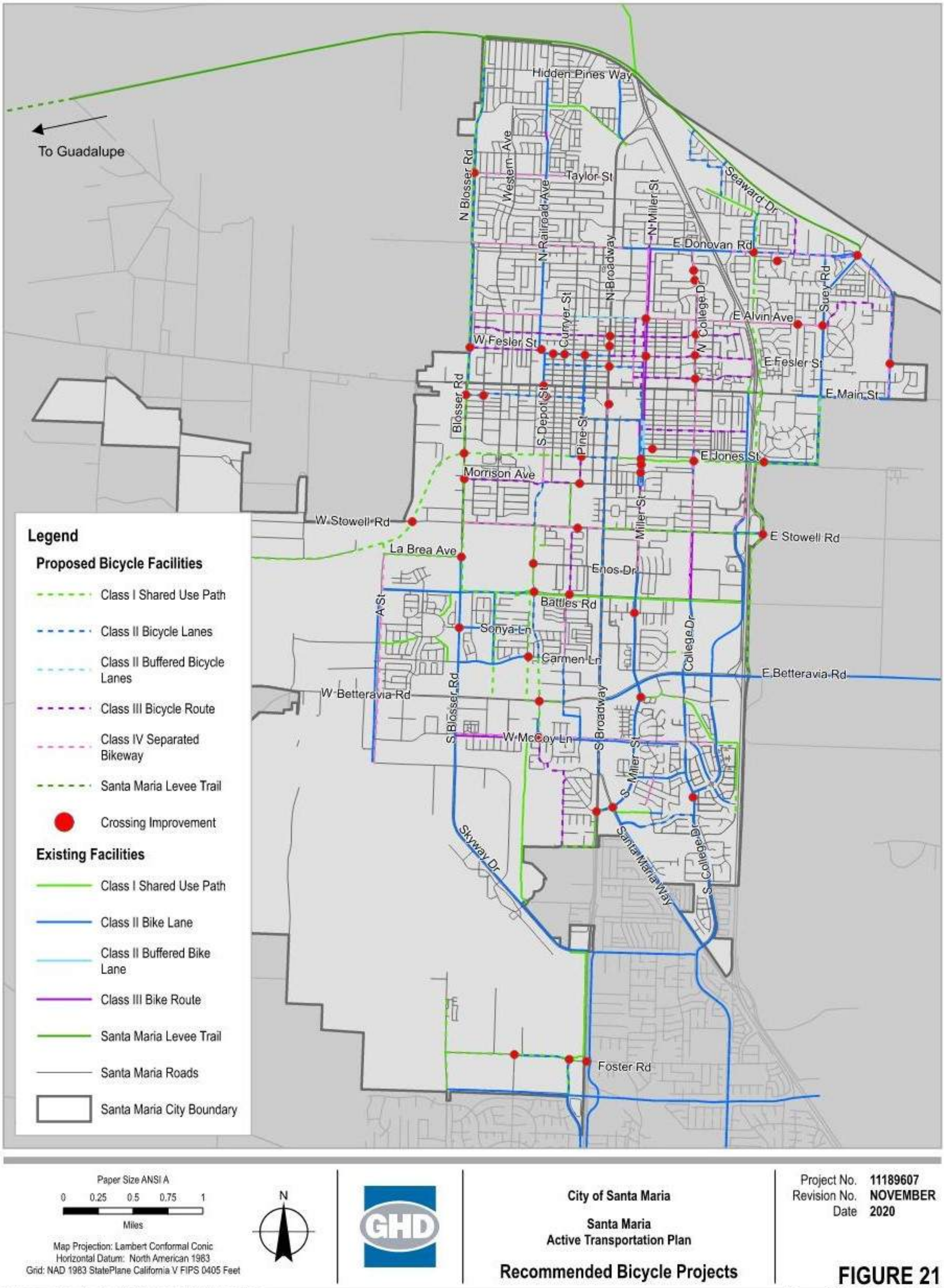
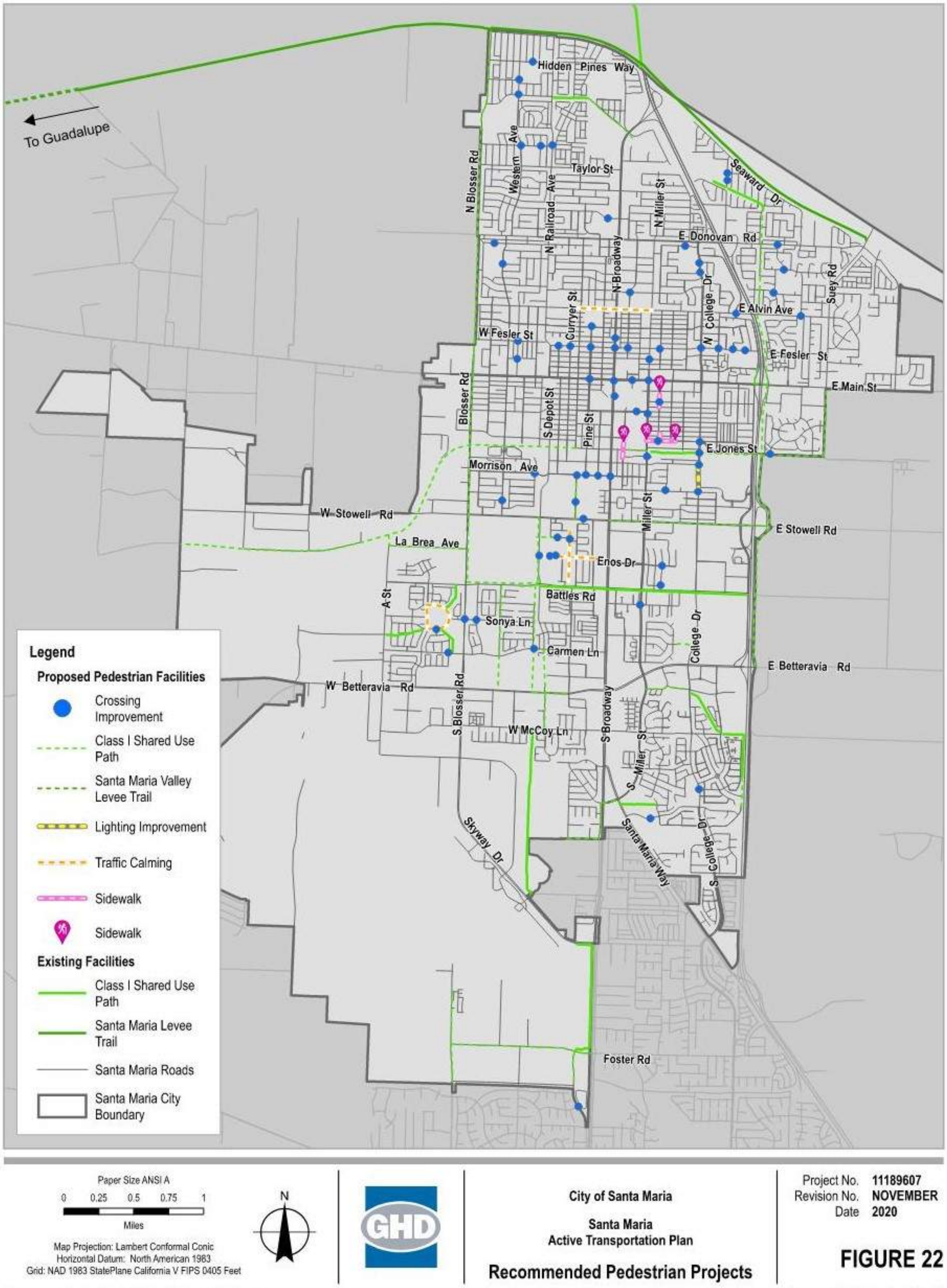


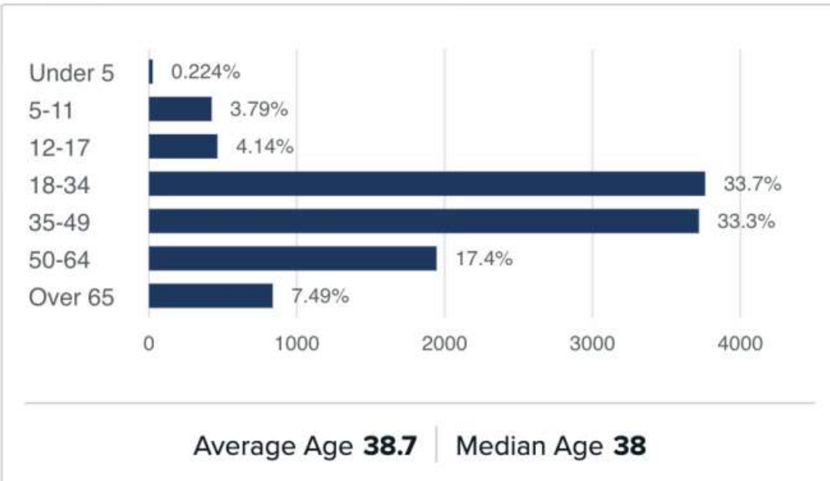
Figure D-6 Recommended Pedestrian Projects
(Active Transportation Plan Figure 22)



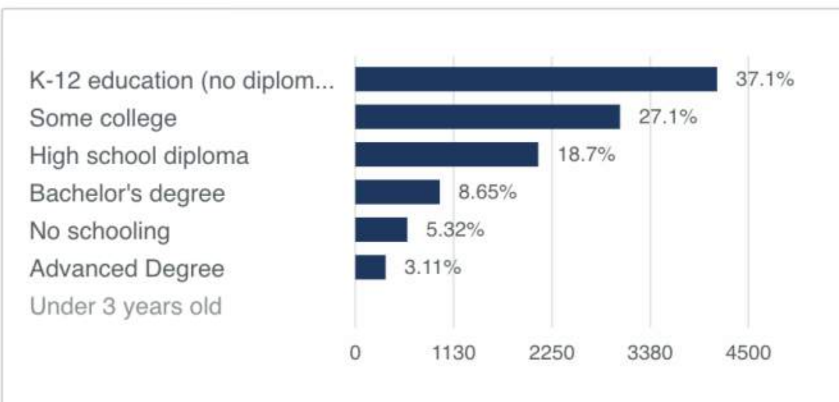
## APPENDIX B. SOCIOECONOMIC DATA

## SR 166 – ALL TRIPS STREETLIGHT DATA

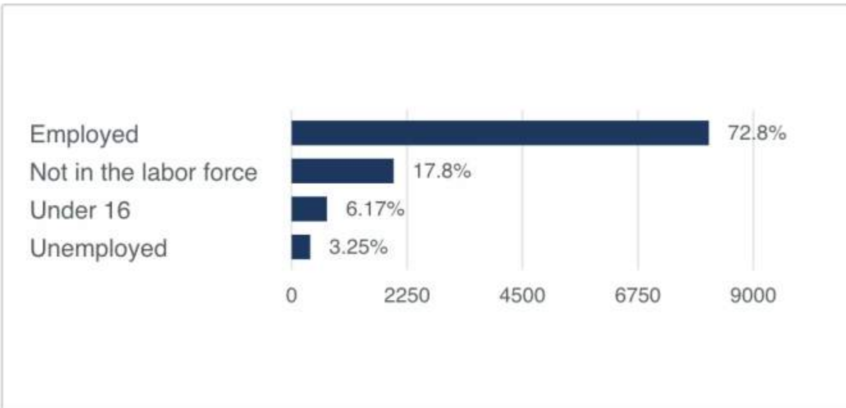
Age



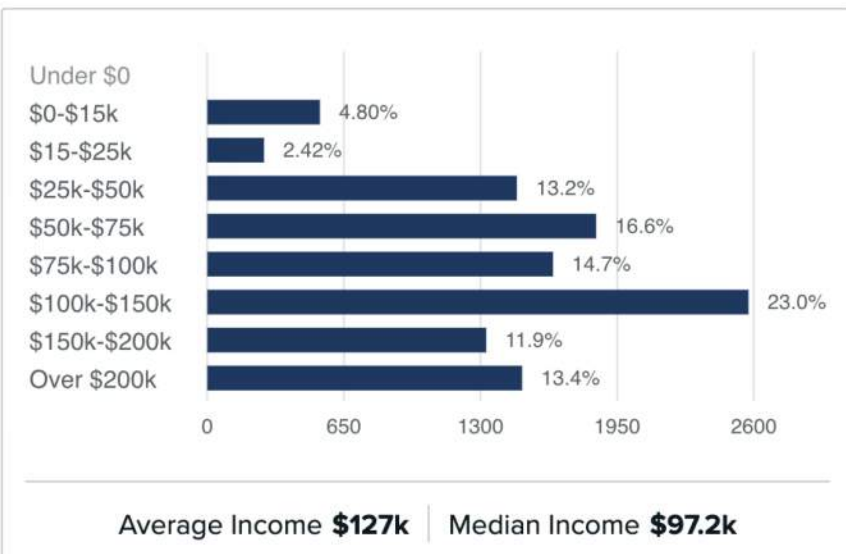

Education



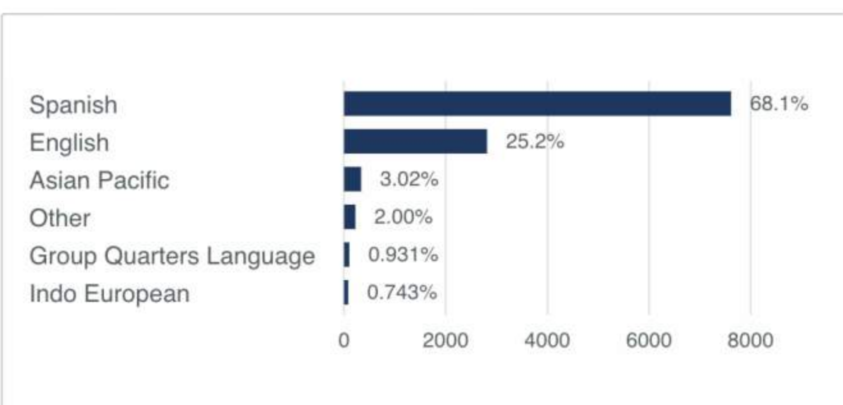
Employment Status



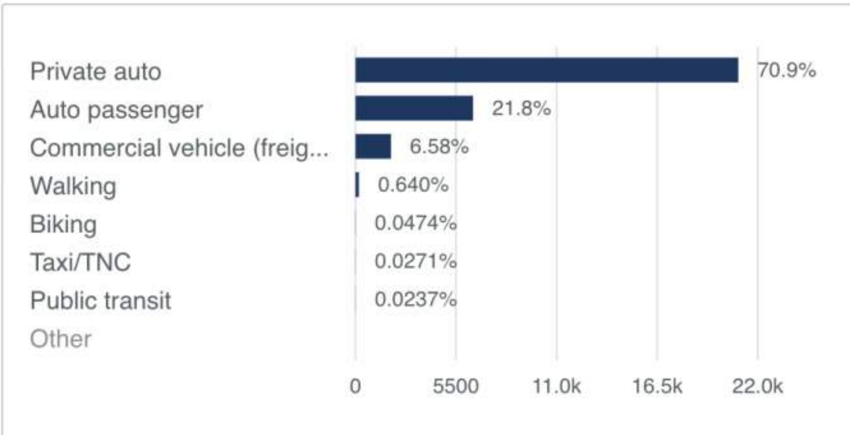

Household Income



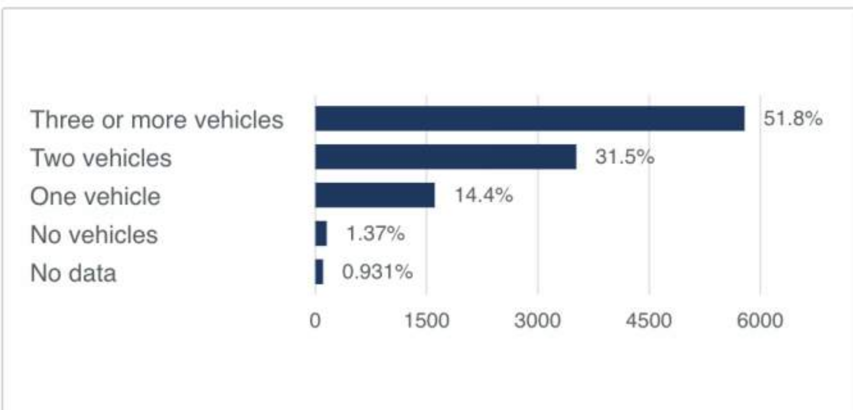

Language



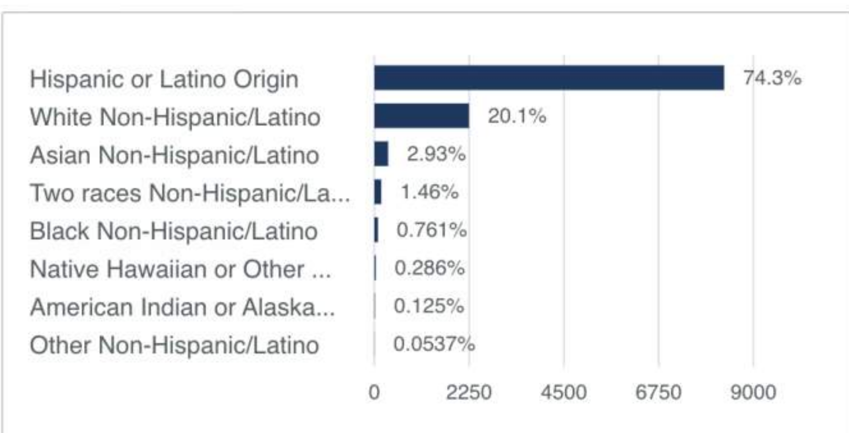
Primary Mode



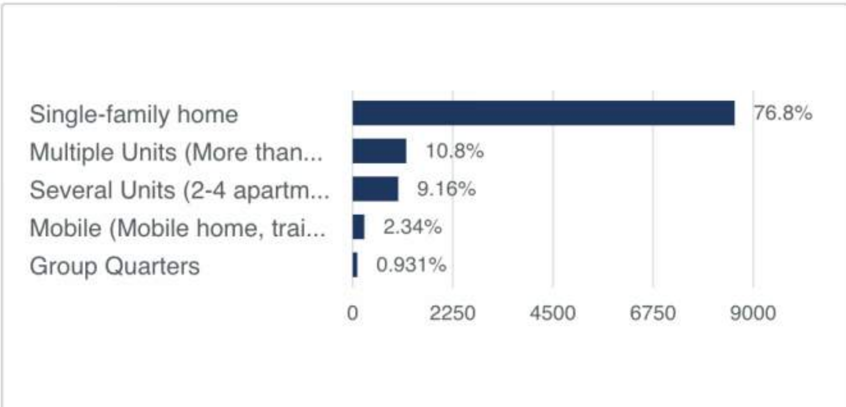

Private Auto Availability



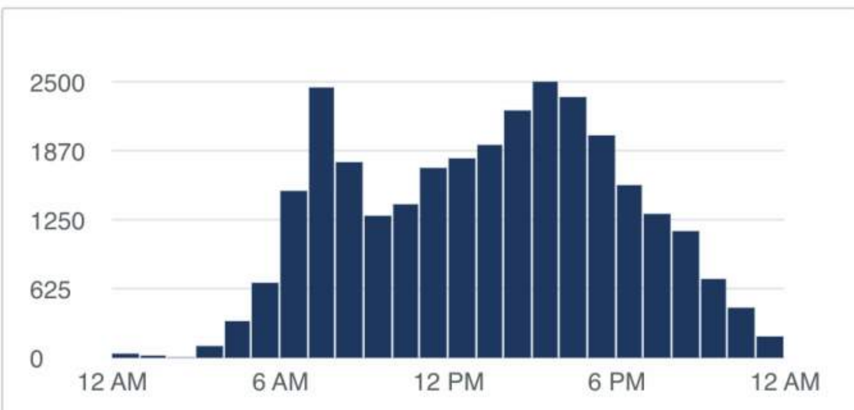

Race & Ethnicity



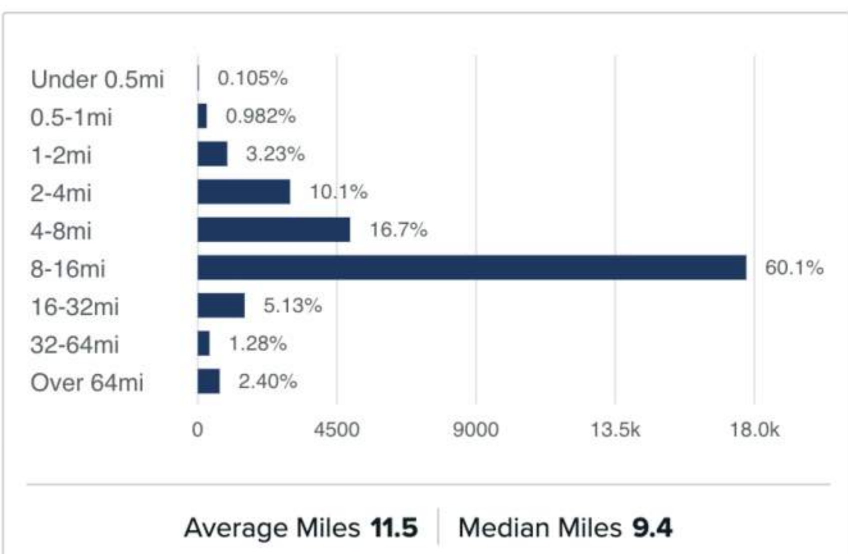
Residence Building Type



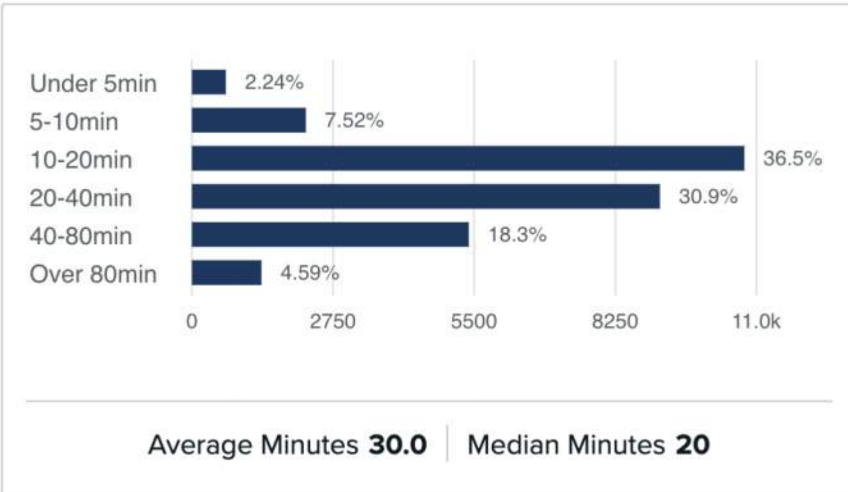

Starting Hour (In Local Time)



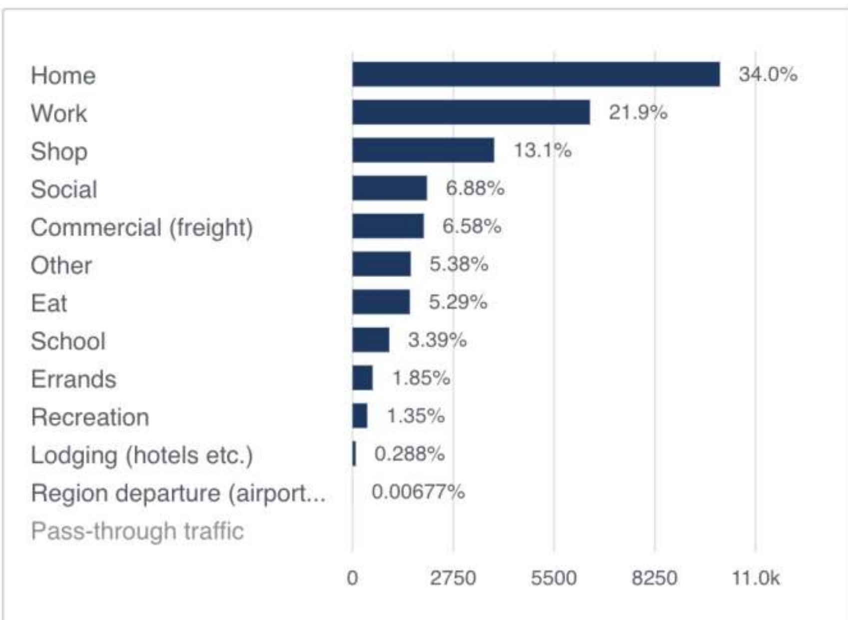

Trip Distance (Miles)



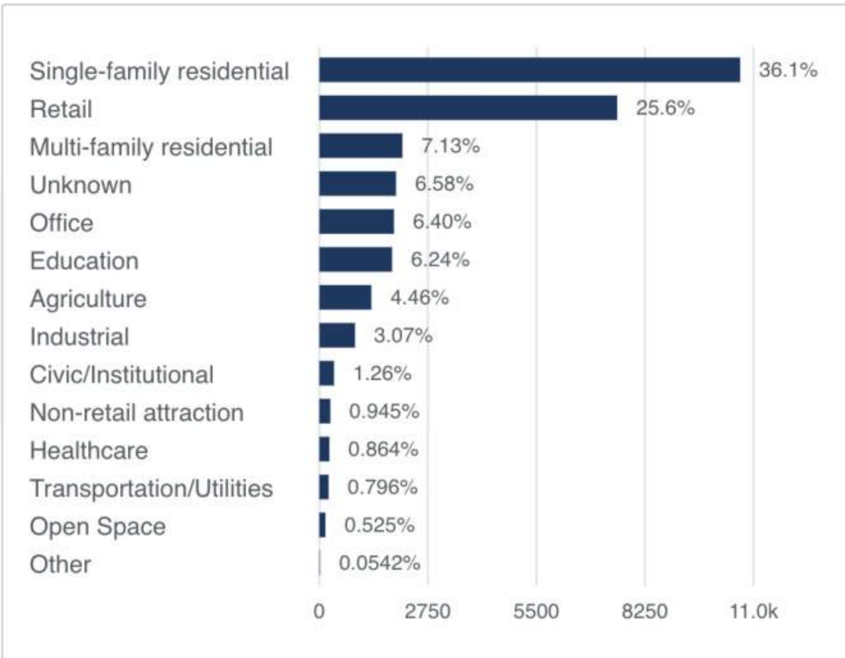
Trip Duration (Minutes)



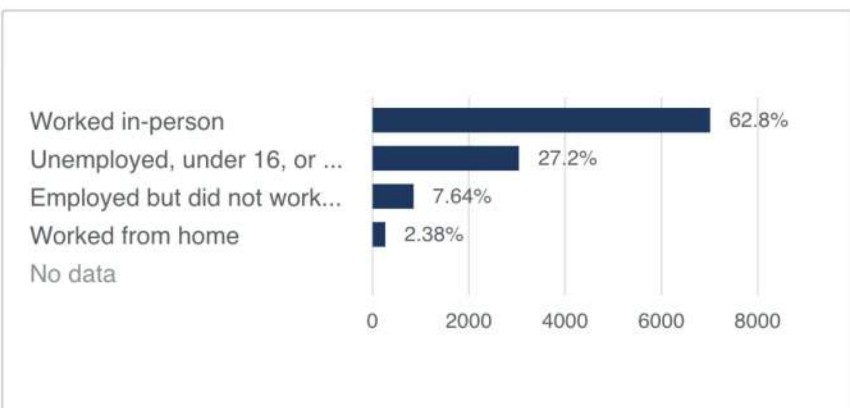

Trip Purpose



Trips **by Origin Building Use**

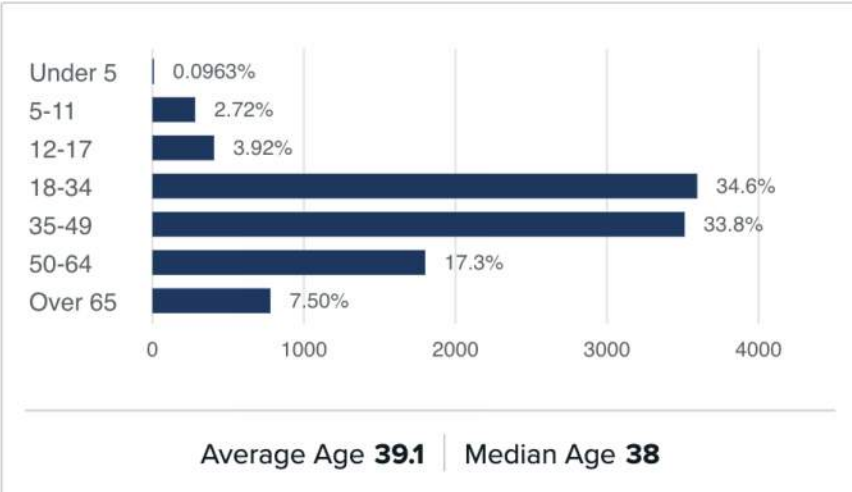



Work From Home

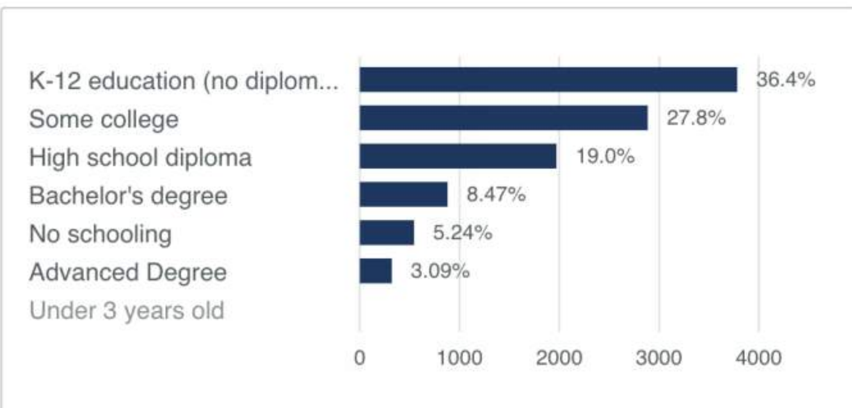


## SR 166 – LOCAL TRIPS STREETLIGHT DATA

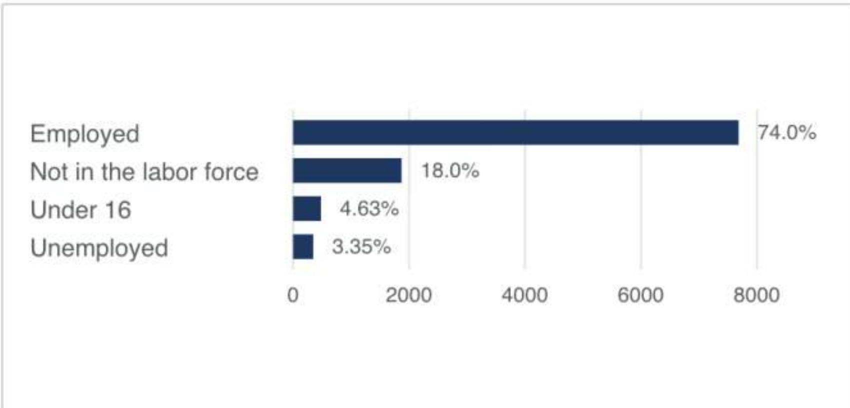
Age



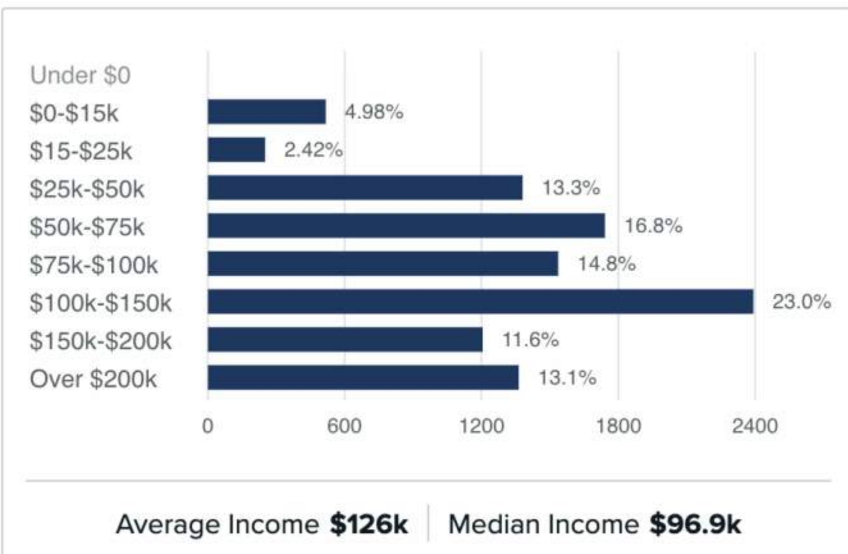

Education



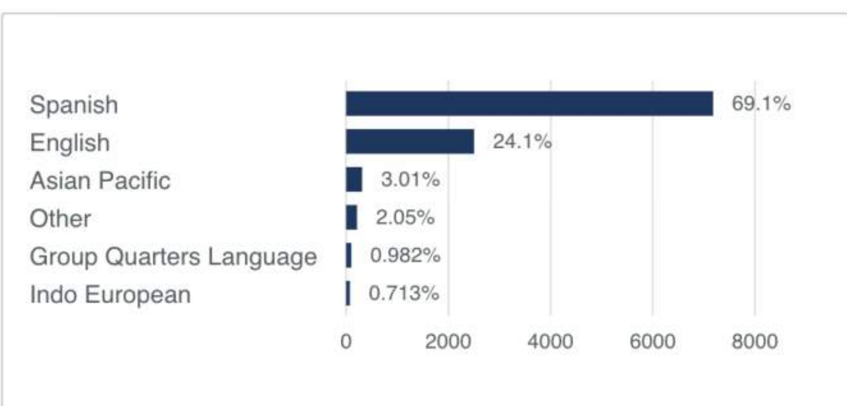
Employment Status



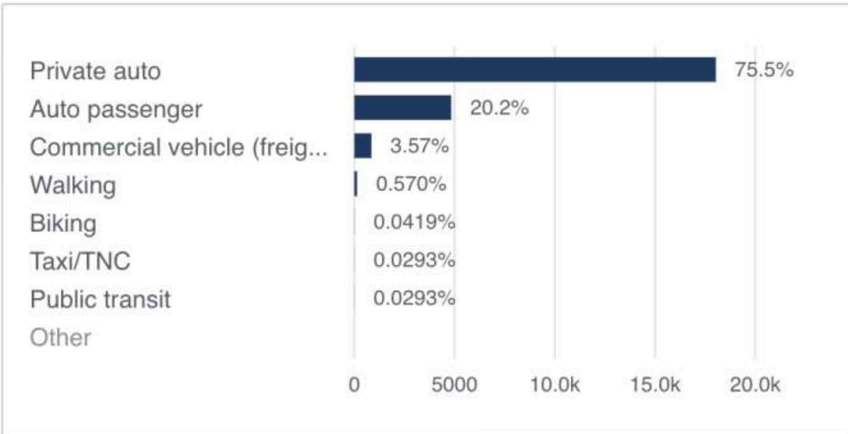

Household Income



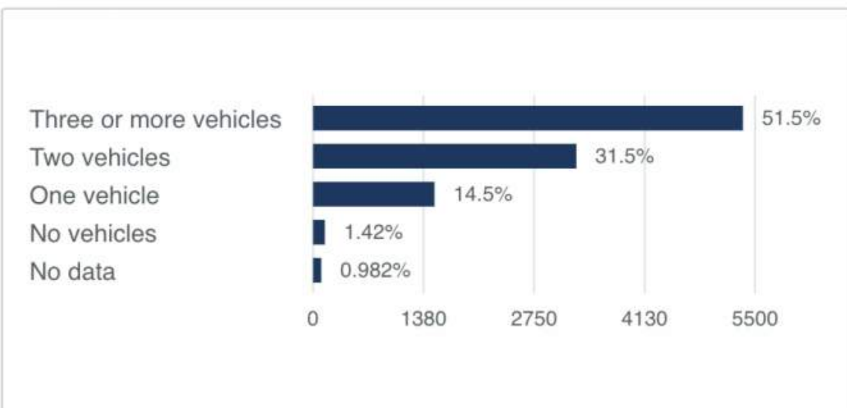

Language



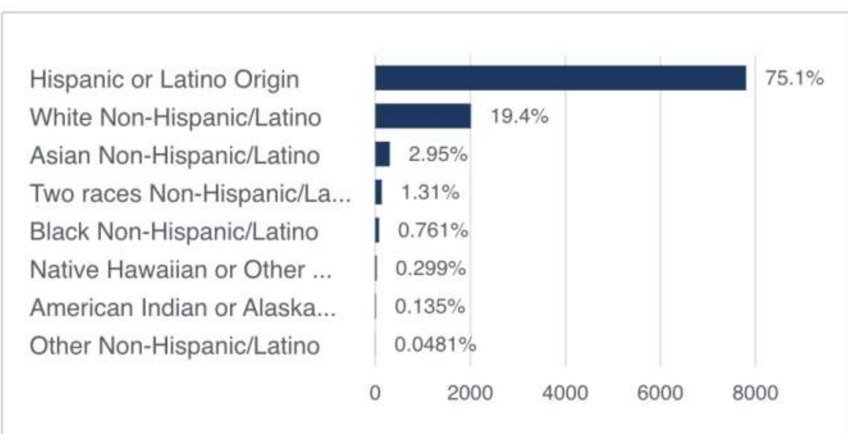
Primary Mode



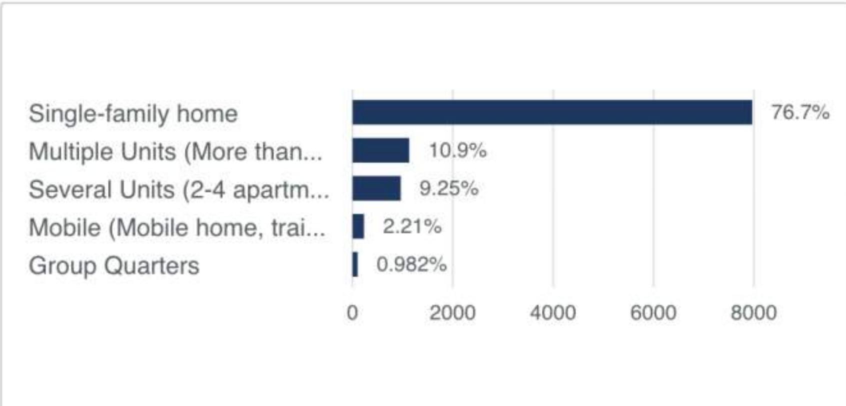

Private Auto Availability



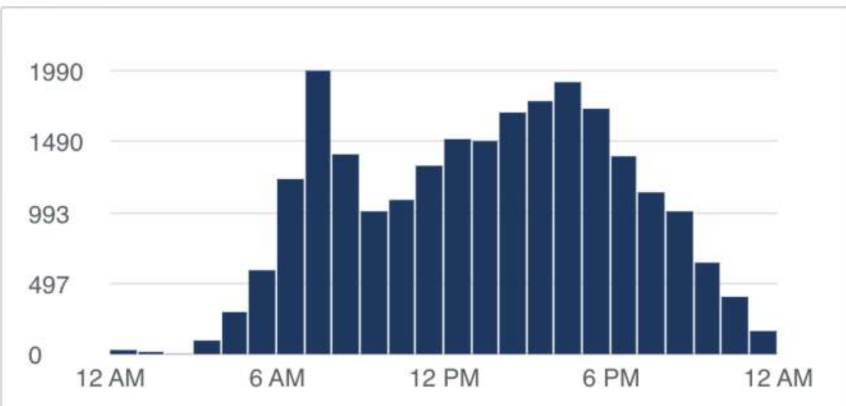

Race & Ethnicity



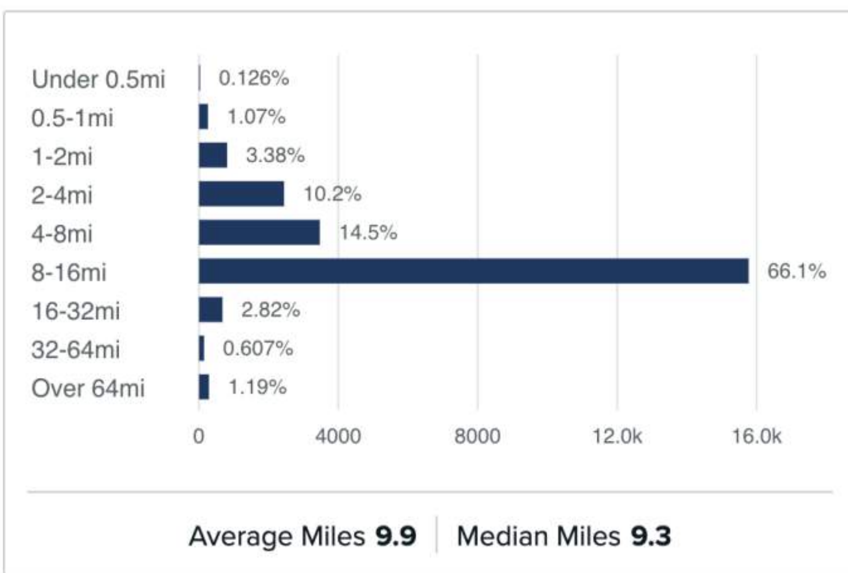
Residence Building Type



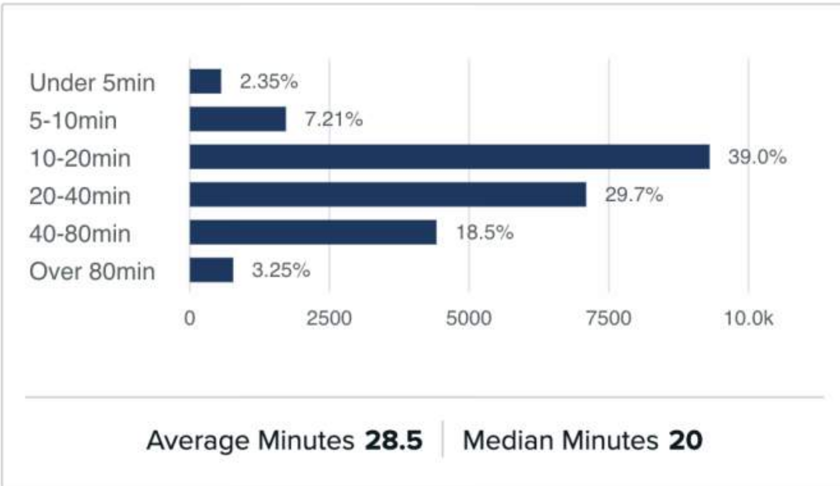

Starting Hour (In Local Time)



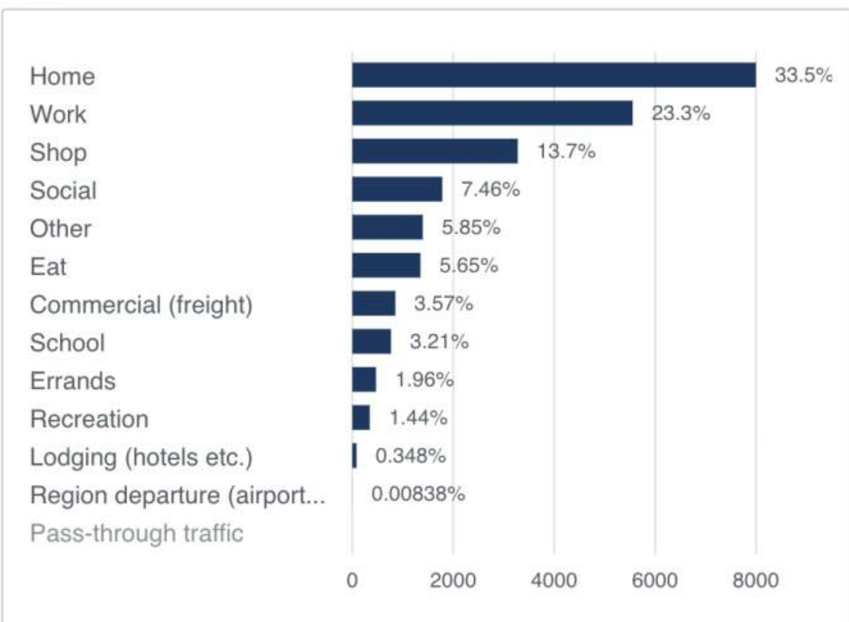

Trip Distance (Miles)



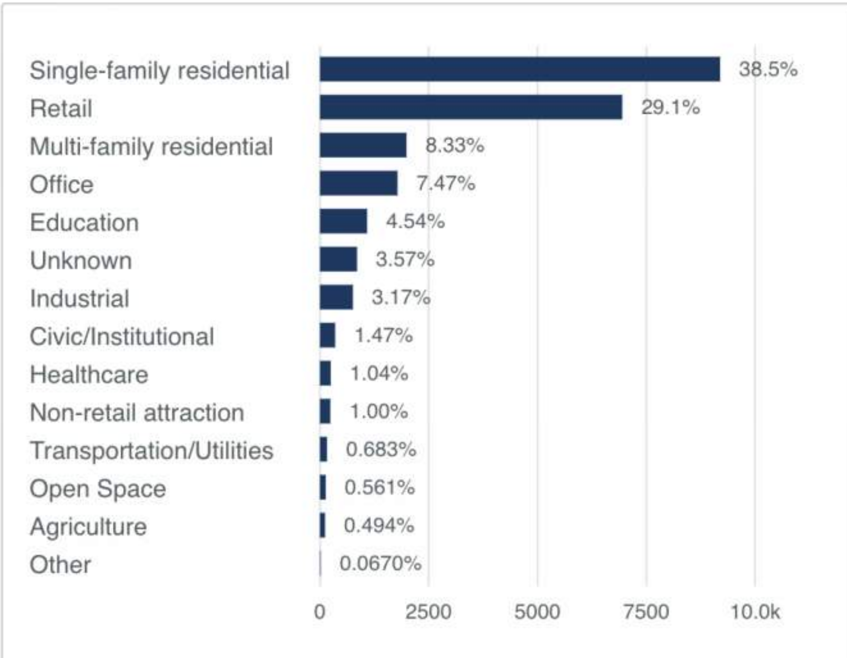
Trip Duration (Minutes)



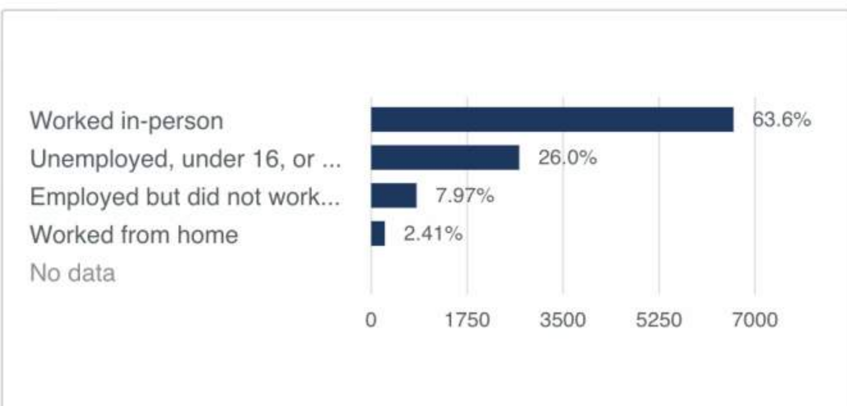

Trip Purpose



Trips **by Origin Building Use**



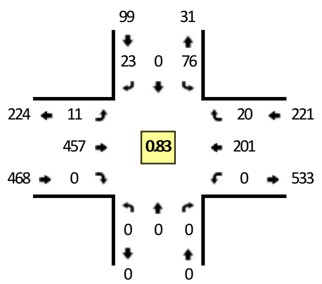

Work From Home



## APPENDIX C. TRAFFIC COUNTS

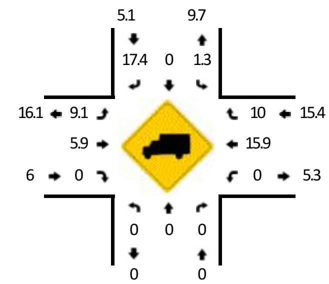
**LOCATION:** Flower Ave -- SR 166 | **QC JOB #:** 16714605

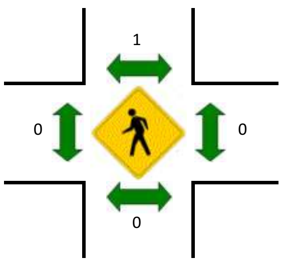
**CITY/STATE:** Guadalupe, CA | **DATE:** Wed, Aug 28 2024

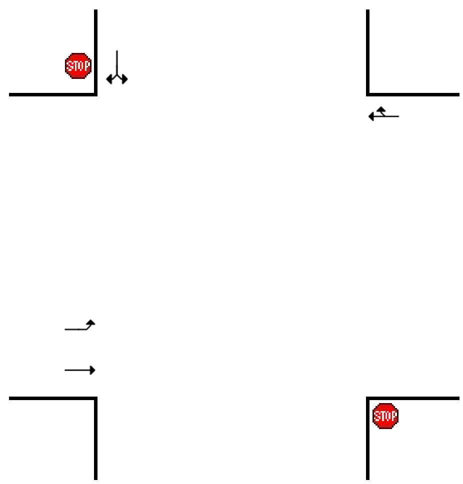


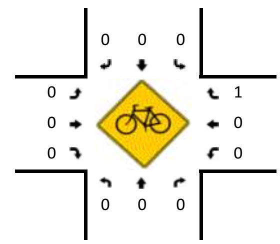

**Peak-Hour: 7:15 AM -- 8:15 AM**

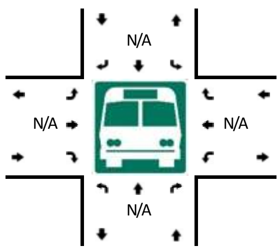
**Peak 15-Min: 7:35 AM -- 7:50 AM**

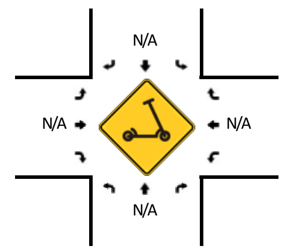



| 5-Min Count Period Beginning At | Flower Ave (Northbound) | | | | Flower Ave (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 17 | 0 | 0 | 0 | 19 | 0 | 0 | 41 | |
| 7:05 AM | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 15 | 4 | 0 | 44 | |
| 7:10 AM | 0 | 0 | 0 | 0 | 8 | 0 | 4 | 0 | 0 | 26 | 0 | 0 | 0 | 11 | 0 | 0 | 49 | |
| 7:15 AM | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 17 | 1 | 0 | 74 | |
| 7:20 AM | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 28 | 0 | 0 | 0 | 18 | 2 | 0 | 53 | |
| 7:25 AM | 0 | 0 | 0 | 0 | 9 | 0 | 1 | 0 | 1 | 37 | 0 | 0 | 0 | 21 | 3 | 0 | 72 | |
| 7:30 AM | 0 | 0 | 0 | 0 | 7 | 0 | 1 | 0 | 0 | 41 | 0 | 0 | 0 | 15 | 2 | 0 | 66 | |
| 7:35 AM | 0 | 0 | 0 | 0 | 8 | 0 | 3 | 0 | 1 | 44 | 0 | 0 | 0 | 10 | 0 | 0 | 66 | |
| 7:40 AM | 0 | 0 | 0 | 0 | 17 | 0 | 3 | 0 | 0 | 52 | 0 | 0 | 0 | 20 | 3 | 0 | 95 | |
| 7:45 AM | 0 | 0 | 0 | 0 | 10 | 0 | 3 | 0 | 0 | 45 | 0 | 0 | 0 | 16 | 1 | 0 | 75 | |
| 7:50 AM | 0 | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 1 | 23 | 0 | 0 | 0 | 9 | 0 | 0 | 40 | |
| 7:55 AM | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 2 | 33 | 0 | 0 | 0 | 20 | 2 | 0 | 62 | 737 |
| 8:00 AM | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 3 | 31 | 0 | 0 | 0 | 22 | 1 | 0 | 62 | 758 |
| 8:05 AM | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 1 | 39 | 0 | 0 | 0 | 14 | 4 | 0 | 64 | 778 |
| 8:10 AM | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 2 | 34 | 0 | 0 | 0 | 19 | 1 | 0 | 59 | 788 |
| 8:15 AM | 0 | 0 | 0 | 0 | 6 | 0 | 2 | 0 | 1 | 28 | 0 | 0 | 0 | 19 | 0 | 0 | 56 | 770 |
| 8:20 AM | 0 | 0 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 18 | 0 | 0 | 0 | 13 | 3 | 0 | 40 | 757 |
| 8:25 AM | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 31 | 0 | 0 | 0 | 11 | 1 | 0 | 47 | 732 |
| 8:30 AM | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 18 | 0 | 0 | 0 | 10 | 2 | 0 | 36 | 702 |
| 8:35 AM | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 15 | 0 | 0 | 0 | 8 | 0 | 0 | 26 | 662 |
| 8:40 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 16 | 1 | 0 | 37 | 604 |
| 8:45 AM | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 27 | 0 | 0 | 0 | 10 | 0 | 0 | 40 | 569 |
| 8:50 AM | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 14 | 1 | 0 | 34 | 563 |
| 8:55 AM | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 21 | 0 | 0 | 0 | 17 | 2 | 0 | 44 | 545 |

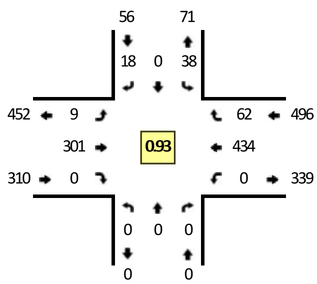
| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 0 | 0 | 0 | 140 | 0 | 36 | 0 | 4 | 564 | 0 | 0 | 0 | 184 | 16 | 0 | 944 |
| Heavy Trucks | 0 | 0 | 0 | | 4 | 0 | 12 | | 4 | 24 | 0 | | 0 | 36 | 0 | | 80 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

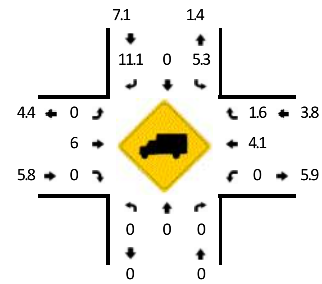
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

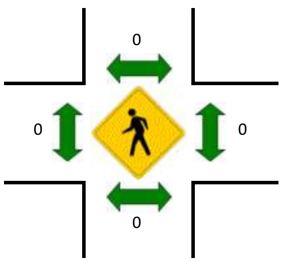
**LOCATION:** Flower Ave -- SR 166 | **QC JOB #:** 16714606
**CITY/STATE:** Guadalupe, CA | **DATE:** Wed, Aug 28 2024

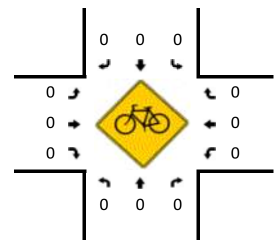
**Peak-Hour: 4:35 PM -- 5:35 PM**
**Peak 15-Min: 4:40 PM -- 4:55 PM**

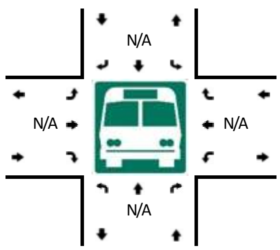


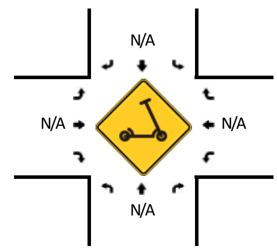

TRUE DATA TO IMPROVE MOBILITY




| 5-Min Count Period Beginning At | Flower Ave (Northbound) | | | | Flower Ave (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 25 | 0 | 0 | 0 | 29 | 4 | 0 | 64 | |
| 4:05 PM | 0 | 0 | 0 | 0 | 11 | 0 | 1 | 0 | 1 | 26 | 0 | 0 | 0 | 32 | 7 | 0 | 78 | |
| 4:10 PM | 0 | 0 | 0 | 0 | 9 | 0 | 4 | 0 | 0 | 21 | 0 | 0 | 0 | 31 | 4 | 0 | 69 | |
| 4:15 PM | 0 | 0 | 0 | 0 | 5 | 0 | 3 | 0 | 1 | 19 | 0 | 0 | 0 | 35 | 1 | 0 | 64 | |
| 4:20 PM | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 19 | 0 | 0 | 0 | 33 | 6 | 0 | 61 | |
| 4:25 PM | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 19 | 0 | 0 | 0 | 34 | 2 | 0 | 59 | |
| 4:30 PM | 0 | 0 | 0 | 0 | 5 | 0 | 3 | 0 | 1 | 24 | 0 | 0 | 0 | 26 | 4 | 0 | 63 | |
| 4:35 PM | 0 | 0 | 0 | 0 | 6 | 0 | 2 | 0 | 2 | 24 | 0 | 0 | 0 | 29 | 3 | 0 | 66 | |
| 4:40 PM | 0 | 0 | 0 | 0 | 7 | 0 | 2 | 0 | 1 | 33 | 0 | 0 | 0 | 29 | 3 | 0 | 75 | |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 40 | 6 | 0 | 77 | |
| 4:50 PM | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 27 | 0 | 0 | 0 | 44 | 6 | 0 | 79 | |
| 4:55 PM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 12 | 0 | 0 | 0 | 31 | 6 | 0 | 51 | 806 |
| 5:00 PM | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 33 | 0 | 0 | 0 | 30 | 7 | 0 | 76 | 818 |
| 5:05 PM | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 27 | 0 | 0 | 0 | 38 | 5 | 0 | 76 | 816 |
| 5:10 PM | 0 | 0 | 0 | 0 | 2 | 0 | 7 | 0 | 1 | 21 | 0 | 0 | 0 | 28 | 4 | 0 | 63 | 810 |
| 5:15 PM | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 22 | 0 | 0 | 0 | 43 | 7 | 0 | 76 | 822 |
| 5:20 PM | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 26 | 0 | 0 | 0 | 44 | 10 | 0 | 84 | 845 |
| 5:25 PM | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 1 | 18 | 0 | 0 | 0 | 42 | 4 | 0 | 70 | 856 |
| 5:30 PM | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 27 | 0 | 0 | 0 | 36 | 1 | 0 | 69 | 862 |
| 5:35 PM | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 2 | 17 | 0 | 0 | 0 | 29 | 8 | 0 | 59 | 855 |
| 5:40 PM | 0 | 0 | 0 | 0 | 2 | 0 | 5 | 0 | 0 | 18 | 0 | 0 | 0 | 29 | 4 | 0 | 58 | 838 |
| 5:45 PM | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 4 | 15 | 0 | 0 | 0 | 37 | 3 | 0 | 65 | 826 |
| 5:50 PM | 0 | 0 | 0 | 0 | 5 | 0 | 4 | 0 | 1 | 16 | 0 | 0 | 0 | 27 | 2 | 0 | 55 | 802 |
| 5:55 PM | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 2 | 21 | 0 | 0 | 0 | 27 | 3 | 0 | 58 | 809 |

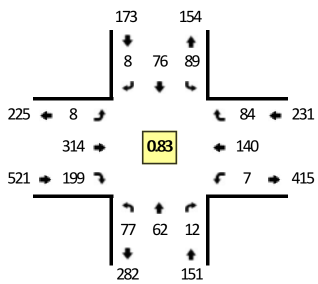
| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 0 | 0 | 0 | 32 | 0 | 12 | 0 | 4 | 364 | 0 | 0 | 0 | 452 | 60 | 0 | 924 |
| Heavy Trucks | 0 | 0 | 0 | | 4 | 0 | 4 | | 0 | 24 | 0 | | 0 | 24 | 0 | | 56 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 9/6/2024 1:36 PM

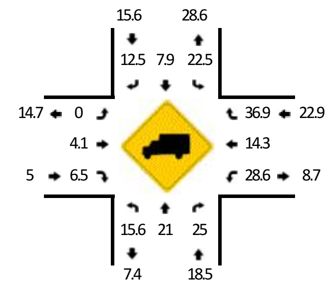
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

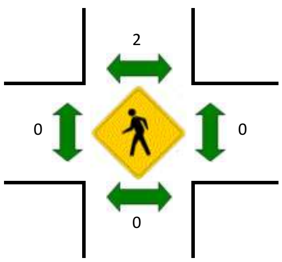
**LOCATION:** Simas Rd -- SR 166 | **QC JOB #:** 16714607
**CITY/STATE:** Santa Barbara, CA | **DATE:** Wed, Aug 28 2024

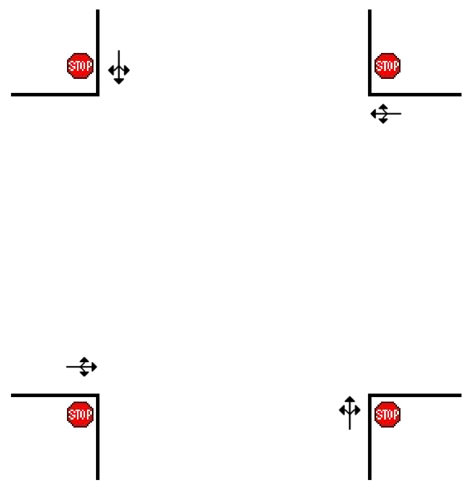


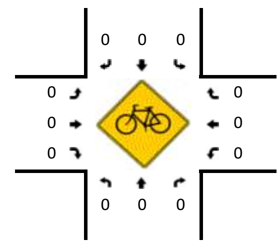

**Peak-Hour: 7:15 AM -- 8:15 AM**
**Peak 15-Min: 7:30 AM -- 7:45 AM**

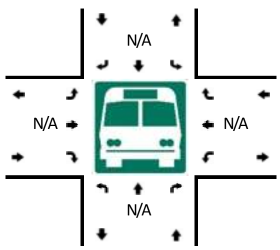
TRUE DATA TO IMPROVE MOBILITY

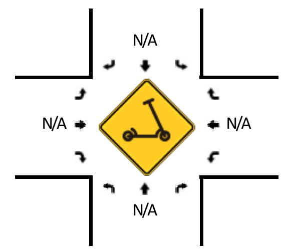





| 5-Min Count Period Beginning At | Simas Rd (Northbound) | | | | Simas Rd (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 2 | 4 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 15 | 7 | 0 | 1 | 11 | 6 | 0 | 51 | |
| 7:05 AM | 6 | 5 | 0 | 0 | 9 | 1 | 0 | 0 | 0 | 12 | 10 | 0 | 3 | 13 | 10 | 0 | 69 | |
| 7:10 AM | 1 | 5 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 27 | 8 | 0 | 0 | 11 | 1 | 0 | 59 | |
| 7:15 AM | 8 | 4 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 35 | 22 | 0 | 1 | 10 | 5 | 0 | 89 | |
| 7:20 AM | 7 | 3 | 1 | 0 | 5 | 4 | 0 | 0 | 0 | 17 | 11 | 0 | 0 | 18 | 7 | 0 | 73 | |
| 7:25 AM | 7 | 7 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 27 | 10 | 0 | 0 | 12 | 11 | 0 | 80 | |
| 7:30 AM | 8 | 6 | 1 | 0 | 6 | 8 | 1 | 0 | 1 | 35 | 17 | 0 | 2 | 9 | 9 | 0 | 103 | |
| 7:35 AM | 7 | 6 | 0 | 0 | 14 | 10 | 1 | 0 | 0 | 37 | 18 | 0 | 1 | 8 | 7 | 0 | 109 | |
| 7:40 AM | 6 | 8 | 1 | 0 | 9 | 11 | 0 | 0 | 0 | 34 | 25 | 0 | 0 | 11 | 6 | 0 | 111 | |
| 7:45 AM | 3 | 2 | 1 | 0 | 6 | 5 | 1 | 0 | 1 | 32 | 30 | 0 | 0 | 13 | 5 | 0 | 99 | |
| 7:50 AM | 5 | 4 | 1 | 0 | 8 | 10 | 0 | 0 | 0 | 20 | 9 | 0 | 0 | 7 | 7 | 0 | 71 | |
| 7:55 AM | 7 | 10 | 3 | 0 | 8 | 6 | 0 | 0 | 1 | 20 | 13 | 0 | 1 | 16 | 9 | 0 | 94 | 1008 |
| 8:00 AM | 7 | 5 | 0 | 0 | 12 | 4 | 2 | 0 | 0 | 18 | 15 | 0 | 1 | 12 | 7 | 0 | 83 | 1040 |
| 8:05 AM | 4 | 3 | 2 | 0 | 4 | 10 | 1 | 0 | 3 | 18 | 12 | 0 | 1 | 15 | 6 | 0 | 79 | 1050 |
| 8:10 AM | 8 | 4 | 2 | 0 | 10 | 5 | 2 | 0 | 2 | 21 | 17 | 0 | 0 | 9 | 5 | 0 | 85 | 1076 |
| 8:15 AM | 7 | 3 | 0 | 0 | 7 | 5 | 4 | 0 | 1 | 14 | 15 | 0 | 0 | 8 | 10 | 0 | 74 | 1061 |
| 8:20 AM | 6 | 6 | 2 | 0 | 9 | 8 | 2 | 0 | 1 | 12 | 12 | 0 | 1 | 6 | 4 | 0 | 69 | 1057 |
| 8:25 AM | 1 | 8 | 0 | 0 | 10 | 5 | 5 | 0 | 0 | 20 | 9 | 0 | 1 | 10 | 6 | 0 | 75 | 1052 |
| 8:30 AM | 2 | 5 | 1 | 0 | 11 | 6 | 2 | 0 | 0 | 19 | 8 | 0 | 0 | 6 | 11 | 0 | 71 | 1020 |
| 8:35 AM | 2 | 9 | 1 | 0 | 7 | 6 | 1 | 0 | 0 | 10 | 8 | 0 | 1 | 9 | 2 | 0 | 56 | 967 |
| 8:40 AM | 4 | 5 | 1 | 0 | 11 | 5 | 0 | 0 | 0 | 12 | 7 | 0 | 0 | 13 | 6 | 0 | 64 | 920 |
| 8:45 AM | 2 | 11 | 0 | 0 | 4 | 5 | 0 | 0 | 0 | 20 | 8 | 0 | 1 | 9 | 5 | 0 | 65 | 886 |
| 8:50 AM | 7 | 3 | 4 | 0 | 6 | 10 | 1 | 0 | 0 | 16 | 5 | 0 | 2 | 6 | 8 | 0 | 68 | 883 |
| 8:55 AM | 9 | 8 | 0 | 0 | 6 | 5 | 0 | 0 | 0 | 15 | 9 | 0 | 0 | 10 | 4 | 0 | 66 | 855 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 84 | 80 | 8 | 0 | 116 | 116 | 8 | 0 | 4 | 424 | 240 | 0 | 12 | 112 | 88 | 0 | 1292 |
| Heavy Trucks | 8 | 20 | 8 | | 28 | 12 | 0 | | 0 | 12 | 16 | | 4 | 28 | 32 | | 168 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 4 | | | | 0 | | | | 0 | | | 4 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

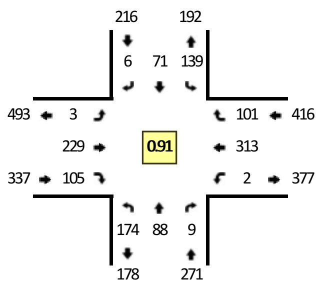
*Comments:*

Report generated on 9/6/2024 1:36 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

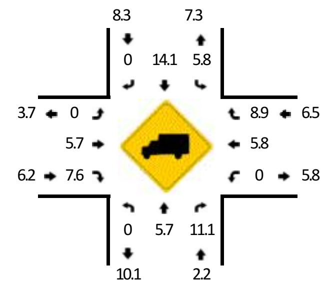
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

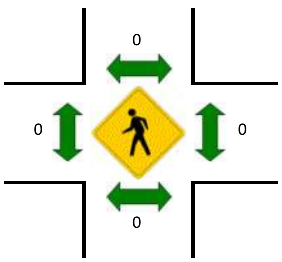
**LOCATION:** Simas Rd -- SR 166 | **QC JOB #:** 16714608
**CITY/STATE:** Santa Barbara, CA | **DATE:** Wed, Aug 28 2024

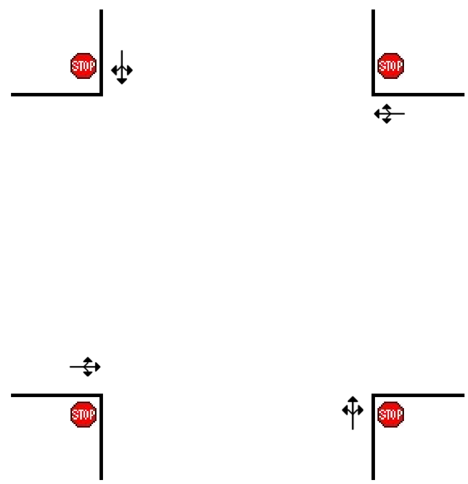
**Peak-Hour: 4:35 PM -- 5:35 PM**
**Peak 15-Min: 4:40 PM -- 4:55 PM**

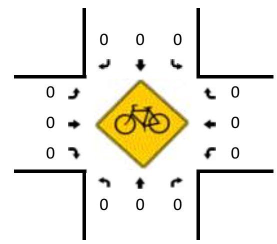


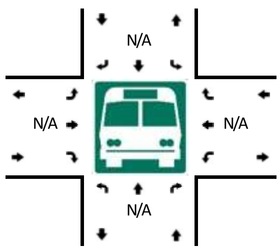

TRUE DATA TO IMPROVE MOBILITY

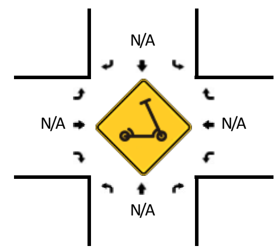





| 5-Min Count Period Beginning At | Simas Rd (Northbound) | | | | Simas Rd (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 16 | 5 | 0 | 0 | 14 | 2 | 2 | 0 | 2 | 18 | 10 | 0 | 1 | 16 | 6 | 0 | 92 | |
| 4:05 PM | 12 | 5 | 1 | 0 | 6 | 8 | 0 | 0 | 1 | 30 | 6 | 0 | 2 | 27 | 11 | 0 | 109 | |
| 4:10 PM | 16 | 14 | 0 | 0 | 8 | 7 | 0 | 0 | 1 | 19 | 16 | 0 | 1 | 19 | 5 | 0 | 106 | |
| 4:15 PM | 21 | 6 | 0 | 0 | 10 | 7 | 1 | 0 | 0 | 13 | 10 | 0 | 1 | 19 | 4 | 0 | 92 | |
| 4:20 PM | 23 | 6 | 0 | 0 | 7 | 7 | 1 | 0 | 2 | 12 | 6 | 0 | 0 | 14 | 6 | 0 | 84 | |
| 4:25 PM | 17 | 7 | 1 | 0 | 9 | 3 | 0 | 0 | 0 | 13 | 11 | 0 | 1 | 21 | 10 | 0 | 93 | |
| 4:30 PM | 11 | 9 | 1 | 0 | 8 | 5 | 0 | 0 | 0 | 15 | 12 | 0 | 2 | 15 | 4 | 0 | 82 | |
| 4:35 PM | 10 | 11 | 2 | 0 | 8 | 5 | 1 | 0 | 1 | 17 | 7 | 0 | 0 | 22 | 8 | 0 | 92 | |
| 4:40 PM | 16 | 5 | 0 | 0 | 10 | 9 | 1 | 0 | 1 | 30 | 13 | 0 | 1 | 17 | 12 | 0 | 115 | |
| 4:45 PM | 14 | 6 | 2 | 0 | 11 | 5 | 2 | 0 | 0 | 18 | 11 | 0 | 0 | 34 | 10 | 0 | 113 | |
| 4:50 PM | 14 | 6 | 1 | 0 | 15 | 4 | 1 | 0 | 0 | 23 | 7 | 0 | 0 | 29 | 12 | 0 | 112 | |
| 4:55 PM | 12 | 7 | 1 | 0 | 11 | 3 | 0 | 0 | 0 | 10 | 5 | 0 | 0 | 22 | 7 | 0 | 78 | 1168 |
| 5:00 PM | 18 | 10 | 0 | 0 | 12 | 3 | 0 | 0 | 0 | 17 | 17 | 0 | 0 | 22 | 6 | 0 | 105 | 1181 |
| 5:05 PM | 8 | 5 | 2 | 0 | 10 | 2 | 0 | 0 | 0 | 22 | 10 | 0 | 0 | 33 | 8 | 0 | 100 | 1172 |
| 5:10 PM | 14 | 12 | 0 | 0 | 20 | 7 | 0 | 0 | 1 | 16 | 8 | 0 | 1 | 22 | 9 | 0 | 110 | 1176 |
| 5:15 PM | 16 | 7 | 0 | 0 | 7 | 10 | 1 | 0 | 0 | 15 | 6 | 0 | 0 | 31 | 5 | 0 | 98 | 1182 |
| 5:20 PM | 23 | 6 | 1 | 0 | 8 | 8 | 0 | 0 | 0 | 23 | 7 | 0 | 0 | 33 | 5 | 0 | 114 | 1212 |
| 5:25 PM | 14 | 7 | 0 | 0 | 17 | 9 | 0 | 0 | 0 | 19 | 4 | 0 | 0 | 27 | 11 | 0 | 108 | 1227 |
| 5:30 PM | 15 | 6 | 0 | 0 | 10 | 6 | 0 | 0 | 0 | 19 | 10 | 0 | 0 | 21 | 8 | 0 | 95 | 1240 |
| 5:35 PM | 12 | 8 | 1 | 0 | 5 | 4 | 0 | 0 | 1 | 13 | 4 | 0 | 0 | 26 | 15 | 0 | 89 | 1237 |
| 5:40 PM | 9 | 3 | 2 | 0 | 10 | 4 | 1 | 0 | 0 | 15 | 9 | 0 | 0 | 28 | 2 | 0 | 83 | 1205 |
| 5:45 PM | 18 | 5 | 1 | 0 | 9 | 6 | 1 | 0 | 1 | 12 | 2 | 0 | 1 | 18 | 8 | 0 | 82 | 1174 |
| 5:50 PM | 15 | 3 | 0 | 0 | 14 | 5 | 0 | 0 | 0 | 9 | 7 | 0 | 0 | 17 | 2 | 0 | 72 | 1134 |
| 5:55 PM | 10 | 5 | 1 | 0 | 6 | 4 | 1 | 0 | 0 | 17 | 12 | 0 | 0 | 19 | 6 | 0 | 81 | 1137 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 176 | 68 | 12 | 0 | 144 | 72 | 16 | 0 | 4 | 284 | 124 | 0 | 4 | 320 | 136 | 0 | 1360 |
| Heavy Trucks | 0 | 0 | 4 | | 8 | 16 | 0 | | 0 | 24 | 12 | | 0 | 24 | 16 | | 104 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

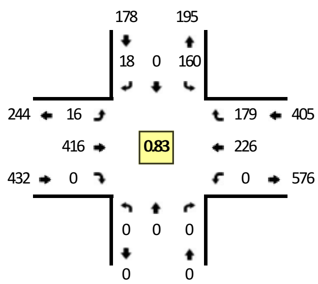
*Comments:*

Report generated on 9/6/2024 1:36 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

**LOCATION:** Bonita School Rd -- SR 166 | **QC JOB #:** 16714609

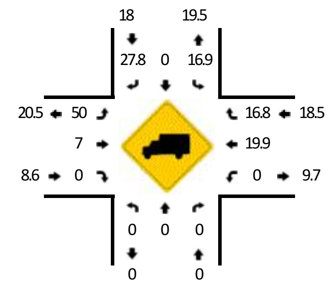
**CITY/STATE:** Santa Barbara, CA | **DATE:** Wed, Aug 28 2024

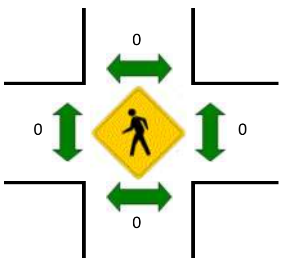


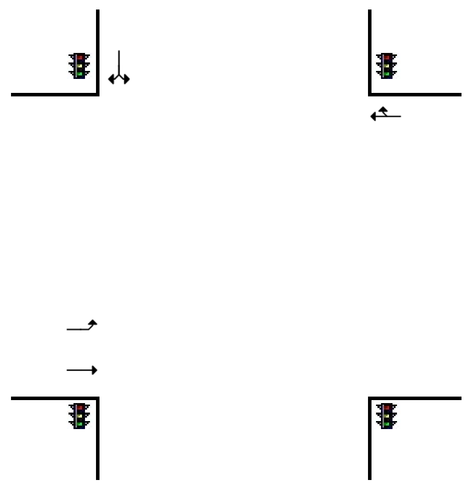

**Peak-Hour: 7:10 AM -- 8:10 AM**

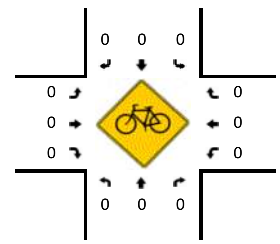
**Peak 15-Min: 7:30 AM -- 7:45 AM**

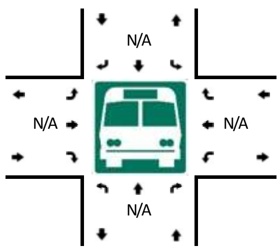
TRUE DATA TO IMPROVE MOBILITY

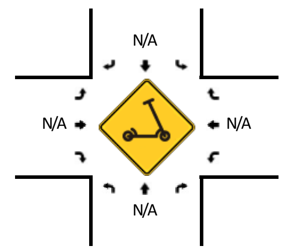





| 5-Min Count Period Beginning At | Bonita School Rd (Northbound) | | | | Bonita School Rd (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 5 | 0 | 4 | 0 | 3 | 13 | 0 | 0 | 0 | 22 | 14 | 0 | 61 | |
| 7:05 AM | 0 | 0 | 0 | 0 | 4 | 0 | 2 | 0 | 1 | 15 | 0 | 0 | 0 | 13 | 15 | 0 | 50 | |
| 7:10 AM | 0 | 0 | 0 | 0 | 5 | 0 | 2 | 0 | 3 | 34 | 0 | 0 | 0 | 15 | 16 | 0 | 75 | |
| 7:15 AM | 0 | 0 | 0 | 0 | 13 | 0 | 2 | 0 | 2 | 26 | 0 | 0 | 0 | 25 | 13 | 0 | 81 | |
| 7:20 AM | 0 | 0 | 0 | 0 | 14 | 0 | 2 | 0 | 0 | 39 | 0 | 0 | 0 | 22 | 19 | 0 | 96 | |
| 7:25 AM | 0 | 0 | 0 | 0 | 16 | 0 | 3 | 0 | 1 | 22 | 0 | 0 | 0 | 18 | 15 | 0 | 75 | |
| 7:30 AM | 0 | 0 | 0 | 0 | 19 | 0 | 3 | 0 | 0 | 39 | 0 | 0 | 0 | 14 | 25 | 0 | 100 | |
| 7:35 AM | 0 | 0 | 0 | 0 | 10 | 0 | 1 | 0 | 2 | 40 | 0 | 0 | 0 | 16 | 21 | 0 | 90 | |
| 7:40 AM | 0 | 0 | 0 | 0 | 25 | 0 | 2 | 0 | 2 | 47 | 0 | 0 | 0 | 16 | 24 | 0 | 116 | |
| 7:45 AM | 0 | 0 | 0 | 0 | 18 | 0 | 1 | 0 | 1 | 48 | 0 | 0 | 0 | 14 | 10 | 0 | 92 | |
| 7:50 AM | 0 | 0 | 0 | 0 | 11 | 0 | 2 | 0 | 1 | 37 | 0 | 0 | 0 | 19 | 8 | 0 | 78 | |
| 7:55 AM | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 4 | 26 | 0 | 0 | 0 | 32 | 8 | 0 | 77 | 991 |
| 8:00 AM | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 14 | 9 | 0 | 61 | 991 |
| 8:05 AM | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 21 | 11 | 0 | 74 | 1015 |
| 8:10 AM | 0 | 0 | 0 | 0 | 12 | 0 | 2 | 0 | 1 | 23 | 0 | 0 | 0 | 17 | 10 | 0 | 65 | 1005 |
| 8:15 AM | 0 | 0 | 0 | 0 | 15 | 0 | 1 | 0 | 5 | 20 | 0 | 0 | 0 | 11 | 3 | 0 | 55 | 979 |
| 8:20 AM | 0 | 0 | 0 | 0 | 22 | 0 | 1 | 0 | 2 | 29 | 0 | 0 | 0 | 16 | 9 | 0 | 79 | 962 |
| 8:25 AM | 0 | 0 | 0 | 0 | 18 | 0 | 5 | 0 | 1 | 20 | 0 | 0 | 0 | 16 | 11 | 0 | 71 | 958 |
| 8:30 AM | 0 | 0 | 0 | 0 | 17 | 0 | 1 | 0 | 2 | 30 | 0 | 0 | 0 | 7 | 6 | 0 | 63 | 921 |
| 8:35 AM | 0 | 0 | 0 | 0 | 15 | 0 | 1 | 0 | 0 | 27 | 0 | 0 | 0 | 17 | 12 | 0 | 72 | 903 |
| 8:40 AM | 0 | 0 | 0 | 0 | 31 | 0 | 2 | 0 | 3 | 19 | 0 | 0 | 0 | 12 | 7 | 0 | 74 | 861 |
| 8:45 AM | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 3 | 26 | 0 | 0 | 0 | 13 | 10 | 0 | 73 | 842 |
| 8:50 AM | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 2 | 26 | 0 | 0 | 0 | 14 | 10 | 0 | 71 | 835 |
| 8:55 AM | 0 | 0 | 0 | 0 | 24 | 0 | 2 | 0 | 4 | 16 | 0 | 0 | 0 | 13 | 7 | 0 | 66 | 824 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 0 | 0 | 0 | 216 | 0 | 24 | 0 | 16 | 504 | 0 | 0 | 0 | 184 | 280 | 0 | 1224 |
| Heavy Trucks | 0 | 0 | 0 | | 20 | 0 | 4 | | 12 | 48 | 0 | | 0 | 56 | 48 | | 188 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

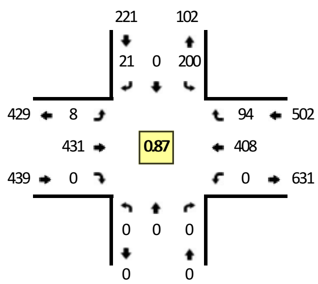
*Comments:*

Report generated on 9/6/2024 1:36 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

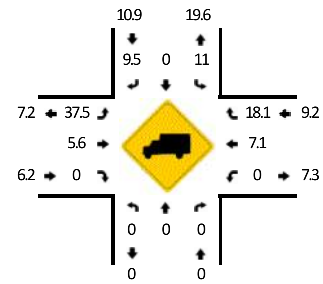
**LOCATION:** Bonita School Rd -- SR 166
**CITY/STATE:** Santa Barbara, CA

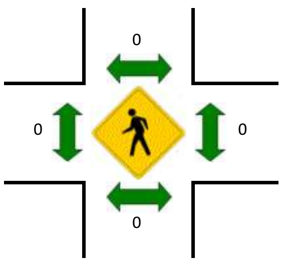
**QC JOB #:** 16714610
**DATE:** Wed, Aug 28 2024

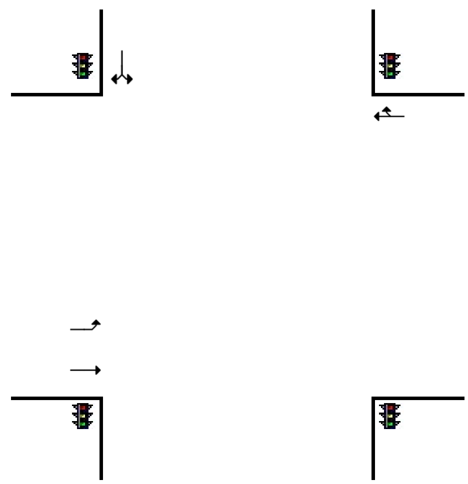


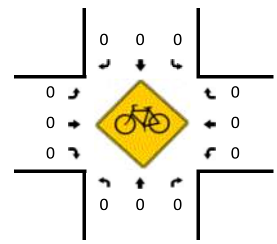

**Peak-Hour: 4:35 PM -- 5:35 PM**
**Peak 15-Min: 4:35 PM -- 4:50 PM**

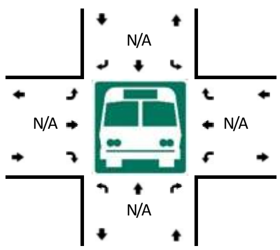
TRUE DATA TO IMPROVE MOBILITY

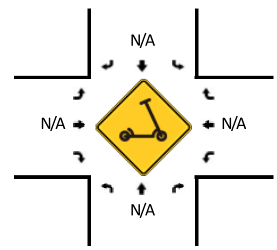




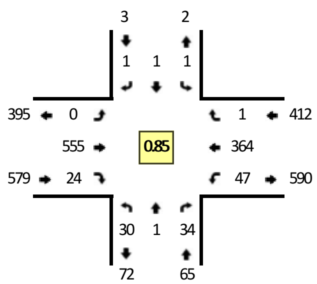

| 5-Min Count Period Beginning At | Bonita School Rd (Northbound) | | | | Bonita School Rd (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 18 | 0 | 2 | 0 | 5 | 50 | 0 | 0 | 0 | 24 | 9 | 0 | 108 | |
| 4:05 PM | 0 | 0 | 0 | 0 | 11 | 0 | 2 | 0 | 2 | 62 | 0 | 0 | 0 | 25 | 15 | 0 | 117 | |
| 4:10 PM | 0 | 0 | 0 | 0 | 11 | 0 | 2 | 0 | 0 | 37 | 0 | 0 | 0 | 22 | 6 | 0 | 78 | |
| 4:15 PM | 0 | 0 | 0 | 0 | 18 | 0 | 2 | 0 | 1 | 30 | 0 | 0 | 0 | 20 | 8 | 0 | 79 | |
| 4:20 PM | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 32 | 6 | 0 | 64 | |
| 4:25 PM | 0 | 0 | 0 | 0 | 12 | 0 | 2 | 0 | 1 | 25 | 0 | 0 | 0 | 23 | 12 | 0 | 75 | |
| 4:30 PM | 0 | 0 | 0 | 0 | 9 | 0 | 1 | 0 | 0 | 28 | 0 | 0 | 0 | 22 | 8 | 0 | 68 | |
| 4:35 PM | 0 | 0 | 0 | 0 | 29 | 0 | 4 | 0 | 0 | 31 | 0 | 0 | 0 | 29 | 9 | 0 | 102 | |
| 4:40 PM | 0 | 0 | 0 | 0 | 14 | 0 | 3 | 0 | 0 | 28 | 0 | 0 | 0 | 50 | 9 | 0 | 104 | |
| 4:45 PM | 0 | 0 | 0 | 0 | 32 | 0 | 2 | 0 | 2 | 48 | 0 | 0 | 0 | 35 | 10 | 0 | 129 | |
| 4:50 PM | 0 | 0 | 0 | 0 | 23 | 0 | 1 | 0 | 1 | 30 | 0 | 0 | 0 | 27 | 7 | 0 | 89 | |
| 4:55 PM | 0 | 0 | 0 | 0 | 23 | 0 | 4 | 0 | 1 | 43 | 0 | 0 | 0 | 19 | 7 | 0 | 97 | 1110 |
| 5:00 PM | 0 | 0 | 0 | 0 | 17 | 0 | 1 | 0 | 2 | 31 | 0 | 0 | 0 | 45 | 7 | 0 | 103 | 1105 |
| 5:05 PM | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 1 | 45 | 0 | 0 | 0 | 32 | 7 | 0 | 91 | 1079 |
| 5:10 PM | 0 | 0 | 0 | 0 | 11 | 0 | 2 | 0 | 1 | 33 | 0 | 0 | 0 | 40 | 7 | 0 | 94 | 1095 |
| 5:15 PM | 0 | 0 | 0 | 0 | 11 | 0 | 1 | 0 | 0 | 40 | 0 | 0 | 0 | 42 | 4 | 0 | 98 | 1114 |
| 5:20 PM | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 34 | 9 | 0 | 78 | 1128 |
| 5:25 PM | 0 | 0 | 0 | 0 | 17 | 0 | 2 | 0 | 0 | 45 | 0 | 0 | 0 | 24 | 10 | 0 | 98 | 1151 |
| 5:30 PM | 0 | 0 | 0 | 0 | 7 | 0 | 1 | 0 | 0 | 32 | 0 | 0 | 0 | 31 | 8 | 0 | 79 | 1162 |
| 5:35 PM | 0 | 0 | 0 | 0 | 12 | 0 | 2 | 0 | 0 | 35 | 0 | 0 | 0 | 31 | 5 | 0 | 85 | 1145 |
| 5:40 PM | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 0 | 2 | 18 | 0 | 0 | 0 | 25 | 2 | 0 | 60 | 1101 |
| 5:45 PM | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 27 | 9 | 0 | 81 | 1053 |
| 5:50 PM | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 19 | 5 | 0 | 62 | 1026 |
| 5:55 PM | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 25 | 5 | 0 | 69 | 998 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 0 | 0 | 0 | 0 | 300 | 0 | 36 | 0 | 8 | 428 | 0 | 0 | 0 | 456 | 112 | 0 | 1340 |
| Heavy Trucks | 0 | 0 | 0 | | 24 | 0 | 4 | | 4 | 32 | 0 | | 0 | 36 | 20 | | 120 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

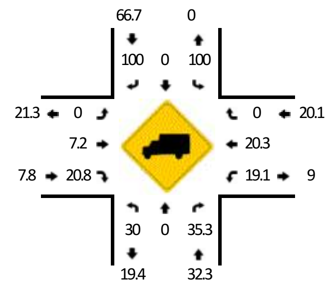
**LOCATION:** Ray Rd -- SR 166
**CITY/STATE:** Santa Barbara, CA

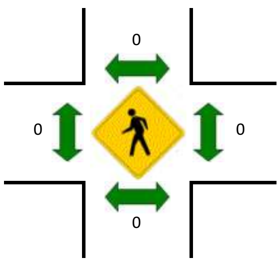
**QC JOB #:** 16714611
**DATE:** Wed, Aug 28 2024

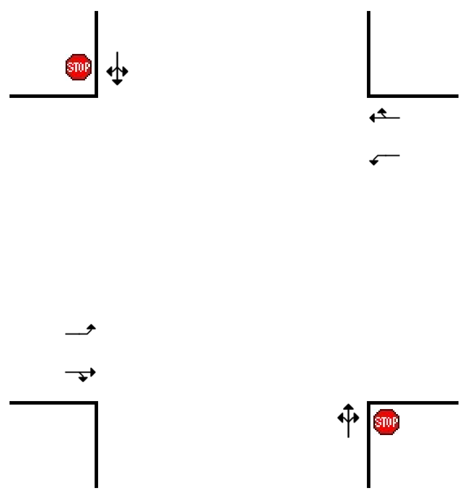


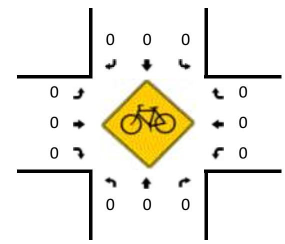

**Peak-Hour: 7:15 AM -- 8:15 AM**
**Peak 15-Min: 7:30 AM -- 7:45 AM**

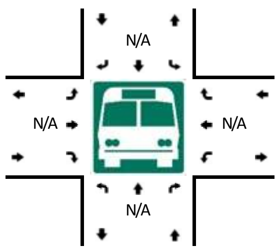
TRUE DATA TO IMPROVE MOBILITY

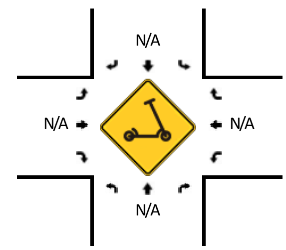



| 5-Min Count Period Beginning At | Ray Rd (Northbound) | | | | Ray Rd (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 2 | 0 | 11 | 35 | 0 | 0 | 69 | |
| 7:05 AM | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 4 | 27 | 0 | 0 | 57 | |
| 7:10 AM | 4 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 1 | 1 | 5 | 31 | 0 | 0 | 77 | |
| 7:15 AM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 2 | 0 | 1 | 31 | 0 | 0 | 81 | |
| 7:20 AM | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 4 | 0 | 4 | 38 | 0 | 0 | 101 | |
| 7:25 AM | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 2 | 0 | 2 | 32 | 0 | 0 | 71 | |
| 7:30 AM | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 3 | 0 | 4 | 37 | 1 | 0 | 109 | |
| 7:35 AM | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 1 | 0 | 3 | 33 | 0 | 0 | 96 | |
| 7:40 AM | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 64 | 1 | 0 | 0 | 35 | 0 | 0 | 106 | |
| 7:45 AM | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 2 | 0 | 3 | 28 | 0 | 0 | 108 | |
| 7:50 AM | 5 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 41 | 3 | 0 | 5 | 22 | 0 | 0 | 79 | |
| 7:55 AM | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 37 | 0 | 0 | 6 | 31 | 0 | 0 | 77 | 1031 |
| 8:00 AM | 5 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 2 | 0 | 7 | 24 | 0 | 0 | 73 | 1035 |
| 8:05 AM | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 2 | 0 | 5 | 27 | 0 | 0 | 76 | 1054 |
| 8:10 AM | 2 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 2 | 0 | 7 | 26 | 0 | 0 | 82 | 1059 |
| 8:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 2 | 0 | 8 | 18 | 0 | 0 | 64 | 1042 |
| 8:20 AM | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 5 | 0 | 6 | 21 | 0 | 0 | 72 | 1013 |
| 8:25 AM | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 2 | 0 | 7 | 24 | 0 | 0 | 83 | 1025 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 2 | 0 | 6 | 18 | 0 | 0 | 64 | 980 |
| 8:35 AM | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 5 | 0 | 3 | 24 | 0 | 0 | 83 | 967 |
| 8:40 AM | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 2 | 0 | 6 | 18 | 0 | 0 | 77 | 938 |
| 8:45 AM | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 46 | 1 | 0 | 4 | 18 | 0 | 0 | 75 | 905 |
| 8:50 AM | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 2 | 0 | 1 | 26 | 0 | 0 | 80 | 906 |
| 8:55 AM | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 2 | 3 | 0 | 6 | 21 | 0 | 0 | 72 | 901 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 40 | 4 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 696 | 20 | 0 | 28 | 420 | 4 | 0 | 1244 |
| Heavy Trucks | 12 | 0 | 4 | | 0 | 0 | 0 | | 0 | 32 | 4 | | 4 | 100 | 0 | | 156 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

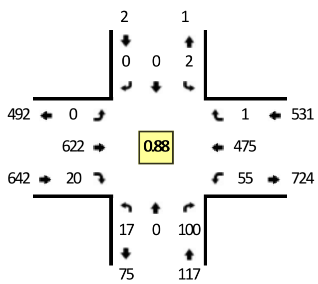
*Comments:*

Report generated on 9/6/2024 1:36 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

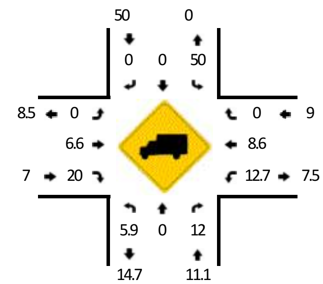
Type of peak hour being reported: Intersection Peak    Method for determining peak hour: Total Entering Volume

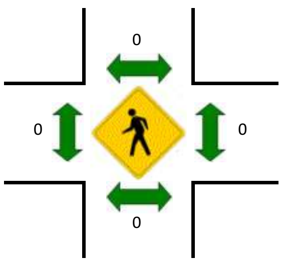
**LOCATION:** Ray Rd -- SR 166    **QC JOB #:** 16714612
**CITY/STATE:** Santa Barbara, CA    **DATE:** Wed, Aug 28 2024

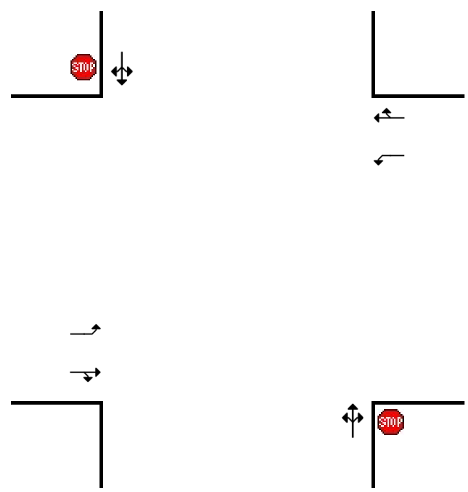


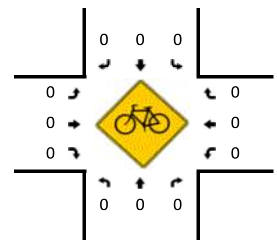

**Peak-Hour: 4:35 PM -- 5:35 PM**
**Peak 15-Min: 4:35 PM -- 4:50 PM**

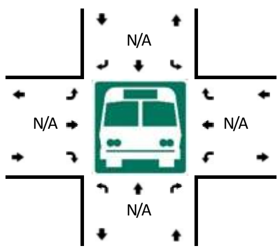
TRUE DATA TO IMPROVE MOBILITY

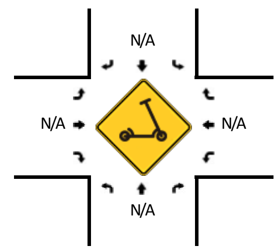





| 5-Min Count Period Beginning At | Ray Rd (Northbound) | | | | Ray Rd (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 65 | 4 | 0 | 6 | 44 | 0 | 0 | 124 | |
| 4:05 PM | 3 | 0 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 60 | 5 | 0 | 1 | 23 | 0 | 0 | 103 | |
| 4:10 PM | 1 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 11 | 0 | 6 | 31 | 0 | 0 | 117 | |
| 4:15 PM | 2 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 5 | 0 | 6 | 24 | 0 | 0 | 95 | |
| 4:20 PM | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 1 | 0 | 3 | 37 | 0 | 0 | 79 | |
| 4:25 PM | 1 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 1 | 0 | 4 | 31 | 0 | 0 | 86 | |
| 4:30 PM | 3 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 1 | 0 | 6 | 35 | 0 | 0 | 85 | |
| 4:35 PM | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 2 | 0 | 4 | 39 | 0 | 0 | 110 | |
| 4:40 PM | 7 | 0 | 13 | 0 | 1 | 0 | 0 | 0 | 0 | 48 | 1 | 0 | 7 | 46 | 0 | 0 | 123 | |
| 4:45 PM | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 74 | 2 | 0 | 4 | 42 | 0 | 0 | 133 | |
| 4:50 PM | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 0 | 0 | 4 | 32 | 0 | 0 | 96 | |
| 4:55 PM | 1 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 2 | 0 | 6 | 31 | 0 | 0 | 109 | 1260 |
| 5:00 PM | 1 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 59 | 3 | 0 | 4 | 44 | 0 | 0 | 118 | 1254 |
| 5:05 PM | 1 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 0 | 4 | 44 | 0 | 0 | 108 | 1259 |
| 5:10 PM | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 3 | 0 | 3 | 45 | 1 | 0 | 102 | 1244 |
| 5:15 PM | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 1 | 0 | 5 | 46 | 0 | 0 | 102 | 1251 |
| 5:20 PM | 1 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 2 | 0 | 3 | 35 | 0 | 0 | 89 | 1261 |
| 5:25 PM | 2 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 54 | 4 | 0 | 5 | 31 | 0 | 0 | 108 | 1283 |
| 5:30 PM | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 41 | 0 | 0 | 6 | 40 | 0 | 0 | 94 | 1292 |
| 5:35 PM | 1 | 0 | 10 | 0 | 1 | 0 | 0 | 0 | 0 | 49 | 2 | 0 | 6 | 34 | 0 | 0 | 103 | 1285 |
| 5:40 PM | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 2 | 0 | 10 | 32 | 0 | 0 | 80 | 1242 |
| 5:45 PM | 2 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 46 | 3 | 0 | 8 | 30 | 0 | 0 | 97 | 1206 |
| 5:50 PM | 1 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 1 | 0 | 3 | 24 | 0 | 0 | 72 | 1182 |
| 5:55 PM | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 7 | 27 | 0 | 0 | 73 | 1146 |

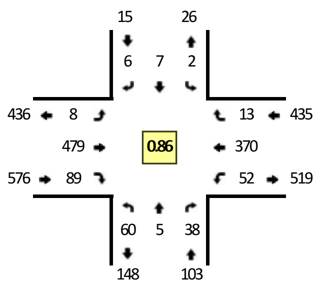
| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 28 | 0 | 132 | 0 | 4 | 0 | 0 | 0 | 0 | 712 | 20 | 0 | 60 | 508 | 0 | 0 | 1464 |
| Heavy Trucks | 4 | 0 | 4 | | 4 | 0 | 0 | | 0 | 52 | 0 | | 12 | 40 | 0 | | 116 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 9/6/2024 1:36 PM    SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

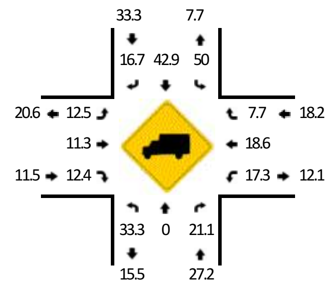
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

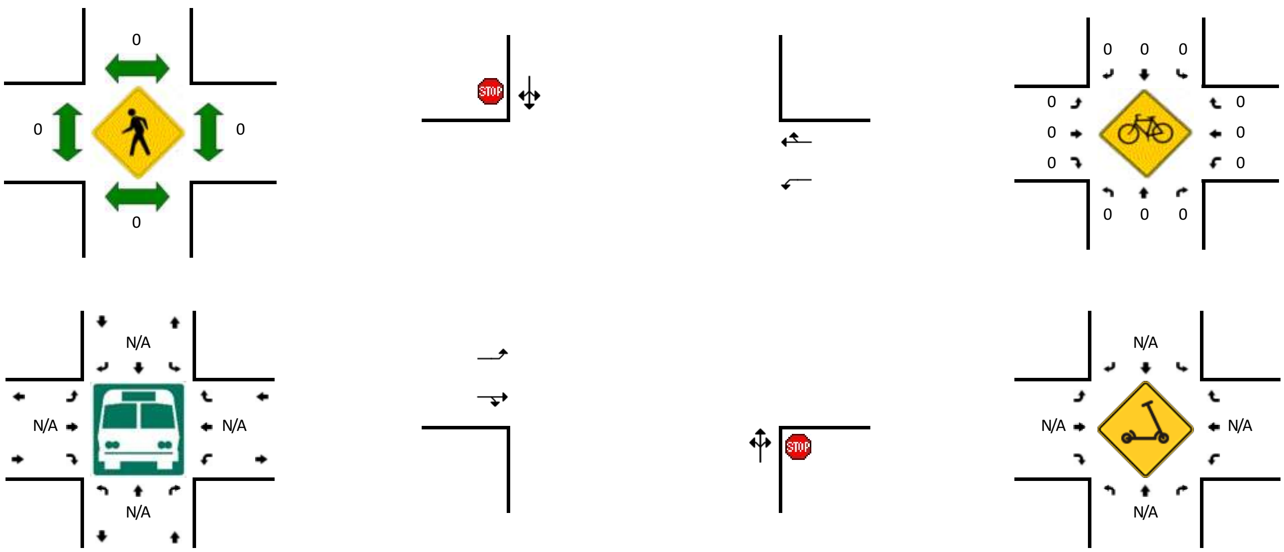
**LOCATION:** Black Rd -- SR 166 — **QC JOB #:** 16714613
**CITY/STATE:** Santa Barbara, CA — **DATE:** Wed, Aug 28 2024




**Peak-Hour: 7:10 AM -- 8:10 AM**
**Peak 15-Min: 7:40 AM -- 7:55 AM**

TRUE DATA TO IMPROVE MOBILITY




| 5-Min Count Period Beginning At | Black Rd (Northbound) | | | | Black Rd (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 19 | 5 | 0 | 4 | 39 | 1 | 0 | 73 | |
| 7:05 AM | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 2 | 0 | 5 | 23 | 1 | 0 | 60 | |
| 7:10 AM | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 33 | 5 | 0 | 3 | 34 | 2 | 0 | 84 | |
| 7:15 AM | 6 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 34 | 5 | 0 | 5 | 35 | 0 | 0 | 88 | |
| 7:20 AM | 4 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 44 | 7 | 0 | 2 | 38 | 2 | 0 | 100 | |
| 7:25 AM | 2 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 35 | 3 | 0 | 6 | 35 | 1 | 0 | 87 | |
| 7:30 AM | 7 | 0 | 5 | 0 | 0 | 2 | 1 | 0 | 1 | 39 | 10 | 0 | 6 | 33 | 2 | 0 | 106 | |
| 7:35 AM | 5 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 44 | 6 | 0 | 4 | 32 | 1 | 0 | 95 | |
| 7:40 AM | 8 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 60 | 9 | 0 | 4 | 21 | 0 | 0 | 106 | |
| 7:45 AM | 6 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 48 | 12 | 0 | 8 | 27 | 0 | 0 | 107 | |
| 7:50 AM | 6 | 0 | 5 | 0 | 1 | 0 | 1 | 0 | 0 | 53 | 10 | 0 | 6 | 30 | 3 | 0 | 115 | |
| 7:55 AM | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 26 | 9 | 0 | 3 | 31 | 0 | 0 | 77 | 1098 |
| 8:00 AM | 4 | 2 | 6 | 0 | 0 | 1 | 1 | 0 | 1 | 28 | 3 | 0 | 4 | 29 | 0 | 0 | 79 | 1104 |
| 8:05 AM | 6 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 35 | 10 | 0 | 1 | 25 | 2 | 0 | 85 | 1129 |
| 8:10 AM | 3 | 0 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 31 | 6 | 0 | 3 | 22 | 0 | 0 | 70 | 1115 |
| 8:15 AM | 3 | 1 | 4 | 0 | 0 | 1 | 1 | 0 | 0 | 39 | 5 | 0 | 4 | 24 | 1 | 0 | 83 | 1110 |
| 8:20 AM | 5 | 1 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 30 | 8 | 0 | 0 | 26 | 2 | 0 | 78 | 1088 |
| 8:25 AM | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 32 | 17 | 0 | 1 | 26 | 1 | 0 | 85 | 1086 |
| 8:30 AM | 6 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 31 | 12 | 0 | 3 | 15 | 0 | 0 | 70 | 1050 |
| 8:35 AM | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 2 | 36 | 14 | 0 | 6 | 27 | 1 | 0 | 91 | 1046 |
| 8:40 AM | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 11 | 0 | 2 | 17 | 0 | 0 | 68 | 1008 |
| 8:45 AM | 6 | 2 | 4 | 0 | 0 | 1 | 1 | 0 | 1 | 34 | 17 | 0 | 5 | 19 | 0 | 0 | 90 | 991 |
| 8:50 AM | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 36 | 9 | 0 | 4 | 18 | 0 | 0 | 73 | 949 |
| 8:55 AM | 4 | 3 | 5 | 0 | 1 | 2 | 1 | 0 | 1 | 42 | 5 | 0 | 2 | 25 | 0 | 0 | 91 | 963 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 80 | 8 | 40 | 0 | 4 | 4 | 4 | 0 | 8 | 644 | 124 | 0 | 72 | 312 | 12 | 0 | 1312 |
| Heavy Trucks | 32 | 0 | 8 | | 4 | 0 | 0 | | 4 | 56 | 16 | | 4 | 56 | 0 | | 180 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 9/6/2024 1:36 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

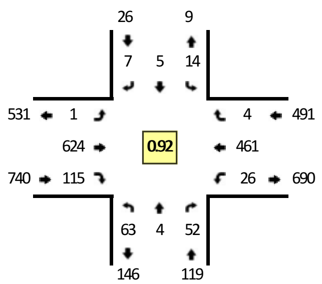
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

**LOCATION:** Black Rd -- SR 166 | **QC JOB #:** 16714614

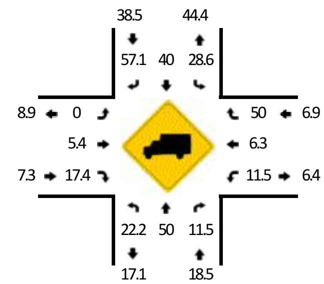
**CITY/STATE:** Santa Barbara, CA | **DATE:** Wed, Aug 28 2024

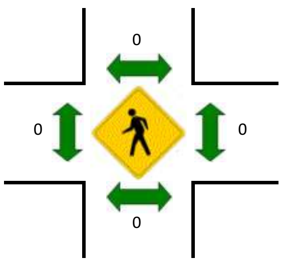
**Peak-Hour: 4:35 PM -- 5:35 PM**

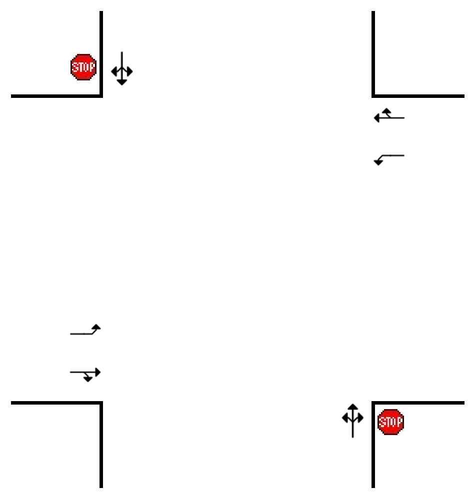
**Peak 15-Min: 4:45 PM -- 5:00 PM**

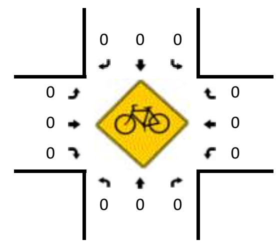


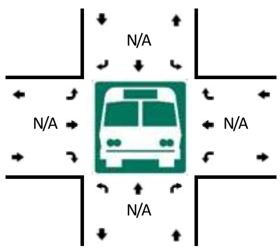

TRUE DATA TO IMPROVE MOBILITY

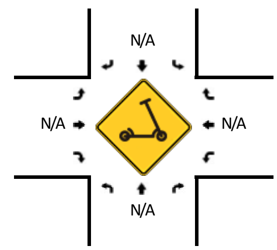



| 5-Min Count Period Beginning At | Black Rd (Northbound) | | | | Black Rd (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 4 | 1 | 7 | 0 | 5 | 0 | 0 | 0 | 4 | 50 | 16 | 0 | 4 | 38 | 0 | 0 | 129 | |
| 4:05 PM | 1 | 1 | 4 | 0 | 3 | 0 | 0 | 0 | 2 | 60 | 11 | 0 | 6 | 28 | 3 | 0 | 119 | |
| 4:10 PM | 4 | 0 | 4 | 0 | 1 | 0 | 2 | 0 | 0 | 53 | 15 | 0 | 6 | 30 | 1 | 0 | 116 | |
| 4:15 PM | 1 | 1 | 4 | 0 | 0 | 2 | 3 | 0 | 0 | 53 | 18 | 0 | 2 | 27 | 1 | 0 | 112 | |
| 4:20 PM | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 60 | 13 | 0 | 2 | 39 | 0 | 0 | 119 | |
| 4:25 PM | 2 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 37 | 3 | 0 | 2 | 32 | 1 | 0 | 82 | |
| 4:30 PM | 5 | 0 | 7 | 0 | 1 | 0 | 0 | 0 | 1 | 37 | 5 | 0 | 5 | 29 | 0 | 0 | 90 | |
| 4:35 PM | 4 | 1 | 3 | 0 | 7 | 0 | 2 | 0 | 0 | 47 | 8 | 0 | 2 | 41 | 1 | 0 | 116 | |
| 4:40 PM | 9 | 0 | 3 | 0 | 2 | 1 | 0 | 0 | 0 | 46 | 16 | 0 | 1 | 35 | 0 | 0 | 113 | |
| 4:45 PM | 6 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 59 | 15 | 0 | 4 | 39 | 0 | 0 | 127 | |
| 4:50 PM | 5 | 1 | 7 | 0 | 0 | 1 | 0 | 0 | 0 | 58 | 10 | 0 | 2 | 35 | 0 | 0 | 119 | |
| 4:55 PM | 7 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 64 | 6 | 0 | 4 | 41 | 1 | 0 | 128 | 1370 |
| 5:00 PM | 6 | 0 | 5 | 0 | 1 | 0 | 1 | 0 | 1 | 51 | 16 | 0 | 2 | 36 | 0 | 0 | 119 | 1360 |
| 5:05 PM | 5 | 1 | 9 | 0 | 1 | 2 | 1 | 0 | 0 | 41 | 8 | 0 | 2 | 41 | 2 | 0 | 113 | 1354 |
| 5:10 PM | 1 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 65 | 13 | 0 | 3 | 44 | 0 | 0 | 131 | 1369 |
| 5:15 PM | 7 | 0 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 43 | 4 | 0 | 2 | 39 | 0 | 0 | 101 | 1358 |
| 5:20 PM | 6 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 45 | 9 | 0 | 2 | 32 | 0 | 0 | 97 | 1336 |
| 5:25 PM | 3 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 51 | 4 | 0 | 0 | 33 | 0 | 0 | 98 | 1352 |
| 5:30 PM | 4 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 54 | 6 | 0 | 2 | 45 | 0 | 0 | 114 | 1376 |
| 5:35 PM | 2 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 1 | 45 | 6 | 0 | 3 | 41 | 0 | 0 | 102 | 1362 |
| 5:40 PM | 7 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 3 | 0 | 2 | 31 | 2 | 0 | 91 | 1340 |
| 5:45 PM | 6 | 1 | 2 | 0 | 1 | 0 | 2 | 0 | 0 | 40 | 8 | 0 | 3 | 26 | 0 | 0 | 89 | 1302 |
| 5:50 PM | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 5 | 0 | 2 | 30 | 0 | 0 | 91 | 1274 |
| 5:55 PM | 5 | 0 | 2 | 0 | 2 | 0 | 1 | 0 | 0 | 36 | 1 | 0 | 1 | 31 | 0 | 0 | 79 | 1225 |

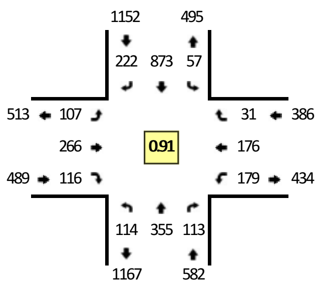
| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 72 | 4 | 56 | 0 | 8 | 4 | 0 | 0 | 0 | 724 | 124 | 0 | 40 | 460 | 4 | 0 | 1496 |
| Heavy Trucks | 16 | 0 | 8 | | 4 | 0 | 0 | | 0 | 40 | 28 | | 4 | 20 | 4 | | 124 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

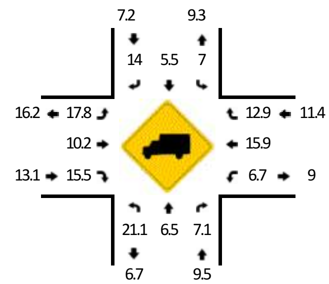
Report generated on 9/6/2024 1:36 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

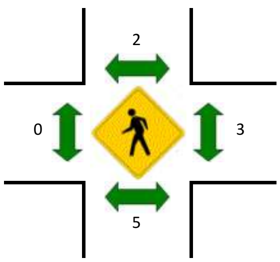
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

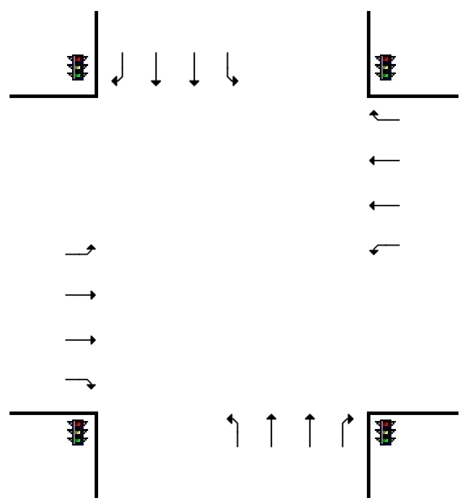
**LOCATION:** Blosser Rd -- SR 166 | **QC JOB #:** 16714615
**CITY/STATE:** Santa Maria, CA | **DATE:** Wed, Aug 28 2024

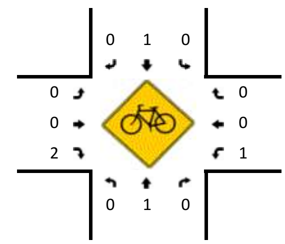


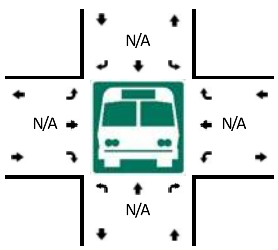

**Peak-Hour: 7:25 AM -- 8:25 AM**
**Peak 15-Min: 7:45 AM -- 8:00 AM**

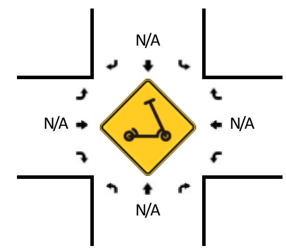





| 5-Min Count Period Beginning At | Blosser Rd (Northbound) | | | | Blosser Rd (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 15 | 19 | 2 | 0 | 2 | 39 | 23 | 0 | 11 | 7 | 5 | 0 | 6 | 9 | 2 | 0 | 140 | |
| 7:05 AM | 4 | 24 | 5 | 0 | 1 | 43 | 20 | 0 | 4 | 14 | 3 | 0 | 8 | 17 | 2 | 0 | 145 | |
| 7:10 AM | 16 | 24 | 10 | 0 | 0 | 40 | 25 | 0 | 6 | 13 | 7 | 0 | 7 | 12 | 0 | 1 | 161 | |
| 7:15 AM | 8 | 28 | 3 | 0 | 0 | 49 | 19 | 0 | 8 | 11 | 4 | 0 | 7 | 16 | 3 | 0 | 156 | |
| 7:20 AM | 11 | 30 | 9 | 0 | 3 | 41 | 13 | 1 | 17 | 27 | 8 | 0 | 6 | 19 | 1 | 0 | 186 | |
| 7:25 AM | 13 | 32 | 11 | 0 | 1 | 79 | 25 | 0 | 11 | 26 | 7 | 1 | 4 | 13 | 0 | 0 | 223 | |
| 7:30 AM | 16 | 24 | 4 | 0 | 4 | 42 | 17 | 0 | 4 | 9 | 11 | 0 | 10 | 16 | 5 | 0 | 162 | |
| 7:35 AM | 4 | 31 | 11 | 0 | 6 | 86 | 20 | 0 | 10 | 38 | 9 | 0 | 6 | 14 | 4 | 0 | 239 | |
| 7:40 AM | 13 | 28 | 8 | 0 | 6 | 66 | 8 | 0 | 10 | 21 | 10 | 0 | 16 | 23 | 2 | 0 | 211 | |
| 7:45 AM | 3 | 34 | 9 | 0 | 3 | 82 | 25 | 0 | 6 | 25 | 14 | 0 | 18 | 8 | 3 | 1 | 231 | |
| 7:50 AM | 12 | 32 | 6 | 0 | 2 | 75 | 29 | 1 | 8 | 27 | 15 | 0 | 23 | 12 | 6 | 0 | 248 | |
| 7:55 AM | 11 | 30 | 4 | 0 | 7 | 70 | 14 | 0 | 14 | 40 | 8 | 0 | 19 | 21 | 0 | 0 | 238 | 2340 |
| 8:00 AM | 9 | 27 | 12 | 0 | 4 | 63 | 26 | 0 | 5 | 11 | 10 | 0 | 29 | 21 | 2 | 0 | 219 | 2419 |
| 8:05 AM | 10 | 13 | 12 | 0 | 5 | 70 | 13 | 0 | 7 | 18 | 11 | 0 | 15 | 16 | 4 | 0 | 194 | 2468 |
| 8:10 AM | 4 | 29 | 13 | 0 | 3 | 94 | 20 | 1 | 10 | 18 | 4 | 0 | 11 | 7 | 0 | 0 | 214 | 2521 |
| 8:15 AM | 5 | 34 | 14 | 0 | 5 | 60 | 7 | 0 | 14 | 22 | 7 | 0 | 16 | 19 | 2 | 0 | 205 | 2570 |
| 8:20 AM | 14 | 41 | 9 | 0 | 8 | 86 | 18 | 1 | 7 | 11 | 10 | 0 | 11 | 6 | 3 | 0 | 225 | 2609 |
| 8:25 AM | 9 | 24 | 17 | 0 | 1 | 54 | 12 | 0 | 8 | 22 | 13 | 0 | 18 | 12 | 6 | 0 | 196 | 2582 |
| 8:30 AM | 13 | 29 | 8 | 0 | 3 | 51 | 11 | 1 | 10 | 11 | 10 | 0 | 14 | 10 | 4 | 0 | 175 | 2595 |
| 8:35 AM | 11 | 19 | 8 | 0 | 3 | 43 | 15 | 1 | 11 | 17 | 7 | 0 | 14 | 9 | 2 | 0 | 160 | 2516 |
| 8:40 AM | 10 | 24 | 8 | 0 | 6 | 70 | 11 | 0 | 8 | 20 | 8 | 0 | 9 | 10 | 2 | 0 | 186 | 2491 |
| 8:45 AM | 10 | 24 | 7 | 0 | 3 | 43 | 11 | 2 | 2 | 16 | 13 | 0 | 24 | 9 | 4 | 1 | 169 | 2429 |
| 8:50 AM | 9 | 29 | 9 | 0 | 5 | 73 | 13 | 0 | 8 | 19 | 13 | 0 | 9 | 13 | 0 | 0 | 200 | 2381 |
| 8:55 AM | 12 | 16 | 12 | 0 | 6 | 35 | 8 | 2 | 5 | 18 | 13 | 0 | 17 | 16 | 1 | 0 | 161 | 2304 |

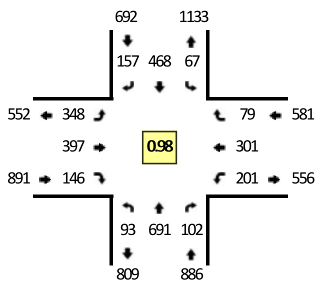
| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 104 | 384 | 76 | 0 | 48 | 908 | 272 | 4 | 112 | 368 | 148 | 0 | 240 | 164 | 36 | 4 | 2868 |
| Heavy Trucks | 12 | 12 | 8 | | 8 | 52 | 48 | | 32 | 40 | 20 | | 4 | 28 | 4 | | 268 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 4 | | | | 8 | | | | 0 | | | | 0 | | | 12 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 4 | | 0 | 0 | 0 | | 4 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 9/6/2024 1:36 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

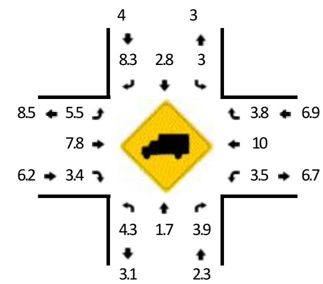
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

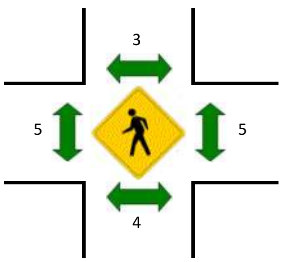
**LOCATION:** Blosser Rd -- SR 166 — **QC JOB #:** 16714616
**CITY/STATE:** Santa Maria, CA — **DATE:** Wed, Aug 28 2024

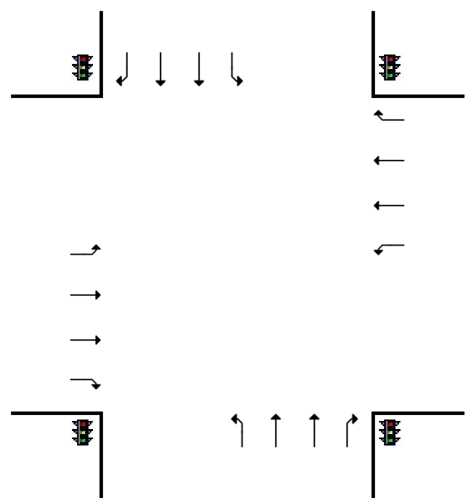


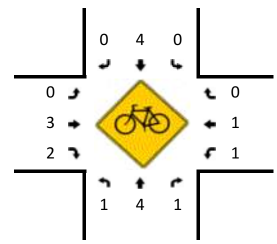

**Peak-Hour: 4:35 PM -- 5:35 PM**
**Peak 15-Min: 5:00 PM -- 5:15 PM**

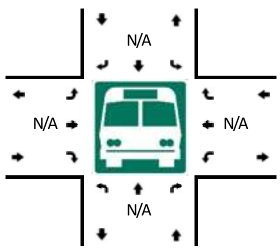
TRUE DATA TO IMPROVE MOBILITY

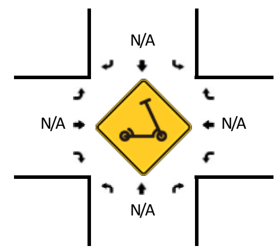





| 5-Min Count Period Beginning At | Blosser Rd (Northbound) | | | | Blosser Rd (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 11 | 50 | 9 | 0 | 8 | 48 | 15 | 0 | 40 | 41 | 15 | 1 | 10 | 9 | 5 | 2 | 264 | |
| 4:05 PM | 11 | 47 | 11 | 0 | 12 | 42 | 12 | 0 | 40 | 37 | 22 | 0 | 15 | 19 | 3 | 0 | 271 | |
| 4:10 PM | 6 | 49 | 7 | 0 | 3 | 58 | 10 | 4 | 33 | 32 | 24 | 1 | 17 | 18 | 1 | 2 | 265 | |
| 4:15 PM | 9 | 46 | 5 | 0 | 5 | 43 | 12 | 1 | 27 | 28 | 6 | 0 | 26 | 26 | 8 | 1 | 243 | |
| 4:20 PM | 12 | 50 | 6 | 0 | 4 | 35 | 12 | 1 | 28 | 21 | 12 | 0 | 19 | 22 | 3 | 1 | 226 | |
| 4:25 PM | 7 | 56 | 8 | 0 | 5 | 42 | 11 | 4 | 27 | 34 | 14 | 0 | 17 | 19 | 7 | 0 | 251 | |
| 4:30 PM | 6 | 61 | 8 | 0 | 9 | 33 | 7 | 0 | 14 | 30 | 14 | 0 | 15 | 23 | 6 | 0 | 226 | |
| 4:35 PM | 8 | 75 | 4 | 0 | 4 | 67 | 16 | 0 | 21 | 27 | 11 | 0 | 12 | 19 | 9 | 0 | 273 | |
| 4:40 PM | 6 | 51 | 9 | 0 | 3 | 33 | 17 | 2 | 34 | 39 | 14 | 0 | 24 | 26 | 9 | 0 | 267 | |
| 4:45 PM | 13 | 44 | 10 | 0 | 4 | 35 | 8 | 0 | 37 | 29 | 10 | 0 | 19 | 27 | 5 | 0 | 241 | |
| 4:50 PM | 2 | 56 | 6 | 0 | 1 | 40 | 11 | 0 | 29 | 40 | 15 | 0 | 11 | 25 | 3 | 0 | 239 | |
| 4:55 PM | 15 | 57 | 10 | 0 | 5 | 32 | 9 | 3 | 29 | 29 | 12 | 0 | 8 | 25 | 3 | 2 | 239 | 3005 |
| 5:00 PM | 10 | 50 | 13 | 0 | 6 | 34 | 10 | 0 | 25 | 42 | 17 | 1 | 15 | 25 | 7 | 1 | 256 | 2997 |
| 5:05 PM | 10 | 72 | 6 | 0 | 7 | 48 | 19 | 1 | 27 | 26 | 15 | 0 | 19 | 14 | 3 | 0 | 267 | 2993 |
| 5:10 PM | 4 | 66 | 6 | 0 | 6 | 33 | 15 | 3 | 28 | 33 | 10 | 0 | 11 | 34 | 8 | 2 | 259 | 2987 |
| 5:15 PM | 1 | 59 | 4 | 0 | 4 | 38 | 13 | 5 | 28 | 43 | 11 | 0 | 15 | 26 | 6 | 0 | 253 | 2997 |
| 5:20 PM | 8 | 53 | 11 | 0 | 2 | 45 | 8 | 0 | 39 | 38 | 17 | 0 | 15 | 18 | 4 | 0 | 258 | 3029 |
| 5:25 PM | 8 | 57 | 6 | 0 | 6 | 35 | 14 | 2 | 22 | 26 | 5 | 0 | 24 | 32 | 16 | 0 | 253 | 3031 |
| 5:30 PM | 8 | 51 | 17 | 0 | 3 | 28 | 17 | 0 | 28 | 25 | 9 | 0 | 22 | 30 | 6 | 1 | 245 | 3050 |
| 5:35 PM | 9 | 49 | 8 | 0 | 3 | 27 | 10 | 2 | 23 | 26 | 11 | 0 | 18 | 23 | 5 | 0 | 214 | 2991 |
| 5:40 PM | 8 | 69 | 4 | 0 | 2 | 51 | 9 | 0 | 23 | 26 | 12 | 0 | 12 | 23 | 5 | 0 | 244 | 2968 |
| 5:45 PM | 5 | 64 | 9 | 0 | 2 | 32 | 8 | 2 | 26 | 16 | 12 | 0 | 15 | 18 | 11 | 0 | 220 | 2947 |
| 5:50 PM | 11 | 33 | 14 | 0 | 3 | 27 | 6 | 1 | 22 | 21 | 10 | 0 | 17 | 25 | 3 | 2 | 195 | 2903 |
| 5:55 PM | 9 | 51 | 10 | 0 | 6 | 38 | 9 | 5 | 18 | 17 | 9 | 0 | 12 | 19 | 6 | 1 | 210 | 2874 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 96 | 752 | 100 | 0 | 76 | 460 | 176 | 16 | 320 | 404 | 168 | 4 | 180 | 292 | 72 | 12 | 3128 |
| Heavy Trucks | 8 | 16 | 0 | | 0 | 8 | 16 | | 20 | 44 | 4 | | 4 | 32 | 4 | | 156 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 8 | | | | 4 | | | 12 |
| Bicycles | 0 | 8 | 0 | | 0 | 8 | 0 | | 0 | 0 | 0 | | 0 | 4 | 0 | | 20 |
| Scooters | | | | | | | | | | | | | | | | | |

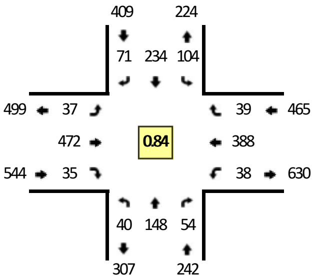
*Comments:*

Report generated on 9/6/2024 1:36 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

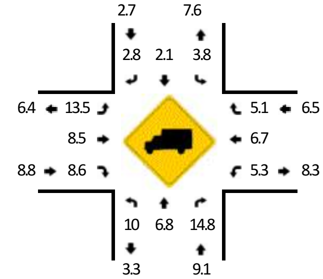
**LOCATION:** Depot St -- SR 166
**CITY/STATE:** Santa Maria, CA

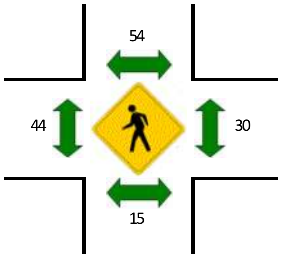
**QC JOB #:** 16714617
**DATE:** Wed, Aug 28 2024

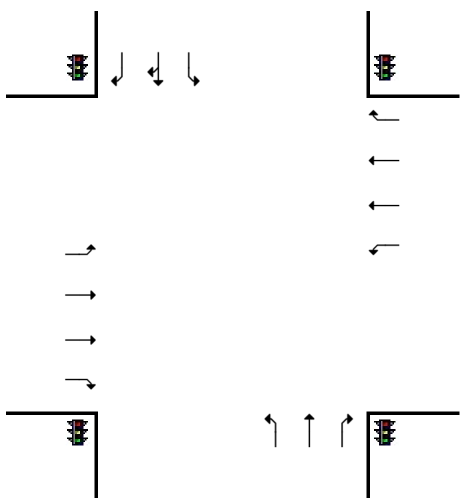


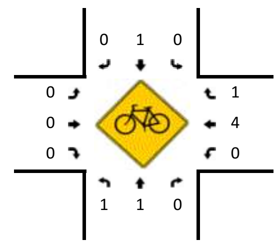

**Peak-Hour: 7:45 AM -- 8:45 AM**
**Peak 15-Min: 7:45 AM -- 8:00 AM**

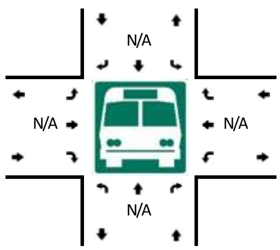
TRUE DATA TO IMPROVE MOBILITY

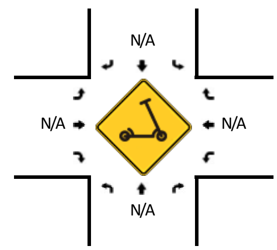




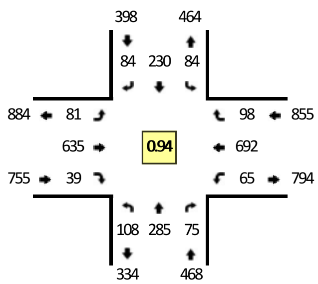

| 5-Min Count Period Beginning At | Depot St (Northbound) | | | | Depot St (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 3 | 9 | 4 | 0 | 2 | 5 | 4 | 0 | 0 | 22 | 0 | 0 | 1 | 21 | 3 | 0 | 74 | |
| 7:05 AM | 0 | 7 | 2 | 0 | 3 | 10 | 3 | 0 | 4 | 16 | 1 | 0 | 2 | 25 | 2 | 0 | 75 | |
| 7:10 AM | 1 | 6 | 5 | 0 | 5 | 10 | 2 | 0 | 2 | 21 | 4 | 0 | 1 | 20 | 1 | 0 | 78 | |
| 7:15 AM | 2 | 9 | 2 | 0 | 5 | 12 | 3 | 0 | 1 | 20 | 3 | 0 | 2 | 15 | 3 | 0 | 77 | |
| 7:20 AM | 5 | 6 | 4 | 0 | 5 | 8 | 6 | 0 | 6 | 31 | 4 | 0 | 1 | 28 | 1 | 0 | 105 | |
| 7:25 AM | 3 | 8 | 4 | 0 | 4 | 10 | 7 | 0 | 1 | 44 | 4 | 0 | 2 | 24 | 5 | 0 | 116 | |
| 7:30 AM | 4 | 7 | 3 | 0 | 8 | 13 | 5 | 0 | 4 | 28 | 2 | 0 | 1 | 26 | 1 | 0 | 102 | |
| 7:35 AM | 5 | 11 | 1 | 0 | 6 | 12 | 4 | 0 | 2 | 42 | 2 | 0 | 2 | 27 | 1 | 0 | 115 | |
| 7:40 AM | 6 | 9 | 1 | 0 | 5 | 17 | 3 | 0 | 1 | 46 | 1 | 0 | 2 | 26 | 2 | 0 | 119 | |
| 7:45 AM | 5 | 11 | 8 | 0 | 13 | 21 | 10 | 0 | 1 | 58 | 2 | 0 | 1 | 39 | 2 | 0 | 171 | |
| 7:50 AM | 9 | 14 | 4 | 0 | 8 | 24 | 6 | 0 | 3 | 48 | 1 | 0 | 1 | 43 | 4 | 0 | 165 | |
| 7:55 AM | 7 | 17 | 4 | 0 | 9 | 22 | 6 | 0 | 5 | 52 | 3 | 0 | 3 | 24 | 5 | 0 | 157 | 1354 |
| 8:00 AM | 1 | 7 | 4 | 0 | 17 | 24 | 5 | 0 | 2 | 32 | 3 | 0 | 2 | 45 | 0 | 0 | 142 | 1422 |
| 8:05 AM | 3 | 6 | 6 | 0 | 5 | 22 | 4 | 0 | 3 | 40 | 3 | 0 | 5 | 30 | 0 | 0 | 127 | 1474 |
| 8:10 AM | 1 | 11 | 4 | 0 | 5 | 19 | 5 | 0 | 3 | 40 | 3 | 0 | 4 | 37 | 3 | 0 | 135 | 1531 |
| 8:15 AM | 0 | 16 | 2 | 0 | 12 | 26 | 3 | 0 | 2 | 44 | 6 | 0 | 5 | 17 | 4 | 0 | 137 | 1591 |
| 8:20 AM | 3 | 15 | 4 | 0 | 7 | 8 | 6 | 0 | 2 | 36 | 2 | 0 | 4 | 32 | 3 | 0 | 122 | 1608 |
| 8:25 AM | 3 | 18 | 4 | 0 | 9 | 16 | 8 | 0 | 2 | 35 | 2 | 0 | 3 | 26 | 7 | 0 | 133 | 1625 |
| 8:30 AM | 0 | 8 | 5 | 0 | 3 | 11 | 5 | 0 | 9 | 27 | 3 | 0 | 1 | 35 | 1 | 0 | 108 | 1631 |
| 8:35 AM | 7 | 15 | 5 | 0 | 10 | 22 | 9 | 0 | 4 | 22 | 4 | 0 | 5 | 17 | 1 | 0 | 121 | 1637 |
| 8:40 AM | 1 | 10 | 4 | 0 | 6 | 19 | 4 | 0 | 1 | 38 | 3 | 0 | 4 | 43 | 9 | 0 | 142 | 1660 |
| 8:45 AM | 8 | 13 | 1 | 0 | 10 | 17 | 6 | 0 | 5 | 22 | 4 | 0 | 7 | 31 | 0 | 0 | 124 | 1613 |
| 8:50 AM | 3 | 7 | 3 | 0 | 7 | 27 | 2 | 0 | 1 | 37 | 5 | 0 | 4 | 34 | 3 | 0 | 133 | 1581 |
| 8:55 AM | 6 | 6 | 2 | 0 | 11 | 19 | 4 | 0 | 2 | 27 | 2 | 0 | 3 | 23 | 2 | 0 | 107 | 1531 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 84 | 168 | 64 | 0 | 120 | 268 | 88 | 0 | 36 | 632 | 24 | 0 | 20 | 424 | 44 | 0 | 1972 |
| Heavy Trucks | 4 | 16 | 8 | | 4 | 4 | 0 | | 12 | 52 | 0 | | 0 | 24 | 4 | | 128 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 8 | | | | 68 | | | | 36 | | | | 48 | | | 160 |
| Bicycles | 0 | 4 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 8 | 4 | | 16 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

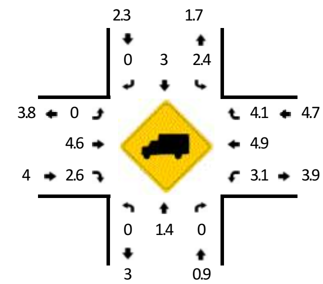
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

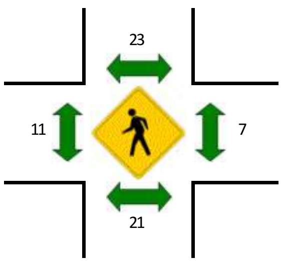
**LOCATION:** Depot St -- SR 166 | **QC JOB #:** 16714618
**CITY/STATE:** Santa Maria, CA | **DATE:** Wed, Aug 28 2024

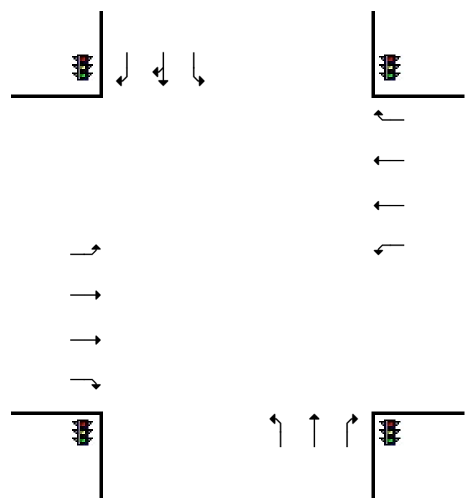


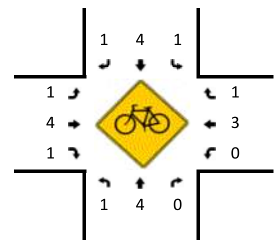

**Peak-Hour: 4:40 PM -- 5:40 PM**
**Peak 15-Min: 5:00 PM -- 5:15 PM**

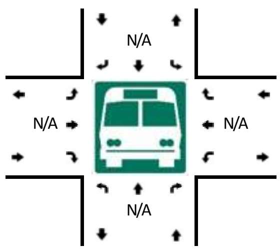
TRUE DATA TO IMPROVE MOBILITY

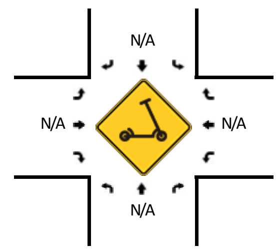





| 5-Min Count Period Beginning At | Depot St (Northbound) | | | | Depot St (Southbound) | | | | SR 166 (Eastbound) | | | | SR 166 (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 5 | 30 | 4 | 0 | 6 | 30 | 12 | 0 | 3 | 38 | 5 | 0 | 11 | 41 | 9 | 0 | 194 | |
| 4:05 PM | 8 | 7 | 4 | 0 | 8 | 16 | 6 | 0 | 14 | 60 | 6 | 0 | 18 | 58 | 7 | 1 | 213 | |
| 4:10 PM | 7 | 25 | 2 | 0 | 8 | 21 | 4 | 0 | 9 | 56 | 6 | 0 | 4 | 47 | 5 | 0 | 194 | |
| 4:15 PM | 6 | 37 | 4 | 0 | 1 | 23 | 6 | 0 | 4 | 35 | 5 | 0 | 7 | 61 | 7 | 0 | 196 | |
| 4:20 PM | 10 | 16 | 5 | 0 | 4 | 15 | 4 | 0 | 5 | 71 | 5 | 0 | 6 | 46 | 10 | 0 | 197 | |
| 4:25 PM | 8 | 23 | 10 | 0 | 7 | 21 | 10 | 0 | 10 | 40 | 3 | 0 | 5 | 50 | 3 | 1 | 191 | |
| 4:30 PM | 9 | 21 | 10 | 0 | 7 | 19 | 5 | 0 | 3 | 52 | 7 | 0 | 2 | 56 | 7 | 0 | 198 | |
| 4:35 PM | 6 | 23 | 2 | 0 | 4 | 15 | 2 | 0 | 13 | 57 | 3 | 0 | 8 | 53 | 9 | 0 | 195 | |
| 4:40 PM | 4 | 20 | 7 | 0 | 14 | 15 | 10 | 0 | 4 | 49 | 4 | 0 | 5 | 82 | 7 | 0 | 221 | |
| 4:45 PM | 7 | 27 | 5 | 0 | 5 | 30 | 2 | 0 | 5 | 54 | 8 | 0 | 5 | 43 | 10 | 0 | 201 | |
| 4:50 PM | 14 | 23 | 7 | 0 | 8 | 23 | 6 | 0 | 9 | 45 | 3 | 0 | 3 | 49 | 8 | 0 | 198 | |
| 4:55 PM | 12 | 24 | 3 | 0 | 6 | 22 | 3 | 0 | 9 | 41 | 3 | 0 | 6 | 50 | 14 | 0 | 193 | 2391 |
| 5:00 PM | 9 | 17 | 6 | 0 | 6 | 18 | 7 | 0 | 9 | 75 | 2 | 0 | 8 | 57 | 13 | 0 | 227 | 2424 |
| 5:05 PM | 15 | 29 | 9 | 0 | 11 | 20 | 6 | 0 | 4 | 50 | 4 | 0 | 1 | 56 | 7 | 0 | 212 | 2423 |
| 5:10 PM | 5 | 25 | 9 | 0 | 6 | 18 | 5 | 0 | 8 | 61 | 5 | 0 | 12 | 56 | 9 | 0 | 219 | 2448 |
| 5:15 PM | 4 | 27 | 3 | 0 | 5 | 18 | 10 | 0 | 3 | 51 | 2 | 0 | 4 | 59 | 6 | 0 | 192 | 2444 |
| 5:20 PM | 11 | 21 | 8 | 0 | 5 | 13 | 7 | 0 | 7 | 57 | 1 | 0 | 6 | 62 | 7 | 0 | 205 | 2452 |
| 5:25 PM | 13 | 25 | 4 | 0 | 6 | 20 | 9 | 0 | 12 | 43 | 1 | 0 | 1 | 52 | 6 | 0 | 192 | 2453 |
| 5:30 PM | 9 | 23 | 6 | 0 | 3 | 17 | 13 | 0 | 7 | 53 | 3 | 0 | 6 | 49 | 5 | 0 | 194 | 2449 |
| 5:35 PM | 5 | 24 | 8 | 0 | 9 | 16 | 6 | 0 | 4 | 56 | 3 | 0 | 8 | 77 | 6 | 0 | 222 | 2476 |
| 5:40 PM | 12 | 31 | 7 | 0 | 3 | 21 | 10 | 0 | 5 | 34 | 3 | 0 | 5 | 32 | 4 | 0 | 167 | 2422 |
| 5:45 PM | 8 | 18 | 6 | 0 | 10 | 21 | 7 | 0 | 8 | 37 | 5 | 0 | 8 | 49 | 7 | 0 | 184 | 2405 |
| 5:50 PM | 2 | 12 | 3 | 0 | 7 | 18 | 2 | 0 | 6 | 45 | 5 | 0 | 8 | 45 | 8 | 0 | 161 | 2368 |
| 5:55 PM | 5 | 22 | 6 | 0 | 10 | 28 | 4 | 0 | 12 | 32 | 3 | 0 | 2 | 32 | 2 | 0 | 158 | 2333 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 116 | 284 | 96 | 0 | 92 | 224 | 72 | 0 | 84 | 744 | 44 | 0 | 84 | 676 | 116 | 0 | 2632 |
| Heavy Trucks | 0 | 0 | 0 | | 4 | 8 | 0 | | 0 | 44 | 0 | | 4 | 24 | 4 | | 88 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 32 | | | | 32 | | | | 8 | | | | 8 | | | 80 |
| Bicycles | 0 | 8 | 0 | | 0 | 4 | 0 | | 0 | 8 | 0 | | 0 | 4 | 4 | | 28 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

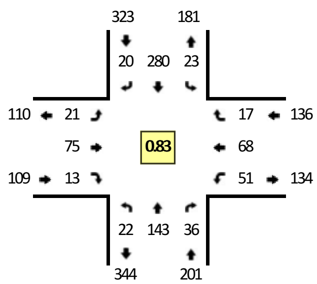
Report generated on 9/6/2024 1:36 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

**LOCATION:** Black Rd -- Betteravia Rd — **QC JOB #:** 16714625

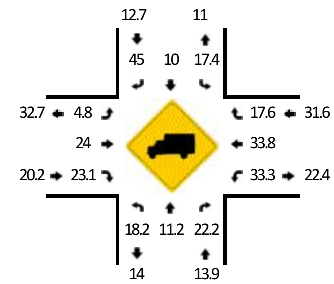
**CITY/STATE:** Santa Maria, CA — **DATE:** Wed, Aug 28 2024

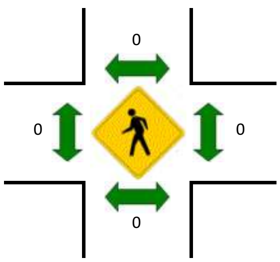


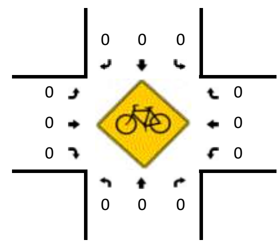

**Peak-Hour: 7:40 AM -- 8:40 AM**

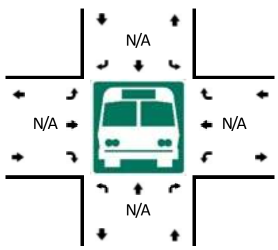
**Peak 15-Min: 7:45 AM -- 8:00 AM**

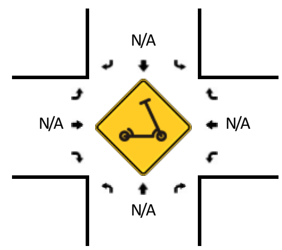
TRUE DATA TO IMPROVE MOBILITY




| 5-Min Count Period Beginning At | Black Rd (Northbound) | | | | Black Rd (Southbound) | | | | Betteravia Rd (Eastbound) | | | | Betteravia Rd (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 7:00 AM | 2 | 10 | 2 | 0 | 0 | 10 | 2 | 0 | 0 | 10 | 0 | 0 | 1 | 3 | 2 | 0 | 42 | |
| 7:05 AM | 2 | 9 | 4 | 0 | 1 | 9 | 1 | 0 | 1 | 5 | 0 | 0 | 3 | 7 | 2 | 0 | 44 | |
| 7:10 AM | 0 | 14 | 2 | 0 | 0 | 10 | 0 | 0 | 2 | 3 | 0 | 0 | 4 | 5 | 1 | 0 | 41 | |
| 7:15 AM | 1 | 11 | 1 | 0 | 1 | 14 | 2 | 0 | 2 | 7 | 0 | 0 | 3 | 5 | 0 | 0 | 47 | |
| 7:20 AM | 0 | 12 | 2 | 0 | 3 | 18 | 1 | 0 | 1 | 6 | 0 | 0 | 3 | 9 | 1 | 0 | 56 | |
| 7:25 AM | 0 | 18 | 5 | 0 | 1 | 23 | 1 | 0 | 1 | 14 | 1 | 0 | 3 | 3 | 0 | 0 | 70 | |
| 7:30 AM | 0 | 14 | 5 | 0 | 1 | 12 | 1 | 0 | 2 | 5 | 0 | 0 | 1 | 3 | 1 | 0 | 45 | |
| 7:35 AM | 0 | 7 | 4 | 0 | 2 | 16 | 3 | 0 | 5 | 4 | 1 | 0 | 4 | 4 | 0 | 0 | 50 | |
| 7:40 AM | 0 | 7 | 0 | 0 | 5 | 24 | 3 | 0 | 5 | 10 | 0 | 0 | 3 | 6 | 0 | 0 | 63 | |
| 7:45 AM | 2 | 20 | 6 | 0 | 1 | 30 | 2 | 0 | 3 | 9 | 3 | 0 | 3 | 6 | 1 | 0 | 86 | |
| 7:50 AM | 0 | 11 | 1 | 0 | 2 | 40 | 0 | 0 | 2 | 8 | 4 | 0 | 7 | 2 | 0 | 0 | 77 | |
| 7:55 AM | 2 | 19 | 4 | 0 | 2 | 15 | 2 | 0 | 3 | 7 | 0 | 0 | 6 | 7 | 1 | 0 | 68 | 689 |
| 8:00 AM | 2 | 11 | 5 | 0 | 1 | 21 | 2 | 0 | 0 | 8 | 1 | 0 | 3 | 4 | 5 | 0 | 63 | 710 |
| 8:05 AM | 1 | 20 | 4 | 0 | 2 | 25 | 4 | 0 | 3 | 0 | 1 | 0 | 2 | 7 | 1 | 0 | 70 | 736 |
| 8:10 AM | 4 | 9 | 1 | 0 | 2 | 20 | 2 | 0 | 1 | 9 | 0 | 0 | 5 | 4 | 1 | 0 | 58 | 753 |
| 8:15 AM | 0 | 12 | 4 | 0 | 3 | 22 | 0 | 0 | 1 | 5 | 2 | 0 | 3 | 9 | 0 | 0 | 61 | 767 |
| 8:20 AM | 2 | 7 | 1 | 0 | 2 | 24 | 2 | 0 | 0 | 5 | 1 | 0 | 5 | 3 | 2 | 0 | 54 | 765 |
| 8:25 AM | 4 | 11 | 2 | 0 | 2 | 28 | 1 | 0 | 1 | 3 | 0 | 0 | 3 | 4 | 1 | 0 | 60 | 755 |
| 8:30 AM | 2 | 10 | 6 | 0 | 0 | 17 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 4 | 3 | 0 | 52 | 762 |
| 8:35 AM | 3 | 6 | 2 | 0 | 1 | 14 | 2 | 0 | 2 | 6 | 1 | 0 | 6 | 12 | 2 | 0 | 57 | 769 |
| 8:40 AM | 1 | 14 | 1 | 0 | 0 | 9 | 0 | 0 | 2 | 10 | 1 | 0 | 2 | 9 | 2 | 0 | 51 | 757 |
| 8:45 AM | 1 | 10 | 4 | 0 | 7 | 17 | 1 | 0 | 0 | 7 | 0 | 0 | 4 | 5 | 1 | 0 | 57 | 728 |
| 8:50 AM | 2 | 15 | 2 | 0 | 2 | 13 | 0 | 0 | 1 | 5 | 0 | 0 | 7 | 6 | 1 | 0 | 54 | 705 |
| 8:55 AM | 0 | 16 | 4 | 0 | 0 | 31 | 1 | 0 | 1 | 6 | 1 | 0 | 4 | 2 | 4 | 0 | 70 | 707 |

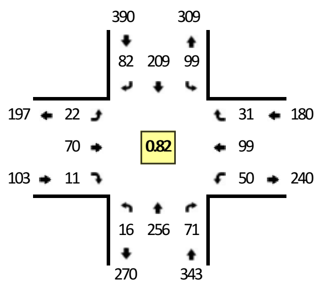
| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 16 | 200 | 44 | 0 | 20 | 340 | 16 | 0 | 32 | 96 | 28 | 0 | 64 | 60 | 8 | 0 | 924 |
| Heavy Trucks | 0 | 28 | 4 | | 4 | 4 | 12 | | 0 | 24 | 4 | | 24 | 16 | 4 | | 124 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 9/6/2024 1:36 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

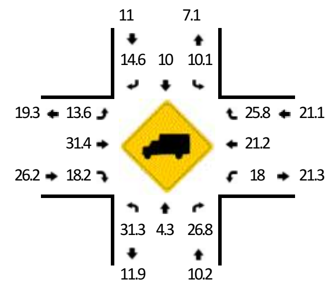
Type of peak hour being reported: Intersection Peak    Method for determining peak hour: Total Entering Volume

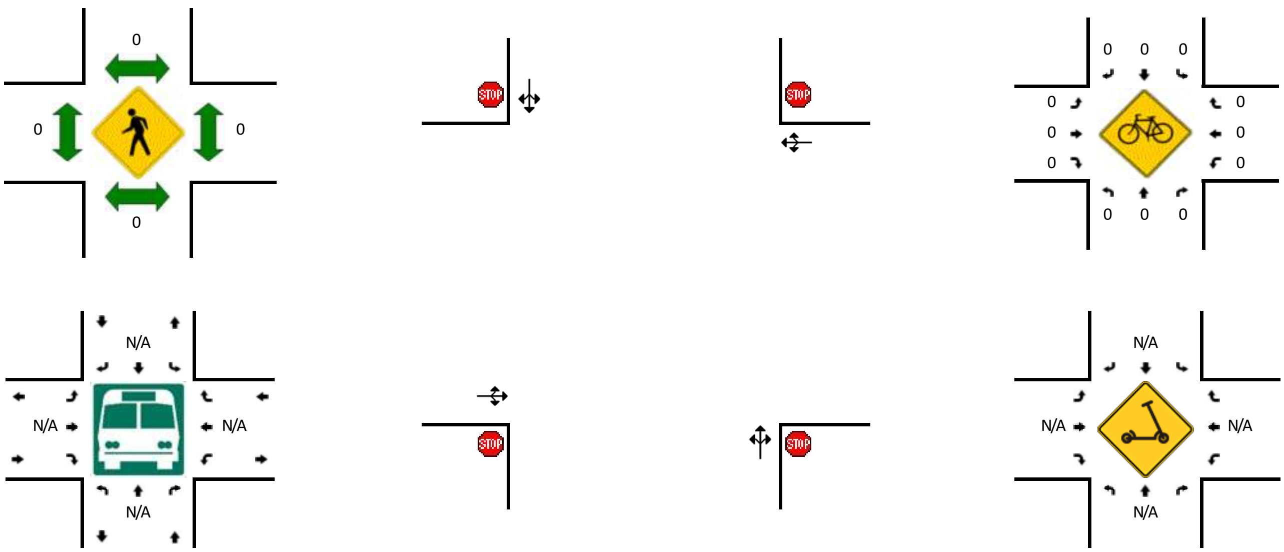
**LOCATION:** Black Rd -- Betteravia Rd    **QC JOB #:** 16714626
**CITY/STATE:** Santa Maria, CA    **DATE:** Wed, Aug 28 2024




**Peak-Hour: 4:00 PM -- 5:00 PM**
**Peak 15-Min: 4:00 PM -- 4:15 PM**

TRUE DATA TO IMPROVE MOBILITY




| 5-Min Count Period Beginning At | Black Rd (Northbound) | | | | Black Rd (Southbound) | | | | Betteravia Rd (Eastbound) | | | | Betteravia Rd (Westbound) | | | | Total | Hourly Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | | |
| 4:00 PM | 1 | 19 | 14 | 0 | 21 | 17 | 30 | 0 | 2 | 9 | 0 | 0 | 0 | 8 | 3 | 0 | 124 | |
| 4:05 PM | 3 | 25 | 6 | 0 | 11 | 26 | 10 | 0 | 1 | 4 | 0 | 0 | 3 | 9 | 4 | 0 | 102 | |
| 4:10 PM | 2 | 28 | 6 | 0 | 7 | 16 | 10 | 0 | 0 | 5 | 1 | 0 | 0 | 6 | 3 | 0 | 84 | |
| 4:15 PM | 2 | 28 | 3 | 0 | 9 | 19 | 2 | 0 | 1 | 4 | 0 | 0 | 5 | 8 | 3 | 0 | 84 | |
| 4:20 PM | 0 | 16 | 5 | 0 | 13 | 17 | 5 | 0 | 4 | 5 | 1 | 0 | 5 | 13 | 1 | 0 | 85 | |
| 4:25 PM | 2 | 21 | 5 | 0 | 1 | 16 | 4 | 0 | 1 | 11 | 1 | 0 | 2 | 6 | 4 | 0 | 74 | |
| 4:30 PM | 4 | 14 | 7 | 0 | 7 | 13 | 4 | 0 | 0 | 3 | 3 | 0 | 7 | 5 | 1 | 0 | 68 | |
| 4:35 PM | 0 | 26 | 6 | 0 | 9 | 22 | 5 | 0 | 4 | 4 | 0 | 0 | 5 | 10 | 1 | 0 | 92 | |
| 4:40 PM | 0 | 21 | 4 | 0 | 4 | 9 | 2 | 0 | 2 | 7 | 1 | 0 | 5 | 9 | 2 | 0 | 66 | |
| 4:45 PM | 0 | 17 | 6 | 0 | 6 | 18 | 7 | 0 | 5 | 8 | 2 | 0 | 9 | 10 | 6 | 0 | 94 | |
| 4:50 PM | 0 | 23 | 4 | 0 | 3 | 18 | 3 | 0 | 0 | 6 | 2 | 0 | 6 | 9 | 2 | 0 | 76 | |
| 4:55 PM | 2 | 18 | 5 | 0 | 8 | 18 | 0 | 0 | 2 | 4 | 0 | 0 | 3 | 6 | 1 | 0 | 67 | 1016 |
| 5:00 PM | 1 | 31 | 2 | 0 | 4 | 14 | 3 | 0 | 1 | 4 | 0 | 0 | 5 | 6 | 2 | 0 | 73 | 965 |
| 5:05 PM | 2 | 22 | 4 | 0 | 1 | 17 | 4 | 0 | 2 | 7 | 1 | 0 | 2 | 5 | 2 | 0 | 69 | 932 |
| 5:10 PM | 2 | 27 | 3 | 0 | 2 | 26 | 2 | 0 | 3 | 11 | 0 | 0 | 2 | 9 | 4 | 0 | 91 | 939 |
| 5:15 PM | 3 | 35 | 2 | 0 | 4 | 10 | 3 | 0 | 0 | 5 | 1 | 0 | 2 | 10 | 4 | 0 | 79 | 934 |
| 5:20 PM | 4 | 17 | 3 | 0 | 0 | 8 | 2 | 0 | 2 | 6 | 2 | 0 | 1 | 5 | 1 | 0 | 51 | 900 |
| 5:25 PM | 1 | 28 | 2 | 0 | 2 | 28 | 4 | 0 | 0 | 7 | 0 | 0 | 1 | 5 | 2 | 0 | 80 | 906 |
| 5:30 PM | 3 | 20 | 1 | 0 | 7 | 11 | 4 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 4 | 0 | 55 | 893 |
| 5:35 PM | 0 | 19 | 3 | 0 | 4 | 19 | 5 | 0 | 0 | 5 | 3 | 0 | 3 | 6 | 0 | 0 | 67 | 868 |
| 5:40 PM | 5 | 26 | 1 | 0 | 0 | 13 | 2 | 0 | 0 | 5 | 2 | 0 | 2 | 3 | 2 | 0 | 61 | 863 |
| 5:45 PM | 1 | 19 | 5 | 0 | 2 | 12 | 1 | 0 | 0 | 5 | 1 | 0 | 1 | 8 | 1 | 0 | 56 | 825 |
| 5:50 PM | 0 | 24 | 2 | 0 | 1 | 6 | 2 | 0 | 1 | 0 | 3 | 0 | 3 | 6 | 2 | 0 | 50 | 799 |
| 5:55 PM | 3 | 17 | 1 | 0 | 5 | 13 | 3 | 0 | 1 | 7 | 1 | 0 | 2 | 1 | 0 | 0 | 54 | 786 |

| Peak 15-Min Flowrates | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | Left | Thru | Right | U | |
| All Vehicles | 24 | 288 | 104 | 0 | 156 | 236 | 200 | 0 | 12 | 72 | 4 | 0 | 12 | 92 | 40 | 0 | 1240 |
| Heavy Trucks | 4 | 20 | 24 | | 4 | 20 | 24 | | 0 | 24 | 4 | | 4 | 28 | 8 | | 164 |
| Buses | | | | | | | | | | | | | | | | | |
| Pedestrians | | 0 | | | | 0 | | | | 0 | | | | 0 | | | 0 |
| Bicycles | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |
| Scooters | | | | | | | | | | | | | | | | | |

*Comments:*

Report generated on 9/6/2024 1:36 PM    SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

## APPENDIX D. SIGNAL TIMING SHEETS

**Location:** SB-166 pm 03.75 Bonita School Rd
**System:**
**Master At:**
**District:** 5
**I/C:** n/a
**Designed By:** KJV
**Installed By:** KJV
**Service Info:**

| Timing Change: | Date Start: | Date End: | Designed: | Installed: |
|---|---|---|---|---|
| | 4/11/2018 | | | |

| PHASE | | FLASH |
|---|---|---|
| 1) | | [ ] |
| 2) | EB | [ ] |
| 3) | | [ ] |
| 4) | SB Bonita School Rd | [ ] |
| 5) | EB LT | [ ] |
| 6) | WB | [ ] |
| 7) | | [ ] |
| 8) | | [ ] |

| OVERLAP | FLASH |
|---|---|
| A) | [ ] |
| B) | [ ] |
| C) | [ ] |
| D) | [ ] |
| E) | [ ] |
| F) | [ ] |

## Intersection Layout


**Comments and Notes:**

**RAM Checksum**

| | | | |
|---|---|---|---|
| Page 2: | E300 | Page 8: | 85AF |
| Page 3: | 40AA | Page 9: | B76E |
| Page 4: | F29E | Page 10: | 3698 |
| Page 5: | 191A | Page 11: | FDAC |
| Page 6: | 191A | Page 12: | 8D98 |
| Page 7: | 9C58 | Page 13: | 86F7 |

| Cabinet |
| --- |
| 332 |
| Configuration |
| CALTRANS |

| Phases ( 2-1-1-1 ) | |
| --- | --- |
| Permitted | . 2 . 4 5 6 . . |
| Restricted | . . . . . . . . |

# CONFIGURATION PHASE FLAGS

| Startup ( 2-1-1-5 ) | |
| --- | --- |
| First Green Phases | . 2 . . . 6 . . |
| Yellow Start Phases | . . . . . . . . |
| Vehicle Calls | . 2 . 4 5 6 . . |
| Pedestrian Calls | . . . . . . . . |
| Yellow Start Overlaps | . . . . . . |
| Startup All-Red | 6.0 |

| Phase Features ( 2-1-1-4 ) | |
| --- | --- |
| Double Entry | . . . . . . . . |
| Rest In Walk | . . . . . . . . |
| Rest In Red | . . . . . . . . |
| Walk 2 | . . . . . . . . |
| Max Green 2 | . . . . . . . . |
| Max Green 3 | . . . . . . . . |

| Phase Recalls ( 2-1-1-2 ) | |
| --- | --- |
| Vehicle Min | . 2 . . . 6 . . |
| Vehicle Max | . . . . . . . . |
| Pedestrian | . . . . . . . . |
| Bicycle | . . . . . . . . |

| Phase Locks ( 2-1-1-3 ) | |
| --- | --- |
| Red | . . . . . . . . |
| Yellow | . . . . . . . . |
| Force/Max | . . . . . . . . |

| Call To Phase ( 2-1-2-1 ) | | Omit On Green | |
| --- | --- | --- | --- |
| 1 | . . . . . . . . | 1 | . . . . . . . . |
| 2 | . . . . . . . . | 2 | . . . . . . . . |
| 3 | . . . . . . . . | 3 | . . . . . . . . |
| 4 | . . . . . . . . | 4 | . . . . . . . . |
| 5 | . . . . . . . . | 5 | . . . . . . . . |
| 6 | . . . . . . . . | 6 | . . . . . . . . |
| 7 | . . . . . . . . | 7 | . . . . . . . . |
| 8 | . . . . . . . . | 8 | . . . . . . . . |

| Flashing Colors ( 2-1-2-2 ) | |
| --- | --- |
| Yellow Flash Phases | . . . . . . . . |
| Yellow Flash Overlap | . . . . . . |
| Flash In Red Phases | . . . . . . . . |
| Flash In Red Overlap | . . . . . . |

| Special Operation ( 2-1-2-3 ) | |
| --- | --- |
| Single Exit Phase | . . . . . . . . |
| Driveway Signal Phases | . . . . . . . . |
| Driveway Signal Overlaps | . . . . . . |
| Leading Ped Phases | . . . . . . . . |

| Protected Permissive ( 2-1-2-4 ) | |
| --- | --- |
| Protected Permissive | . . . . . . . . |

| Pedestrian ( 2-1-3 ) | |
| --- | --- |
| P1 | . . . . . . . . |
| P2 | . 2 . . . . . . |
| P3 | . . . . . . . . |
| P4 | . . . 4 . . . . |
| P5 | . . . . . . . . |
| P6 | . . . . . 6 . . |
| P7 | . . . . . . . . |
| P8 | . . . . . . . 8 |

Overlap ( 2-1-4 )

| Overlap | Parent | Omit | No Start | Not |
| --- | --- | --- | --- | --- |
| A | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| B | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| C | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| D | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| E | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| F | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |

PHASE TIMING

| Phase ( 2-2 ) | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|
| --- Walk 1 --- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Flash Don't Walk | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Minimum Green | 10 | 7 | 10 | 7 | 7 | 7 | 10 | 10 |
| Det Limit | 10 | 30 | 10 | 10 | 10 | 35 | 10 | 10 |
| Max Initial | 10 | 30 | 10 | 10 | 10 | 20 | 10 | 10 |
| Max Green 1 | 50 | 50 | 50 | 40 | 20 | 60 | 50 | 50 |
| Max Green 2 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Max Green 3 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Extension | 5.0 | 0.5 | 5.0 | 1.0 | 1.0 | 0.5 | 5.0 | 5.0 |
| Maximum Gap | 5.0 | 4.0 | 5.0 | 3.0 | 3.0 | 4.0 | 5.0 | 5.0 |
| Minimum Gap | 5.0 | 0.5 | 5.0 | 1.0 | 1.5 | 0.5 | 5.0 | 5.0 |
| Add Per Vehicle | 1.0 | 2.0 | 1.0 | 0.0 | 0.0 | 1.7 | 1.0 | 1.0 |
| Reduce Gap By | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |
| Reduce Every | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Yellow | 5.0 | 5.4 | 5.0 | 3.6 | 3.2 | 5.4 | 5.0 | 5.0 |
| All-Red | 1.0 | 1.2 | 1.0 | 1.0 | 0.5 | 1.2 | 1.0 | 1.0 |
| **Ped/Bike (2-3 )** | **-1-** | **-2-** | **-3-** | **-4-** | **-5-** | **-6-** | **-7-** | **-8-** |
| --- Walk 2 --- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Delay/Early Walk | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Solid Don't Walk | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bike Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bike All-Red | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## OVERLAP TIMING

| Overlap ( 2-4 ) | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| Green | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Red | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Red Revert

| Red Revert ( 2-5 ) | |
|---|---|
| Time | 4.0 |
| **All-Red Sec/Min ( 2-6 )** | |
| All-Red Sec/Min: | OFF |

## Max 2 Extension

| Max/Gap Out ( 2-7 ) | |
|---|---|
| Max Cnt | 0 |
| Gap Cnt | 0 |

## Local Plan 1...9 (7-1) TIMING DATA

## COORDINATION

| | | Cycle | Multi | Lag Gap | [ Offsets ] A | B | C | Green Factors or Press [F] to Select Force-Off -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 1 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 2 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 3 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 4 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 5 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 6 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 7 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 8 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 9 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |

## Local Plan 1...9 (7-1) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 1 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 2 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 3 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 4 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 5 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 6 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 7 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 8 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 9 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |

| Master Timer Sync ( 7-A ) Enable in Plans | |
|---|---|
| 1-9 | . . . . . . . . . |
| 11-19 | . . . . . . . . . |
| 21-29 | . . . . . . . . . |

| Master Sub Master | |
|---|---|
| Input | |
| Output | |

### FREE PLAN PHASE FLAGS

| ( 7-E ) Free | |
|---|---|
| Lag | Omit |
| . 2 . 4 . 6 . 8 | . . . . . . . . |
| Veh Min | Veh Max |
| . 2 . . . 6 . . | . . . . . . . . |
| Ped | Bike |
| . . . . . . . . | . . . . . . . . |
| Cond | Cond Grn |
| . . . . . . . . | 10 |

## MANUAL COMMANDS

| Manual Plan (4-1) | |
|---|---|
| Plan | OffSet |
| | A |

*Plan: 1-9*
*15 or 254 = Flash*
*14 or 255 = Free*
*Offset A, B, or C*

| Special Function Override (4-2) | | | |
|---|---|---|---|
| # | Control | # | Control |
| 1 | NORMAL | 3 | NORMAL |
| 2 | NORMAL | 4 | NORMAL |

| | |
|---|---|
| Detector Reset | (4-3) |
| Local Manual (4-4) | OFF |

## Local Plan 11...19 (7-2) TIMING DATA

## COORDINATION

[ Offsets ] Green Factors or Press [F] to Select Force-Off

| | | Cycle | Multi | Lag Gap | A | B | C | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 11 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 12 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 13 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 14 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 15 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 16 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 17 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 18 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 19 | Green Factor | | | ........ | | | | | | | | | | | |

## Local Plan 11...19 (7-2) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 11 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 12 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 13 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 14 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 15 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 16 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 17 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 18 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 19 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |

## Local Plan 21...29 (7-3) TIMING DATA

## COORDINATION

[ Offsets ]    Green Factors or Press [F] to Select Force-Off

| | | Cycle | Multi | Lag Gap | A | B | C | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 21 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 22 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 23 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 24 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 25 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 26 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 27 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 28 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 29 | Green Factor | | | ........ | | | | | | | | | | | |

## Local Plan 21...29 (7-3) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 21 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 22 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 23 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 24 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 25 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 26 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 27 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 28 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 29 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |

# DETECTORS

| Detector Attributes (5-1) | | | | Slot | Detector Configuration (5-2) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Det | Type | Phases | Lock | | Det | Delay | Extend | Recall | Port |
| 1 | COUNT+CALL+EXTEND | 1 . . . . . . . | NO | I1U | 1 | | | 10 | 3.2 |
| 2 | COUNT+CALL+EXTEND | 1 . . . . . . . | NO | I1L | 2 | | | 10 | 7.2 |
| 3 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I2U | 3 | | | 10 | 1.1 |
| 4 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I2L | 4 | | | 10 | 1.5 |
| 5 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I3U | 5 | | 3.0 | 0 | 4.5 |
| 6 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I3L | 6 | | 2.5 | 0 | 6.2 |
| 7 | LIMITED | . 2 . . . . . . | NO | I4U | 7 | | 3.5 | 25 | 2.1 |
| 8 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I4L | 8 | | | 10 | 7.4 |
| 9 | COUNT+CALL+EXTEND | . . 3 . . . . . | NO | I5U | 9 | | | 10 | 3.4 |
| 10 | COUNT+CALL+EXTEND | . . 3 . . . . . | NO | I5L | 10 | | | 10 | 7.6 |
| 11 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I6U | 11 | | | 10 | 1.3 |
| 12 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I6L | 12 | | | 10 | 1.7 |
| 13 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I7U | 13 | 1 | 1.0 | 25 | 4.7 |
| 14 | CALL+EXTEND | . . . 4 . . . . | NO | I7L | 14 | 10 | | 0 | 6.4 |
| 15 | LIMITED | . . . 4 . . . . | NO | I8U | 15 | 1 | 2.0 | 10 | 2.3 |
| 16 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I8L | 16 | | | 10 | 7.8 |
| 17 | COUNT+CALL+EXTEND | 1 . . . . . . . | NO | I9U | 17 | | | 10 | 3.6 |
| 18 | COUNT+CALL+EXTEND | . . 3 . . . . . | NO | I9L | 18 | | | 10 | 3.8 |
| 19 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I10U | 19 | | | 10 | 4.1 |
| 20 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I10L | 20 | | | 10 | 4.2 |
| 21 | COUNT+CALL+EXTEND | . . . . 5 . . . | NO | J1U | 21 | 1 | | 12 | 3.1 |
| 22 | COUNT+CALL+EXTEND | . . . . 5 . . . | NO | J1L | 22 | | | 10 | 7.1 |
| 23 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J2U | 23 | | 3.0 | 0 | 1.2 |
| 24 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J2L | 24 | | 2.5 | 0 | 1.6 |
| 25 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J3U | 25 | | | 10 | 4.6 |
| 26 | CALL+EXTEND | . . . . . 6 . . | NO | J3L | 26 | | | 10 | 6.3 |
| 27 | LIMITED | . . . . . 6 . . | NO | J4U | 27 | | 3.5 | 25 | 2.2 |
| 28 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J4L | 28 | | | 10 | 7.3 |
| 29 | COUNT+CALL+EXTEND | . . . . . . 7 . | NO | J5U | 29 | | | 10 | 3.3 |
| 30 | COUNT+CALL+EXTEND | . . . . . . 7 . | NO | J5L | 30 | | | 10 | 7.5 |
| 31 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J6U | 31 | | | 10 | 1.4 |
| 32 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J6L | 32 | | | 10 | 1.8 |
| 33 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J7U | 33 | | | 10 | 4.8 |
| 34 | CALL+EXTEND | . . . . . . . 8 | NO | J7L | 34 | | | 10 | 6.5 |
| 35 | LIMITED | . . . . . . . 8 | NO | J8U | 35 | | | 10 | 2.4 |
| 36 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J8L | 36 | | | 10 | 7.7 |
| 37 | COUNT+CALL+EXTEND | . . . . 5 . . . | NO | J9U | 37 | | | 10 | 3.5 |
| 38 | COUNT+CALL+EXTEND | . . . . . . 7 . | NO | J9L | 38 | | | 10 | 3.7 |
| 39 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J10U | 39 | | | 10 | 4.3 |
| 40 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J10L | 40 | | | 10 | 4.4 |
| 41 | PEDESTRIAN | . 2 . . . . . . | NO | I12U | 41 | | | 10 | 5.1 |
| 42 | PEDESTRIAN | . . . 4 . . . . | NO | I12L | 42 | | | 10 | 5.3 |
| 43 | PEDESTRIAN | . . . . . 6 . . | NO | I13U | 43 | | | 10 | 5.2 |
| 44 | PEDESTRIAN | . . . . . . . 8 | NO | I13L | 44 | | | 10 | 5.4 |

| Failure Times(5-3) | Minutes |
|---|---|
| Maximum On Time | 10 |
| Fail Reset Time | 60 |

| Failure Override (5-4) | |
|---|---|
| Detectors 1-8 | . . . . . . . . |
| Detectors 9-16 | . . . . . . . . |
| Detectors17-24 | . . . . . . . . |
| Detectors 25-32 | . . . . . . . . |
| Detectors 33-40 | . . . . . . . . |
| Detectors 41-44 | . . . . . . . . |

| System Detector Assignment (5-5) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Sys Det | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Det Nu | | | | | | | | |
| Sys Det | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Det Nu | | | | | | | | |

| CIC Operation (5-6-1) | |
|---|---|
| Enable in Plans | . . . . . . . . . |

| CIC Values (5-6-2) | Volume | Occupancy | Demand |
|---|---|---|---|
| Smoothing | 0.66 | 0.66 | 0.66 |
| Multiplier | 4.0 | 0.33 | |
| Exponent | 0.50 | 1.00 | |

| Detector-to-Phase Assignment (5-6-3) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Sys Det | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Phase | | | | | | | | |
| Sys Det | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Phase | | | | | | | | |

## Input File Port-Bit Assignments

332 Cabinet - For Reference Only

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I- | 3.2 | 1.1 | 4.5 | 2.1 | 3.4 | 1.3 | 4.7 | 2.3 | 3.6 | 4.1 | 6.6 | 5.1 | 5.2 | 6.7 |
| | 7.2 | 1.5 | 6.2 | 7.4 | 7.6 | 1.7 | 6.4 | 7.8 | 3.8 | 4.2 | 2.7 | 5.3 | 5.4 | 6.8 |
| J- | 3.1 | 1.2 | 4.6 | 2.2 | 3.3 | 1.4 | 4.8 | 2.4 | 3.5 | 4.3 | 2.8 | 5.5 | 5.6 | 2.5 |
| | 7.1 | 1.6 | 6.3 | 7.3 | 7.5 | 1.8 | 6.5 | 7.7 | 3.7 | 4.4 | 6.1 | 5.7 | 5.8 | 2.6 |

# TOD SCHEDULE

Table 1 (8-2-1)

| Time | Plan | OS |
|---|---|---|
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |

Table 2 (8-2-2)

| Time | Plan | OS |
|---|---|---|
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |

Table 3 (8-2-3)

| Time | Plan | OS |
|---|---|---|
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |

Table 4 (8-2-4)

| Time | Plan | OS |
|---|---|---|
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |

Table 5 (8-2-5)

| Time | Plan | OS |
|---|---|---|
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |

Table 6 (8-2-6)

| Time | Plan | OS |
|---|---|---|
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |
| | | A |

# WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)

| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 2 | 2 |

## HOLIDAY TABLES

Floating Holiday Table (8-2-8)

| # | Mnth | Week | DOW | Table |
|---|---|---|---|---|
| 1 | 9 | 1 | M . . . . . . | 3 |
| 2 | 5 | 5 | M . . . . . . | 3 |
| 3 | 2 | 3 | M . . . . . . | 3 |
| 4 | 11 | 4 | . . . T F . . | 3 |
| 5 | | | . . . . . . . | |
| 6 | | | . . . . . . . | |
| 7 | | | . . . . . . . | |
| 8 | | | . . . . . . . | |
| 9 | | | . . . . . . . | |
| 10 | | | . . . . . . . | |
| 11 | | | . . . . . . . | |
| 12 | | | . . . . . . . | |
| 13 | | | . . . . . . . | |
| 14 | | | . . . . . . . | |
| 15 | | | . . . . . . . | |
| 16 | | | . . . . . . . | |

Fixed Holiday Table (8-2-9)

| # | Mnth | Day | DOW | Table |
|---|---|---|---|---|
| 1 | 12 | 25 | M T W T F . . | 3 |
| 2 | 1 | 1 | M T W T F . . | 3 |
| 3 | 7 | 4 | M T W T F . . | 3 |
| 4 | | | . . . . . . . | |
| 5 | | | . . . . . . . | |
| 6 | | | . . . . . . . | |
| 7 | | | . . . . . . . | |
| 8 | | | . . . . . . . | |
| 9 | | | . . . . . . . | |
| 10 | | | . . . . . . . | |
| 11 | | | . . . . . . . | |
| 12 | | | . . . . . . . | |
| 13 | | | . . . . . . . | |
| 14 | | | . . . . . . . | |
| 15 | | | . . . . . . . | |
| 16 | | | . . . . . . . | |

Solar Clock Data (8-4)

| | |
|---|---|
| North Latitude | 35 |
| West Longitude | 121 |
| Local Time Zone | 8 |

Sabbatical Clock (8-5)

| Hebrew | Ped Recall |
|---|---|
| Sabbath | . . . . . . . . |
| Holiday | . . . . . . . . |

Daylight Saving (8-6)

| | |
|---|---|
| Enabled | YES |

## TOD FUNCTIONS

TOD Functions (8-3)

| # | Start | End | DOW | Action | Phases |
|---|---|---|---|---|---|
| 1 | | | . . . . . . . | | . . . . . . . . |
| 2 | | | . . . . . . . | | . . . . . . . . |
| 3 | | | . . . . . . . | | . . . . . . . . |
| 4 | | | . . . . . . . | | . . . . . . . . |
| 5 | | | . . . . . . . | | . . . . . . . . |
| 6 | | | . . . . . . . | | . . . . . . . . |
| 7 | | | . . . . . . . | | . . . . . . . . |
| 8 | | | . . . . . . . | | . . . . . . . . |
| 9 | | | . . . . . . . | | . . . . . . . . |
| 10 | | | . . . . . . . | | . . . . . . . . |
| 11 | | | . . . . . . . | | . . . . . . . . |
| 12 | | | . . . . . . . | | . . . . . . . . |
| 13 | | | . . . . . . . | | . . . . . . . . |
| 14 | | | . . . . . . . | | . . . . . . . . |
| 15 | | | . . . . . . . | | . . . . . . . . |
| 16 | | | . . . . . . . | | . . . . . . . . |

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free  Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

# COMMUNICATIONS

| C2 (6-1-1) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

| C20 (6-1-2) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

| C21 (6-1-3) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

## Access Levels:

0-Full Access
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan
4-Reserved
5-Full Access with No Set Pattern
6-Full Access with No Set Time
7-Full Access with No Set Pattern, Manual Plan
8-Full Access with No Set Time, Pattern, Manual Plan

# SOFT LOGIC

| Soft Logic ( 6-2 ) | | | | | | | |
|---|---|---|---|---|---|---|---|
| # | Data | OP | Data | OP | Data | OP | Data |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |

*Refer to User's Manual for Data and OP Codes

# CALLBACK NUMBERS

| Callback Numbers (6-3...3) | |
|---|---|
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |

# NETWORK

| Network (6-4) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Port | 27000 |
| Type | STATIC |
| Central Access | 0 |
| Field Access | 0 |

| | | | | |
|---|---|---|---|---|
| IP Address | 0 | 0 | 0 | 0 |
| Netmask | 255 | 255 | 255 | 0 |
| Broadcast | 0 | 0 | 0 | 254 |
| Gateway | 0 | 0 | 0 | 1 |

# RAILROAD PREEMPTION

**RR 1**

| (3-1-1) | Timing | Phase Flags (3-1-2) | | | Pedestrian Flags (3-1-3) | | | Overlap Flags (3-1-4) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Grn Hold | Yel Flash | Red Flash | Walk | Flash DW | Solid DW | Grn Hold | Yel Flash | Red Flash |
| Delay | | | | | | | | | | |
| Clear 1 | 10 | .2..5... | ........ | ........ | ........ | ........ | .2.4.6.8 | ...... | ...... | ...... |
| Clear 2 | | ........ | ........ | ........ | ........ | ........ | ........ | ...... | ...... | ...... |
| Clear 3 | | ........ | ........ | ........ | ........ | ........ | ........ | ...... | ...... | ...... |
| Hold | | ........ | ........ | 12345678 | ........ | ........ | ........ | ...... | ...... | ABCDEF |
| Exit | | | | | | | | | | |
| Min Grn | | | | | | | | | | |
| Ped Clr | | | | | | | | | | |

| Exit Parameters (3-1-5) | | | |
|---|---|---|---|
| Phase Green | Overlap Green | Vehicle Call | Ped Call |
| ........ | ...... | 12345678 | .2.4.6.8 |

| Configuration (3-1-6) | | | |
|---|---|---|---|
| Primary Port | Secondary Port | Latching | Power-Up |
| 2.5 | 0.0 | YES | FLASHING |

**RR 2**

| (3-2-1) | Timing | Phase Flags (3-2-2) | | | Pedestrian Flags (3-2-3) | | | Overlap Flags (3-2-4) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Grn Hold | Yel Flash | Red Flash | Walk | Flash DW | Solid DW | Grn Hold | Yel Flash | Red Flash |
| Delay | | | | | | | | | | |
| Clear 1 | 10 | ...4..7. | ........ | ........ | ........ | ........ | .2.4.6.8 | ...... | ...... | ...... |
| Clear 2 | | ........ | ........ | ........ | ........ | ........ | ........ | ...... | ...... | ...... |
| Clear 3 | | ........ | ........ | ........ | ........ | ........ | ........ | ...... | ...... | ...... |
| Hold | | 123..6.. | ........ | ........ | .2...6.. | ........ | ...4...8 | ...... | ...... | ...... |
| Exit | | | | | | | | | | |
| Min Grn | | | | | | | | | | |
| Ped Clr | | | | | | | | | | |

| Exit Parameters (3-2-5) | | | |
|---|---|---|---|
| Phase Green | Overlap Green | Vehicle Call | Ped Call |
| ........ | ...... | ...4..7. | ........ |

| Configuration (3-2-6) | | | |
|---|---|---|---|
| Primary Port | Secondary Port | Latching | Power-up |
| 2.6 | 0.0 | YES | DARK |

# EMERGENCY VEHICLE PREEMPTION

| EVA (3-A) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | .2..5... | ...... |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.5 | NO | ADVANCE |

| EVB (3-B) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | ...4..7. | ...... |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.6 | NO | ADVANCE |

| EVC (3-C) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | 1....6.. | ...... |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.7 | NO | ADVANCE |

| EVD (3-D) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | ..3....8 | ...... |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.8 | NO | ADVANCE |

# INPUTS

| | | 7 Wire I/C ( 2-1-5-1 ) | | | |
|---|---|---|---|---|---|
| | | Input | Port | Input | Port |
| Enable | NO | R1 | 3.8 | Free | 3.6 |
| Max ON | | R2 | 3.5 | D2 | 2.8 |
| Max OFF | | R3 | 3.7 | D3 | 6.1 |

| Manual Control ( 2-1-5-2 ) | |
|---|---|
| Input | Port |
| Manual Advance | 6.6 |
| Advance Enable | 6.6 |

| Cabinet Status ( 2-1-5-3 ) | |
|---|---|
| Input | Port |
| Flash Bus | |
| Door Ajar | |
| Flash Sense | 6.7 |
| Stop Time | 6.8 |

| Special Function (2-1-5-4) | |
|---|---|
| Input | Port |
| 1 | |
| 2 | |
| 3 | |
| 4 | |

| Battery Backup ( 2-1-5-5 ) | |
|---|---|
| Port | Operation |
| | NORMAL |

| Y-Coordination ( 2-1-5-6 ) | |
|---|---|
| Port C | Port D |
| 6.1 | 2.8 |

# OUTPUTS

| Loadswitch Assignments ( 2-1-6 ) | | | | | | | + |
|---|---|---|---|---|---|---|---|
| A | 1 | 2 | 22 | 3 | 4 | 24 | 9 |
| B | 5 | 6 | 26 | 7 | 8 | 28 | 10 |
| X | 13 | 14 | 0 | 11 | 12 | 0 | 0 |

Loadswitch Codes:

0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6
Channel 9 and 10

# TRANSIT PRIORITY

| Local Plans (3-E) 1...9 11...19 | | Early Green | Green Extend | Inhibit Cycles | Phase 1 Minimum | Phase 2 Minimum | Phase 3 Minimum | Phase 4 Minimum | Phase 5 Minimum | Phase 6 Minimum | Phase 7 Minimum | Phase 8 Minimum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 1 | Green Factor | | | | | | | | | | | |
| Plan 2 | Green Factor | | | | | | | | | | | |
| Plan 3 | Green Factor | | | | | | | | | | | |
| Plan 4 | Green Factor | | | | | | | | | | | |
| Plan 5 | Green Factor | | | | | | | | | | | |
| Plan 6 | Green Factor | | | | | | | | | | | |
| Plan 7 | Green Factor | | | | | | | | | | | |
| Plan 8 | Green Factor | | | | | | | | | | | |
| Plan 9 | Green Factor | | | | | | | | | | | |
| Plan 11 | Green Factor | | | | | | | | | | | |
| Plan 12 | Green Factor | | | | | | | | | | | |
| Plan 13 | Green Factor | | | | | | | | | | | |
| Plan 14 | Green Factor | | | | | | | | | | | |
| Plan 15 | Green Factor | | | | | | | | | | | |
| Plan 16 | Green Factor | | | | | | | | | | | |
| Plan 17 | Green Factor | | | | | | | | | | | |
| Plan 18 | Green Factor | | | | | | | | | | | |
| Plan 19 | Green Factor | | | | | | | | | | | |

| Transit Priority Configuration (3-E-A) | | | | Indicator Output | |
|---|---|---|---|---|---|
| Enable in Plans | | Input | Type | Stop | Go |
| Plan 1-9 | . . . . . . . . . | 0.0 | OPT | 0 | 0 |
| Plan 11-19 | . . . . . . . . . | 0.0 | OPT | 0 | 0 |

| Queue Jump (3-E-B) | |
|---|---|
| Grn Hold | Hold Phase |
| | . . . . . . . . |
| | . . . . . . . . |

| Free Plans (3-E-E) | |
|---|---|
| Max Grn Hold | Hold Phase |
| | . . . . . . . . |

| Access Utilities (9-5) | |
|---|---|
| Password | *** |
| Timeout | 30 |

# YELLOW YIELD COORDINATION

| Y-Coord Plans (7-C,D) | Long Grn | No Grn | Offset | Perm | Force-Offs -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- | Coord | Lag | Min Recall | Restricted |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan C | | | | | | | | | | | | | . 2 . . . 6 . . | . 2 . 4 . 6 . 8 | . . . . . . . . | . . . . . . . . |
| Plan D | | | | | | | | | | | | | . 2 . . . 6 . . | . 2 . 4 . 6 . 8 | . . . . . . . . | . . . . . . . . |

# TRUCK PRIORITY

| Truck Priority (3-F) | Passage | CarryOver | Clearance | Next Priority | Phase Green | Det 2 Port | Det 3 Port | Det 4 Port | Sign Output | Slave Input | Slave Output |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | . . . . . . . . | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0 |

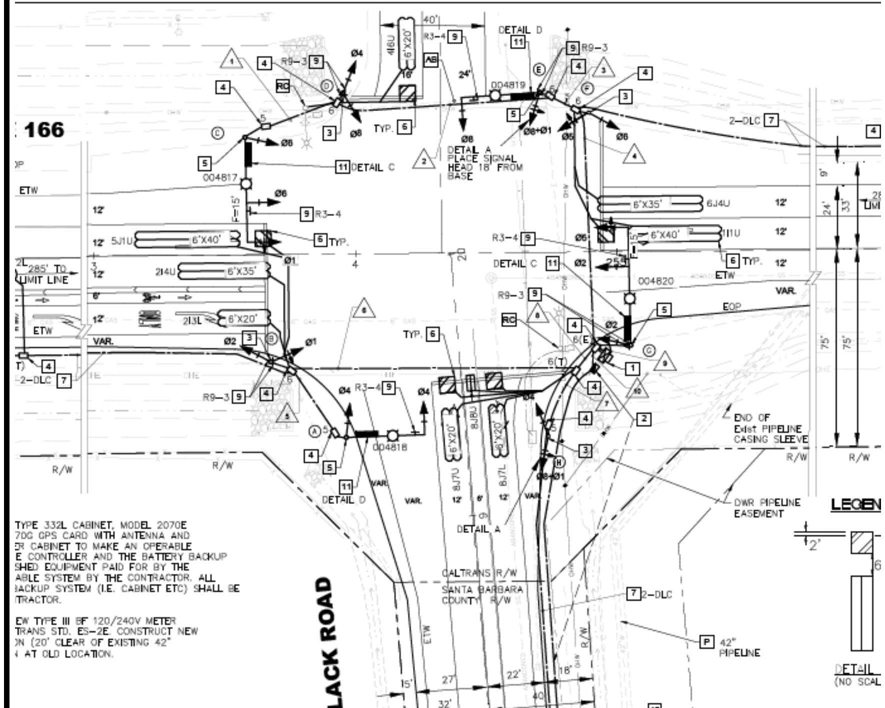
**Location:** SB-166 PM 04.50 Black Rd.
**Designed By:** AC, AP

**System:**
**District:** 5
**Installed By:** AC, AP

**Master At:**
**I/C:** N/A
**Service Info:**

| Timing Change: | Date Start: | Date End: | Designed: | Installed: |
|---|---|---|---|---|
| | 9/26/2024 | | 9/26/2024 | 9/26/2024 |

## Intersection Layout




**PHASE**

| | | FLASH |
|---|---|---|
| 1) | LT to SB Black Rd. | [ ] |
| 2) | EB SR166 | [ ] |
| 3) | ------------------------------ | [ ] |
| 4) | Main Street Strawberry | [ ] |
| 5) | LT to Main Street Strawberry | [ ] |
| 6) | WB SR166 | [ ] |
| 7) | ------------------------------ | [ ] |
| 8) | NB Black Rd. | [ ] |

**OVERLAP**

| | |
|---|---|
| A) | [ ] |
| B) | [ ] |
| C) | [ ] |
| D) | [ ] |
| E) | [ ] |
| F) | [ ] |

**Comments and Notes:**
**NO PED CW**
**Black Rd RTOL hardwired to ph1 yellow and green.**

**RAM Checksum**

| | | | |
|---|---|---|---|
| Page 2: | B4B5 | Page 8: | 85AF |
| Page 3: | 4D3D | Page 9: | 6DAF |
| Page 4: | F29E | Page 10: | 8E3F |
| Page 5: | 191A | Page 11: | FDAC |
| Page 6: | 191A | Page 12: | 2FBE |
| Page 7: | 6C7A | Page 13: | 86F7 |

# CONFIGURATION PHASE FLAGS

| Cabinet |
|---|
| 332 |
| Configuration |
| CALTRANS |

| Phases ( 2-1-1-1 ) | |
|---|---|
| Permitted | 1 2 . 4 5 6 . 8 |
| Restricted | . . . . . . . . |

| Phase Features ( 2-1-1-4 ) | |
|---|---|
| Double Entry | . . . 4 . . . 8 |
| Rest In Walk | . . . . . . . . |
| Rest In Red | . . . . . . . . |
| Walk 2 | . . . . . . . . |
| Max Green 2 | . . . . . . . . |
| Max Green 3 | . . . . . . . . |

| Startup ( 2-1-1-5 ) | |
|---|---|
| First Green Phases | . 2 . . . 6 . . |
| Yellow Start Phases | . . . . . . . . |
| Vehicle Calls | 1 2 . 4 5 6 . 8 |
| Pedestrian Calls | . . . . . . . . |
| Yellow Start Overlaps | . . . . . . |
| Startup All-Red | 6.0 |

| Phase Recalls ( 2-1-1-2 ) | |
|---|---|
| Vehicle Min | . 2 . . . 6 . . |
| Vehicle Max | . . . . . . . . |
| Pedestrian | . . . . . . . . |
| Bicycle | . . . . . . . . |

| Phase Locks ( 2-1-1-3 ) | |
|---|---|
| Red | . . . . . . . . |
| Yellow | . . . . . . . . |
| Force/Max | . . . . . . . . |

| Call To Phase ( 2-1-2-1 ) | | Omit On Green | |
|---|---|---|---|
| 1 | . . . . . . . . | 1 | . . . . . . . . |
| 2 | . . . . . . . . | 2 | . . . . . . . . |
| 3 | . . . . . . . . | 3 | . . . . . . . . |
| 4 | . . . . . . . . | 4 | . . . . . . . . |
| 5 | . . . . . . . . | 5 | . . . . . . . . |
| 6 | . . . . . . . . | 6 | . . . . . . . . |
| 7 | . . . . . . . . | 7 | . . . . . . . . |
| 8 | . . . . . . . . | 8 | . . . . . . . . |

| Flashing Colors ( 2-1-2-2 ) | |
|---|---|
| Yellow Flash Phases | . . . . . . . . |
| Yellow Flash Overlap | . . . . . . |
| Flash In Red Phases | . . . . . . . . |
| Flash In Red Overlap | . . . . . . |

| Special Operation ( 2-1-2-3 ) | |
|---|---|
| Single Exit Phase | . . . . . . . . |
| Driveway Signal Phases | . . . . . . . . |
| Driveway Signal Overlaps | . . . . . . |
| Leading Ped Phases | . . . . . . . . |

| Protected Permissive ( 2-1-2-4 ) | |
|---|---|
| Protected Permissive | . . . . . . . . |

| Pedestrian ( 2-1-3 ) | |
|---|---|
| P1 | . . . . . . . . |
| P2 | . 2 . . . . . . |
| P3 | . . . . . . . . |
| P4 | . . . 4 . . . . |
| P5 | . . . . . . . . |
| P6 | . . . . . 6 . . |
| P7 | . . . . . . . . |
| P8 | . . . . . . . 8 |

Overlap ( 2-1-4 )

| Overlap | Parent | Omit | No Start | Not |
|---|---|---|---|---|
| A | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| B | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| C | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| D | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| E | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| F | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |

# PHASE TIMING

| Phase ( 2-2 ) | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|
| --- Walk 1 --- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Flash Don't Walk | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minimum Green | 8 | 9 | 0 | 8 | 8 | 9 | 0 | 8 |
| Det Limit | 0 | 35 | 0 | 0 | 0 | 35 | 0 | 0 |
| Max Initial | 0 | 30 | 0 | 10 | 10 | 30 | 0 | 10 |
| Max Green 1 | 25 | 50 | 0 | 18 | 16 | 50 | 0 | 25 |
| Max Green 2 | 50 | 70 | 0 | 0 | 50 | 70 | 0 | 50 |
| Max Green 3 | 50 | 50 | 0 | 0 | 50 | 50 | 0 | 50 |
| Extension | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Maximum Gap | 3.0 | 3.5 | 0.0 | 3.0 | 3.0 | 3.5 | 0.0 | 3.0 |
| Minimum Gap | 1.5 | 1.0 | 0.0 | 1.0 | 1.5 | 1.0 | 0.0 | 1.0 |
| Add Per Vehicle | 0.0 | 1.5 | 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Reduce Gap By | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 |
| Reduce Every | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 |
| Yellow | 3.6 | 5.4 | 3.0 | 3.6 | 3.6 | 5.4 | 3.0 | 3.6 |
| All-Red | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 |

| Ped/Bike (2-3 ) | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|
| --- Walk 2 --- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Delay/Early Walk | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Solid Don't Walk | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bike Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Bike All-Red | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |

## OVERLAP TIMING

| Overlap ( 2-4 ) | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| Green | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Red | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Red Revert

| Red Revert ( 2-5 ) | |
|---|---|
| Time | 3.0 |
| **All-Red Sec/Min ( 2-6 )** | |
| All-Red Sec/Min: | OFF |

## Max 2 Extension

| Max/Gap Out ( 2-7 ) | |
|---|---|
| Max Cnt | 0 |
| Gap Cnt | 0 |

## Local Plan 1...9 (7-1) TIMING DATA

## COORDINATION

[ Offsets ] Green Factors or Press [F] to Select Force-Off

| | | Cycle | Multi | Lag Gap | A | B | C | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 1 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 2 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 3 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 4 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 5 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 6 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 7 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 8 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 9 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |

## Local Plan 1...9 (7-1) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 1 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 2 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 3 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 4 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 5 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 6 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 7 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 8 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 9 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |

| Master Timer Sync ( 7-A ) | |
|---|---|
| Enable in Plans | |
| 1-9 | . . . . . . . . . |
| 11-19 | . . . . . . . . . |
| 21-29 | . . . . . . . . . |

| Master Sub Master | |
|---|---|
| Input | |
| Output | |

### FREE PLAN PHASE FLAGS

| ( 7-E ) Free | |
|---|---|
| Lag | Omit |
| . 2 . 4 . 6 . 8 | . . . . . . . . |
| Veh Min | Veh Max |
| . 2 . . . 6 . . | . . . . . . . . |
| Ped | Bike |
| . . . . . . . . | . . . . . . . . |
| Cond | Cond Grn |
| . . . . . . . . | 10 |

## MANUAL COMMANDS

| Manual Plan (4-1) | |
|---|---|
| Plan | OffSet |
| | A |

*Plan: 1-9*
*15 or 254 = Flash*
*14 or 255 = Free*
*Offset A, B, or C*

| Special Function Override (4-2) | | | |
|---|---|---|---|
| # | Control | # | Control |
| 1 | NORMAL | 3 | NORMAL |
| 2 | NORMAL | 4 | NORMAL |

| | |
|---|---|
| Detector Reset | (4-3) |
| Local Manual (4-4) | OFF |

## Local Plan 11...19 (7-2) TIMING DATA

## COORDINATION

| | | Cycle | Multi | Lag Gap | [ Offsets A | B | C ] | Green Factors or Press [F] to Select Force-Off -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 11 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 12 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 13 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 14 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 15 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 16 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 17 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 18 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 19 | Green Factor | | | ........ | | | | | | | | | | | |

## Local Plan 11...19 (7-2) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 11 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 12 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 13 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 14 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 15 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 16 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 17 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 18 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 19 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |

## Local Plan 21...29 (7-3) TIMING DATA

## COORDINATION

[ Offsets ] Green Factors or Press [F] to Select Force-Off

| | | Cycle | Multi | Lag Gap | A | B | C | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 21 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 22 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 23 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 24 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 25 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 26 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 27 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 28 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 29 | Green Factor | | | ........ | | | | | | | | | | | |

## Local Plan 21...29 (7-3) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 21 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 22 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 23 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 24 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 25 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 26 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 27 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 28 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 29 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |

# DETECTORS

## Detector Attributes (5-1) / Slot / Detector Configuration (5-2)

| Det | Type | Phases | Lock | Slot | Det | Delay | Extend | Recall | Port |
|---|---|---|---|---|---|---|---|---|---|
| 1 | COUNT+CALL+EXTEND | 1 . . . . . . . | RED | I1U | 1 | 1 | | 20 | 3.2 |
| 2 | COUNT+CALL+EXTEND | 1 . . . . . . . | NO | I1L | 2 | | | 10 | 7.2 |
| 3 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I2U | 3 | | 2.5 | 0 | 1.1 |
| 4 | CALL+EXTEND | . 2 . . . . . . | NO | I2L | 4 | | 3.0 | 0 | 1.5 |
| 5 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I3U | 5 | | | 10 | 4.5 |
| 6 | CALL+EXTEND | . 2 . . . . . . | NO | I3L | 6 | | | 0 | 6.2 |
| 7 | LIMITED | . 2 . . . . . . | NO | I4U | 7 | | 3.0 | 25 | 2.1 |
| 8 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I4L | 8 | | | 0 | 7.4 |
| 9 | COUNT+CALL+EXTEND | . . 3 . . . . . | NO | I5U | 9 | | | 10 | 3.4 |
| 10 | COUNT+CALL+EXTEND | . . 3 . . . . . | NO | I5L | 10 | | | 10 | 7.6 |
| 11 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I6U | 11 | 5 | | 15 | 1.3 |
| 12 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I6L | 12 | | | 10 | 1.7 |
| 13 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I7U | 13 | | | 10 | 4.7 |
| 14 | CALL+EXTEND | . . . 4 . . . . | NO | I7L | 14 | | | 10 | 6.4 |
| 15 | LIMITED | . . . 4 . . . . | NO | I8U | 15 | | | 10 | 2.3 |
| 16 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I8L | 16 | | | 10 | 7.8 |
| 17 | COUNT+CALL+EXTEND | 1 . . . . . . . | NO | I9U | 17 | | | 10 | 3.6 |
| 18 | COUNT+CALL+EXTEND | . . 3 . . . . . | NO | I9L | 18 | | | 10 | 3.8 |
| 19 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I10U | 19 | | | 10 | 4.1 |
| 20 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I10L | 20 | | | 10 | 4.2 |
| 21 | COUNT+CALL+EXTEND | . . . . 5 . . . | RED | J1U | 21 | 1 | | 15 | 3.1 |
| 22 | COUNT+CALL+EXTEND | . . . . 5 . . . | NO | J1L | 22 | | | 10 | 7.1 |
| 23 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J2U | 23 | | 2.5 | 0 | 1.2 |
| 24 | CALL+EXTEND | . . . . . 6 . . | NO | J2L | 24 | | 3.0 | 0 | 1.6 |
| 25 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J3U | 25 | | | 10 | 4.6 |
| 26 | CALL+EXTEND | . . . . . 6 . . | NO | J3L | 26 | | | 10 | 6.3 |
| 27 | LIMITED | . . . . . 6 . . | NO | J4U | 27 | | 3.0 | 25 | 2.2 |
| 28 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J4L | 28 | | | 10 | 7.3 |
| 29 | COUNT+CALL+EXTEND | . . . . . . 7 . | NO | J5U | 29 | | | 10 | 3.3 |
| 30 | COUNT+CALL+EXTEND | . . . . . . 7 . | NO | J5L | 30 | | | 10 | 7.5 |
| 31 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J6U | 31 | | 2.5 | 0 | 1.4 |
| 32 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J6L | 32 | | | 0 | 1.8 |
| 33 | COUNT+CALL+EXTEND | . . . . . . . 8 | RED | J7U | 33 | 1 | | 20 | 4.8 |
| 34 | CALL+EXTEND | . . . . . . . 8 | NO | J7L | 34 | 5 | | 0 | 6.5 |
| 35 | BICYCLE | . . . . . . . 8 | YEL | J8U | 35 | 1 | | 10 | 2.4 |
| 36 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J8L | 36 | | | 10 | 7.7 |
| 37 | COUNT+CALL+EXTEND | . . . . 5 . . . | NO | J9U | 37 | | | 10 | 3.5 |
| 38 | COUNT+CALL+EXTEND | . . . . . . 7 . | NO | J9L | 38 | | | 10 | 3.7 |
| 39 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J10U | 39 | | | 10 | 4.3 |
| 40 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J10L | 40 | | | 10 | 4.4 |
| 41 | PEDESTRIAN | . 2 . . . . . . | NO | I12U | 41 | | | 10 | 5.1 |
| 42 | PEDESTRIAN | . . . 4 . . . . | NO | I12L | 42 | | | 10 | 5.3 |
| 43 | PEDESTRIAN | . . . . . 6 . . | NO | I13U | 43 | | | 10 | 5.2 |
| 44 | PEDESTRIAN | . . . . . . . 8 | NO | I13L | 44 | | | 10 | 5.4 |

## Failure Times (5-3)

| Failure Times(5-3) | Minutes |
|---|---|
| Maximum On Time | 10 |
| Fail Reset Time | 60 |

## Failure Override (5-4)

| Failure Override (5-4) | |
|---|---|
| Detectors 1-8 | . . . . . . . . . |
| Detectors 9-16 | . . . . . . . . . |
| Detectors17-24 | . . . . . . . . . |
| Detectors 25-32 | . . . . . . . . . |
| Detectors 33-40 | . . . . . . . . . |
| Detectors 41-44 | . . . . . . . . . |

## System Detector Assignment (5-5)

| Sys Det | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Det Nu | | | | | | | | |
| Sys Det | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Det Nu | | | | | | | | |

## CIC Operation (5-6-1)

| CIC Operation (5-6-1) | |
|---|---|
| Enable in Plans | . . . . . . . . . |

## CIC Values (5-6-2)

| CIC Values (5-6-2) | Volume | Occupancy | Demand |
|---|---|---|---|
| Smoothing | 0.66 | 0.66 | 0.66 |
| Multiplier | 4.0 | 0.33 | |
| Exponent | 0.50 | 1.00 | |

## Detector-to-Phase Assignment (5-6-3)

| Sys Det | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phase | | | | | | | | |
| Sys Det | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Phase | | | | | | | | |

## Input File Port-Bit Assignments

332 Cabinet - For Reference Only

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I- | 3.2 | 1.1 | 4.5 | 2.1 | 3.4 | 1.3 | 4.7 | 2.3 | 3.6 | 4.1 | 6.6 | 5.1 | 5.2 | 6.7 |
| | 7.2 | 1.5 | 6.2 | 7.4 | 7.6 | 1.7 | 6.4 | 7.8 | 3.8 | 4.2 | 2.7 | 5.3 | 5.4 | 6.8 |
| J- | 3.1 | 1.2 | 4.6 | 2.2 | 3.3 | 1.4 | 4.8 | 2.4 | 3.5 | 4.3 | 2.8 | 5.5 | 5.6 | 2.5 |
| | 7.1 | 1.6 | 6.3 | 7.3 | 7.5 | 1.8 | 6.5 | 7.7 | 3.7 | 4.4 | 6.1 | 5.7 | 5.8 | 2.6 |

# TOD SCHEDULE

| Table 1 (8-2-1) | | | Table 2 (8-2-2) | | | Table 3 (8-2-3) | | | Table 4 (8-2-4) | | | Table 5 (8-2-5) | | | Table 6 (8-2-6) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Plan | OS | Time | Plan | OS | Time | Plan | OS | Time | Plan | OS | Time | Plan | OS | Time | Plan | OS |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |

# WEEKDAY ASSIGNMENT

| Weekday Table Assignments (8-2-7) | | | | | | |
|---|---|---|---|---|---|---|
| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
| 1 | 1 | 1 | 1 | 1 | 2 | 2 |

## HOLIDAY TABLES

**Floating Holiday Table (8-2-8)**

| # | Mnth | Week | DOW | Table |
|---|---|---|---|---|
| 1 | | | . . . . . . . | |
| 2 | | | . . . . . . . | |
| 3 | | | . . . . . . . | |
| 4 | | | . . . . . . . | |
| 5 | | | . . . . . . . | |
| 6 | | | . . . . . . . | |
| 7 | | | . . . . . . . | |
| 8 | | | . . . . . . . | |
| 9 | | | . . . . . . . | |
| 10 | | | . . . . . . . | |
| 11 | | | . . . . . . . | |
| 12 | | | . . . . . . . | |
| 13 | | | . . . . . . . | |
| 14 | | | . . . . . . . | |
| 15 | | | . . . . . . . | |
| 16 | | | . . . . . . . | |

**Fixed Holiday Table (8-2-9)**

| # | Mnth | Day | DOW | Table |
|---|---|---|---|---|
| 1 | | | . . . . . . . | |
| 2 | | | . . . . . . . | |
| 3 | | | . . . . . . . | |
| 4 | | | . . . . . . . | |
| 5 | | | . . . . . . . | |
| 6 | | | . . . . . . . | |
| 7 | | | . . . . . . . | |
| 8 | | | . . . . . . . | |
| 9 | | | . . . . . . . | |
| 10 | | | . . . . . . . | |
| 11 | | | . . . . . . . | |
| 12 | | | . . . . . . . | |
| 13 | | | . . . . . . . | |
| 14 | | | . . . . . . . | |
| 15 | | | . . . . . . . | |
| 16 | | | . . . . . . . | |

**Solar Clock Data (8-4)**

| | |
|---|---|
| North Latitude | 34 |
| West Longitude | 118 |
| Local Time Zone | 8 |

**Sabbatical Clock (8-5)**

| Hebrew | Ped Recall |
|---|---|
| Sabbath | . . . . . . . . |
| Holiday | . . . . . . . . |

**Daylight Saving (8-6)**

| | |
|---|---|
| Enabled | YES |

## TOD FUNCTIONS

**TOD Functions (8-3)**

| # | Start | End | DOW | Action | Phases |
|---|---|---|---|---|---|
| 1 | 1230 | 1545 | M T W T F . . | 17 | . 2 . . . . . . |
| 2 | 0430 | 0830 | M T W T F . . | 17 | . . . . . 6 . . |
| 3 | | | . . . . . . . | | . . . . . . . . |
| 4 | | | . . . . . . . | | . . . . . . . . |
| 5 | | | . . . . . . . | | . . . . . . . . |
| 6 | | | . . . . . . . | | . . . . . . . . |
| 7 | | | . . . . . . . | | . . . . . . . . |
| 8 | | | . . . . . . . | | . . . . . . . . |
| 9 | | | . . . . . . . | | . . . . . . . . |
| 10 | | | . . . . . . . | | . . . . . . . . |
| 11 | | | . . . . . . . | | . . . . . . . . |
| 12 | | | . . . . . . . | | . . . . . . . . |
| 13 | | | . . . . . . . | | . . . . . . . . |
| 14 | | | . . . . . . . | | . . . . . . . . |
| 15 | | | . . . . . . . | | . . . . . . . . |
| 16 | | | . . . . . . . | | . . . . . . . . |

**Action Codes:**

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free  Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

# COMMUNICATIONS

| C2 (6-1-1) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

| C20 (6-1-2) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

| C21 (6-1-3) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

**Access Levels:**
0-Full Access
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan
4-Reserved
5-Full Access with No Set Pattern
6-Full Access with No Set Time
7-Full Access with No Set Pattern, Manual Plan
8-Full Access with No Set Time, Pattern, Manual Plan

# SOFT LOGIC

Soft Logic ( 6-2 )

| # | Data | OP | Data | OP | Data | OP | Data |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |

*Refer to User's Manual for Data and OP Codes

# CALLBACK NUMBERS

| Callback Numbers (6-3...3) | |
|---|---|
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |

| | |
|---|---|
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |

| | |
|---|---|
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |

# NETWORK

| Network (6-4) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Port | 27000 |
| Type | STATIC |
| Central Acces | 0 |
| Field Access | 0 |

| | | | | |
|---|---|---|---|---|
| IP Address | 0 | 0 | 0 | 0 |
| Netmask | 255 | 255 | 255 | 0 |
| Broadcast | 0 | 0 | 0 | 255 |
| Gateway | 0 | 0 | 0 | 254 |

# RAILROAD PREEMPTION

## RR 1

| ( 3-1-1 ) | Timing | Phase Flags (3-1-2) | | | Pedestrian Flags (3-1-3) | | | Overlap Flags (3-1-4) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Grn Hold | Yel Flash | Red Flash | Walk | Flash DW | Solid DW | Grn Hold | Yel Flash | Red Flash |
| Delay | | | | | | | | | | |
| Clear 1 | 10 | . 2 . . 5 . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . 2 . 4 . 6 . 8 | . . . . . . | . . . . . . | . . . . . . |
| Clear 2 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Clear 3 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Hold | | . . . . . . . . | . . . . . . . . | 1 2 3 4 5 6 7 8 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | A B C D E F |
| Exit | | | | | | | | | | |
| Min Grn | | | | | | | | | | |
| Ped Clr | | | | | | | | | | |

| Exit Parameters (3-1-5) | | | |
|---|---|---|---|
| Phase Green | Overlap Green | Vehicle Call | Ped Call |
| . . . . . . . . | . . . . . . | 1 2 3 4 5 6 7 8 | . 2 . 4 . 6 . 8 |

| Configuration (3-1-6) | | | |
|---|---|---|---|
| Primary Port | Secondary Port | Latching | Power-Up |
| 2.5 | 0.0 | YES | FLASHING |

## RR 2

| ( 3-2-1 ) | Timing | Phase Flags (3-2-2) | | | Pedestrian Flags (3-2-3) | | | Overlap Flags (3-2-4) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Grn Hold | Yel Flash | Red Flash | Walk | Flash DW | Solid DW | Grn Hold | Yel Flash | Red Flash |
| Delay | | | | | | | | | | |
| Clear 1 | 10 | . . . 4 . . 7 . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . 2 . 4 . 6 . 8 | . . . . . . | . . . . . . | . . . . . . |
| Clear 2 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Clear 3 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Hold | | 1 2 3 . . 6 . . | . . . . . . . . | . . . . . . . . | . 2 . . . 6 . . | . . . . . . . . | . . . 4 . . . 8 | . . . . . . | . . . . . . | . . . . . . |
| Exit | | | | | | | | | | |
| Min Grn | | | | | | | | | | |
| Ped Clr | | | | | | | | | | |

| Exit Parameters (3-2-5) | | | |
|---|---|---|---|
| Phase Green | Overlap Green | Vehicle Call | Ped Call |
| . . . . . . . . | . . . . . . | . . . 4 . . 7 . | . . . . . . . . |

| Configuration (3-2-6) | | | |
|---|---|---|---|
| Primary Port | Secondary Port | Latching | Power-up |
| 2.6 | 0.0 | YES | DARK |

# EMERGENCY VEHICLE PREEMPTION

| EVA (3-A) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | . 2 . . 5 . . . | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.5 | NO | ADVANCE |

| EVB (3-B) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | . . . 4 . . 7 . | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.6 | NO | ADVANCE |

| EVC (3-C) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | 1 . . . . 6 . . | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.7 | NO | ADVANCE |

| EVD (3-D) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | . . 3 . . . . 8 | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.8 | NO | ADVANCE |

## INPUTS

| | | 7 Wire I/C ( 2-1-5-1 ) | | | |
|---|---|---|---|---|---|
| | | Input | Port | Input | Port |
| Enable | NO | R1 | 3.8 | Free | 3.6 |
| Max ON | | R2 | 3.5 | D2 | 2.8 |
| Max OFF | | R3 | 3.7 | D3 | 6.1 |

| Manual Control ( 2-1-5-2 ) | |
|---|---|
| Input | Port |
| Manual Advance | |
| Advance Enable | |

| Battery Backup ( 2-1-5-5 ) | |
|---|---|
| Port | Operation |
| 2.7 | NORMAL |

| Cabinet Status ( 2-1-5-3 ) | |
|---|---|
| Input | Port |
| Flash Bus | |
| Door Ajar | |
| Flash Sense | 6.7 |
| Stop Time | 6.8 |

| Special Function (2-1-5-4) | |
|---|---|
| Input | Port |
| 1 | |
| 2 | |
| 3 | |
| 4 | |

| Y-Coordination ( 2-1-5-6 ) | |
|---|---|
| Port C | Port D |
| 6.1 | 2.8 |

## OUTPUTS

| Loadswitch Assignments ( 2-1-6 ) | | | | | | | + |
|---|---|---|---|---|---|---|---|
| A | 1 | 2 | 22 | 3 | 4 | 24 | 9 |
| B | 5 | 6 | 26 | 7 | 8 | 28 | 10 |
| X | 13 | 14 | 0 | 11 | 12 | 0 | 0 |

**Loadswitch Codes:**

- 0 Unused (no output)
- 1-8 Vehicle 1-8
- 9-14 Overlap A-F
- 21-28 Ped 1-8
- 41-47 Special Functions
- 41 Protected Permissive Flashing Phase 1
- 43 Protected Permissive Flashing Phase 3
- 45 Protected Permissive Flashing Phase 5
- 47 Protected Permissive Flashing Phase 7
- 51-57 Special Functions
- 71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6
Channel 9 and 10

# TRANSIT PRIORITY

| Local Plans (3-E) 1...9 11...19 | | Early Green | Green Extend | Inhibit Cycles | Phase 1 Minimum | Phase 2 Minimum | Phase 3 Minimum | Phase 4 Minimum | Phase 5 Minimum | Phase 6 Minimum | Phase 7 Minimum | Phase 8 Minimum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 1 | Green Factor | | | | | | | | | | | |
| Plan 2 | Green Factor | | | | | | | | | | | |
| Plan 3 | Green Factor | | | | | | | | | | | |
| Plan 4 | Green Factor | | | | | | | | | | | |
| Plan 5 | Green Factor | | | | | | | | | | | |
| Plan 6 | Green Factor | | | | | | | | | | | |
| Plan 7 | Green Factor | | | | | | | | | | | |
| Plan 8 | Green Factor | | | | | | | | | | | |
| Plan 9 | Green Factor | | | | | | | | | | | |
| Plan 11 | Green Factor | | | | | | | | | | | |
| Plan 12 | Green Factor | | | | | | | | | | | |
| Plan 13 | Green Factor | | | | | | | | | | | |
| Plan 14 | Green Factor | | | | | | | | | | | |
| Plan 15 | Green Factor | | | | | | | | | | | |
| Plan 16 | Green Factor | | | | | | | | | | | |
| Plan 17 | Green Factor | | | | | | | | | | | |
| Plan 18 | Green Factor | | | | | | | | | | | |
| Plan 19 | Green Factor | | | | | | | | | | | |

| Transit Priority Configuration (3-E-A) | | | | Indicator Output | |
|---|---|---|---|---|---|
| Enable in Plans | | Input | Type | Stop | Go |
| Plan 1-9 | . . . . . . . . . | 0.0 | OPT | 0 | 0 |
| Plan 11-19 | . . . . . . . . . | 0.0 | OPT | 0 | 0 |

| Queue Jump (3-E-B) | |
|---|---|
| Grn Hold | Hold Phase |
| | . . . . . . . . |
| | . . . . . . . . |

| Free Plans (3-E-E) | |
|---|---|
| Max Grn Hold | Hold Phase |
| | . . . . . . . . |

| Access Utilities (9-5) | |
|---|---|
| Password | *** |
| Timeout | 30 |

# YELLOW YIELD COORDINATION

| Y-Coord Plans (7-C,D) | Long Grn | No Grn | Offset | Perm | Force-Offs -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- | Coord | Lag | Min Recall | Restricted |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan C | | | | | | | | | | | | | . 2 . . . 6 . . | . 2 . 4 . 6 . 8 | . . . . . . . . | . . . . . . . . |
| Plan D | | | | | | | | | | | | | . 2 . . . 6 . . | . 2 . 4 . 6 . 8 | . . . . . . . . | . . . . . . . . |

# TRUCK PRIORITY

| Truck Priority (3-F) | Passage | CarryOver | Clearance | Next Priority | Phase Green | Det 2 Port | Det 3 Port | Det 4 Port | Sign Output | Slave Input | Slave Output |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | . . . . . . . . | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0 |

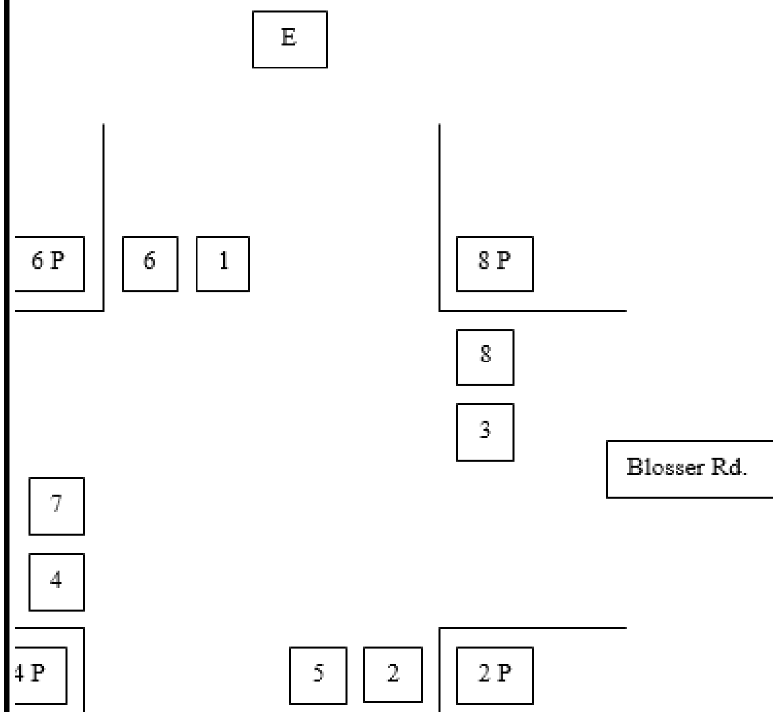
**Location:** SB-166-PM 06.87 Blosser Rd.
**Designed By:** AJC
**System:** 2070
**District:** 5
**Installed By:** AJC
**Master At:**
**I/C:**
**Service Info:**

**Timing Change:** **Date Start:** **Date End:** **Designed:** **Installed:**

| PHASE | | FLASH |
|---|---|---|
| 1) | LT W/B to S/B | [ ] |
| 2) | Through Rte. 166 E/B | [ ] |
| 3) | L/T N/B to W/B | [ ] |
| 4) | Side St. Blosse S/B | [ ] |
| 5) | L/T E/B to N/B | [ ] |
| 6) | Through Rte. 166 W/B | [ ] |
| 7) | L/T S/B to E/B | [ ] |
| 8) | Side St. Blosser N/B | [ ] |

| OVERLAP | | |
|---|---|---|
| A) | | [ ] |
| B) | | [ ] |
| C) | | [ ] |
| D) | | [ ] |
| E) | | [ ] |
| F) | | [ ] |

## Intersection Layout




**Comments and Notes:**
2 PED- 80ft
Ø4 PED- 106ft
Ø6 PED- 104ft
Ø8 PED- 105ft

PED=3.5ft/s

**RAM Checksum**

| | | | |
|---|---|---|---|
| Page 2: | B1A2 | Page 8: | 85AF |
| Page 3: | 3C2E | Page 9: | D242 |
| Page 4: | 0BF4 | Page 10: | DFDA |
| Page 5: | 191A | Page 11: | FDAC |
| Page 6: | 191A | Page 12: | D68F |
| Page 7: | D13F | Page 13: | 86F7 |

| Cabinet |
|---|
| 332 |
| Configuration |
| CALTRANS |

# CONFIGURATION PHASE FLAGS

| Phases ( 2-1-1-1 ) | |
|---|---|
| Permitted | 1 2 3 4 5 6 7 8 |
| Restricted | . . . . . . . . |

| Phase Recalls ( 2-1-1-2 ) | |
|---|---|
| Vehicle Min | . 2 . . . 6 . . |
| Vehicle Max | . . . . . . . . |
| Pedestrian | . . . . . . . . |
| Bicycle | . . . . . . . . |

| Phase Locks ( 2-1-1-3 ) | |
|---|---|
| Red | . . . . . . . . |
| Yellow | . . . . . . . . |
| Force/Max | . . . . . . . . |

| Phase Features ( 2-1-1-4 ) | |
|---|---|
| Double Entry | . . . . . . . . |
| Rest In Walk | . . . . . . . . |
| Rest In Red | . . . . . . . . |
| Walk 2 | . . . . . . . . |
| Max Green 2 | . . . . . . . . |
| Max Green 3 | . . . . . . . . |

| Startup ( 2-1-1-5 ) | |
|---|---|
| First Green Phases | . 2 . . . 6 . . |
| Yellow Start Phases | . . . . . . . . |
| Vehicle Calls | 1 2 3 4 5 6 7 8 |
| Pedestrian Calls | . 2 . 4 . 6 . 8 |
| Yellow Start Overlaps | . . . . . . |
| Startup All-Red | 6.0 |

| Call To Phase ( 2-1-2-1 ) | | Omit On Green | |
|---|---|---|---|
| 1 | . . . . . . . . | 1 | . . . . . . . . |
| 2 | . . . . . . . . | 2 | . . . . . . . . |
| 3 | . . . . . . . . | 3 | . . . . . . . . |
| 4 | . . . . . . . . | 4 | . . . . . . . . |
| 5 | . . . . . . . . | 5 | . . . . . . . . |
| 6 | . . . . . . . . | 6 | . . . . . . . . |
| 7 | . . . . . . . . | 7 | . . . . . . . . |
| 8 | . . . . . . . . | 8 | . . . . . . . . |

| Flashing Colors ( 2-1-2-2 ) | |
|---|---|
| Yellow Flash Phases | . . . . . . . . |
| Yellow Flash Overlap | . . . . . . |
| Flash In Red Phases | . . . . . . . . |
| Flash In Red Overlap | . . . . . . |

| Special Operation ( 2-1-2-3 ) | |
|---|---|
| Single Exit Phase | . . . . . . . . |
| Driveway Signal Phases | . . . . . . . . |
| Driveway Signal Overlaps | . . . . . . |
| Leading Ped Phases | . 2 . 4 . 6 . 8 |

| Protected Permissive ( 2-1-2-4 ) | |
|---|---|
| Protected Permissive | . . . . . . . . |

| Pedestrian ( 2-1-3 ) | |
|---|---|
| P1 | . . . . . . . . |
| P2 | . 2 . . . . . . |
| P3 | . . . . . . . . |
| P4 | . . . 4 . . . . |
| P5 | . . . . . . . . |
| P6 | . . . . . 6 . . |
| P7 | . . . . . . . . |
| P8 | . . . . . . . 8 |

Overlap ( 2-1-4 )

| Overlap | Parent | Omit | No Start | Not |
|---|---|---|---|---|
| A | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| B | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| C | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| D | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| E | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| F | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |

PHASE TIMING

| Phase ( 2-2 ) | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|
| --- Walk 1 --- | 0 | 2 | 0 | 2 | 0 | 2 | 0 | 2 |
| Flash Don't Walk | 0 | 18 | 0 | 25 | 0 | 25 | 0 | 25 |
| Minimum Green | 8 | 9 | 8 | 9 | 8 | 9 | 8 | 9 |
| Det Limit | 0 | 30 | 0 | 20 | 0 | 30 | 0 | 20 |
| Max Initial | 0 | 20 | 0 | 10 | 0 | 20 | 0 | 10 |
| Max Green 1 | 24 | 28 | 14 | 25 | 24 | 28 | 14 | 25 |
| Max Green 2 | 0 | 38 | 0 | 0 | 34 | 0 | 0 | 0 |
| Max Green 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Extension | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Maximum Gap | 2.0 | 2.5 | 2.0 | 3.0 | 3.0 | 2.5 | 2.0 | 3.0 |
| Minimum Gap | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Add Per Vehicle | 0.0 | 2.0 | 0.0 | 2.0 | 0.0 | 2.0 | 0.0 | 2.0 |
| Reduce Gap By | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Reduce Every | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Yellow | 3.2 | 3.9 | 3.2 | 4.3 | 3.2 | 3.9 | 3.2 | 4.3 |
| All-Red | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

| Ped/Bike (2-3 ) | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|
| --- Walk 2 --- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Delay/Early Walk | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 3 |
| Solid Don't Walk | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bike Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bike All-Red | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## OVERLAP TIMING

| Overlap ( 2-4 ) | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| Green | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Red | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Red Revert

| Red Revert ( 2-5 ) | |
|---|---|
| Time | 2.0 |
| **All-Red Sec/Min ( 2-6 )** | |
| All-Red Sec/Min: | OFF |

## Max 2 Extension

| Max/Gap Out ( 2-7 ) | |
|---|---|
| Max Cnt | 0 |
| Gap Cnt | 0 |

## Local Plan 1...9 (7-1) TIMING DATA

## COORDINATION

[ Offsets ] Green Factors or Press [F] to Select Force-Off

| | | Cycle | Multi | Lag Gap | A | B | C | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 1 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 2 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 3 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 4 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 5 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 6 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 7 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 8 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 9 | Green Factor | | | ........ | | | | | | | | | | | |

## Local Plan 1...9 (7-1) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 1 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 2 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 3 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 4 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 5 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 6 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 7 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 8 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 9 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |

| Master Timer Sync ( 7-A ) | |
|---|---|
| Enable in Plans | |
| 1-9 | ......... |
| 11-19 | ......... |
| 21-29 | ......... |

| Master Sub Master | |
|---|---|
| Input | |
| Output | |

### FREE PLAN PHASE FLAGS

| ( 7-E ) Free | |
|---|---|
| Lag | Omit |
| . 2 . 4 . 6 . 8 | ........ |
| Veh Min | Veh Max |
| ........ | ........ |
| Ped | Bike |
| ........ | ........ |
| Cond | Cond Grn |
| ........ | 10 |

## MANUAL COMMANDS

| Manual Plan (4-1) | |
|---|---|
| Plan | OffSet |
| | A |

*Plan: 1-9*
*15 or 254 = Flash*
*14 or 255 = Free*
*Offset A, B, or C*

| Special Function Override (4-2) | | | |
|---|---|---|---|
| # | Control | # | Control |
| 1 | NORMAL | 3 | NORMAL |
| 2 | NORMAL | 4 | NORMAL |

| | |
|---|---|
| Detector Reset | (4-3) |
| Local Manual (4-4) | OFF |

## Local Plan 11...19 (7-2) TIMING DATA

## COORDINATION

| | | Cycle | Multi | Lag Gap | [ Offsets | | ] Green Factors or Press [F] to Select Force-Off | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A | B | C | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
| Plan 11 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 12 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 13 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 14 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 15 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 16 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 17 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 18 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 19 | Green Factor | | | ........ | | | | | | | | | | | |

## Local Plan 11...19 (7-2) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 11 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 12 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 13 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 14 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 15 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 16 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 17 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 18 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 19 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |

## Local Plan 21...29 (7-3) TIMING DATA

## COORDINATION

| | | Cycle | Multi | Lag Gap | [ Offsets ] A | B | C | Green Factors or Press [F] to Select Force-Off -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 21 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 22 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 23 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 24 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 25 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 26 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 27 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 28 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 29 | Green Factor | | | ........ | | | | | | | | | | | |

## Local Plan 21...29 (7-3) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 21 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 22 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 23 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 24 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 25 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 26 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 27 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 28 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 29 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |

# DETECTORS

| Detector Attributes (5-1) | | | | Slot | Detector Configuration (5-2) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Det | Type | Phases | Lock | | Det | Delay | Extend | Recall | Port |
| 1 | COUNT+CALL+EXTEND | 1 . . . . . . . | NO | I1U | 1 | | | 15 | 3.2 |
| 2 | COUNT+CALL+EXTEND | 1 . . . . . . . | NO | I1L | 2 | | | 10 | 7.2 |
| 3 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I2U | 3 | | 3.5 | 0 | 1.1 |
| 4 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I2L | 4 | | 3.5 | 0 | 1.5 |
| 5 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I3U | 5 | | | 10 | 4.5 |
| 6 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I3L | 6 | | | 10 | 6.2 |
| 7 | LIMITED | . 2 . . . . . . | NO | I4U | 7 | | 3.0 | 20 | 2.1 |
| 8 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I4L | 8 | | | 10 | 7.4 |
| 9 | COUNT+CALL+EXTEND | . . 3 . . . . . | RED | I5U | 9 | | | 15 | 3.4 |
| 10 | COUNT+CALL+EXTEND | . . 3 . . . . . | NO | I5L | 10 | | | 10 | 7.6 |
| 11 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I6U | 11 | | 1.5 | 0 | 1.3 |
| 12 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I6L | 12 | | 1.5 | 0 | 1.7 |
| 13 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I7U | 13 | | 1.5 | 0 | 4.7 |
| 14 | CALL+EXTEND | . . . 4 . . . . | NO | I7L | 14 | | 1.5 | 0 | 6.4 |
| 15 | LIMITED | . . . 4 . . . . | NO | I8U | 15 | | 3.0 | 20 | 2.3 |
| 16 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I8L | 16 | | | 10 | 7.8 |
| 17 | COUNT+CALL+EXTEND | 1 . . . . . . . | NO | I9U | 17 | | | 10 | 3.6 |
| 18 | COUNT+CALL+EXTEND | . . 3 . . . . . | NO | I9L | 18 | | | 10 | 3.8 |
| 19 | COUNT+CALL+EXTEND | . 2 . . . . . . | NO | I10U | 19 | | | 10 | 4.1 |
| 20 | COUNT+CALL+EXTEND | . . . 4 . . . . | NO | I10L | 20 | | | 10 | 4.2 |
| 21 | COUNT+CALL+EXTEND | . . . . 5 . . . | NO | J1U | 21 | | | 20 | 3.1 |
| 22 | COUNT+CALL+EXTEND | . . . . 5 . . . | NO | J1L | 22 | | | 10 | 7.1 |
| 23 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J2U | 23 | | 2.0 | 0 | 1.2 |
| 24 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J2L | 24 | | 2.0 | 0 | 1.6 |
| 25 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J3U | 25 | | | 10 | 4.6 |
| 26 | CALL+EXTEND | . . . . . 6 . . | NO | J3L | 26 | | | 10 | 6.3 |
| 27 | LIMITED | . . . . . 6 . . | NO | J4U | 27 | | 3.0 | 20 | 2.2 |
| 28 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J4L | 28 | | | 10 | 7.3 |
| 29 | COUNT+CALL+EXTEND | . . . . . . 7 . | NO | J5U | 29 | | | 15 | 3.3 |
| 30 | COUNT+CALL+EXTEND | . . . . . . 7 . | NO | J5L | 30 | | | 10 | 7.5 |
| 31 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J6U | 31 | | 1.5 | 0 | 1.4 |
| 32 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J6L | 32 | | 1.5 | 0 | 1.8 |
| 33 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J7U | 33 | | 1.0 | 0 | 4.8 |
| 34 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J7L | 34 | | 1.0 | 0 | 6.5 |
| 35 | LIMITED | . . . . . . . 8 | NO | J8U | 35 | | 3.0 | 20 | 2.4 |
| 36 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J8L | 36 | | | 10 | 7.7 |
| 37 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J9U | 37 | 5 | | 10 | 3.5 |
| 38 | COUNT+CALL+EXTEND | . . . . . . 7 . | NO | J9L | 38 | | | 10 | 3.7 |
| 39 | COUNT+CALL+EXTEND | . . . . . 6 . . | NO | J10U | 39 | | | 10 | 4.3 |
| 40 | COUNT+CALL+EXTEND | . . . . . . . 8 | NO | J10L | 40 | | | 10 | 4.4 |
| 41 | PEDESTRIAN | . 2 . . . . . . | NO | I12U | 41 | | | 10 | 5.1 |
| 42 | PEDESTRIAN | . . . 4 . . . . | NO | I12L | 42 | | | 10 | 5.3 |
| 43 | PEDESTRIAN | . . . . . 6 . . | NO | I13U | 43 | | | 10 | 5.2 |
| 44 | PEDESTRIAN | . . . . . . . 8 | NO | I13L | 44 | | | 10 | 5.4 |

| Failure Times(5-3) | Minutes |
|---|---|
| Maximum On Time | 10 |
| Fail Reset Time | 60 |

| Failure Override (5-4) | |
|---|---|
| Detectors 1-8 | . . . . . . . . |
| Detectors 9-16 | . . . . . . . . |
| Detectors17-24 | . . . . . . . . |
| Detectors 25-32 | . . . . . . . . |
| Detectors 33-40 | . . . . . . . . |
| Detectors 41-44 | . . . . . . . . |

**System Detector Assignment (5-5)**

| Sys Det | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Det Nu | | | | | | | | |
| Sys Det | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Det Nu | | | | | | | | |

| CIC Operation (5-6-1) | |
|---|---|
| Enable in Plans | . . . . . . . . . |

| CIC Values (5-6-2) | Volume | Occupancy | Demand |
|---|---|---|---|
| Smoothing | 0.66 | 0.66 | 0.66 |
| Multiplier | 4.0 | 0.33 | |
| Exponent | 0.50 | 1.00 | |

**Detector-to-Phase Assignment (5-6-3)**

| Sys Det | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phase | | | | | | | | |
| Sys Det | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Phase | | | | | | | | |

## Input File Port-Bit Assignments

332 Cabinet - For Reference Only

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I- | 3.2 | 1.1 | 4.5 | 2.1 | 3.4 | 1.3 | 4.7 | 2.3 | 3.6 | 4.1 | 6.6 | 5.1 | 5.2 | 6.7 |
| | 7.2 | 1.5 | 6.2 | 7.4 | 7.6 | 1.7 | 6.4 | 7.8 | 3.8 | 4.2 | 2.7 | 5.3 | 5.4 | 6.8 |
| J- | 3.1 | 1.2 | 4.6 | 2.2 | 3.3 | 1.4 | 4.8 | 2.4 | 3.5 | 4.3 | 2.8 | 5.5 | 5.6 | 2.5 |
| | 7.1 | 1.6 | 6.3 | 7.3 | 7.5 | 1.8 | 6.5 | 7.7 | 3.7 | 4.4 | 6.1 | 5.7 | 5.8 | 2.6 |

# TOD SCHEDULE

| Table 1 (8-2-1) | | | Table 2 (8-2-2) | | | Table 3 (8-2-3) | | | Table 4 (8-2-4) | | | Table 5 (8-2-5) | | | Table 6 (8-2-6) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Plan | OS | Time | Plan | OS | Time | Plan | OS | Time | Plan | OS | Time | Plan | OS | Time | Plan | OS |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |

# WEEKDAY ASSIGNMENT

| Weekday Table Assignments (8-2-7) | | | | | | |
|---|---|---|---|---|---|---|
| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
| 1 | 1 | 1 | 1 | 1 | 2 | 2 |

## HOLIDAY TABLES

**Floating Holiday Table (8-2-8)**

| # | Mnth | Week | DOW | Table |
|---|---|---|---|---|
| 1 | | | . . . . . . . | |
| 2 | | | . . . . . . . | |
| 3 | | | . . . . . . . | |
| 4 | | | . . . . . . . | |
| 5 | | | . . . . . . . | |
| 6 | | | . . . . . . . | |
| 7 | | | . . . . . . . | |
| 8 | | | . . . . . . . | |
| 9 | | | . . . . . . . | |
| 10 | | | . . . . . . . | |
| 11 | | | . . . . . . . | |
| 12 | | | . . . . . . . | |
| 13 | | | . . . . . . . | |
| 14 | | | . . . . . . . | |
| 15 | | | . . . . . . . | |
| 16 | | | . . . . . . . | |

**Fixed Holiday Table (8-2-9)**

| # | Mnth | Day | DOW | Table |
|---|---|---|---|---|
| 1 | | | . . . . . . . | |
| 2 | | | . . . . . . . | |
| 3 | | | . . . . . . . | |
| 4 | | | . . . . . . . | |
| 5 | | | . . . . . . . | |
| 6 | | | . . . . . . . | |
| 7 | | | . . . . . . . | |
| 8 | | | . . . . . . . | |
| 9 | | | . . . . . . . | |
| 10 | | | . . . . . . . | |
| 11 | | | . . . . . . . | |
| 12 | | | . . . . . . . | |
| 13 | | | . . . . . . . | |
| 14 | | | . . . . . . . | |
| 15 | | | . . . . . . . | |
| 16 | | | . . . . . . . | |

**Solar Clock Data (8-4)**

| | |
|---|---|
| North Latitude | 35 |
| West Longitude | 120 |
| Local Time Zone | 8 |

**Sabbatical Clock (8-5)**

| Hebrew | Ped Recall |
|---|---|
| Sabbath | . . . . . . . . |
| Holiday | . . . . . . . . |

**Daylight Saving (8-6)**

| | |
|---|---|
| Enabled | YES |

## TOD FUNCTIONS

**TOD Functions (8-3)**

| # | Start | End | DOW | Action | Phases |
|---|---|---|---|---|---|
| 1 | 0700 | 1800 | M T W T F . . | 21 | 1 . . 4 . 6 . 8 |
| 2 | 1530 | 1615 | M T W T F . . | 17 | . 2 . . 5 . . . |
| 3 | | | . . . . . . . | | . . . . . . . . |
| 4 | | | . . . . . . . | | . . . . . . . . |
| 5 | | | . . . . . . . | | . . . . . . . . |
| 6 | | | . . . . . . . | | . . . . . . . . |
| 7 | | | . . . . . . . | | . . . . . . . . |
| 8 | | | . . . . . . . | | . . . . . . . . |
| 9 | | | . . . . . . . | | . . . . . . . . |
| 10 | | | . . . . . . . | | . . . . . . . . |
| 11 | | | . . . . . . . | | . . . . . . . . |
| 12 | | | . . . . . . . | | . . . . . . . . |
| 13 | | | . . . . . . . | | . . . . . . . . |
| 14 | | | . . . . . . . | | . . . . . . . . |
| 15 | | | . . . . . . . | | . . . . . . . . |
| 16 | | | . . . . . . . | | . . . . . . . . |

**Action Codes:**

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

# COMMUNICATIONS

| C2 (6-1-1) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

| C20 (6-1-2) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

| C21 (6-1-3) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

**Access Levels:**
- 0-Full Access
- 1-Status Only
- 2-Status, Set Pattern, Time
- 3-Status, Set Pattern, Time, Manual Plan
- 4-Reserved
- 5-Full Access with No Set Pattern
- 6-Full Access with No Set Time
- 7-Full Access with No Set Pattern, Manual Plan
- 8-Full Access with No Set Time, Pattern, Manual Plan

# SOFT LOGIC

Soft Logic ( 6-2 )

| # | Data | OP | Data | OP | Data | OP | Data |
|---|---|---|---|---|---|---|---|
| 1 | 53.2 | 01 | 16.1 | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |

*Refer to User's Manual for Data and OP Codes

# CALLBACK NUMBERS

| Callback Numbers (6-3...3) | |
|---|---|
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |

| | |
|---|---|
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |

| | |
|---|---|
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |

# NETWORK

| Network (6-4) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Port | 27000 |
| Type | STATIC |
| Central Acces | 0 |
| Field Access | 0 |

| | | | | |
|---|---|---|---|---|
| IP Address | 0 | 0 | 0 | 0 |
| Netmask | 255 | 255 | 255 | 0 |
| Broadcast | 0 | 0 | 0 | 255 |
| Gateway | 0 | 0 | 0 | 254 |

# RAILROAD PREEMPTION

**RR 1**

| (3-1-1) | Timing | Phase Flags (3-1-2) Grn Hold | Phase Flags (3-1-2) Yel Flash | Phase Flags (3-1-2) Red Flash | Pedestrian Flags (3-1-3) Walk | Pedestrian Flags (3-1-3) Flash DW | Pedestrian Flags (3-1-3) Solid DW | Overlap Flags (3-1-4) Grn Hold | Overlap Flags (3-1-4) Yel Flash | Overlap Flags (3-1-4) Red Flash |
|---|---|---|---|---|---|---|---|---|---|---|
| Delay | | | | | | | | | | |
| Clear 1 | 10 | . 2 . . 5 . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . 2 . 4 . 6 . 8 | . . . . . . | . . . . . . | . . . . . . |
| Clear 2 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Clear 3 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Hold | | . . . . . . . . | . . . . . . . . | 1 2 3 4 5 6 7 8 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | A B C D E F |
| Exit | | | | | | | | | | |
| Min Grn | | | | | | | | | | |
| Ped Clr | | | | | | | | | | |

**Exit Parameters (3-1-5)**

| Phase Green | Overlap Green | Vehicle Call | Ped Call |
|---|---|---|---|
| . . . . . . . . | . . . . . . | 1 2 3 4 5 6 7 8 | . 2 . 4 . 6 . 8 |

**Configuration (3-1-6)**

| Primary Port | Secondary Port | Latching | Power-Up |
|---|---|---|---|
| 2.5 | 0.0 | YES | FLASHING |

**RR 2**

| (3-2-1) | Timing | Phase Flags (3-2-2) Grn Hold | Phase Flags (3-2-2) Yel Flash | Phase Flags (3-2-2) Red Flash | Pedestrian Flags (3-2-3) Walk | Pedestrian Flags (3-2-3) Flash DW | Pedestrian Flags (3-2-3) Solid DW | Overlap Flags (3-2-4) Grn Hold | Overlap Flags (3-2-4) Yel Flash | Overlap Flags (3-2-4) Red Flash |
|---|---|---|---|---|---|---|---|---|---|---|
| Delay | | | | | | | | | | |
| Clear 1 | 10 | . . . 4 . . 7 . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . 2 . 4 . 6 . 8 | . . . . . . | . . . . . . | . . . . . . |
| Clear 2 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Clear 3 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Hold | | 1 2 3 . . 6 . . | . . . . . . . . | . . . . . . . . | . 2 . . . 6 . . | . . . . . . . . | . . . 4 . . . 8 | . . . . . . | . . . . . . | . . . . . . |
| Exit | | | | | | | | | | |
| Min Grn | | | | | | | | | | |
| Ped Clr | | | | | | | | | | |

**Exit Parameters (3-2-5)**

| Phase Green | Overlap Green | Vehicle Call | Ped Call |
|---|---|---|---|
| . . . . . . . . | . . . . . . | . . . 4 . . 7 . | . . . . . . . . |

**Configuration (3-2-6)**

| Primary Port | Secondary Port | Latching | Power-up |
|---|---|---|---|
| 2.6 | 0.0 | YES | DARK |

# EMERGENCY VEHICLE PREEMPTION

**EVA (3-A)**

| Preempt Timers Delay | Preempt Timers Clear | Preempt Timers Max | Phase Green | Overlap Green |
|---|---|---|---|---|
| | 5 | 30 | . 2 . . 5 . . . | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.5 | NO | ADVANCE |

**EVB (3-B)**

| Preempt Timers Delay | Preempt Timers Clear | Preempt Timers Max | Phase Green | Overlap Green |
|---|---|---|---|---|
| | 5 | 30 | . . . 4 . . 7 . | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.6 | NO | ADVANCE |

**EVC (3-C)**

| Preempt Timers Delay | Preempt Timers Clear | Preempt Timers Max | Phase Green | Overlap Green |
|---|---|---|---|---|
| | 5 | 30 | 1 . . . . 6 . . | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.7 | NO | ADVANCE |

**EVD (3-D)**

| Preempt Timers Delay | Preempt Timers Clear | Preempt Timers Max | Phase Green | Overlap Green |
|---|---|---|---|---|
| | 5 | 30 | . . 3 . . . . 8 | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.8 | NO | ADVANCE |

# INPUTS

| | | 7 Wire I/C ( 2-1-5-1 ) | | | |
|---|---|---|---|---|---|
| | | Input | Port | Input | Port |
| Enable | NO | R1 | 3.8 | Free | 3.6 |
| Max ON | | R2 | 3.5 | D2 | 2.8 |
| Max OFF | | R3 | 3.7 | D3 | 6.1 |

| Manual Control ( 2-1-5-2 ) | |
|---|---|
| Input | Port |
| Manual Advance | |
| Advance Enable | |

| Cabinet Status ( 2-1-5-3 ) | |
|---|---|
| Input | Port |
| Flash Bus | |
| Door Ajar | |
| Flash Sense | 6.7 |
| Stop Time | 6.8 |

| Special Function (2-1-5-4) | |
|---|---|
| Input | Port |
| 1 | |
| 2 | |
| 3 | |
| 4 | |

| Battery Backup ( 2-1-5-5 ) | |
|---|---|
| Port | Operation |
| 2.7 | FLASHING |

| Y-Coordination ( 2-1-5-6 ) | |
|---|---|
| Port C | Port D |
| 6.1 | 2.8 |

# OUTPUTS

| Loadswitch Assignments ( 2-1-6 ) | | | | | | | + |
|---|---|---|---|---|---|---|---|
| A | 1 | 2 | 22 | 3 | 4 | 24 | 9 |
| B | 5 | 6 | 26 | 7 | 8 | 28 | 10 |
| X | 13 | 14 | 0 | 11 | 12 | 0 | 0 |

Loadswitch Codes:
- 0 Unused (no output)
- 1-8 Vehicle 1-8
- 9-14 Overlap A-F
- 21-28 Ped 1-8
- 41-47 Special Functions
- 41 Protected Permissive Flashing Phase 1
- 43 Protected Permissive Flashing Phase 3
- 45 Protected Permissive Flashing Phase 5
- 47 Protected Permissive Flashing Phase 7
- 51-57 Special Functions
- 71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6
Channel 9 and 10

# TRANSIT PRIORITY

| Local Plans (3-E) 1...9 11...19 | | Early Green | Green Extend | Inhibit Cycles | Phase 1 Minimum | Phase 2 Minimum | Phase 3 Minimum | Phase 4 Minimum | Phase 5 Minimum | Phase 6 Minimum | Phase 7 Minimum | Phase 8 Minimum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 1 | Green Factor | | | | | | | | | | | |
| Plan 2 | Green Factor | | | | | | | | | | | |
| Plan 3 | Green Factor | | | | | | | | | | | |
| Plan 4 | Green Factor | | | | | | | | | | | |
| Plan 5 | Green Factor | | | | | | | | | | | |
| Plan 6 | Green Factor | | | | | | | | | | | |
| Plan 7 | Green Factor | | | | | | | | | | | |
| Plan 8 | Green Factor | | | | | | | | | | | |
| Plan 9 | Green Factor | | | | | | | | | | | |
| Plan 11 | Green Factor | | | | | | | | | | | |
| Plan 12 | Green Factor | | | | | | | | | | | |
| Plan 13 | Green Factor | | | | | | | | | | | |
| Plan 14 | Green Factor | | | | | | | | | | | |
| Plan 15 | Green Factor | | | | | | | | | | | |
| Plan 16 | Green Factor | | | | | | | | | | | |
| Plan 17 | Green Factor | | | | | | | | | | | |
| Plan 18 | Green Factor | | | | | | | | | | | |
| Plan 19 | Green Factor | | | | | | | | | | | |

| Transit Priority Configuration (3-E-A) | | Indicator Output | | | |
|---|---|---|---|---|---|
| Enable in Plans | | Input | Type | Stop | Go |
| Plan 1-9 | . . . . . . . . . | 0.0 | OPT | 0 | 0 |
| Plan 11-19 | . . . . . . . . . | 0.0 | OPT | 0 | 0 |

| Queue Jump (3-E-B) | |
|---|---|
| Grn Hold | Hold Phase |
| | . . . . . . . . |
| | . . . . . . . . |

| Free Plans (3-E-E) | |
|---|---|
| Max Grn Hold | Hold Phase |
| | . . . . . . . . |

| Access Utilities (9-5) | |
|---|---|
| Password | *** |
| Timeout | 30 |

# YELLOW YIELD COORDINATION

| Y-Coord Plans (7-C,D) | Long Grn | No Grn | Offset | Perm | Force-Offs -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- | Coord | Lag | Min Recall | Restricted |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan C | | | | | | | | | | | | | . 2 . . . 6 . . | . 2 . 4 . 6 . 8 | . . . . . . . . | . . . . . . . . |
| Plan D | | | | | | | | | | | | | . 2 . . . 6 . . | . 2 . 4 . 6 . 8 | . . . . . . . . | . . . . . . . . |

# TRUCK PRIORITY

| Truck Priority (3-F) | Passage | CarryOver | Clearance | Next Priority | Phase Green | Det 2 Port | Det 3 Port | Det 4 Port | Sign Output | Slave Input | Slave Output |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | . . . . . . . . | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0 |

**Location:** SB-166-PM 7.42 Depot St
**System:** Main St
**Master At:** n/a

**District:** 5
**I/C:**

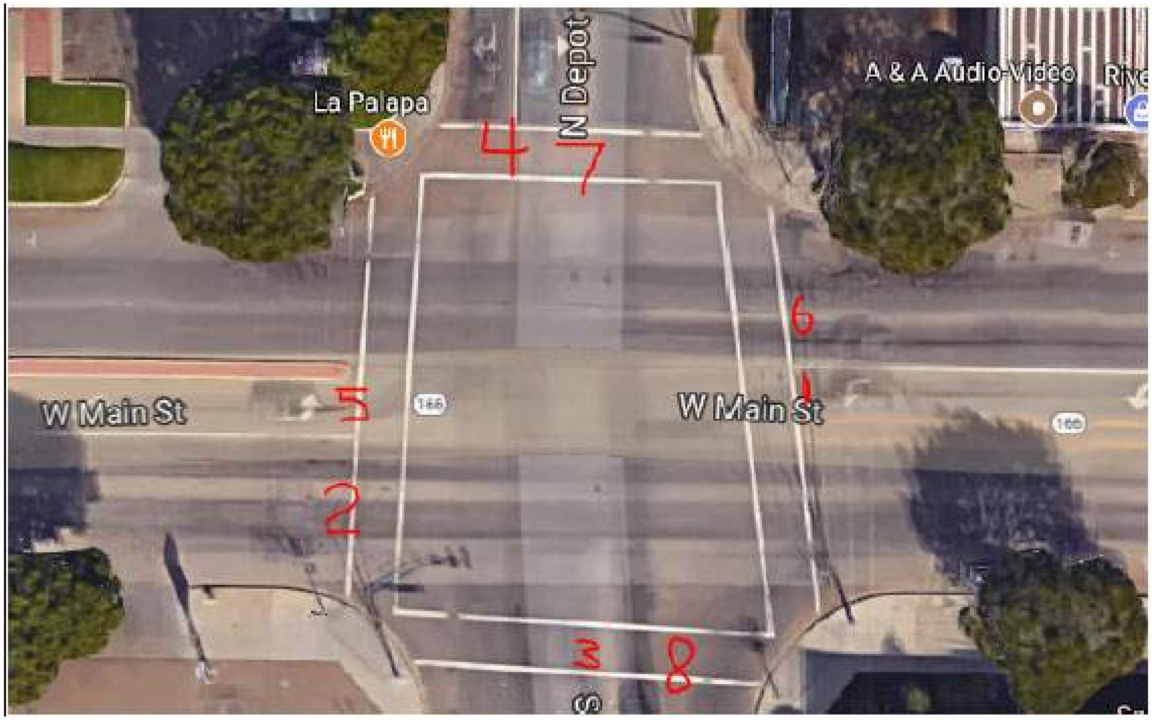
**Designed By:** KJV
**Installed By:** KJV
**Service Info:**

| Timing Change: | Date Start: | Date End: | Designed: | Installed: |
|---|---|---|---|---|
| | 12/1/2017 | | | |

## Intersection Layout

| PHASE | | FLASH |
|---|---|---|
| 1) | WB LT | [ ] |
| 2) | EB Main (166) | [ ] |
| 3) | NB LT | [ ] |
| 4) | Depot SB | [ ] |
| 5) | EB LT | [ ] |
| 6) | WB Main (166) | [ ] |
| 7) | SB LT | [ ] |
| 8) | Depot NB | [ ] |

| OVERLAP | | |
|---|---|---|
| A) | | [ ] |
| B) | | [ ] |
| C) | | [ ] |
| D) | | [ ] |
| E) | | [ ] |
| F) | | [ ] |




**Comments and Notes:**
3.5'/Sec FDW Dist: 2P- 82', 4P- 92', 6P- 65', 8P- 94'

**RAM Checksum**

| | | | |
|---|---|---|---|
| Page 2: | B1A2 | Page 8: | 85AF |
| Page 3: | 3012 | Page 9: | B76E |
| Page 4: | F29E | Page 10: | 3698 |
| Page 5: | 191A | Page 11: | FDAC |
| Page 6: | 191A | Page 12: | 8D98 |
| Page 7: | 5FE5 | Page 13: | 86F7 |

# CONFIGURATION PHASE FLAGS

| Cabinet |
|---|
| 332 |
| Configuration |
| CALTRANS |

| Phases ( 2-1-1-1 ) | |
|---|---|
| Permitted | 1 2 3 4 5 6 7 8 |
| Restricted | . . . . . . . . |

| Phase Features ( 2-1-1-4 ) | |
|---|---|
| Double Entry | . . . . . . . . |
| Rest In Walk | . . . . . . . . |
| Rest In Red | . . . . . . . . |
| Walk 2 | . . . . . . . . |
| Max Green 2 | . . . . . . . . |
| Max Green 3 | . . . . . . . . |

| Startup ( 2-1-1-5 ) | |
|---|---|
| First Green Phases | . 2 . . . 6 . . |
| Yellow Start Phases | . . . . . . . . |
| Vehicle Calls | 1 2 3 4 5 6 7 8 |
| Pedestrian Calls | . 2 . 4 . 6 . 8 |
| Yellow Start Overlaps | . . . . . . |
| Startup All-Red | 6.0 |

| Phase Recalls ( 2-1-1-2 ) | |
|---|---|
| Vehicle Min | . 2 . . . 6 . . |
| Vehicle Max | . . . . . . . . |
| Pedestrian | . . . . . . . . |
| Bicycle | . . . . . . . . |

| Phase Locks ( 2-1-1-3 ) | |
|---|---|
| Red | . . . . . . . . |
| Yellow | . . . . . . . . |
| Force/Max | . . . . . . . . |

| Call To Phase ( 2-1-2-1 ) | | Omit On Green | |
|---|---|---|---|
| 1 | . . . . . . . . | 1 | . . . . . . . . |
| 2 | . . . . . . . . | 2 | . . . . . . . . |
| 3 | . . . . . . . . | 3 | . . . . . . . . |
| 4 | . . . . . . . . | 4 | . . . . . . . . |
| 5 | . . . . . . . . | 5 | . . . . . . . . |
| 6 | . . . . . . . . | 6 | . . . . . . . . |
| 7 | . . . . . . . . | 7 | . . . . . . . . |
| 8 | . . . . . . . . | 8 | . . . . . . . . |

| Flashing Colors ( 2-1-2-2 ) | |
|---|---|
| Yellow Flash Phases | . . . . . . . . |
| Yellow Flash Overlap | . . . . . . |
| Flash In Red Phases | . . . . . . . . |
| Flash In Red Overlap | . . . . . . |

| Special Operation ( 2-1-2-3 ) | |
|---|---|
| Single Exit Phase | . . . . . . . . |
| Driveway Signal Phases | . . . . . . . . |
| Driveway Signal Overlaps | . . . . . . |
| Leading Ped Phases | . 2 . 4 . 6 . 8 |

| Protected Permissive ( 2-1-2-4 ) | |
|---|---|
| Protected Permissive | . . . . . . . . |

| Pedestrian ( 2-1-3 ) | |
|---|---|
| P1 | . . . . . . . . |
| P2 | . 2 . . . . . . |
| P3 | . . . . . . . . |
| P4 | . . . 4 . . . . |
| P5 | . . . . . . . . |
| P6 | . . . . . 6 . . |
| P7 | . . . . . . . . |
| P8 | . . . . . . . 8 |

Overlap ( 2-1-4 )

| Overlap | Parent | Omit | No Start | Not |
|---|---|---|---|---|
| A | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| B | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| C | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| D | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| E | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| F | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |

# PHASE TIMING

| Phase ( 2-2 ) | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|
| --- Walk 1 --- | 0 | 3 | 0 | 2 | 0 | 2 | 0 | 4 |
| Flash Don't Walk | 0 | 19 | 0 | 22 | 0 | 14 | 0 | 23 |
| Minimum Green | 8 | 9 | 8 | 9 | 8 | 9 | 8 | 9 |
| Det Limit | 0 | 25 | 0 | 0 | 0 | 25 | 0 | 0 |
| Max Initial | 0 | 20 | 0 | 0 | 0 | 20 | 0 | 0 |
| Max Green 1 | 12 | 40 | 12 | 22 | 12 | 40 | 12 | 22 |
| Max Green 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Max Green 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Extension | 1.5 | 1.0 | 1.5 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 |
| Maximum Gap | 3.0 | 3.5 | 3.0 | 2.5 | 3.0 | 3.5 | 3.0 | 2.5 |
| Minimum Gap | 1.5 | 1.0 | 1.5 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 |
| Add Per Vehicle | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| Reduce Gap By | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Reduce Every | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Yellow | 3.2 | 4.3 | 3.2 | 3.5 | 3.2 | 4.3 | 3.2 | 3.5 |
| All-Red | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

| Ped/Bike (2-3 ) | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|
| --- Walk 2 --- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Delay/Early Walk | 0 | 4 | 0 | 3 | 0 | 4 | 0 | 3 |
| Solid Don't Walk | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bike Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bike All-Red | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## OVERLAP TIMING

| Overlap ( 2-4 ) | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| Green | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yellow | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Red | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Red Revert

| Red Revert ( 2-5 ) | |
|---|---|
| Time | 3.0 |
| **All-Red Sec/Min ( 2-6 )** | |
| All-Red Sec/Min: | OFF |

## Max 2 Extension

| Max/Gap Out ( 2-7 ) | |
|---|---|
| Max Cnt | 0 |
| Gap Cnt | 0 |

## Local Plan 1...9 (7-1) TIMING DATA

## COORDINATION

[ Offsets ]    Green Factors or Press [F] to Select Force-Off

| | | Cycle | Multi | Lag Gap | A | B | C | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 1 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 2 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 3 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 4 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 5 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 6 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 7 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 8 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |
| Plan 9 | Green Factor | | | . . . . . . . . | | | | | | | | | | | |

## Local Plan 1...9 (7-1) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 1 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 2 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 3 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 4 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 5 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 6 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 7 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 8 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |
| Plan 9 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . |

| Master Timer Sync ( 7-A ) | |
|---|---|
| Enable in Plans | |
| 1-9 | . . . . . . . . . |
| 11-19 | . . . . . . . . . |
| 21-29 | . . . . . . . . . |

| Master Sub Master | |
|---|---|
| Input | |
| Output | |

### FREE PLAN PHASE FLAGS

| ( 7-E ) Free | |
|---|---|
| Lag | Omit |
| . 2 . 4 . 6 . 8 | . . . . . . . . |
| Veh Min | Veh Max |
| . 2 . . . 6 . . | . . . . . . . . |
| Ped | Bike |
| . . . . . . . . | . . . . . . . . |
| Cond | Cond Grn |
| . . . . . . . . | 10 |

## MANUAL COMMANDS

| Manual Plan (4-1) | |
|---|---|
| Plan | OffSet |
| | A |

*Plan: 1-9*
*15 or 254 = Flash*
*14 or 255 = Free*
*Offset A, B, or C*

| Special Function Override (4-2) | | | |
|---|---|---|---|
| # | Control | # | Control |
| 1 | NORMAL | 3 | NORMAL |
| 2 | NORMAL | 4 | NORMAL |

| | |
|---|---|
| Detector Reset | (4-3) |
| Local Manual (4-4) | OFF |

## Local Plan 11...19 (7-2) TIMING DATA

## COORDINATION

| | | Cycle | Multi | Lag Gap | [ Offsets | | ] | Green Factors or Press [F] to Select Force-Off | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A | B | C | -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
| Plan 11 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 12 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 13 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 14 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 15 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 16 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 17 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 18 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 19 | Green Factor | | | ........ | | | | | | | | | | | |

## Local Plan 11...19 (7-2) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 11 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 12 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 13 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 14 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 15 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 16 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 17 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 18 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 19 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |

## Local Plan 21...29 (7-3) TIMING DATA

## COORDINATION

| | | Cycle | Multi | Lag Gap | [ Offsets A | B | C ] | Green Factors or Press [F] to Select Force-Off -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 21 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 22 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 23 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 24 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 25 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 26 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 27 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 28 | Green Factor | | | ........ | | | | | | | | | | | |
| Plan 29 | Green Factor | | | ........ | | | | | | | | | | | |

## Local Plan 21...29 (7-3) PHASE FLAGS

| | Lag | Sync | Hold | Omit | Veh Min | Veh Max | Ped | Bike |
|---|---|---|---|---|---|---|---|---|
| Plan 21 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 22 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 23 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 24 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 25 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 26 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 27 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 28 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |
| Plan 29 | ........ | ........ | ........ | ........ | ........ | ........ | ........ | ........ |

# DETECTORS

| Det | Type | Phases | Lock | Slot | Det | Delay | Extend | Recall | Port |
|---|---|---|---|---|---|---|---|---|---|
| Detector Attributes (5-1) | | | | Slot | Detector Configuration (5-2) | | | | |
| 1 | COUNT+CALL+EXTEND | 1....... | NO | I1U | 1 | | | 10 | 3.2 |
| 2 | COUNT+CALL+EXTEND | 1....... | NO | I1L | 2 | | | 10 | 7.2 |
| 3 | COUNT+CALL+EXTEND | .2...... | NO | I2U | 3 | | 2.0 | 0 | 1.1 |
| 4 | COUNT+CALL+EXTEND | .2...... | NO | I2L | 4 | | 2.0 | 0 | 1.5 |
| 5 | COUNT+CALL+EXTEND | .2...... | NO | I3U | 5 | | 2.0 | 0 | 4.5 |
| 6 | COUNT+CALL+EXTEND | .2...... | NO | I3L | 6 | | 2.0 | 0 | 6.2 |
| 7 | LIMITED | .2...... | NO | I4U | 7 | | 2.0 | 15 | 2.1 |
| 8 | COUNT+CALL+EXTEND | .2...... | NO | I4L | 8 | | | 10 | 7.4 |
| 9 | COUNT+CALL+EXTEND | ..3..... | NO | I5U | 9 | | | 10 | 3.4 |
| 10 | COUNT+CALL+EXTEND | ..3..... | NO | I5L | 10 | | | 10 | 7.6 |
| 11 | COUNT+CALL+EXTEND | ...4.... | NO | I6U | 11 | | | 10 | 1.3 |
| 12 | COUNT+CALL+EXTEND | ...4.... | NO | I6L | 12 | | 0.5 | 10 | 1.7 |
| 13 | COUNT+CALL+EXTEND | ...4.... | NO | I7U | 13 | | | 10 | 4.7 |
| 14 | COUNT+CALL+EXTEND | ...4.... | NO | I7L | 14 | | | 10 | 6.4 |
| 15 | COUNT+CALL+EXTEND | ...4.... | NO | I8U | 15 | 10 | | 0 | 2.3 |
| 16 | COUNT+CALL+EXTEND | ...4.... | NO | I8L | 16 | | | 10 | 7.8 |
| 17 | COUNT+CALL+EXTEND | 1....... | NO | I9U | 17 | | | 10 | 3.6 |
| 18 | COUNT+CALL+EXTEND | ..3..... | NO | I9L | 18 | | | 10 | 3.8 |
| 19 | COUNT+CALL+EXTEND | .2...... | NO | I10U | 19 | | | 10 | 4.1 |
| 20 | COUNT+CALL+EXTEND | ...4.... | NO | I10L | 20 | | | 10 | 4.2 |
| 21 | COUNT+CALL+EXTEND | ....5... | NO | J1U | 21 | | | 10 | 3.1 |
| 22 | COUNT+CALL+EXTEND | ....5... | NO | J1L | 22 | | | 10 | 7.1 |
| 23 | COUNT+CALL+EXTEND | .....6.. | NO | J2U | 23 | | 2.0 | 0 | 1.2 |
| 24 | COUNT+CALL+EXTEND | .....6.. | NO | J2L | 24 | | 2.0 | 0 | 1.6 |
| 25 | COUNT+CALL+EXTEND | .....6.. | NO | J3U | 25 | | 2.0 | 0 | 4.6 |
| 26 | COUNT+CALL+EXTEND | .....6.. | NO | J3L | 26 | | 2.0 | 0 | 6.3 |
| 27 | LIMITED | .....6.. | NO | J4U | 27 | | 2.0 | 15 | 2.2 |
| 28 | COUNT+CALL+EXTEND | .....6.. | NO | J4L | 28 | | | 10 | 7.3 |
| 29 | COUNT+CALL+EXTEND | ......7. | NO | J5U | 29 | | | 10 | 3.3 |
| 30 | COUNT+CALL+EXTEND | ......7. | NO | J5L | 30 | | | 10 | 7.5 |
| 31 | COUNT+CALL+EXTEND | .......8 | NO | J6U | 31 | | | 10 | 1.4 |
| 32 | COUNT+CALL+EXTEND | .......8 | NO | J6L | 32 | | | 10 | 1.8 |
| 33 | COUNT+CALL+EXTEND | .......8 | NO | J7U | 33 | | | 10 | 4.8 |
| 34 | COUNT+CALL+EXTEND | .......8 | NO | J7L | 34 | 10 | | 0 | 6.5 |
| 35 | COUNT+CALL+EXTEND | .......8 | NO | J8U | 35 | | 0.5 | 10 | 2.4 |
| 36 | COUNT+CALL+EXTEND | .......8 | NO | J8L | 36 | | | 10 | 7.7 |
| 37 | COUNT+CALL+EXTEND | ....5... | NO | J9U | 37 | | | 10 | 3.5 |
| 38 | COUNT+CALL+EXTEND | ......7. | NO | J9L | 38 | | | 10 | 3.7 |
| 39 | COUNT+CALL+EXTEND | .....6.. | NO | J10U | 39 | | | 10 | 4.3 |
| 40 | COUNT+CALL+EXTEND | .......8 | NO | J10L | 40 | | | 10 | 4.4 |
| 41 | PEDESTRIAN | .2...... | NO | I12U | 41 | | | 10 | 5.1 |
| 42 | PEDESTRIAN | ...4.... | NO | I12L | 42 | | | 10 | 5.3 |
| 43 | PEDESTRIAN | .....6.. | NO | I13U | 43 | | | 10 | 5.2 |
| 44 | PEDESTRIAN | .......8 | NO | I13L | 44 | | | 10 | 5.4 |

| Failure Times(5-3) | Minutes |
|---|---|
| Maximum On Time | 10 |
| Fail Reset Time | 60 |

| Failure Override (5-4) | |
|---|---|
| Detectors 1-8 | ........ |
| Detectors 9-16 | ........ |
| Detectors17-24 | ........ |
| Detectors 25-32 | ........ |
| Detectors 33-40 | ........ |
| Detectors 41-44 | ........ |

**System Detector Assignment (5-5)**

| Sys Det | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Det Nu | | | | | | | | |
| Sys Det | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Det Nu | | | | | | | | |

| CIC Operation (5-6-1) | |
|---|---|
| Enable in Plans | ......... |

| CIC Values (5-6-2) | Volume | Occupancy | Demand |
|---|---|---|---|
| Smoothing | 0.66 | 0.66 | 0.66 |
| Multiplier | 4.0 | 0.33 | |
| Exponent | 0.50 | 1.00 | |

**Detector-to-Phase Assignment (5-6-3)**

| Sys Det | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phase | | | | | | | | |
| Sys Det | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Phase | | | | | | | | |

## Input File Port-Bit Assignments

332 Cabinet - For Reference Only

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I- | 3.2 | 1.1 | 4.5 | 2.1 | 3.4 | 1.3 | 4.7 | 2.3 | 3.6 | 4.1 | 6.6 | 5.1 | 5.2 | 6.7 |
| | 7.2 | 1.5 | 6.2 | 7.4 | 7.6 | 1.7 | 6.4 | 7.8 | 3.8 | 4.2 | 2.7 | 5.3 | 5.4 | 6.8 |
| J- | 3.1 | 1.2 | 4.6 | 2.2 | 3.3 | 1.4 | 4.8 | 2.4 | 3.5 | 4.3 | 2.8 | 5.5 | 5.6 | 2.5 |
| | 7.1 | 1.6 | 6.3 | 7.3 | 7.5 | 1.8 | 6.5 | 7.7 | 3.7 | 4.4 | 6.1 | 5.7 | 5.8 | 2.6 |

# TOD SCHEDULE

| Table 1 (8-2-1) | | | Table 2 (8-2-2) | | | Table 3 (8-2-3) | | | Table 4 (8-2-4) | | | Table 5 (8-2-5) | | | Table 6 (8-2-6) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Plan | OS | Time | Plan | OS | Time | Plan | OS | Time | Plan | OS | Time | Plan | OS | Time | Plan | OS |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |
| | | A | | | A | | | A | | | A | | | A | | | A |

# WEEKDAY ASSIGNMENT

| Weekday Table Assignments (8-2-7) | | | | | | |
|---|---|---|---|---|---|---|
| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
| 1 | 1 | 1 | 1 | 1 | 2 | 2 |

## HOLIDAY TABLES

**Floating Holiday Table (8-2-8)**

| # | Mnth | Week | DOW | Table |
|---|---|---|---|---|
| 1 | | | ....... | |
| 2 | | | ....... | |
| 3 | | | ....... | |
| 4 | | | ....... | |
| 5 | | | ....... | |
| 6 | | | ....... | |
| 7 | | | ....... | |
| 8 | | | ....... | |
| 9 | | | ....... | |
| 10 | | | ....... | |
| 11 | | | ....... | |
| 12 | | | ....... | |
| 13 | | | ....... | |
| 14 | | | ....... | |
| 15 | | | ....... | |
| 16 | | | ....... | |

**Fixed Holiday Table (8-2-9)**

| # | Mnth | Day | DOW | Table |
|---|---|---|---|---|
| 1 | | | ....... | |
| 2 | | | ....... | |
| 3 | | | ....... | |
| 4 | | | ....... | |
| 5 | | | ....... | |
| 6 | | | ....... | |
| 7 | | | ....... | |
| 8 | | | ....... | |
| 9 | | | ....... | |
| 10 | | | ....... | |
| 11 | | | ....... | |
| 12 | | | ....... | |
| 13 | | | ....... | |
| 14 | | | ....... | |
| 15 | | | ....... | |
| 16 | | | ....... | |

**Solar Clock Data (8-4)**

| | |
|---|---|
| North Latitude | 35 |
| West Longitude | 120 |
| Local Time Zone | 8 |

**Sabbatical Clock (8-5)**

| Hebrew | Ped Recall |
|---|---|
| Sabbath | ........ |
| Holiday | ........ |

**Daylight Saving (8-6)**

| | |
|---|---|
| Enabled | YES |

## TOD FUNCTIONS

**TOD Functions (8-3)**

| # | Start | End | DOW | Action | Phases |
|---|---|---|---|---|---|
| 1 | | | ....... | | ........ |
| 2 | | | ....... | | ........ |
| 3 | | | ....... | | ........ |
| 4 | | | ....... | | ........ |
| 5 | | | ....... | | ........ |
| 6 | | | ....... | | ........ |
| 7 | | | ....... | | ........ |
| 8 | | | ....... | | ........ |
| 9 | | | ....... | | ........ |
| 10 | | | ....... | | ........ |
| 11 | | | ....... | | ........ |
| 12 | | | ....... | | ........ |
| 13 | | | ....... | | ........ |
| 14 | | | ....... | | ........ |
| 15 | | | ....... | | ........ |
| 16 | | | ....... | | ........ |

**Action Codes:**

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

## COMMUNICATIONS

| C2 (6-1-1) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

| C20 (6-1-2) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

| C21 (6-1-3) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Access Level | 0 |
| Baud | 1200 |
| Parity | NONE |
| Data Bits | 8 |
| Stop Bits | 1 |
| RTS On Time | 20 |
| RTS Off Time | 20 |
| Handshaking | NORMAL |

**Access Levels:**

0-Full Access
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan
4-Reserved
5-Full Access with No Set Pattern
6-Full Access with No Set Time
7-Full Access with No Set Pattern, Manual Plan
8-Full Access with No Set Time, Pattern, Manual Plan

## SOFT LOGIC

| Soft Logic ( 6-2 ) | | | | | | | |
|---|---|---|---|---|---|---|---|
| # | Data | OP | Data | OP | Data | OP | Data |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |

*Refer to User's Manual for Data and OP Codes

## CALLBACK NUMBERS

| Callback Numbers (6-3...3) | |
|---|---|
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |
| Line Out | |
| Local Toll | |
| Long Distance | |
| Delay | 10 |
| Area Code | |
| Phone Number | |

## NETWORK

| Network (6-4) | |
|---|---|
| Address | |
| Protocol | AB3418 |
| Port | 27000 |
| Type | STATIC |
| Central Acces | 0 |
| Field Access | 0 |

| | | | | |
|---|---|---|---|---|
| IP Address | 0 | 0 | 0 | 0 |
| Netmask | 255 | 255 | 255 | 0 |
| Broadcast | 0 | 0 | 0 | 254 |
| Gateway | 0 | 0 | 0 | 1 |

# RAILROAD PREEMPTION

**RR 1**

| (3-1-1) | Timing | Phase Flags (3-1-2) | | | Pedestrian Flags (3-1-3) | | | Overlap Flags (3-1-4) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Grn Hold | Yel Flash | Red Flash | Walk | Flash DW | Solid DW | Grn Hold | Yel Flash | Red Flash |
| Delay | | | | | | | | | | |
| Clear 1 | 10 | . 2 . . 5 . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . 2 . 4 . 6 . 8 | . . . . . . | . . . . . . | . . . . . . |
| Clear 2 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Clear 3 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Hold | | . . . . . . . . | . . . . . . . . | 1 2 3 4 5 6 7 8 | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | A B C D E F |
| Exit | | | | | | | | | | |
| Min Grn | | | | | | | | | | |
| Ped Clr | | | | | | | | | | |

| Exit Parameters (3-1-5) | | | |
|---|---|---|---|
| Phase Green | Overlap Green | Vehicle Call | Ped Call |
| . . . . . . . . | . . . . . . | 1 2 3 4 5 6 7 8 | . 2 . 4 . 6 . 8 |

| Configuration (3-1-6) | | | |
|---|---|---|---|
| Primary Port | Secondary Port | Latching | Power-Up |
| 2.5 | 0.0 | YES | FLASHING |

**RR 2**

| (3-2-1) | Timing | Phase Flags (3-2-2) | | | Pedestrian Flags (3-2-3) | | | Overlap Flags (3-2-4) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Grn Hold | Yel Flash | Red Flash | Walk | Flash DW | Solid DW | Grn Hold | Yel Flash | Red Flash |
| Delay | | | | | | | | | | |
| Clear 1 | 10 | . . . 4 . . 7 . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . 2 . 4 . 6 . 8 | . . . . . . | . . . . . . | . . . . . . |
| Clear 2 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Clear 3 | | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . . . | . . . . . . | . . . . . . | . . . . . . |
| Hold | | 1 2 3 . . 6 . . | . . . . . . . . | . . . . . . . . | . 2 . . . 6 . . | . . . . . . . . | . . . 4 . . . 8 | . . . . . . | . . . . . . | . . . . . . |
| Exit | | | | | | | | | | |
| Min Grn | | | | | | | | | | |
| Ped Clr | | | | | | | | | | |

| Exit Parameters (3-2-5) | | | |
|---|---|---|---|
| Phase Green | Overlap Green | Vehicle Call | Ped Call |
| . . . . . . . . | . . . . . . | . . . 4 . . 7 . | . . . . . . . . |

| Configuration (3-2-6) | | | |
|---|---|---|---|
| Primary Port | Secondary Port | Latching | Power-up |
| 2.6 | 0.0 | YES | DARK |

# EMERGENCY VEHICLE PREEMPTION

| EVA (3-A) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | . 2 . . 5 . . . | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.5 | NO | ADVANCE |

| EVB (3-B) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | . . . 4 . . 7 . | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.6 | NO | ADVANCE |

| EVC (3-C) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | 1 . . . . 6 . . | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.7 | NO | ADVANCE |

| EVD (3-D) | Preempt Timers | | | Phase Green | Overlap Green |
|---|---|---|---|---|---|
| | Delay | Clear | Max | | |
| | | 5 | 30 | . . 3 . . . . 8 | . . . . . . |

| Port | Latching | Phase Termination |
|---|---|---|
| 5.8 | NO | ADVANCE |

# INPUTS

| | | 7 Wire I/C ( 2-1-5-1 ) | | | |
|---|---|---|---|---|---|
| | | Input | Port | Input | Port |
| Enable | NO | R1 | 3.8 | Free | 3.6 |
| Max ON | | R2 | 3.5 | D2 | 2.8 |
| Max OFF | | R3 | 3.7 | D3 | 6.1 |

| Manual Control ( 2-1-5-2 ) | |
|---|---|
| Input | Port |
| Manual Advance | 6.6 |
| Advance Enable | 6.6 |

| Cabinet Status ( 2-1-5-3 ) | |
|---|---|
| Input | Port |
| Flash Bus | |
| Door Ajar | |
| Flash Sense | 6.7 |
| Stop Time | 6.8 |

| Special Function (2-1-5-4) | |
|---|---|
| Input | Port |
| 1 | |
| 2 | |
| 3 | |
| 4 | |

| Battery Backup ( 2-1-5-5 ) | |
|---|---|
| Port | Operation |
| | NORMAL |

| Y-Coordination ( 2-1-5-6 ) | |
|---|---|
| Port C | Port D |
| 6.1 | 2.8 |

# OUTPUTS

| Loadswitch Assignments ( 2-1-6 ) | | | | | | | + |
|---|---|---|---|---|---|---|---|
| A | 1 | 2 | 22 | 3 | 4 | 24 | 9 |
| B | 5 | 6 | 26 | 7 | 8 | 28 | 10 |
| X | 13 | 14 | 0 | 11 | 12 | 0 | 0 |

Loadswitch Codes:

0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6
Channel 9 and 10

# TRANSIT PRIORITY

| Local Plans (3-E) 1...9 11...19 | | Early Green | Green Extend | Inhibit Cycles | Phase 1 Minimum | Phase 2 Minimum | Phase 3 Minimum | Phase 4 Minimum | Phase 5 Minimum | Phase 6 Minimum | Phase 7 Minimum | Phase 8 Minimum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan 1 | Green Factor | | | | | | | | | | | |
| Plan 2 | Green Factor | | | | | | | | | | | |
| Plan 3 | Green Factor | | | | | | | | | | | |
| Plan 4 | Green Factor | | | | | | | | | | | |
| Plan 5 | Green Factor | | | | | | | | | | | |
| Plan 6 | Green Factor | | | | | | | | | | | |
| Plan 7 | Green Factor | | | | | | | | | | | |
| Plan 8 | Green Factor | | | | | | | | | | | |
| Plan 9 | Green Factor | | | | | | | | | | | |
| Plan 11 | Green Factor | | | | | | | | | | | |
| Plan 12 | Green Factor | | | | | | | | | | | |
| Plan 13 | Green Factor | | | | | | | | | | | |
| Plan 14 | Green Factor | | | | | | | | | | | |
| Plan 15 | Green Factor | | | | | | | | | | | |
| Plan 16 | Green Factor | | | | | | | | | | | |
| Plan 17 | Green Factor | | | | | | | | | | | |
| Plan 18 | Green Factor | | | | | | | | | | | |
| Plan 19 | Green Factor | | | | | | | | | | | |

| Transit Priority Configuration (3-E-A) | | | | Indicator Output | |
|---|---|---|---|---|---|
| Enable in Plans | | Input | Type | Stop | Go |
| Plan 1-9 | . . . . . . . . . | 0.0 | OPT | 0 | 0 |
| Plan 11-19 | . . . . . . . . . | 0.0 | OPT | 0 | 0 |

| Queue Jump (3-E-B) | |
|---|---|
| Grn Hold | Hold Phase |
| | . . . . . . . . |
| | . . . . . . . . |

| Free Plans (3-E-E) | |
|---|---|
| Max Grn Hold | Hold Phase |
| | . . . . . . . . |

| Access Utilities (9-5) | |
|---|---|
| Password | *** |
| Timeout | 30 |

# YELLOW YIELD COORDINATION

| Y-Coord Plans (7-C,D) | Long Grn | No Grn | Offset | Perm | Force-Offs -1- | -2- | -3- | -4- | -5- | -6- | -7- | -8- | Coord | Lag | Min Recall | Restricted |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plan C | | | | | | | | | | | | | . 2 . . . 6 . . | . 2 . 4 . 6 . 8 | . . . . . . . . | . . . . . . . . |
| Plan D | | | | | | | | | | | | | . 2 . . . 6 . . | . 2 . 4 . 6 . 8 | . . . . . . . . | . . . . . . . . |

# TRUCK PRIORITY

| Truck Priority (3-F) | Passage | CarryOver | Clearance | Next Priority | Phase Green | Det 2 Port | Det 3 Port | Det 4 Port | Sign Output | Slave Input | Slave Output |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | . . . . . . . . | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0 |

# APPPENDIX E. EXISTING CONDITIONS SYNCHRO REPORTS

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 16 | 416 | 226 | 179 | 160 | 18 |
| Future Volume (veh/h) | 16 | 416 | 226 | 179 | 160 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1693 | 1693 | 1693 | 1693 | 1693 | 1693 |
| Adj Flow Rate, veh/h | 19 | 501 | 272 | 216 | 193 | 22 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 14 | 14 | 14 | 14 | 14 | 14 |
| Cap, veh/h | 53 | 948 | 385 | 306 | 252 | 29 |
| Arrive On Green | 0.03 | 0.56 | 0.44 | 0.44 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1612 | 1693 | 874 | 694 | 1423 | 162 |
| Grp Volume(v), veh/h | 19 | 501 | 0 | 488 | 216 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1612 | 1693 | 0 | 1568 | 1592 | 0 |
| Q Serve(g_s), s | 0.5 | 7.9 | 0.0 | 10.8 | 5.5 | 0.0 |
| Cycle Q Clear(g_c), s | 0.5 | 7.9 | 0.0 | 10.8 | 5.5 | 0.0 |
| Prop In Lane | 1.00 | | | 0.44 | 0.89 | 0.10 |
| Lane Grp Cap(c), veh/h | 53 | 948 | 0 | 690 | 282 | 0 |
| V/C Ratio(X) | 0.36 | 0.53 | 0.00 | 0.71 | 0.77 | 0.00 |
| Avail Cap(c_a), veh/h | 756 | 1985 | 0 | 2206 | 1494 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 20.2 | 5.9 | 0.0 | 9.7 | 16.7 | 0.0 |
| Incr Delay (d2), s/veh | 4.0 | 0.7 | 0.0 | 1.9 | 4.3 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 2.0 | 0.0 | 3.2 | 2.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d), s/veh | 24.2 | 6.5 | 0.0 | 11.6 | 21.0 | 0.0 |
| LnGrp LOS | C | A | | B | C | |
| Approach Vol, veh/h | | 520 | 488 | | 216 | |
| Approach Delay, s/veh | | 7.2 | 11.6 | | 21.0 | |
| Approach LOS | | A | B | | C | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 30.5 | | 12.2 | 5.1 | 25.4 |
| Change Period (Y+Rc), s | | * 6.6 | | 4.6 | 3.7 | * 6.6 |
| Max Green Setting (Gmax), s | | * 50 | | 40.0 | 20.0 | * 60 |
| Max Q Clear Time (g_c+I1), s | | 9.9 | | 7.5 | 2.5 | 12.8 |
| Green Ext Time (p_c), s | | 5.8 | | 0.7 | 0.0 | 6.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 7th Control Delay, s/veh | | 11.4 |
| HCM 7th LOS | | B |

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | ↰ | ↑↱ | | ↰ | ↑↱ | | ↰ | ↑↑ | ↱ | ↰ | ↑↑ | ↱ |
| Traffic Volume (veh/h) | 107 | 266 | 116 | 179 | 176 | 31 | 114 | 355 | 113 | 57 | 873 | 222 |
| Future Volume (veh/h) | 107 | 266 | 116 | 179 | 176 | 31 | 114 | 355 | 113 | 57 | 873 | 222 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1767 | 1767 | 1767 | 1767 | 1767 | 1767 | 1767 | 1767 | 1767 | 1767 | 1767 | 1767 |
| Adj Flow Rate, veh/h | 118 | 292 | 127 | 197 | 193 | 34 | 125 | 390 | 124 | 63 | 959 | 244 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Cap, veh/h | 164 | 411 | 174 | 238 | 664 | 115 | 167 | 1150 | 505 | 131 | 1080 | 474 |
| Arrive On Green | 0.10 | 0.18 | 0.18 | 0.14 | 0.23 | 0.23 | 0.10 | 0.34 | 0.34 | 0.08 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1682 | 2280 | 965 | 1682 | 2852 | 493 | 1682 | 3357 | 1474 | 1682 | 3357 | 1474 |
| Grp Volume(v), veh/h | 118 | 213 | 206 | 197 | 112 | 115 | 125 | 390 | 124 | 63 | 959 | 244 |
| Grp Sat Flow(s),veh/h/ln | 1682 | 1678 | 1567 | 1682 | 1678 | 1667 | 1682 | 1678 | 1474 | 1682 | 1678 | 1474 |
| Q Serve(g_s), s | 5.1 | 8.9 | 9.3 | 8.5 | 4.1 | 4.3 | 5.4 | 6.5 | 2.6 | 2.7 | 20.3 | 10.1 |
| Cycle Q Clear(g_c), s | 5.1 | 8.9 | 9.3 | 8.5 | 4.1 | 4.3 | 5.4 | 6.5 | 2.6 | 2.7 | 20.3 | 10.1 |
| Prop In Lane | 1.00 | | 0.62 | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 164 | 302 | 282 | 238 | 391 | 388 | 167 | 1150 | 505 | 131 | 1080 | 474 |
| V/C Ratio(X) | 0.72 | 0.70 | 0.73 | 0.83 | 0.29 | 0.30 | 0.75 | 0.34 | 0.25 | 0.48 | 0.89 | 0.51 |
| Avail Cap(c_a), veh/h | 540 | 628 | 586 | 540 | 628 | 624 | 315 | 1150 | 505 | 315 | 1122 | 493 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.8 | 28.8 | 29.0 | 31.3 | 23.6 | 23.6 | 32.8 | 18.3 | 5.9 | 33.0 | 24.1 | 20.6 |
| Incr Delay (d2), s/veh | 5.8 | 2.2 | 2.7 | 2.9 | 0.3 | 0.3 | 2.6 | 0.2 | 0.3 | 1.0 | 8.7 | 0.9 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 3.6 | 3.5 | 3.5 | 1.6 | 1.6 | 2.2 | 2.3 | 1.4 | 1.1 | 8.5 | 3.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 38.5 | 31.0 | 31.7 | 34.1 | 23.9 | 24.0 | 35.4 | 18.5 | 6.1 | 34.0 | 32.8 | 21.5 |
| LnGrp LOS | D | C | C | C | C | C | D | B | A | C | C | C |
| Approach Vol, veh/h | | 537 | | | 424 | | | 639 | | | 1266 | |
| Approach Delay, s/veh | | 32.9 | | | 28.7 | | | 19.4 | | | 30.7 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.5 | 18.4 | 11.6 | 29.4 | 11.5 | 22.3 | 10.0 | 30.9 |
| Change Period (Y+Rc), s | 4.9 | * 4.9 | 4.2 | 5.3 | 4.2 | 4.9 | 4.2 | 5.3 |
| Max Green Setting (Gmax), s | 24.0 | * 28 | 14.0 | 25.0 | 24.0 | 28.0 | 14.0 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 10.5 | 11.3 | 7.4 | 22.3 | 7.1 | 6.3 | 4.7 | 8.5 |
| Green Ext Time (p_c), s | 0.2 | 1.8 | 0.1 | 1.7 | 0.2 | 1.0 | 0.0 | 2.5 |

| Intersection Summary | |
|---|---|
| HCM 7th Control Delay, s/veh | 28.3 |
| HCM 7th LOS | C |

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 37 | 472 | 35 | 38 | 388 | 39 | 40 | 148 | 54 | 104 | 234 | 71 |
| Future Volume (veh/h) | 37 | 472 | 35 | 38 | 388 | 39 | 40 | 148 | 54 | 104 | 234 | 71 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.89 | 1.00 | | 0.94 | 1.00 | | 0.94 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1796 | 1796 | 1796 | 1796 | 1796 | 1796 | 1796 | 1796 | 1796 | 1796 | 1796 | 1796 |
| Adj Flow Rate, veh/h | 44 | 562 | 42 | 45 | 462 | 46 | 48 | 176 | 64 | 124 | 279 | 85 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Cap, veh/h | 114 | 961 | 72 | 116 | 931 | 92 | 121 | 454 | 360 | 184 | 377 | 115 |
| Arrive On Green | 0.07 | 0.30 | 0.30 | 0.07 | 0.30 | 0.30 | 0.07 | 0.25 | 0.25 | 0.11 | 0.29 | 0.29 |
| Sat Flow, veh/h | 1711 | 3205 | 239 | 1711 | 3095 | 306 | 1711 | 1796 | 1424 | 1711 | 1300 | 396 |
| Grp Volume(v), veh/h | 44 | 299 | 305 | 45 | 253 | 255 | 48 | 176 | 64 | 124 | 0 | 364 |
| Grp Sat Flow(s),veh/h/ln | 1711 | 1706 | 1737 | 1711 | 1706 | 1695 | 1711 | 1796 | 1424 | 1711 | 0 | 1697 |
| Q Serve(g_s), s | 1.6 | 9.9 | 10.0 | 1.7 | 8.2 | 8.3 | 1.8 | 5.4 | 2.4 | 4.7 | 0.0 | 13.0 |
| Cycle Q Clear(g_c), s | 1.6 | 9.9 | 10.0 | 1.7 | 8.2 | 8.3 | 1.8 | 5.4 | 2.4 | 4.7 | 0.0 | 13.0 |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 0.18 | 1.00 | | 1.00 | 1.00 | | 0.23 |
| Lane Grp Cap(c), veh/h | 114 | 512 | 521 | 116 | 513 | 510 | 121 | 454 | 360 | 184 | 0 | 492 |
| V/C Ratio(X) | 0.39 | 0.58 | 0.59 | 0.39 | 0.49 | 0.50 | 0.40 | 0.39 | 0.18 | 0.67 | 0.00 | 0.74 |
| Avail Cap(c_a), veh/h | 307 | 1019 | 1038 | 307 | 1019 | 1013 | 307 | 590 | 468 | 307 | 0 | 557 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.9 | 19.9 | 19.9 | 29.9 | 19.2 | 19.3 | 29.8 | 20.7 | 19.6 | 28.7 | 0.0 | 21.5 |
| Incr Delay (d2), s/veh | 2.1 | 1.3 | 1.3 | 2.1 | 0.9 | 0.9 | 2.1 | 0.4 | 0.2 | 4.2 | 0.0 | 4.2 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 3.8 | 3.9 | 0.7 | 3.1 | 3.1 | 0.8 | 2.2 | 0.8 | 2.0 | 0.0 | 5.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 32.0 | 21.2 | 21.2 | 32.0 | 20.1 | 20.2 | 31.9 | 21.1 | 19.7 | 33.0 | 0.0 | 25.7 |
| LnGrp LOS | C | C | C | C | C | C | C | C | B | C | | C |
| Approach Vol, veh/h | | 648 | | | 553 | | | 288 | | | 488 | |
| Approach Delay, s/veh | | 21.9 | | | 21.1 | | | 22.6 | | | 27.5 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.7 | 25.4 | 8.9 | 23.9 | 8.7 | 25.4 | 11.4 | 21.4 |
| Change Period (Y+Rc), s | 4.2 | 5.3 | 4.2 | 4.5 | 4.2 | 5.3 | 4.2 | 4.5 |
| Max Green Setting (Gmax), s | 12.0 | 40.0 | 12.0 | 22.0 | 12.0 | 40.0 | 12.0 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 3.7 | 12.0 | 3.8 | 15.0 | 3.6 | 10.3 | 6.7 | 7.4 |
| Green Ext Time (p_c), s | 0.0 | 4.6 | 0.0 | 1.1 | 0.0 | 3.9 | 0.1 | 0.8 |

| Intersection Summary | | |
|---|---|---|
| HCM 7th Control Delay, s/veh | | 23.2 |
| HCM 7th LOS | | C |

Notes

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 16.2 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 111 | 256 | 54 | 57 | 169 | 113 | 31 | 49 | 29 | 134 | 75 | 74 |
| Future Vol, veh/h | 111 | 256 | 54 | 57 | 169 | 113 | 31 | 49 | 29 | 134 | 75 | 74 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, % | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Mvmt Flow | 123 | 284 | 60 | 63 | 188 | 126 | 34 | 54 | 32 | 149 | 83 | 82 |
| Number of Lanes | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 2 | 2 | 2 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 1 | 2 | 2 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 2 | 2 | 2 |
| HCM Control Delay, s/veh | 19.2 | 15.1 | 13.8 | 13.9 |
| HCM LOS | C | C | B | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 28% | 100% | 0% | 25% | 0% | 100% | 0% |
| Vol Thru, % | 45% | 0% | 83% | 75% | 0% | 0% | 50% |
| Vol Right, % | 27% | 0% | 17% | 0% | 100% | 0% | 50% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 109 | 111 | 310 | 226 | 113 | 134 | 149 |
| LT Vol | 31 | 111 | 0 | 57 | 0 | 134 | 0 |
| Through Vol | 49 | 0 | 256 | 169 | 0 | 0 | 75 |
| RT Vol | 29 | 0 | 54 | 0 | 113 | 0 | 74 |
| Lane Flow Rate | 121 | 123 | 344 | 251 | 126 | 149 | 166 |
| Geometry Grp | 4b | 5 | 5 | 5 | 5 | 5 | 5 |
| Degree of Util (X) | 0.265 | 0.255 | 0.652 | 0.505 | 0.223 | 0.33 | 0.328 |
| Departure Headway (Hd) | 7.872 | 7.453 | 6.817 | 7.242 | 6.396 | 7.99 | 7.123 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 457 | 482 | 530 | 497 | 561 | 451 | 505 |
| Service Time | 5.92 | 5.191 | 4.555 | 4.981 | 4.135 | 5.729 | 4.862 |
| HCM Lane V/C Ratio | 0.265 | 0.255 | 0.649 | 0.505 | 0.225 | 0.33 | 0.329 |
| HCM Control Delay, s/veh | 13.8 | 12.7 | 21.5 | 17.2 | 11 | 14.6 | 13.3 |
| HCM Lane LOS | B | B | C | C | B | B | B |
| HCM 95th-tile Q | 1.1 | 1 | 4.7 | 2.8 | 0.8 | 1.4 | 1.4 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 44.1 |
| Intersection LOS | E |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 8 | 314 | 199 | 7 | 140 | 84 | 77 | 62 | 12 | 89 | 76 | 8 |
| Future Vol, veh/h | 8 | 314 | 199 | 7 | 140 | 84 | 77 | 62 | 12 | 89 | 76 | 8 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Heavy Vehicles, % | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Mvmt Flow | 10 | 378 | 240 | 8 | 169 | 101 | 93 | 75 | 14 | 107 | 92 | 10 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 74.1 | 16.4 | 15.2 | 16.2 |
| HCM LOS | F | C | C | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 51% | 2% | 3% | 51% |
| Vol Thru, % | 41% | 60% | 61% | 44% |
| Vol Right, % | 8% | 38% | 36% | 5% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 151 | 521 | 231 | 173 |
| LT Vol | 77 | 8 | 7 | 89 |
| Through Vol | 62 | 314 | 140 | 76 |
| RT Vol | 12 | 199 | 84 | 8 |
| Lane Flow Rate | 182 | 628 | 278 | 208 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.375 | 1.048 | 0.503 | 0.426 |
| Departure Headway (Hd) | 7.701 | 6.009 | 6.751 | 7.619 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 469 | 609 | 537 | 475 |
| Service Time | 5.701 | 4.009 | 4.751 | 5.619 |
| HCM Lane V/C Ratio | 0.388 | 1.031 | 0.518 | 0.438 |
| HCM Control Delay, s/veh | 15.2 | 74.1 | 16.4 | 16.2 |
| HCM Lane LOS | C | F | C | C |
| HCM 95th-tile Q | 1.7 | 17.2 | 2.8 | 2.1 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13.8 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ✣ | | | ✣ | | | ✣ | | | ✣ | |
| Traffic Vol, veh/h | 21 | 75 | 13 | 51 | 68 | 17 | 22 | 143 | 36 | 23 | 280 | 20 |
| Future Vol, veh/h | 21 | 75 | 13 | 51 | 68 | 17 | 22 | 143 | 36 | 23 | 280 | 20 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Heavy Vehicles, % | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Mvmt Flow | 25 | 90 | 16 | 61 | 82 | 20 | 27 | 172 | 43 | 28 | 337 | 24 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 11.2 | 11.8 | 12.2 | 16.4 |
| HCM LOS | B | B | B | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 11% | 19% | 38% | 7% |
| Vol Thru, % | 71% | 69% | 50% | 87% |
| Vol Right, % | 18% | 12% | 13% | 6% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 201 | 109 | 136 | 323 |
| LT Vol | 22 | 21 | 51 | 23 |
| Through Vol | 143 | 75 | 68 | 280 |
| RT Vol | 36 | 13 | 17 | 20 |
| Lane Flow Rate | 242 | 131 | 164 | 389 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.382 | 0.229 | 0.283 | 0.595 |
| Departure Headway (Hd) | 5.676 | 6.271 | 6.228 | 5.507 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 632 | 570 | 575 | 654 |
| Service Time | 3.731 | 4.337 | 4.291 | 3.556 |
| HCM Lane V/C Ratio | 0.383 | 0.23 | 0.285 | 0.595 |
| HCM Control Delay, s/veh | 12.2 | 11.2 | 11.8 | 16.4 |
| HCM Lane LOS | B | B | B | C |
| HCM 95th-tile Q | 1.8 | 0.9 | 1.2 | 3.9 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 121 | 278 | 24 | 30 | 186 | 27 | 96 | 58 | 90 | 26 | 10 | 77 |
| Future Vol, veh/h | 121 | 278 | 24 | 30 | 186 | 27 | 96 | 58 | 90 | 26 | 10 | 77 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 5 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 470 | - | - | 340 | - | - | 50 | - | 50 | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, % | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Mvmt Flow | 126 | 290 | 25 | 31 | 194 | 28 | 100 | 60 | 94 | 27 | 10 | 80 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 222 | 0 | 0 | 315 | 0 | 0 | 821 | 839 | 302 | 842 | 837 | 213 |
| Stage 1 | - | - | - | - | - | - | 554 | 554 | - | 270 | 270 | - |
| Stage 2 | - | - | - | - | - | - | 266 | 284 | - | 572 | 567 | - |
| Critical Hdwy | 4.19 | - | - | 4.19 | - | - | 7.19 | 6.59 | 6.29 | 7.19 | 6.59 | 6.29 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.19 | 5.59 | - | 6.19 | 5.59 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.19 | 5.59 | - | 6.19 | 5.59 | - |
| Follow-up Hdwy | 2.281 | - | - | 2.281 | - | - | 3.581 | 4.081 | 3.381 | 3.581 | 4.081 | 3.381 |
| Pot Cap-1 Maneuver | 1307 | - | - | 1207 | - | - | 286 | 294 | 721 | 276 | 295 | 810 |
| Stage 1 | - | - | - | - | - | - | 504 | 502 | - | 720 | 673 | - |
| Stage 2 | - | - | - | - | - | - | 724 | 664 | - | 493 | 496 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1307 | - | - | 1207 | - | - | 217 | 259 | 721 | 167 | 260 | 806 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 217 | 259 | - | 167 | 260 | - |
| Stage 1 | - | - | - | - | - | - | 456 | 454 | - | 702 | 656 | - |
| Stage 2 | - | - | - | - | - | - | 622 | 646 | - | 336 | 448 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s/v | 2.3 | 1 | 23.19 | 18.18 |
| HCM LOS | | | C | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 217 | 259 | 721 | 1307 | - | - | 1207 | - | - | 390 |
| HCM Lane V/C Ratio | 0.46 | 0.233 | 0.13 | 0.096 | - | - | 0.026 | - | - | 0.302 |
| HCM Control Delay (s/veh) | 35 | 23.1 | 10.7 | 8 | - | - | 8.1 | - | - | 18.2 |
| HCM Lane LOS | D | C | B | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 2.2 | 0.9 | 0.4 | 0.3 | - | - | 0.1 | - | - | 1.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.5 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 11 | 457 | 201 | 20 | 76 | 23 |
| Future Vol, veh/h | 11 | 457 | 201 | 20 | 76 | 23 |
| Conflicting Peds, #/hr | 1 | 0 | 0 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 380 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 83 | 83 | 83 | 83 | 83 | 83 |
| Heavy Vehicles, % | 9 | 9 | 9 | 9 | 9 | 9 |
| Mvmt Flow | 13 | 551 | 242 | 24 | 92 | 28 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 267 | 0 | - | 0 | 832 | 255 |
| Stage 1 | - | - | - | - | 255 | - |
| Stage 2 | - | - | - | - | 577 | - |
| Critical Hdwy | 4.19 | - | - | - | 6.49 | 6.29 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.49 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.49 | - |
| Follow-up Hdwy | 2.281 | - | - | - | 3.581 | 3.381 |
| Pot Cap-1 Maneuver | 1257 | - | - | - | 330 | 767 |
| Stage 1 | - | - | - | - | 771 | - |
| Stage 2 | - | - | - | - | 548 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1256 | - | - | - | 326 | 766 |
| Mov Cap-2 Maneuver | - | - | - | - | 326 | - |
| Stage 1 | - | - | - | - | 762 | - |
| Stage 2 | - | - | - | - | 547 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s/v | 0.19 | 0 | 18.97 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1256 | - | - | - | 376 |
| HCM Lane V/C Ratio | 0.011 | - | - | - | 0.317 |
| HCM Control Delay (s/veh) | 7.9 | - | - | - | 19 |
| HCM Lane LOS | A | - | - | - | C |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 1.3 |

| Intersection | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Int Delay, s/veh | 2.3 | | | | | | | | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 555 | 24 | 47 | 364 | 1 | 30 | 1 | 34 | 1 | 1 | 1 |
| Future Vol, veh/h | 0 | 555 | 24 | 47 | 364 | 1 | 30 | 1 | 34 | 1 | 1 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 490 | - | - | 500 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Heavy Vehicles, % | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Mvmt Flow | 0 | 653 | 28 | 55 | 428 | 1 | 35 | 1 | 40 | 1 | 1 | 1 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 429 | 0 | 0 | 681 | 0 | 0 | 1206 | 1207 | 667 | 1193 | 1221 | 429 |
| Stage 1 | - | - | - | - | - | - | 667 | 667 | - | 539 | 539 | - |
| Stage 2 | - | - | - | - | - | - | 539 | 540 | - | 654 | 681 | - |
| Critical Hdwy | 4.24 | - | - | 4.24 | - | - | 7.24 | 6.64 | 6.34 | 7.24 | 6.64 | 6.34 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.24 | 5.64 | - | 6.24 | 5.64 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.24 | 5.64 | - | 6.24 | 5.64 | - |
| Follow-up Hdwy | 2.326 | - | - | 2.326 | - | - | 3.626 | 4.126 | 3.426 | 3.626 | 4.126 | 3.426 |
| Pot Cap-1 Maneuver | 1069 | - | - | 858 | - | - | 152 | 174 | 438 | 155 | 171 | 601 |
| Stage 1 | - | - | - | - | - | - | 429 | 439 | - | 505 | 502 | - |
| Stage 2 | - | - | - | - | - | - | 505 | 502 | - | 437 | 432 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1069 | - | - | 858 | - | - | 141 | 163 | 438 | 131 | 160 | 601 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 141 | 163 | - | 131 | 160 | - |
| Stage 1 | - | - | - | - | - | - | 429 | 439 | - | 473 | 470 | - |
| Stage 2 | - | - | - | - | - | - | 471 | 470 | - | 396 | 432 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s/v | 0 | 1.08 | 30.05 | 24.04 |
| HCM LOS | | | D | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 219 | 1069 | - | - | 858 | - | - | 193 |
| HCM Lane V/C Ratio | 0.35 | - | - | - | 0.064 | - | - | 0.018 |
| HCM Control Delay (s/veh) | 30.1 | 0 | - | - | 9.5 | - | - | 24 |
| HCM Lane LOS | D | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 1.5 | 0 | - | - | 0.2 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 8 | 479 | 89 | 52 | 370 | 13 | 60 | 5 | 38 | 2 | 7 | 6 |
| Future Vol, veh/h | 8 | 479 | 89 | 52 | 370 | 13 | 60 | 5 | 38 | 2 | 7 | 6 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 350 | - | - | 490 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Mvmt Flow | 9 | 557 | 103 | 60 | 430 | 15 | 70 | 6 | 44 | 2 | 8 | 7 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 445 | 0 | 0 | 660 | 0 | 0 | 1183 | 1194 | 609 | 1137 | 1238 | 438 |
| Stage 1 | - | - | - | - | - | - | 627 | 627 | - | 559 | 559 | - |
| Stage 2 | - | - | - | - | - | - | 555 | 566 | - | 578 | 679 | - |
| Critical Hdwy | 4.26 | - | - | 4.26 | - | - | 7.26 | 6.66 | 6.36 | 7.26 | 6.66 | 6.36 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.26 | 5.66 | - | 6.26 | 5.66 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.26 | 5.66 | - | 6.26 | 5.66 | - |
| Follow-up Hdwy | 2.344 | - | - | 2.344 | - | - | 3.644 | 4.144 | 3.444 | 3.644 | 4.144 | 3.444 |
| Pot Cap-1 Maneuver | 1045 | - | - | 865 | - | - | 156 | 176 | 470 | 168 | 165 | 590 |
| Stage 1 | - | - | - | - | - | - | 448 | 455 | - | 490 | 489 | - |
| Stage 2 | - | - | - | - | - | - | 492 | 485 | - | 477 | 430 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1045 | - | - | 865 | - | - | 135 | 162 | 470 | 136 | 152 | 590 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 135 | 162 | - | 136 | 152 | - |
| Stage 1 | - | - | - | - | - | - | 444 | 451 | - | 455 | 455 | - |
| Stage 2 | - | - | - | - | - | - | 444 | 451 | - | 423 | 427 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s/v | 0.12 | 1.13 | 54.29 | 23.55 |
| HCM LOS | | | F | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 185 | 1045 | - | - | 865 | - | - | 211 |
| HCM Lane V/C Ratio | 0.646 | 0.009 | - | - | 0.07 | - | - | 0.082 |
| HCM Control Delay (s/veh) | 54.3 | 8.5 | - | - | 9.5 | - | - | 23.5 |
| HCM Lane LOS | F | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 3.8 | 0 | - | - | 0.2 | - | - | 0.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 8 | 431 | 408 | 94 | 200 | 21 |
| Future Volume (veh/h) | 8 | 431 | 408 | 94 | 200 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1781 | 1781 | 1781 | 1781 | 1781 | 1781 |
| Adj Flow Rate, veh/h | 9 | 495 | 469 | 108 | 230 | 24 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh, % | 8 | 8 | 8 | 8 | 8 | 8 |
| Cap, veh/h | 28 | 1002 | 654 | 151 | 298 | 31 |
| Arrive On Green | 0.02 | 0.56 | 0.47 | 0.47 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1697 | 1781 | 1401 | 323 | 1513 | 158 |
| Grp Volume(v), veh/h | 9 | 495 | 0 | 577 | 255 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1697 | 1781 | 0 | 1723 | 1677 | 0 |
| Q Serve(g_s), s | 0.2 | 7.8 | 0.0 | 12.5 | 6.7 | 0.0 |
| Cycle Q Clear(g_c), s | 0.2 | 7.8 | 0.0 | 12.5 | 6.7 | 0.0 |
| Prop In Lane | 1.00 | | | 0.19 | 0.90 | 0.09 |
| Lane Grp Cap(c), veh/h | 28 | 1002 | 0 | 804 | 330 | 0 |
| V/C Ratio(X) | 0.32 | 0.49 | 0.00 | 0.72 | 0.77 | 0.00 |
| Avail Cap(c_a), veh/h | 729 | 1913 | 0 | 2221 | 1441 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 22.6 | 6.2 | 0.0 | 10.0 | 17.7 | 0.0 |
| Incr Delay (d2), s/veh | 6.4 | 0.5 | 0.0 | 1.7 | 3.9 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 2.2 | 0.0 | 4.1 | 2.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d), s/veh | 29.1 | 6.7 | 0.0 | 11.7 | 21.6 | 0.0 |
| LnGrp LOS | C | A | | B | C | |
| Approach Vol, veh/h | | 504 | 577 | | 255 | |
| Approach Delay, s/veh | | 7.1 | 11.7 | | 21.6 | |
| Approach LOS | | A | B | | C | |
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
| Phs Duration (G+Y+Rc), s | | 32.8 | | 13.8 | 4.5 | 28.3 |
| Change Period (Y+Rc), s | | * 6.6 | | 4.6 | 3.7 | * 6.6 |
| Max Green Setting (Gmax), s | | * 50 | | 40.0 | 20.0 | * 60 |
| Max Q Clear Time (g_c+I1), s | | 9.8 | | 8.7 | 2.2 | 14.5 |
| Green Ext Time (p_c), s | | 5.6 | | 0.8 | 0.0 | 7.2 |

| Intersection Summary | |
|---|---|
| HCM 7th Control Delay, s/veh | 11.8 |
| HCM 7th LOS | B |

| Notes |
|---|
| * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier. |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 348 | 397 | 146 | 201 | 301 | 79 | 93 | 691 | 102 | 67 | 468 | 157 |
| Future Volume (veh/h) | 348 | 397 | 146 | 201 | 301 | 79 | 93 | 691 | 102 | 67 | 468 | 157 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 355 | 405 | 149 | 205 | 307 | 81 | 95 | 705 | 104 | 68 | 478 | 160 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 405 | 539 | 196 | 301 | 454 | 117 | 162 | 917 | 400 | 142 | 876 | 383 |
| Arrive On Green | 0.23 | 0.22 | 0.22 | 0.17 | 0.17 | 0.17 | 0.09 | 0.26 | 0.26 | 0.08 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1739 | 2476 | 899 | 1739 | 2713 | 703 | 1739 | 3469 | 1512 | 1739 | 3469 | 1514 |
| Grp Volume(v), veh/h | 355 | 282 | 272 | 205 | 194 | 194 | 95 | 705 | 104 | 68 | 478 | 160 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 1735 | 1640 | 1739 | 1735 | 1681 | 1739 | 1735 | 1512 | 1739 | 1735 | 1514 |
| Q Serve(g_s), s | 14.4 | 11.1 | 11.4 | 8.1 | 7.7 | 8.0 | 3.8 | 13.8 | 2.3 | 2.7 | 8.8 | 6.5 |
| Cycle Q Clear(g_c), s | 14.4 | 11.1 | 11.4 | 8.1 | 7.7 | 8.0 | 3.8 | 13.8 | 2.3 | 2.7 | 8.8 | 6.5 |
| Prop In Lane | 1.00 | | 0.55 | 1.00 | | 0.42 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 405 | 377 | 357 | 301 | 290 | 281 | 162 | 917 | 400 | 142 | 876 | 383 |
| V/C Ratio(X) | 0.88 | 0.75 | 0.76 | 0.68 | 0.67 | 0.69 | 0.59 | 0.77 | 0.26 | 0.48 | 0.55 | 0.42 |
| Avail Cap(c_a), veh/h | 569 | 662 | 626 | 569 | 662 | 642 | 332 | 1183 | 516 | 332 | 1183 | 516 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.1 | 26.8 | 26.9 | 28.4 | 28.6 | 28.7 | 31.9 | 24.9 | 7.1 | 32.2 | 23.7 | 22.9 |
| Incr Delay (d2), s/veh | 10.8 | 2.2 | 2.5 | 1.0 | 2.0 | 2.2 | 1.2 | 2.3 | 0.3 | 0.9 | 0.5 | 0.7 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.8 | 4.6 | 4.4 | 3.3 | 3.2 | 3.2 | 1.6 | 5.4 | 1.3 | 1.1 | 3.4 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 37.8 | 29.0 | 29.4 | 29.4 | 30.6 | 31.0 | 33.1 | 27.3 | 7.4 | 33.1 | 24.3 | 23.6 |
| LnGrp LOS | D | C | C | C | C | C | C | C | A | C | C | C |
| Approach Vol, veh/h | | 909 | | | 593 | | | 904 | | | 706 | |
| Approach Delay, s/veh | | 32.6 | | | 30.3 | | | 25.6 | | | 25.0 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.6 | 20.9 | 11.0 | 23.8 | 21.3 | 17.2 | 10.2 | 24.7 |
| Change Period (Y+Rc), s | 4.9 | * 4.9 | 4.2 | 5.3 | 4.2 | 4.9 | 4.2 | 5.3 |
| Max Green Setting (Gmax), s | 24.0 | * 28 | 14.0 | 25.0 | 24.0 | 28.0 | 14.0 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 10.1 | 13.4 | 5.8 | 10.8 | 16.4 | 10.0 | 4.7 | 15.8 |
| Green Ext Time (p_c), s | 0.2 | 2.4 | 0.1 | 3.0 | 0.7 | 1.7 | 0.0 | 3.3 |

| Intersection Summary | |
|---|---|
| HCM 7th Control Delay, s/veh | 28.4 |
| HCM 7th LOS | C |

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 81 | 635 | 39 | 65 | 692 | 98 | 108 | 285 | 75 | 84 | 230 | 84 |
| Future Volume (veh/h) | 81 | 635 | 39 | 65 | 692 | 98 | 108 | 285 | 75 | 84 | 230 | 84 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.94 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 86 | 676 | 41 | 69 | 736 | 104 | 115 | 303 | 80 | 89 | 245 | 89 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Cap, veh/h | 159 | 1130 | 68 | 145 | 1008 | 142 | 174 | 451 | 371 | 161 | 304 | 110 |
| Arrive On Green | 0.09 | 0.34 | 0.34 | 0.08 | 0.33 | 0.33 | 0.10 | 0.24 | 0.24 | 0.09 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1767 | 3368 | 204 | 1767 | 3074 | 434 | 1767 | 1856 | 1526 | 1767 | 1286 | 467 |
| Grp Volume(v), veh/h | 86 | 353 | 364 | 69 | 422 | 418 | 115 | 303 | 80 | 89 | 0 | 334 |
| Grp Sat Flow(s),veh/h/ln | 1767 | 1763 | 1810 | 1767 | 1763 | 1745 | 1767 | 1856 | 1526 | 1767 | 0 | 1754 |
| Q Serve(g_s), s | 3.4 | 12.2 | 12.3 | 2.7 | 15.5 | 15.6 | 4.6 | 10.9 | 3.1 | 3.5 | 0.0 | 13.2 |
| Cycle Q Clear(g_c), s | 3.4 | 12.2 | 12.3 | 2.7 | 15.5 | 15.6 | 4.6 | 10.9 | 3.1 | 3.5 | 0.0 | 13.2 |
| Prop In Lane | 1.00 | | 0.11 | 1.00 | | 0.25 | 1.00 | | 1.00 | 1.00 | | 0.27 |
| Lane Grp Cap(c), veh/h | 159 | 592 | 607 | 145 | 578 | 572 | 174 | 451 | 371 | 161 | 0 | 414 |
| V/C Ratio(X) | 0.54 | 0.60 | 0.60 | 0.47 | 0.73 | 0.73 | 0.66 | 0.67 | 0.22 | 0.55 | 0.00 | 0.81 |
| Avail Cap(c_a), veh/h | 289 | 960 | 985 | 289 | 960 | 950 | 289 | 556 | 457 | 289 | 0 | 525 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.0 | 20.3 | 20.3 | 32.2 | 21.8 | 21.8 | 31.9 | 25.1 | 22.2 | 32.0 | 0.0 | 26.5 |
| Incr Delay (d2), s/veh | 2.8 | 1.2 | 1.1 | 2.4 | 2.2 | 2.2 | 4.2 | 1.9 | 0.2 | 2.9 | 0.0 | 6.6 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 4.8 | 4.9 | 1.2 | 6.2 | 6.2 | 2.1 | 4.8 | 1.1 | 1.6 | 0.0 | 6.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 34.8 | 21.5 | 21.4 | 34.6 | 24.0 | 24.0 | 36.2 | 27.0 | 22.4 | 34.9 | 0.0 | 33.1 |
| LnGrp LOS | C | C | C | C | C | C | D | C | C | C | | C |
| Approach Vol, veh/h | | 803 | | | 909 | | | 498 | | | 423 | |
| Approach Delay, s/veh | | 22.9 | | | 24.8 | | | 28.4 | | | 33.4 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.2 | 30.0 | 11.4 | 21.8 | 10.8 | 29.4 | 10.9 | 22.4 |
| Change Period (Y+Rc), s | 4.2 | 5.3 | 4.2 | 4.5 | 4.2 | 5.3 | 4.2 | 4.5 |
| Max Green Setting (Gmax), s | 12.0 | 40.0 | 12.0 | 22.0 | 12.0 | 40.0 | 12.0 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 4.7 | 14.3 | 6.6 | 15.2 | 5.4 | 17.6 | 5.5 | 12.9 |
| Green Ext Time (p_c), s | 0.1 | 5.5 | 0.1 | 0.9 | 0.1 | 6.5 | 0.1 | 1.1 |

| Intersection Summary | |
|---|---|
| HCM 7th Control Delay, s/veh | 26.3 |
| HCM 7th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 19 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 73 | 229 | 50 | 52 | 174 | 149 | 75 | 108 | 41 | 168 | 107 | 92 |
| Future Vol, veh/h | 73 | 229 | 50 | 52 | 174 | 149 | 75 | 108 | 41 | 168 | 107 | 92 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 79 | 249 | 54 | 57 | 189 | 162 | 82 | 117 | 45 | 183 | 116 | 100 |
| Number of Lanes | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 2 | 2 | 2 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 1 | 2 | 2 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 2 | 2 | 2 |
| HCM Control Delay, s/veh | 21.6 | 17.3 | 21.1 | 17 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 | WBLn2 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 33% | 100% | 0% | 23% | 0% | 100% | 0% |
| Vol Thru, % | 48% | 0% | 82% | 77% | 0% | 0% | 54% |
| Vol Right, % | 18% | 0% | 18% | 0% | 100% | 0% | 46% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 224 | 73 | 279 | 226 | 149 | 168 | 199 |
| LT Vol | 75 | 73 | 0 | 52 | 0 | 168 | 0 |
| Through Vol | 108 | 0 | 229 | 174 | 0 | 0 | 107 |
| RT Vol | 41 | 0 | 50 | 0 | 149 | 0 | 92 |
| Lane Flow Rate | 243 | 79 | 303 | 246 | 162 | 183 | 216 |
| Geometry Grp | 4b | 5 | 5 | 5 | 5 | 5 | 5 |
| Degree of Util (X) | 0.554 | 0.184 | 0.65 | 0.545 | 0.321 | 0.427 | 0.455 |
| Departure Headway (Hd) | 8.192 | 8.367 | 7.721 | 7.982 | 7.14 | 8.419 | 7.572 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 438 | 427 | 467 | 450 | 500 | 425 | 474 |
| Service Time | 6.285 | 6.153 | 5.506 | 5.768 | 4.925 | 6.205 | 5.356 |
| HCM Lane V/C Ratio | 0.555 | 0.185 | 0.649 | 0.547 | 0.324 | 0.431 | 0.456 |
| HCM Control Delay, s/veh | 21.1 | 13 | 23.9 | 20 | 13.3 | 17.4 | 16.6 |
| HCM Lane LOS | C | B | C | C | B | C | C |
| HCM 95th-tile Q | 3.3 | 0.7 | 4.5 | 3.2 | 1.4 | 2.1 | 2.3 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 35 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ✣ | | | ✣ | | | ✣ | | | ✣ | |
| Traffic Vol, veh/h | 3 | 229 | 105 | 2 | 313 | 101 | 174 | 88 | 9 | 139 | 71 | 6 |
| Future Vol, veh/h | 3 | 229 | 105 | 2 | 313 | 101 | 174 | 88 | 9 | 139 | 71 | 6 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Heavy Vehicles, % | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Mvmt Flow | 3 | 252 | 115 | 2 | 344 | 111 | 191 | 97 | 10 | 153 | 78 | 7 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 31.5 | 50.6 | 26.3 | 21.4 |
| HCM LOS | D | F | D | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 64% | 1% | 0% | 64% |
| Vol Thru, % | 32% | 68% | 75% | 33% |
| Vol Right, % | 3% | 31% | 24% | 3% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 271 | 337 | 416 | 216 |
| LT Vol | 174 | 3 | 2 | 139 |
| Through Vol | 88 | 229 | 313 | 71 |
| RT Vol | 9 | 105 | 101 | 6 |
| Lane Flow Rate | 298 | 370 | 457 | 237 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.671 | 0.769 | 0.922 | 0.553 |
| Departure Headway (Hd) | 8.115 | 7.478 | 7.261 | 8.381 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 444 | 481 | 498 | 430 |
| Service Time | 6.187 | 5.545 | 5.323 | 6.456 |
| HCM Lane V/C Ratio | 0.671 | 0.769 | 0.918 | 0.551 |
| HCM Control Delay, s/veh | 26.3 | 31.5 | 50.6 | 21.4 |
| HCM Lane LOS | D | D | F | C |
| HCM 95th-tile Q | 4.8 | 6.7 | 10.9 | 3.3 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 24.7 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ✥ | | | ✥ | | | ✥ | | | ✥ | |
| Traffic Vol, veh/h | 22 | 70 | 11 | 50 | 99 | 31 | 16 | 256 | 71 | 99 | 209 | 82 |
| Future Vol, veh/h | 22 | 70 | 11 | 50 | 99 | 31 | 16 | 256 | 71 | 99 | 209 | 82 |
| Peak Hour Factor | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| Heavy Vehicles, % | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Mvmt Flow | 27 | 85 | 13 | 61 | 121 | 38 | 20 | 312 | 87 | 121 | 255 | 100 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 13.4 | 15.8 | 24.6 | 31.8 |
| HCM LOS | B | C | C | D |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 5% | 21% | 28% | 25% |
| Vol Thru, % | 75% | 68% | 55% | 54% |
| Vol Right, % | 21% | 11% | 17% | 21% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 343 | 103 | 180 | 390 |
| LT Vol | 16 | 22 | 50 | 99 |
| Through Vol | 256 | 70 | 99 | 209 |
| RT Vol | 71 | 11 | 31 | 82 |
| Lane Flow Rate | 418 | 126 | 220 | 476 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.73 | 0.264 | 0.439 | 0.821 |
| Departure Headway (Hd) | 6.286 | 7.576 | 7.199 | 6.216 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 573 | 471 | 498 | 580 |
| Service Time | 4.351 | 5.664 | 5.272 | 4.277 |
| HCM Lane V/C Ratio | 0.729 | 0.268 | 0.442 | 0.821 |
| HCM Control Delay, s/veh | 24.6 | 13.4 | 15.8 | 31.8 |
| HCM Lane LOS | C | B | C | D |
| HCM 95th-tile Q | 6.1 | 1.1 | 2.2 | 8.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 12.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 73 | 329 | 74 | 50 | 248 | 30 | 44 | 19 | 28 | 95 | 12 | 89 |
| Future Vol, veh/h | 73 | 329 | 74 | 50 | 248 | 30 | 44 | 19 | 28 | 95 | 12 | 89 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 7 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 470 | - | - | 340 | - | - | 50 | - | 50 | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 81 | 366 | 82 | 56 | 276 | 33 | 49 | 21 | 31 | 106 | 13 | 99 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 309 | 0 | 0 | 448 | 0 | 0 | 969 | 989 | 407 | 942 | 1013 | 299 |
| Stage 1 | - | - | - | - | - | - | 569 | 569 | - | 403 | 403 | - |
| Stage 2 | - | - | - | - | - | - | 400 | 420 | - | 538 | 610 | - |
| Critical Hdwy | 4.15 | - | - | 4.15 | - | - | 7.15 | 6.55 | 6.25 | 7.15 | 6.55 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.15 | 5.55 | - | 6.15 | 5.55 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.15 | 5.55 | - | 6.15 | 5.55 | - |
| Follow-up Hdwy | 2.245 | - | - | 2.245 | - | - | 3.545 | 4.045 | 3.345 | 3.545 | 4.045 | 3.345 |
| Pot Cap-1 Maneuver | 1235 | - | - | 1097 | - | - | 230 | 244 | 638 | 240 | 236 | 733 |
| Stage 1 | - | - | - | - | - | - | 502 | 501 | - | 618 | 594 | - |
| Stage 2 | - | - | - | - | - | - | 620 | 584 | - | 522 | 480 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1235 | - | - | 1097 | - | - | 165 | 216 | 638 | 185 | 209 | 728 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 165 | 216 | - | 185 | 209 | - |
| Stage 1 | - | - | - | - | - | - | 469 | 468 | - | 586 | 564 | - |
| Stage 2 | - | - | - | - | - | - | 493 | 555 | - | 443 | 449 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s/v | 1.25 | 1.29 | 25.53 | 50.27 |
| HCM LOS | | | D | F |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | NBLn3 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 165 | 216 | 638 | 1235 | - | - | 1097 | - | - | 283 |
| HCM Lane V/C Ratio | 0.296 | 0.098 | 0.049 | 0.066 | - | - | 0.051 | - | - | 0.771 |
| HCM Control Delay (s/veh) | 35.7 | 23.4 | 10.9 | 8.1 | - | - | 8.5 | - | - | 50.3 |
| HCM Lane LOS | E | C | B | A | - | - | A | - | - | F |
| HCM 95th %tile Q(veh) | 1.2 | 0.3 | 0.2 | 0.2 | - | - | 0.2 | - | - | 5.9 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.1 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 9 | 301 | 434 | 62 | 38 | 18 |
| Future Vol, veh/h | 9 | 301 | 434 | 62 | 38 | 18 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 380 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 93 | 93 | 93 | 93 | 93 | 93 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 10 | 324 | 467 | 67 | 41 | 19 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 533 | 0 | - | 0 | 843 | 500 |
| Stage 1 | - | - | - | - | 500 | - |
| Stage 2 | - | - | - | - | 343 | - |
| Critical Hdwy | 4.15 | - | - | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | 2.245 | - | - | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | 1019 | - | - | - | 330 | 565 |
| Stage 1 | - | - | - | - | 603 | - |
| Stage 2 | - | - | - | - | 712 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1019 | - | - | - | 327 | 565 |
| Mov Cap-2 Maneuver | - | - | - | - | 327 | - |
| Stage 1 | - | - | - | - | 598 | - |
| Stage 2 | - | - | - | - | 712 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s/v | 0.25 | 0 | 16.32 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1019 | - | - | - | 378 |
| HCM Lane V/C Ratio | 0.009 | - | - | - | 0.159 |
| HCM Control Delay (s/veh) | 8.6 | - | - | - | 16.3 |
| HCM Lane LOS | A | - | - | - | C |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0.6 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 622 | 20 | 55 | 475 | 1 | 17 | 0 | 100 | 2 | 0 | 0 |
| Future Vol, veh/h | 0 | 622 | 20 | 55 | 475 | 1 | 17 | 0 | 100 | 2 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 490 | - | - | 500 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Mvmt Flow | 0 | 707 | 23 | 63 | 540 | 1 | 19 | 0 | 114 | 2 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 541 | 0 | 0 | 730 | 0 | 0 | 1383 | 1384 | 718 | 1372 | 1395 | 540 |
| Stage 1 | - | - | - | - | - | - | 718 | 718 | - | 665 | 665 | - |
| Stage 2 | - | - | - | - | - | - | 665 | 666 | - | 707 | 730 | - |
| Critical Hdwy | 4.18 | - | - | 4.18 | - | - | 7.18 | 6.58 | 6.28 | 7.18 | 6.58 | 6.28 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.18 | 5.58 | - | 6.18 | 5.58 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.18 | 5.58 | - | 6.18 | 5.58 | - |
| Follow-up Hdwy | 2.272 | - | - | 2.272 | - | - | 3.572 | 4.072 | 3.372 | 3.572 | 4.072 | 3.372 |
| Pot Cap-1 Maneuver | 998 | - | - | 848 | - | - | 117 | 139 | 419 | 120 | 137 | 530 |
| Stage 1 | - | - | - | - | - | - | 411 | 424 | - | 439 | 449 | - |
| Stage 2 | - | - | - | - | - | - | 440 | 448 | - | 417 | 419 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 998 | - | - | 848 | - | - | 109 | 129 | 419 | 81 | 127 | 530 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 109 | 129 | - | 81 | 127 | - |
| Stage 1 | - | - | - | - | - | - | 411 | 424 | - | 407 | 415 | - |
| Stage 2 | - | - | - | - | - | - | 407 | 415 | - | 304 | 419 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s/v | 0 | 0.99 | 26.68 | 50.91 |
| HCM LOS | | | D | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 296 | 998 | - | - | 848 | - | - | 81 |
| HCM Lane V/C Ratio | 0.449 | - | - | - | 0.074 | - | - | 0.028 |
| HCM Control Delay (s/veh) | 26.7 | 0 | - | - | 9.6 | - | - | 50.9 |
| HCM Lane LOS | D | A | - | - | A | - | - | F |
| HCM 95th %tile Q(veh) | 2.2 | 0 | - | - | 0.2 | - | - | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 624 | 115 | 26 | 461 | 4 | 63 | 4 | 52 | 14 | 5 | 7 |
| Future Vol, veh/h | 1 | 624 | 115 | 26 | 461 | 4 | 63 | 4 | 52 | 14 | 5 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 350 | - | - | 490 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Mvmt Flow | 1 | 678 | 125 | 28 | 501 | 4 | 68 | 4 | 57 | 15 | 5 | 8 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 505 | 0 | 0 | 803 | 0 | 0 | 1303 | 1305 | 741 | 1242 | 1365 | 503 |
| Stage 1 | - | - | - | - | - | - | 743 | 743 | - | 560 | 560 | - |
| Stage 2 | - | - | - | - | - | - | 560 | 562 | - | 683 | 805 | - |
| Critical Hdwy | 4.19 | - | - | 4.19 | - | - | 7.19 | 6.59 | 6.29 | 7.19 | 6.59 | 6.29 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.19 | 5.59 | - | 6.19 | 5.59 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.19 | 5.59 | - | 6.19 | 5.59 | - |
| Follow-up Hdwy | 2.281 | - | - | 2.281 | - | - | 3.581 | 4.081 | 3.381 | 3.581 | 4.081 | 3.381 |
| Pot Cap-1 Maneuver | 1024 | - | - | 791 | - | - | 133 | 155 | 405 | 146 | 142 | 555 |
| Stage 1 | - | - | - | - | - | - | 396 | 412 | - | 501 | 500 | - |
| Stage 2 | - | - | - | - | - | - | 500 | 498 | - | 428 | 385 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1024 | - | - | 791 | - | - | 121 | 149 | 405 | 118 | 137 | 555 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 121 | 149 | - | 118 | 137 | - |
| Stage 1 | - | - | - | - | - | - | 396 | 411 | - | 483 | 482 | - |
| Stage 2 | - | - | - | - | - | - | 471 | 481 | - | 364 | 385 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s/v | 0.01 | 0.51 | 66.95 | 33.33 |
| HCM LOS | | | F | D |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 177 | 1024 | - | - | 791 | - | - | 155 |
| HCM Lane V/C Ratio | 0.733 | 0.001 | - | - | 0.036 | - | - | 0.182 |
| HCM Control Delay (s/veh) | 67 | 8.5 | - | - | 9.7 | - | - | 33.3 |
| HCM Lane LOS | F | A | - | - | A | - | - | D |
| HCM 95th %tile Q(veh) | 4.6 | 0 | - | - | 0.1 | - | - | 0.6 |

| Lane Group | EBL | EBT | WBT | SBL |
|---|---|---|---|---|
| Lane Group Flow (vph) | 19 | 501 | 488 | 215 |
| v/c Ratio | 0.09 | 0.58 | 0.65 | 0.50 |
| Control Delay | 32.8 | 12.7 | 18.1 | 25.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 32.8 | 12.7 | 18.1 | 25.1 |
| Queue Length 50th (ft) | 5 | 98 | 87 | 45 |
| Queue Length 95th (ft) | 29 | 205 | 266 | 154 |
| Internal Link Dist (ft) | | 846 | 1668 | 2202 |
| Turn Bay Length (ft) | 475 | | | |
| Base Capacity (vph) | 587 | 1639 | 1411 | 1169 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.03 | 0.31 | 0.35 | 0.18 |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 118 | 419 | 197 | 227 | 125 | 390 | 124 | 63 | 959 | 244 |
| v/c Ratio | 0.51 | 0.70 | 0.69 | 0.28 | 0.59 | 0.33 | 0.21 | 0.36 | 0.96 | 0.43 |
| Control Delay | 44.0 | 35.3 | 47.0 | 26.7 | 49.2 | 24.2 | 6.3 | 44.8 | 53.7 | 10.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 44.0 | 35.3 | 47.0 | 26.7 | 49.2 | 24.2 | 6.3 | 44.8 | 53.7 | 10.3 |
| Queue Length 50th (ft) | 59 | 93 | 98 | 48 | 63 | 80 | 0 | 32 | 260 | 19 |
| Queue Length 95th (ft) | 126 | 162 | 187 | 89 | 138 | 156 | 44 | 80 | #523 | 97 |
| Internal Link Dist (ft) | | 482 | | 482 | | 678 | | | 917 | |
| Turn Bay Length (ft) | 130 | | 220 | | 150 | | 100 | 210 | | 210 |
| Base Capacity (vph) | 477 | 1096 | 477 | 1098 | 278 | 1182 | 599 | 278 | 994 | 574 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.25 | 0.38 | 0.41 | 0.21 | 0.45 | 0.33 | 0.21 | 0.23 | 0.96 | 0.43 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 44 | 604 | 45 | 508 | 48 | 176 | 64 | 124 | 364 |
| v/c Ratio | 0.19 | 0.63 | 0.19 | 0.54 | 0.20 | 0.34 | 0.13 | 0.45 | 0.59 |
| Control Delay | 36.3 | 26.5 | 36.3 | 24.7 | 36.3 | 26.8 | 1.9 | 38.2 | 27.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 36.3 | 26.5 | 36.3 | 24.7 | 36.3 | 26.8 | 1.9 | 38.2 | 27.5 |
| Queue Length 50th (ft) | 20 | 133 | 20 | 107 | 21 | 70 | 0 | 55 | 149 |
| Queue Length 95th (ft) | 52 | 193 | 53 | 159 | 55 | 131 | 5 | 115 | #264 |
| Internal Link Dist (ft) | | 430 | | 365 | | 328 | | | 301 |
| Turn Bay Length (ft) | 90 | | 90 | | 60 | | | 190 | |
| Base Capacity (vph) | 333 | 2190 | 333 | 2149 | 333 | 656 | 598 | 333 | 648 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.13 | 0.28 | 0.14 | 0.24 | 0.14 | 0.27 | 0.11 | 0.37 | 0.56 |

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBL | EBT | WBT | SBL |
|---|---|---|---|---|
| Lane Group Flow (vph) | 9 | 495 | 577 | 254 |
| v/c Ratio | 0.04 | 0.56 | 0.69 | 0.53 |
| Control Delay | 33.9 | 13.0 | 18.3 | 24.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 33.9 | 13.0 | 18.3 | 24.4 |
| Queue Length 50th (ft) | 2 | 101 | 124 | 61 |
| Queue Length 95th (ft) | 21 | 227 | 370 | 204 |
| Internal Link Dist (ft) | | 846 | 1668 | 2202 |
| Turn Bay Length (ft) | 475 | | | |
| Base Capacity (vph) | 611 | 1702 | 1575 | 1218 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.01 | 0.29 | 0.37 | 0.21 |

Intersection Summary

| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 355 | 554 | 205 | 388 | 95 | 705 | 104 | 68 | 478 | 160 |
| v/c Ratio | 0.78 | 0.74 | 0.52 | 0.62 | 0.47 | 0.78 | 0.22 | 0.37 | 0.55 | 0.32 |
| Control Delay | 45.9 | 37.0 | 38.2 | 36.3 | 48.7 | 38.5 | 8.0 | 47.1 | 33.0 | 7.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 45.9 | 37.0 | 38.2 | 36.3 | 48.7 | 38.5 | 8.0 | 47.1 | 33.0 | 7.4 |
| Queue Length 50th (ft) | 187 | 145 | 103 | 102 | 52 | 192 | 0 | 37 | 122 | 0 |
| Queue Length 95th (ft) | #422 | 227 | 205 | 159 | 115 | #336 | 43 | 89 | 213 | 53 |
| Internal Link Dist (ft) | | 482 | | 482 | | 678 | | | 917 | |
| Turn Bay Length (ft) | 130 | | 220 | | 150 | | 100 | 210 | | 210 |
| Base Capacity (vph) | 497 | 1138 | 497 | 1140 | 290 | 1046 | 528 | 290 | 1036 | 565 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.71 | 0.49 | 0.41 | 0.34 | 0.33 | 0.67 | 0.20 | 0.23 | 0.46 | 0.28 |

Intersection Summary

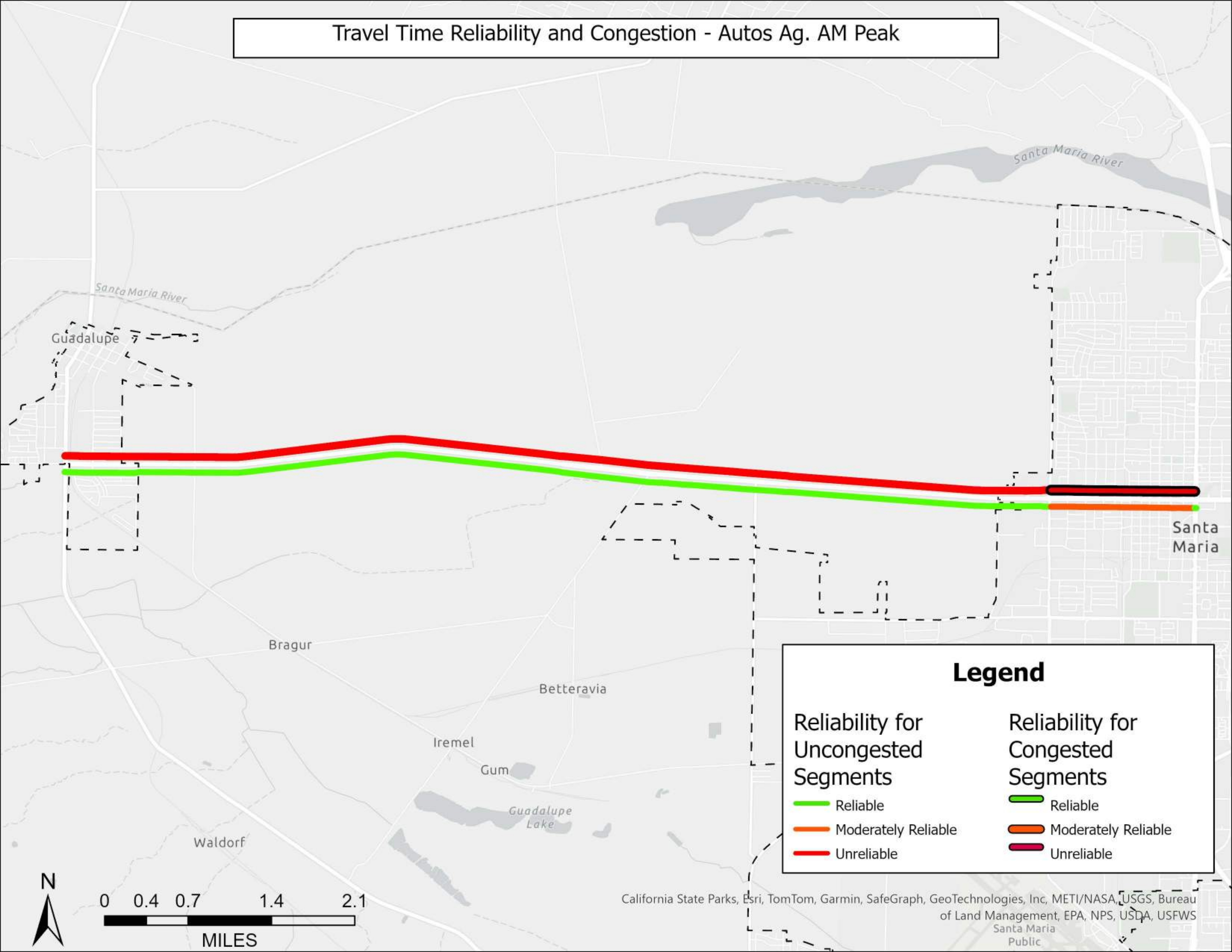
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

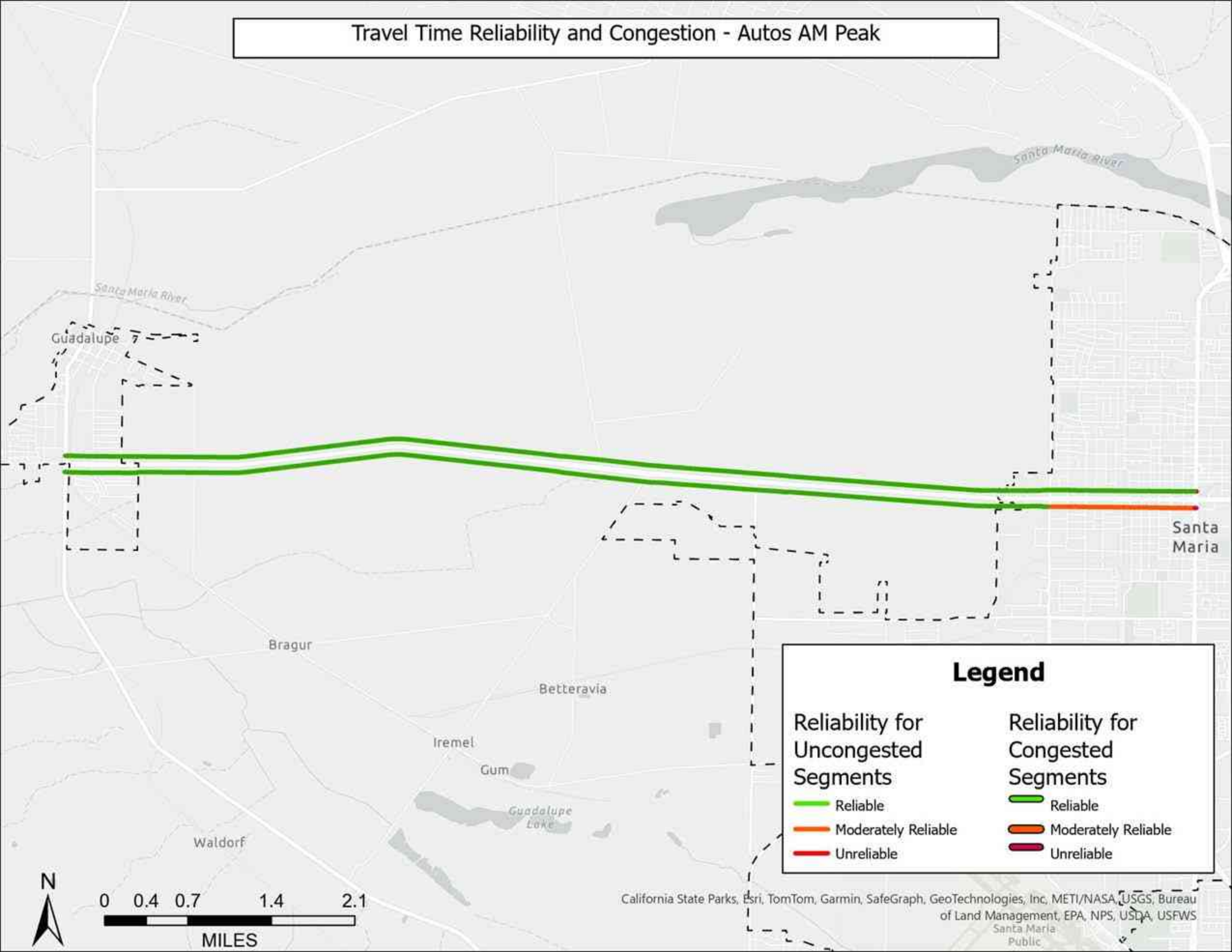
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 86 | 717 | 69 | 840 | 115 | 303 | 80 | 89 | 334 |
| v/c Ratio | 0.37 | 0.59 | 0.31 | 0.71 | 0.47 | 0.63 | 0.17 | 0.38 | 0.73 |
| Control Delay | 44.1 | 26.1 | 43.2 | 28.9 | 46.1 | 37.9 | 3.7 | 44.3 | 41.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 44.1 | 26.1 | 43.2 | 28.9 | 46.1 | 37.9 | 3.7 | 44.3 | 41.4 |
| Queue Length 50th (ft) | 45 | 176 | 36 | 219 | 60 | 147 | 0 | 47 | 163 |
| Queue Length 95th (ft) | 103 | 254 | 86 | 307 | 131 | #286 | 20 | 106 | #343 |
| Internal Link Dist (ft) | | 430 | | 365 | | 328 | | | 301 |
| Turn Bay Length (ft) | 90 | | 90 | | 60 | | | 190 | |
| Base Capacity (vph) | 297 | 1931 | 297 | 1898 | 297 | 586 | 562 | 297 | 563 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.37 | 0.23 | 0.44 | 0.39 | 0.52 | 0.14 | 0.30 | 0.59 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

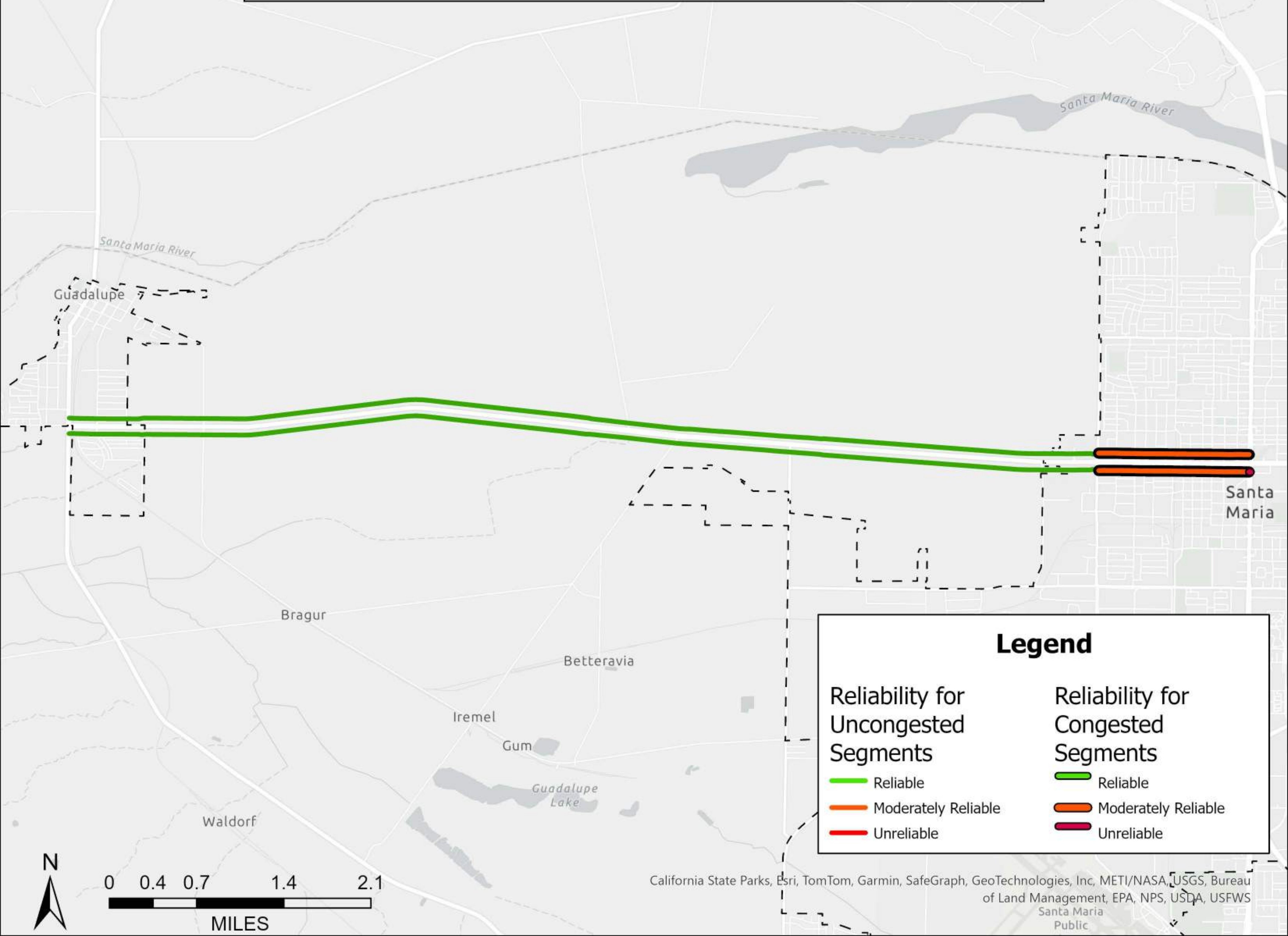
# APPENDIX F. TRAVEL TIME RELIABILITY AND CONGESTION ANALYSIS

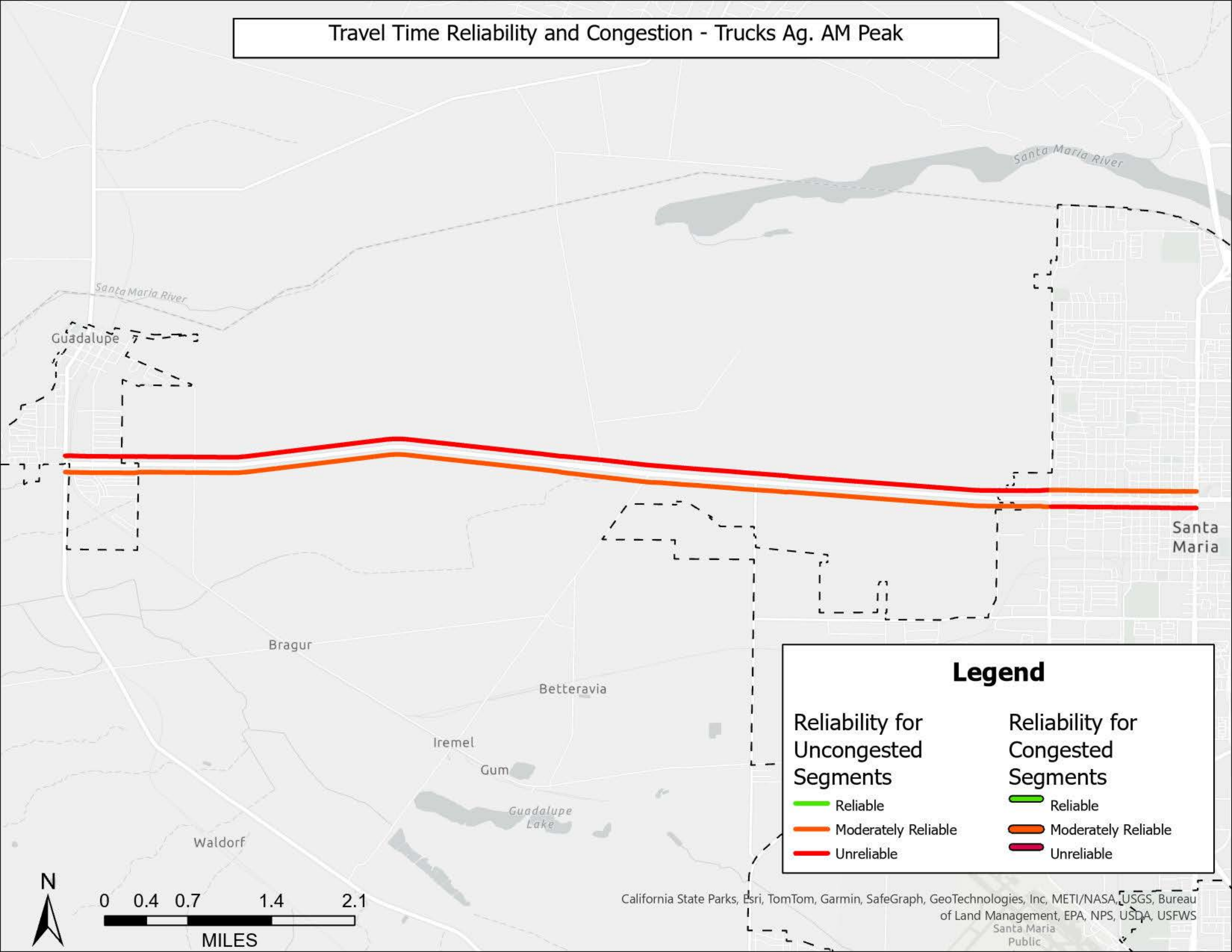

Travel Time Reliability and Congestion - Autos Ag. AM Peak
Santa Maria River
Santa Maria River
Guadalupe
Santa
Maria
Bragur
Betteravia
Iremel
Gum
Guadalupe
Lake
Waldorf
Santa Maria
Public
Legend
Reliability for Uncongested Segments
Reliable
Moderately Reliable
Unreliable
Reliability for Congested Segments
Reliable
Moderately Reliable
Unreliable
N
0 0.4 0.7 1.4 2.1
MILES
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS



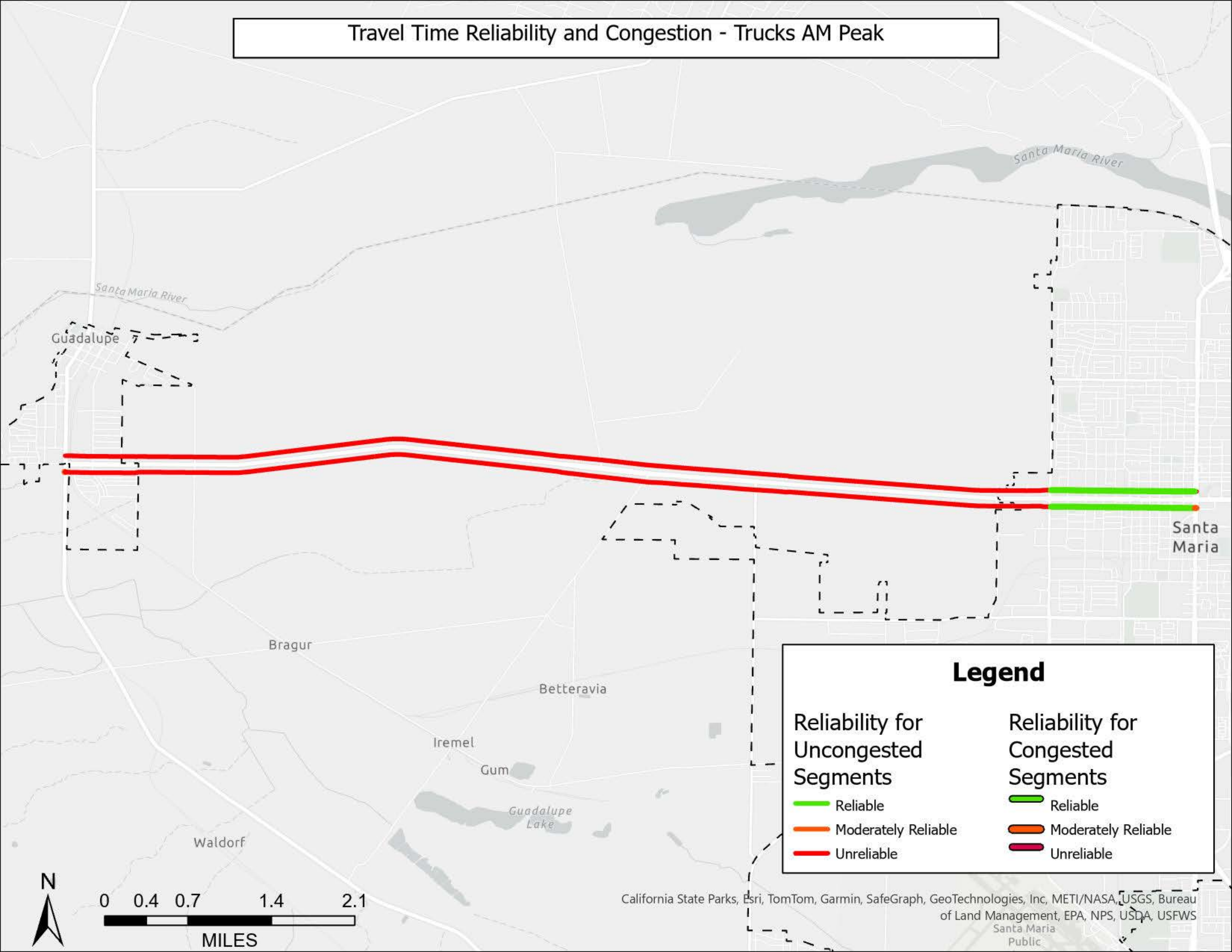
Travel Time Reliability and Congestion - Autos AM Peak
Santa Maria River
Santa Maria River
Guadalupe
Santa Maria
Bragur
Betteravia
Iremel
Gum
Guadalupe Lake
Waldorf
Legend
Reliability for Uncongested Segments
Reliable
Moderately Reliable
Unreliable
Reliability for Congested Segments
Reliable
Moderately Reliable
Unreliable
N
0 0.4 0.7 1.4 2.1
MILES
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS
Santa Maria Public

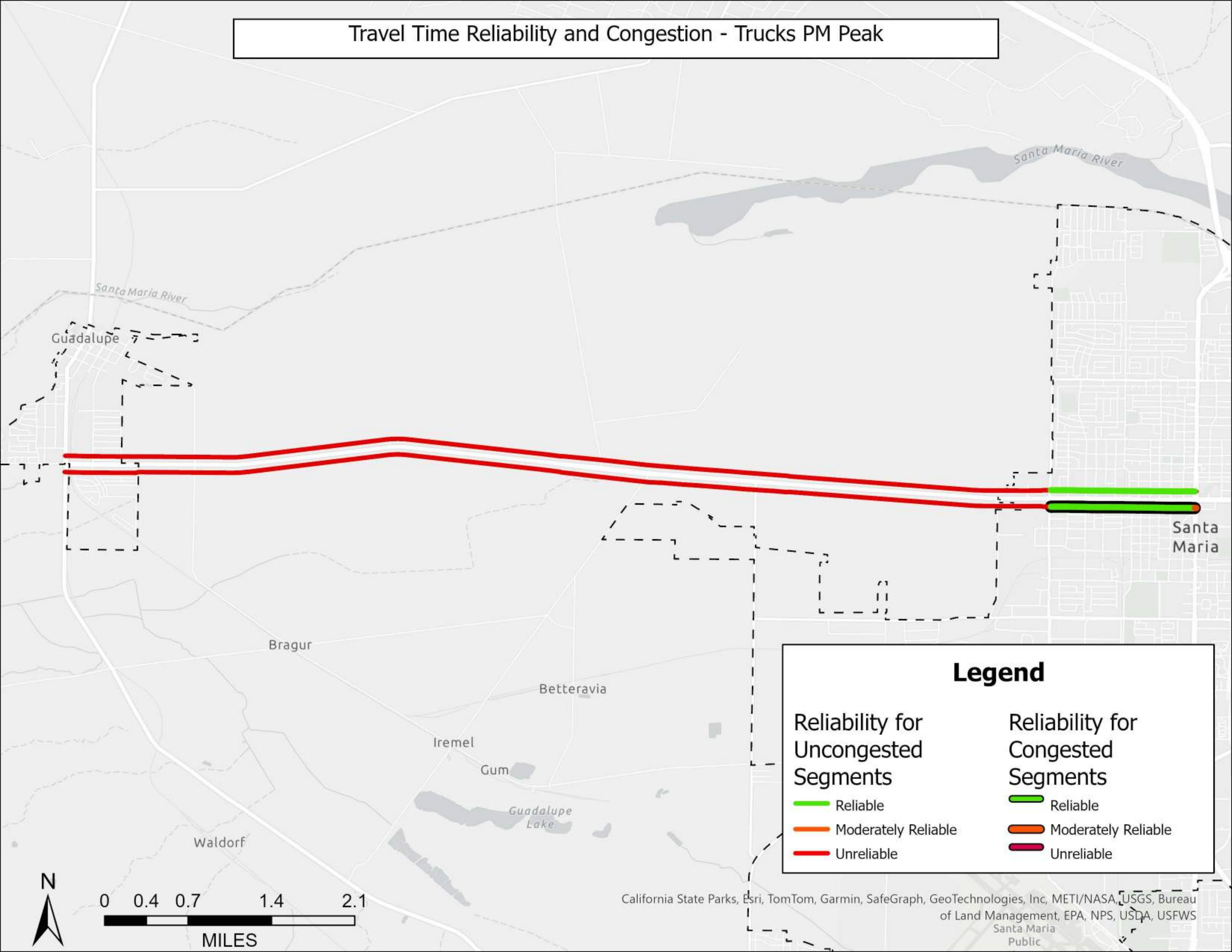
Travel Time Reliability and Congestion - Autos PM Peak



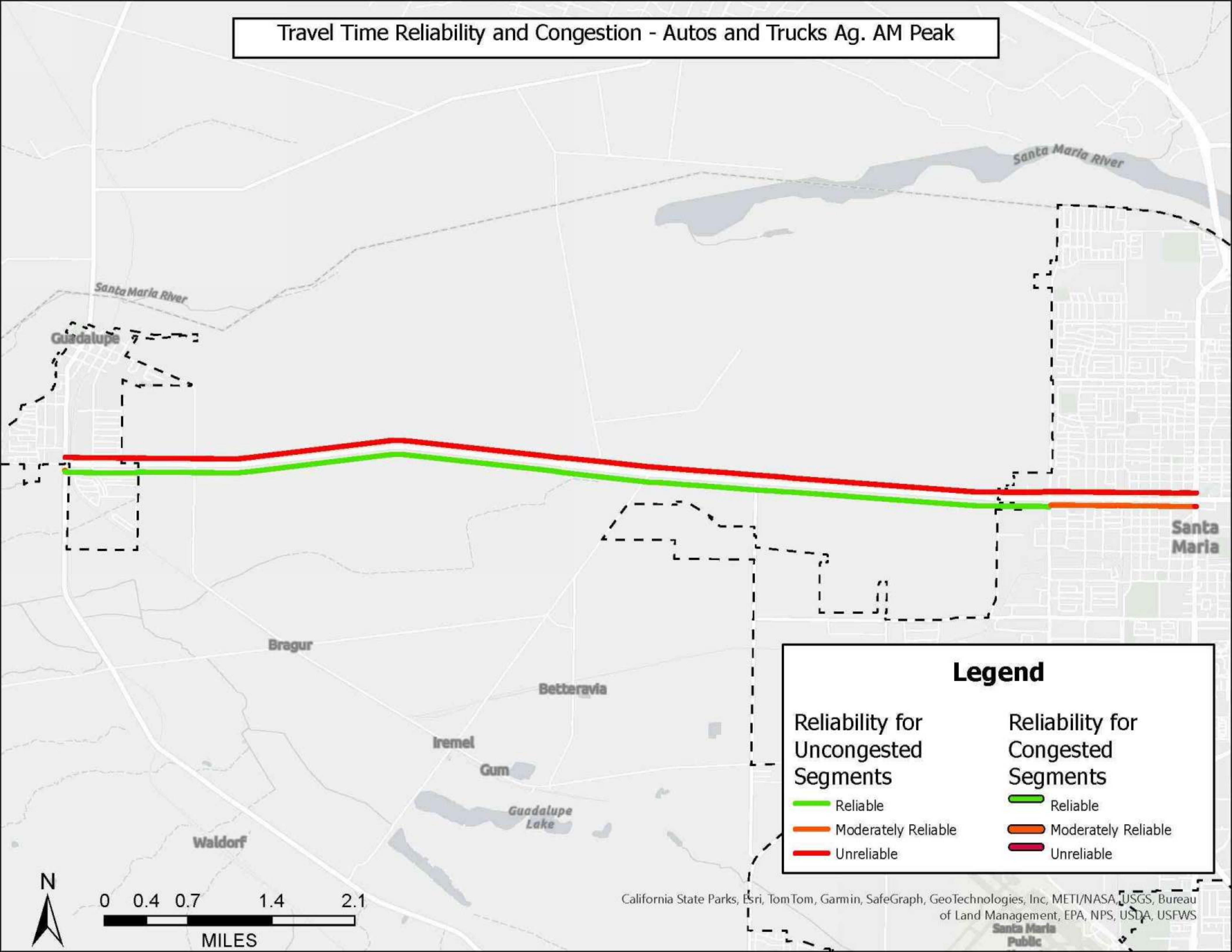


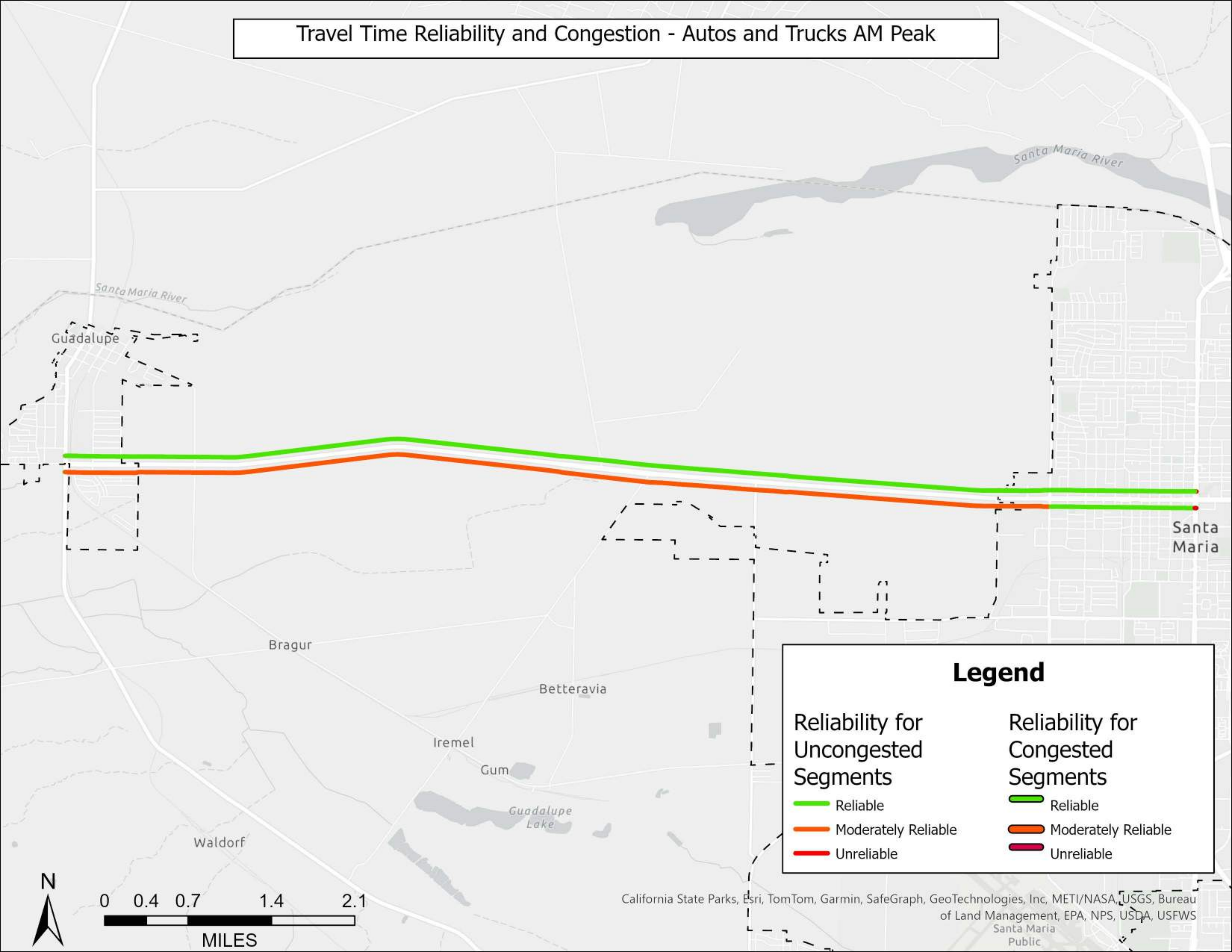
Travel Time Reliability and Congestion - Trucks Ag. AM Peak
Santa Maria River
Santa Maria River
Guadalupe
Santa Maria
Bragur
Betteravia
Iremel
Gum
Guadalupe Lake
Waldorf
Santa Maria Public
Legend
Reliability for Uncongested Segments
Reliable
Moderately Reliable
Unreliable
Reliability for Congested Segments
Reliable
Moderately Reliable
Unreliable
N
0 0.4 0.7 1.4 2.1
MILES
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS


Travel Time Reliability and Congestion - Trucks AM Peak
Santa Maria River
Santa Maria River
Guadalupe
Santa
Maria
Bragur
Betteravia
Iremel
Gum
Guadalupe
Lake
Waldorf
Legend
Reliability for Uncongested Segments
Reliable
Moderately Reliable
Unreliable
Reliability for Congested Segments
Reliable
Moderately Reliable
Unreliable
N
0 0.4 0.7 1.4 2.1
MILES
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS
Santa Maria
Public

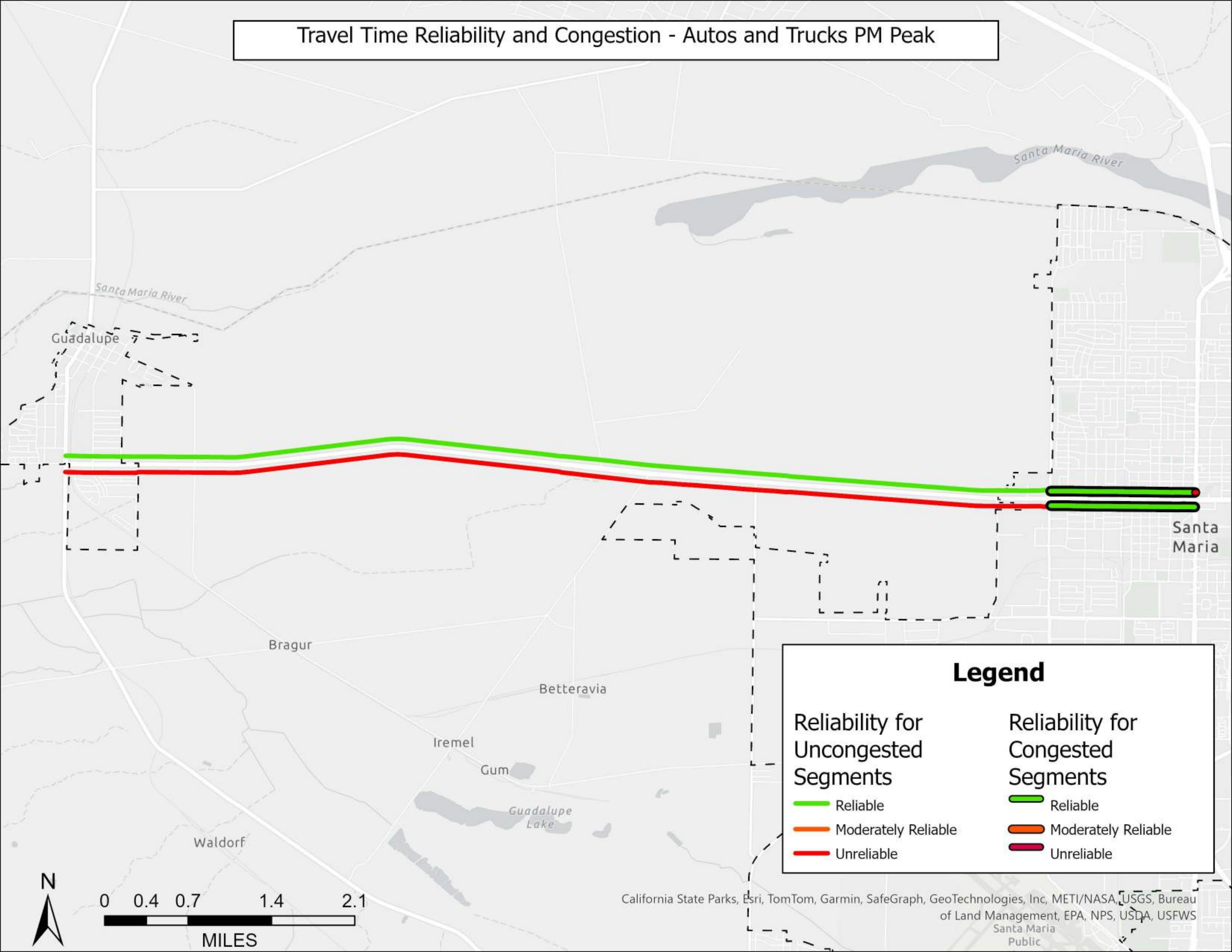


Travel Time Reliability and Congestion - Trucks PM Peak
Santa Maria River
Santa Maria River
Guadalupe
Santa
Maria
Bragur
Betteravia
Iremel
Gum
Guadalupe
Lake
Waldorf
Legend
Reliability for Uncongested Segments
Reliable
Moderately Reliable
Unreliable
Reliability for Congested Segments
Reliable
Moderately Reliable
Unreliable
N
0
0.4
0.7
1.4
2.1
MILES
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS
Santa Maria
Public


Travel Time Reliability and Congestion - Autos and Trucks Ag. AM Peak
Santa Maria River
Santa Maria River
Guadalupe
Santa Maria
Bragur
Betteravia
Iremel
Gum
Guadalupe Lake
Waldorf
Santa Maria Public
Legend
Reliability for Uncongested Segments
Reliable
Moderately Reliable
Unreliable
Reliability for Congested Segments
Reliable
Moderately Reliable
Unreliable
N
0 0.4 0.7 1.4 2.1
MILES
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS



Travel Time Reliability and Congestion - Autos and Trucks AM Peak
Santa Maria River
Santa Maria River
Guadalupe
Santa Maria
Bragur
Betteravia
Iremel
Gum
Guadalupe Lake
Waldorf
Legend
Reliability for Uncongested Segments
Reliable
Moderately Reliable
Unreliable
Reliability for Congested Segments
Reliable
Moderately Reliable
Unreliable
N
0 0.4 0.7 1.4 2.1
MILES
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS
Santa Maria Public



Travel Time Reliability and Congestion - Autos and Trucks PM Peak
Santa Maria River
Santa Maria River
Guadalupe
Santa
Maria
Bragur
Betteravia
Iremel
Gum
Guadalupe
Lake
Waldorf
Legend
Reliability for Uncongested Segments
Reliable
Moderately Reliable
Unreliable
Reliability for Congested Segments
Reliable
Moderately Reliable
Unreliable
N
0 0.4 0.7 1.4 2.1
MILES
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS
Santa Maria
Public

# APPENDIX G. SAFETY DATA AND CRASH RATE CALCULATIONS

# SWITRS STUDY AREA CRASHES

2019 to 2023

| CASE_ID | COLLISION_DATE | PRIMARY_RD | SECONDARY_RD | DISTANCE | DIRECTION | INTERSECTION | WEATHER_1 | COLLISION_SEVERITY | NUMBER_KILLED | NUMBER_INJURED | PRIMARY_COLL_FACTOR | PCF_VIOL_CATEGORY | PCF_VIOLATION | PCF_VIOL_SUBSECTION | TYPE_OF_COLLISION | MVIW | PED_ACTION | ROAD_SURFACE | LIGHTING | CONTROL_DEVICE | PEDESTRIAN_ACCIDENT | BICYCLE_ACCIDENT | MOTORCYCLE_ACCIDENT | TRUCK_ACCIDENT | NOT_PRIVATE_PROPERTY | ALCOHOL_INVOLVED | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81947802 | 12/5/2022 | WESTERN AVE | MAIN ST | 185 | N | N | A | 4 | 0 | 1 | A | 08 | 22107 | | D | C | A | A | A | D | | | | | Y | | 34.952438 | -120.449 |
| 92231303 | 10/27/2023 | SR-166 (W. MAIN STRE | BLACK ROAD | 4224 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.954250 | -120.476 |
| 91399763 | 1/20/2021 | SR-166 (W. MAIN ST.) | SIMAS RD | 2112 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.958930 | -120.527 |
| 81941791 | 11/28/2022 | MAIN ST | MARY DR | 85 | E | N | A | 4 | 0 | 1 | A | 01 | 23152 | A | B | E | A | A | C | D | | | | | Y | Y | 34.953010 | -120.448 |
| 92163652 | 8/28/2023 | SR-166 | BLACK ROAD | 0 | | Y | A | 4 | 0 | 1 | A | 09 | 21802 | A | D | C | A | A | B | A | | | | | Y | | 34.955371 | -120.49 |
| 92247714 | 11/20/2023 | SR-166 (W. MAIN STRE | SIMAS STREET | 7392 | E | N | A | 3 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | B | D | | | | | Y | | 34.959659 | -120.534 |
| 81952638 | 12/6/2022 | MAIN ST | DEPOT ST | 10 | W | N | A | 4 | 0 | 1 | A | 11 | 21955 | | G | B | D | A | D | D | Y | | | | Y | | 34.953388 | -120.444 |
| 91100025 | 10/7/2019 | SR-166 | SIMAS RD | 300 | W | N | E | 4 | 0 | 1 | A | 08 | 22107 | | F | A | A | A | D | D | | | | Y | Y | | 34.957511 | -120.559 |
| 9186868 | 11/7/2020 | BLOSSER RD | MAIN ST | 100 | S | N | A | 4 | 0 | 1 | A | 08 | 21460 | 5 | D | C | A | A | C | D | | | | | Y | Y | 34.953159 | -120.454 |
| 82283540 | 12/19/2023 | BLOSSER RD | MAIN ST | 0 | | Y | C | 3 | 0 | 2 | A | 12 | 21453 | A | D | C | A | B | A | A | | | | | Y | | 34.952548 | -120.453 |
| 81802534 | 5/31/2022 | MAIN ST | HANSON WAY | 60 | E | N | A | 3 | 0 | 2 | A | 09 | 21804 | A | D | C | A | A | B | D | | | | | Y | | 34.953319 | -120.46 |
| 91491902 | 5/29/2021 | SIMAS STREET | RT 166 | 202 | N | N | A | 3 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | A | | | | | Y | | 34.958110 | -120.558 |
| 91307938 | 9/10/2020 | SR-166 | RAY ROAD | 82 | W | N | A | 2 | 0 | 1 | A | 08 | 22107 | | E | J | A | A | B | D | | | Y | | Y | | 34.956478 | -120.503 |
| 81848343 | 8/6/2022 | MAIN ST | RUSSELL AVE | 200 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | A | E | A | A | C | A | | | | | Y | Y | 34.953121 | -120.452 |
| 91248205 | 5/26/2020 | SR-166 W/B | SIMAS RD | 528 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.957431 | -120.556 |
| 9283122 | 6/24/2021 | MAIN ST | BENWILEY AV | 0 | | Y | A | 4 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | A | A | | | | | Y | | 34.953441 | -120.446 |
| 90968003 | 4/11/2019 | SR-166 (MAIN STREET) | BLACK ROAD | 376 | W | N | A | 1 | 1 | 0 | A | 08 | 22107 | | D | C | A | A | A | D | | | | | Y | | 34.955490 | -120.491 |
| 9281458 | 7/15/2021 | MAIN ST | WESTERN AVE | 0 | | Y | A | 4 | 0 | 2 | A | 12 | 21453 | A | D | C | A | A | C | A | | | | | Y | | 34.953048 | -120.449 |
| 91240787 | 5/18/2020 | SR-166 E/B (W. MAIN ST | SIMAS RD | 7075 | E | N | C | 3 | 0 | 1 | A | 08 | 22107 | | F | A | A | B | D | D | | | | | Y | | 34.959529 | -120.535 |
| 9221944 | 2/18/2021 | MAIN ST | BLOSSER RD | 200 | E | N | A | 3 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.953159 | -120.454 |
| 92038264 | 3/26/2023 | SR-166 (W. MAIN STRE | RAY RD | 100 | E | N | A | 3 | 0 | 1 | A | 03 | 22350 | | E | I | A | A | A | D | | | | | Y | | 34.956329 | -120.502 |
| 92048729 | 4/13/2023 | SR-166 (W. MAIN STRE | SIMAS ROAD | 20 | W | N | A | 4 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | C | A | | | | | Y | | 34.957420 | -120.558 |
| 9098976 | 4/6/2020 | MAIN ST | OAKLEY AV | 100 | E | N | C | 4 | 0 | 1 | A | 11 | 21954 | A | G | B | E | B | C | D | Y | | | | Y | Y | 34.95349 | -120.447 |
| 9106848 | 5/25/2020 | MAIN ST | BLOSSER RD | 0 | | Y | A | 4 | 0 | 1 | A | 21 | 22106 | | C | C | A | A | A | A | | | | | Y | | 34.952548 | -120.453 |
| 82065570 | 4/24/2023 | MAIN ST | BLOSSER RD | 0 | | Y | A | 2 | 0 | 1 | D | 00 | | | D | C | A | A | C | A | | | | | Y | | 34.952548 | -120.453 |
| 82121530 | 6/25/2023 | BLOSSER RD | CHURCH ST | 205 | N | N | A | 3 | 0 | 1 | A | 09 | 21804 | A | D | C | A | A | A | D | | | | | Y | | 34.951919 | -120.454 |
| 92233743 | 11/6/2023 | SR-166 (W. MAIN STRE | RAY ROAD | 0 | | Y | B | 3 | 0 | 1 | A | 09 | 21802 | A | D | C | A | A | A | A | | | | Y | Y | | 34.956241 | -120.503 |
| 9186926 | 11/19/2020 | MAIN ST | KATHLEEN CT | 98 | W | N | A | 3 | 0 | 1 | A | 08 | 22100 | | D | C | A | A | C | D | | | | | Y | | 34.953269 | -120.456 |
| 91108416 | 10/21/2019 | SR-166 E/B | BLACK ROAD | 70 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.955310 | -120.489 |
| 81858626 | 8/18/2022 | MAIN ST | BLOSSER RD | 8 | N | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.953159 | -120.454 |
| 91021857 | 6/21/2019 | SR-166 | HANSON WAY | 300 | E | N | A | 3 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.953208 | -120.462 |
| 91822149 | 7/14/2022 | SR-166 | RAY RD | 0 | | Y | A | 3 | 0 | 1 | A | 09 | 21802 | A | D | C | A | A | A | D | | | | | Y | | 34.956378 | -120.503 |
| 9212582 | 12/28/2020 | MAIN ST | DEPOT ST | 15 | E | N | C | 4 | 0 | 1 | A | 03 | 22350 | | C | E | A | B | A | A | | | | | Y | | 34.953388 | -120.444 |
| 9201848 | 12/20/2020 | MAIN ST | DEPOT ST | 30 | W | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | A | | | | | Y | | 34.95227 | -120.444 |
| 9108160 | 5/17/2020 | WESTERN AV | MAIN ST | 0 | | Y | A | 4 | 0 | 1 | A | 12 | 21453 | A | D | C | A | A | A | A | | | | | Y | | 34.953048 | -120.449 |
| 9132843 | 7/26/2020 | MAIN ST | WESTERN AV | 0 | | Y | A | 4 | 0 | 1 | A | 12 | 21453 | A | D | C | A | A | A | A | | | | | Y | | 34.952438 | -120.449 |
| 91790177 | 5/28/2022 | SR-166 (W. MAIN STRE | HANSON WAY | 950 | W | N | A | 4 | 0 | 1 | A | 08 | 22107 | | E | I | A | A | A | D | | | | | Y | | 34.953308 | -120.463 |
| 91257542 | 6/18/2020 | SR-166 | BONITA SCHOOL | 5280 | W | N | A | 2 | 0 | 3 | A | 09 | 21804 | A | D | C | A | A | A | D | | | | | Y | | 34.959018 | -120.527 |
| 8949952 | 9/13/2019 | MAIN ST | BENWLEY AV | 0 | | Y | A | 3 | 0 | 1 | A | 12 | 22450 | A | D | G | A | A | A | A | | Y | | | Y | Y | 34.952331 | -120.445 |
| 81754980 | 4/2/2022 | MAIN ST | BLOSSER RD | 150 | E | N | A | 4 | 0 | 1 | A | 07 | 21658 | A | B | C | A | A | A | D | | | | | Y | | 34.953159 | -120.454 |
| 91489068 | 5/24/2021 | SR-166 | BLACK ROAD | 3168 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.954479 | -120.479 |

| CASE_ID | COLLISION_DATE | PRIMARY_RD | SECONDARY_RD | DISTANCE | DIRECTION | INTERSECTION | WEATHER_1 | COLLISION_SEVERITY | NUMBER_KILLED | NUMBER_INJURED | PRIMARY_COLL_FACTOR | PCF_VIOL_CATEGORY | PCF_VIOLATION | PCF_VIOL_SUBSECTION | TYPE_OF_COLLISION | MVIW | PED_ACTION | ROAD_SURFACE | LIGHTING | CONTROL_DEVICE | PEDESTRIAN_ACCIDENT | BICYCLE_ACCIDENT | MOTORCYCLE_ACCIDENT | TRUCK_ACCIDENT | NOT_PRIVATE_PROPERTY | ALCOHOL_INVOLVED | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92333314 | 12/25/2023 | SR-166 (W. MAIN STRE | SIMAS ROAD | 7219 | E | N | A | 1 | 1 | 1 | A | 01 | 23152 | A | A | C | A | A | D | D | | | | | Y | Y | 34.959640 | -120.534 |
| 9226639 | 2/14/2021 | MAIN ST | DEPOT ST | 0 | | Y | A | 4 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | B | A | | | | | Y | | 34.95227 | -120.444 |
| 9380156 | 1/27/2022 | MAIN ST | BLOSSER RD | 0 | | Y | A | 4 | 0 | 1 | A | 01 | 23152 | A | D | C | A | A | C | A | | | | | Y | Y | 34.953159 | -120.454 |
| 9341894 | 10/1/2021 | MAIN ST | WESTERN AV | 0 | | Y | B | 4 | 0 | 1 | A | 12 | 21453 | A | D | C | A | A | C | A | | | | | Y | | 34.953048 | -120.449 |
| 91753455 | 4/15/2022 | SR-166 | BLACK RD. | 500 | E | N | A | 3 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.955131 | -120.485 |
| 91543551 | 8/6/2021 | SR 166 (W. MAIN STRE | BLACK ROAD | 2112 | E | N | A | 4 | 0 | 1 | A | 09 | 21804 | A | D | C | A | A | A | D | | | | | Y | | 34.954811 | -120.481 |
| 9071356 | 6/17/2020 | MAIN ST | OAKLEY AV | 75 | W | N | A | 2 | 0 | 1 | A | 11 | 21954 | A | G | B | D | A | C | A | Y | | | | Y | Y | 34.953399 | -120.447 |
| 9185770 | 11/3/2020 | MAIN ST | WESTERN AV | 10 | W | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | A | | | | | Y | | 34.952438 | -120.449 |
| 91090984 | 10/1/2019 | SR-166 | BLACK ROAD | 2112 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.954650 | -120.482 |
| 8875210 | 5/28/2019 | BLOSSER RD | MAIN ST | 100 | N | N | A | 2 | 0 | 3 | A | 09 | 21804 | A | D | C | A | A | A | D | | | | | Y | Y | 34.952548 | -120.453 |
| 9283195 | 6/23/2021 | MAIN ST | BLOSSER RD | 300 | W | N | A | 4 | 0 | 1 | A | 09 | 21804 | A | D | C | A | A | A | D | | | | | Y | | 34.953159 | -120.454 |
| 91594006 | 10/5/2021 | SR-166 | RAY RD | 2112 | E | N | A | 3 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.955890 | -120.496 |
| 9136778 | 9/2/2020 | MA RD | WESTERN AV | 50 | W | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.953048 | -120.449 |
| 9192438 | 12/10/2020 | MAIN ST | BENWILEY AV | 128 | W | N | A | 4 | 0 | 3 | A | 08 | 22102 | | D | C | A | - | A | D | | | | | Y | | 34.952331 | -120.445 |
| 91627510 | 11/8/2021 | SR-166 (GUADALUPE O | BONITA SCHOOL | 630 | W | N | A | 3 | 0 | 2 | A | 08 | 22107 | | D | C | A | A | A | D | | | | | Y | | 34.957229 | -120.511 |
| 91875625 | 9/27/2022 | SR-166 (W. MAIN STRE | BLACK RD | 3960 | E | N | A | 2 | 0 | 1 | A | 08 | 22107 | | E | I | A | B | D | D | | | | | Y | | 34.954448 | -120.476 |
| 92096760 | 6/12/2023 | SR-166 | RAY RD | 528 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.956138 | -120.501 |
| 81975394 | 12/25/2022 | MAIN ST | RUSSELL AVE | 20 | N | N | A | 4 | 0 | 1 | A | 12 | 21453 | A | D | C | A | A | C | A | | | | | Y | | 34.952510 | -120.451 |
| 82242464 | 11/2/2023 | MAIN ST | RUSSELL AVE | 0 | | Y | A | 4 | 0 | 1 | A | 10 | 21950 | A | G | B | B | A | A | A | Y | | | | Y | | 34.952510 | -120.451 |
| 91229047 | 4/17/2020 | SR-166 (W. MAIN STRE | BONITA SCHOOL | 5280 | W | N | A | 4 | 0 | 1 | A | 09 | 21801 | A | D | C | A | A | B | D | | | | | Y | | 34.958889 | -120.526 |
| 9287478 | 6/25/2021 | MAIN ST | WESTERN AV | 360 | W | N | A | 3 | 0 | 1 | - | 00 | | | D | G | A | A | A | D | | Y | | | Y | | 34.953048 | -120.449 |
| 9098978 | 4/5/2020 | BLOSSER RD | MAIN ST | 25 | S | N | C | 4 | 0 | 1 | A | 01 | 23152 | A | C | C | A | B | C | A | | | | | Y | Y | 34.953159 | -120.454 |
| 9076663 | 3/15/2020 | MAIN ST | DEPOT ST | 0 | | Y | A | 4 | 0 | 2 | A | 01 | 23152 | A | D | C | A | A | C | A | | | | | Y | Y | 34.95227 | -120.444 |
| 81785556 | 5/8/2022 | MAIN ST | BENWILEY AVE | 0 | | Y | A | 3 | 0 | 2 | A | 01 | 23152 | A | D | C | A | A | B | D | | | | | Y | Y | 34.953441 | -120.446 |
| 8955453 | 9/13/2019 | MAIN ST | KATHLEEN CT | 350 | W | N | A | 4 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | A | A | | | | | Y | | 34.952659 | -120.456 |
| 91185395 | 2/4/2020 | RT 166 | BONITA SCHOOL | 398 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.956848 | -120.507 |
| 9280476 | 6/9/2021 | MAIN ST | BLOSSER RD | 0 | | Y | A | 4 | 0 | 1 | A | 12 | 21453 | A | H | G | A | A | A | A | | Y | | | Y | | 34.953159 | -120.454 |
| 9192106 | 11/20/2020 | MAIN ST | BLOSSER RD | 750 | W | N | A | 4 | 0 | 1 | A | 01 | 23152 | A | C | C | A | A | A | D | | | | | Y | | 34.953159 | -120.454 |
| 81934836 | 11/18/2022 | MAIN ST | BLOSSER RD | 0 | | Y | A | 4 | 0 | 3 | A | 12 | 21453 | A | D | C | A | A | C | A | | | | | Y | | 34.952548 | -120.453 |
| 91655215 | 12/8/2021 | SR-166 | SIMAS RD | 144 | W | N | E | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | B | A | A | | | | | Y | | 34.957359 | -120.559 |
| 82000947 | 2/7/2023 | MAIN ST | BLOSSER RD | 0 | | Y | A | 3 | 0 | 1 | A | 10 | 21950 | A | G | B | B | A | B | A | Y | | | | Y | | 34.953159 | -120.454 |
| 92041929 | 1/7/2023 | SR-166 (WEST MAIN ST | BLACK ROAD | 23 | E | N | A | 1 | 1 | 1 | A | 01 | 23152 | A | E | 8 | A | A | C | D | | | | | Y | Y | 39.955211 | -120.49 |
| 91372587 | 12/10/2020 | SR-166 | HANSON WAY | 528 | W | N | A | 4 | 0 | 1 | A | 03 | 22350 | | B | C | A | A | A | D | | | | Y | Y | | 34.953601 | -120.465 |
| 91619084 | 11/2/2021 | SR-166 (W. MAIN STRE | BONITA SCHOOL | 2376 | W | N | A | 3 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.960250 | -120.51 |
| 8834343 | 3/29/2019 | HANSON WY | MAIN ST | 106 | S | N | A | 3 | 0 | 1 | A | 03 | 22350 | | F | J | A | A | A | A | | | Y | | Y | | 34.953319 | -120.46 |
| 9163929 | 9/12/2020 | MAIN ST | BLOSSER RD | 30 | E | N | A | 4 | 0 | 2 | A | 21 | 22106 | | C | C | A | A | C | A | | | | | Y | | 34.963161 | -120.454 |
| 9271443 | 5/19/2021 | MAIN ST | BLOSSER RD | 50 | W | N | A | 4 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | A | A | | | | | Y | Y | 34.953159 | -120.454 |
| 9363097 | 10/31/2021 | BLOSSER RD | MAIN ST | 18 | N | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | C | A | | | | | Y | | 34.952548 | -120.453 |
| 81900612 | 10/10/2022 | DEPOT ST | MAIN ST | 125 | N | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | B | D | | | | | Y | | 34.953388 | -120.444 |
| 91238349 | 5/14/2020 | SR-166 | BLACK ROAD | 3168 | E | N | A | 4 | 0 | 1 | C | 18 | | | E | I | A | A | A | D | | | | | Y | | 34.954498 | -120.478 |
| 91631305 | 11/12/2021 | SR-166 (W. MAIN STRE | HANSON WAY | 291 | W | N | A | 4 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.953289 | -120.461 |

SWITRS STUDY AREA CRASHES

2019 to 2023

| CASE_ID | COLLISION_DATE | PRIMARY_RD | SECONDARY_RD | DISTANCE | DIRECTION | INTERSECTION | WEATHER_1 | COLLISION_SEVERITY | NUMBER_KILLED | NUMBER_INJURED | PRIMARY_COLL_FACTOR | PCF_VIOL_CATEGORY | PCF_VIOLATION | PCF_VIOL_SUBSECTION | TYPE_OF_COLLISION | MVIW | PED_ACTION | ROAD_SURFACE | LIGHTING | CONTROL_DEVICE | PEDESTRIAN_ACCIDENT | BICYCLE_ACCIDENT | MOTORCYCLE_ACCIDENT | TRUCK_ACCIDENT | NOT_PRIVATE_PROPERTY | ALCOHOL_INVOLVED | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8890632 | 6/21/2019 | DEPOT ST | CHURCH ST | 190 | N | N | A | 4 | 0 | 2 | A | 09 | 21804 | A | D | C | A | A | A | A | | | | | Y | | 34.952251 | -120.444 |
| 82127260 | 6/15/2023 | WESTERN AVE | MAIN ST | 100 | S | N | A | 4 | 0 | 1 | A | 09 | 21804 | A | D | C | A | A | A | D | | | | | Y | | 34.952438 | -120.449 |
| 91013945 | 6/11/2019 | SR-166 E/B | BLACK RD | 2112 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.954700 | -120.482 |
| 92264780 | 12/13/2023 | SR-166 | RAY ROAD | 1003 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.956069 | -120.499 |
| 8813823 | 1/16/2019 | MAIN ST | WESTERN AV | 150 | W | N | A | 3 | 0 | 1 | A | 08 | 22107 | | E | J | A | A | A | D | | | | | Y | | | |
| 91889456 | 10/3/2022 | SR-166 (W. MAIN STRE | BONITA SCHOOL | 3432 | W | N | A | 3 | 0 | 7 | A | 01 | 23152 | A | A | C | A | A | D | D | | | Y | Y | Y | Y | 34.958240 | -120.52 |
| 91783971 | 5/25/2022 | SR-166 (W. MAIN STRE | SIMAS STREET | 0 | | Y | A | 4 | 0 | 2 | A | 09 | 21802 | A | D | C | A | A | A | A | | | | Y | Y | | 34.957469 | -120.558 |
| 9429297 | 2/13/2022 | WEST MAIN ST | OBISPO ST | 0 | | N | E | 4 | 0 | 2 | A | 04 | 21703 | | C | C | A | A | D | D | | | | | Y | | | |
| 9325817 | 9/13/2021 | MAIN ST | DEPOT ST | 15 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | D | D | | | | | Y | | 34.95227 | -120.444 |
| 8988857 | 11/26/2019 | MAIN ST | BLOSSER RD | 0 | | Y | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | C | D | | | | Y | Y | | 34.952548 | -120.453 |
| 91943660 | 12/5/2022 | SR-166 (W. MAIN STRE | SIMAS ROAD | 5280 | E | N | A | 3 | 0 | 1 | A | 08 | 22107 | | D | C | A | A | A | D | | | | Y | Y | | 34.955978 | -120.498 |
| 81750870 | 4/2/2022 | BLOSSER RD | MAIN ST | 136 | S | N | A | 4 | 0 | 1 | A | 09 | 21804 | A | A | C | A | A | A | D | | | | | Y | | 34.953159 | -120.454 |
| 81777208 | 4/27/2022 | MAIN ST | RUSSELL AVE | 0 | | Y | A | 4 | 0 | 1 | A | 12 | 21453 | A | D | C | A | A | A | A | | | Y | | Y | | 34.953121 | -120.452 |
| 81926188 | 11/2/2022 | BLOSSER RD | MAIN ST | 0 | | Y | A | 4 | 0 | 2 | A | 12 | 21453 | A | D | C | A | A | C | A | | | | | Y | | 34.953159 | -120.454 |
| 82048310 | 3/26/2023 | MAIN ST | DEPOT ST | 100 | W | N | A | 3 | 0 | 1 | A | 01 | 23152 | A | C | C | A | A | C | A | | | | | Y | Y | 34.953388 | -120.444 |
| 82079869 | 5/9/2023 | BLOSSER RD | MAIN ST | 30 | S | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | A | | | | Y | Y | | 34.952548 | -120.453 |
| 8813896 | 2/3/2019 | WEST MAIN ST | OBISPO ST | 0 | | - | B | 4 | 0 | 1 | B | 22 | | | C | D | A | B | A | A | | | | | Y | | | |
| 8925931 | 8/16/2019 | OBISPO ST | OBISPO ST 100 | 0 | | Y | E | 4 | 0 | 1 | A | 08 | 22107 | | C | E | A | D | C | - | | | | | Y | | | |
| 8927603 | 8/12/2019 | MAIN ST | RAILROAD AV | 0 | | Y | A | 4 | 0 | 1 | A | 01 | 23152 | A | C | C | A | A | A | A | | | | | Y | Y | 34.952301 | -120.445 |
| 8932139 | 8/29/2019 | MAIN ST | DEPOT ST | 20 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | A | | | | | Y | | 34.953388 | -120.444 |
| 8949956 | 9/13/2019 | MAIN ST | HANSON WY | 0 | | Y | A | 3 | 0 | 1 | A | 09 | 21801 | A | D | C | A | A | B | D | | | | Y | Y | | 34.953319 | -120.46 |
| 8964413 | 10/3/2019 | RT 166 | OBISPO ST | 0 | | - | A | 3 | 0 | 3 | A | 09 | 21804 | | D | C | A | A | A | A | | | | | Y | | | |
| 9049153 | 1/22/2020 | MAIN ST | RUSSELL AV | 0 | | Y | B | 4 | 0 | 1 | A | 12 | 21453 | A | D | C | A | A | A | A | | | | | Y | | 34.953098 | -120.452 |
| 90969012 | 4/9/2019 | SR-166 | SIMAS RD | 1637 | E | N | G | 3 | 0 | 1 | A | 01 | 23152 | A | F | A | A | A | A | D | | | | | Y | Y | 34.957309 | -120.553 |
| 90989026 | 5/6/2019 | SR-166 | BLACK ROAD | 30 | W | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | A | | | | Y | Y | | 34.955348 | -120.49 |
| 91036347 | 7/18/2019 | SR-166 (WEST MAIN ST | SIMAS ROAD | 0 | | Y | A | 4 | 0 | 1 | D | 00 | | | D | C | A | A | A | A | | | | | Y | | 34.957389 | -120.558 |
| 91048525 | 8/7/2019 | SR-166 (MAIN STREET) | BLACK ROAD | 2640 | E | N | E | 3 | 0 | 2 | A | 08 | 22107 | | E | I | A | A | B | D | | | | | Y | | 34.954471 | -120.481 |
| 91061892 | 8/19/2019 | SR-166 | SIMAS RD | 3168 | E | N | A | 4 | 0 | 1 | A | 08 | 22107 | | E | I | A | A | A | D | | | | | Y | | 34.957401 | -120.553 |
| 91093711 | 9/29/2019 | SR-166 | SIMAS RD | 3100 | E | N | A | 2 | 0 | 1 | A | 01 | 23152 | G | E | I | A | A | D | D | | | | | Y | Y | 34.957950 | -120.547 |
| 91199827 | 2/16/2020 | SR-166 | RAY RD | 1056 | E | N | A | 3 | 0 | 1 | A | 01 | 23152 | A | E | I | A | A | D | D | | | | | Y | Y | 34.956100 | -120.5 |
| 91241700 | 5/18/2020 | SIMAS RD | SR-166 | 103 | N | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | A | | | | | Y | | 34.957740 | -120.558 |
| 91243841 | 5/23/2020 | SR-166 | BLACK RD | 1584 | E | N | A | 4 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.954849 | -120.484 |
| 91248388 | 5/25/2020 | SR-166 | HANSON ST | 0 | | N | A | 4 | 0 | 1 | A | 08 | 22107 | | D | C | A | A | A | D | | | | | Y | | 34.953430 | -120.465 |
| 91265607 | 6/5/2020 | SR-166 (MAIN STREET) | BLACK ROAD | 1900 | W | N | B | 1 | 2 | 4 | A | 08 | 22107 | | A | C | A | A | A | D | | | | | Y | | 34.955841 | -120.497 |
| 91273243 | 7/21/2020 | SR-166 | BLACK RD | 4800 | E | N | B | 4 | 0 | 3 | A | 01 | 23152 | A | C | C | A | A | D | D | | | | | Y | Y | 34.954189 | -120.474 |
| 9128382 | 6/19/2020 | WEST MAIN ST | N WESTERN | 5 | W | N | A | 4 | 0 | 1 | A | 12 | 21453 | A | D | C | A | A | A | A | | | | | Y | | | |
| 91304437 | 9/10/2020 | SR-166 | BLACK ROAD | 135 | E | N | B | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.955341 | -120.489 |
| 91316068 | 9/28/2020 | SR-166 | BLACK RD | 2640 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.954410 | -120.478 |
| 91347053 | 11/6/2020 | SR-166 | BONITA SCHOOL | 2112 | W | N | A | 2 | 0 | 5 | A | 03 | 22350 | | C | C | A | A | B | D | | | | | Y | | 34.957790 | -120.516 |
| 9143792 | 8/8/2020 | DEPOT ST | CHAPEL ST | 125 | S | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | C | D | | | | | Y | | 34.954521 | -120.444 |
| 91485642 | 5/20/2021 | RT 166 | BLACK ROAD | 2640 | E | N | A | 3 | 0 | 1 | A | 09 | 21804 | A | D | C | A | A | D | D | | | | | Y | | 34.954799 | -120.482 |

SWITRS STUDY AREA CRASHES

2019 to 2023

| CASE_ID | COLLISION_DATE | PRIMARY_RD | SECONDARY_RD | DISTANCE | DIRECTION | INTERSECTION | WEATHER_1 | COLLISION_SEVERITY | NUMBER_KILLED | NUMBER_INJURED | PRIMARY_COLL_FACTOR | PCF_VIOL_CATEGORY | PCF_VIOLATION | PCF_VIOL_SUBSECTION | TYPE_OF_COLLISION | MVIW | PED_ACTION | ROAD_SURFACE | LIGHTING | CONTROL_DEVICE | PEDESTRIAN_ACCIDENT | BICYCLE_ACCIDENT | MOTORCYCLE_ACCIDENT | TRUCK_ACCIDENT | NOT_PRIVATE_PROPERTY | ALCOHOL_INVOLVED | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 91546181 | 8/8/2021 | SR-166 (W. MAIN STRE | BONITA SCHOOL | 8237 | W | N | A | 3 | 0 | 1 | A | 08 | 22107 | | E | I | A | A | D | D | | | | | Y | | 34.95923 | -120.536 |
| 91595647 | 10/5/2021 | SR-166 | SIMAS STREET | 1579 | E | N | A | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | D | D | | | | | Y | | 34.957359 | -120.553 |
| 91619027 | 11/2/2021 | SR-166 (W. MAIN STRE | BLACK ROAD | 1000 | W | N | E | 3 | 0 | 1 | A | 05 | 21460 | A | B | C | A | A | D | D | | | | | Y | | 34.955551 | -120.493 |
| 91650724 | 12/1/2021 | SR-166 | BONITA SCHOOL | 5280 | W | N | E | 3 | 0 | 1 | A | 09 | 21804 | A | D | C | A | A | D | D | | | | | Y | | 34.959339 | -120.527 |
| 91673378 | 12/31/2021 | SR-166 | BONITA SCHOOL | 0 | | Y | A | 4 | 0 | 1 | D | 00 | | | D | C | A | A | A | A | | | | | Y | | 34.956981 | -120.508 |
| 91703131 | 2/10/2022 | SR-166 (W. MAIN STRE | HANSON WAY | 600 | W | N | A | 3 | 0 | 1 | A | 08 | 22107 | | E | I | A | A | A | D | | | | | Y | | 34.954071 | -120.47 |
| 91741393 | 3/24/2022 | SR-166 | SIMAS ROAD | 100 | E | N | A | 4 | 0 | 1 | A | 01 | 23152 | A | C | C | A | A | C | A | | | | | Y | Y | 34.957458 | -120.558 |
| 91873666 | 9/19/2022 | SR-166 | BONITA SCHOOL | 5280 | W | N | B | 4 | 0 | 2 | A | 03 | 22350 | | C | C | A | B | A | D | | | | | Y | | 34.958980 | -120.526 |
| 9199693 | 11/21/2020 | MAIN ST | DEPOT ST | 0 | | Y | A | 3 | 0 | 1 | A | 12 | 21453 | A | D | C | A | A | A | A | | | Y | | Y | | 34.95227 | -120.444 |
| 92064174 | 4/27/2023 | SR-166 (W. MAIN STRE | SIMAS ROAD | 30 | W | N | B | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | A | | | | | Y | | 34.957420 | -120.558 |
| 92171412 | 9/11/2023 | SR-166 WESTBOUND | BLACK ROAD | 1874 | E | N | B | 3 | 0 | 1 | A | 08 | 22107 | | F | A | A | A | A | D | | | | | Y | | 34.955001 | -120.482 |
| 92209286 | 10/24/2023 | SR-166 (W. MAIN STRE | SIMAS ROAD | 250 | W | N | B | 4 | 0 | 1 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.957431 | -120.559 |
| 92230286 | 11/7/2023 | SR-166 | HANSON WAY | 2112 | W | N | B | 3 | 0 | 1 | A | 09 | 21801 | A | D | C | A | A | A | D | | | | | Y | | 34.953731 | -120.467 |
| 9231889 | 4/4/2021 | MAIN ST | WESTERN AV | 182 | W | N | A | 4 | 0 | 1 | A | 09 | 21804 | A | A | C | A | A | A | D | | | | | Y | | 34.953048 | -120.449 |
| 9243642 | 3/27/2021 | BLOSSER RD | MAIN ST | 0 | | Y | A | 4 | 0 | 1 | A | 01 | 23152 | A | A | C | A | A | C | A | | | | | Y | Y | 34.952548 | -120.453 |
| 9263100 | 5/1/2021 | MARY DR | MAIN ST | 0 | | Y | A | 3 | 0 | 3 | A | 03 | 22350 | | D | C | A | A | A | A | | | | | Y | | 34.953010 | -120.448 |
| 9287738 | 7/1/2021 | OBISPO ST | WEST MAIN ST | 0 | | Y | A | 4 | 0 | 2 | A | 09 | 21802 | A | D | D | A | A | A | D | | | | | Y | | | |
| 9288503 | 6/19/2021 | MAIN ST | DEPOT ST | 170 | E | N | A | 4 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | A | D | | | | | Y | | 34.95227 | -120.444 |
| 9295649 | 7/13/2021 | MAIN ST | RAILROAD AV | 0 | | Y | A | 4 | 0 | 2 | A | 03 | 22350 | | C | C | A | A | A | A | | | | | Y | | 34.952301 | -120.445 |
| 9355638 | 10/6/2021 | MAIN ST | DEPOT ST | 0 | | Y | A | 4 | 0 | 1 | A | 12 | 21453 | A | D | C | A | A | A | A | | | | | Y | | 34.953388 | -120.444 |
| 9366996 | 10/25/2021 | MAIN ST | HANSON WY | 0 | | Y | A | 4 | 0 | 1 | A | 01 | 23152 | A | D | C | A | A | C | D | | | | | Y | Y | 34.952709 | -120.46 |
| 9379038 | 11/10/2021 | MAIN ST | WESTERN AV | 0 | | Y | A | 4 | 0 | 1 | A | 10 | 21950 | A | G | B | B | A | A | A | Y | | | | Y | | 34.952438 | -120.449 |
| 9404645 | 1/21/2022 | MAIN ST | KATHLEEN CT | 80 | W | N | A | 4 | 0 | 2 | A | 09 | 21802 | A | D | C | A | A | A | D | | | | | Y | | 34.952659 | -120.456 |
| 9407274 | 2/8/2022 | WEST MAIN ST | OBISPO ST | 0 | | - | A | 3 | 0 | 1 | A | 04 | 21703 | | C | C | A | A | A | D | | | | | Y | | | |

# APPENDIX H: ROAD SAFETY AUDIT

DKS 428 J STREET, SUITE 340 • SACRAMENTO, CA 95814 • 916.368.2000 • DKSASSOCIATES.COM

# SBCAG SR 166 CCP ROAD SAFETY AUDIT SUMMARY

DATE: November 6, 2024

TO: Maya Kulkarni | Santa Barbara County Association of Governments

FROM: Josh Pilachowski | DKS Associates

Sylinda Villado | DKS Associates

SUBJECT: SBCAG SR 166 Comprehensive Corridor Study RSA Project #24667-000

## INTRODUCTION

On September 16, 2024, DKS Associates led a road safety audit (RSA) along SR 166 in Santa Barbara County. The study roadway is approximately 6.6 miles along. SR 166 between Guadalupe and Santa Maria from Obispo Street to Blosser Road[1]. The study roadway was analyzed in seven intersections, each of which will be discussed in its own section.

### WHAT IS A ROAD SAFETY AUDIT (RSA)?

An RSA is a formal safety performance examination of a roadway. An RSA is a multi-stakeholder, comprehensive effort to identify safety and mobility deficiencies and generate a list of improvements, and insights. A complete list of agencies and stakeholders represented by the RSA attendees is included in **Table 1**. The RSA group brough unique backgrounds and perspectives to roadway performance, collision history, safety concerns, and potential improvements. Additionally, the Federal Highway Administration (FHWA) has identified RSAs as a safety countermeasure.

[1] The SR 166 Comprehensive Corridor Study as a whole is approximately 7.4 miles in length from the SR 166 juncture with SR 1 in the City of Guadalupe to Depot Street in the City of Santa Maria.

**TABLE 1. SR 166 RSA ATTENDEES**

| NAME | ORGANIZATION |
|---|---|
| MAYA KULKARNI<br>FRED LUNA | Santa Barbara County Association of Governments |
| MARK MUELLER | City of Santa Maria – Public Works Department |
| EVE SANFORD | Santa Barbara County – Public Works |
| SEAN KELLY | California Highway Patrol – Santa Maria |
| FINN JAMES | Caltrans – District 5 |
| JEFF VAN DEN EIKHOF | Eik Hof Design |
| BRIAN WRIGHT | Psomas |
| JOSH PILACHOWSKI<br>SYLINDA VILLADO | DKS Associates |

## WHAT IS THE RSA PROCESS?

**Figure 1** illustrates the RSA process steps consistent with FHWA RSA Guidelines.

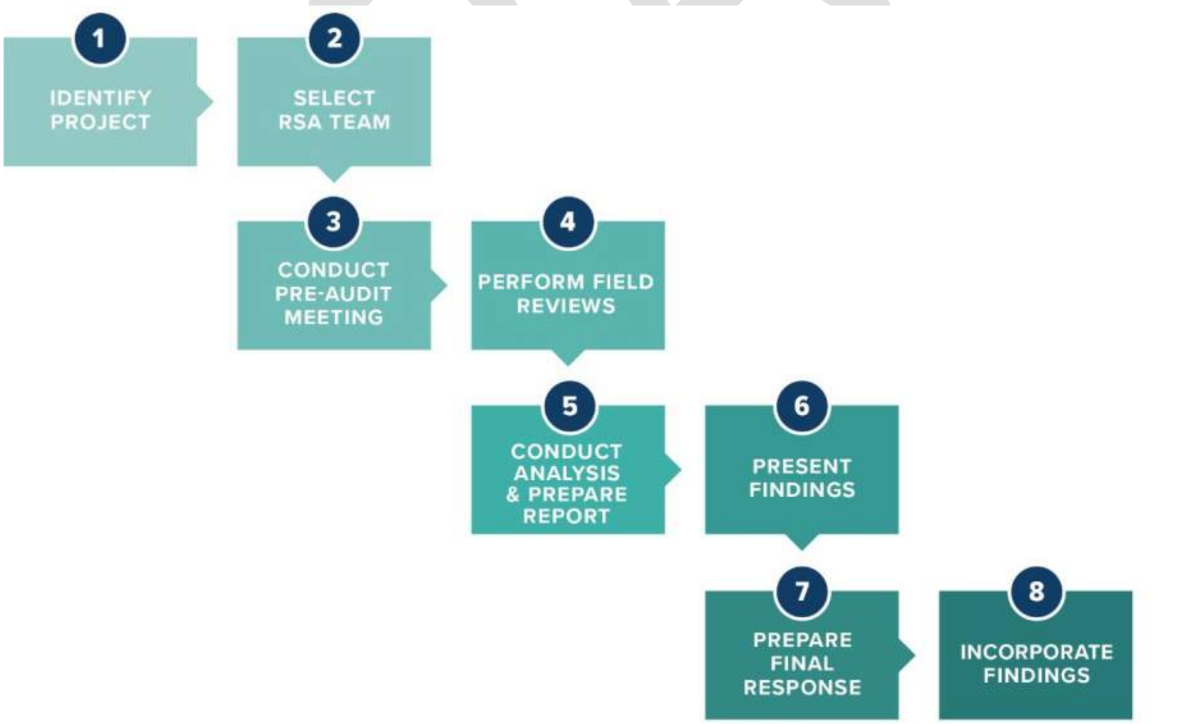



**FIGURE 1. RSA PROCESS**

Analysis of reported crash history is a key part of an RSA and identifying potential underlying crash risks. Identifying the potential of a crash occurring and the possible injury severity is a method to prioritize crash risks. Potential crash frequency can be qualitatively estimated by exposure or how many users will be vulnerable to the identified safety risk and probability of a collision occurring. Crash severity can be estimated based on anticipated speeds, expected collision types, and road use exposure. Frequency and severity can be combined to identify a qualitative risk assessment based on the matrix in **Table 2**.

**TABLE 2. CRASH RISK PRIORITIZATION MATRIX**

| RISK FREQUENCY CATEGORY | POTENTIAL CRASH SEVERITY: NEGLIGIBLE | POTENTIAL CRASH SEVERITY: LOW | POTENTIAL CRASH SEVERITY: MEDIUM | POTENTIAL CRASH SEVERITY: HIGH |
|---|---|---|---|---|
| FREQUENT | | | | High Priority |
| OCCASIONAL | | | | |
| INFREQUENT | | | | |
| RARE | Low Priority | | | |

## STUDY INTERSECTIONS AND CORRIDOR

The study corridor is State Route 166 (SR 166) in Santa Barbara County between the City of Guadalupe and the City of Santa Maria, from SR 1 to Blosser Road. SR 166 currently varies in speed from 45 mph in Guadalupe and Santa Maria to 55 mph in Santa Barbara County. The Guadlupe Flyer Express is the only existing transit service that traverses the SR 166 corridor, connecting transit users from Guadalupe to Santa Maria. At SR 1 and SR 166, there are railroad tracks that serve Amtrak. Seven intersections along the study corridor were identified as priority locations in advance of the workshop due to recent crash history and are identified below and depicted in **Figure 2**. Of the seven intersections, three intersections are signalized and labeled in yellow in **Figure 2**.

The study intersections and their cross streets are listed below and summarized in the following sections:

- Intersection 1 – SR 166 and Obispo Street
- Intersection 2 – SR 166 and Simas Road
- Intersection 3 – SR 166 and Bonita School Road
- Intersection 4 – SR 166 and Ray Road

- Intersection 5 – SR 166 and Black Road
- Intersection 6 – SR 166 and Hanson Way
- Intersection 7 – SR 166 and Blosser Road


**FIGURE 2. RSA STUDY INTERSECTIONS**

## PAST AND UPCOMING PROJECTS AND IMPROVEMENTS

At the time of the RSA, construction was near completion at Intersection 5 (SR 166 and Black Road) to install a 4-way signal[2]. On September 27, 2024, SBCAG celebrated the competition of the SR 166 and Black Road Traffic Signal and Safety Improvement Project[3]. **Figure 3** shows the completed construction of the SR 166 and Black Road 4-way signal.

Additionally, Caltrans has an ongoing project that includes scope elements relevant to the SR 166 Comprehensive Corridor Study (CCS) as follows and shown in **Figure 4**:

- Signals and crosswalk enhancements at the intersections of HWY 1 and Obispo St.
- New three-way crosswalk at Flower Ave and SR 166, crossing SR 166 at the northwest corner of Flower Avenue to the southwest corner and west to east crossing of Flower Avenue.

[2] SR 166 and Black Road Traffic Signal and Safety Improvement Construction Announcement

[3] SR 166 and Black Road Traffic Signal and Safety Improvement Project Completion Announcement

- Class 1 shared use path along the southside of SR 166 in the City of Guadalupe between HWY 1 and 500' east of Flower Ave.
- Bicycle loops and scramble phasing at the SR 166 / HWY 1 intersection to accommodate bicycle movements through the intersection at the termini of the Class 1 path.
- Class 4 bike lanes will be installed along SR 166 westbound from SR 1 to Flower Ave. and eastbound from HWY 1 to 500' east of Flower Ave.
- Constructing sidewalks along the north side of SR 166 between HWY 1 and Flower Ave.
- "No Right on Red" activated blank out signal at the SR 166 / HWY 1 intersection for Northbound traffic on Route 1.
- New signs will be installed along the SR 166 Class III bike route in the rural portion of this project, including "bicycle route" signs.
- The existing SR 166 paved shoulder west of Kathleen Ct. will be restriped to extend the merge lane for westbound SR 166 by approximately 930 feet to provide more storage for the congested AM peak period commuter traffic and reduce delay at the SR 166 / Blosser Rd. intersection.
- Intersections including Blosser Road will be studied for inclusion of Leading Pedestrian Intervals and advanced traffic stop bars.

In 2020, the Guadalupe Mobility + Revitalization Plan[4] was developed and received several comments during the public comment period to improve Santa Maria and SR 166 bicycle facilities. The City of Guadalupe also received public interest in installing roundabouts and Class IV bicycle lanes along SR 166. On May 16, 2024, the California Transportation Commission requested that Caltrans include "No Right on Red" signage/signaling, additional bicycle/pedestrian facilities, curb extensions (bulb outs), traffic calming, advanced traffic stop bars, and public transit accommodations into the scope of the project. A majority of Caltrans improvements will occur in Santa Maria, outside of the SR 166 CCS limits. However, Caltrans expects construction to be completed in fall 2028.

[4] Guadalupe Mobility + Revitalization Plan (2020)


**FIGURE 3. SR 166 AND BLACK ROAD TRAFFIC SIGNAL CONSTRUCTION COMPLETION (*SOURCE: SBCAG SR 166 AND BLAACK ROAD RIBBON CUTTING*)**

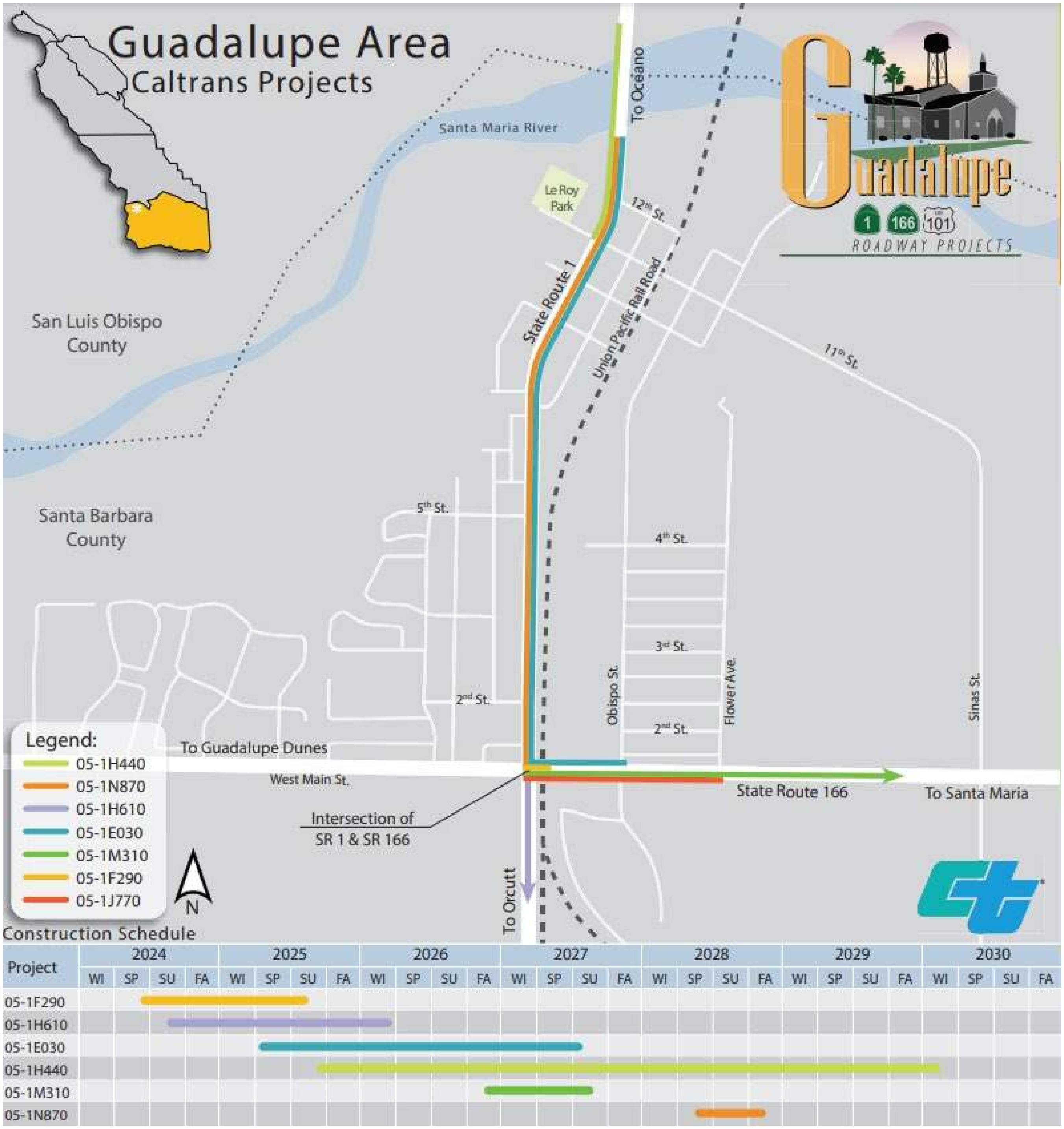



**FIGURE 4. CALTRANS GUADALUPE ROADWAY PROJECTS (*SOURCE: CALTRANS GUADALUPE ROADWAY PROJECT FACT SHEET*)**

## SUMMARY OF CORRIDOR COLLISON DATA

Crash data for a five-year period from January 2019 to December 2023 was obtained from the Traffic Injury Monitoring System (TIMS). The study corridor consisted of 88 reported collisions for the five-year review period, however, 85 collisions occurred at the seven intersections. This corridor is heavily traveled by agricultural workers and trucks as the roadway is a designated STAA route. As shown in **Figure 5**, the majority of collisions occurred in 2020 and saw an ongoing reduction through to 2023. Additionally, a majority of collisions in 2020 occurred at SR 166/Black Road (Intersection 5) while SR 166/Simas Road (Intersection 2) accounted for a significant number of crashes in 2023 (**Figure 6**).

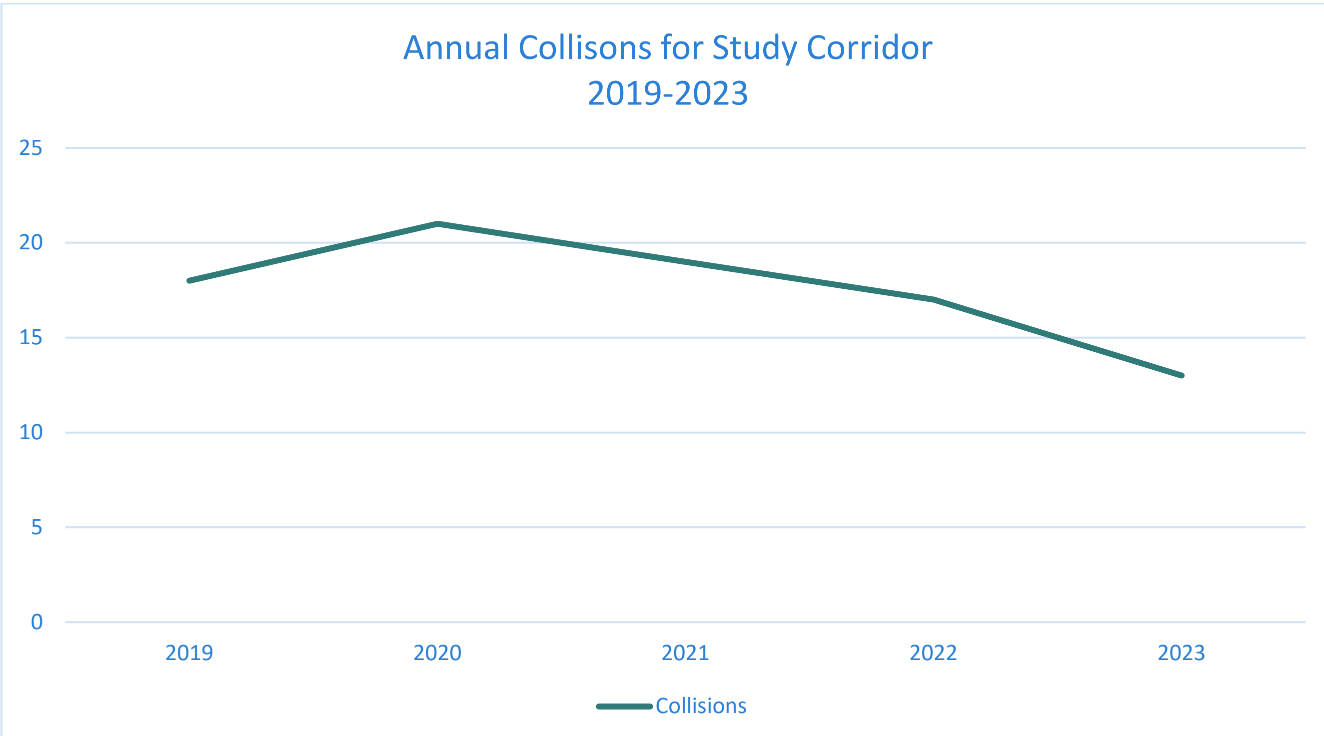



**FIGURE 5. ANNUAL COLLISIONS - SR 166 (2019-2023)**

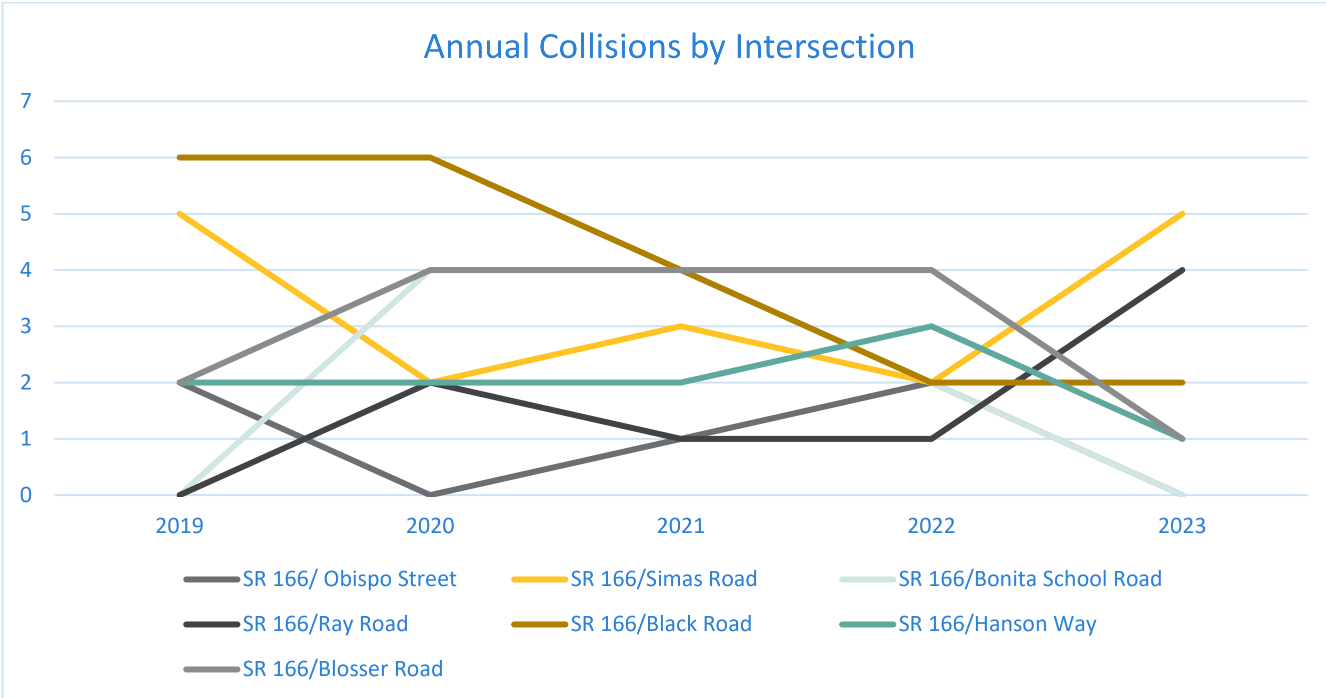
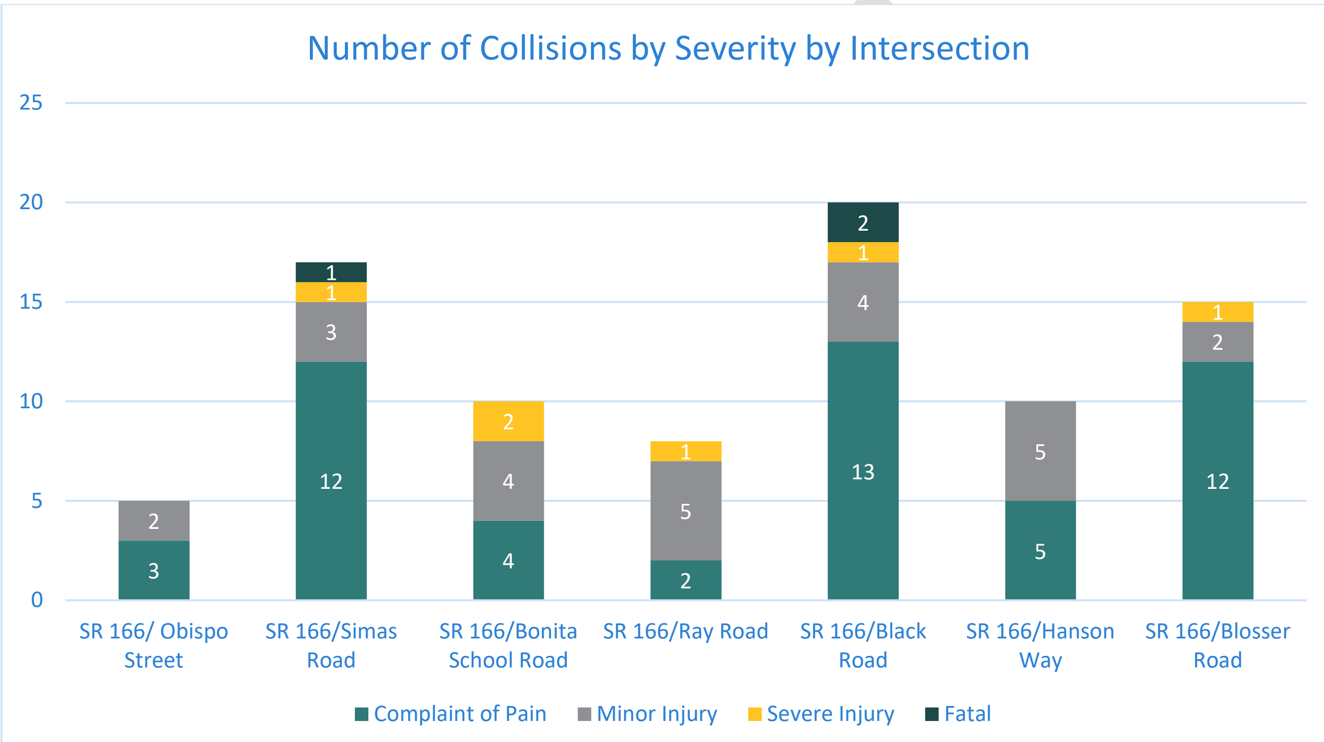



**FIGURE 6. ANNUAL COLLISIONS BY INTERSECTION**

### COLLISIONS BY SEVERITY

While the RSA locations were primarily intersections, collisions for the entire study corridor were reviewed and identified by cross streets that were tied to the seven RSA intersections. Of the seven intersections, SR 166/Black Road (Intersection 5) consisted of the most collisions in a five-year period (20) with a total of 20 collisions and 3 Fatal or Severe Injury crashes as shown in . The study corridor primarily consisted of minor injury or complaint of pain crashes but experienced 9 Fatal or Severe Injury crashes along SR 166 (**Figure 7**).



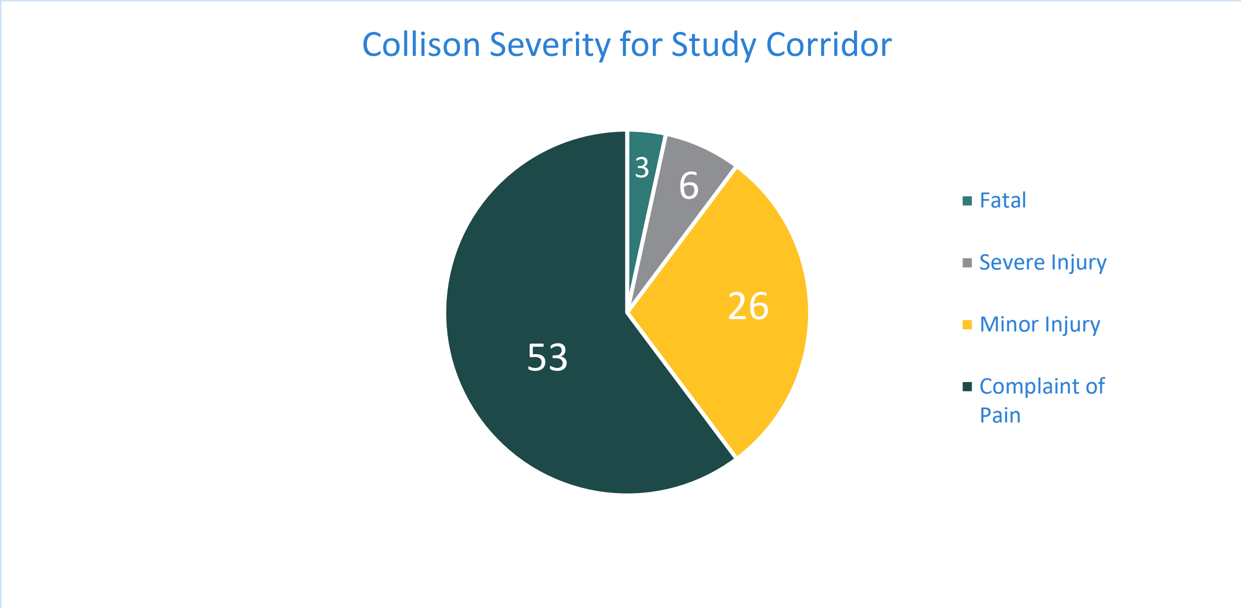



**FIGURE 7. COLLISION SEVERITY - SR 166 (2019-2023)**

## COLLISIONS BY MODE

SR 166 lacks any safe and designated facilities for pedestrians and bicyclists. The only designated crossing locations are at SR 166/Obispo Street (Intersection 1) and SR 166/Blosser Road (Intersection 7). At Bonita School Road, crossing and pedestrian traffic is discouraged throughout the intersection with "no pedestrian crossing" signs throughout the intersection. From 2019 to 2023, there have only been two pedestrian or bicyclists' accidents, both occurring at SR 166 and Blosser Road.

## COLLISIONS BY MONTH, TIME OF DAY, AND DAY OF WEEK

Due to the high density of adjacent agricultural land and volume of agricultural workers, time of day, day of week, and month were reviewed for the five-year period. As shown in **Figure 8**, the number of collisions increases in May and throughout fall months from September to November, this increase may be attributed to harvest months or peak agricultural activity. Collisions typically occurred early and midweek (**Figure 9**) and primarily midday or in the evening (**Figure 10**).

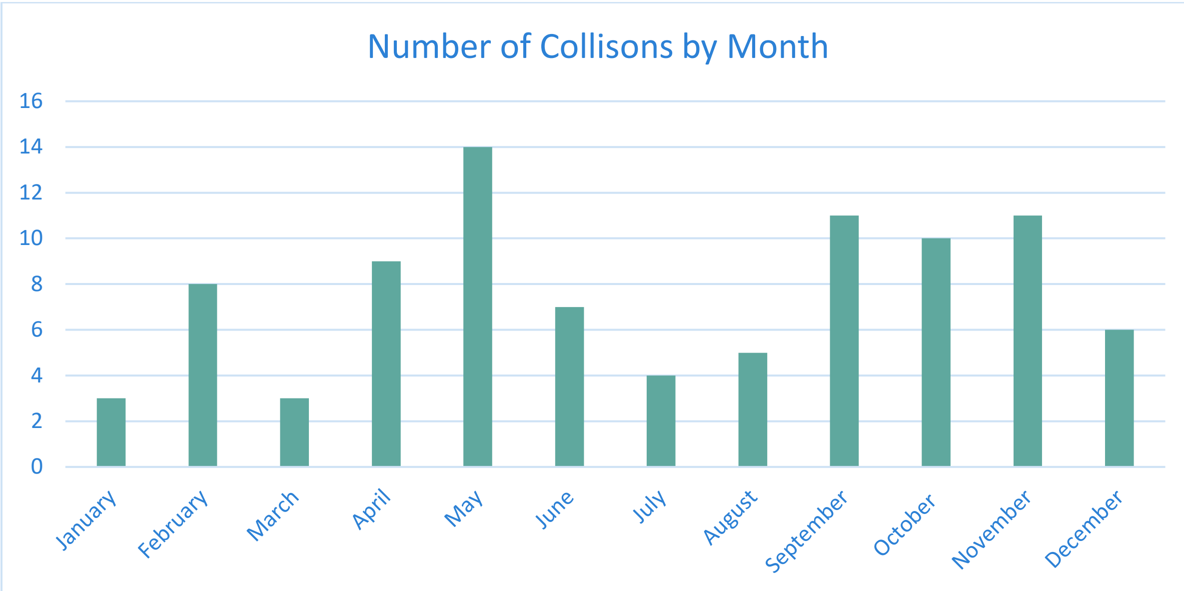



FIGURE 8. NUMBER OF COLLISIONS BY MONTH

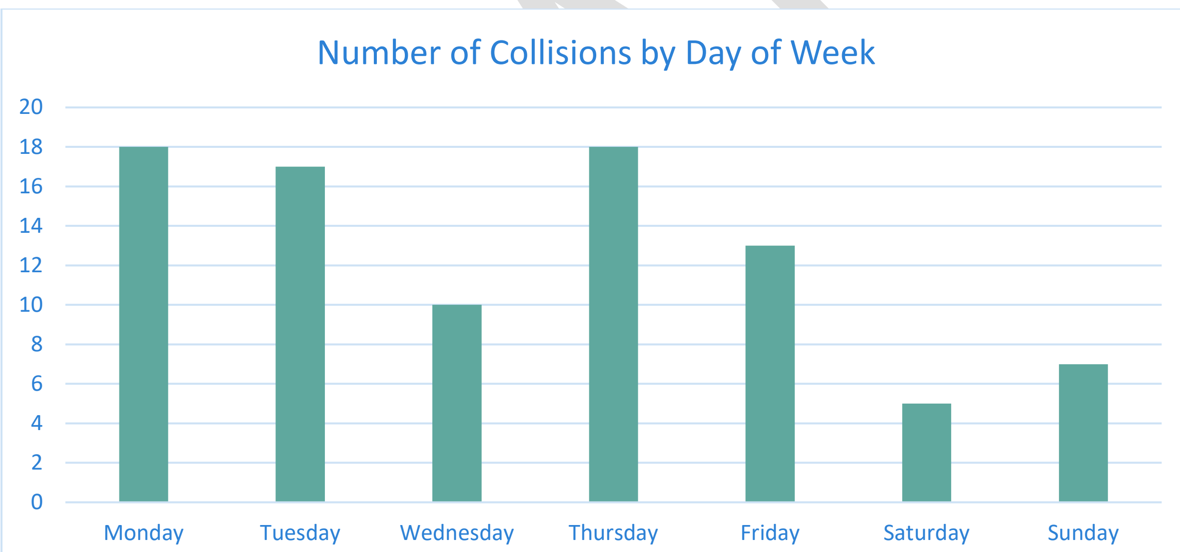



FIGURE 9. NUMBER OF COLLISIONS BY DAY OF WEEK

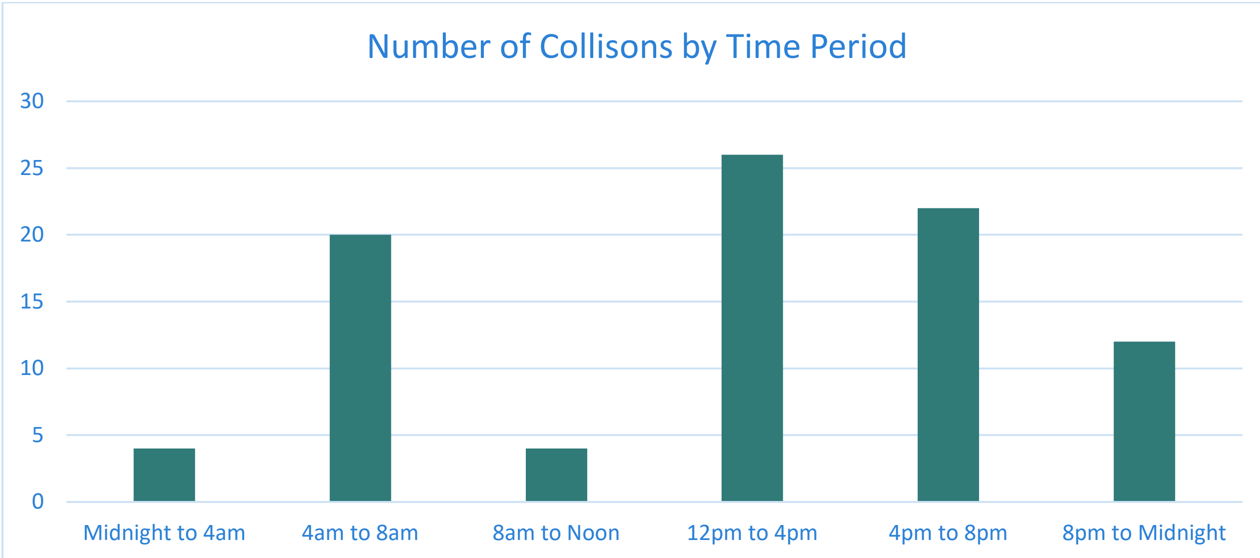



**FIGURE 10. NUMBER OF COLLISIONS BY TIME**

## FIELD REVIEW AND ROAD SAFETY AUDIT

The RSA workshop was conducted over 4 hours (12:00pm – 4:00pm) on September 26, 2024, on SR 166 between the cities of Santa Maria and Guadalupe under partly cloudy and windy conditions. The RSA group convened for lunch in Guadalupe to do introductions and discuss goals and objectives of the workshop, and the purpose of the project. The group also discussed existing conditions and findings so far, particularly collision trends and upcoming projects along the corridor. During the opening discussion, several topics were explored including pedestrian and bicycle accessibility, connectivity, development patterns, upcoming projects, and collision trends. Due to the nature of the study corridor, attendees had to drive and park to each intersection identified, as it would be unsafe for attendees to walk along the corridor with no designated pedestrian facilities and vehicles traveling at high speeds. The selection of intersection field visit locations was determined based on crash history.

### INTERSECTION 1 – SR 166 AND OBISPO STREET

Intersection 1 at SR 166 and Obispo Street is a four-way intersection. The intersection is unsignalized with minor-street stop control on the NB and SB approaches from Obispo Street. SR 166 at Obispo Street has one lane of travel in each direction and a left turn pockets for each approach. Obispo Street is stop-controlled at SR 166 and has one lane of travel in each direction. The southbound approach has a short right turn pocket while the northbound approach has a right and a left turn pocket. There are two striped crosswalks with ADA curb ramps at the EB SR 166/Obispo Street and NB Obispo St/SR 166 approaches with an RRFB at the EB SR 166/Obispo Street crosswalk. **Figure 11** and **Figure 12** illustrate the existing configuration of SR 166/Obispo Street (Intersection 1) from the southwest corner. **Figure 13** and **Figure 14** show the striped crosswalk and RRFB at the southwest corner of Intersection 1.

A 5-year review of collision history at this location found no clear collision trends. However, all five collisions associated with this location occurred within the intersection and three were rear ends. There have been no pedestrian or bicyclists collisions at the intersection.

The existing roadway is in good condition with roadway markings visible, likely due to development south of SR 166. One transit stop is located at the northwest corner of SR 166 and Obispo St.


**FIGURE 11: AERIAL VIEW OF SR 166 AND OBISPO STREET**

**FIGURE 12. SR 166 AND OBISPO STREET EXISTING CONFIGURATION - SOUTHWEST CORNER**

**FIGURE 13. SR 166 AND OBISPO STREET SOUTHWEST CORNER – CROSSWALKS**

**FIGURE 14. SR 166 AND OBISPO STREET SOUTHWEST CROSSWALK**

### INTERSECTION 2 – SR 166 AND SIMAS ROAD

Intersection 2 at SR 166 and Simas Road is a four-way intersection. The intersection is unsignalized with four stop signs on all direction approaches. All intersection approaches at Intersection 2 were equipped with red flashing lights either above a stop sign or on a light pole to increase stop sign visibility and awareness. There are no sidewalks or crosswalks at this intersection. During the RSA, participants observed vehicles approaching the EB SR 166 stop and using the shoulder to turn right onto NB Simas Road. **Figure 14** and **Figure 15** demonstrate existing operations at Intersection 2. This intersection consisted of heavy truck traffic from nearby agricultural property.

A five-year review of collision history at this location revealed approximately 17 collisions at this location. Two collisions were fatal or severely injured crashes, both crashes were considered impaired or DUI accidents. Approximately 9 crashes were rear end collisions, 8 of which were unsafe speed. There have been no pedestrian or bicyclist collisions at the intersection within the five-year review history.

FIGURE 15. SR 166 AND SIMAS ROAD - SOUTHEAST CORNER


FIGURE 16. SR 166 AND SIMAS ROAD OPERATIONS - SOUTHEAST CORNER

## INTERSECTION 3 – SR 166 AND BONITA SCHOOL ROAD

Intersection 3 is a three-way intersection at SR 166 and Bonita School Road providing access to and from Bonita Elementary School at the northwest corner of the intersection. The intersection is signalized for all approaches. SR 166 EB consists of one through lane and a protected left turn lane onto Bonita School Road while WB SR 166 is a one through lane. Bonita School Road SB is one lane with only left- and right-hand turn options. Prior to the intersection approach EB and WB SR 166 is considered a school zone with 25 mph speed limit when children are present. The intersection does not consist of any sidewalks or crosswalks. This intersection and prohibits pedestrian traffic and enforce that with six "no pedestrian signs", shown in **Figure 16**. **Figure 17** and **Figure 18** demonstrate current configuration and operations at Intersection 3. During the RSA, participants observed school release and noted congestion caused from school pick up and school bus queuing (**Figure 19**) on SB Bonita School Road. Additionally, school staff and overflow parking parked diagonally in the shoulder of SB Bonita School Rd.

At this intersection, there have been 10 crashes in a five-year period, two of which were severe injury crashes. There are no apparent collision patterns at this intersection. There have been no reported pedestrian and bicyclist collisions in the five-year history period.

FIGURE 17. NO PEDESTRIAN CROSSING AT SR 166 AND BONITA SCHOOL ROAD

**FIGURE 18. SR 166 AND BONITA SCHOOL ROAD EXISTING CONFIGURATION - SOUTHEAST CORNER**

**FIGURE 19. SR 166 AND BONITA SCHOOL ROAD EXISTING OPERATIONS - NORTHWEST CORNER**

**FIGURE 20. SR 166 AND BONITA SCHOOL ROAD SCHOOL BUS QUEUING - SOUTHWEST CORNER**

## INTERSECTION 4 – SR 166 AND RAY ROAD

Intersection 4 at SR 166 and Ray Road. SR 166 EB and WB consists of through travel, each direction containing a turning lane onto Ray Road or a private driveway. Ray Road approach has a stop sign adhering to SR 166 however, vehicles creep into the intersection or do not stop at all. The intersection is unsignalized and does not consist of any sidewalks or crosswalks. **Figure 21** shows the traffic queue on Ray Road waiting to run WB or EB on SR 166. **Figure 22** illustrates how far the stop extends into the intersection as a vehicle waits for a clearing to turn onto SR 166.

The five-year collision history indicates 8 collisions at this location, two of which are intersection crashes. This location consisted of one severe injury crash caused by improper turning. Four collisions were considered unsafe speed crashes.

**FIGURE 21. SR 166 AND RAY ROAD TRAFFIC QUEUE - SOUTHWEST CORNER**

**FIGURE 22. SR 166 AND RAY ROAD OPERATIONS - SOUTHWEST CORNER**

## INTERSECTION 5 – SR 166 AND BLACK ROAD

Intersection 5 at SR 166 and Black Road. This intersection is undergoing final stages of construction to become a four-way signalized intersection, as shown in **Figure 23**. Intersection 5 was previously unsignalized with two stop signs at Black Road and a private driveway. Previously the intersection consisted of one through lane each direction on SR 166 and one turn lane per direction. There are no sidewalks or crosswalks. The new configuration will be a four-way signalized intersection with protected turn lanes for all directions.

The five-year collisions history indicated an increase in collisions at this location with approximately 20 collisions and three fatal or severe injury crashes. The primary crash factor violation for 50% of collisions at this location was unsafe speed.


**FIGURE 23. SR 166 AND BLACK ROAD EXISTING CONSTRUCTION - NORTHEAST CORNER**

## INTERSECTION 6 – SR 166 AND HANSON WAY

Intersection 6 is at SR 166 and Hanson Way. This intersection is not signalized with the only traffic control being a stop sign at the NB Hanson Way approach. Hanson Way ends at the NB SR 166 approach and offers east and west bound movement onto SR 166. Hanson way consists of one lane; however, many vehicles use the right shoulder as a right turn lane. During the RSA, long queues on EB SR 166 formed and NB Hanson Way. Attendees noticed several vehicles struggled to find a gap in vehicles to turn left onto WB SR 166. Participants observed a truck pictured in **Figure 24** turn left or EB onto SR 166 and complete a U-turn to travel WB on SR 166.

FIGURE 24. VEHICLE U-TURN AT SR 166/HANSON WAY

## INTERSECTION 7 – SR 166 AND BLOSSER ROAD

Intersection 7 is SR 166 and Blosser Road. This intersection is signalized and consists of sidewalks and crosswalks. The NB and SB Blosser Road approaches consists of four lanes, 2 through lanes and 2 turn lanes. EB and WB SR 166 consist of three lanes, 2 through lanes and one turn lane, however as shown in **Figure 25**, many vehicles use the right lane shoulder as a right turn lane. At this intersection, attendees noticed that vehicles in the EB through lanes on SR 166 tended to stop several feet before the crosswalk markings. Only one ADA curb ramp is existent at the SE corner of the intersection. Crossing signal timing was noticed to be just enough crossing time for the average pace. Additionally, for pedestrians to traverse WB on SR 166, they must walk on the sidewalk along the WB SR 166 lanes due as it is the only sidewalk that extends past the intersection on SR 166.

The five-year collision history of this intersection shows that 15 crashes have occurred, however 80% of the crashes were considered "complaint of pain" and there has been one severe injury.

**FIGURE 25. SR 166 AND BLOSSER ROAD APPROACH - SOUTHWEST CORNER**

# RECOMMENDATIONS

## CHALLENGES

The study corridor faces persistent challenges and areas of concern that highlight potential areas for increased attention and future improvements.

- This corridor experiences high volumes of truck traffic with surrounding last use primarily agricultural.
- Lack of passing lanes, CHP has noted that vehicles pass on the narrow shoulder of the corridor, especially to avoid agricultural vehicles.
- During school release, school bus and staff queuing caused significant traffic on Bonita School Road.
- Lack of pedestrian or bicycle infrastructure creates a hostile environment for non-motorized users.
- City, County, and CHP have noted that sight distance is an issue during nighttime and fog causing limited visibility.
- Overall lack of lighting along the corridor
- Primary congestion is caused by agricultural vehicles, encouraging alternative routes such as Betteravia Road could relieve congestion EB into Santa Maria
- Lack of safe turning lanes, stops, or signals create long queues
- Drainage ditch parallel to the corridor creates ROW constraints

## RECOMMENDED IMPROVEMENTS

Due to the nature of the corridor and existing and pending improvements occurring, the primary focus of the corridor among RSA participants was roadway safety and congestion relief. While multimodal improvements are feasible and would allow connection to the Santa Maria Levee Trail, the primary concerns were road conditions, lighting, and speed.

The majority of comments and opinions expressed by attendees were congestion, lack of bicycle and pedestrian infrastructure, and high vehicle speeds.

General comments and recommendations for the corridor as a whole from attendees were as follows:

- Possibility for ITS improvements along the corridor
- Recommendations for public outreach and programs that would provide improved education about trip planning and coordinating with stakeholders.
- Support or freight benefits such as Weigh in Motion and/or automated freight counts.
- Bicycle infrastructure is lacking along the entire corridor, including at intersections.
- Left turn pockets and accelerations lanes for left turning vehicles along SR 166 may improve operations and safety for turning vehicles at high-volume private driveways along the eastern portion of the corridor
- Based on crash history, the curve between Simas Road and Ray Road should be evaluated for guard rail, chevrons, and curve signs, and other improvements to assist drivers in navigating the turn during low visibility conditions.

- Intersection lighting should be evaluated for improvement.
- Stop signs at all unsignalized intersections should be oversized, include retroreflective tape on poles, and LED borders for additional visibility/awareness due to low visibility conditions (nighttime, fog, and dusk/dawn glare)
- Transverse rumble strips on approaches to intersections to alert drivers of upcoming stops should be implemented.

Recommendations were also discussed and provided for each of the key intersections visited and observed:

***Intersection 1 - SR 166 and Obispo Street***

- Incorporate the latest improvements proposed by Caltrans as part of GAPS project[5] into intersection design
- Design for increased pedestrian volumes due to new schools and development
- Slow motor vehicles in advance of the approach into Guadalupe. Consider reducing the speed limit in increments of 5 MPH the way that Hwy 126 does upon the approach to City of Fillmore (signage posted + speed feedback signs).
- Utilize existing paved cross section on Obispo Street to add a Class II or Buffered Class II bike lane.
- Improve lighting at the nearby bus stop and pedestrian approaches
- Move the stops bars on Obispo Street closer to SR 166 to improve line of sight
- Provide safer crossing and visibility due to long crossing distance for pedestrians

***Intersection 2 – SR 166 and Simas Road***

- Install lighting and signage at the intersection for visibility
- Reduce the radius of the turn on the northbound Simas Road approach corner to encourage slower turning movements
- Install larger and higher visibility stops signs
- Construct a right turn pocket for the westbound approach to discourage drivers from using the shoulder
- Reduce the westbound speed limit towards Guadalupe in advance of this intersection

***Intersection 3 – SR 166 and Bonita School Road***

- Improve school zone signage and striping to raise visibility and awareness
- Reduce the speed limit along SR 166 within the vicinity of Bonita School Road to be consistent with a school zone
- Consider circulation improvements and/or signal timing to better handle school bus and parent egress.
- Provide consistent overhead lighting at the signal
- Provide pedestrian treatments on and across Bonita School Road to provide safe access to all parking and overflow parking areas
    - Need for coordination with the school to redesign site circulation and access

[5] Guadalupe Active Partnership for Signalization and CAPM to Santa Maria (GAPS-CAPM)

- Better define overflow parking
  - Provide a safe place to U-turn along Bonita School Road
  - Perform and implement a County SR2S plan
- Improve driver visibility for the southbound approach

***Intersection 4 – SR 166 and Ray Road***

- Realign the intersection to remove the skew and improve sight distance
- Reconfigure intersection for a northbound left-turn merge lane
- Clean and maintain drainage infrastructure to avoid flooding during rain events
- Install intersection lighting
- Perform signal warrant due to significant queueing during PM peak

***Intersection 5 – SR 166 and Black Road***

No recommendations were discussed for the intersection at Black Road, likely due to signal construction and improvements being finalized.

***Intersection 6 – SR 166 and Hanson Way***

No recommendations were discussed for the intersection at Hanson Way, likely due to the difficulty in inserting slow-moving left-turning trucks into an uncontrolled vehicle stream, even with the existing center turn lane. Further, volumes are likely not high enough to meet a signal warrant.

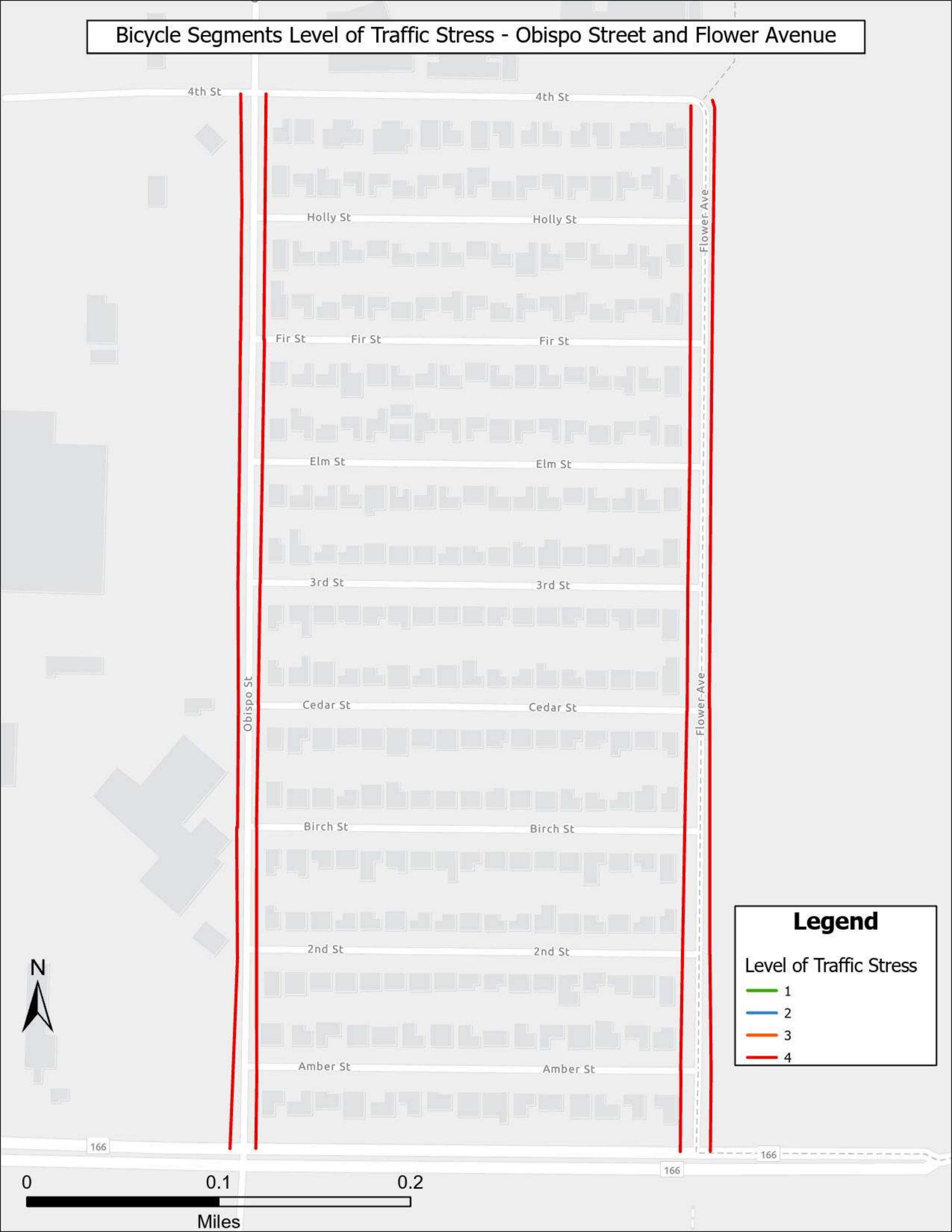
***Intersection 7 – SR 166 and Blosser Road***

- Install consistent sidewalk along the southwest quadrant of the intersection and connecting to the Saint Marie Mobil Home Park to the west.
- Stripe a right-turn pocket for the eastbound approach to better define parking and shoulder areas
- Update corner treatments to meet current ADA requirements
- Install additional intersection lighting
- Add green paint to bike lane on the southbound approach to define the bicycle right of way and increase visibility
- Reduce the speed limit of SR 166 in advance of the Santa Maria city limits

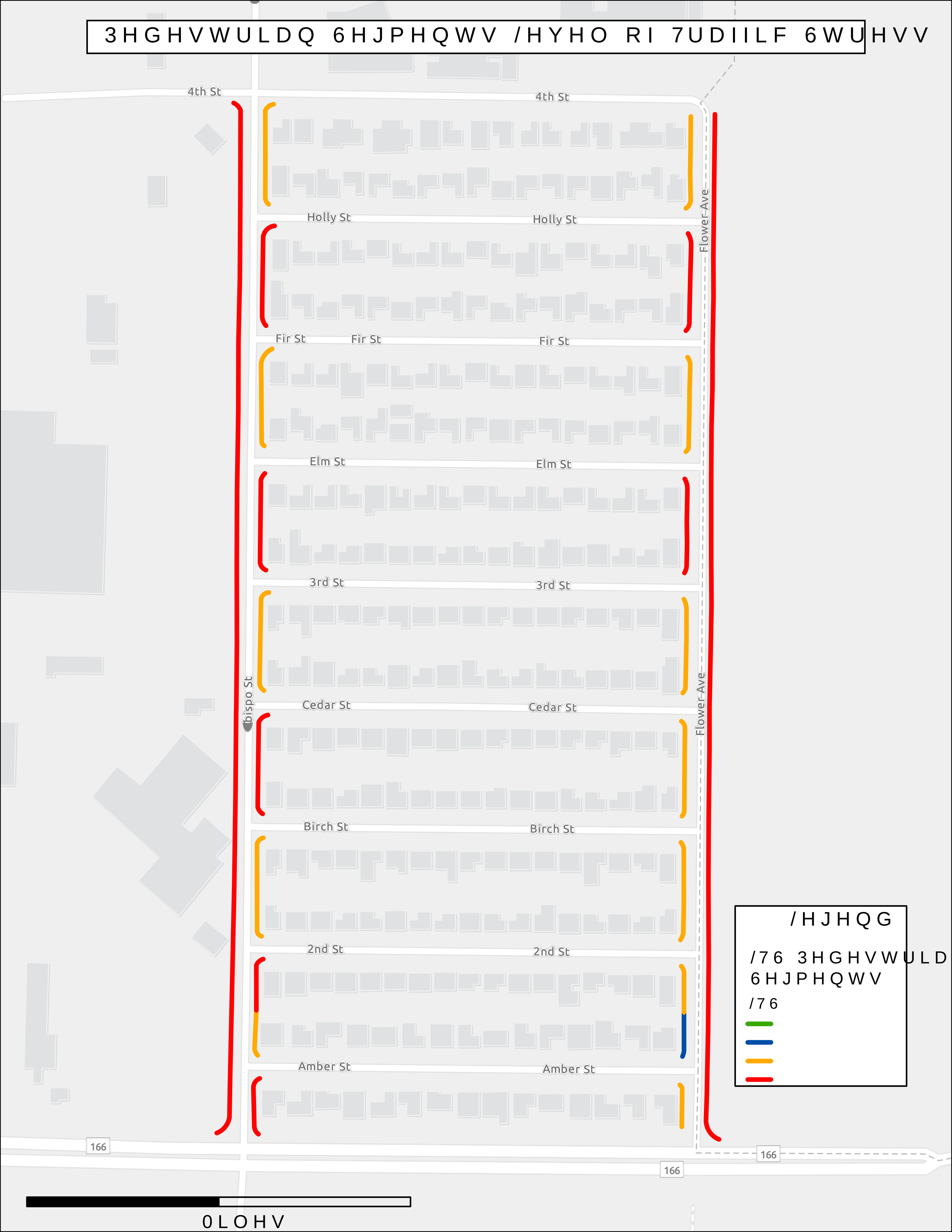
## CONCLUSIONS

RSA participants were overall satisfied with the RSA and felt that "walking" and traversing the corridor helped provide greater insight and understanding of the study corridor. The focus of the RSA was primarily on roadway safety and potential improvements based on observed behavior and crash history.

# APPENDIX I: LEVEL OF TRAFFIC STRESS ANALYSIS



Bicycle Segments Level of Traffic Stress - Obispo Street and Flower Avenue
4th St
4th St
Holly St
Holly St
Fir St
Fir St
Fir St
Elm St
Elm St
3rd St
3rd St
Cedar St
Cedar St
Birch St
Birch St
2nd St
2nd St
Amber St
Amber St
Obispo St
Flower Ave
Flower Ave
166
166
166
Legend
Level of Traffic Stress
1
2
3
4
N
0
0.1
0.2
Miles


3HGHVWULDQ 6HJPHQWV /HYHO RI 7UDIILF 6WUHVV
4th St
4th St
Holly St
Holly St
Fir St
Fir St
Fir St
Elm St
Elm St
3rd St
3rd St
Cedar St
Cedar St
Birch St
Birch St
2nd St
2nd St
Amber St
Amber St
Flower Ave
Flower Ave
bispo St
166
166
166
/HJHQG
/76 3HGHVWULD
6HJPHQWV
/76
0LOHV

comprise 90 percent of County roadways. The basis for developing a network on a subset of roadways to enhance comfort, mobility, and accessibility for local road users is understanding where existing infrastructure serves different modes of transportation, such as walking, biking, or taking the bus, and where there has been a history of collisions. This information, along with land use patterns, was used to determine which roadways were prioritized in the ATP.

**Table 3-2. California Road System Classification**

| RURAL ROADS | 41% | URBAN ROADS | 59% |
|---|---|---|---|
| Local Street | 16% | Local Street | 38% |
| Minor Collector | 6% | Collector | 12% |
| Major Collector | 19% | | |
| Minor Arterial | < 1% | Minor Arterial | 4% |
| Principal Arterial-Other | < 1% | Principal Arterial-Other | 4% |
| | | Residential/Local | 1% |

Source: County of Santa Barbara Dept. of Public Works, 2022.

**Level of Traffic Stress**

People who bike on county roadways encounter varying levels of stress from traffic. A quiet, low volume residential street with a 25 mile per hour speed limit may be considered a low-stress environment while a high volume multilane road with 40 mile per hour speed limit may represent a high stress environment. Studies have shown the high stress of riding without protection from fast vehicular traffic is a chief deterrent to people's decision to ride a bike.

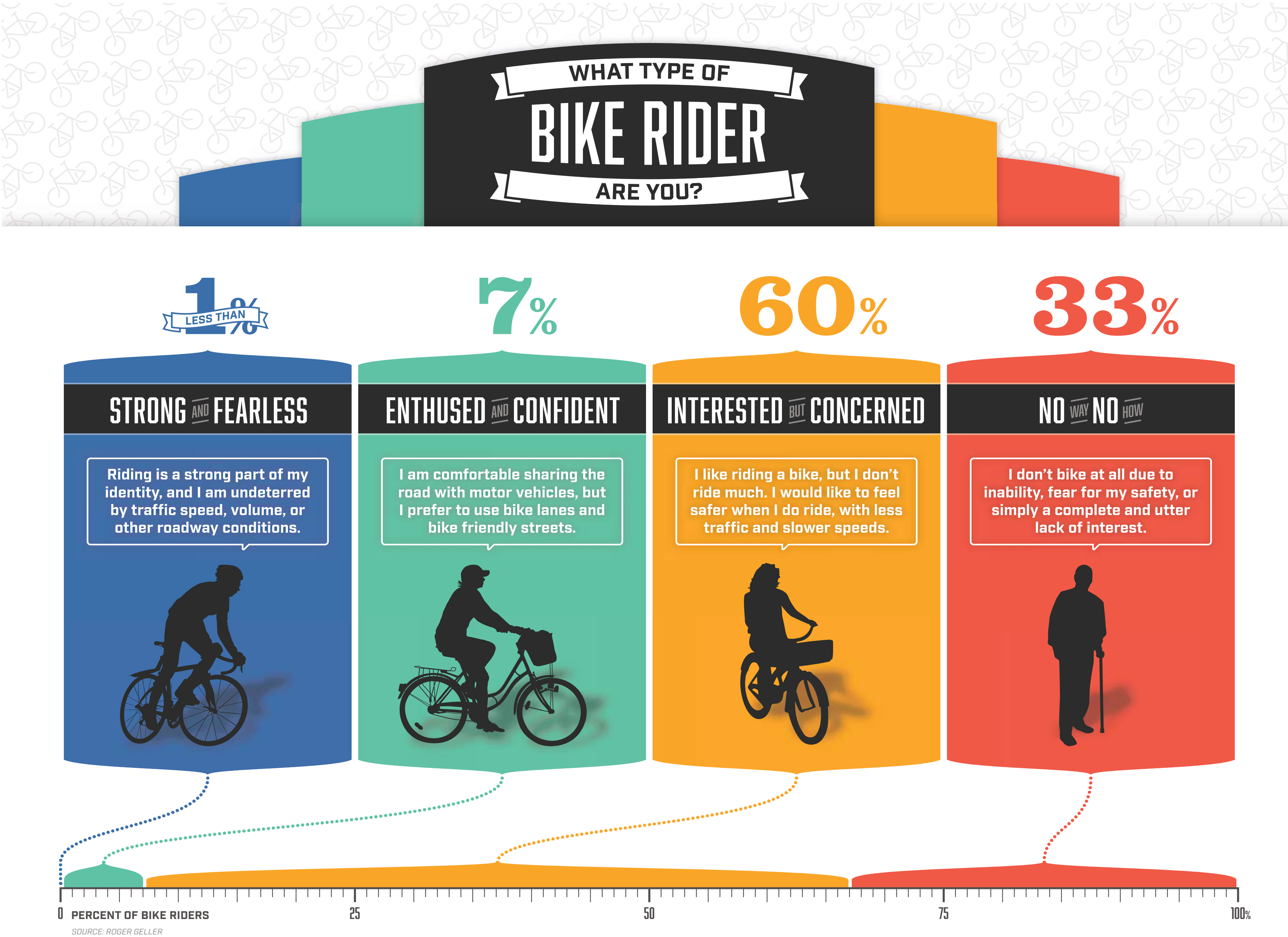
Level of traffic stress (LTS) is one metric that is used to understand how comfortable and attractive roadways are to bicyclists. LTS quantifies the amount of discomfort the people feel when they bicycle close to traffic. LTS assigns a numeric stress level (one to four) representing a spectrum from lowest to highest stress to roadways based on attributes such as traffic speed, number of lanes, existing bicycle facilities, and parking.

As shown in **Figure 3-2** and **3-3**, very low stress facilities (LTS 1) are assigned to roads that would be suitable for most children to ride or suitable for inexperienced adults riding bicycles with small children.

Low stress facilities (LTS 2) are roads that could be comfortably ridden by the general adult population (about 60 percent of adults).

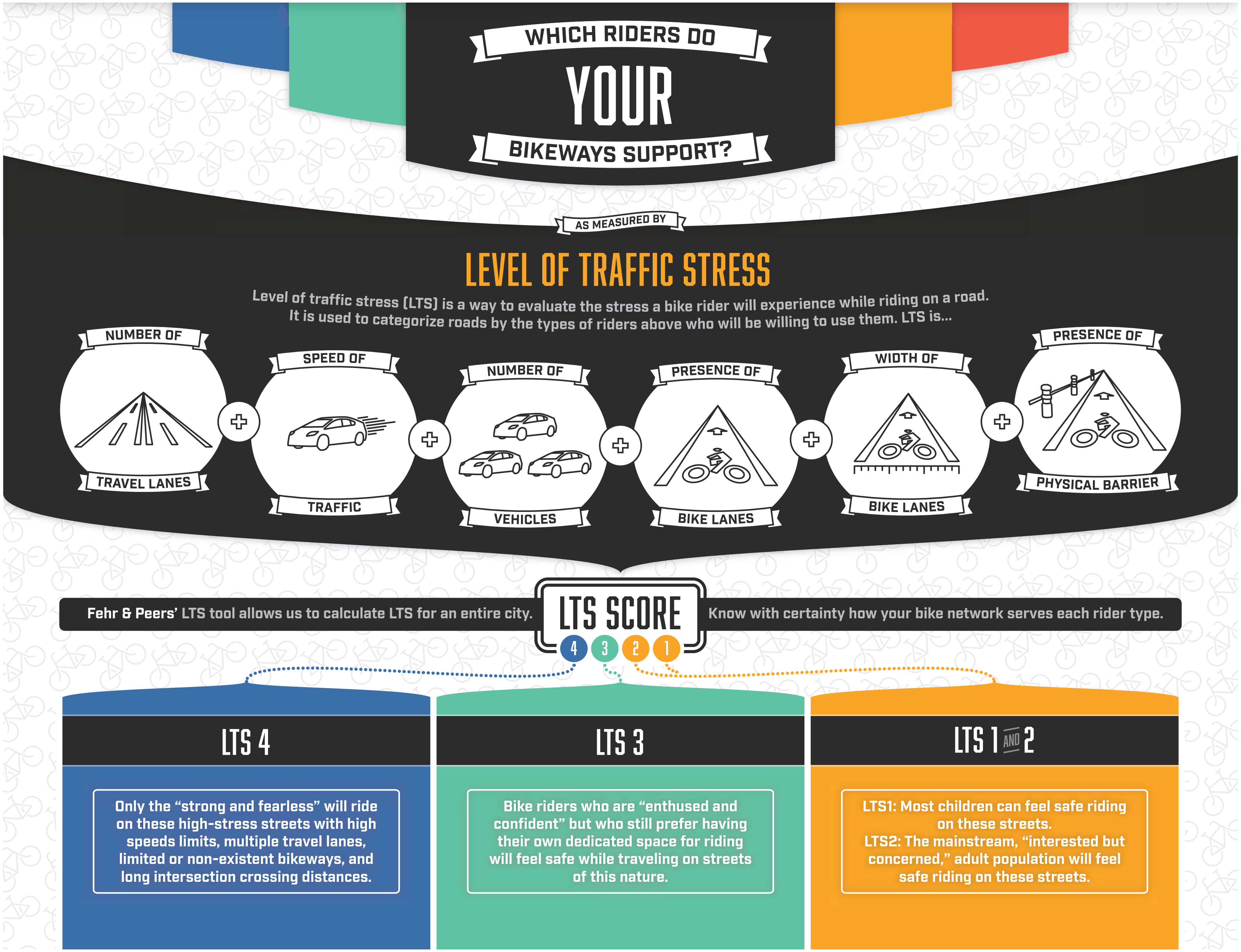
Higher stress facilities (LTS 3 and 4) represent roads that would be comfortable for confident bicyclists (7 percent of adults) or are only acceptable to "strong and fearless" bicyclists (1 percent of adults) who can tolerate roadways with higher motorized traffic volumes and speeds without protection. Roughly 30 percent of people may have no interest in biking at all.

## Figure 3-2. Types of Bicyclists




Source: Fehr & Peers, 2022

**Figure 3-3. Level of Traffic Stress**




Source: Fehr & Peers, 2022

This plan aims to identify projects that will build out a network of connected and low stress facilities that will appeal to users of all ages and abilities.

The County leveraged their consultants' prior data analysis to map all roadways in the county by their LTS score. Fehr & Peers calibrated a methodology for estimating LTS scores based on roadway data from OpenStreetMap, an open-source global database of GIS data in standardized, accessible formats.

The LTS Scores are based on analysis of tags (attributes) coded into the OpenStreetMap database, including functional classification, number of travel lanes, posted speed limit, presence of on-street bike facilities, presence of striped centerline and others.

Since the County did not ground truth the LTS data, the LTS analysis in **Table 3-3** and **Figure 3-4** was included to introduce the concept of LTS only. The project ideas and recommendations in **Chapter 5** were not based on the unverified LTS analysis in this chapter. However, LTS is a useful tool for evaluating projects in the future.

Staff found the LTS scores in this chapter to generally under represent the level of traffic stress experienced by people who bike on County roadways. Therefore, any future LTS analysis should include a refined methodology that is locally specific to Santa Barbara County.

**Table 3-3. Santa Barbara County Level of Traffic Stress by County Road System Classification**

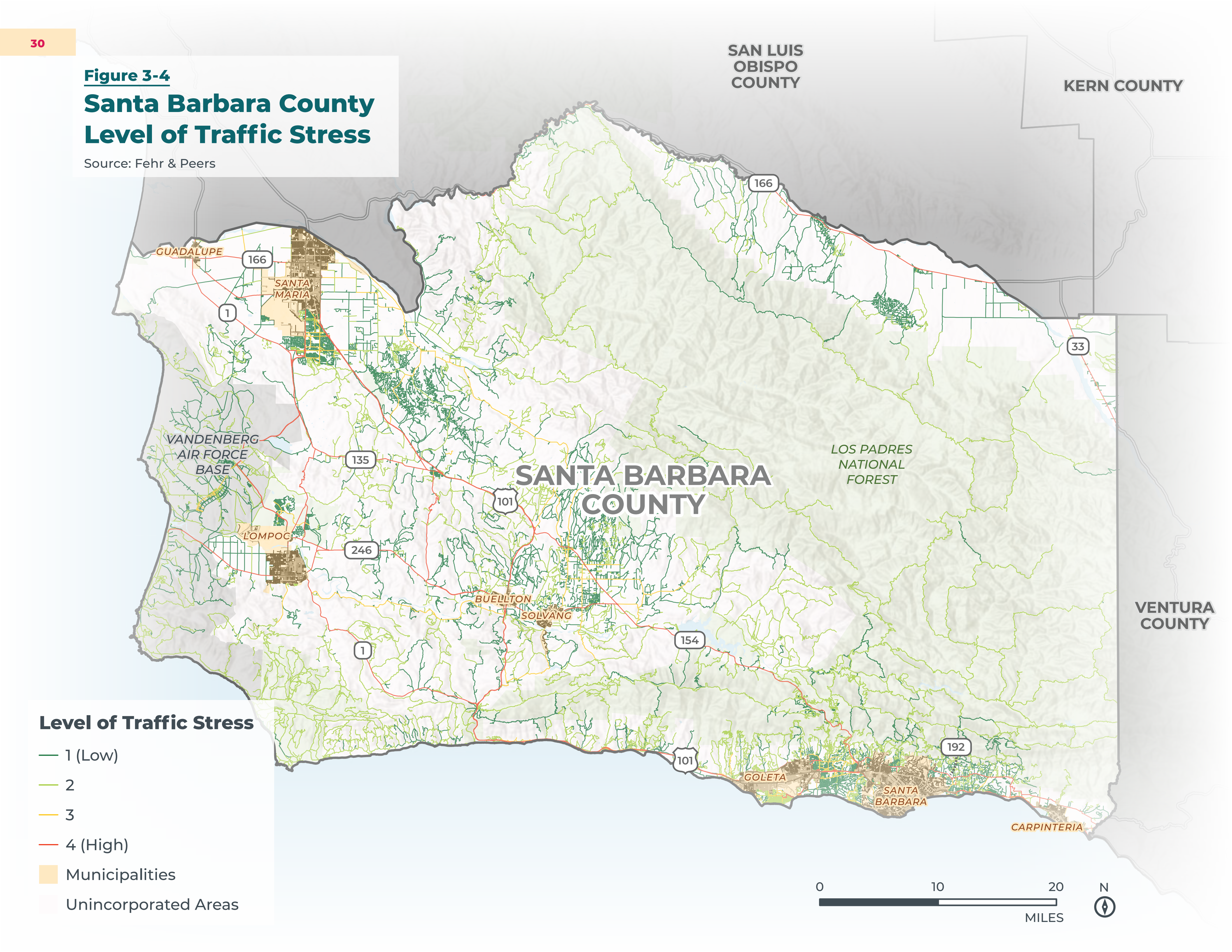
| SUBAREA | ALL ROADS | | | | PRINCIPAL ARTERIAL | | | | MINOR ARTERIAL | | | | MAJOR COLLECTOR | | | | MINOR COLLECTOR | | | | LOCAL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTS | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| ▸ **CUYAMA VALLEY** | 97% | 0% | 2% | 1% | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 97% | 2% | 0% | 1% |
| ▸ **LOMPOC VALLEY** | 49% | 16% | 16% | 19% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 12% | 27% | 36% | 25% | NA | NA | NA | NA | 91% | 9% | 4% | 0% |
| ▸ **SANTA MARIA VALLEY** | 53% | 23% | 19% | 4% | NA | NA | NA | NA | 12% | 10% | 75% | 3% | 22% | 32% | 37% | 9% | 46% | 40% | 6% | 7% | 79% | 17% | 2% | 2% |
| ▸ **SANTA YNEZ VALLEY** | 31% | 22% | 39% | 7% | 0% | 0% | 100% | 0% | NA | NA | NA | NA | 4% | 6% | 89% | 1% | 5% | 44% | 30% | 21% | 65% | 20% | 12% | 3% |
| ▸ **SOUTH COAST NORTH** | 66% | 12% | 19% | 3% | 10% | 2% | 80% | 8% | 32% | 45% | 0% | 22% | 61% | 13% | 24% | 2% | NA | NA | NA | NA | 87% | 11% | 2% | 0% |
| ▸ **SOUTH COAST SOUTH** | 84% | 1% | 9% | 6% | NA | NA | NA | NA | 62% | 0% | 21% | 18% | 74% | 0% | 15% | 12% | NA | NA | NA | NA | 91% | 2% | 4% | 3% |
| **COUNTYWIDE TOTAL** | **54%** | **18%** | **21%** | **6%** | **8%** | **11%** | **74%** | **7%** | **17%** | **11%** | **57%** | **15%** | **25%** | **22%** | **41%** | **12%** | **22%** | **38%** | **23%** | **17%** | **81%** | **15%** | **3%** | **1%** |

Source: County of Santa Barbara Dept. of Public Works, Fehr & Peers, and OpenStreetMap contributors (under ODbL), 2022.

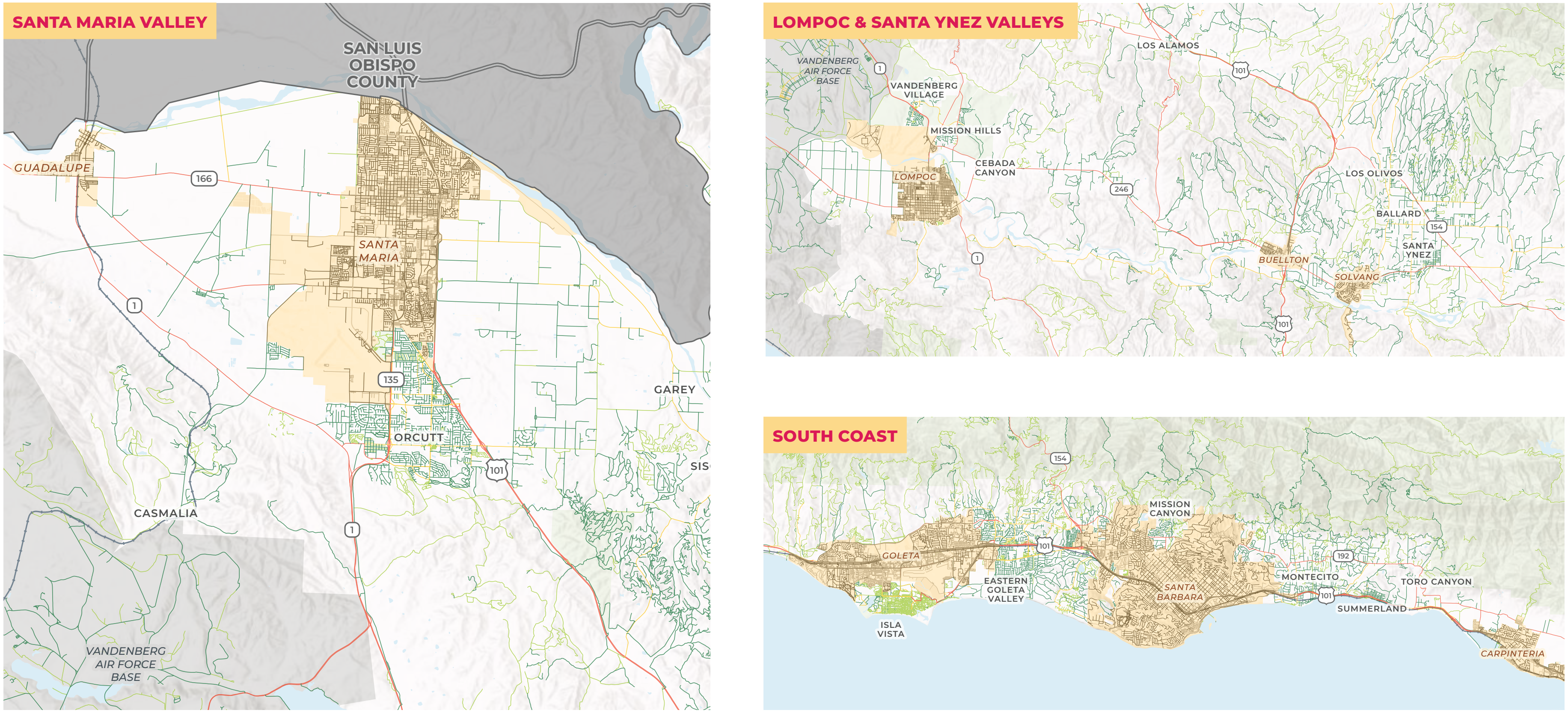
**Figure 3-4**

## Santa Barbara County Level of Traffic Stress

Source: Fehr & Peers



## Figure 3-4. Santa Barbara County Level of Traffic Stress (cont.)




### Transit Service

The County does not operate any transit service in the region but serves as a funding partner to all transit and paratransit operators in Santa Barbara County. Accordingly, the ATP does not cover service level or operational changes to existing transit service but recognizes the importance of pedestrian and bicycle connections with transit stops/hubs.

When combined, the region's transit services provide coverage to the majority of population centers in Santa Barbara County, although the service might be infrequent and indirect in certain areas. Santa Barbara Metropolitan Transit District (MTD) provides local services to the entirety of the urbanized area in the south coast. Easy Lift is the paratransit provider in the south coast.

The transit providers in the Santa Maria Valley, Lompoc Valley, and Santa Ynez Valley include Guadalupe Transit, Santa Maria Regional Transit (SMRT), City of Lompoc Transit (COLT), and Santa Ynez Valley Transit (SYVT). SMOOTH is the Consolidated Transportation Services Agency (CTSA) for the north county providing paratransit and contract services throughout the area. Regional transit services connecting