



SR 166 MULTIMODAL CORRIDOR STUDY
EXISTING CONDITIONS REPORT DRAFT

NOVEMBER 2024

PREPARED FOR:

SANTA BARBARA COUNTY ASSOCIATION OF GOVERNMENTS



SR 166
COMPREHENSIVE
CORRIDOR STUDY
Guadalupe to Santa Maria

DOCUMENT DESCRIPTION

CLIENT	Santa Barbara County Association of Governments
DKS Project / Proposal Number	24667-000
Project Proposal Name	/ SR 166 Multimodal Corridor Study
Document Name	Existing Conditions Report
File Path	"\\Dks-ad1-sac\p\24000\600s\24667-000 SR 166 Multimodal Corridor Study\01 Deliverables\02 Reports\2024-10-07 SR 166 Existing Conditions Report DRAFT R.0.docx"
Date Document Issued	November 27, 2024

VERSION CONTROL

VERSION NUMBER	DATE	DESCRIPTION OF CHANGE	AUTHOR
0	11/27/2024	Initial Document	JD

PREPARED FOR SANTA BARBARA COUNTY ASSOCIATION OF GOVERNMENTS



PREPARED BY



Consultant Project Manager Jim Damkowitz, Principal, DKS



TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
PROJECT LEADERSHIP.....	1
STUDY AREA	2
PLANNING CONTEXT	4
EXISTING CONDITION ANALYSIS SUMMARY AND KEY FINDINGS	5
INTRODUCTION	1
SR 166 CCP EXISTING CONDITION REPORT STRUCTURE	1
EXISTING CONDITIONS PERFORMANCE ASSESSMENT	2
SOCIOECONOMIC, BACKGROUND AND TRAVEL CHARACTERISTICS	3
TRAVEL DEMOGRAPHICS AND TRIP SUMMARY	3
GOODS MOVEMENT	6
TRUCK VOLUMES AND FACILITIES.....	6
TRUCK ORIGIN-DESTINATION ANALYSIS	11
DISADVANTAGED COMMUNITY MAPPING	16
PHYSICAL ROADWAY CHARACTERISTICS	24
PARALLEL FACILITIES	24
NORTH-SOUTH ACCESS ROADS WITH SR 166.....	25
DATA COLLECTION AND TRAFFIC VOLUMES	28
TRAFFIC OPERATIONS	31
METHODOLOGY	31
INTERSECTION OPERATIONS ANALYSIS	32
ROADWAY TRAVEL TIME RELIABILITY AND CONGESTION ANALYSIS	36
ROADWAY TRAVEL TIME RELIABILITY AND CONGESTION	36
SAFETY.....	51
COLLISION DATA.....	51
STUDY AREA COLLISION SUMMARY	52
STUDY CORRIDOR COLLISION SUMMARY	58
COLLISION RATE ANALYSIS.....	61
ROADWAY SAFETY AUDIT.....	64
CHALLENGES	64
RECOMMENDED IMPROVEMENTS	65

MULTIMODAL ACCESS 68

TRANSIT ACCESSIBILITY 68

LEVEL OF TRAFFIC STRESS AND ALL AGES AND ABILITIES BICYCLE AND PEDESTRIAN ANALYSIS
..... 71

NETWORK VULNERABILITY..... 77

CLIMATE CHANGE VULNERABILITY ASSESSMENT..... 77

EXPOSURE ASSESSMENT 77

CONCLUSION..... 83

APPENDIX..... 85

LIST OF FIGURES

FIGURE 1: SR 166 CCP STUDY AREA 3

FIGURE 2: TRAVEL DEMOGRAPHIC DISTRIBUTIONS (SOURCE : REPLICA) 4

FIGURE 3: TRIP CHARACTERISTICS SUMMARY (SOURCE: REPLICA) 5

FIGURE 4: CALIFORNIA TRUCK NETWORK WITHIN STUDY AREA 8

FIGURE 5: STUDY CORRIDOR AND AGRICULTURAL PACKING SHED LOCATION 10

FIGURE 6: 2023 AM INBOUND TRUCK DISTRIBUTION (SOURCE: STREETLIGHT) 14

FIGURE 7: 2023 PM OUTBOUND TRUCK DISTRIBUTION (SOURCE: STREETLIGHT) 15

FIGURE 8: SBCAG EJ COMMUNITIES RELATIVE TO STUDY CORRIDOR 17

FIGURE 9: AT RISK POPULATION PROFILE FOR SANTA MARIA 19

FIGURE 10: AT RISK POPULATION PROFILE FOR GUADALUPE 20

FIGURE 11: CALENVIROSCREEN 4.0 ENVIRONMENTAL VULNERABILITY SCORES FOR AREAS SURROUNDING SR 166..... 21

FIGURE 12: CLIMATE AND ECONOMIC JUSTICE SCREENING TOOL RESULTS 22

FIGURE 13: AB 1550 LOW-INCOME COMMUNITIES CENSUS TRACTS 23

FIGURE 14: CALIFORNIA ROAD SYSTEM FUNCTIONAL CLASSIFICATION (SOURCE: CALTRANS).. 26

FIGURE 15: 2023 NATIONAL HIGHWAY SYSTEM CLASSIFICATIONS 27

FIGURE 16: ADT AND TRUCK ADT ON STUDY ROAD NETWORK 28

FIGURE 17: 15-MINUTE TRAFFIC VOLUMES BY TIME OF DAY 29

FIGURE 18: EXISTING CONDITIONS AM/PM PEAK HOUR INTERSECTION TURNING MOVEMENT COUNTS (1 OF 2) 34

FIGURE 19: EXISTING CONDITIONS AM/PM PEAK HOUR INTERSECTION TURNING MOVEMENT COUNTS (2 OF 2) 35

FIGURE 20. TRAVEL TIME RELIABILITY VARIABLE 37

FIGURE 21. TRAVEL TIME RELIABILITY VARIABLE 37

FIGURE 22. AUTOS EARLY AM PEAK HOUR PERIOD (5:00-6:00AM) RELIABILITY AND CONGESTION 42

FIGURE 23. AUTOS AM PEAK HOUR PERIOD (6:00-7:00AM) RELIABILITY AND CONGESTION 43

FIGURE 24. AUTOS PM PEAK HOUR PERIOD (5:00-6:00PM) RELIABILITY AND CONGESTION 44

FIGURE 25. TRUCKS EARLY AM PEAK HOUR PERIOD (5:00-6:00AM) RELIABILITY AND CONGESTION 45

FIGURE 26. TRUCKS AM PEAK HOUR PERIOD (6:00-7:00AM) RELIABILITY AND CONGESTION ... 46

FIGURE 27. TRUCKS PM PEAK HOUR PERIOD (5:00-6:00PM) RELIABILITY AND CONGESTION ... 47

FIGURE 28. AUTOS AND TRUCKS EARLY AM PEAK HOUR PERIOD (5:00-6:00AM) RELIABILITY AND CONGESTION..... 48

FIGURE 29. AUTOS AND TRUCKS AM PEAK HOUR PERIOD (6:00-7:00AM) RELIABILITY AND CONGESTION..... 49

FIGURE 30. AUTOS AND TRUCKS PM PEAK HOUR PERIOD (5:00-6:00PM) RELIABILITY AND CONGESTION..... 50

FIGURE 31: STUDY AREA COLLISIONS BY SEVERITY 53

FIGURE 32: STUDY AREA FATAL AND SEVERE INJURY COLLISIONS 54

FIGURE 33: PEDESTRIAN AND BICYCLE COLLISIONS..... 55

FIGURE 34: PRIMARY COLLISION FACTORS FOR ALL COLLISIONS 56

FIGURE 35: PRIMARY COLLISION FACTORS FOR FATAL/SEVERE INJURY COLLISIONS 57

FIGURE 36: ROAD SAFETY AUDIT TEAM 64

FIGURE 37: TRANSIT ACCESSIBILITY ON STUDY CORRIDOR 70

FIGURE 38. BICYCLE LTS SCORES..... 72

FIGURE 39. BICYCLE LTS (SANTA BARBARA & SANTA MARIA ATP) 74

FIGURE 40. PEDESTRIAN LTS ON OBISPO STREET AND FLOWER AVENUE..... 75

FIGURE 41: WILDFIRE EXPOSURE IN 2055 (RCP 8.5) SCENARIO 80

FIGURE 42: WILDFIRE EXPOSURE AND 100-YEAR PRECIPITATION DEPTH CHANGE IN 2055 (RCP 8.5) SCENARIO 81

FIGURE 43: WILDFIRE EXPOSURE AND 7-DAY MAXIMUM TEMPERATURE INCREASE IN 2055 (RCP 8.5) SCENARIO 82

LIST OF TABLES

TABLE 1: PRIMARY COLLISION FACTOR (PCF) VIOLATION CATEGORIES FOR ALL COLLISIONS ..	10
TABLE 2: PERFORMANCE MEASURES	2
TABLE 3: 2000-2022 TRUCK ANNUAL AVERAGE DAILY TRAFFIC	9
TABLE 4: FREIGHT ORIGIN-DESTINATION REGIONAL DISTRIBUTION COMPARATIVE TRAVEL PATTERNS FOR 5+ AXLE TRUCKS DURING PEAK HOUR PERIODS (2023 AND 2003)	13
TABLE 5: STUDY INTERSECTIONS AND FORM OF TRAFFIC CONTROL.....	29
TABLE 6: INTERSECTION LOS CRITERIA	31
TABLE 7: STUDY INTERSECTION EXISTING TRAFFIC OPERATIONS	33
TABLE 8. CONGESTION AND RELIABILITY PERFORMANCE MEASURES	38
TABLE 9. AUTOS TRAVEL TIME RELIABILITY	40
TABLE 10. TRUCKS TRAVEL TIME RELIABILITY	40
TABLE 11. AUTOS AND TRUCKS TRAVEL TIME RELIABILITY.....	41
TABLE 12: PRIMARY COLLISION FACTOR (PCF) VIOLATION CATEGORIES FOR ALL COLLISIONS .	57
TABLE 13: PRIMARY COLLISION FACTOR (PCF) VIOLATION CATEGORIES FOR FATAL AND SEVERE INJURY COLLISIONS	58
TABLE 14: INTERSECTION COLLISIONS BY SEVERITY.....	59
TABLE 15: INTERSECTION COLLISIONS BY TYPE.....	59
TABLE 16: INTERSECTION COLLISIONS BY PRIMARY COLLISION FACTOR	60
TABLE 17: SEGMENT COLLISIONS BY SEVERITY.....	60
TABLE 18: SEGMENT COLLISIONS BY COLLISION TYPE	61
TABLE 19: SEGMENT COLLISIONS BY PRIMARY COLLISION FACTOR	61
TABLE 20: STUDY CORRIDOR CRASH RATES	63
TABLE 21: TRANSIT SUPPORTIVE AREAS NEAR SR 166 AND PARALLEL ROUTES SERVED BY TRANSIT (1/4 MILE).....	69
TABLE 22: TRANSIT SUPPORTIVE AREAS NEAR SR 166 AND PARALLEL ROUTES SERVED BY TRANSIT (1/2 MILE).....	69
TABLE 23. ROADWAY CHARACTERISITCS AND BICYCLE LTS	73

PAGE LEFT INTENTIONALLY BLANK

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 Plan (CCP). 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 plan 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 CCP. 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 plan.

SBCAG has also formed the SR 166 CCP 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 plan. The list of SR 166 CCP 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 CCP 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 CCP STUDY AREA

PLANNING CONTEXT

The SR 166 CCP 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 CCP. 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)/Santa Barbara County
- California Central Coast Sustainable Freight Study (AMBAG, 2024)
- 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

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 CHARACTERISTICS

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 166 are 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 intersections¹. 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 F²

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 speed³.

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.

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:

- Early AM Peak (5:00-6:00 AM)
- AM Peak Hour (6:00-7:00 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 PM: Exceeds standards (LOS F).	6 collisions (2019-2023), crash rate 0.30 CMV (below state avg 0.36 CMV).	<ul style="list-style-type: none"> - Incorporate Caltrans' GAPS project. - Design for increased pedestrian volumes. - Add Class II/Buffered Class II bike lane. - Improve lighting/pedestrian crossings. - 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). PM: Meets standards	9 collisions (2019-2023), crash rate 0.40 CMV (below state avg 0.59 CMV).	<ul style="list-style-type: none"> - Install lighting/signage. - Modify northbound Simas Road approach. - Enhance stop sign visibility. - Add westbound right-turn pocket. - 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).	<ul style="list-style-type: none"> - Enhance school zone signage. - Reduce speed limit for school zone. - Improve signal timing for school traffic. - Address pedestrian safety concerns. - Improve visibility for southbound approach.
6	SR 166 & RAY ROAD	TWSC	AM: Meets standards PM: Exceeds standards (LOS F).	4 collisions (2019-2023), crash rate 0.17 CMV (below state avg 0.36 CMV).	<ul style="list-style-type: none"> - Realign intersection for better sight distance. - Add northbound left-turn merge lane. - Address drainage issues. - Install lighting. - Evaluate signal warrant due to PM queuing.
7	SR 166 & BLACK ROAD	TWSC (Signal installed 10/2024)	(As TWSC) AM: Exceeds standards (LOS F). 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).	<ul style="list-style-type: none"> - Improve pedestrian infrastructure. - Stripe eastbound right-turn pocket. - Update corner treatments for Americans with Disabilities Act (ADA). - Enhance intersection lighting. - Improve bike lane visibility. - 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 CCP 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 CCP 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 CCP will apply the performance measures listed in **Table 2**. The measures to be reported in this existing conditions evaluation are highlighted in green.

TABLE 2: PERFORMANCE MEASURES

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	HSM Part B CMFs (Part C)	ArcGIS Network Analyzer	Online Mapping Tools	TCRP Report 118; Transit Capacity Quality of Service Manual
Baseline Travel Demand	Volume, Ridership, VMT, Throughput												
Segment Operations (Baseline): Vehicles	Buffer Time, BTI												
Segment Operations (Baseline): Trucks	Buffer Time, BTI												
Intersection Operations (Base and Future)	Delay, Queuing, LOS												
Transit Ridership (Baseline and Future)	Ridership, VMT												
Pedestrian/Bike Connectivity	Access Indices (LTS)												
Safety	Collision Reduction & Rates												
EJ/Social Equity	Access, Benefit/Burden												
Adaptation	Network Vulnerability												

Legend 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**.

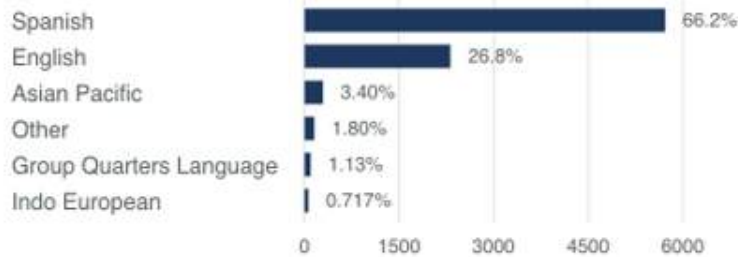
TRAVEL DEMOGRAPHICS AND TRIP SUMMARY

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:

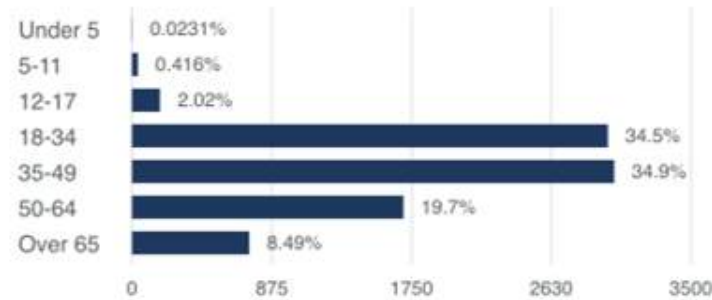
- **Demographics:** SR 166 primarily serves a middle-income, working-age population with a significant Hispanic/Latino population (72.1%), where Spanish is the primary language for 66.2% of travelers. The age distribution is largely within the 18-49 range, reflecting a middle-aged, active commuting population.
- **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.

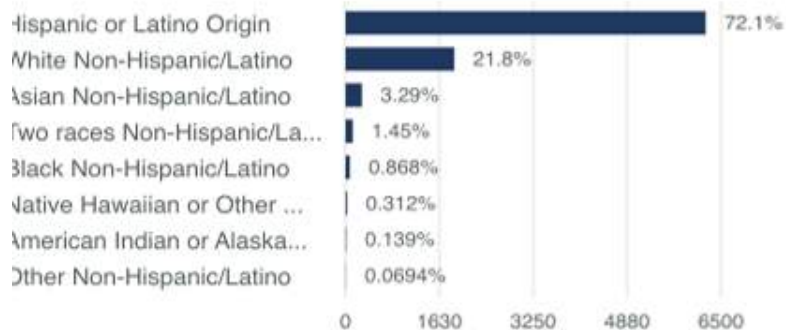


PRIMARY LANGUAGE DISTRIBUTION

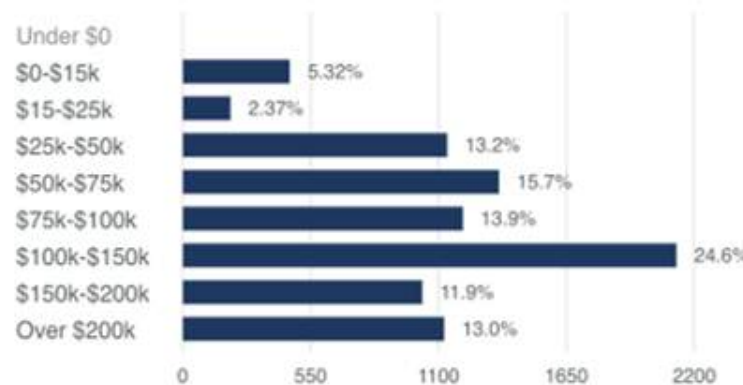


Average Age **41.0** | Median Age **40**

AGE DISTRIBUTION



RACE AND ETHNICITY DISTRIBUTION

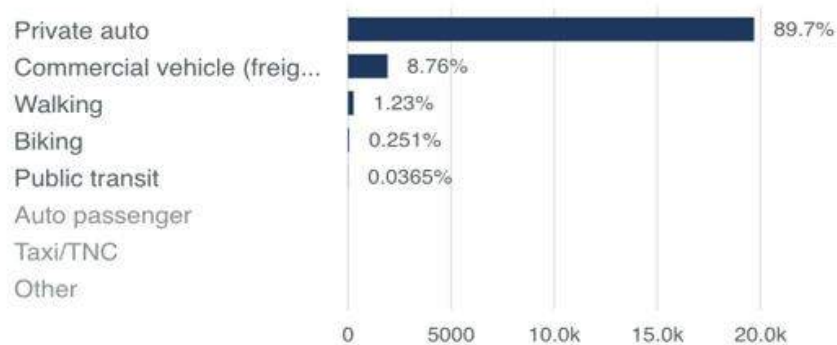


Average Income **\$125k** | Median Income **\$98.6k**

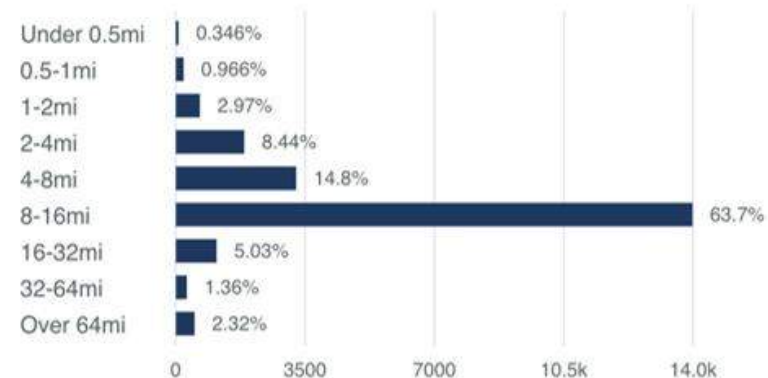
HOUSEHOLD INCOME DISTRIBUTION

FIGURE 2: TRAVEL DEMOGRAPHIC DISTRIBUTIONS (SOURCE : REPLICA)

PRIMARY MODE DISTRIBUTION

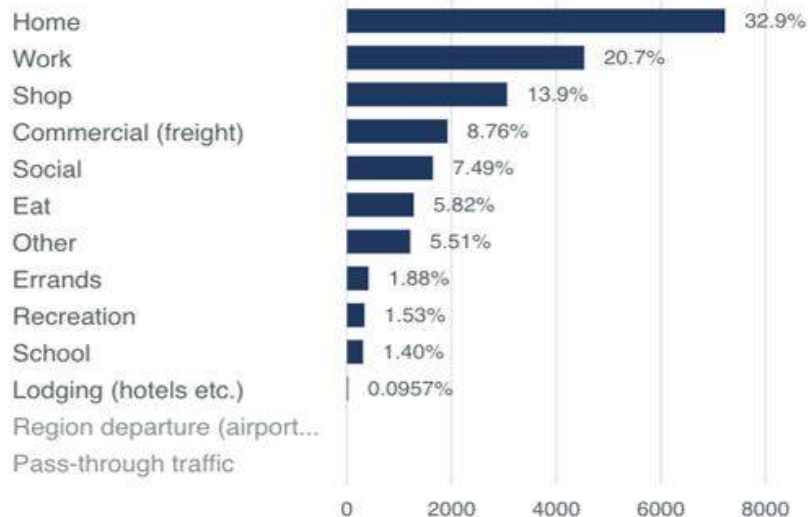


TRIP DISTANCE DISTRIBUTION



Average Miles **11.5** | Median Miles **9.5**

TRIP PURPOSE DISTRIBUTION



TRIPS BY ORIGIN BUILDING USE

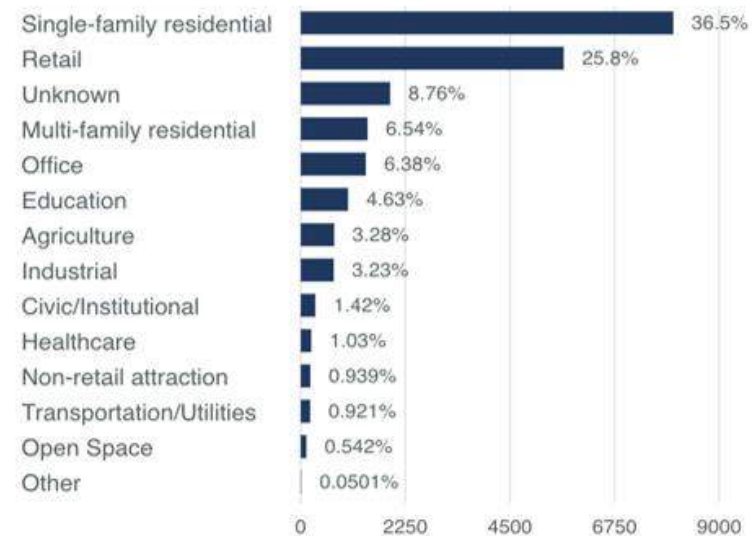


FIGURE 3: TRIP CHARACTERISTICS SUMMARY (SOURCE: REPLICA)

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 region 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://ambaq.org/plans/regional-freight-planning>

⁵ Association of Monterey Bay Area Governments. (2016). *US 101 Central Coast California Freight Strategy*. <https://ambaq.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 (KPR)).

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.

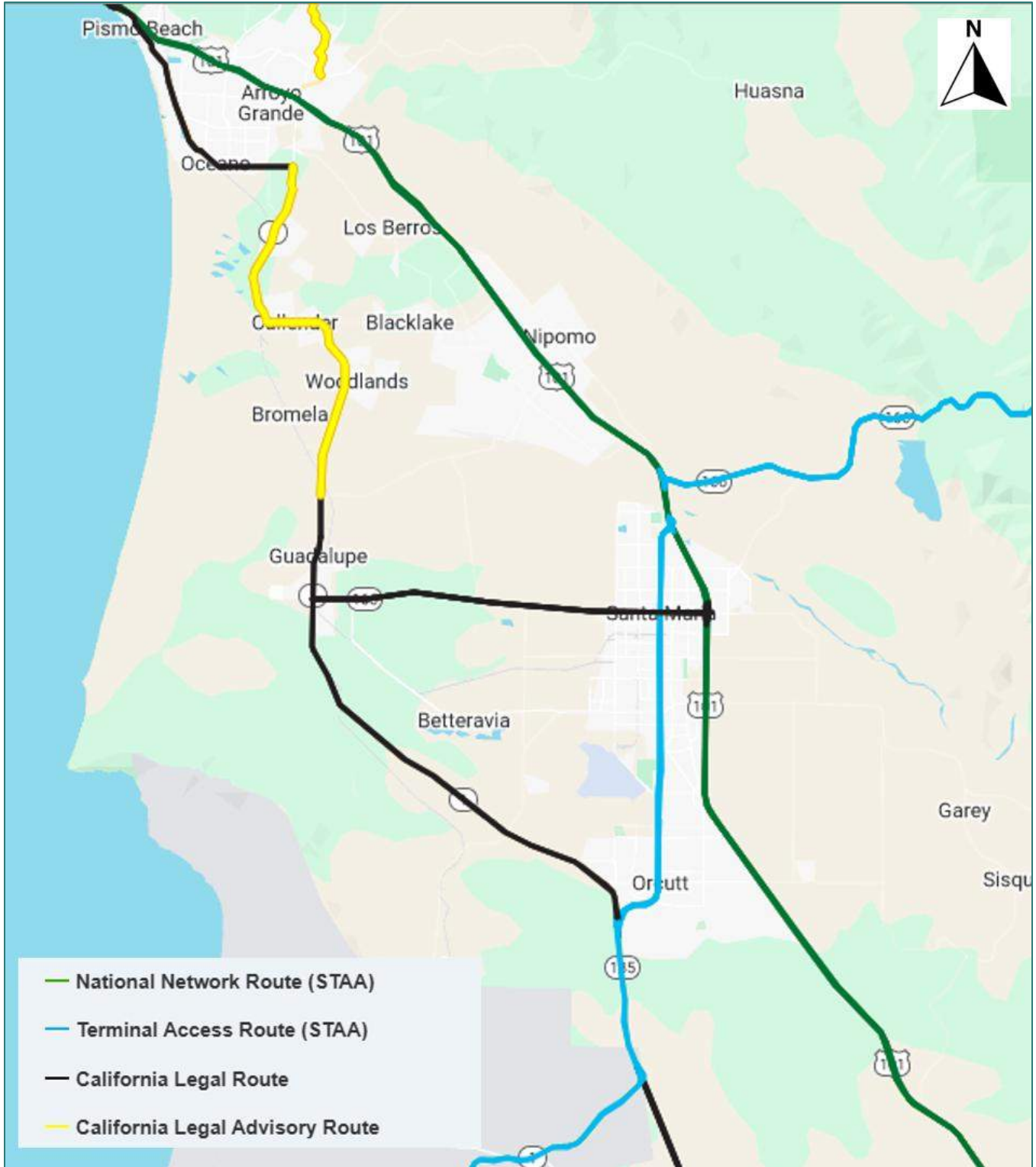
ENFORCEMENT

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.

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

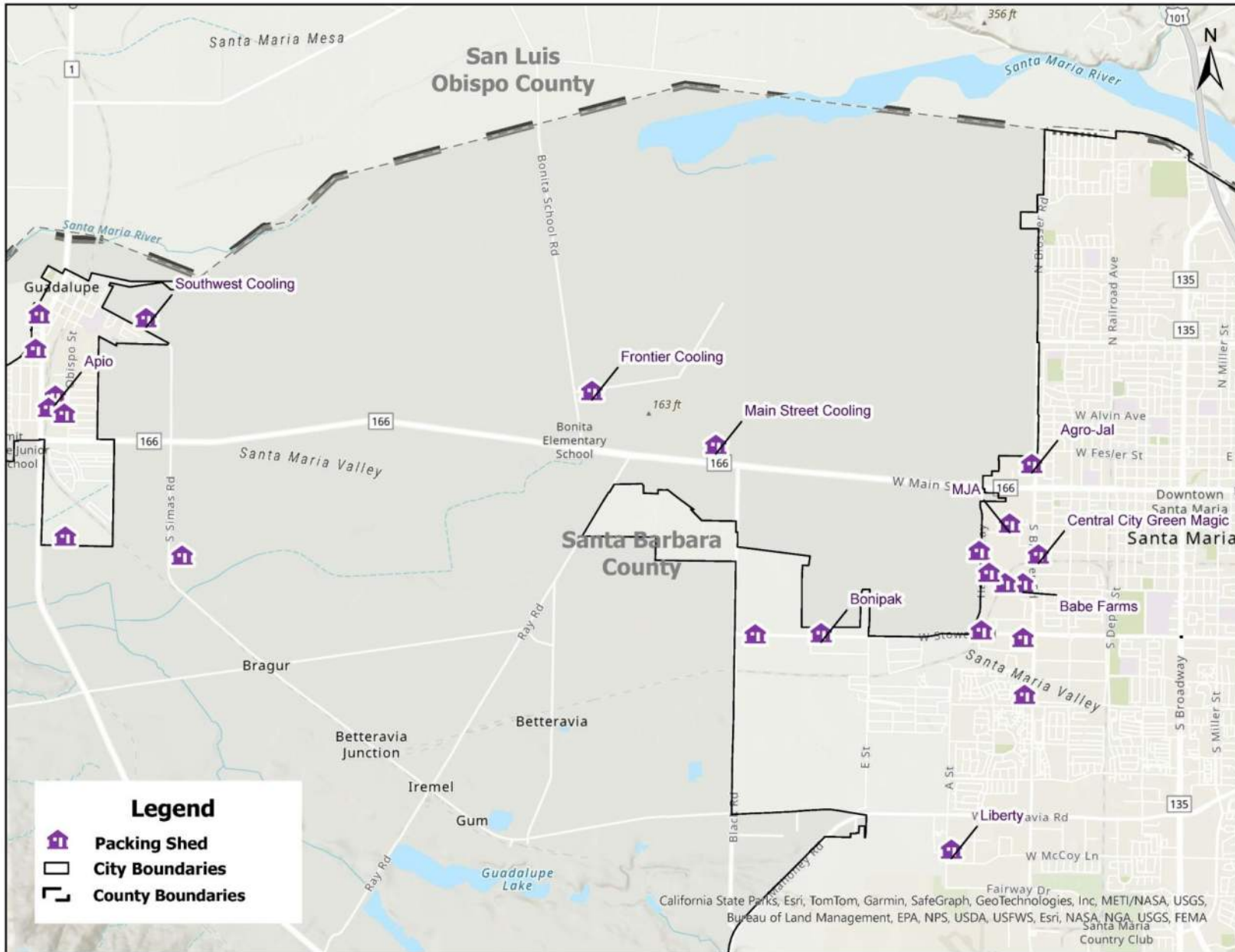


FIGURE 5: STUDY CORRIDOR AND AGRICULTURAL PACKING SHED LOCATION

TRUCK ORIGIN-DESTINATION ANALYSIS

2003 Truck Intercept Survey on SR 166

A previous truck study⁷ 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.

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 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

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

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.
- 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..

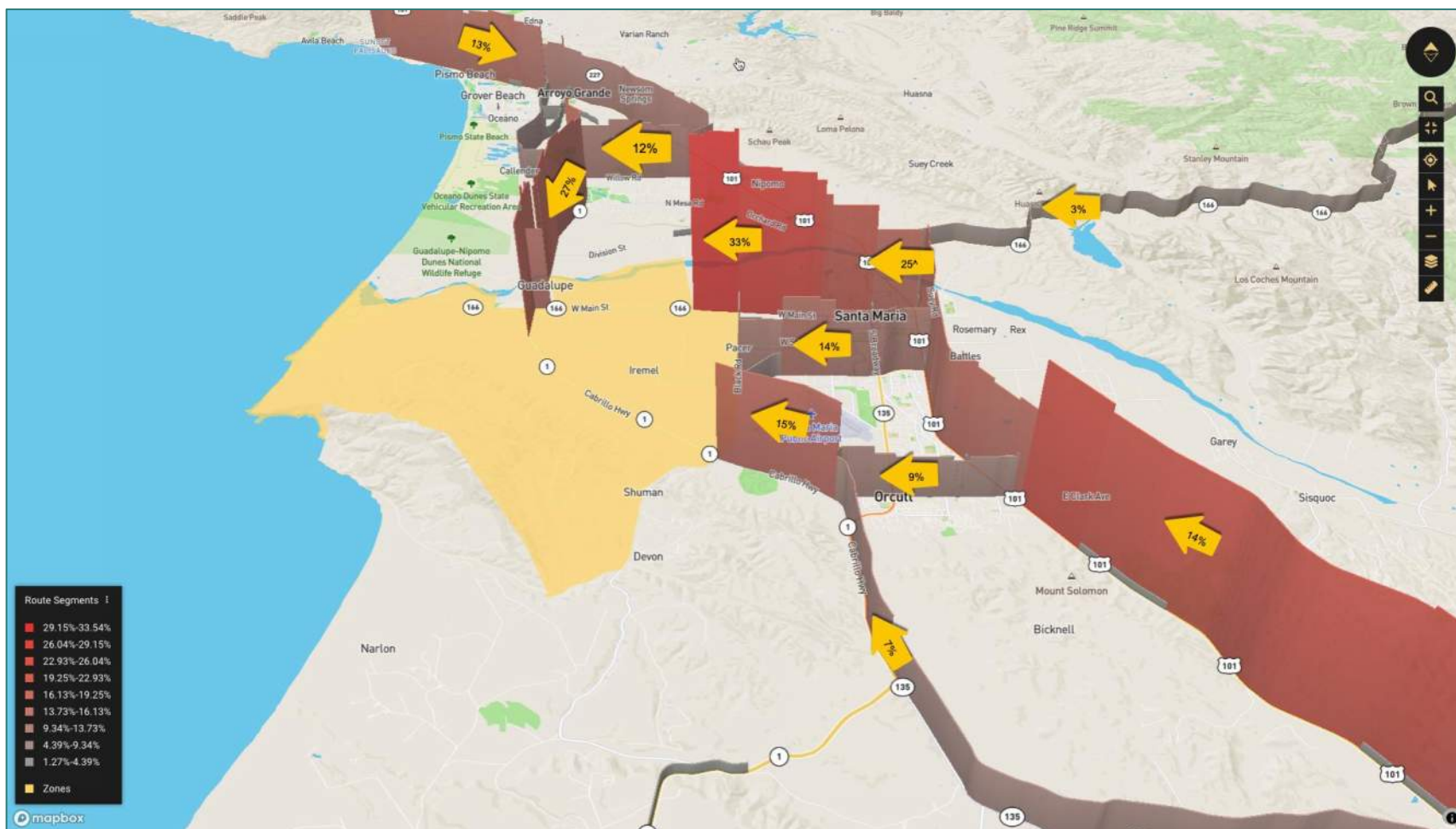


FIGURE 6: 2023 AM INBOUND TRUCK DISTRIBUTION (SOURCE: STREETLIGHT)

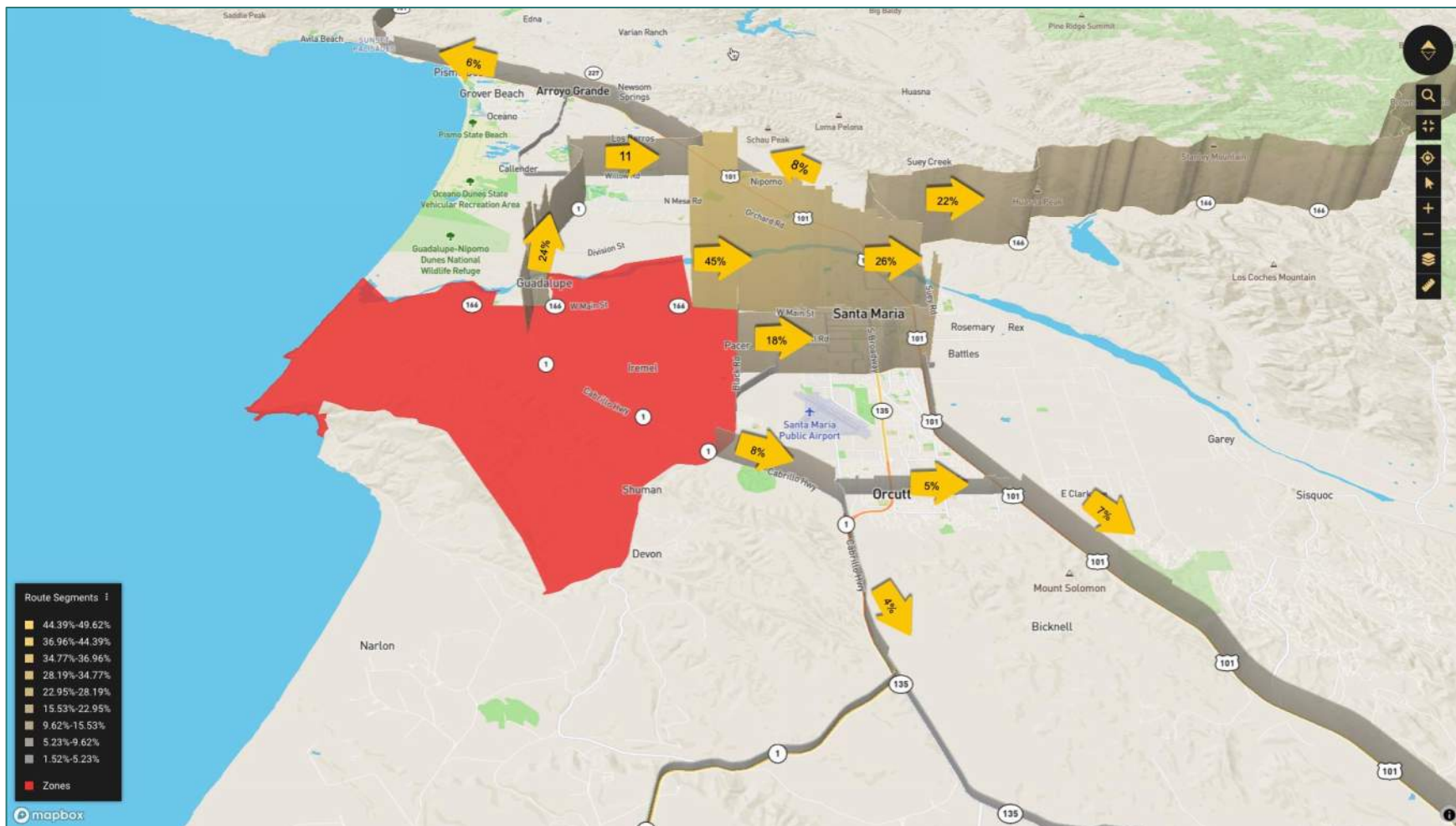


FIGURE 7: 2023 PM OUTBOUND TRUCK DISTRIBUTION (SOURCE: STREETLIGHT)

DISADVANTAGED COMMUNITY MAPPING

SR 166 connects the communities of Guadalupe to the west and Santa 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 8 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 9 and **Figure 10** 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?q=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.

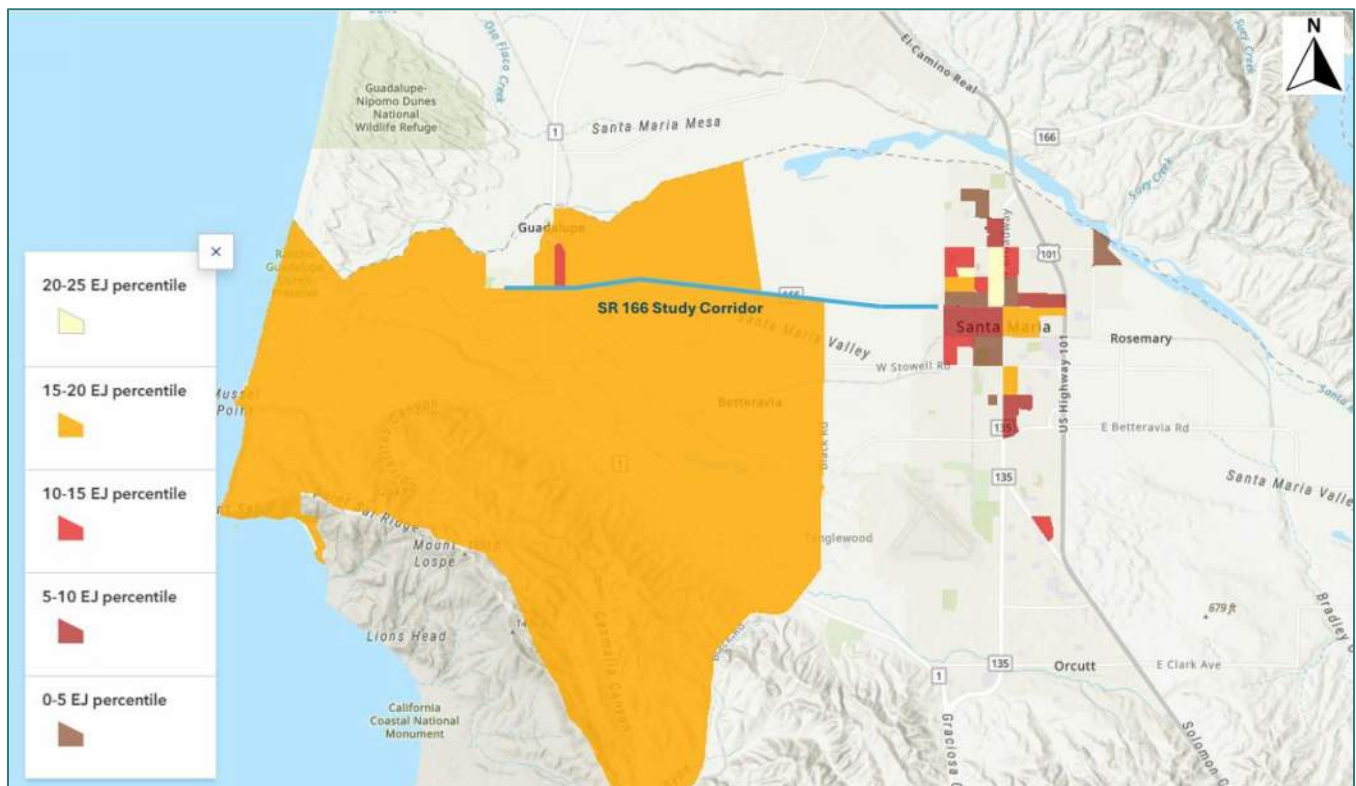


FIGURE 8: SBCAG EJ COMMUNITIES RELATIVE TO STUDY CORRIDOR

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 11): 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.

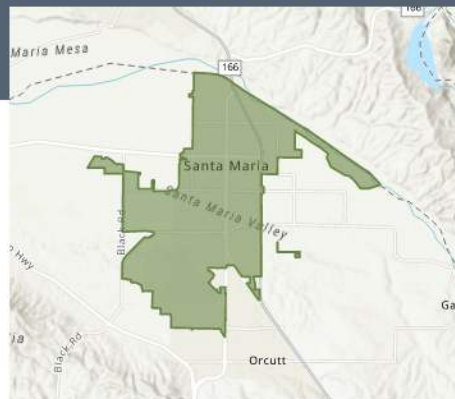
Federal Justice40 Screening Tool (Figure 12): According to the Climate and Economic Justice Screening Tool, six of the seven census tracts adjacent to SR 166 within the study area qualify as disadvantaged communities, indicating higher relative climate, economic, and social burdens.

AB 1550 Low-Income Communities (Figure 13): 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



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

AT RISK POPULATION

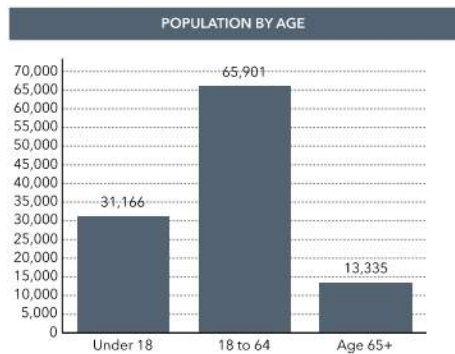
8,767 Households With Disability
13,335 Population 65+
1,749 Households Without Vehicle

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



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 9: AT RISK POPULATION PROFILE FOR SANTA MARIA



AT RISK POPULATION PROFILE

Guadalupe City, CA

Geography: Place



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

AT RISK POPULATION

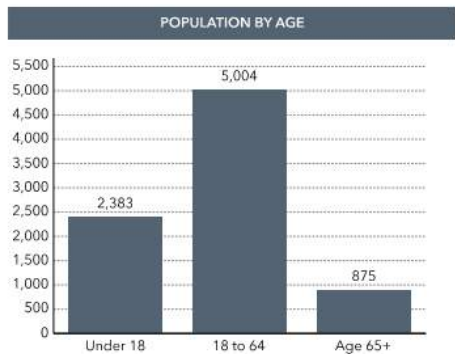
602 Households With Disability
875 Population 65+
70 Households Without Vehicle

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).

© 2024 Esri

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

FIGURE 10: AT RISK POPULATION PROFILE FOR GUADALUPE

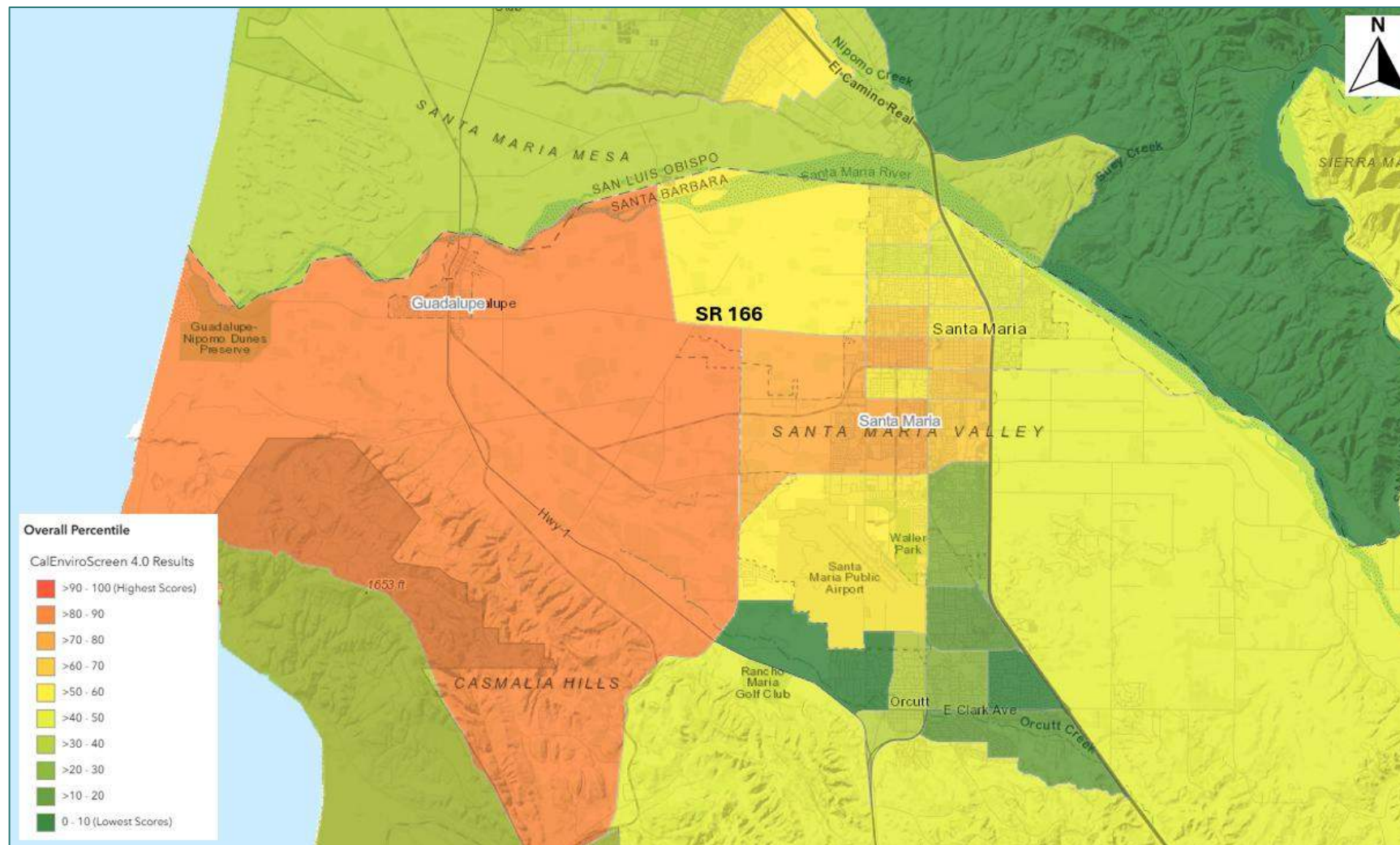


FIGURE 11: CALENVIROSCREEN 4.0 ENVIRONMENTAL VULNERABILITY SCORES FOR AREAS SURROUNDING SR 166

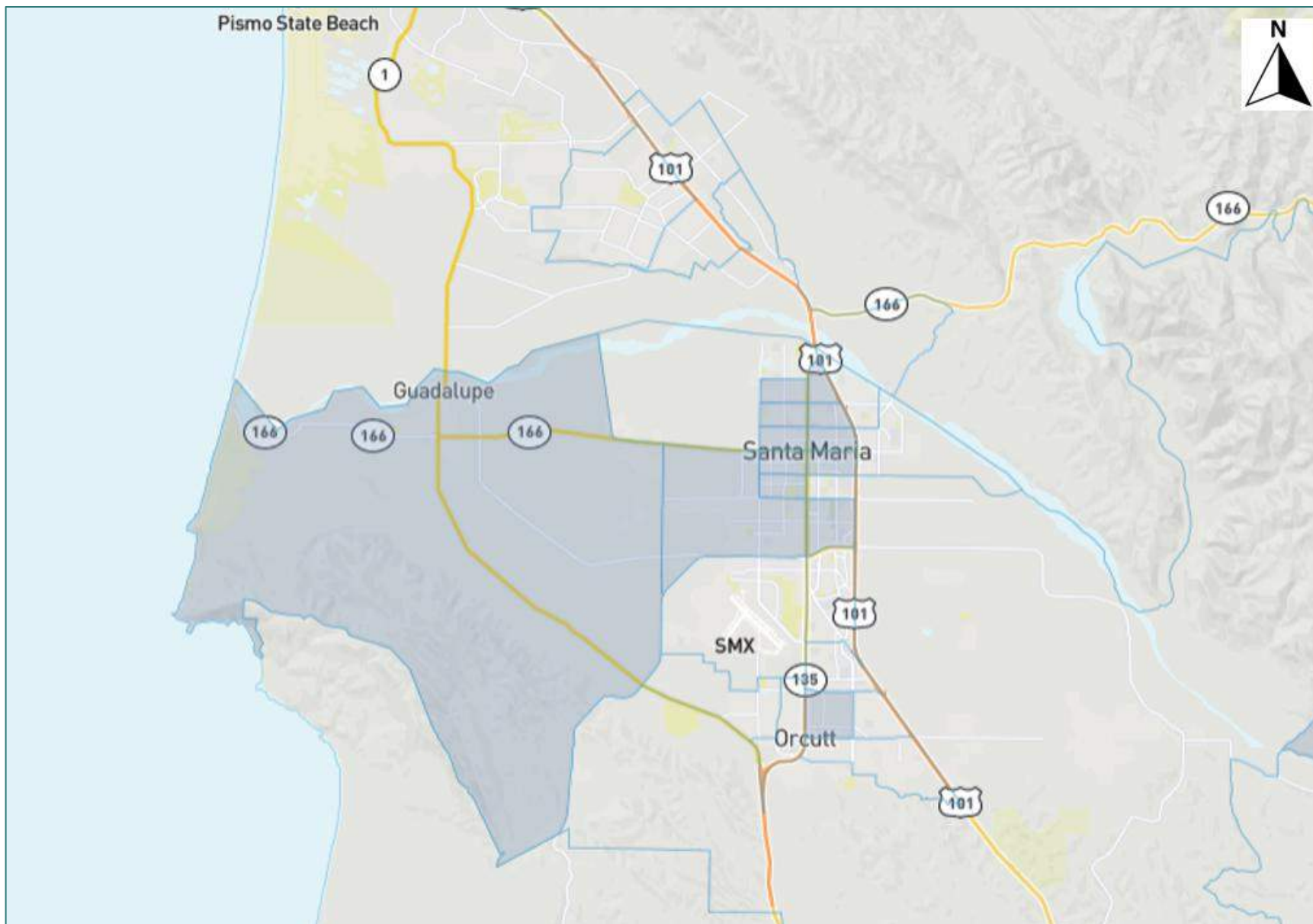


FIGURE 12: CLIMATE AND ECONOMIC JUSTICE SCREENING TOOL RESULTS

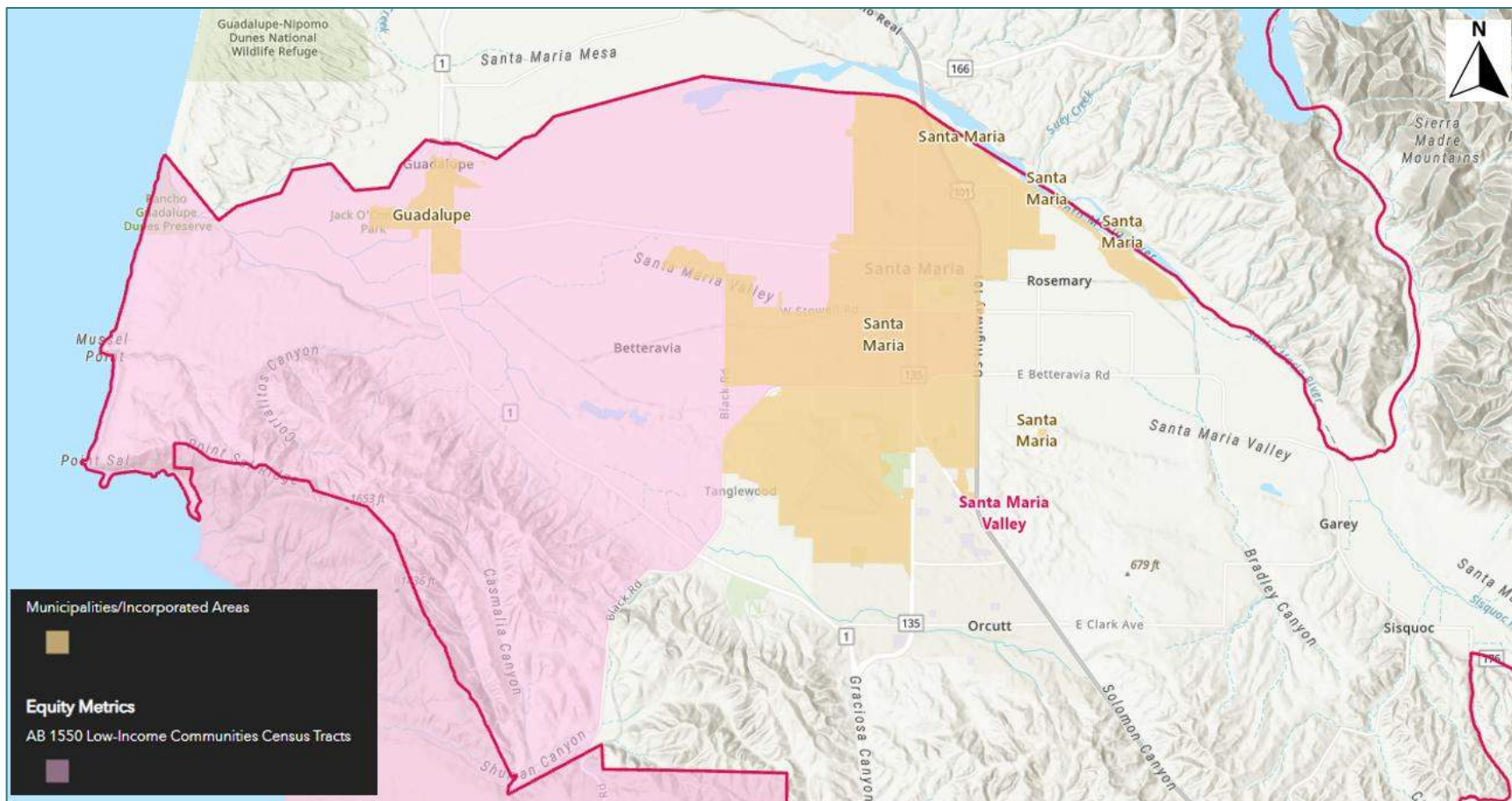


FIGURE 13: AB 1550 LOW-INCOME COMMUNITIES CENSUS TRACTS

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, its 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.

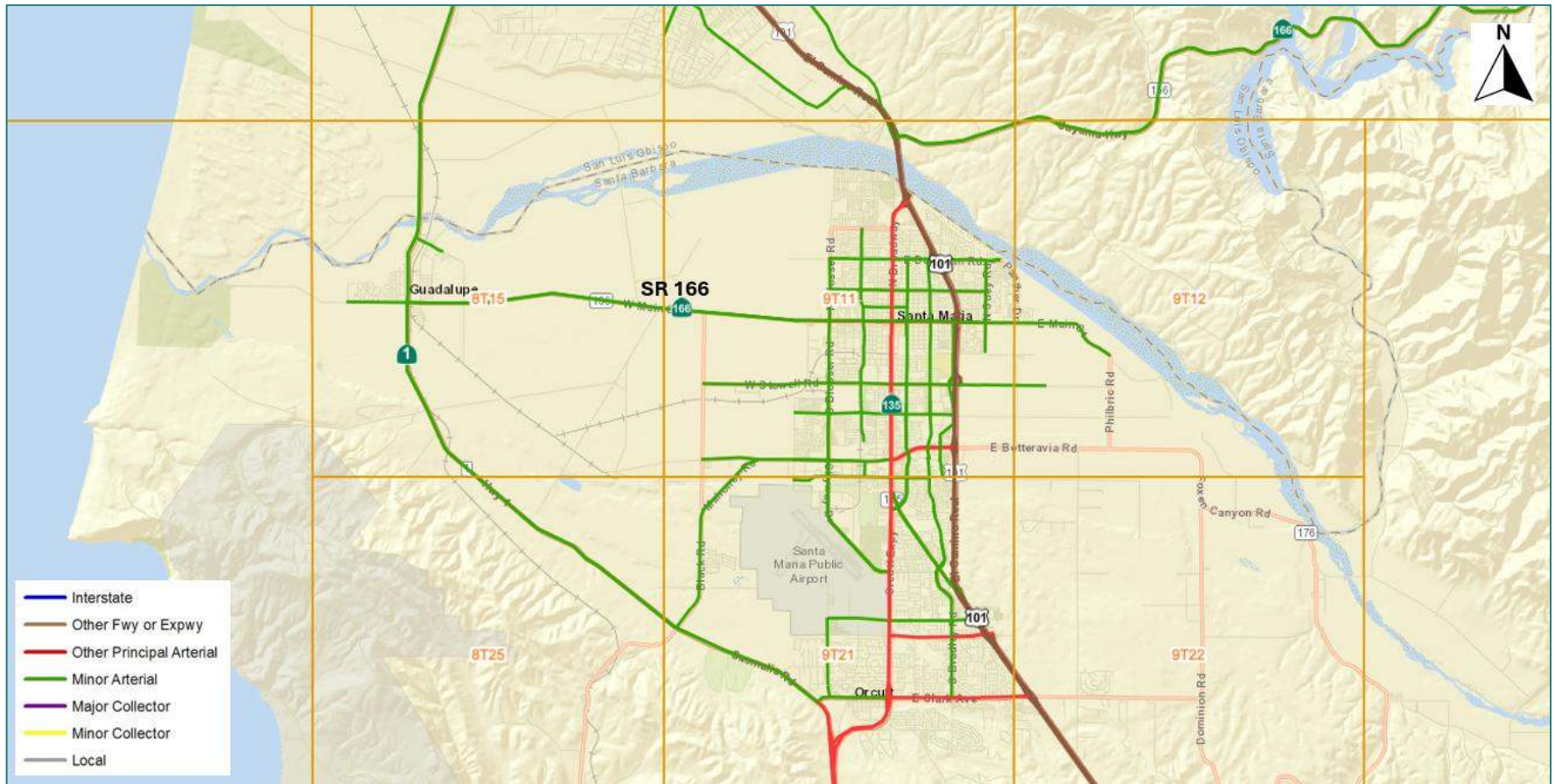


FIGURE 14: CALIFORNIA ROAD SYSTEM FUNCTIONAL CLASSIFICATION (SOURCE: CALTRANS)

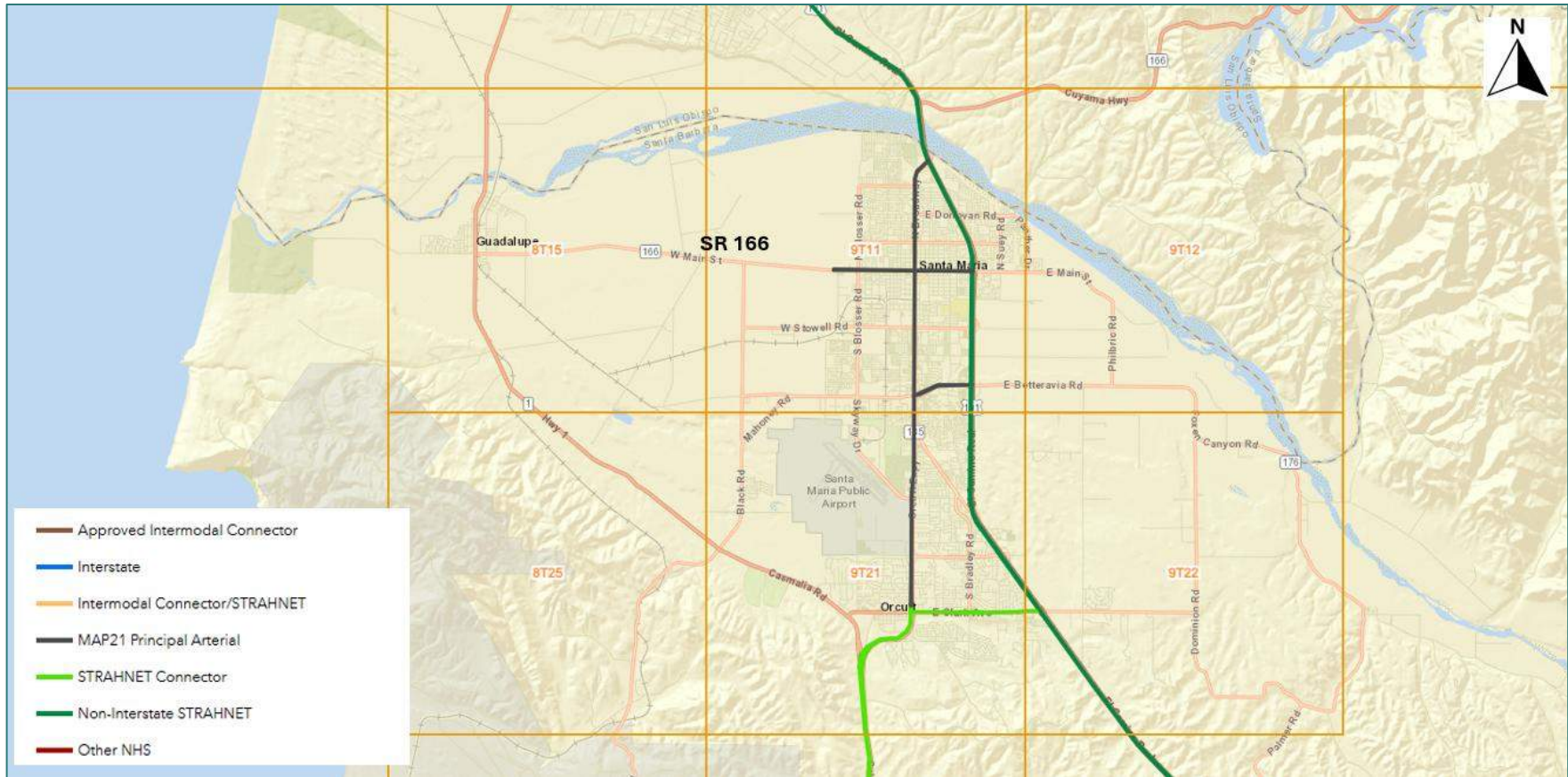


FIGURE 15: 2023 NATIONAL HIGHWAY SYSTEM CLASSIFICATIONS

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 16**. Truck volumes (5+ axel trucks) are provided in **Figure 16** and include the percentage of heavy-duty trucks relative to daily volume.

Figure 17 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.

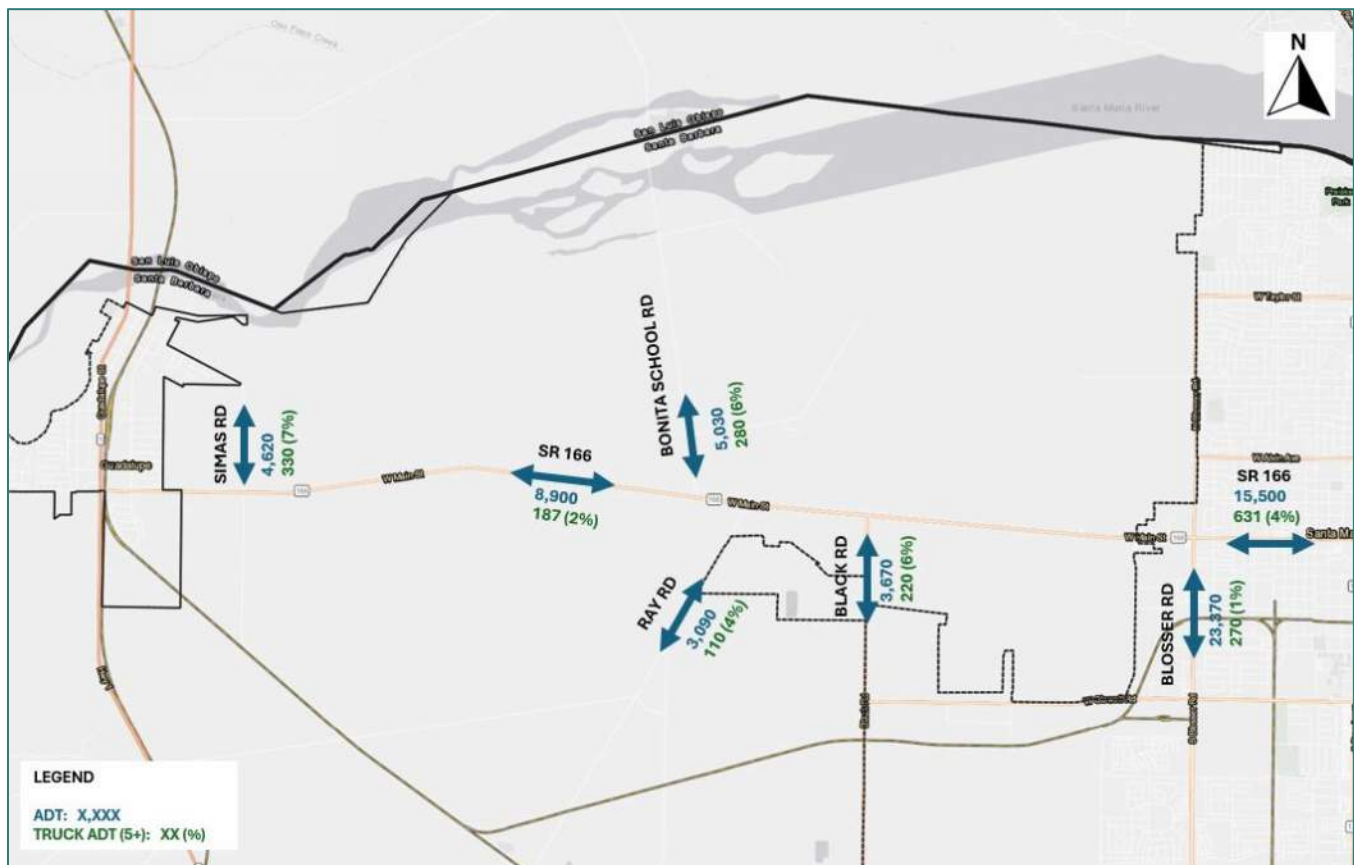
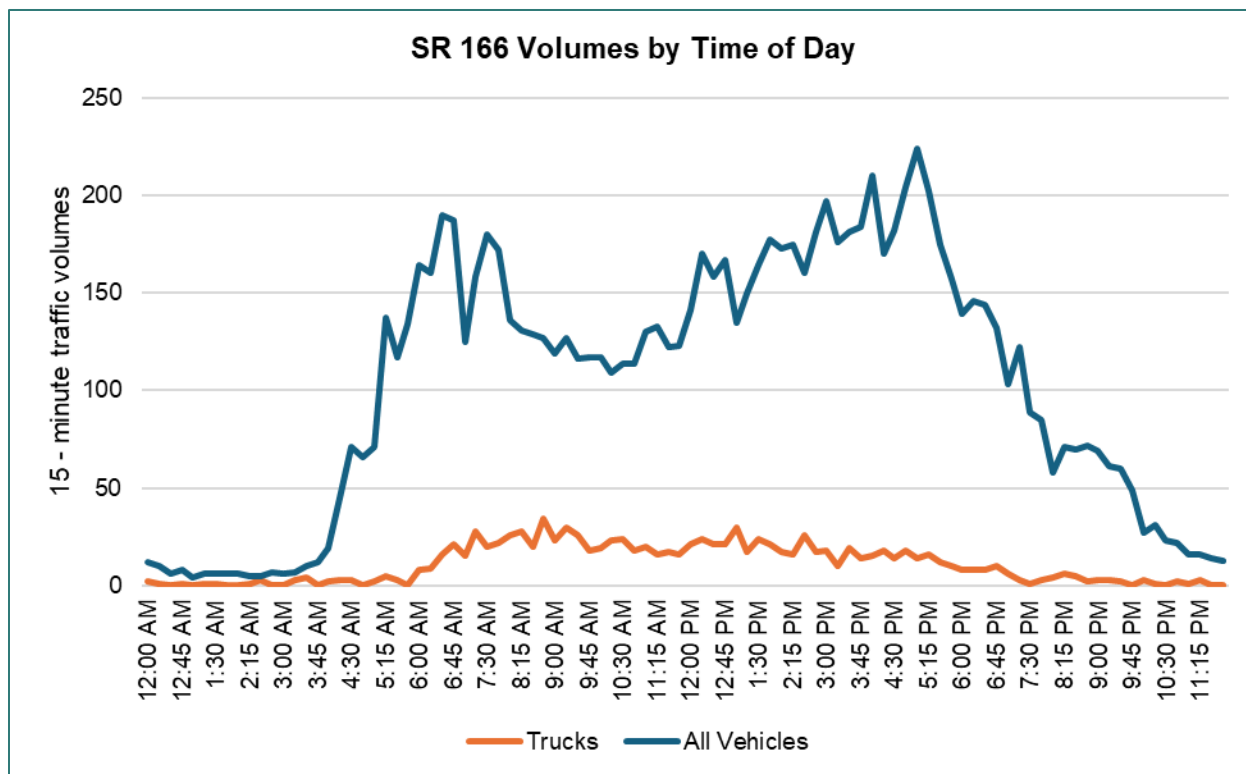


FIGURE 16: ADT AND TRUCK ADT ON STUDY ROAD NETWORK



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

FIGURE 17: 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 18** and **Figure 19**. 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 7th 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 is 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 (TWSC⁹):** 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.

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	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	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 ^A	AWSC	13.8	B	24.7	C

^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: Key: [Worst stop-controlled delay] for TWSC intersections
 Shaded cells with bolded text do not meet jurisdictional Level of Service Policy

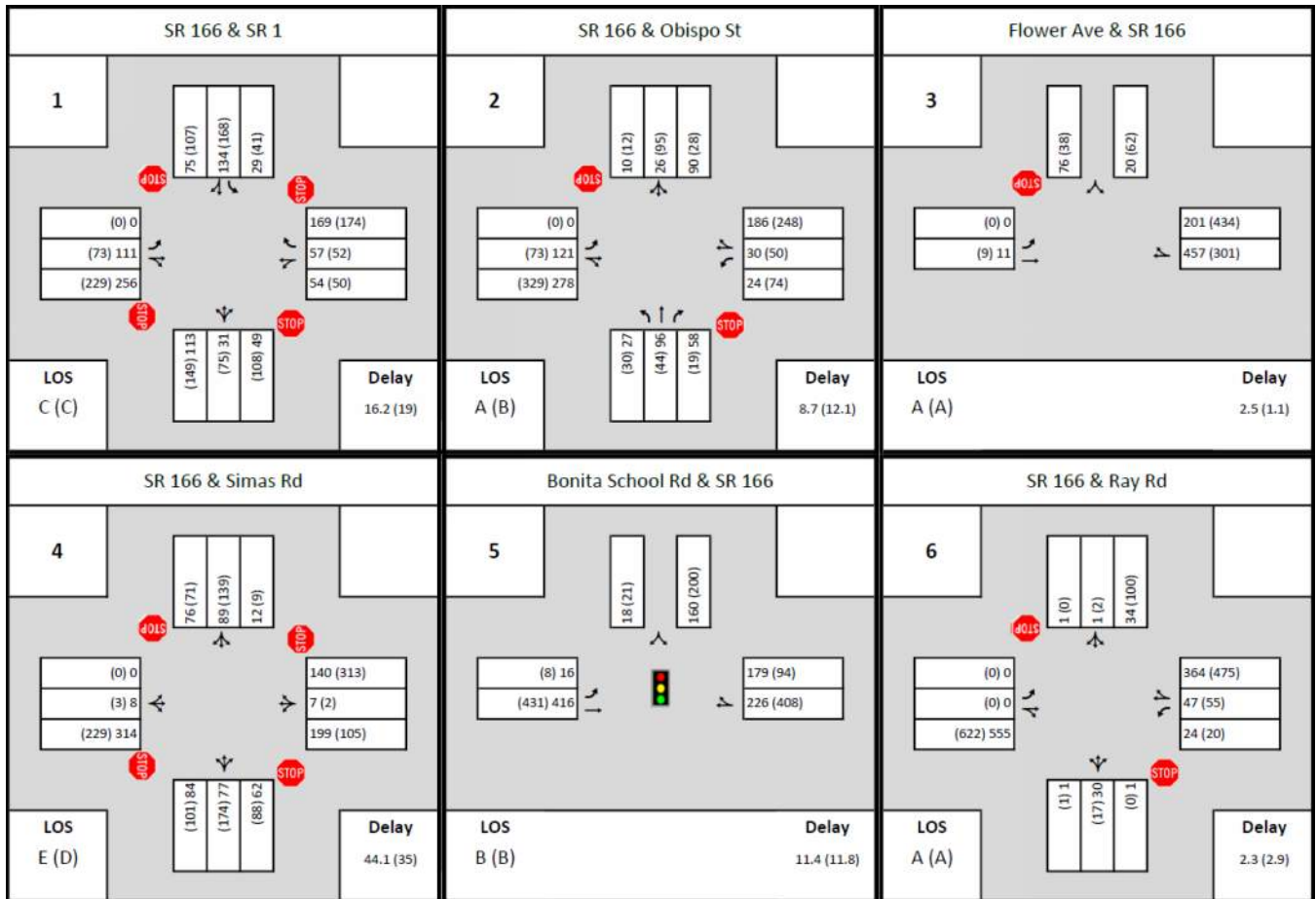
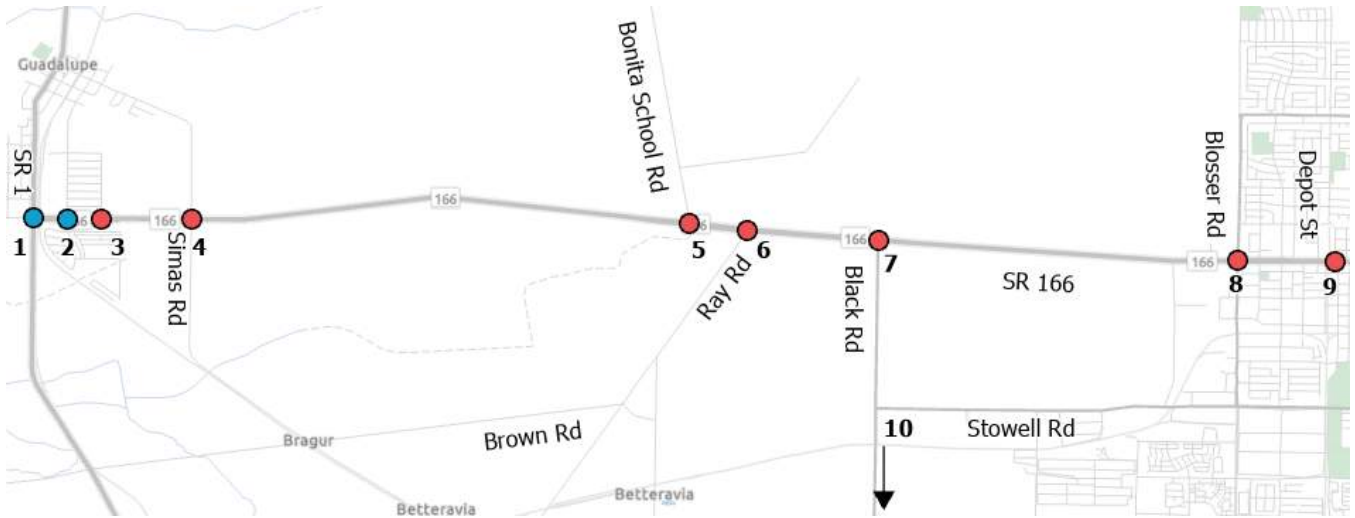
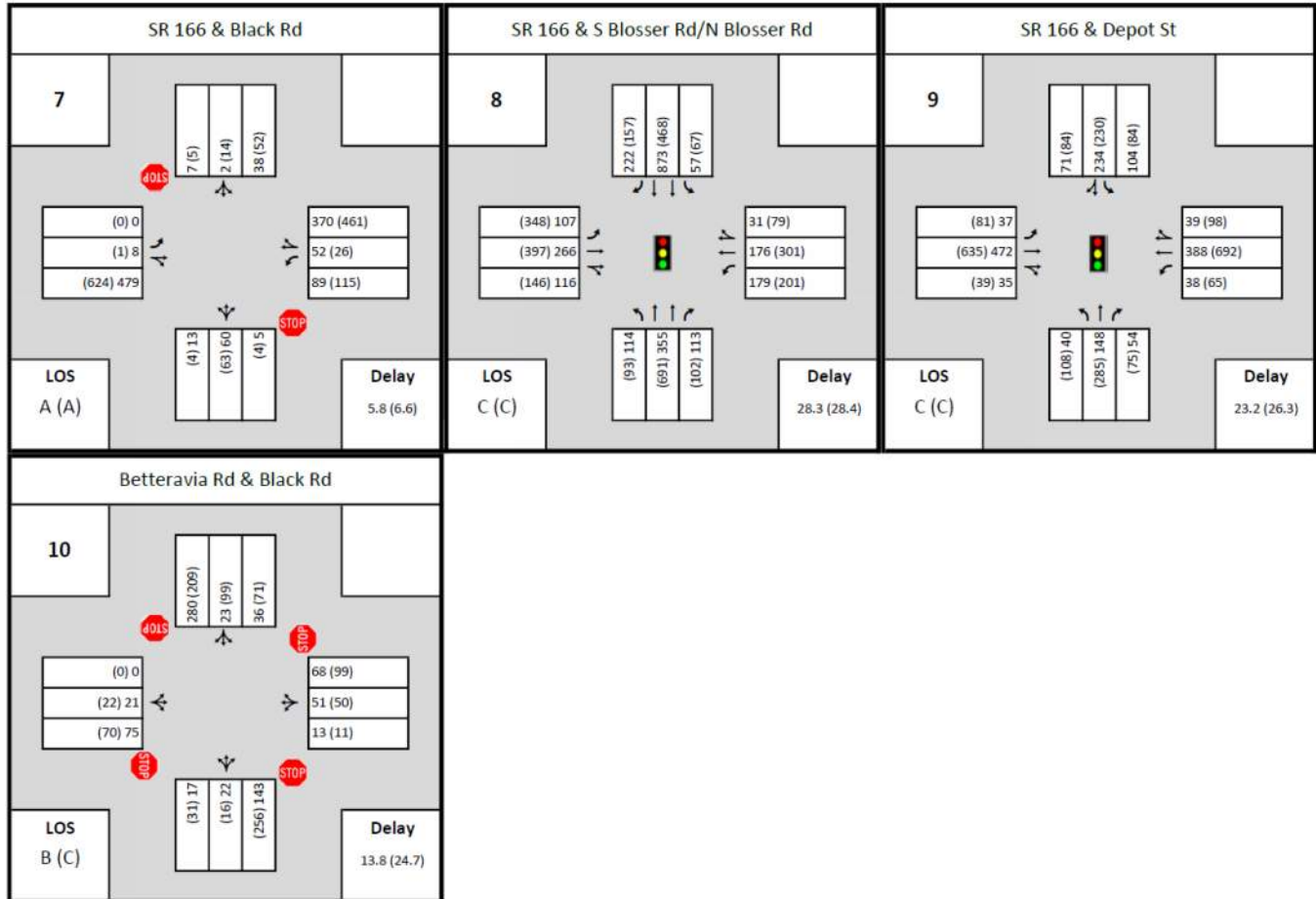


FIGURE 18: EXISTING CONDITIONS AM/PM PEAK HOUR INTERSECTION TURNING MOVEMENT COUNTS (1 OF 2)



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

FIGURE 19: 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 20** and **Figure 21**.

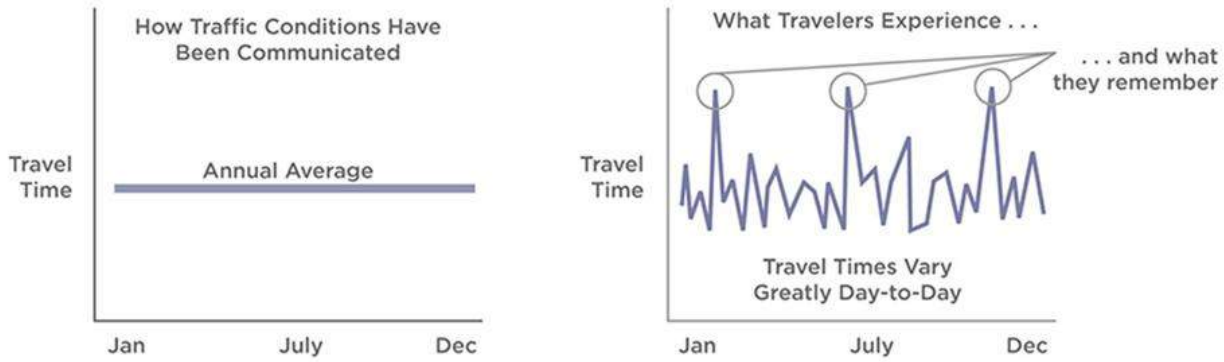


FIGURE 20. TRAVEL TIME RELIABILITY VARIABLE¹⁰

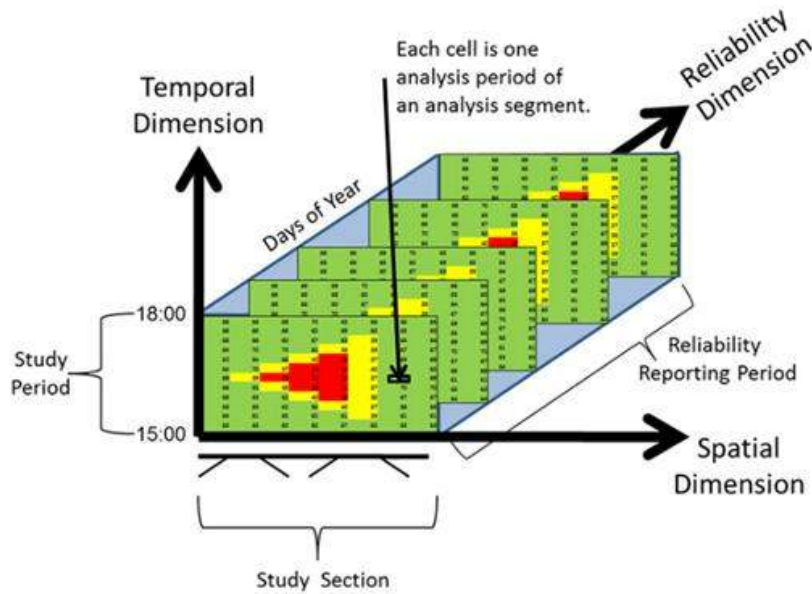


FIGURE 21. TRAVEL TIME RELIABILITY VARIABLE¹¹

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:** 6:00 AM to 7:00 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 8**.

TABLE 8. 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 (6:00–7:00 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 (6:00–7:00 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 (6:00–7:00 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 9 through **Table 11** summarize the travel time reliability findings for SR 166.

TABLE 9. AUTOS TRAVEL TIME RELIABILITY

SEGMENT	95 TH % TT (MIN)			BUFFER TIME INDEX			CONGESTED (AVG. TT<60% OF FREE FLOW)		
	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 10. TRUCKS TRAVEL TIME RELIABILITY

SEGMENT	95 TH % TT (MIN)			BUFFER TIME INDEX			CONGESTED (AVG. TT<60% OF FREE FLOW)		
	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 11. AUTOS AND TRUCKS TRAVEL TIME RELIABILITY

SEGMENT	95 TH % TT (MIN)			BUFFER TIME INDEX			CONGESTED (AVG. TT<60% OF FREE FLOW)		
	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

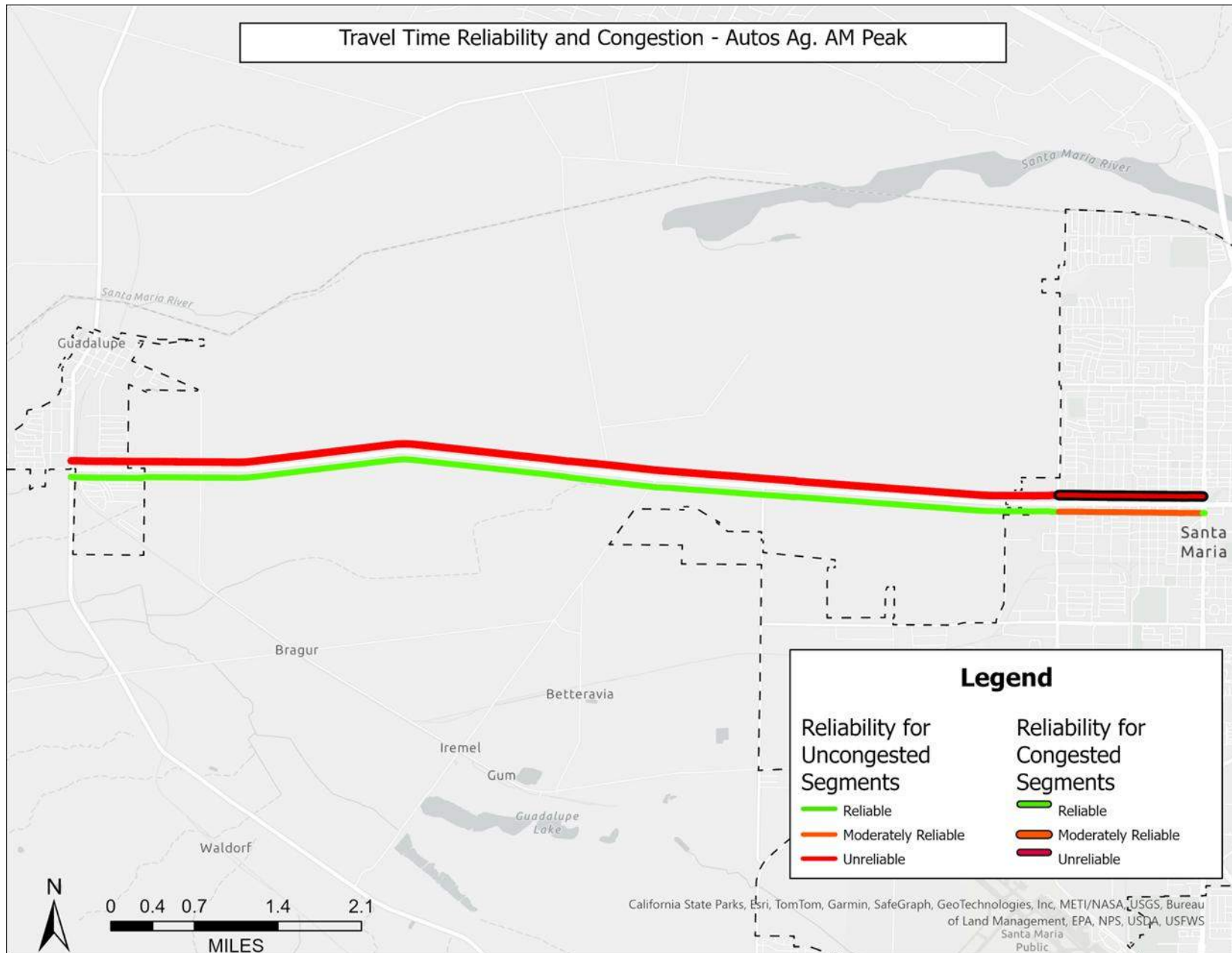


FIGURE 22. AUTOS EARLY AM PEAK HOUR PERIOD (5:00-6:00AM) RELIABILITY AND CONGESTION

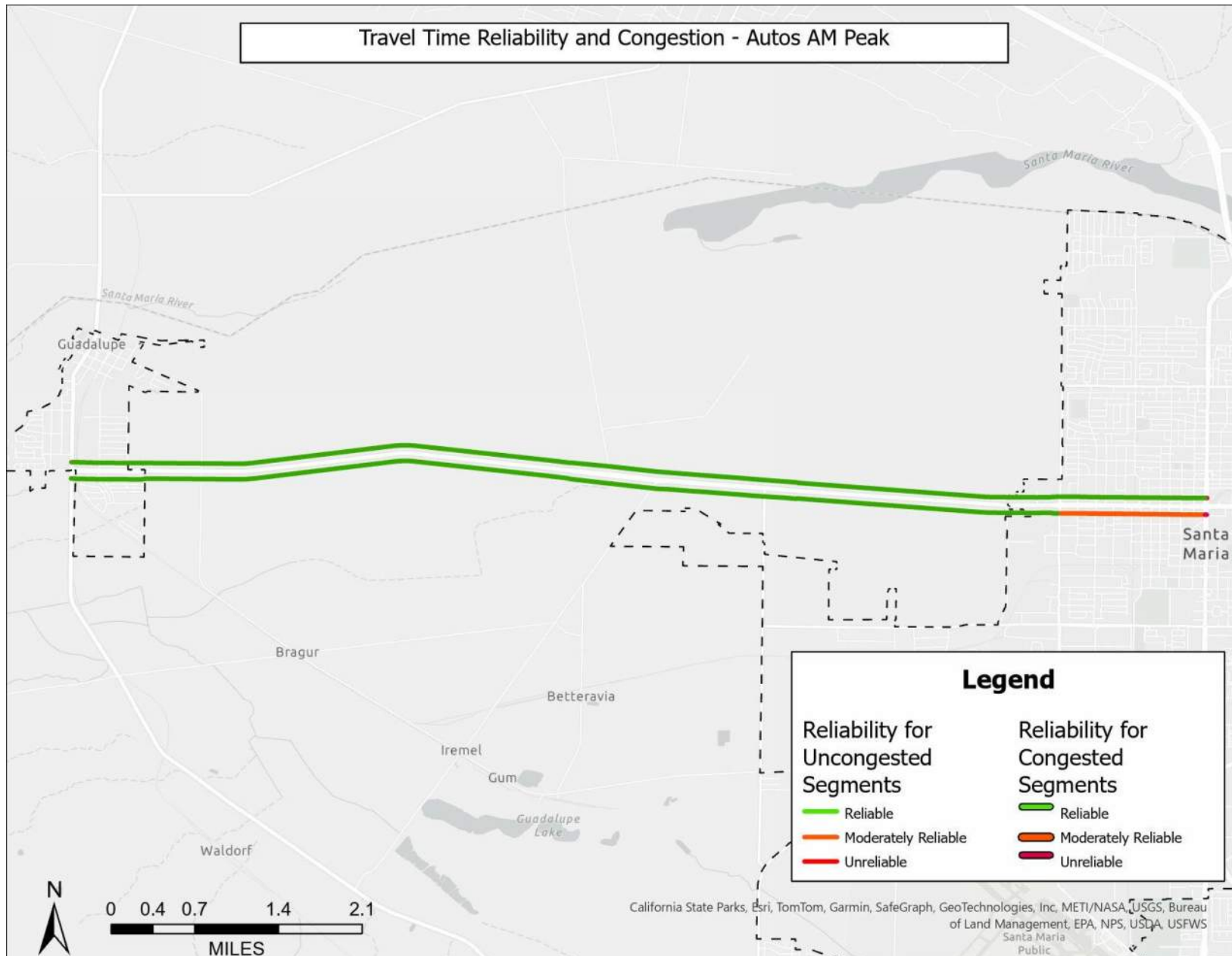


FIGURE 23. AUTOS AM PEAK HOUR PERIOD (6:00-7:00AM) RELIABILITY AND CONGESTION

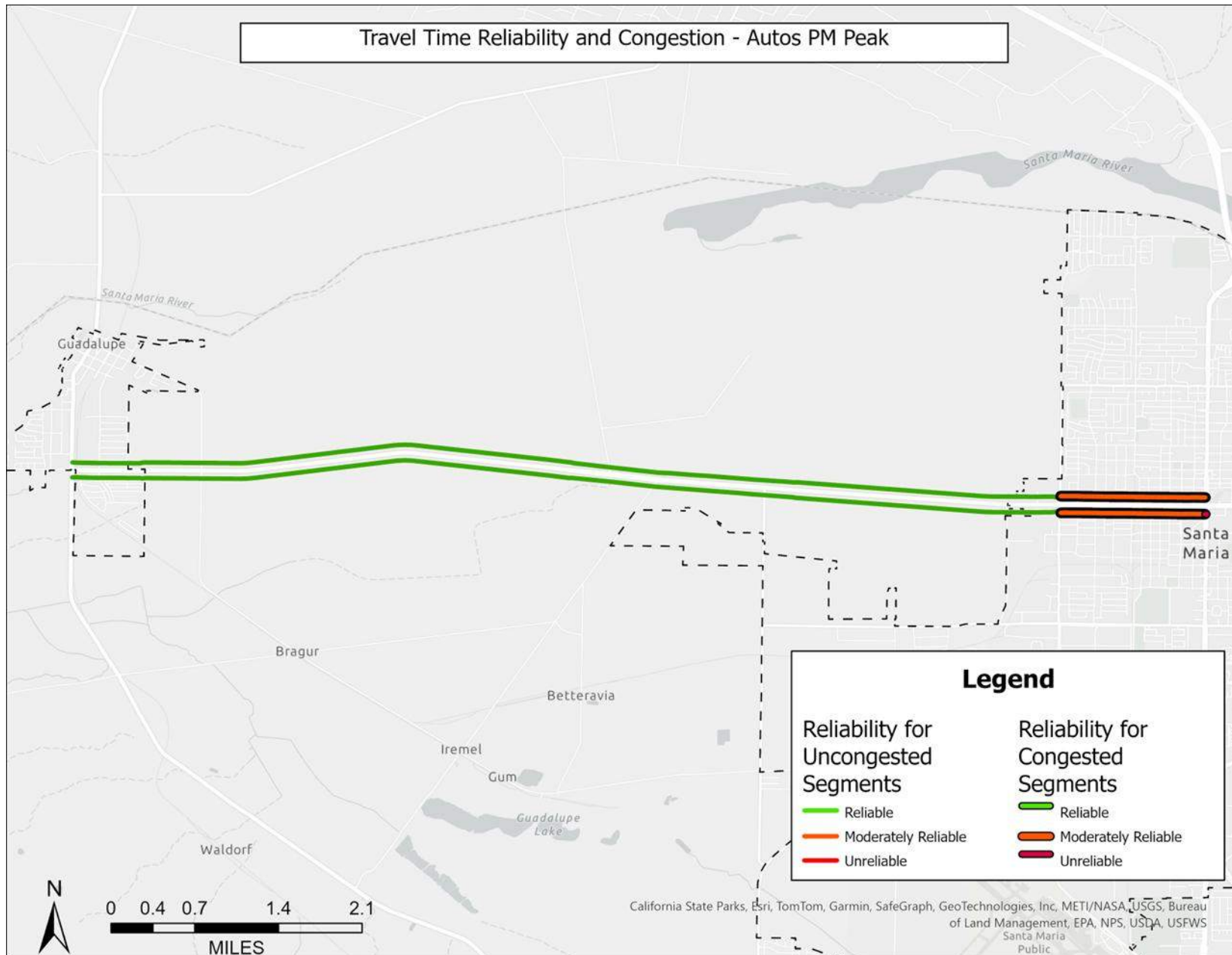


FIGURE 24. AUTOS PM PEAK HOUR PERIOD (5:00-6:00PM) RELIABILITY AND CONGESTION

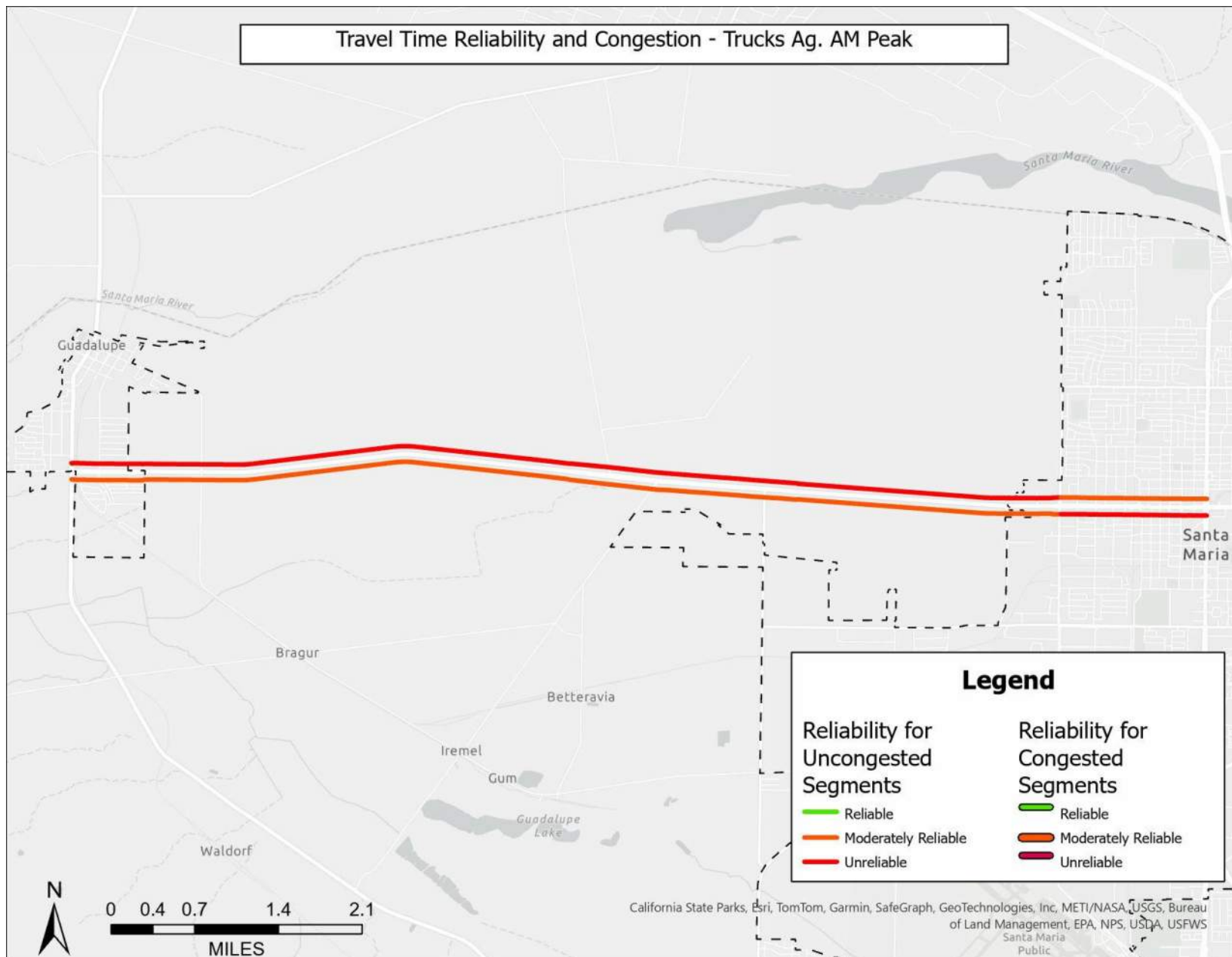


FIGURE 25. TRUCKS EARLY AM PEAK HOUR PERIOD (5:00-6:00AM) RELIABILITY AND CONGESTION

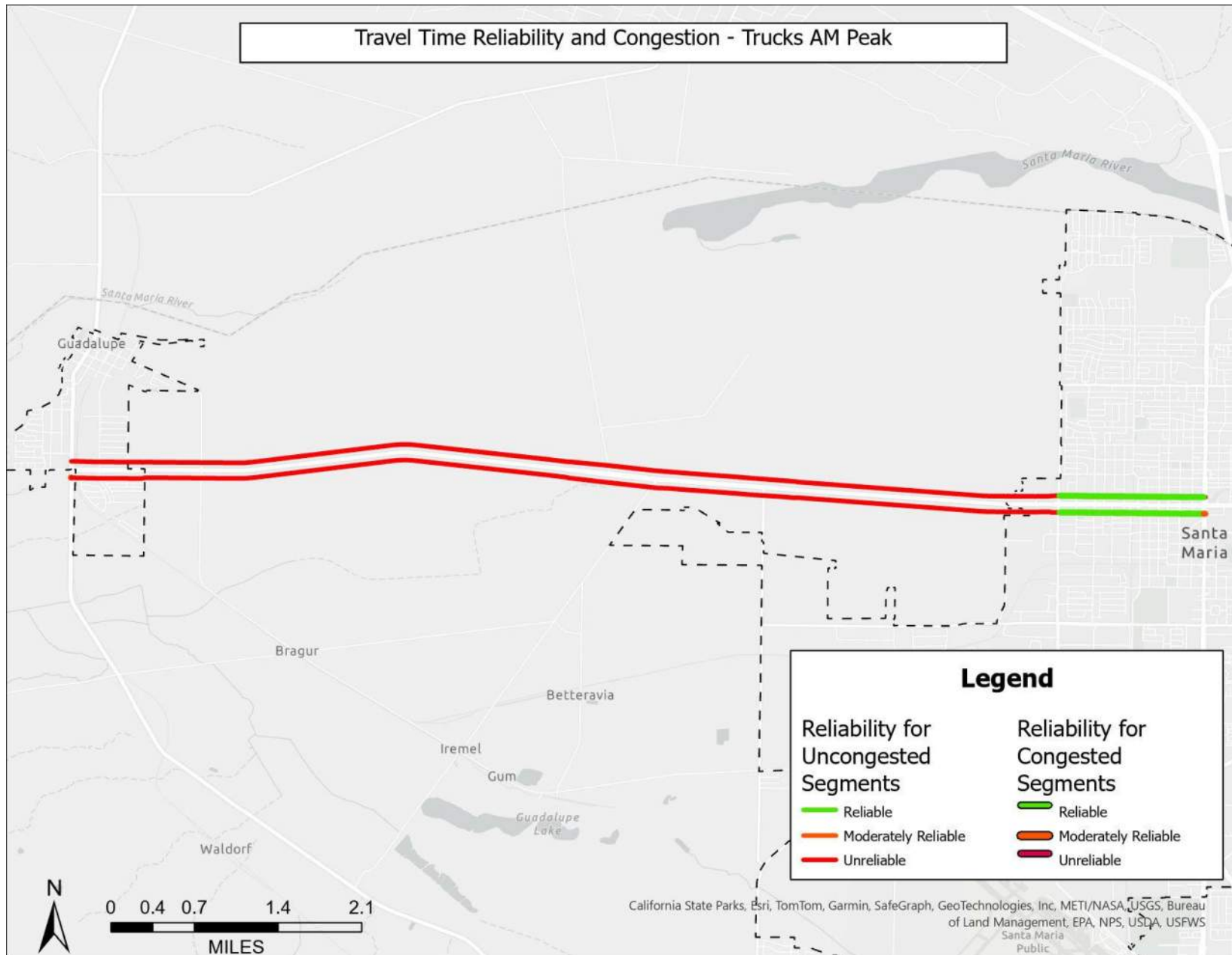


FIGURE 26. TRUCKS AM PEAK HOUR PERIOD (6:00-7:00AM) RELIABILITY AND CONGESTION

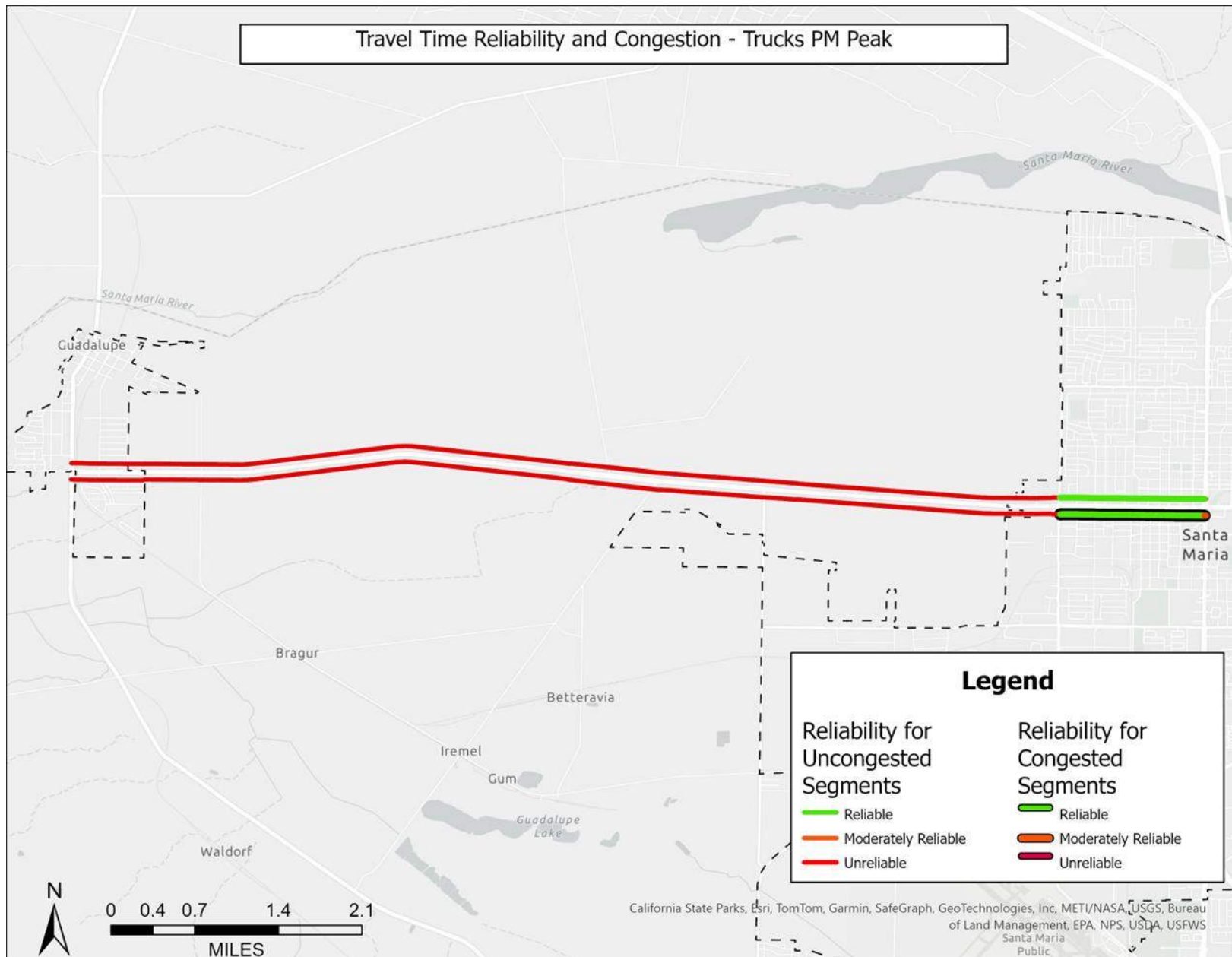


FIGURE 27. TRUCKS PM PEAK HOUR PERIOD (5:00-6:00PM) RELIABILITY AND CONGESTION

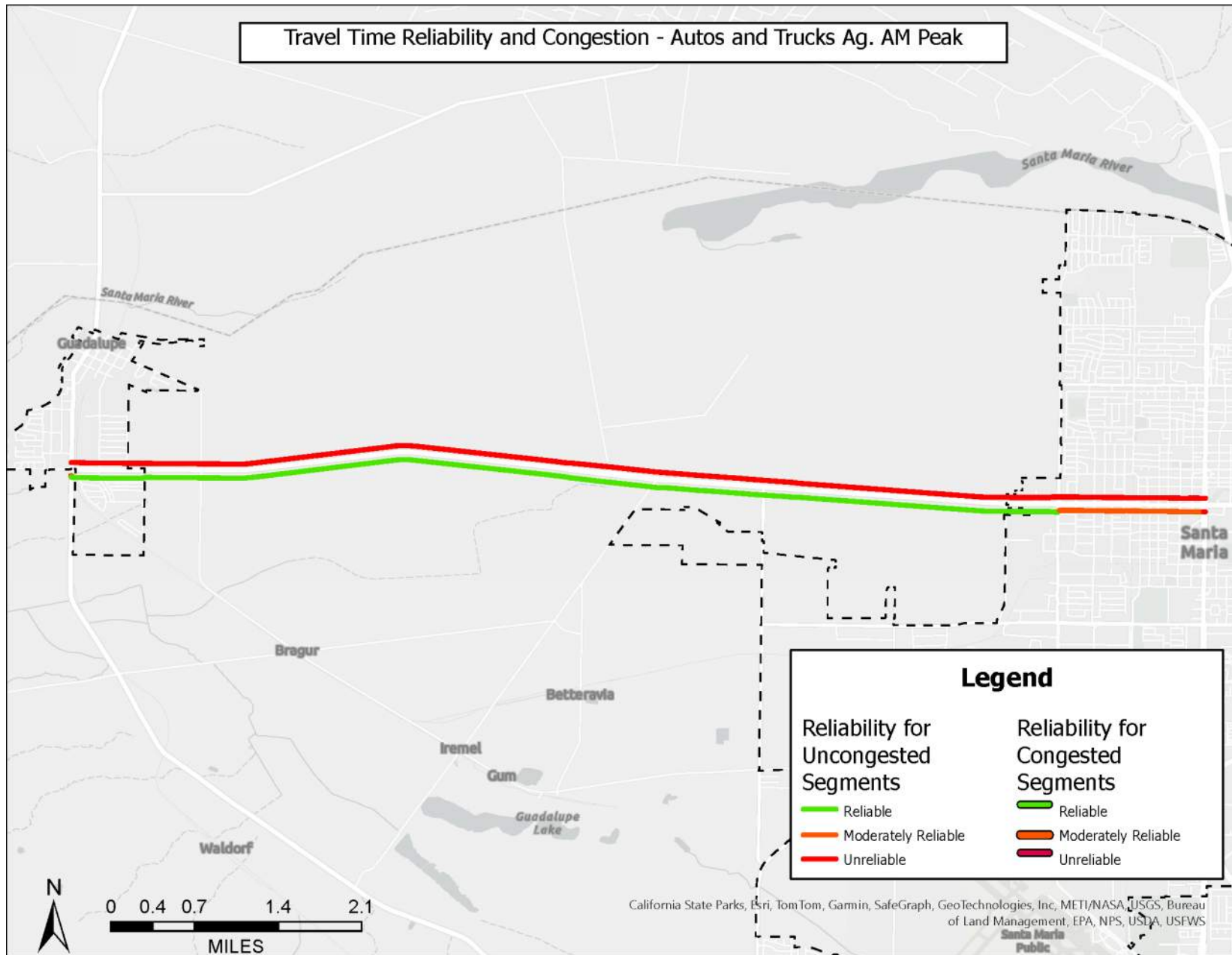


FIGURE 28. AUTOS AND TRUCKS EARLY AM PEAK HOUR PERIOD (5:00-6:00AM) RELIABILITY AND CONGESTION

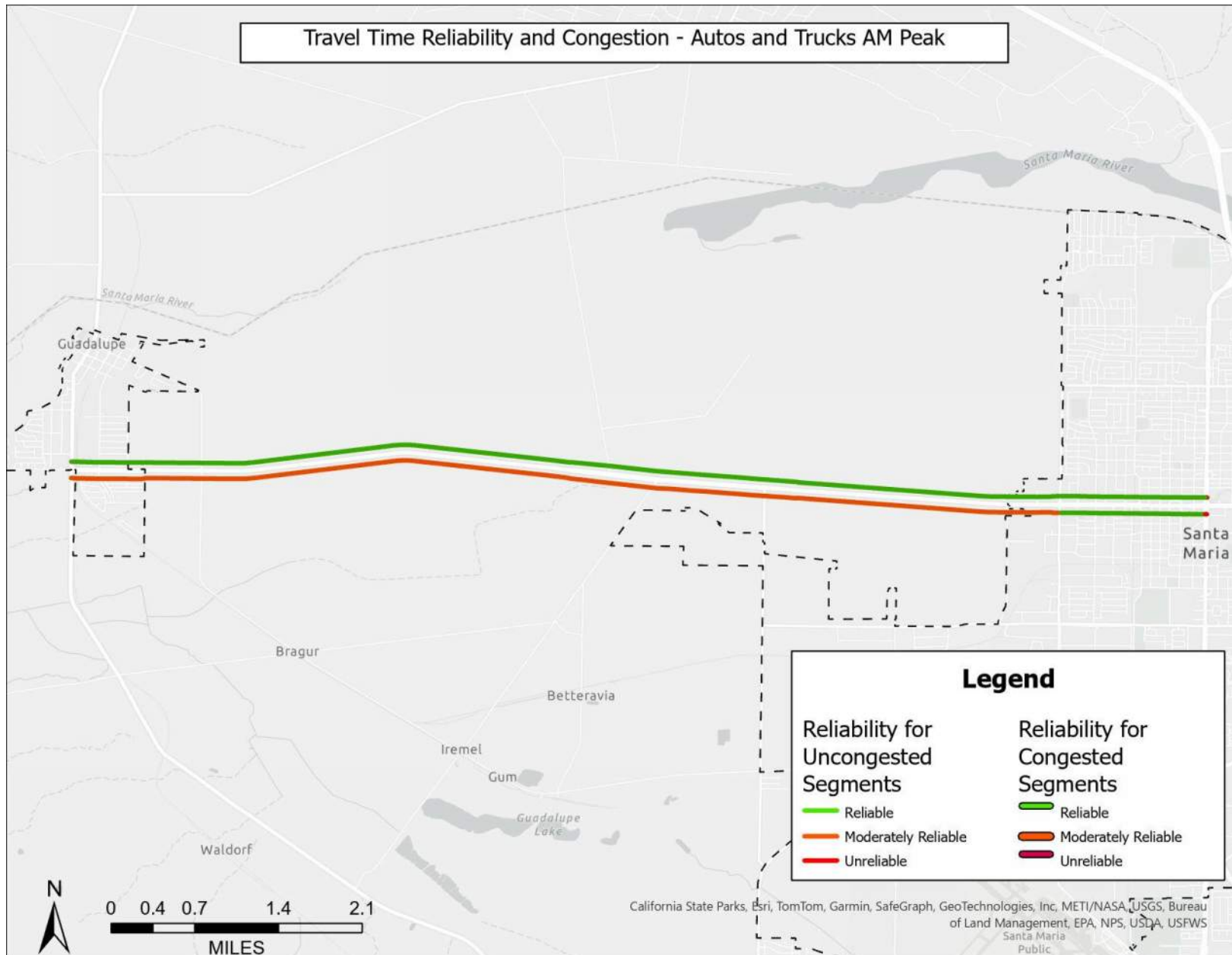


FIGURE 29. AUTOS AND TRUCKS AM PEAK HOUR PERIOD (6:00-7:00AM) RELIABILITY AND CONGESTION

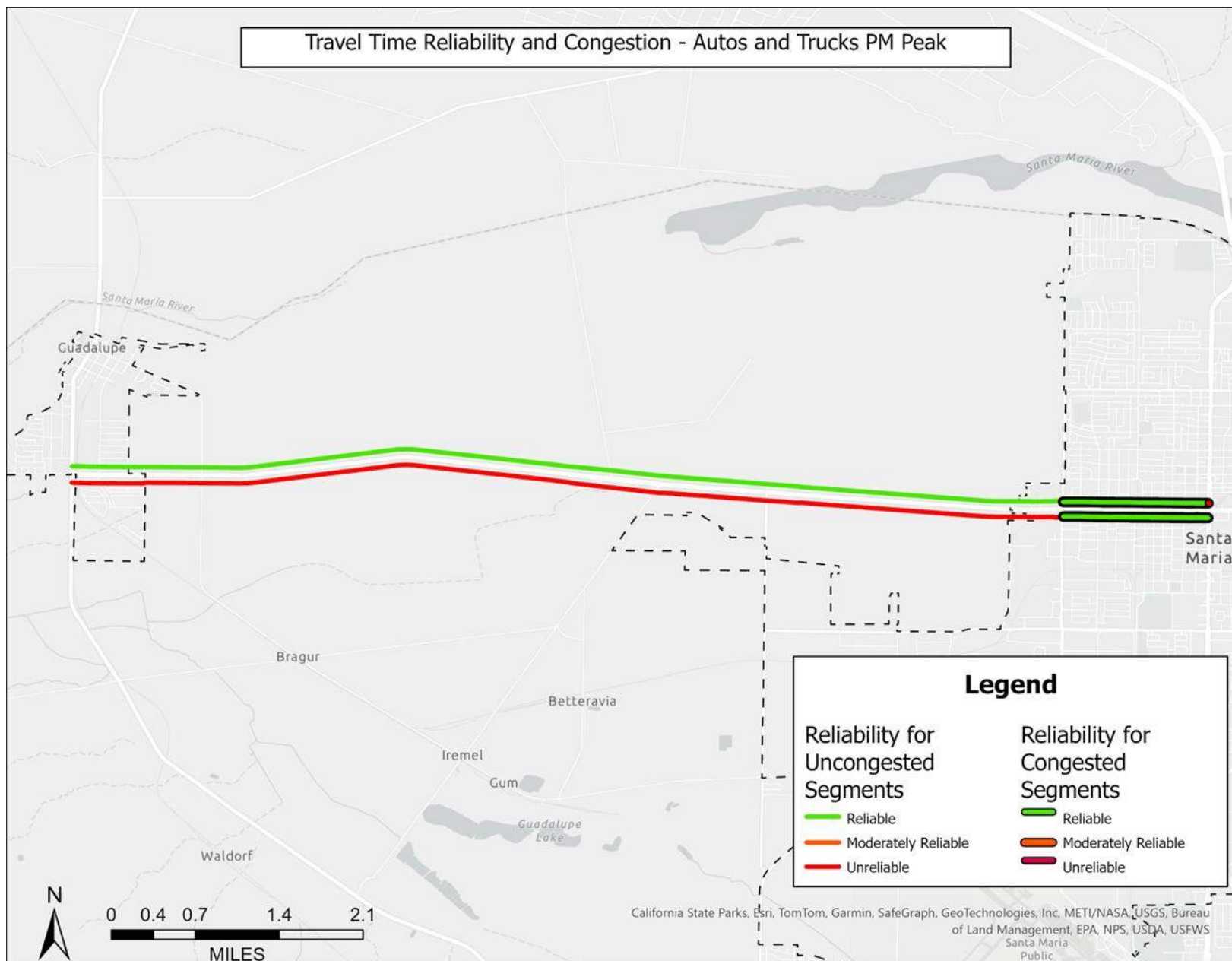


FIGURE 30. AUTOS AND TRUCKS PM PEAK HOUR PERIOD (5:00-6:00PM) RELIABILITY AND CONGESTION

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 application¹² 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 31** shows the collisions by severity. Of these, 7 collisions resulted in fatal injuries, and 33 led to serious injuries.

As shown in **Figure 32**, 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 33**. 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.

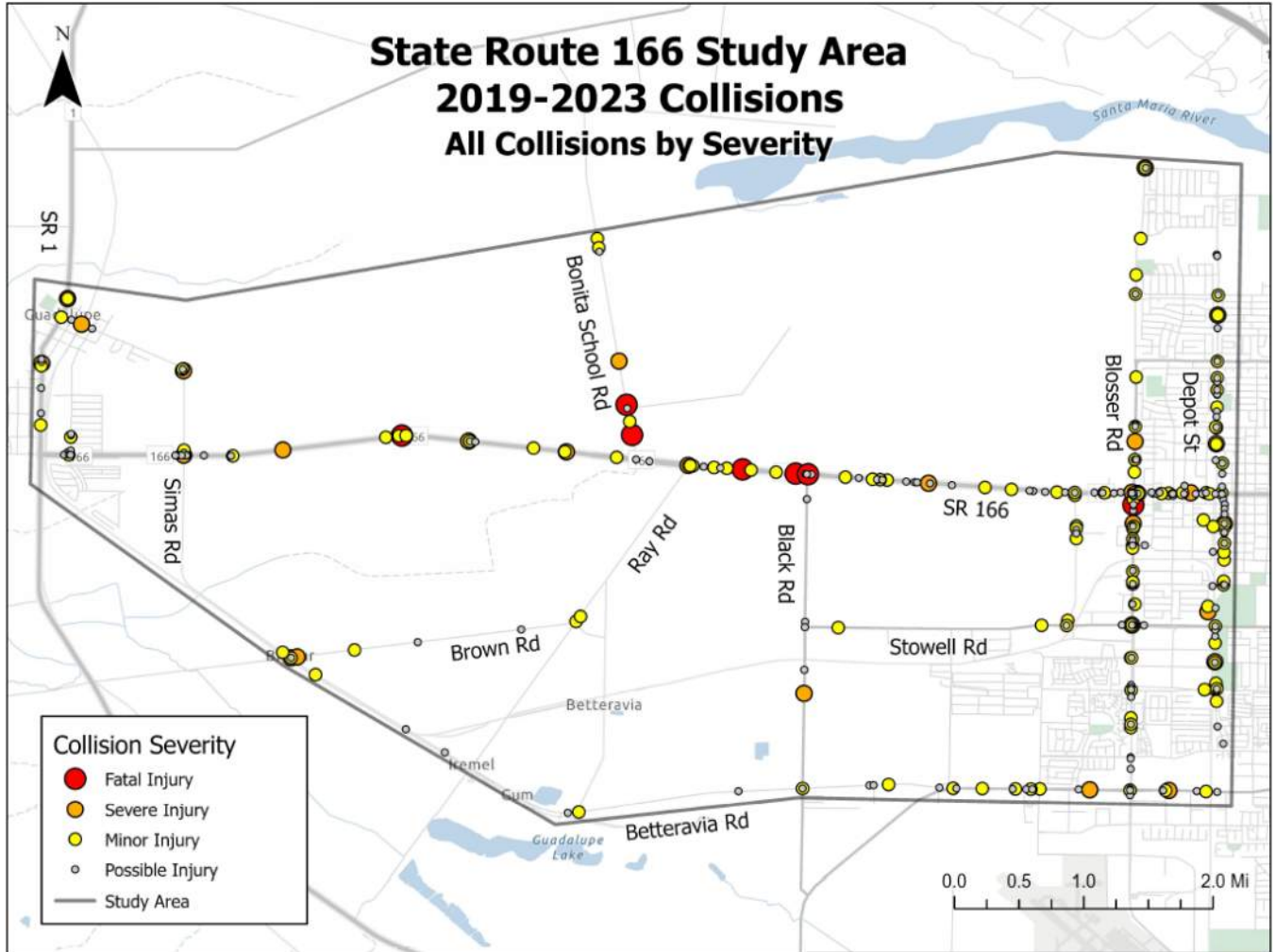


FIGURE 31: STUDY AREA COLLISIONS BY SEVERITY

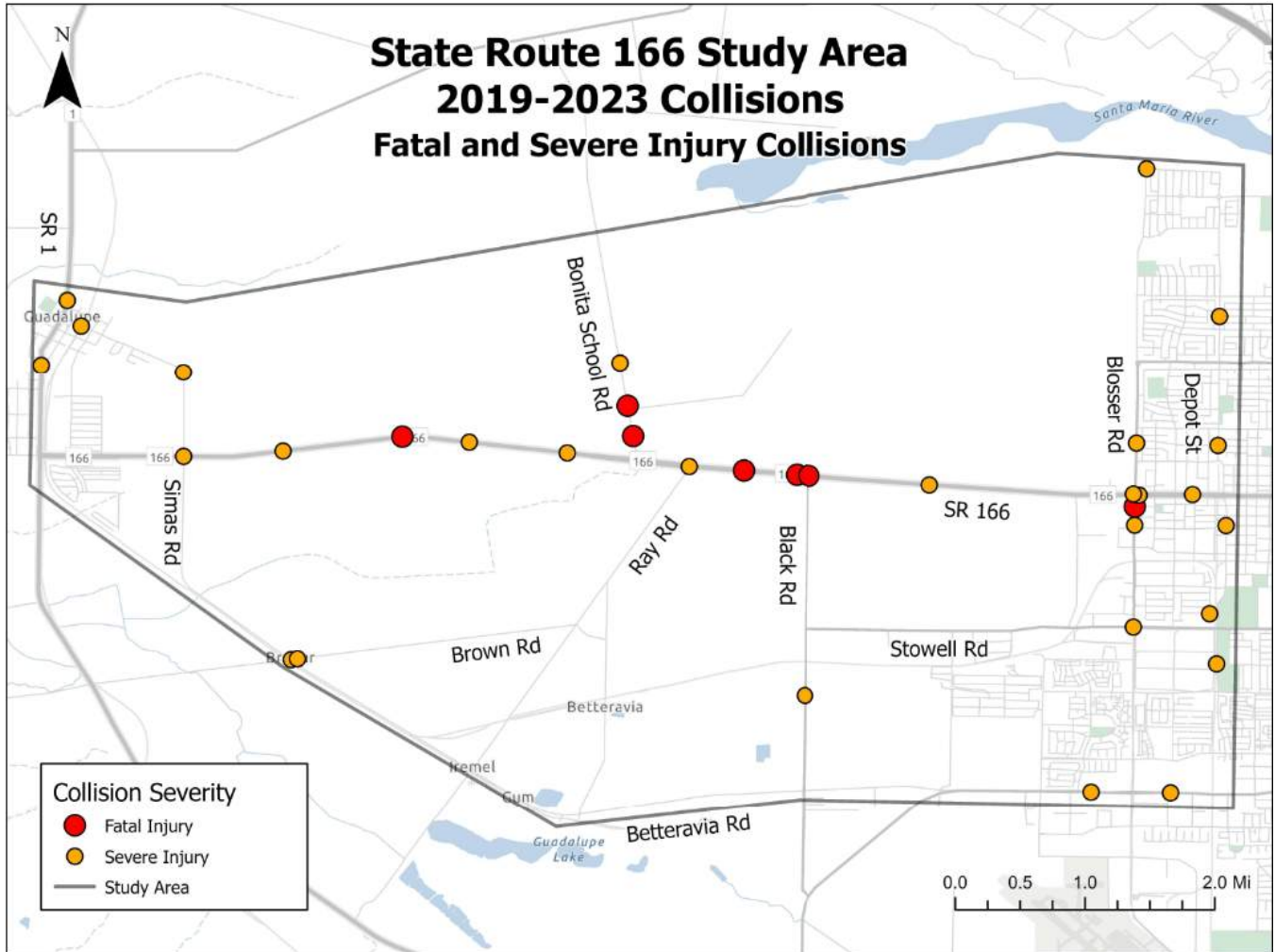


FIGURE 32: STUDY AREA FATAL AND SEVERE INJURY COLLISIONS

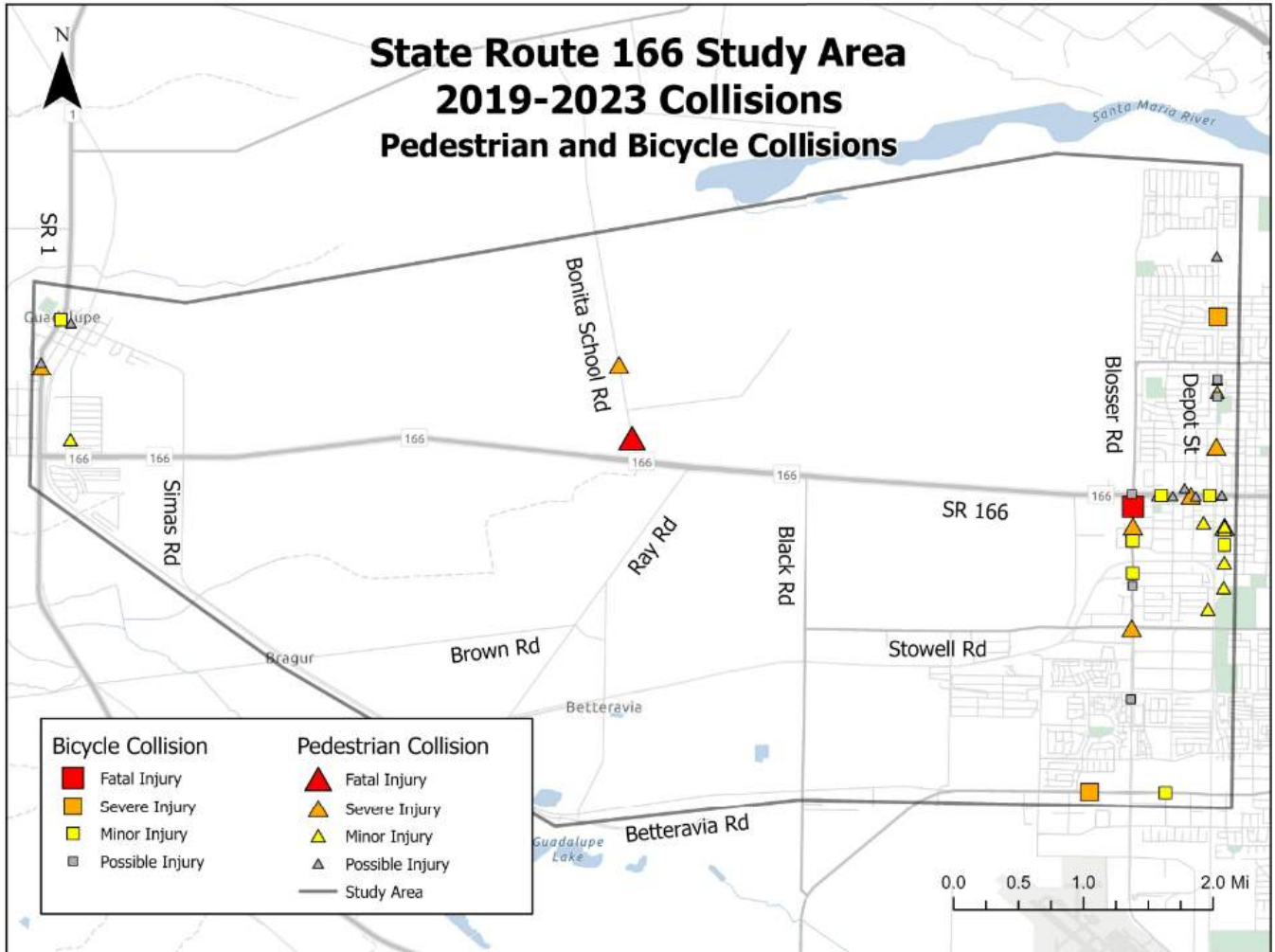


FIGURE 33: PEDESTRIAN AND BICYCLE COLLISIONS

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 34**. 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 12** and **Table 13**, with all collision reports provided in **Appendix G**.

SR 166 All Collisions by Most Common Primary Collision Factor Violation Category 2019-2023

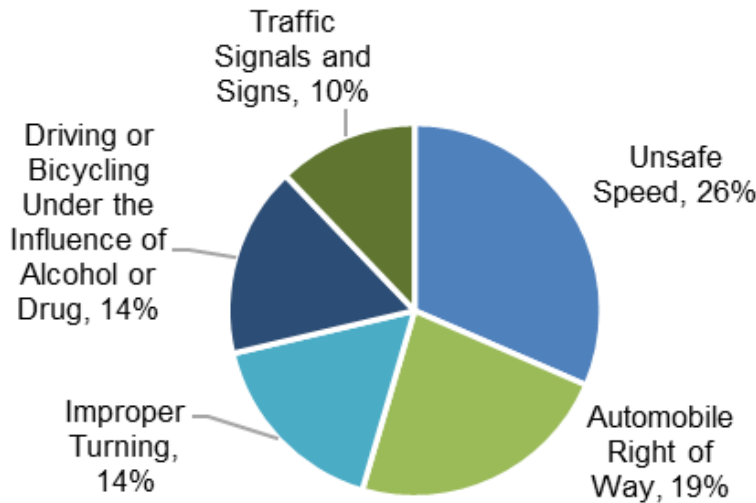


FIGURE 34: PRIMARY COLLISION FACTORS FOR ALL COLLISIONS

SR 166 Fatal and Severe Injury Collisions by Most Common Primary Collision Factor Violation Category 2019-2023

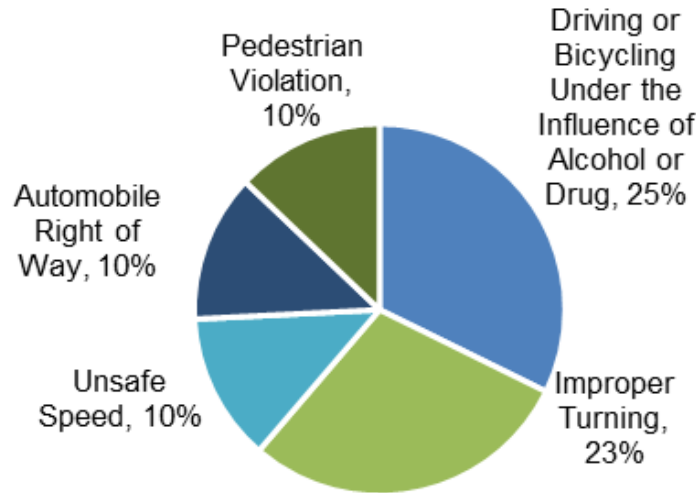


FIGURE 35: PRIMARY COLLISION FACTORS FOR FATAL/SEVERE INJURY COLLISIONS

TABLE 12: 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 13: 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 14: 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 15: 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 16: 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 17 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 17: 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 18: 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 19: 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 20** summarizes the number of collisions involving vehicles, pedestrians and bicyclists that were reported 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 20: 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 improvements¹³.

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



FIGURE 36: 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 land 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 project¹⁴ 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 37**. 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 21 and **Table 22** 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 37**.

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

TABLE 21: 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 22: 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	-	-

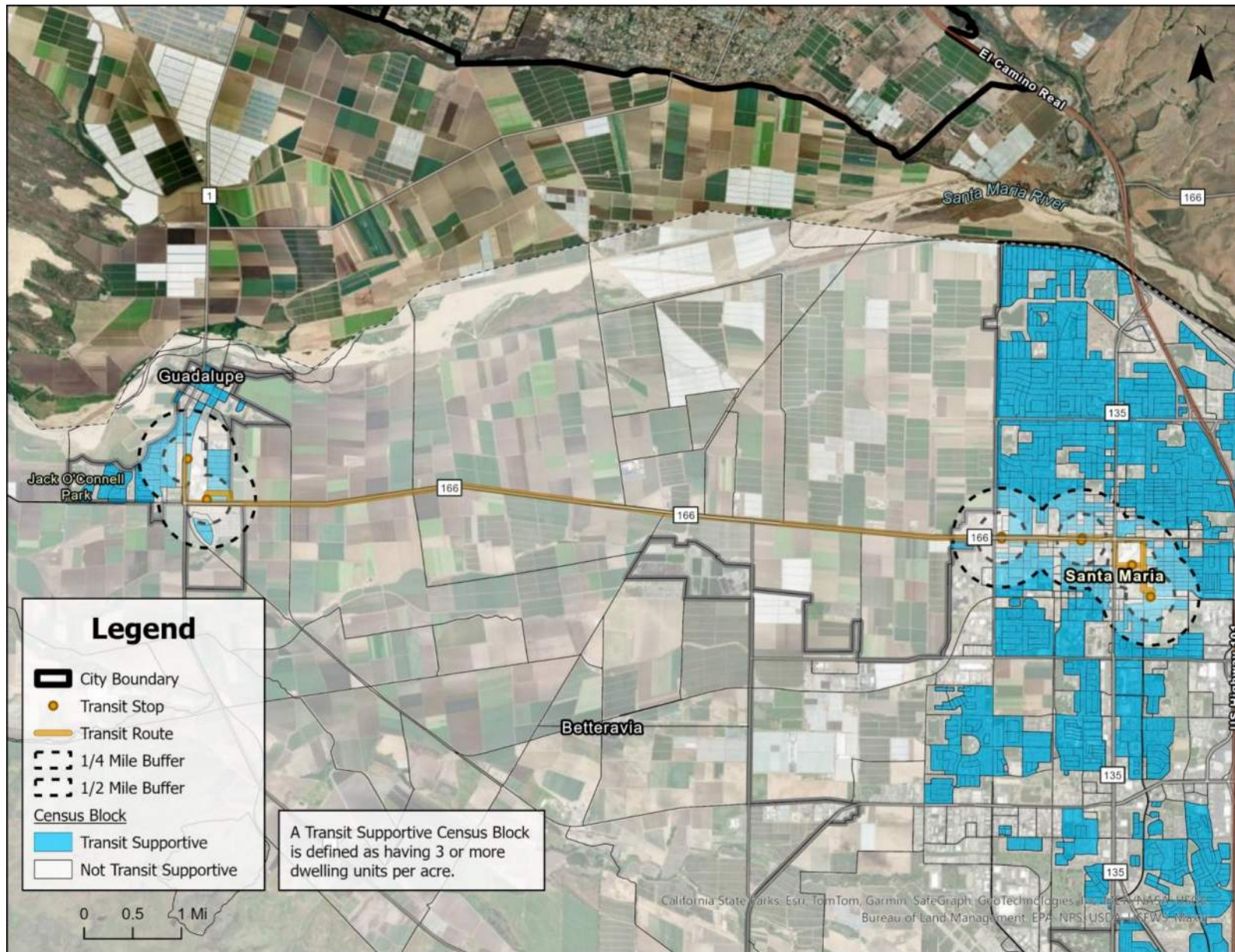


FIGURE 37: TRANSIT ACCESSIBILITY ON STUDY CORRIDOR

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 (2024¹⁸) was performed. The bicycle LTS results are a combination of new analyses performed as part of the SR 166 CCP 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 38**.

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.

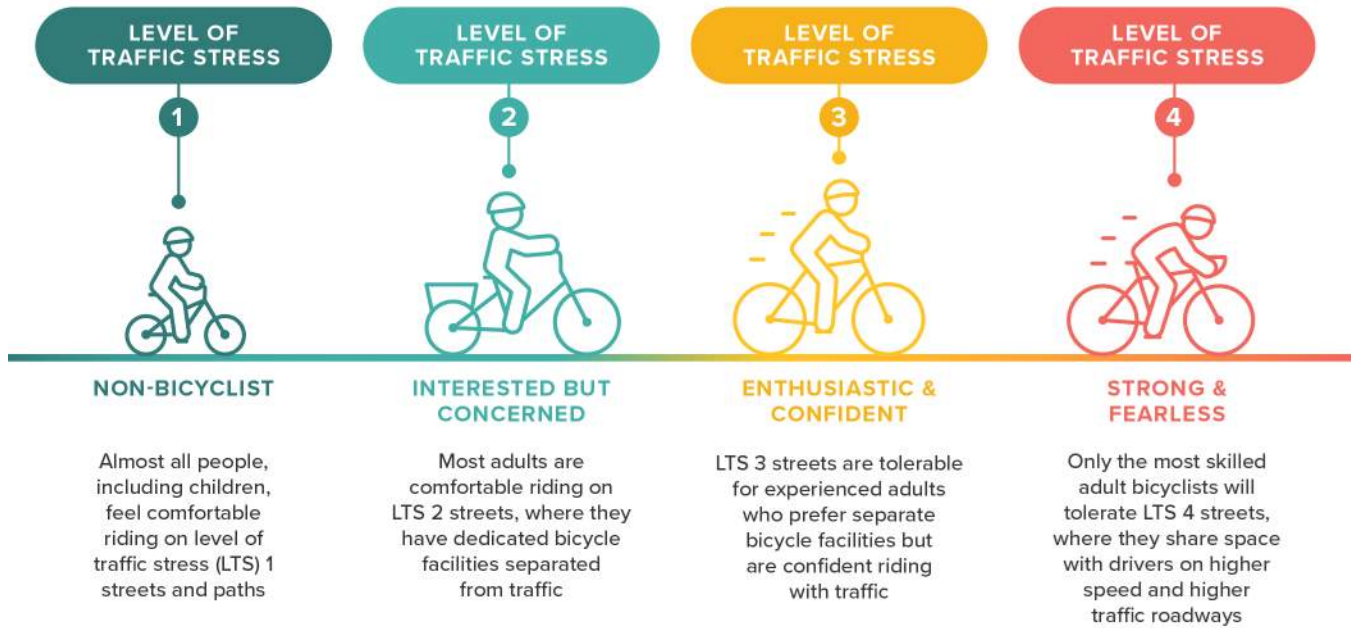


FIGURE 38. BICYCLE LTS SCORES

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 23** 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 39**. 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**.

TABLE 23. ROADWAY CHARACTERISTICS 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	4 th Street to SR 166	35	No	Yes – NB No – SB	2	4
FLOWER AVENUE	4 th 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.

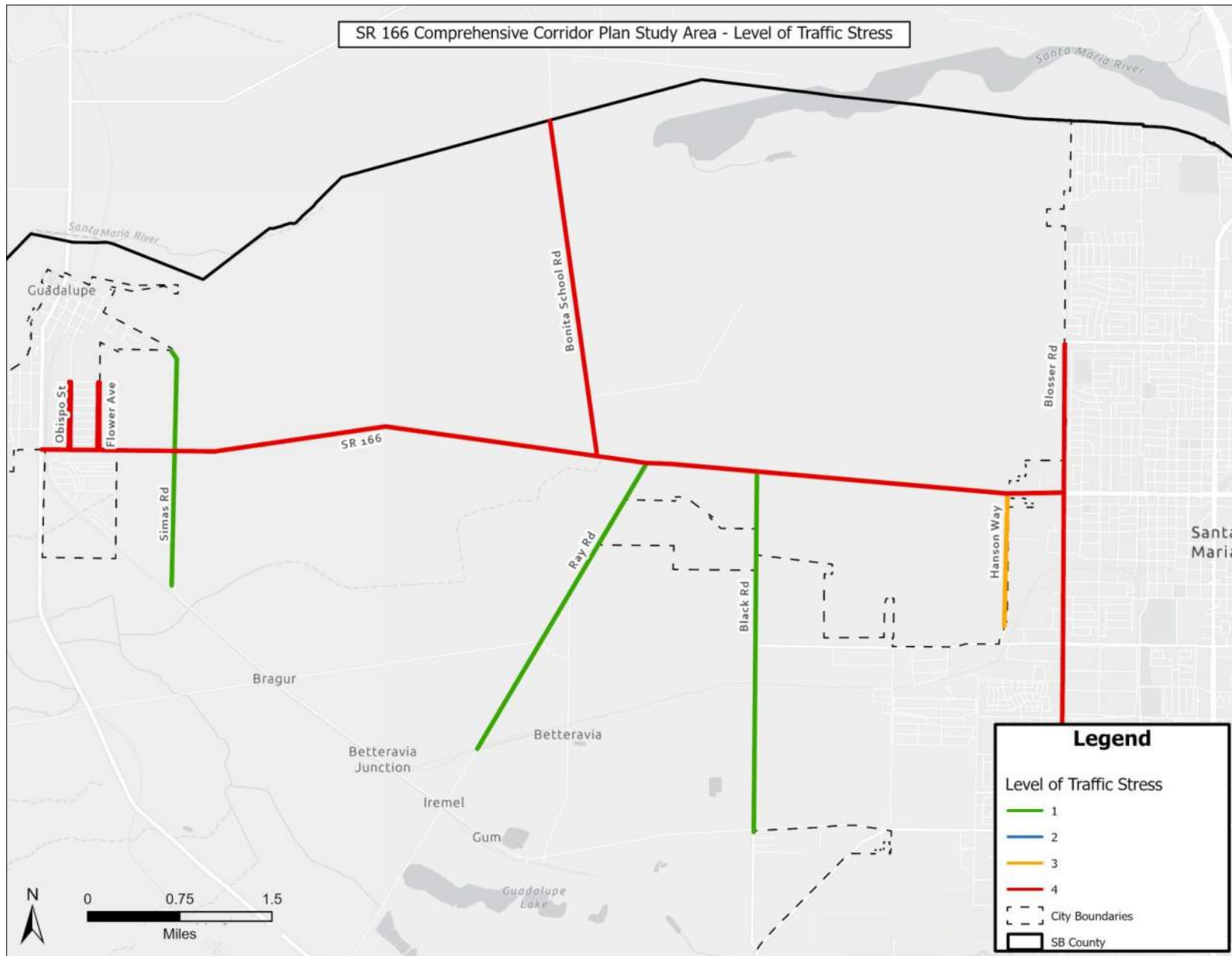


FIGURE 39. BICYCLE LTS (SANTA BARBARA & SANTA MARIA ATP)

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 40**.

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.

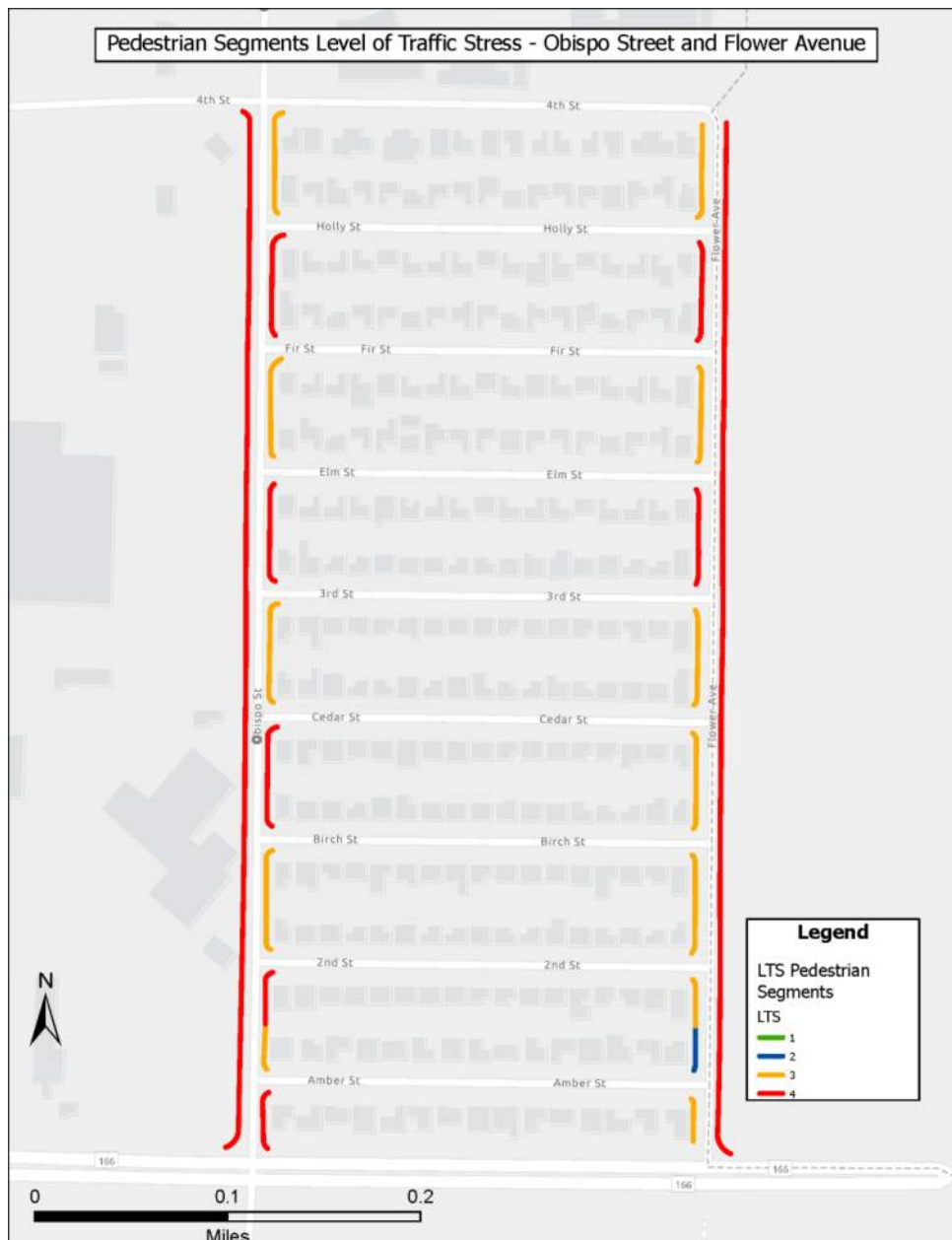


FIGURE 40. PEDESTRIAN LTS ON OBISPO STREET AND FLOWER AVENUE

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 41 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 42 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 43 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.

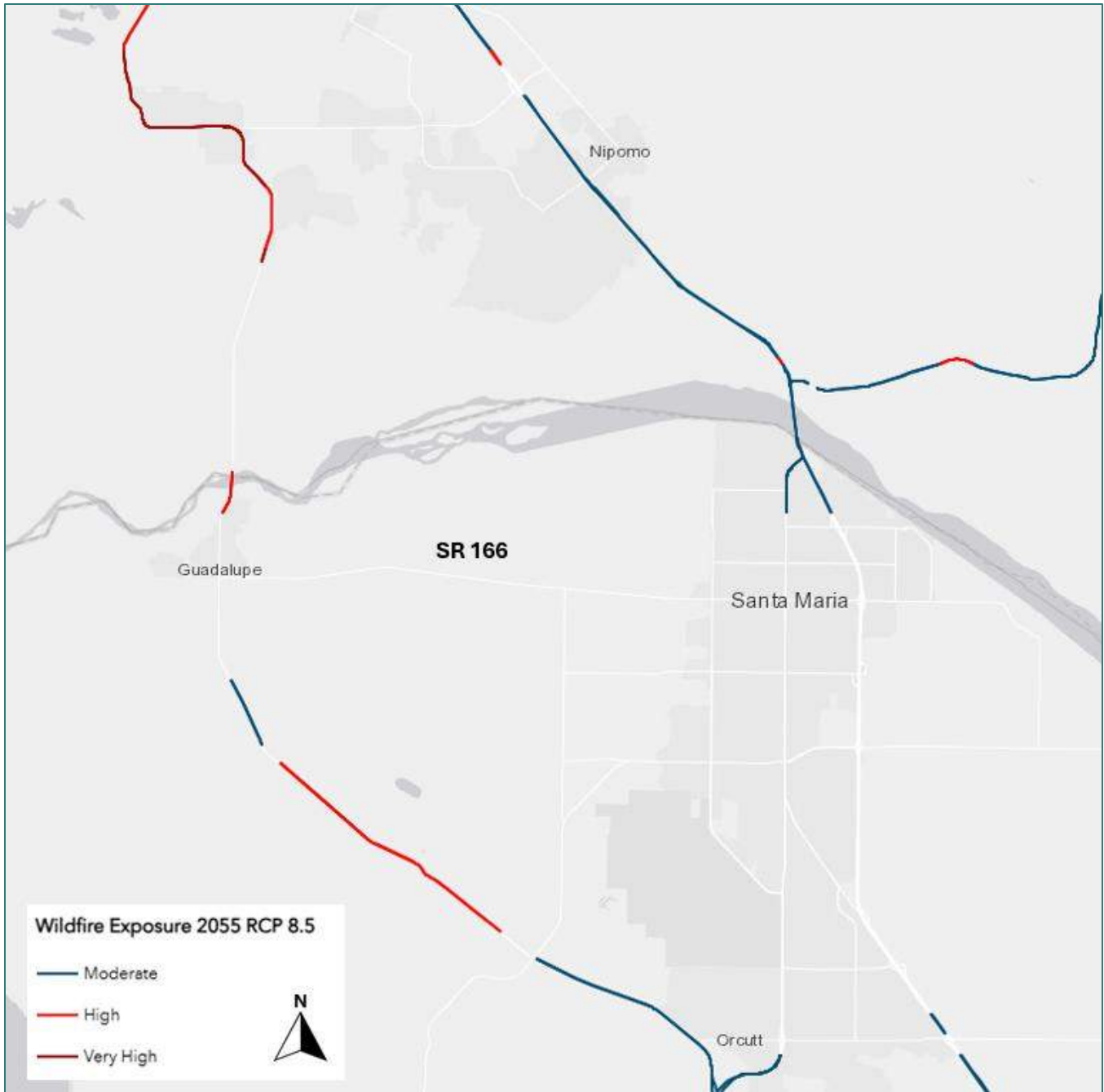


FIGURE 41: WILDFIRE EXPOSURE IN 2055 (RCP 8.5) SCENARIO

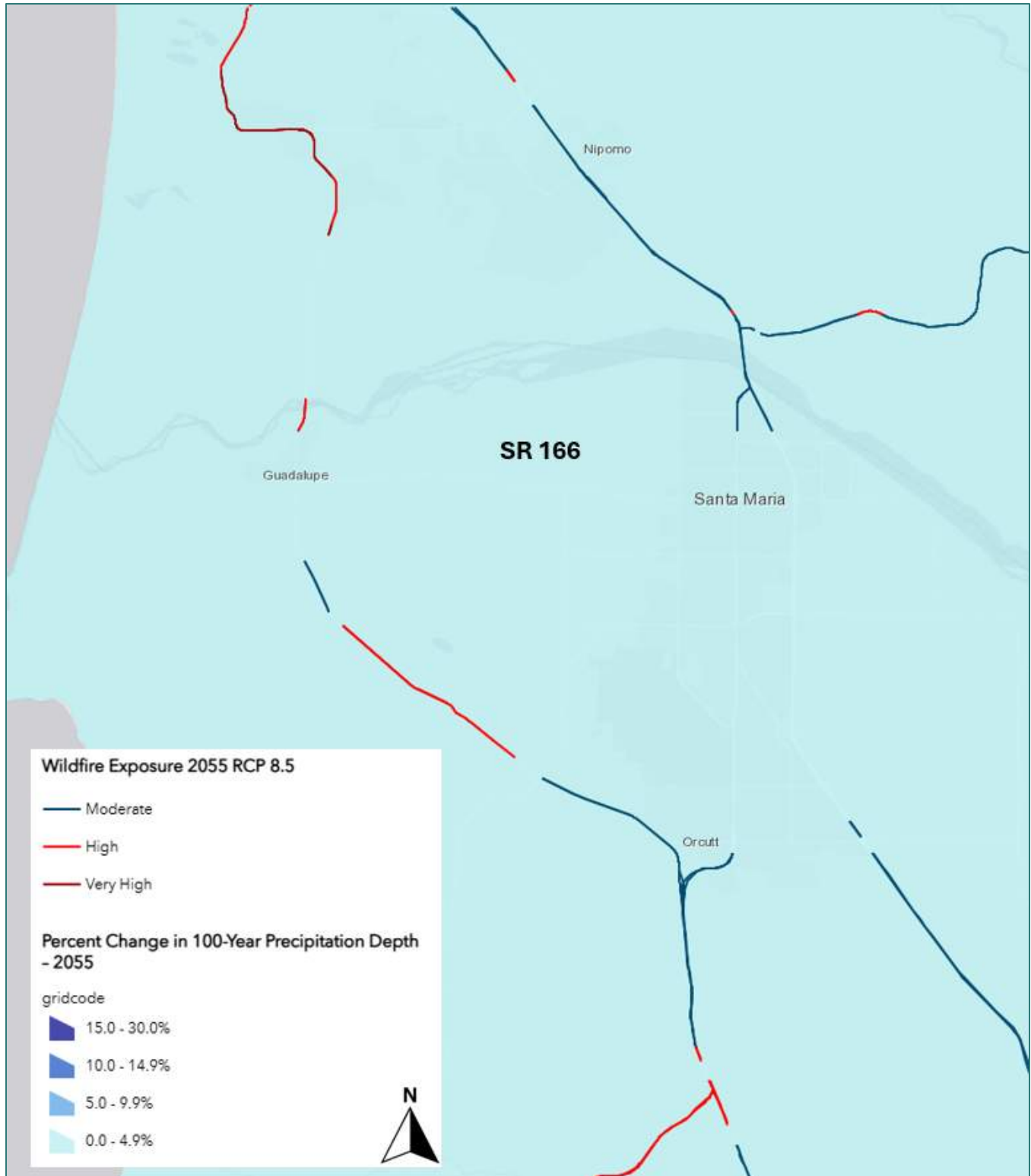


FIGURE 42: WILDFIRE EXPOSURE AND 100-YEAR PRECIPITATION DEPTH CHANGE IN 2055 (RCP 8.5) SCENARIO

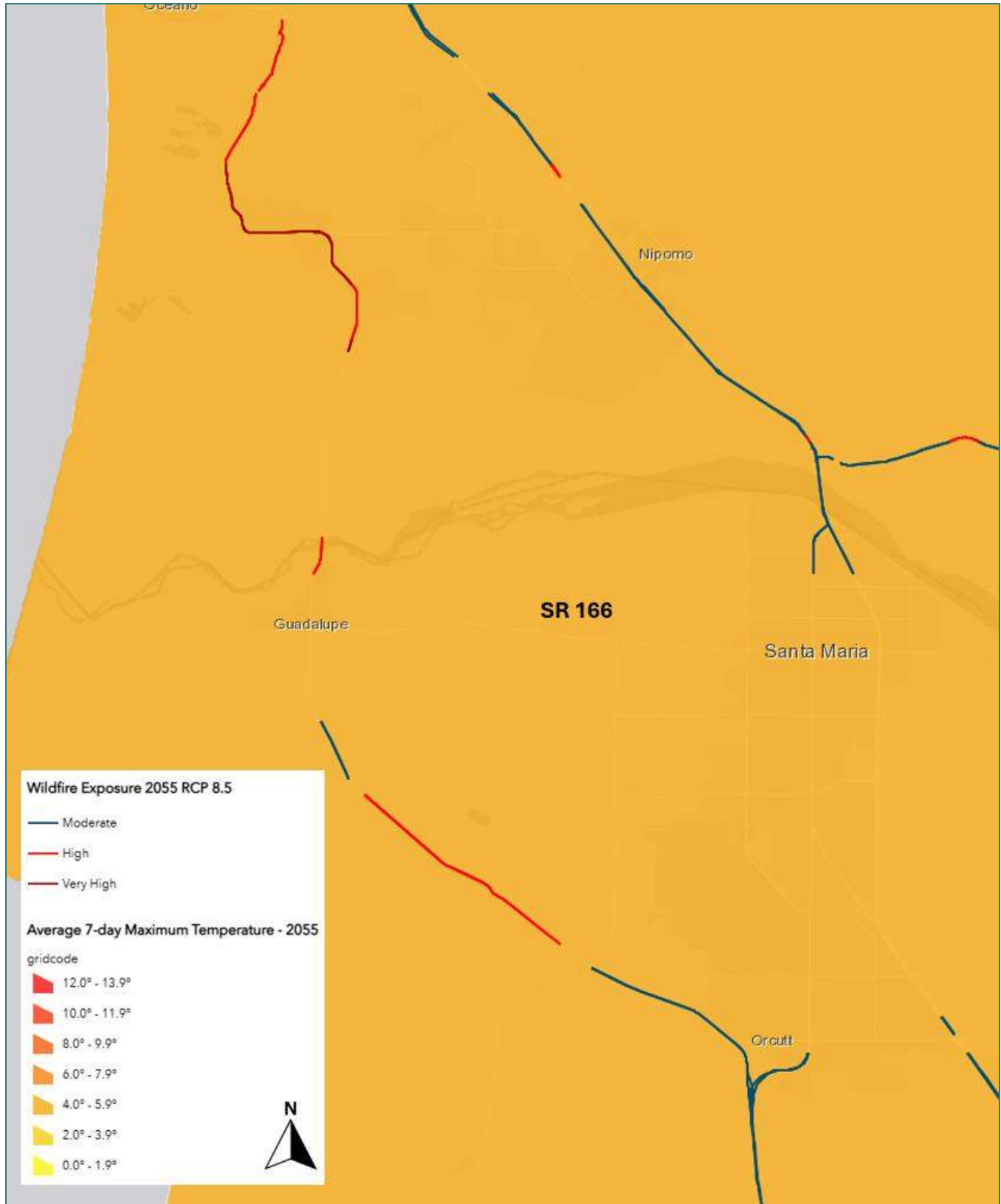


FIGURE 43: WILDFIRE EXPOSURE AND 7-DAY MAXIMUM TEMPERATURE INCREASE IN 2055 (RCP 8.5) SCENARIO

CONCLUSION

The **SR 166 CCP Existing Conditions Report** evaluates the current performance of SR 166 from SR 1 in Guadalupe to Depot Street in Santa Maria. The SR 166 CCP 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+ percent). 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



428 J STREET, SUITE 340 • SACRAMENTO, CA 95814 • 916.368.2000 • DKSASSOCIATES.COM

CONTENTS

APPENDIX A. PLANNING CONTEXT LITERATURE REVIEW

APPENDIX B. SOCIOECONOMIC DATA

APPENDIX C. TRAFFIC COUNTS

APPENDIX D. SIGNAL TIMING SHEETS

APPENDIX E. EXISTING CONDITIONS SYNCHRO REPORTS

APPENDIX F. TRAVEL TIME RELIABILITY AND CONGESTION ANALYSIS

APPENDIX G. SAFETY DATA AND CRASH RATE CALCULATIONS

APPENDIX H: ROAD SAFETY AUDIT

APPENDIX I: LEVEL OF TRAFFIC STRESS ANALYSIS

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 Maria 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):

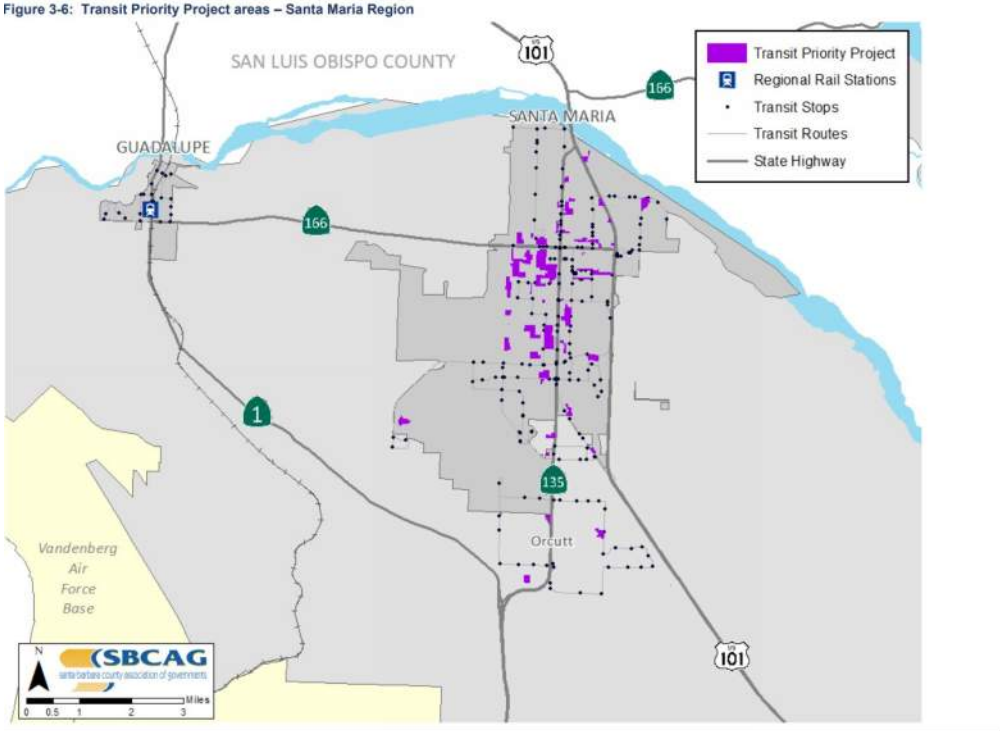
Table C-1 Connected 2050 RTP/SCS Key Goals and Policies	
Goal Area 1: Environment	<p><i>Policy 1.1 Land Use</i> states in part: The planning, construction and operation of transportation facilities shall be coordinated with local land use planning and should encourage local agencies to:</p> <ol style="list-style-type: none"> 3. Plan for transit-oriented development consistent with the RTP-SCS by: <ol style="list-style-type: none"> a. concentrating residences and commercial centers in urban areas near rail stations, transit centers and along transit development corridors; and b. Design and building “complete streets” serving all transportation modes that connect high-usage origins and destinations. 4. Preserve open space, agricultural land and sensitive biological areas.
Goal Area 2: Mobility & System Reliability	<p><i>Policy 2.1 Access, Circulation and Congestion</i> 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:</p> <ol style="list-style-type: none"> 1. Enhance access, circulation, and mobility throughout the Santa Barbara region and between neighboring regions 2. Reduce congestion, especially on highways and arterials and in neighborhoods surrounding schools in cooperation with schools and school districts 3. Reduce travel times for all transportation modes, with equal or better travel times for transit and rail in key corridors.
	<p><i>Policy 2.3 Alternative Transportation Modes</i> states in part: Transportation planning and projects shall:</p> <ol style="list-style-type: none"> 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. 2. Provide for a variety of transportation modes and ensure connectivity within and between transportation modes within and outside the Santa Barbara region. 3. Plan and provide for ancillary support facilities for alternative transportation, such as bicycle parking. 4. Promote inter-regional commuter transit and rail service. 5. Promote local and inter-city transit. 6. Work to complete the California Coastal Trail through provision and implementation of trail segments and connection in coordination with appropriate agencies.

	<p><i>Policy 2.4 Freight and Goods Movement</i> 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:</p> <ol style="list-style-type: none"> 1. Making efficient use of existing transportation system. 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. 5. Considering freight and goods movement in the design and planning of all projects. 6. Planning for intermodal connectivity (airport, rail and highway) in freight and goods movement. <p><i>Policy 2.5 Transportation System Management (TSM) Technologies</i> states in part: Transportation planning and projects shall:</p> <ol style="list-style-type: none"> 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. 2. Promote a jointly maintained and enhanced regional ITS architecture consistent with the Central Coast ITS Strategic Deployment Plan.
<p>Goal Area 3: Equity</p>	<p><i>Policy 3.1 Access</i> states in part: The planning, construction and operation of transportation facilities and the system as a whole shall:</p> <ol style="list-style-type: none"> 1. Encourage safe and convenient travel for all users, including the disabled, pedestrians, bicyclists, transit riders and other vehicles. 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. 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.
<p>Goal Area 4: Health & Safety</p>	<p><i>Policy 4.1 Safe Roads and Highways</i> states in part: The planning, construction and operation of transportation facilities and the system as a whole shall:</p> <ol style="list-style-type: none"> 1. Enhance safety of all facilities. 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. 3. Incorporate night sky-friendly lighting, where appropriate, to enhance safety of transportation facilities. 5. Maintain consistency with the State Strategic Highway Safety Plan. 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). <p><i>Policy 4.2 Public Health</i> states in part: The RTP-SCS shall promote integrated transportation and land use planning that encourages:</p> <ol style="list-style-type: none"> 1. Active transportation to promote alternative modes of transportation and physical activity (transit, biking, walking) 2. Development of “complete streets” which safely and conveniently accommodate all transportation modes, including active transportation.

<p>Goal Area 5: Prosperous Economy</p>	<p><i>Policy 5.4 Transportation Funding</i> states in part: SBCAG and its member agencies should:</p> <p>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.</p>
---	---

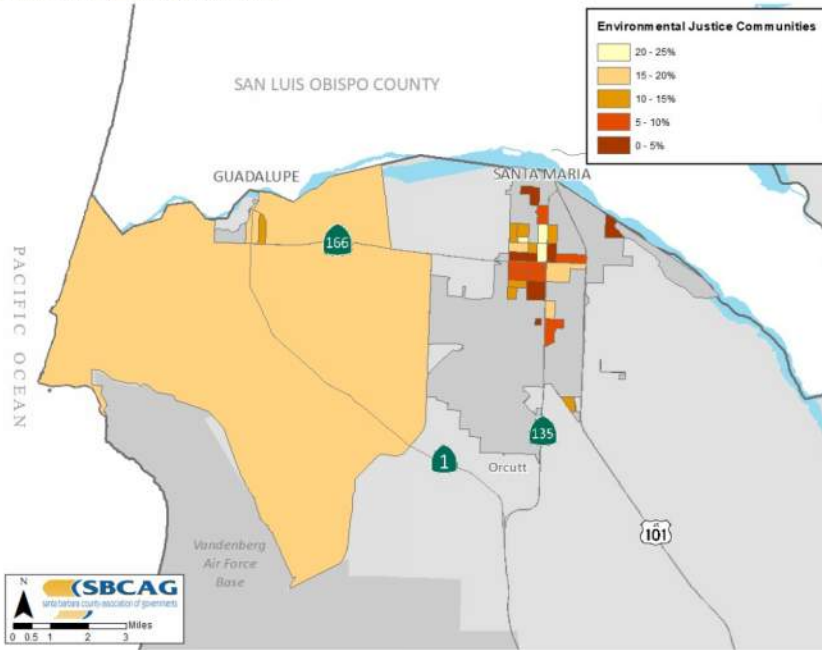
Connected 2050 identifies SR 166 intersection improvements at SR 1 and Black Road as major regional projects for the North County. The plan also identifies SR 166 between Guadalupe and Santa Maria as a local transit route and AMTRAK bus route. SR 166 between Guadalupe and Santa Maria is not designated 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*.



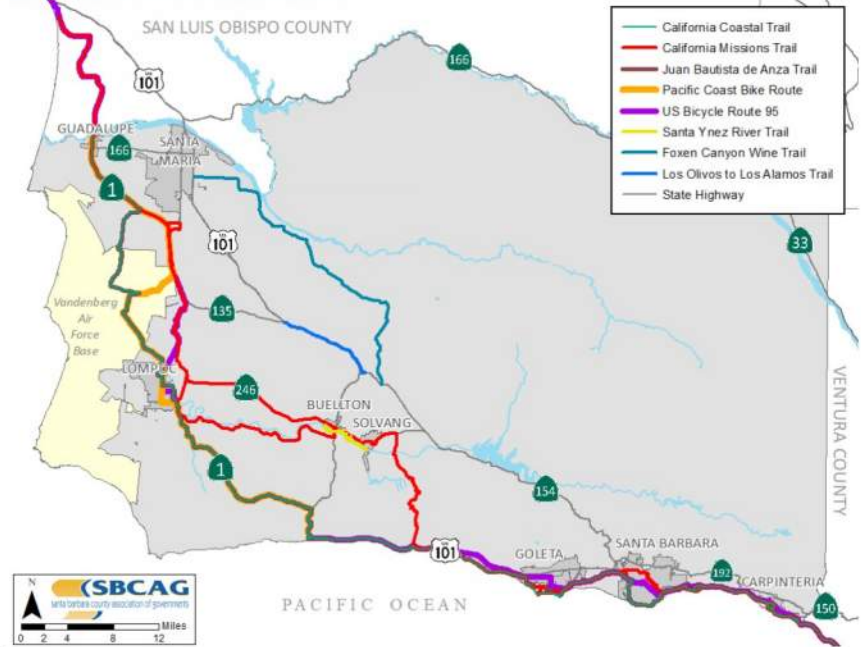
Connected 2050 also maps Environmental Justice (EJ) Communities within the County. EJ communities are identified on both sides of SR 166 within and 4 miles to the east of Guadalupe. The map also shows EJ communities within Santa Maria, including adjacent to the study area for the *State Route 166 Comprehensive 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 Guadalupe (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 Barbara 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		
<p>Project Description: Improve drainage along Highway 166 and continuing along Main Street in Guadalupe to the western city limit.</p> <p>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.</p>		
Applicable Hazards		
<p><u>Significant</u></p> <p><input checked="" type="checkbox"/> Flooding (Rain Storms)</p> <p>Earthquake</p>	<p><u>Moderate</u></p> <p>Train Derailment</p> <p>Hazardous Materials Release</p> <p><input checked="" type="checkbox"/> Agriculture (Chemical runoff)</p>	<p><u>Limited</u></p> <p><input checked="" type="checkbox"/> Flooding (Dam/Levee Failure)</p> <p>Tsunami</p>
<p>Existing and Potential Resources: Follow up work should be financed by CalTrans, Measure A funds, or other alternative grant funding source.</p>		
<p>Responsible Department: Public Utilities Department, Planning Department, Engineering Department, City Administrator, City Council, Contract City Attorney, and CalTrans.</p>		
<p>Target Completion Date: January 30, 2019</p>		
<p>Cost Benefit Consideration:</p> <p>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 overflowing drains, plugged under passes and water and an unsafe quantity of water and debris through the City of Guadalupe.</p>		
<p>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.</p>		

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.
	<ul style="list-style-type: none"> • 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.

	<ul style="list-style-type: none"> 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.
<p>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.</p>	
<p>POLICY C.6.a.1 Promote Alternative Modes of Transportation</p>	<p>Promote the use of alternative transportation modes such as transit, bicycle, pedestrian, airplane, and light rail to relieve traffic congestion and improve air quality.</p>
	<ul style="list-style-type: none"> 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.
	<ul style="list-style-type: none"> 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.
	<p>IMPLEMENTATION PROGRAMS</p> <ol style="list-style-type: none"> 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. 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). 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).
<p>POLICY C.6.b.1 Transit (Bus Transportation)</p>	<p>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.</p>
<p>POLICY C.6.b.2 - Transit</p>	<p>Offer convenient, safe, and reliable transit services, and provide that the financial stability of the transit system continues.</p> <ul style="list-style-type: none"> OBJECTIVE C.6.b.1 – Transit. Maintain the current level of bus services and expand such services as required when demand levels increase.
	<p>IMPLEMENTATION PROGRAMS</p> <ol style="list-style-type: none"> 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. Plan for the existing transit system's incorporation into the ultimate fixed bus lane and light rail routes as a "feeder" system.
<p>POLICY C.6.c.1 – Bicycle and</p>	<p>Develop bicycling and pedestrian facilities as a major transportation and recreational mode to serve the transportation and recreational needs of the</p>

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.
	<p>OBJECTIVE C.6.C1 (in part)</p> <ul style="list-style-type: none"> • 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. • 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.
	<p>IMPLEMENTATION PROGRAMS</p> <p>4. Integrate bicycle transportation in all appropriate transportation and recreation programs and facilities.</p>

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 5th “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

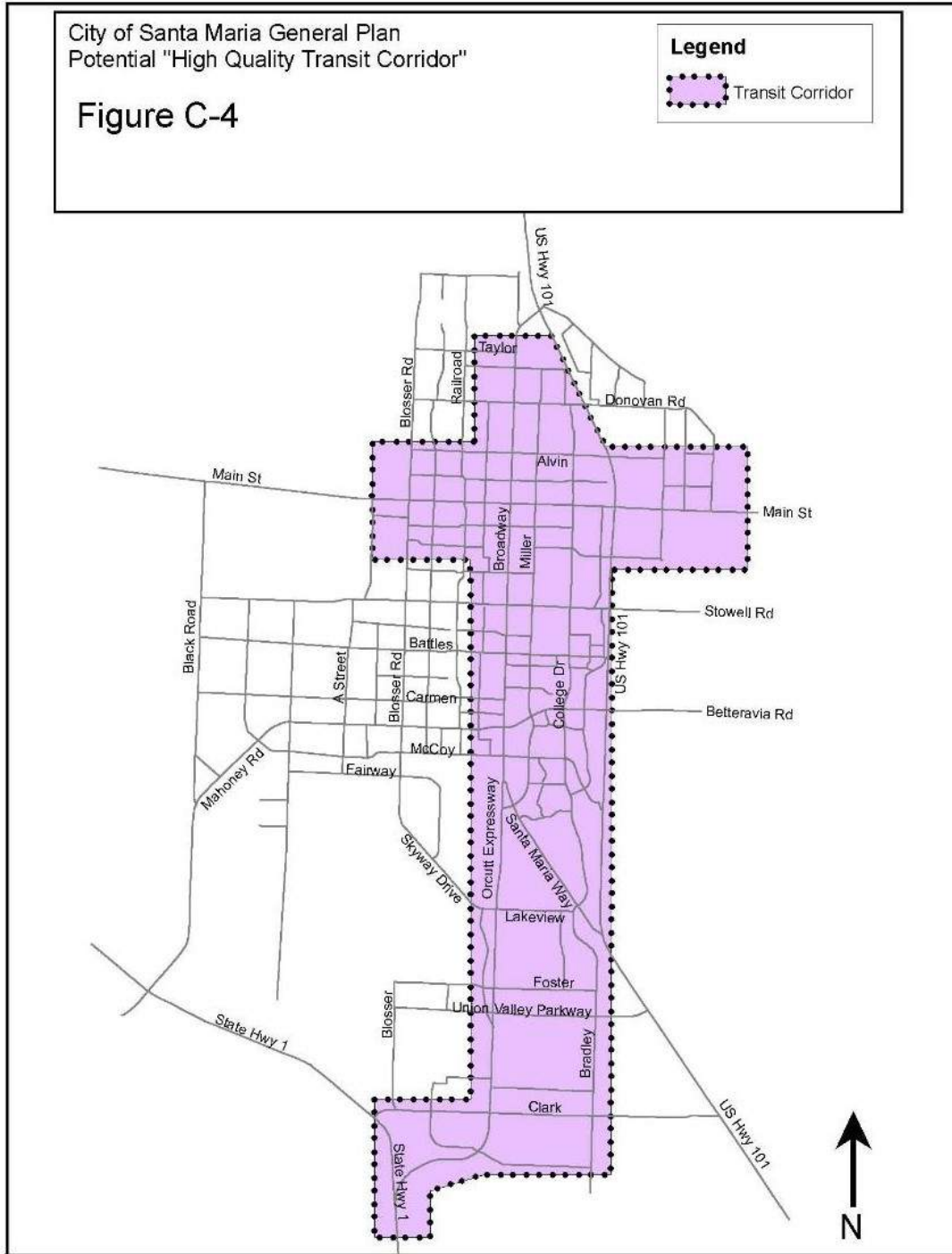
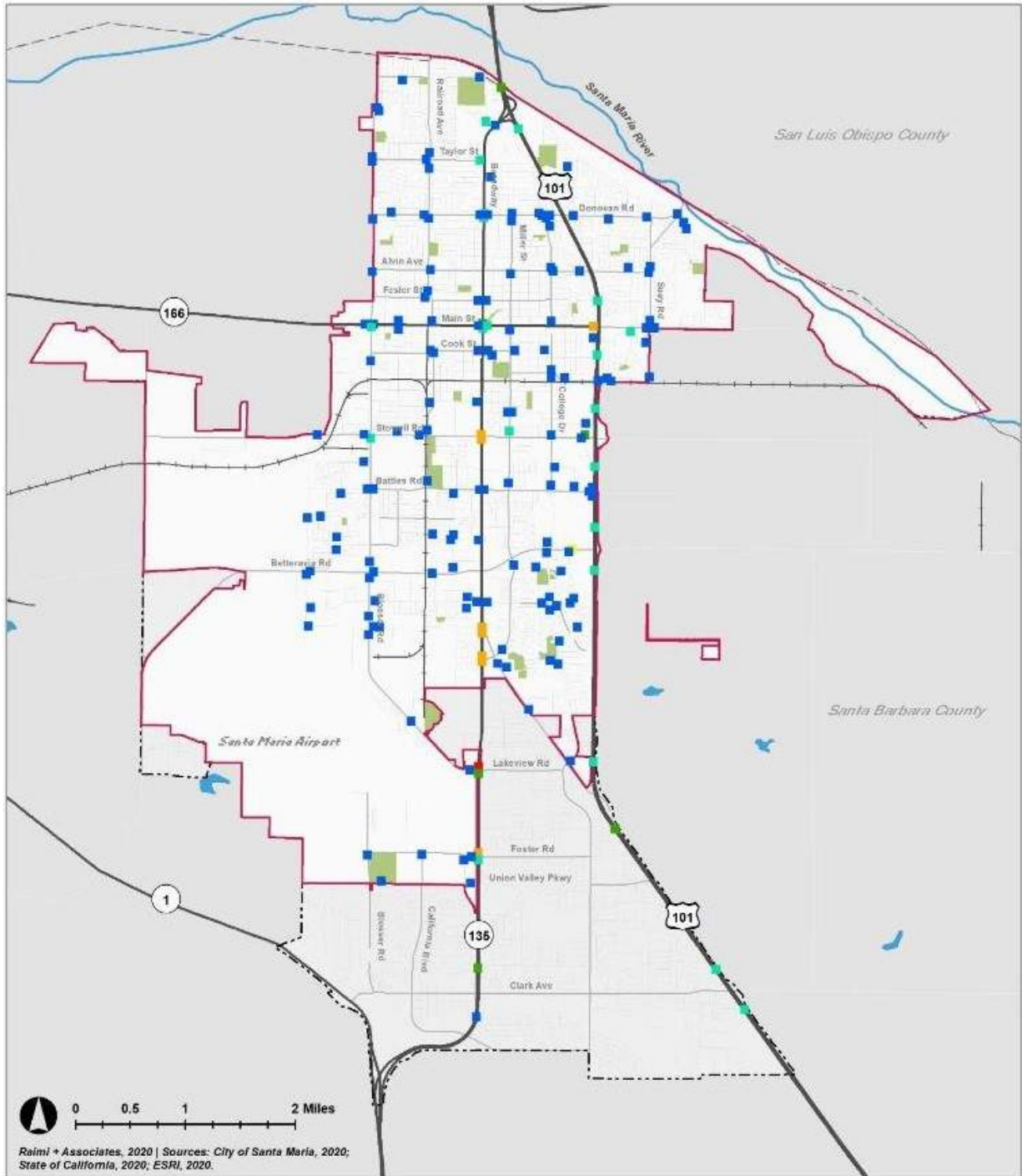


Figure D-2 - Segment Level of Service
 (General Plan Update Transportation & Mobility Existing Conditions Report Figure 5)



Raimi + Associates, 2020 | Sources: City of Santa Maria, 2020; State of California, 2020; ESRI, 2020.

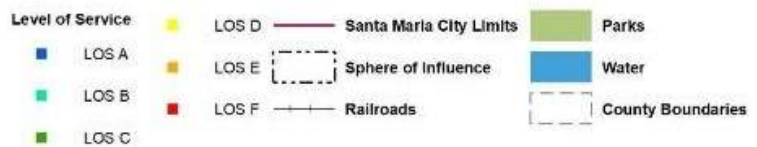
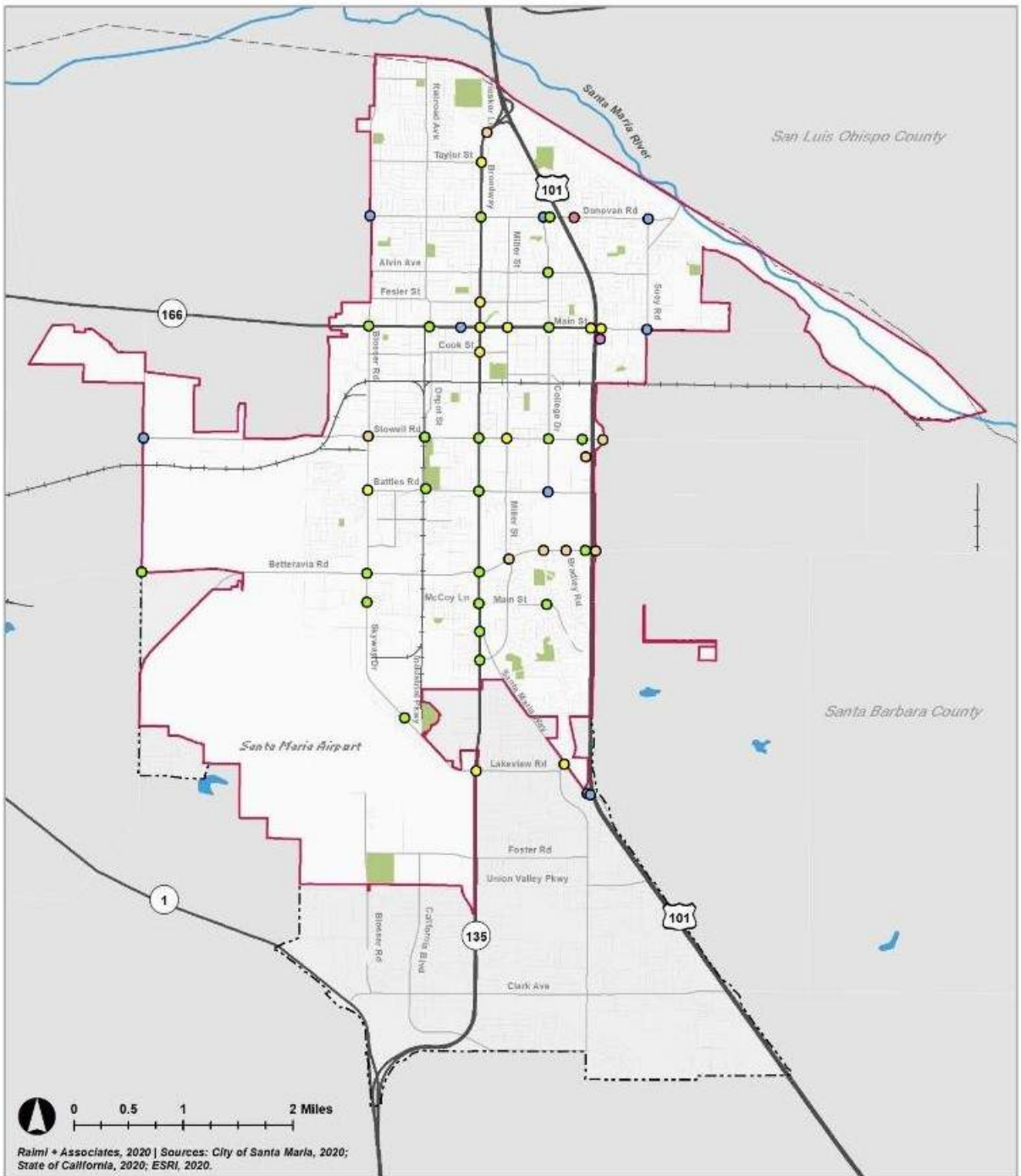


Figure D-3 - Intersection Level of Service
 (General Plan Update Transportation & Mobility Existing Conditions Report Figure 6)



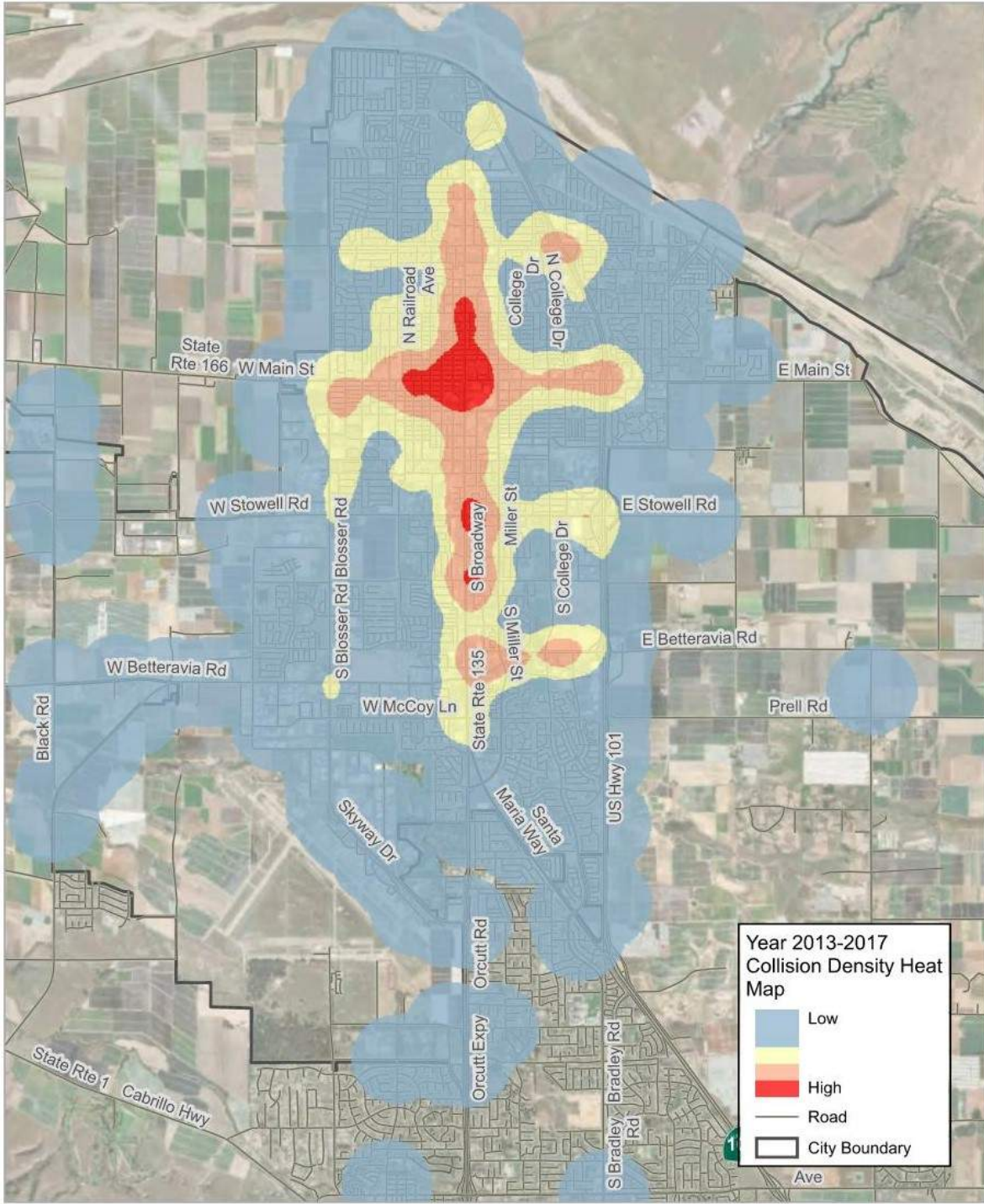
0 0.5 1 2 Miles

Raimi + Associates, 2020 | Sources: City of Santa Maria, 2020; State of California, 2020; ESRI, 2020.



- | | | | |
|-------------------------|---------|---------------------------|-------------------------|
| Level of Service | ● LOS D | — Santa Maria City Limits | ■ Parks |
| ● LOS A | ● LOS E | - - - Sphere of Influence | ■ Water |
| ● LOS B | ● LOS F | — Railroads | - - - County Boundaries |
| ● LOS C | | | |

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



Paper Size ANSI A
0 0.25 0.5 0.75 1
Miles

Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 1983 2011 StatePlane California V FIPS 0405 F1 US



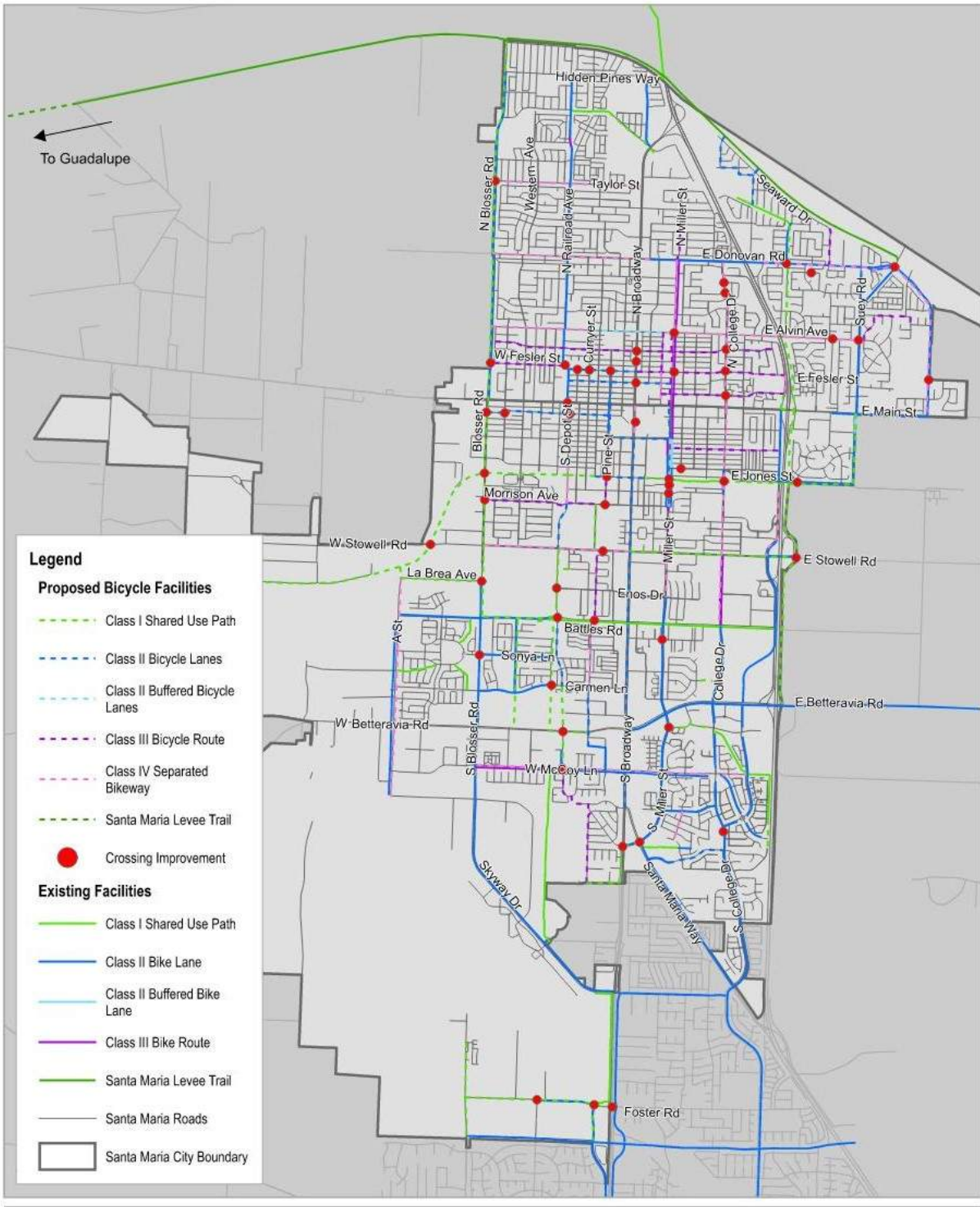
City of Santa Maria
Santa Maria ATP

**Bicycle and Pedestrian
Collision Heat Map**

Project No. 11189607
Revision No. -
Date 04/16/2019

FIGURE 4

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



Paper Size ANSI A
0 0.25 0.5 0.75 1
Miles

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California V FIPS 0405 Feet

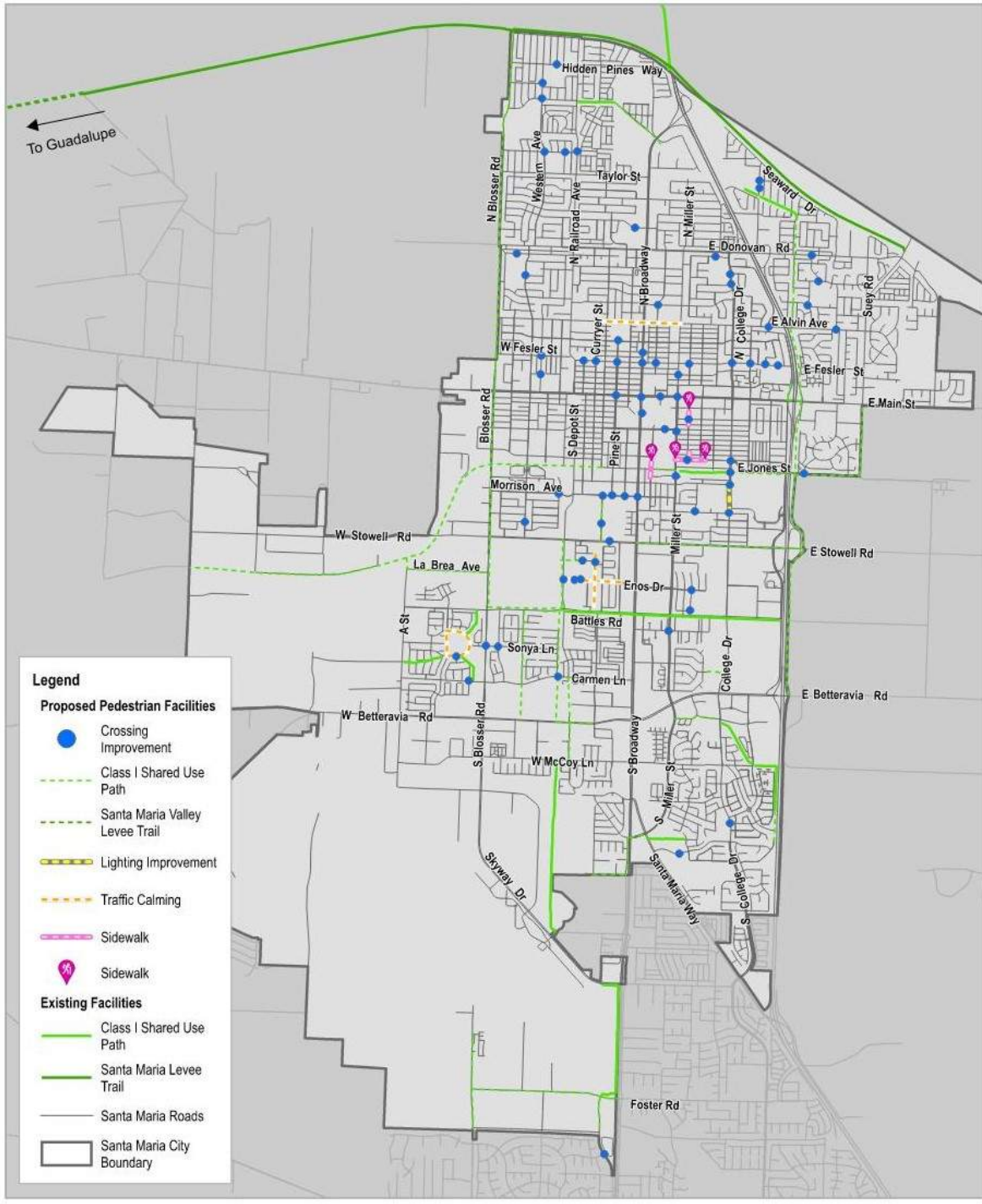


City of Santa Maria
Santa Maria
Active Transportation Plan
Recommended Bicycle Projects

Project No. 11189607
Revision No. NOVEMBER
Date 2020

FIGURE 21

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



Paper Size ANSI A
0 0.25 0.5 0.75 1
Miles

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California V FIPS 0405 Feet



City of Santa Maria
Santa Maria
Active Transportation Plan
Recommended Pedestrian Projects

Project No. 11189607
Revision No. NOVEMBER
Date 2020

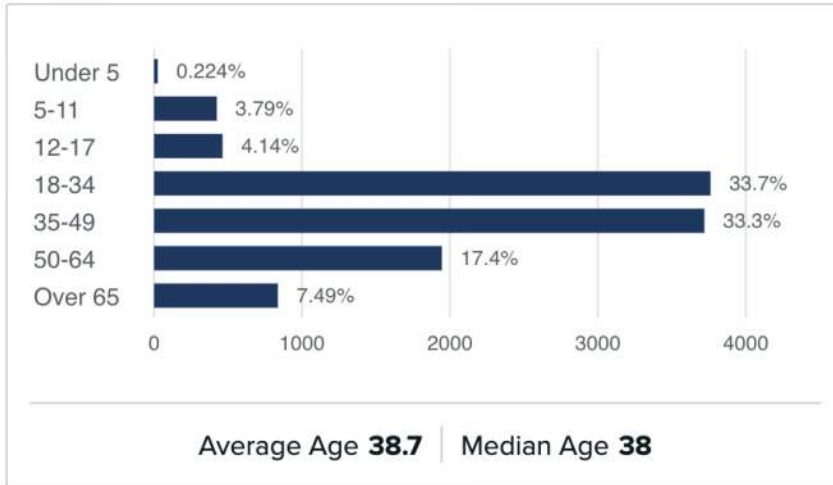
FIGURE 22

APPENDIX B. SOCIOECONOMIC DATA

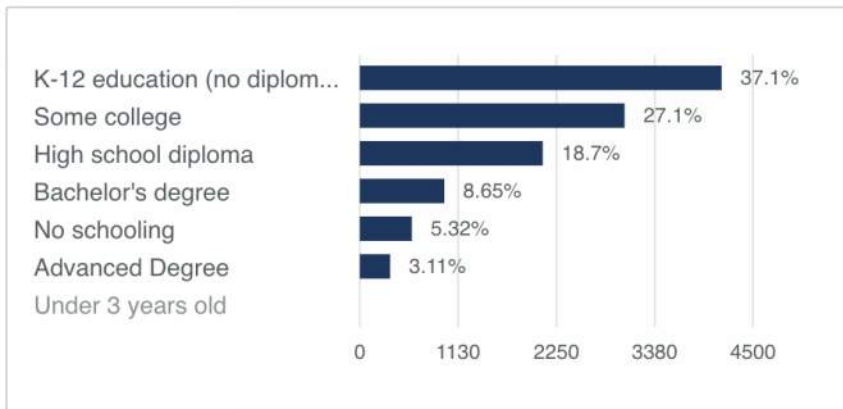


SR 166 – ALL TRIPS STREETLIGHT DATA

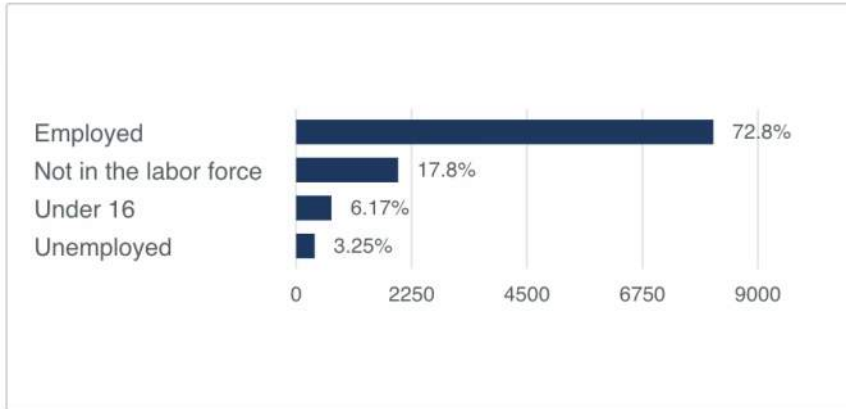
Age



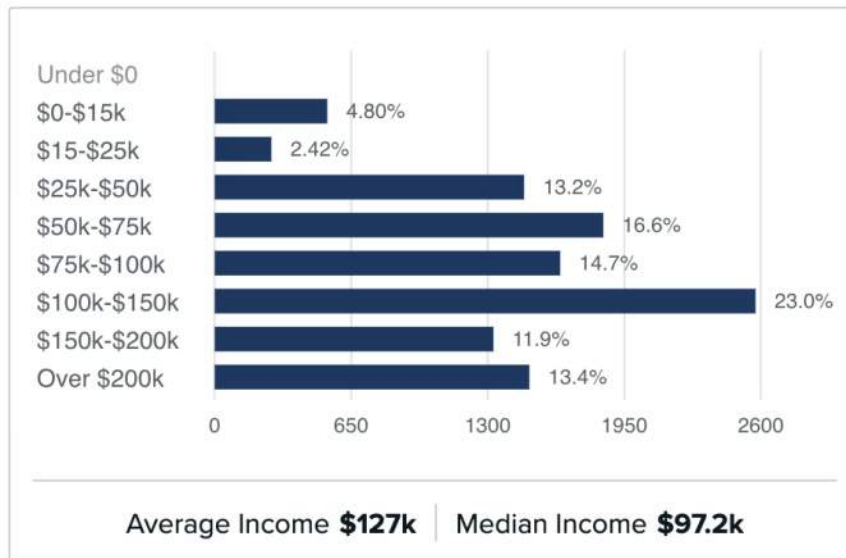
Education



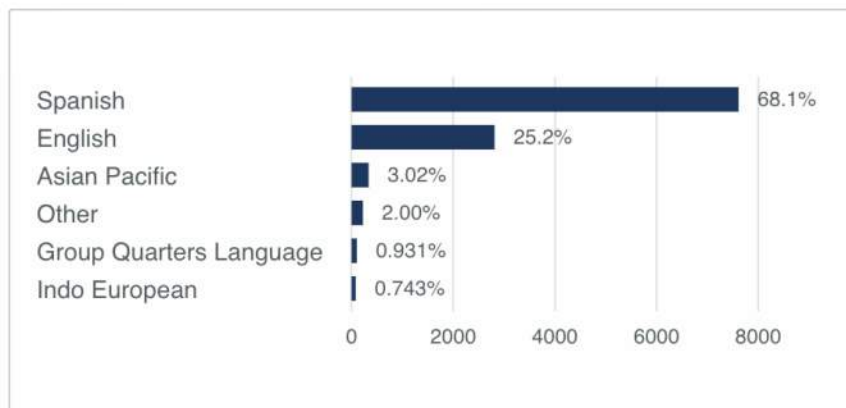
Employment Status



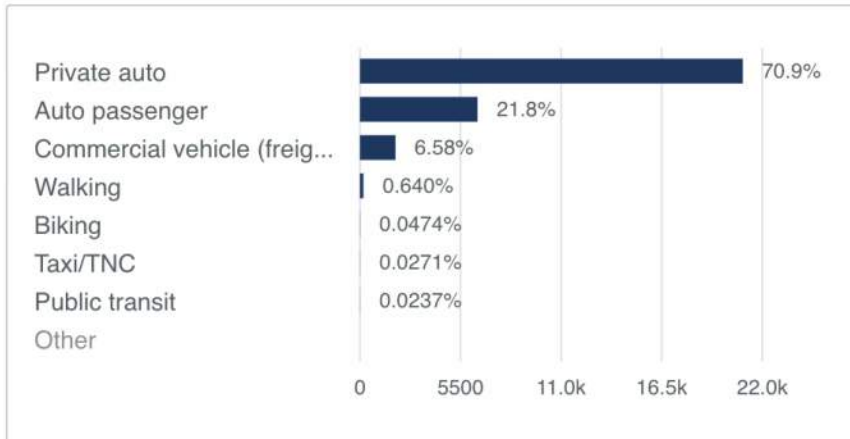
Household Income



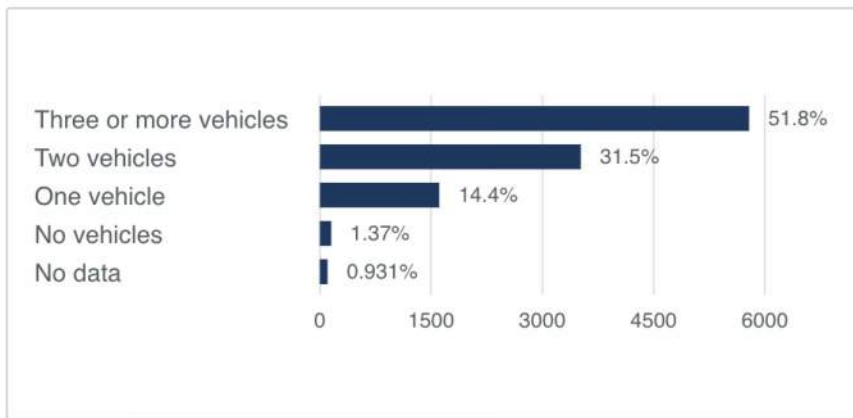
Language



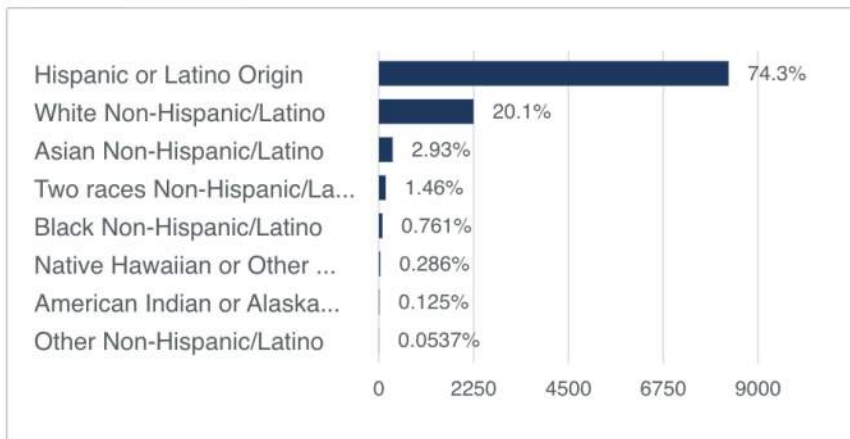
Primary Mode



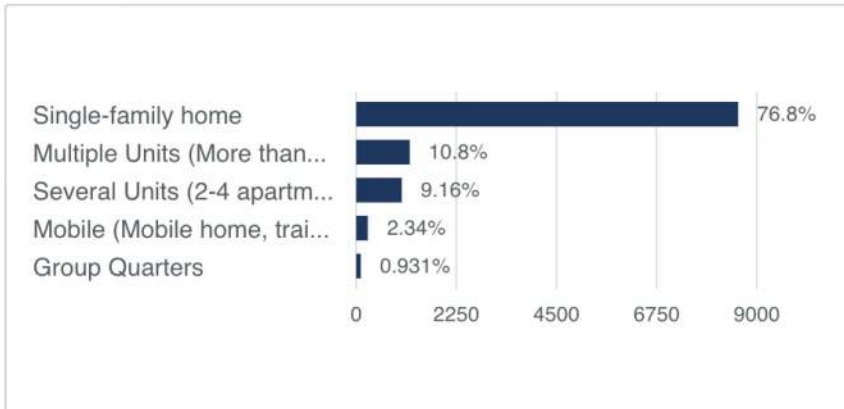
Private Auto Availability



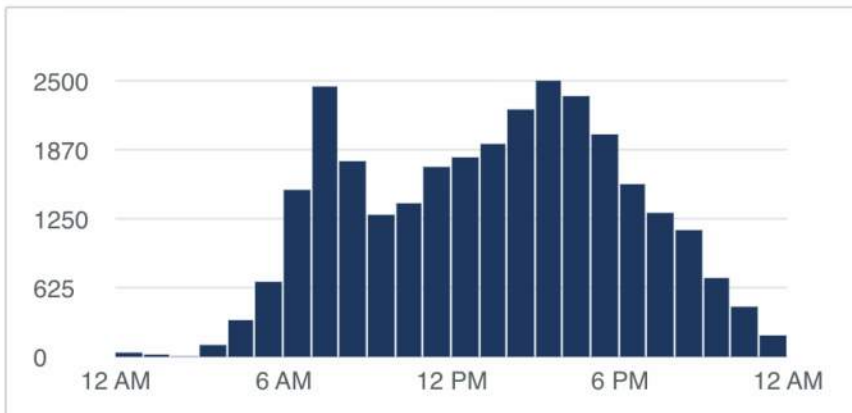
Race & Ethnicity



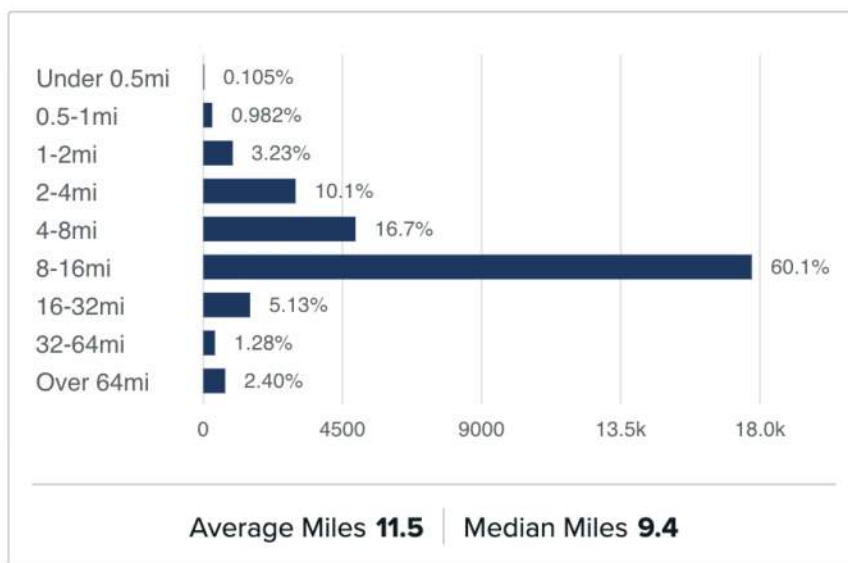
Residence Building Type



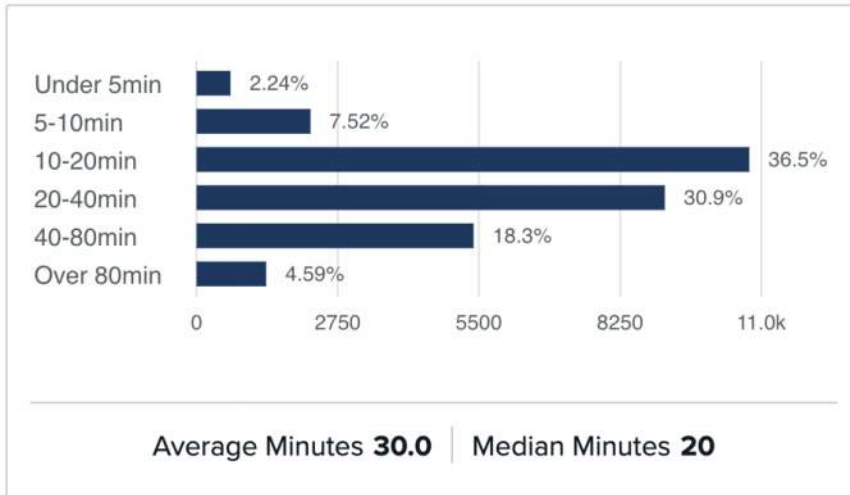
Starting Hour (In Local Time)



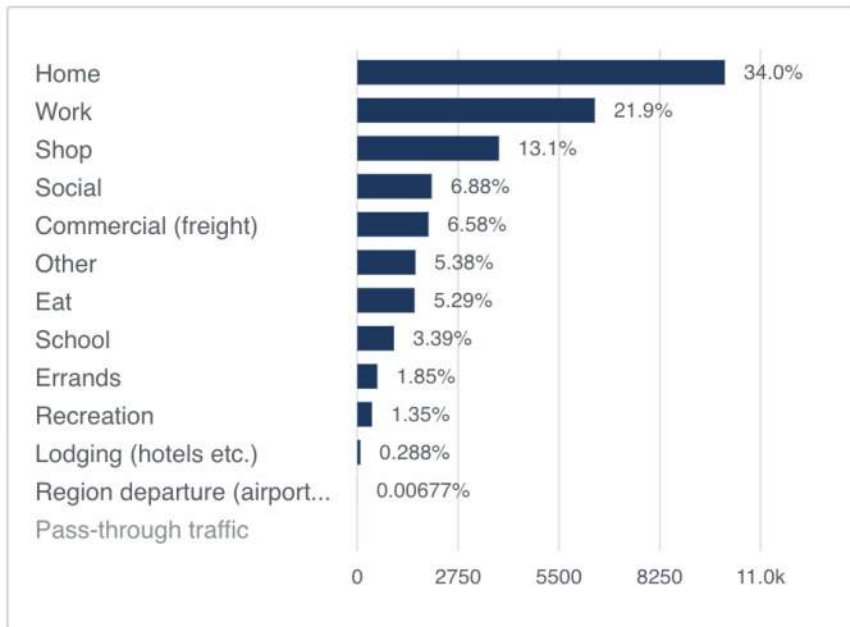
Trip Distance (Miles)



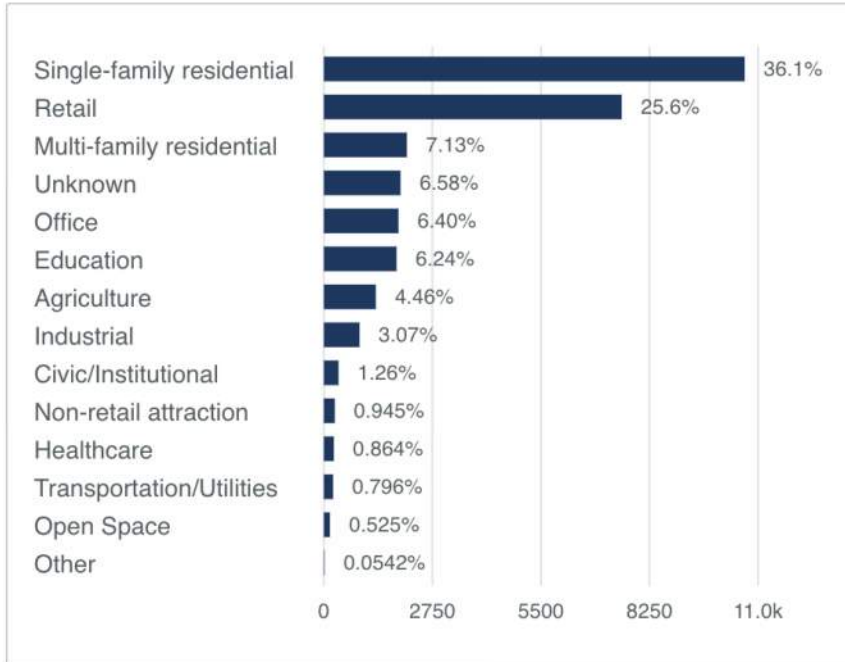
Trip Duration (Minutes)



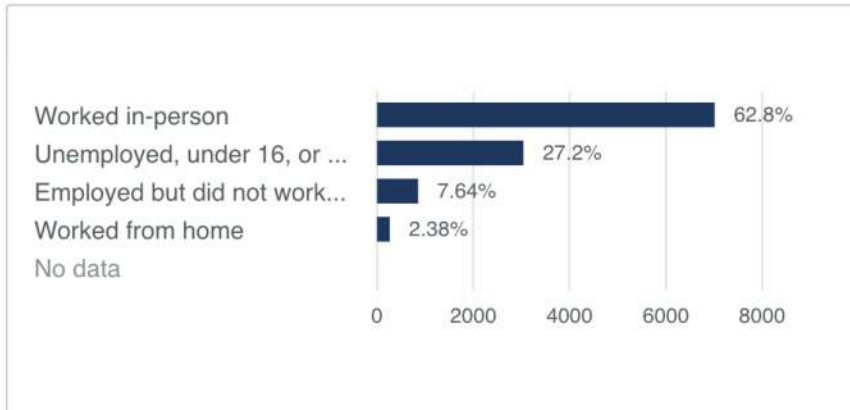
Trip Purpose



Trips by Origin Building Use

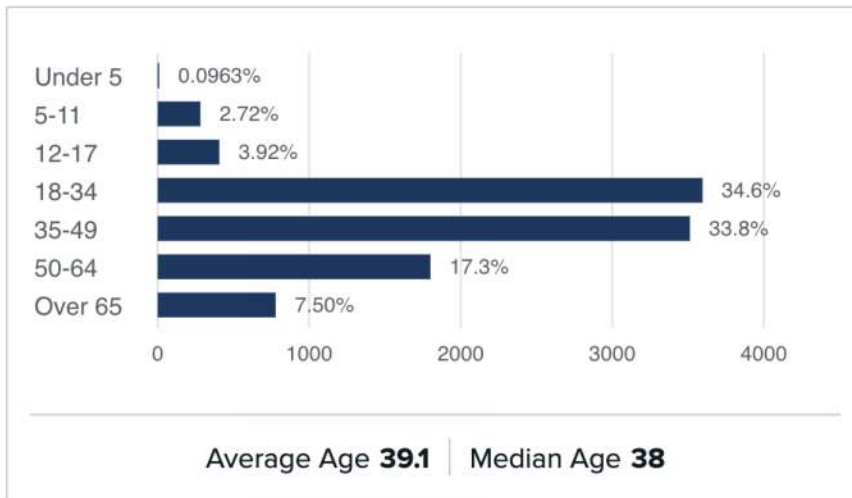


Work From Home

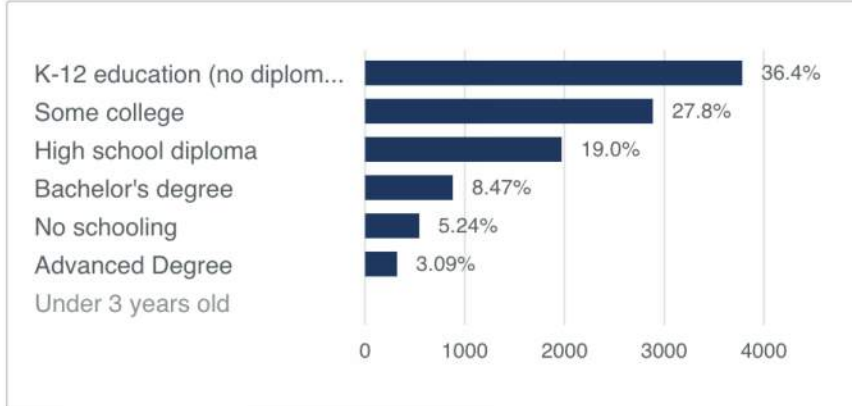


SR 166 – LOCAL TRIPS STREETLIGHT DATA

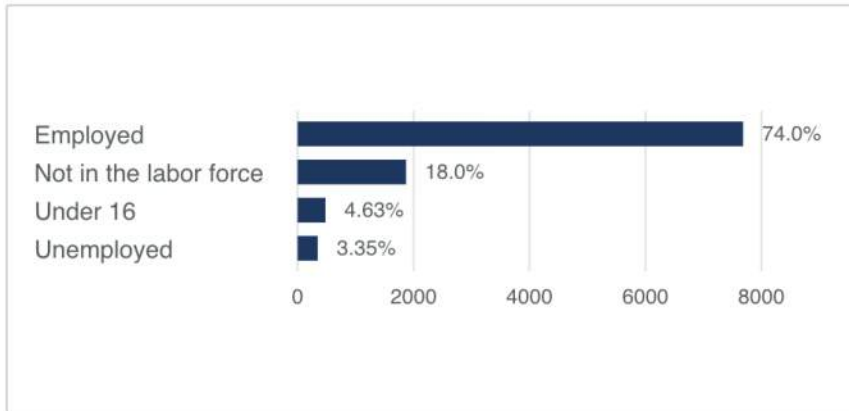
Age



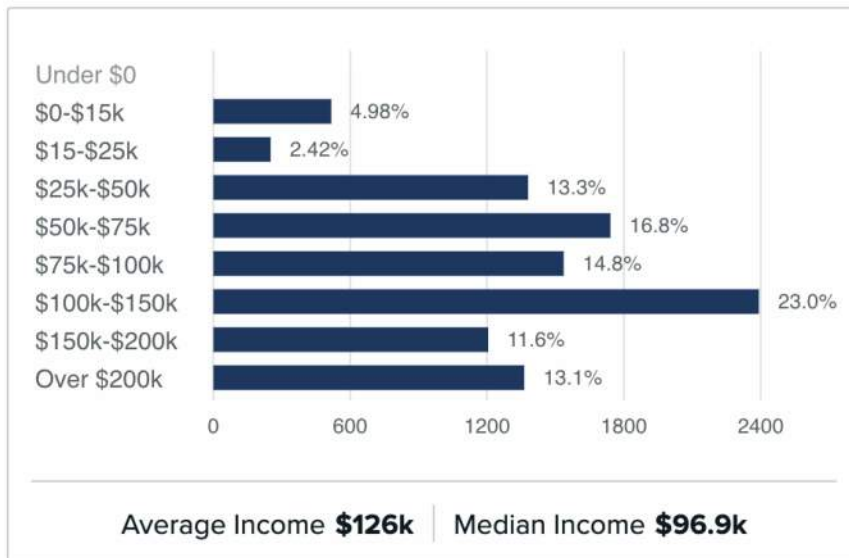
Education



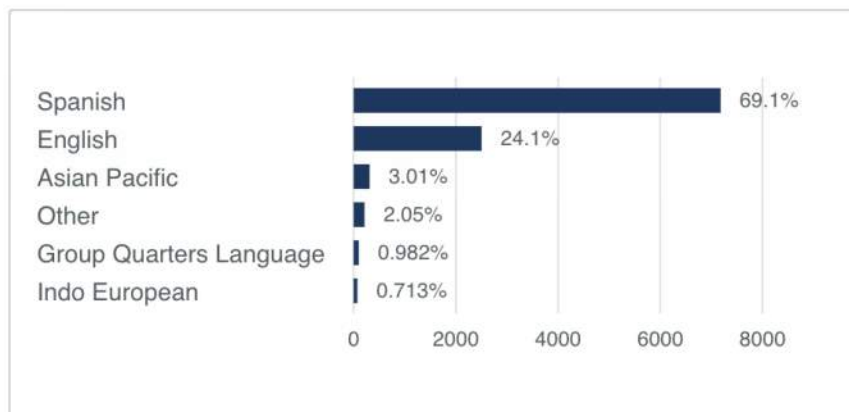
Employment Status



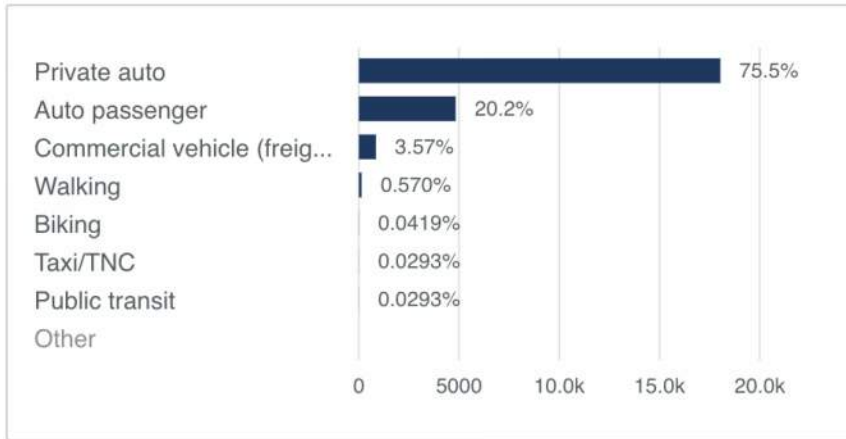
Household Income



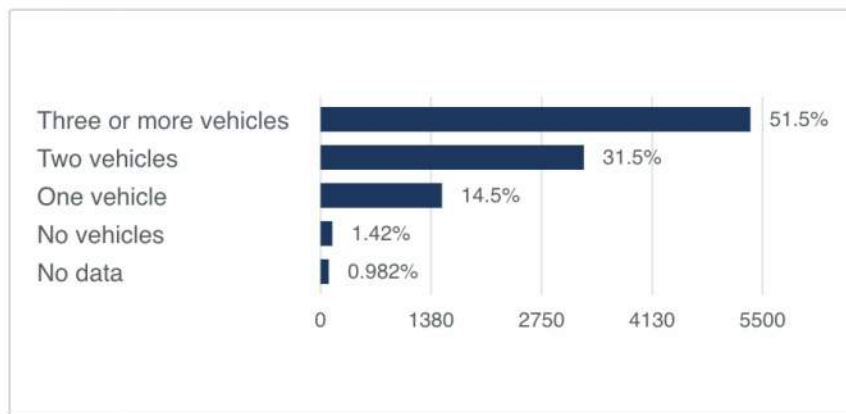
Language



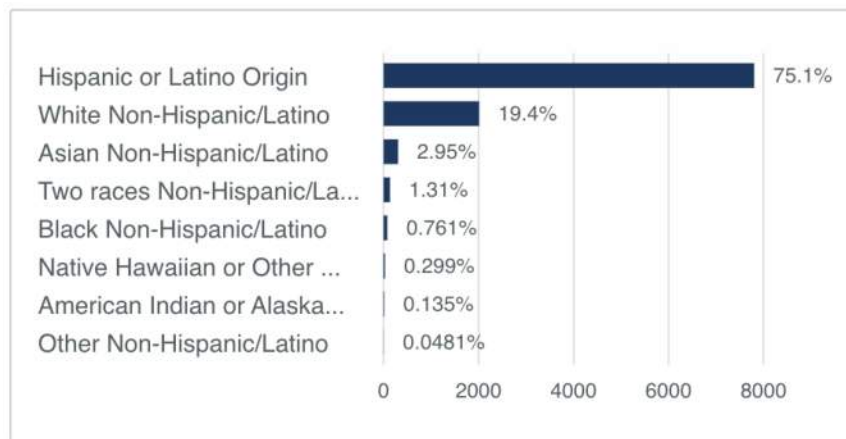
Primary Mode



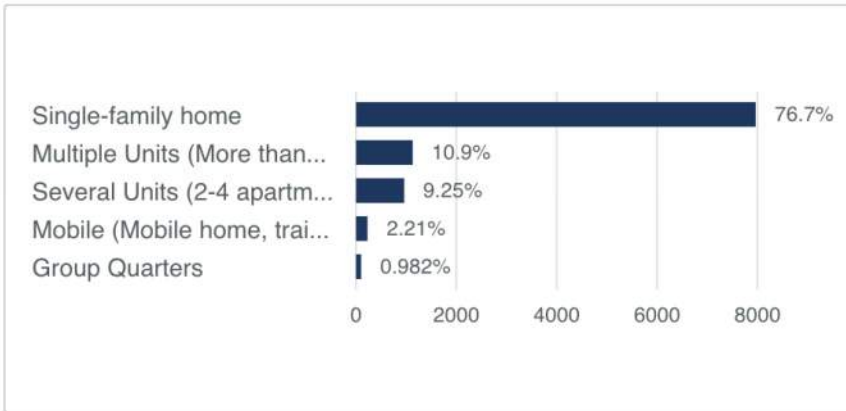
Private Auto Availability



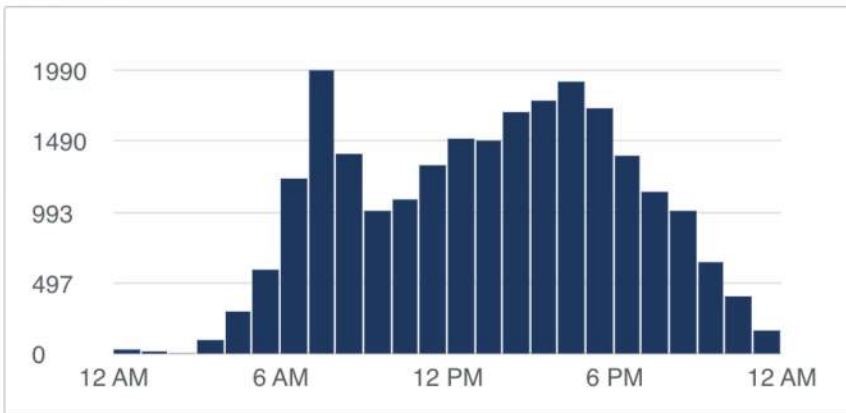
Race & Ethnicity



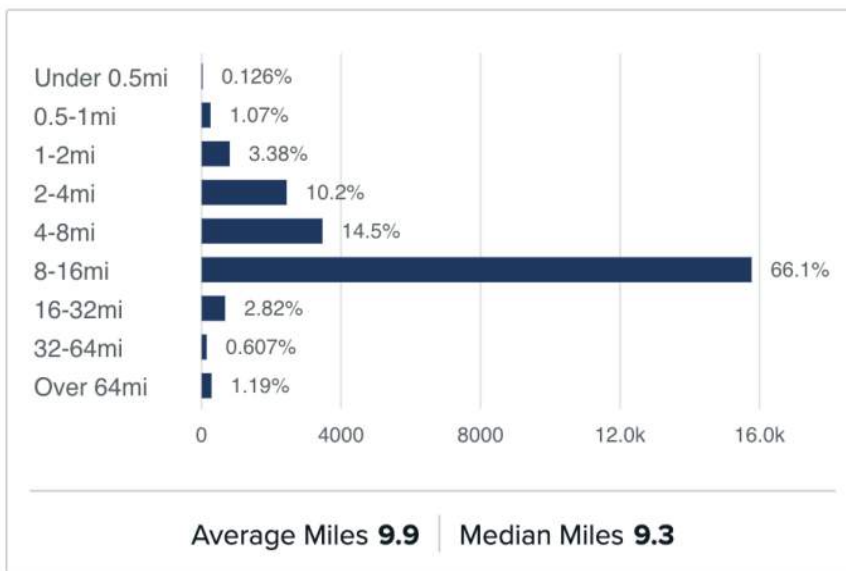
Residence Building Type



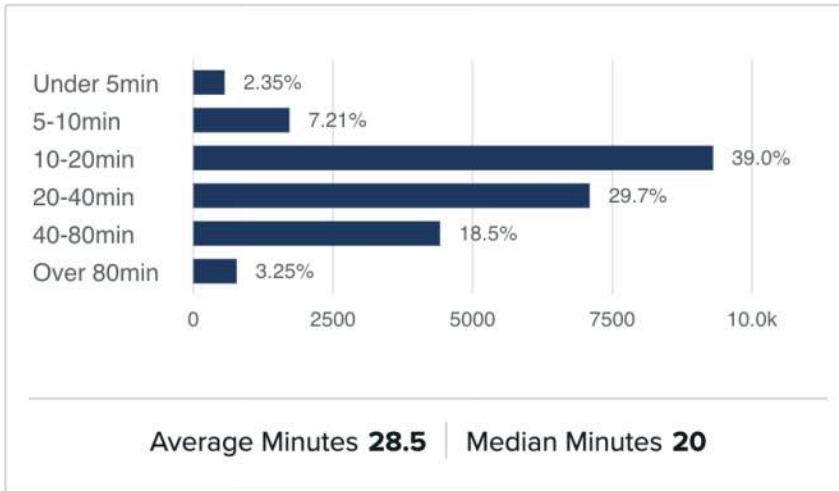
Starting Hour (In Local Time)



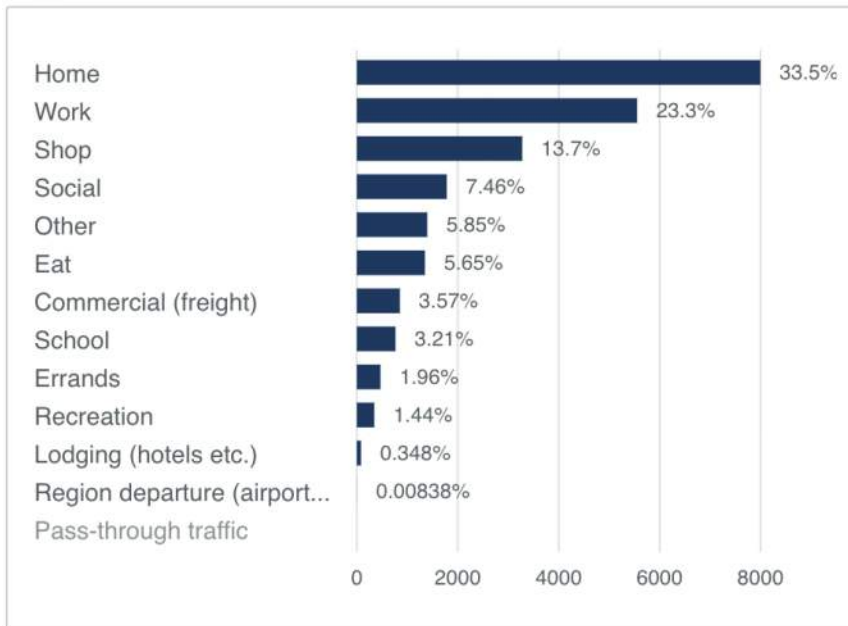
Trip Distance (Miles)



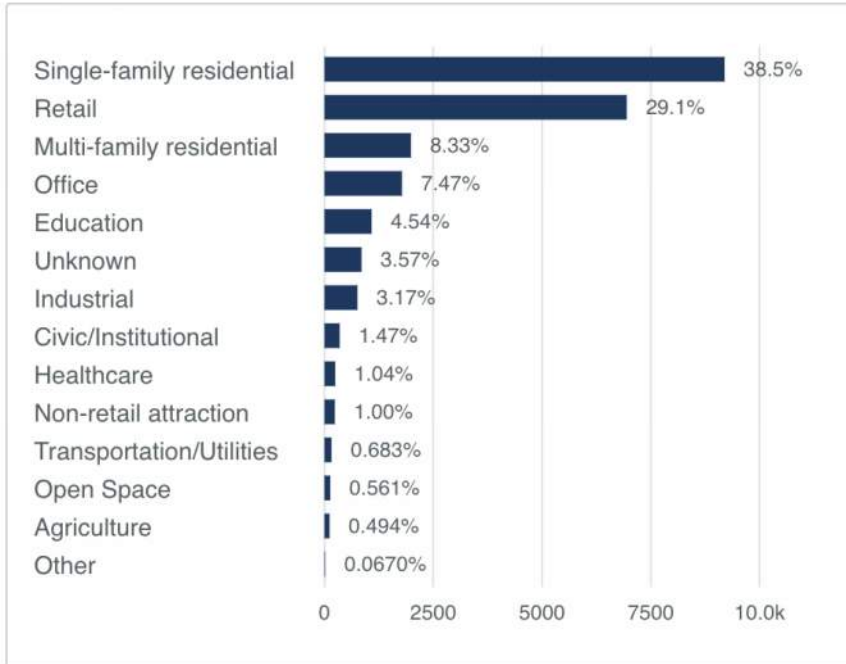
Trip Duration (Minutes)



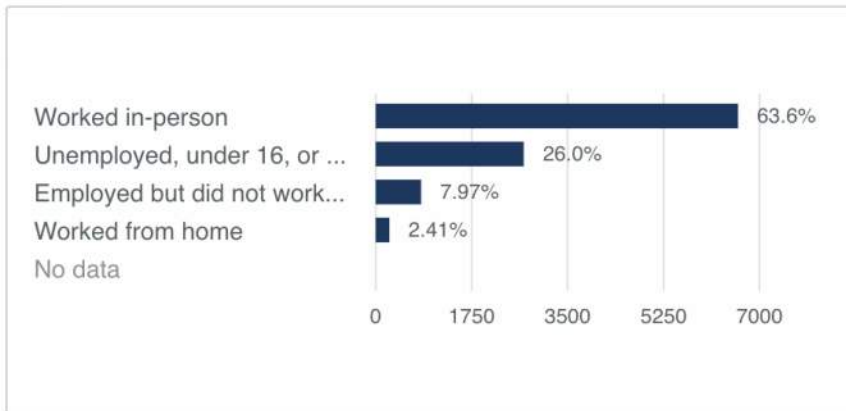
Trip Purpose



Trips by Origin Building Use



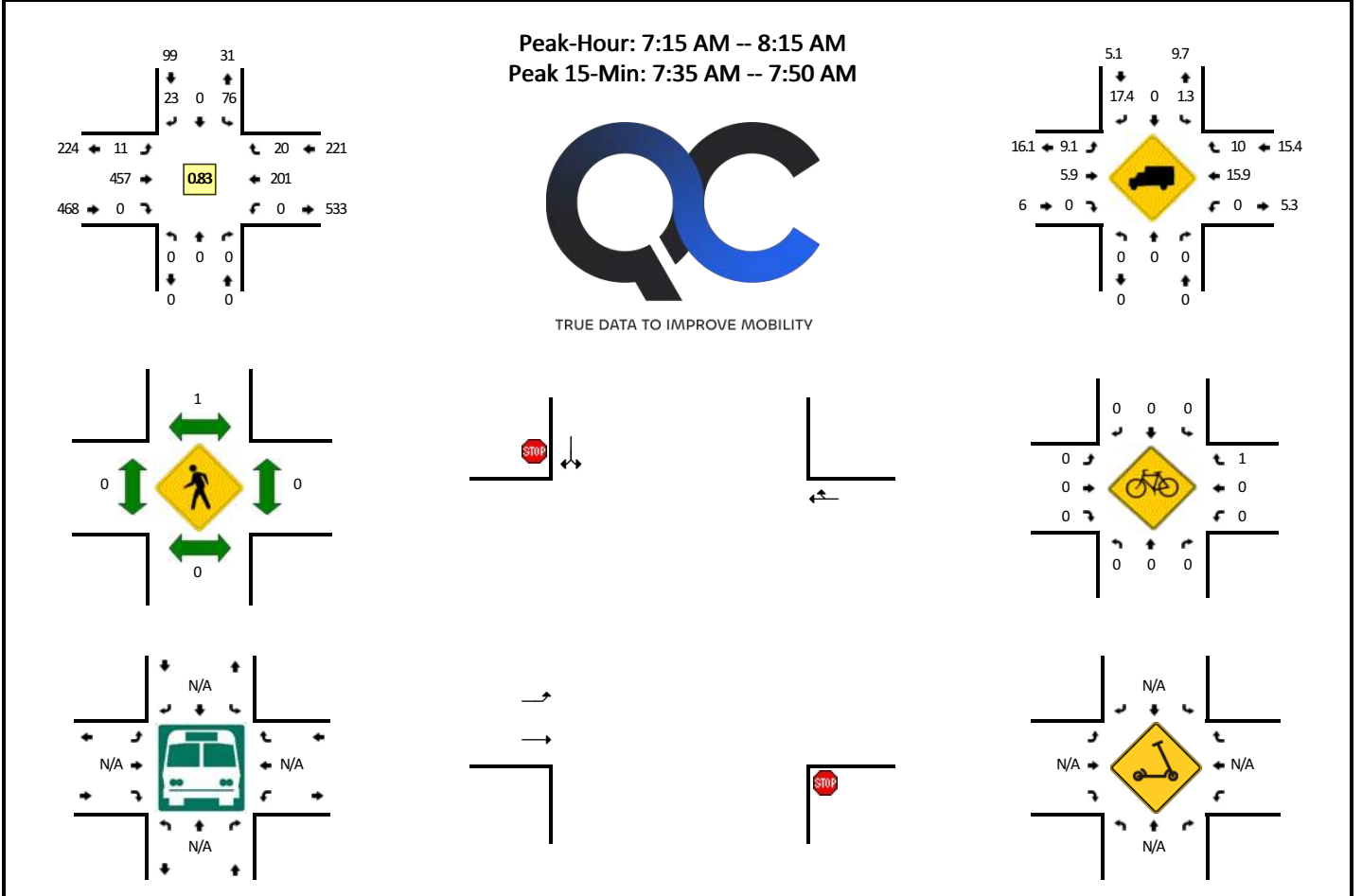
Work From Home



APPENDIX C. TRAFFIC COUNTS

LOCATION: Flower Ave -- SR 166
CITY/STATE: Guadalupe, CA

QC JOB #: 16714605
DATE: Wed, Aug 28 2024

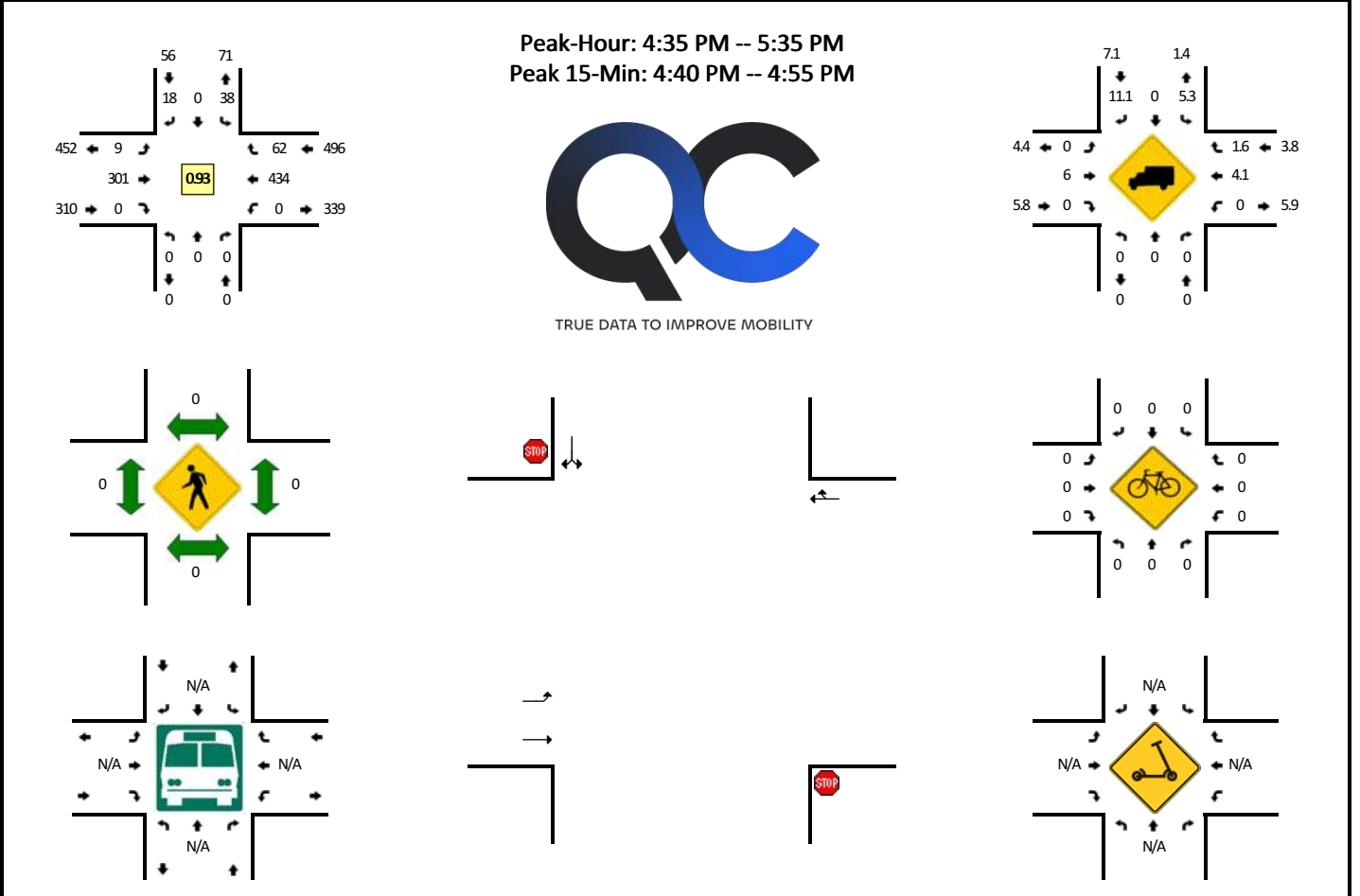


5-Min Count Period Beginning At	Flower Ave (Northbound)				Flower Ave (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	4	0	1	0	0	17	0	0	0	19	0	0	41	
7:05 AM	0	0	0	0	4	0	0	0	0	21	0	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	0	4	0	12	0	4	24	0	0	0	36	0	0	80	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scoters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Comments:

LOCATION: Flower Ave -- SR 166
CITY/STATE: Guadalupe, CA

QC JOB #: 16714606
DATE: Wed, Aug 28 2024

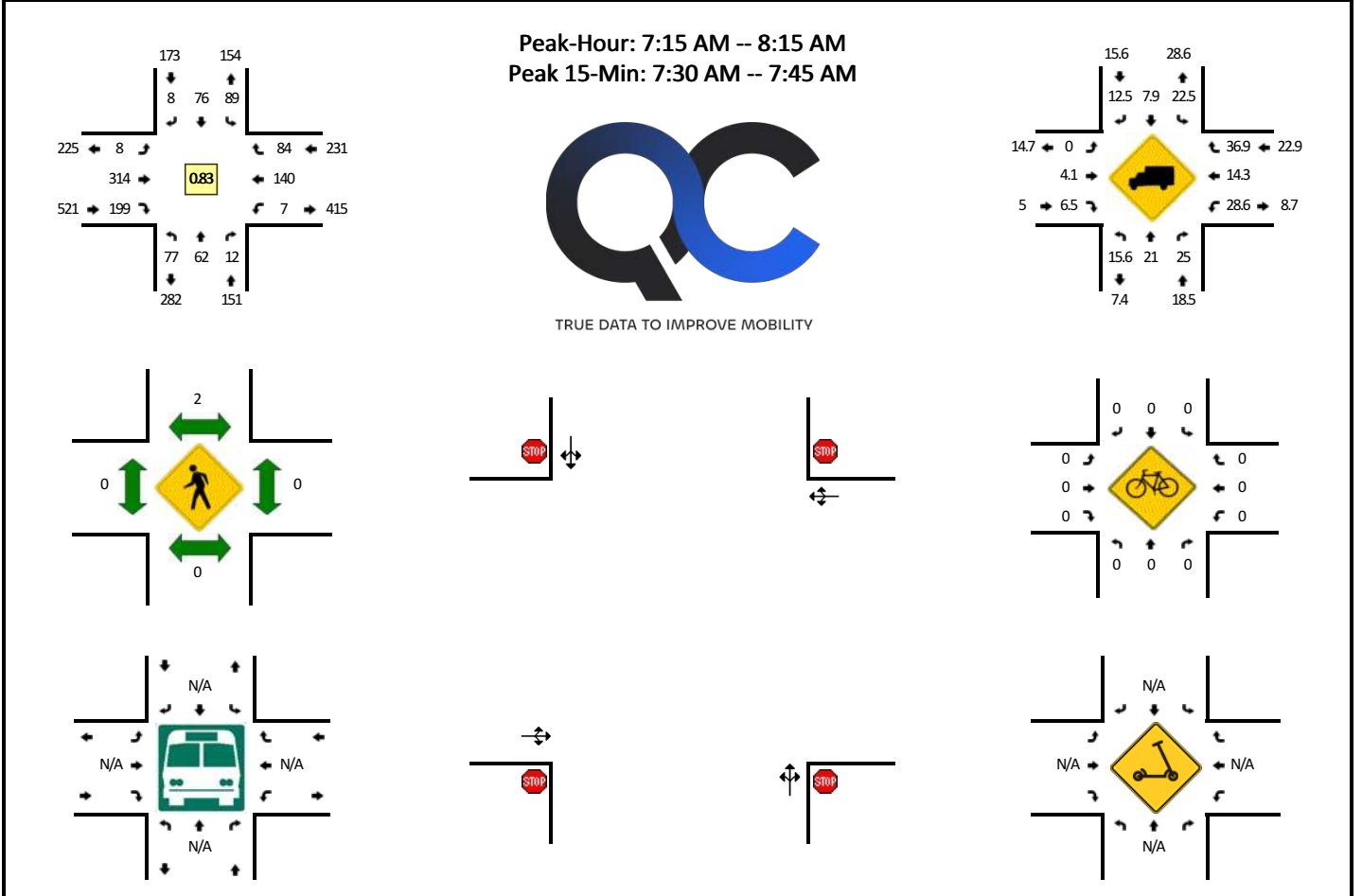


5-Min Count Period Beginning At	Flower Ave (Northbound)				Flower Ave (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	5	0	1	0	0	25	0	0	0	29	4	0	64	
4:05 PM	0	0	0	0	11	0	1	0	1	26	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	
All Vehicles	0	0	0	0	32	0	12	0	4	364	0	0	0	452	60	0	924	
Heavy Trucks	0	0	0	0	4	0	4	0	0	24	0	0	0	24	0	0	56	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scooters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Comments:

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

QC JOB #: 16714607
DATE: Wed, Aug 28 2024

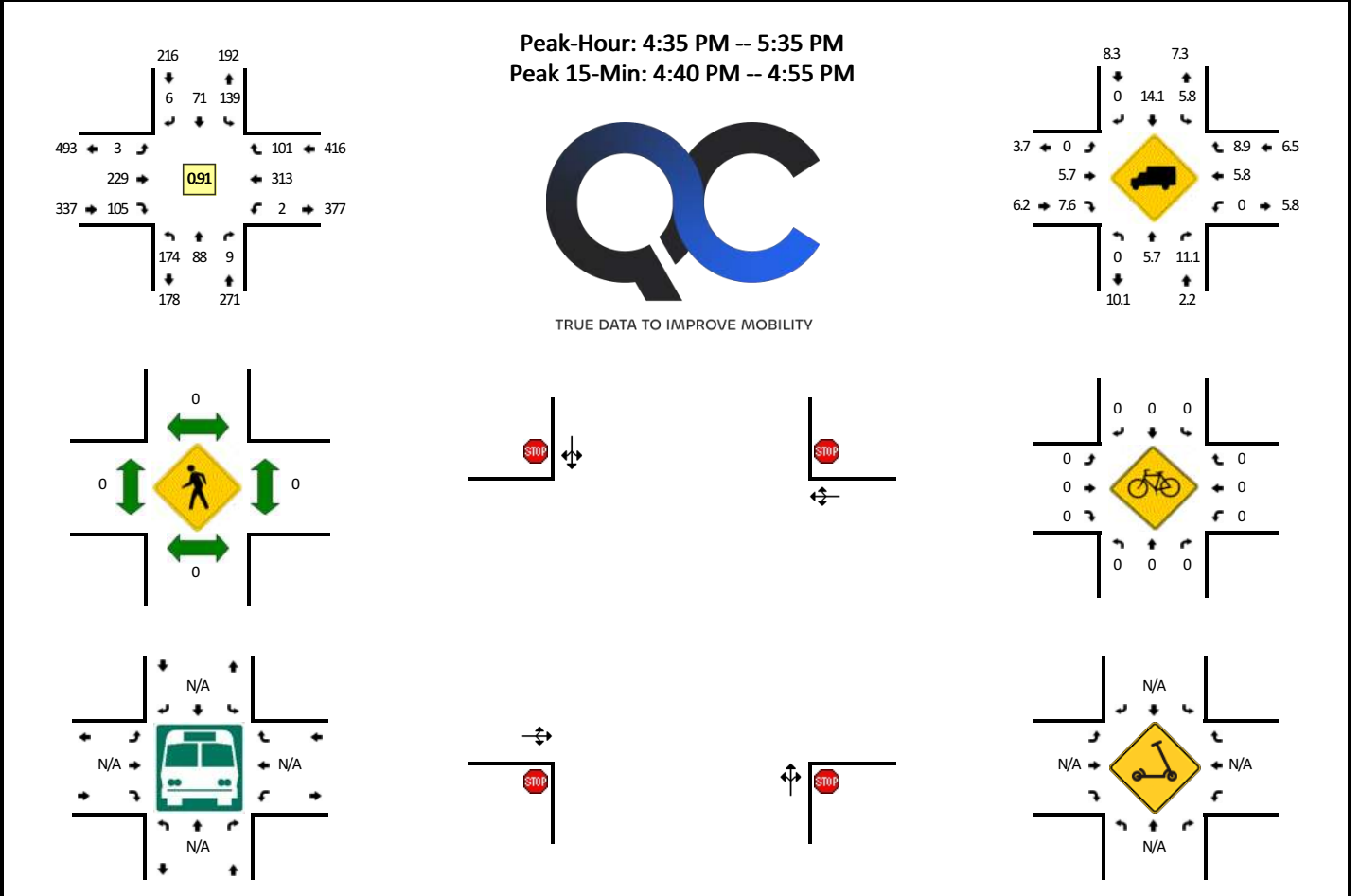


5-Min Count Period Beginning At	Simas Rd (Northbound)				Simas Rd (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	4	0	0	3	2	0	0	0	15	7	0	1	11	6	0	51	
7:05 AM	6	5	0	0	9	1	0	0	0	12	10	0	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	0				4			0	0			0	0			4	
Bicycles	0	0			0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

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

QC JOB #: 16714608
DATE: Wed, Aug 28 2024

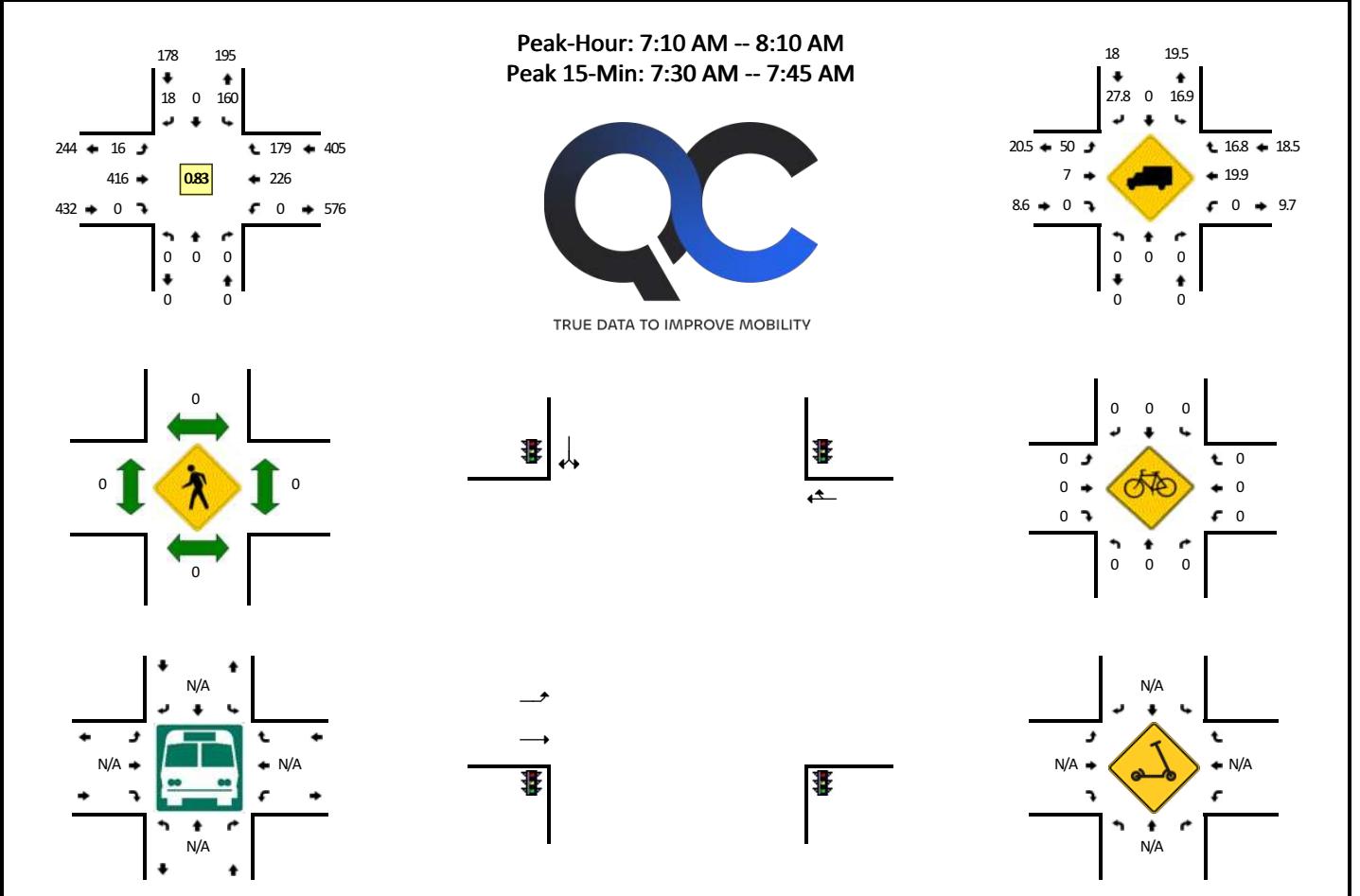


5-Min Count Period Beginning At	Simas Rd (Northbound)				Simas Rd (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	16	5	0	0	14	2	2	0	2	18	10	0	1	16	6	0	92	
4:05 PM	12	5	1	0	6	8	0	0	1	30	6	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	1	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	0			0	0			0	
Bicycles	0	0			0	0			0	0			0	0			0	
Scooters																	0	

Comments:

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

QC JOB #: 16714609
DATE: Wed, Aug 28 2024

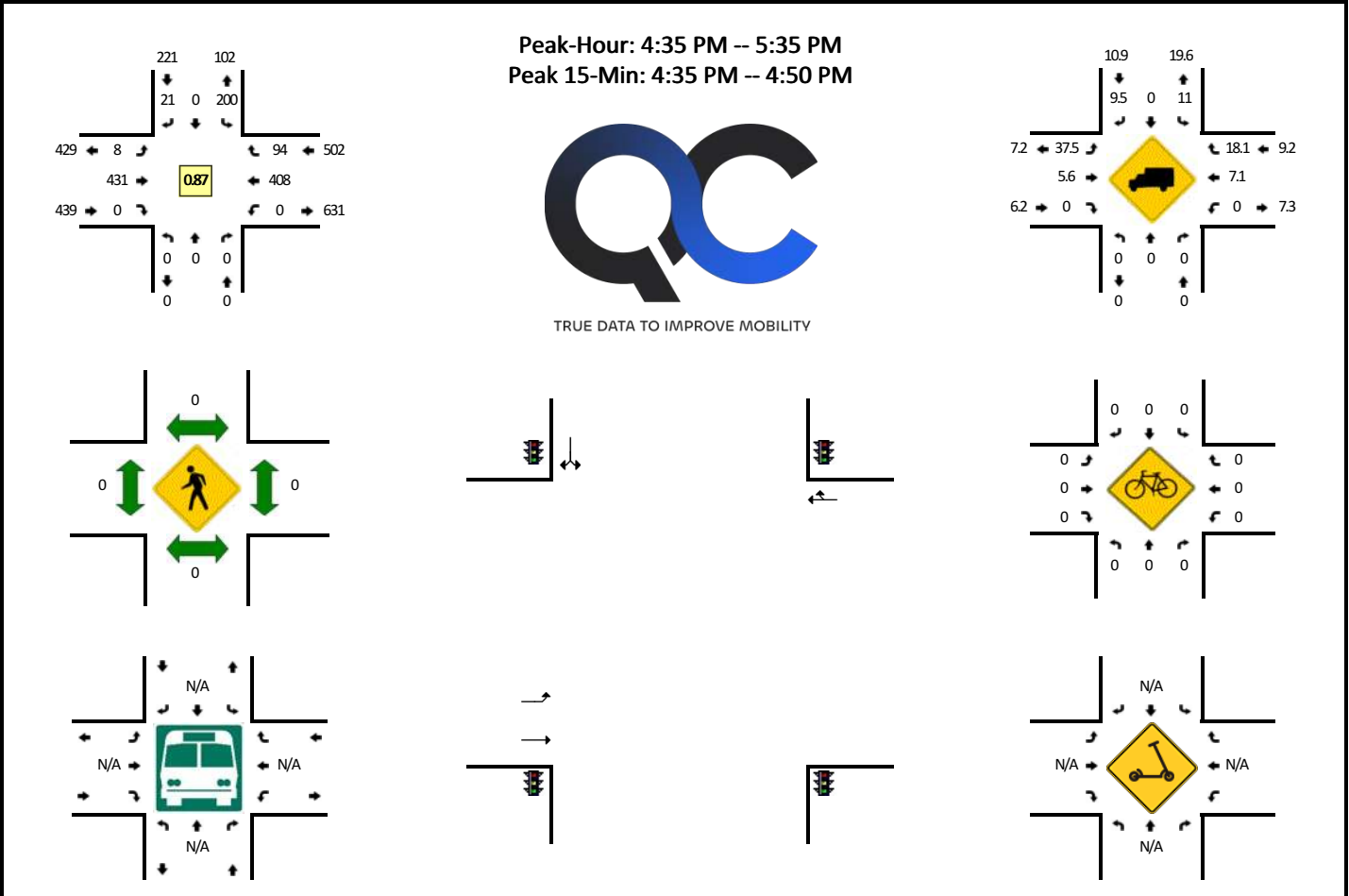


5-Min Count Period Beginning At	Bonita School Rd (Northbound)				Bonita School Rd (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	5	0	4	0	3	13	0	0	0	22	14	0	61	
7:05 AM	0	0	0	0	4	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	0	20	0	4	0	12	48	0	0	0	56	48	0	188	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles		0				0				0				0			0	
Scoters																	0	

Comments:

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

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

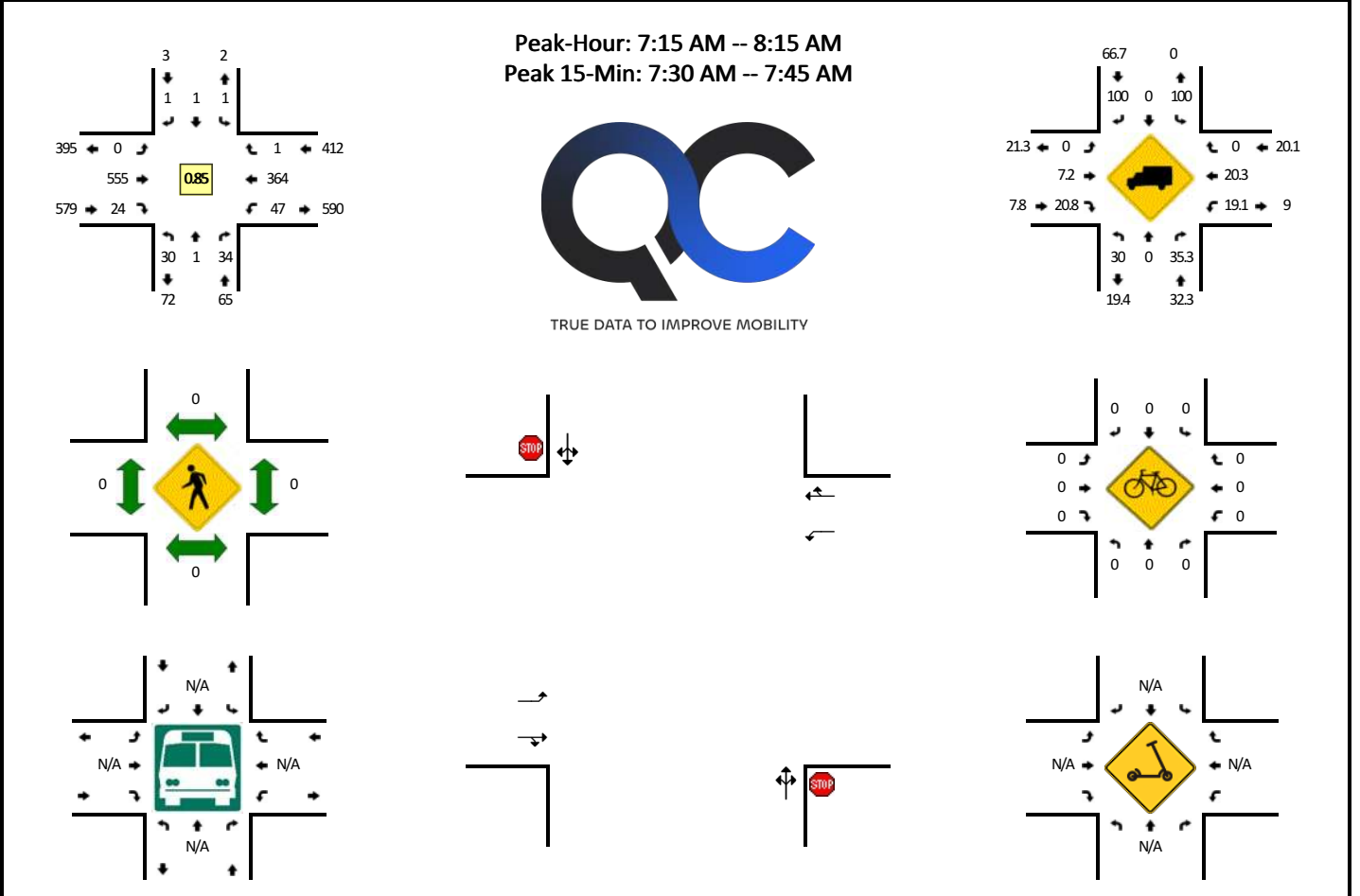


5-Min Count Period Beginning At	Bonita School Rd (Northbound)				Bonita School Rd (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	18	0	2	0	5	50	0	0	0	24	9	0	108	
4:05 PM	0	0	0	0	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	0	24	0	4	0	4	32	0	0	0	36	20	0	120	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles		0				0				0				0			0	
Scoters		0				0				0				0			0	

Comments:

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

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

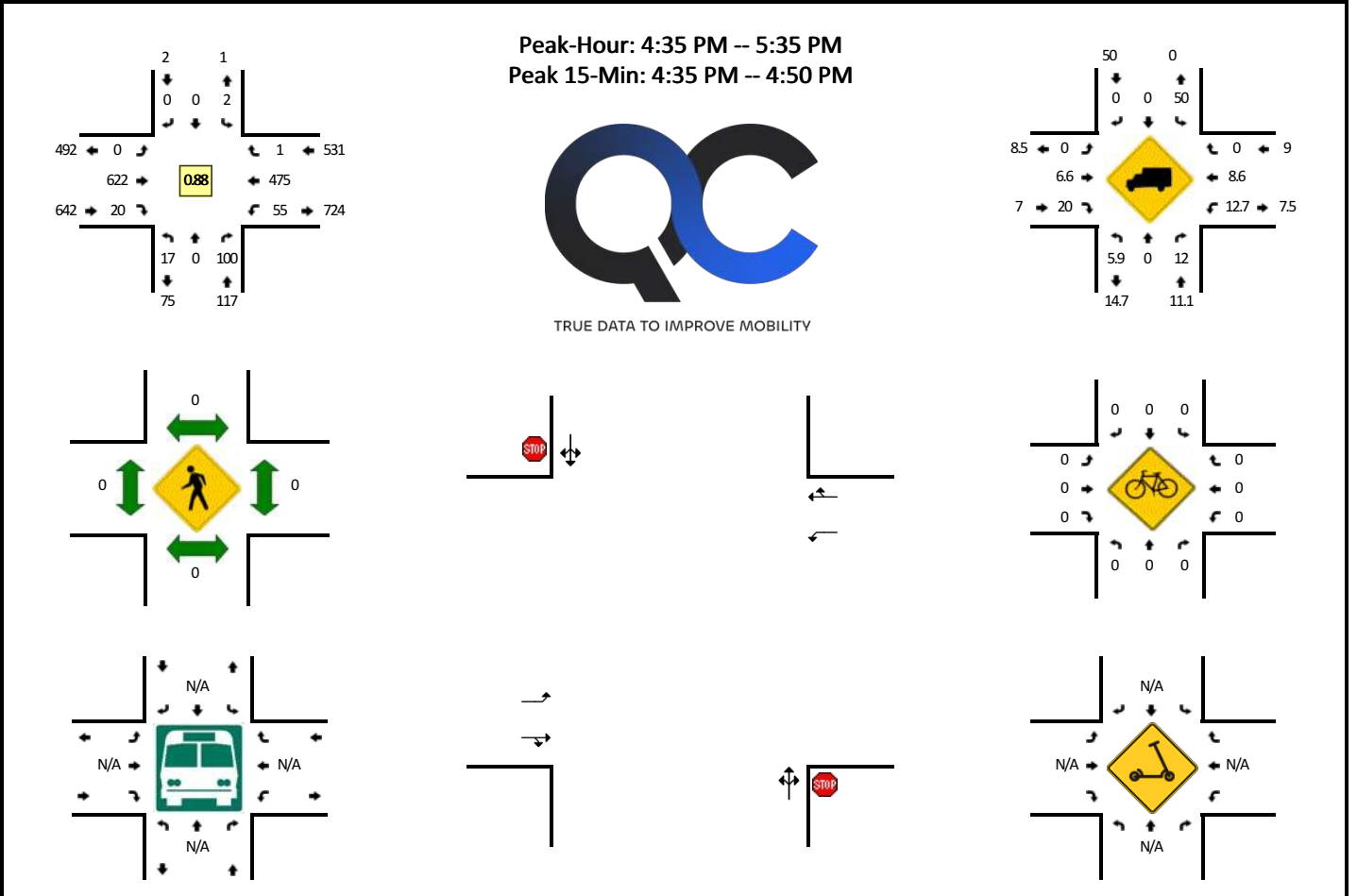


5-Min Count Period Beginning At	Ray Rd (Northbound)				Ray Rd (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	3	0	0	0	0	0	0	17	2	0	11	35	0	0	69	
7:05 AM	0	0	8	0	0	0	0	0	0	18	0	0	4	27	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	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	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

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

QC JOB #: 16714612
DATE: Wed, Aug 28 2024

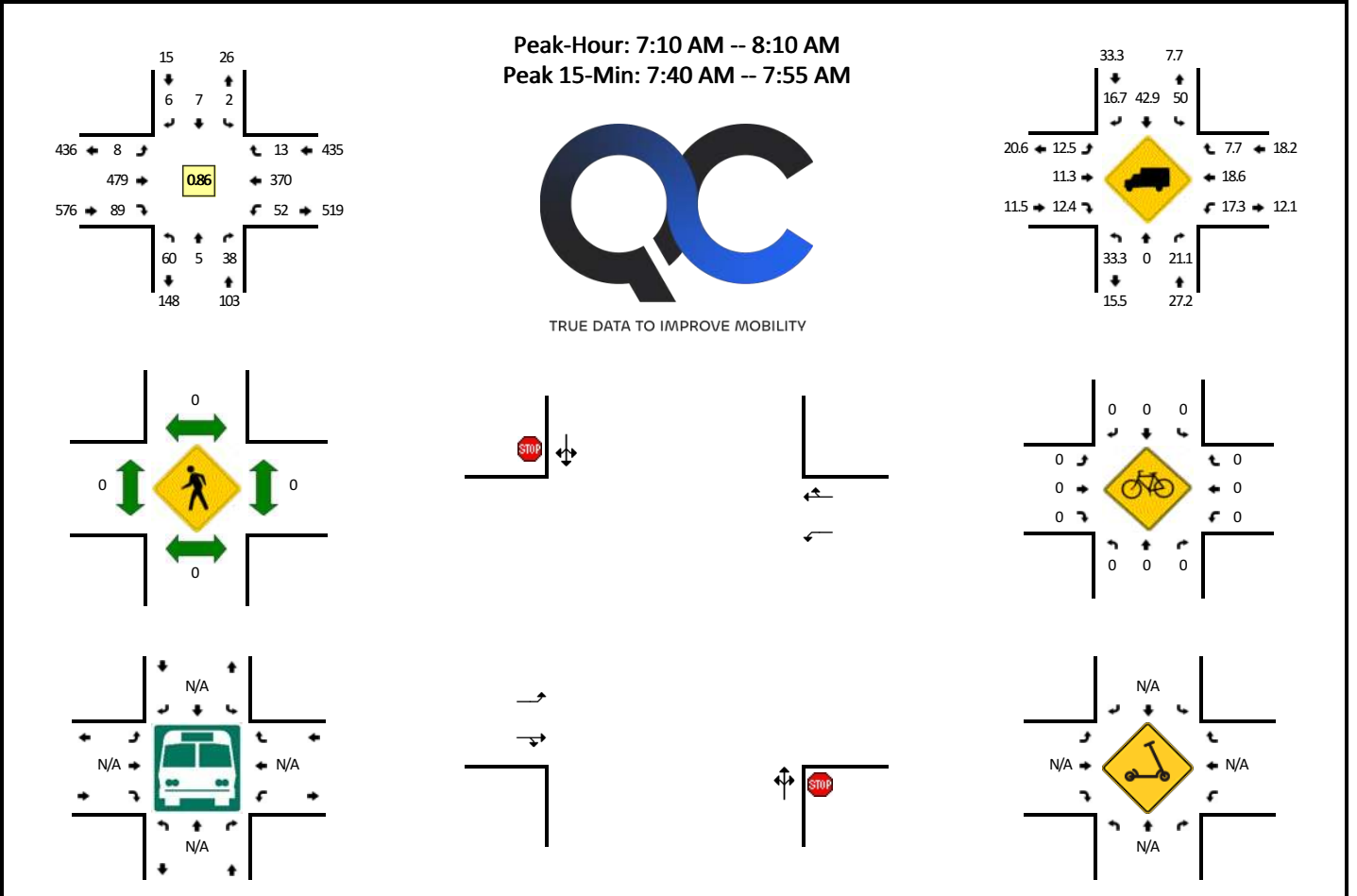


5-Min Count Period Beginning At	Ray Rd (Northbound)				Ray Rd (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	5	0	0	0	0	0	0	65	4	0	6	44	0	0	124	
4:05 PM	3	0	10	1	0	0	0	0	0	60	5	0	1	23	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	
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	
Scoters																	0	

Comments:

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

QC JOB #: 16714613
DATE: Wed, Aug 28 2024

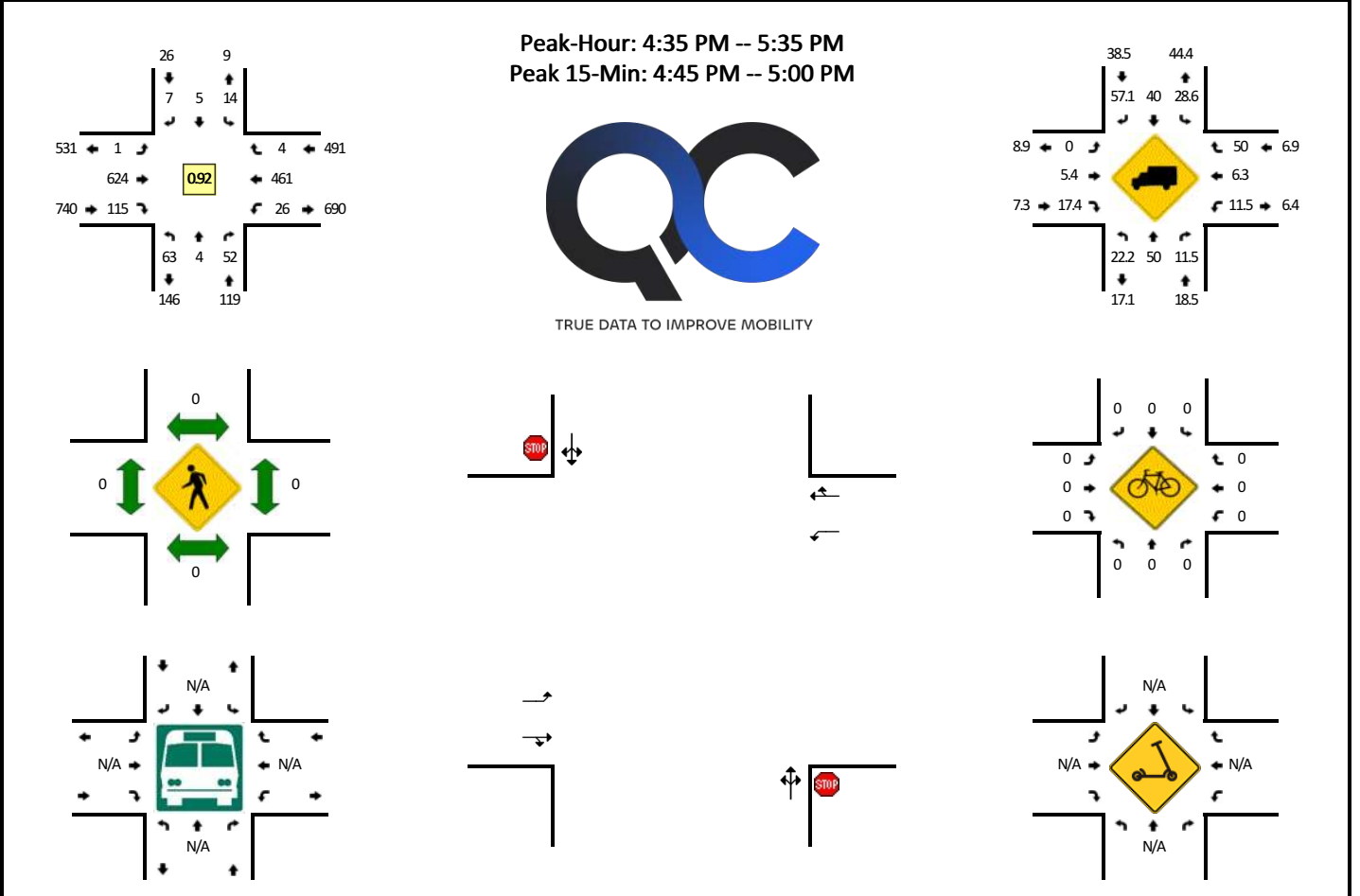


5-Min Count Period Beginning At	Black Rd (Northbound)				Black Rd (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	0	0	0	0	1	0	0	0	19	5	0	4	39	1	0	73	
7:05 AM	7	0	1	0	0	0	0	0	0	21	2	0	5	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	0			0	0			0	
Bicycles	0	0			0	0			0	0			0	0			0	
Scoters																		

Comments:

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

QC JOB #: 16714614
DATE: Wed, Aug 28 2024

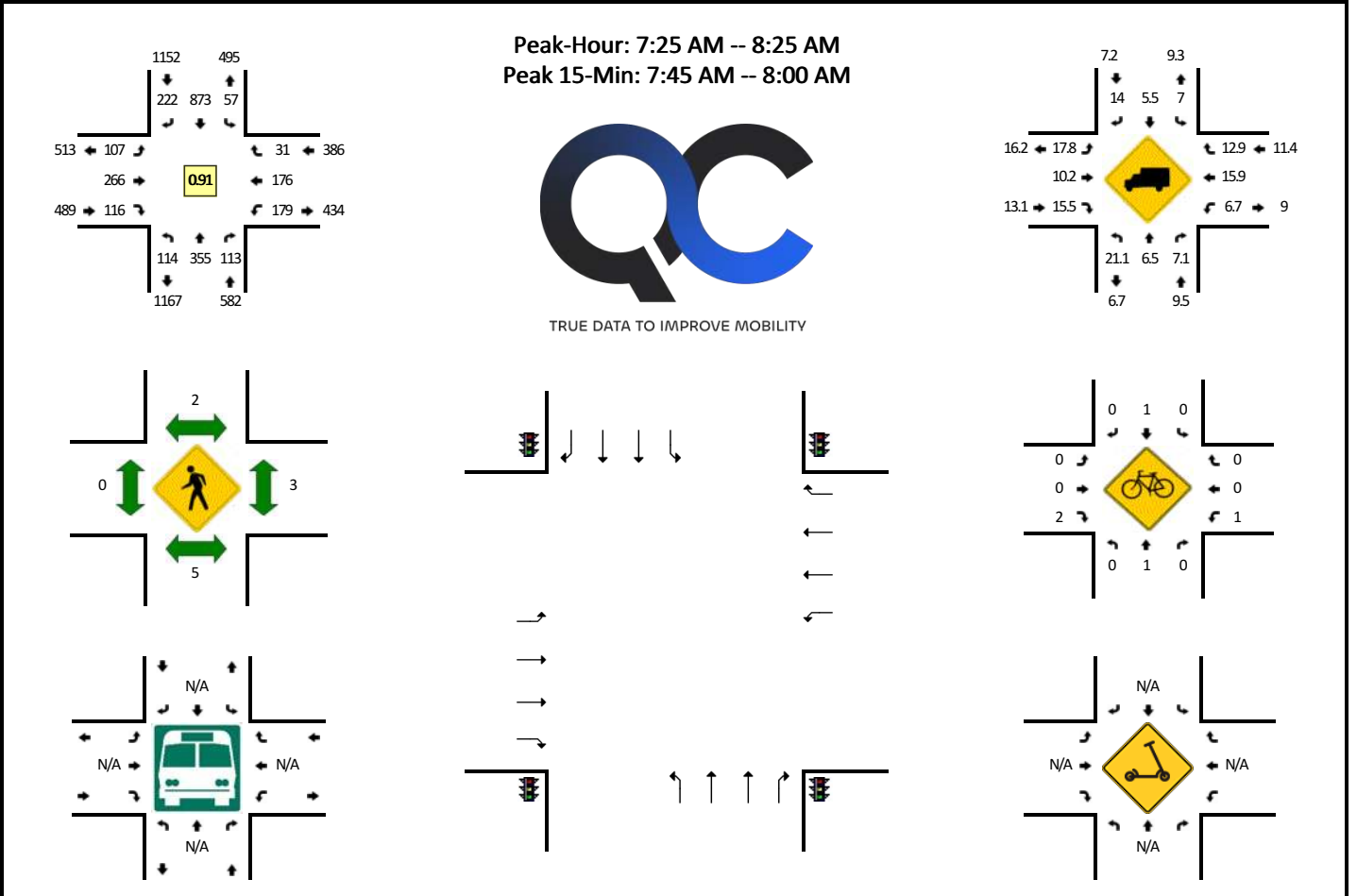


5-Min Count Period Beginning At	Black Rd (Northbound)				Black Rd (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	1	7	0	5	0	0	0	4	50	16	0	4	38	0	0	129	
4:05 PM	1	1	4	0	3	0	0	0	2	60	11	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	0		0	0	0		0	0	0		0	
Bicycles					0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Blosser Rd -- SR 166
CITY/STATE: Santa Maria, CA

QC JOB #: 16714615
DATE: Wed, Aug 28 2024

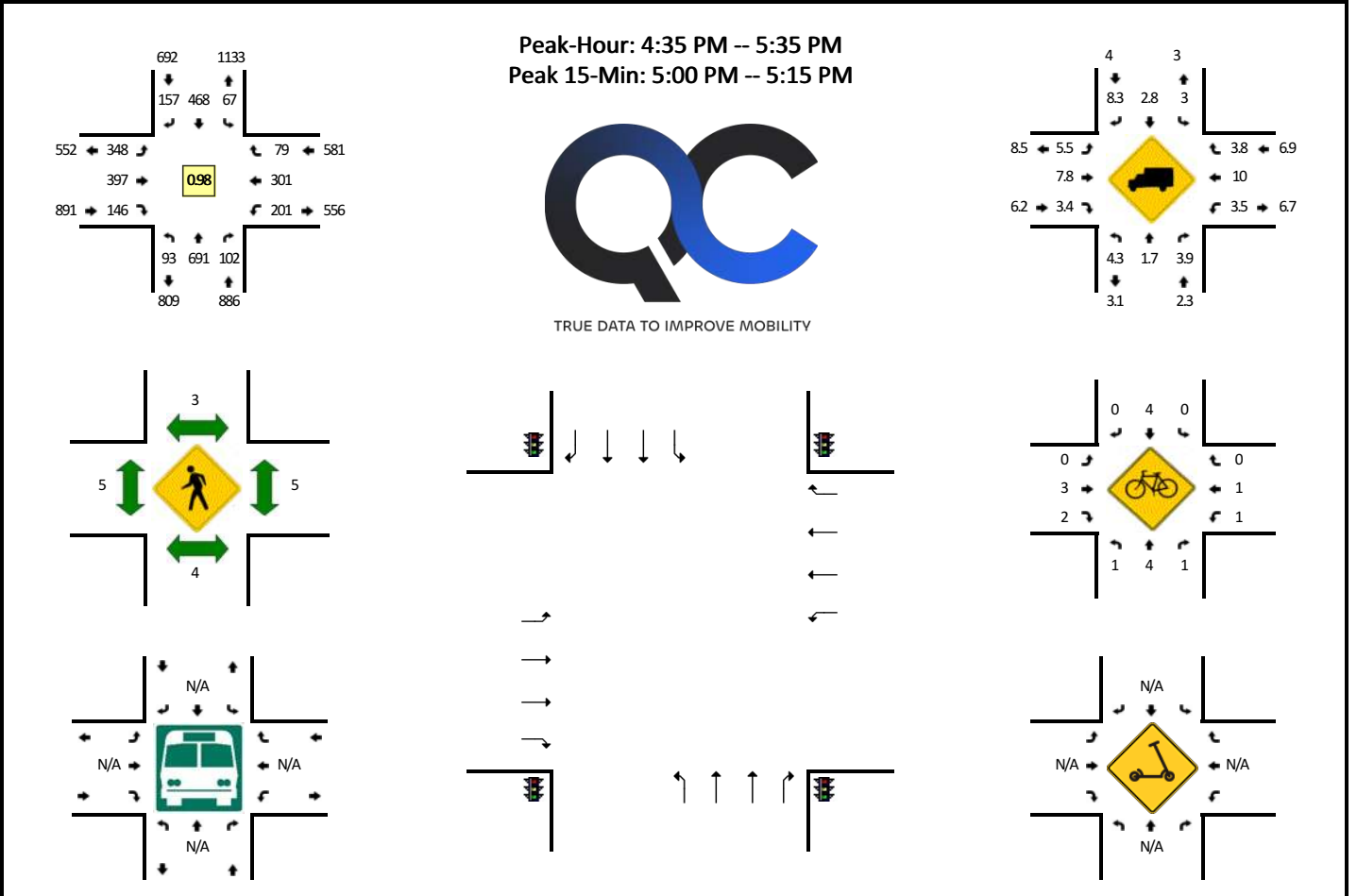


5-Min Count Period Beginning At	Blosser Rd (Northbound)				Blosser Rd (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	15	19	2	0	2	39	23	0	11	7	5	0	6	9	2	0	140	
7:05 AM	4	24	5	0	1	43	20	0	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	
Scoters																		

Comments:

LOCATION: Blosser Rd -- SR 166
CITY/STATE: Santa Maria, CA

QC JOB #: 16714616
DATE: Wed, Aug 28 2024

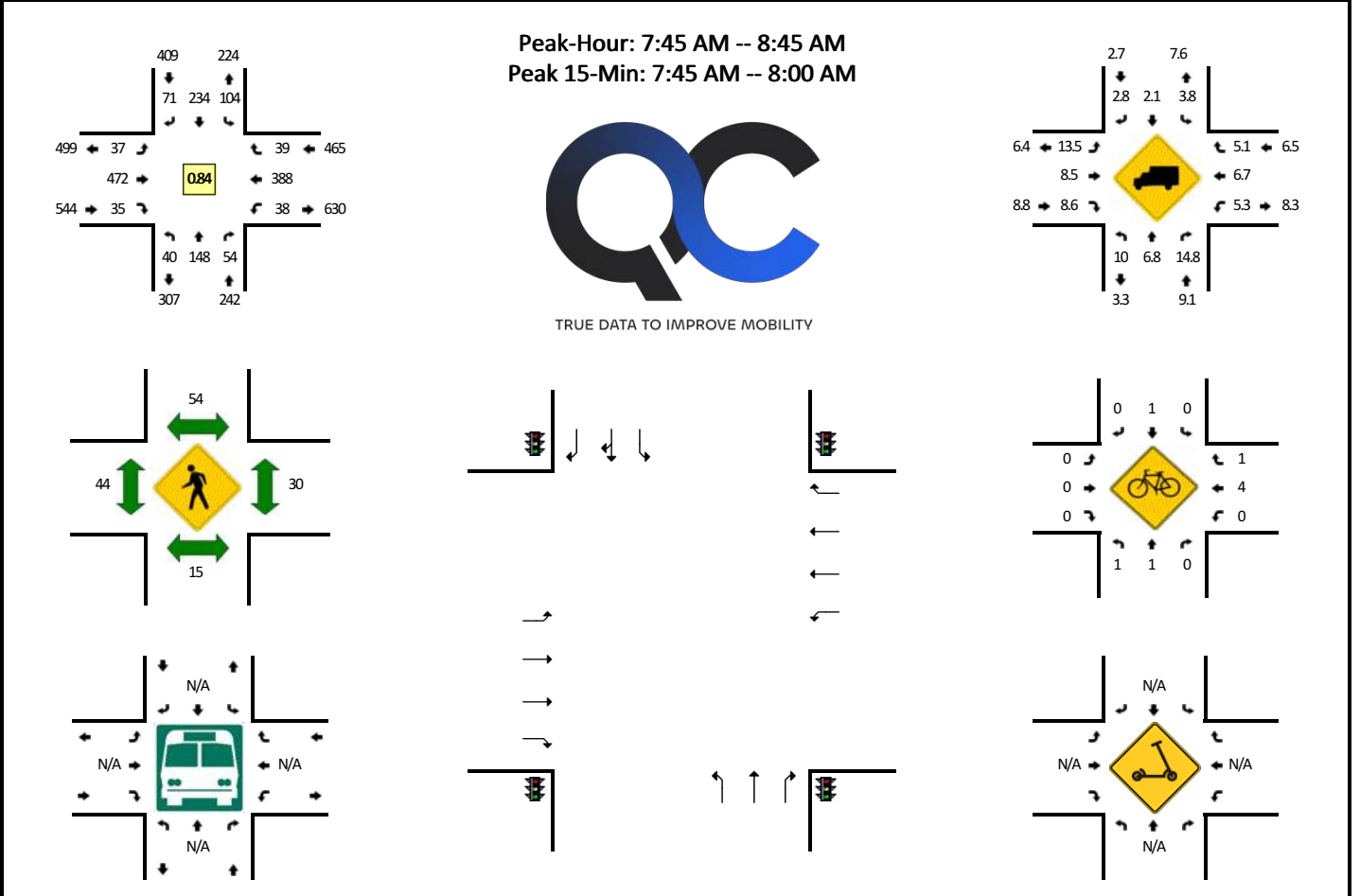


5-Min Count Period Beginning At	Blosser Rd (Northbound)				Blosser Rd (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	50	9	0	8	48	15	0	40	41	15	1	10	9	5	2	264	
4:05 PM	11	47	11	0	12	42	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	0	8	16	0	20	44	4	0	4	32	4	0	156	
Buses																		
Pedestrians	0	0	0	0	0	0	0	0	8	0	0	0	4	0	0	0	12	
Bicycles		8			8				0	0	0	0	4				20	
Scooters																		

Comments:

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

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

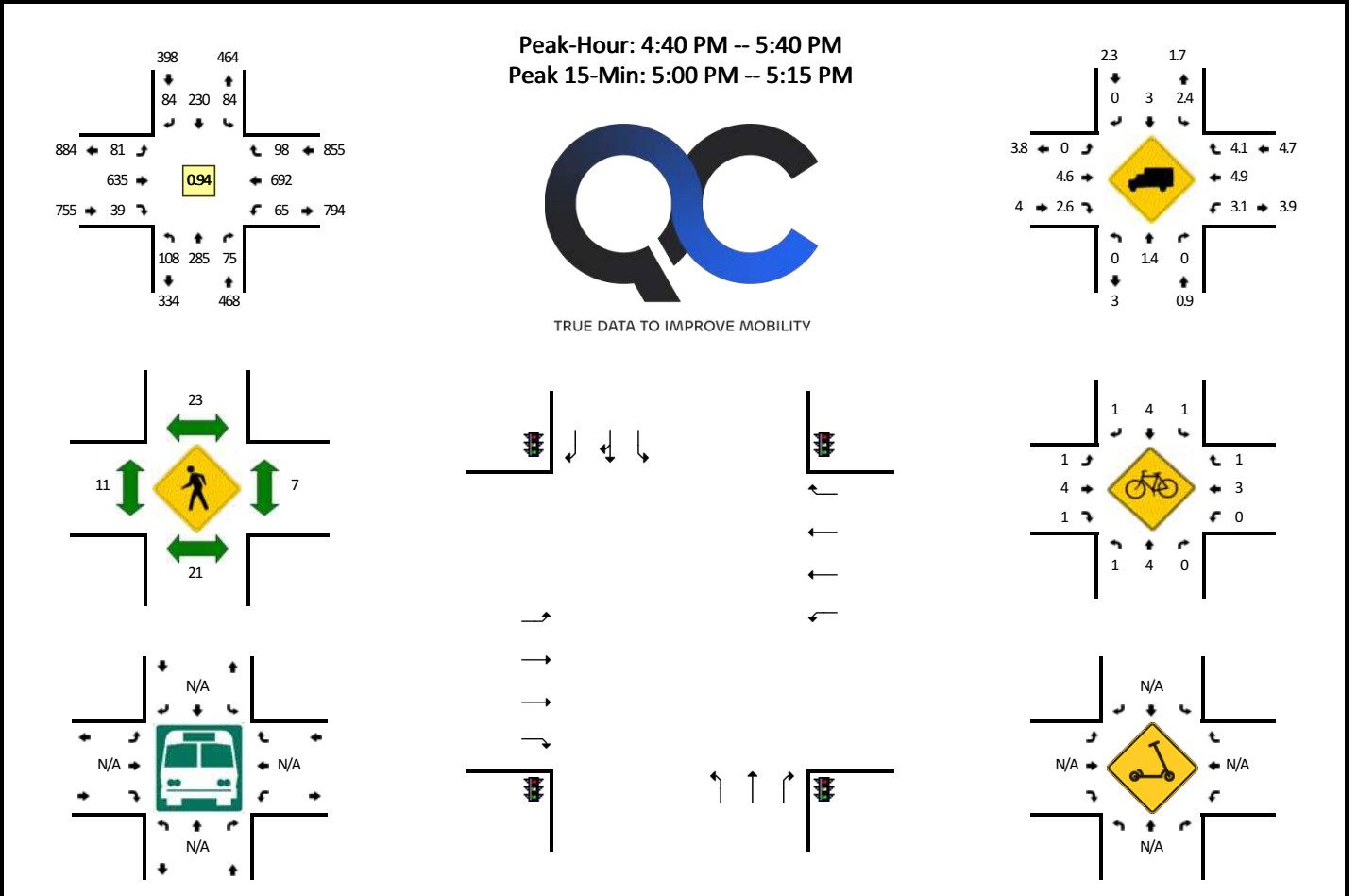


5-Min Count Period Beginning At	Depot St (Northbound)				Depot St (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	9	4	0	2	5	4	0	0	22	0	0	1	21	3	0	74	
7:05 AM	0	7	2	0	3	10	3	0	4	16	1	0	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	
Scoters																		

Comments:

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

QC JOB #: 16714618
DATE: Wed, Aug 28 2024

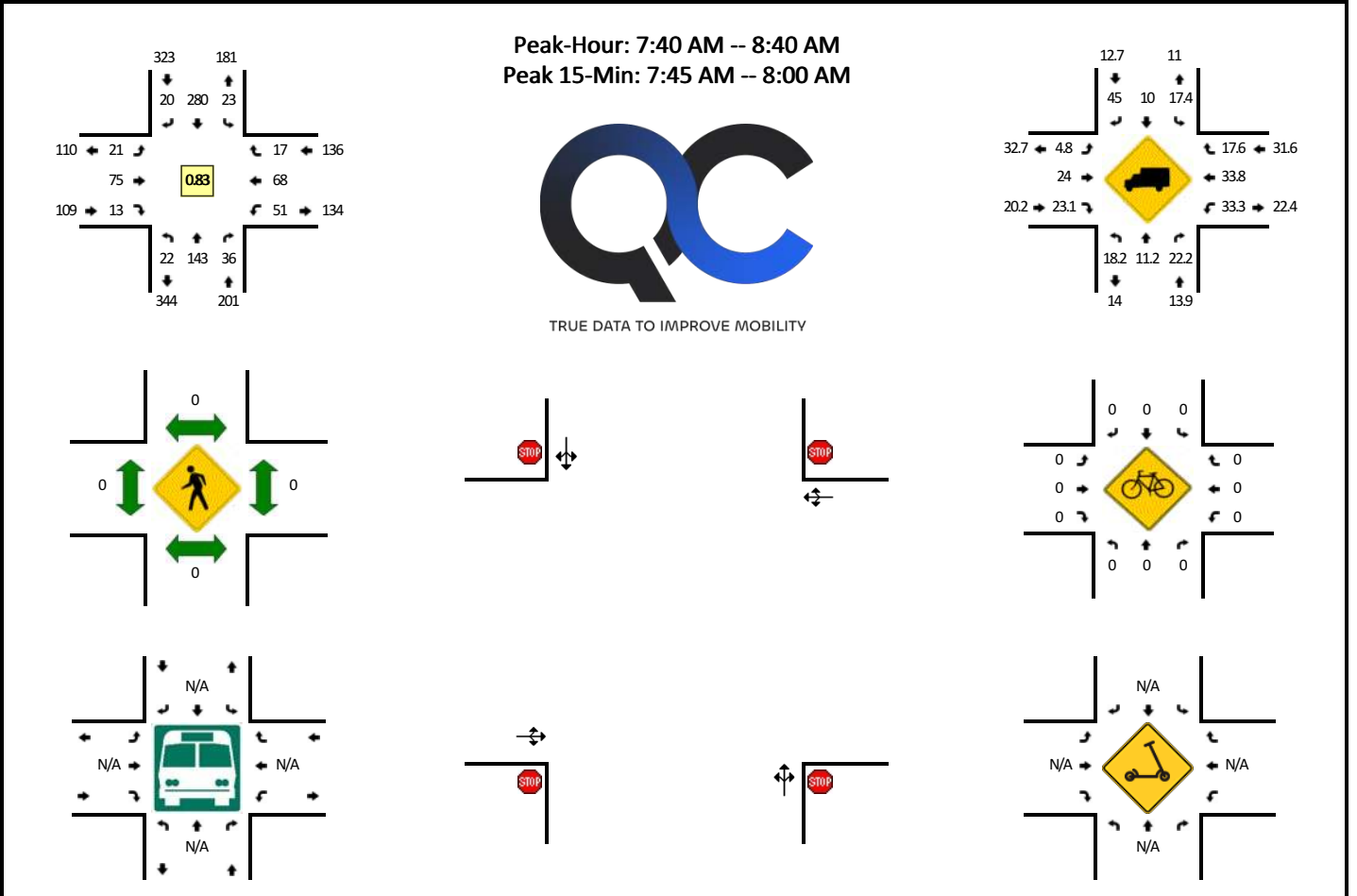


5-Min Count Period Beginning At	Depot St (Northbound)				Depot St (Southbound)				SR 166 (Eastbound)				SR 166 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	30	4	0	6	30	12	0	3	38	5	0	11	41	9	0	194	
4:05 PM	8	7	4	0	8	16	6	0	14	60	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		8	0			4	0			8	0			4	4		28	
Scoters																		

Comments:

LOCATION: Black Rd -- Betteravia Rd
CITY/STATE: Santa Maria, CA

QC JOB #: 16714625
DATE: Wed, Aug 28 2024

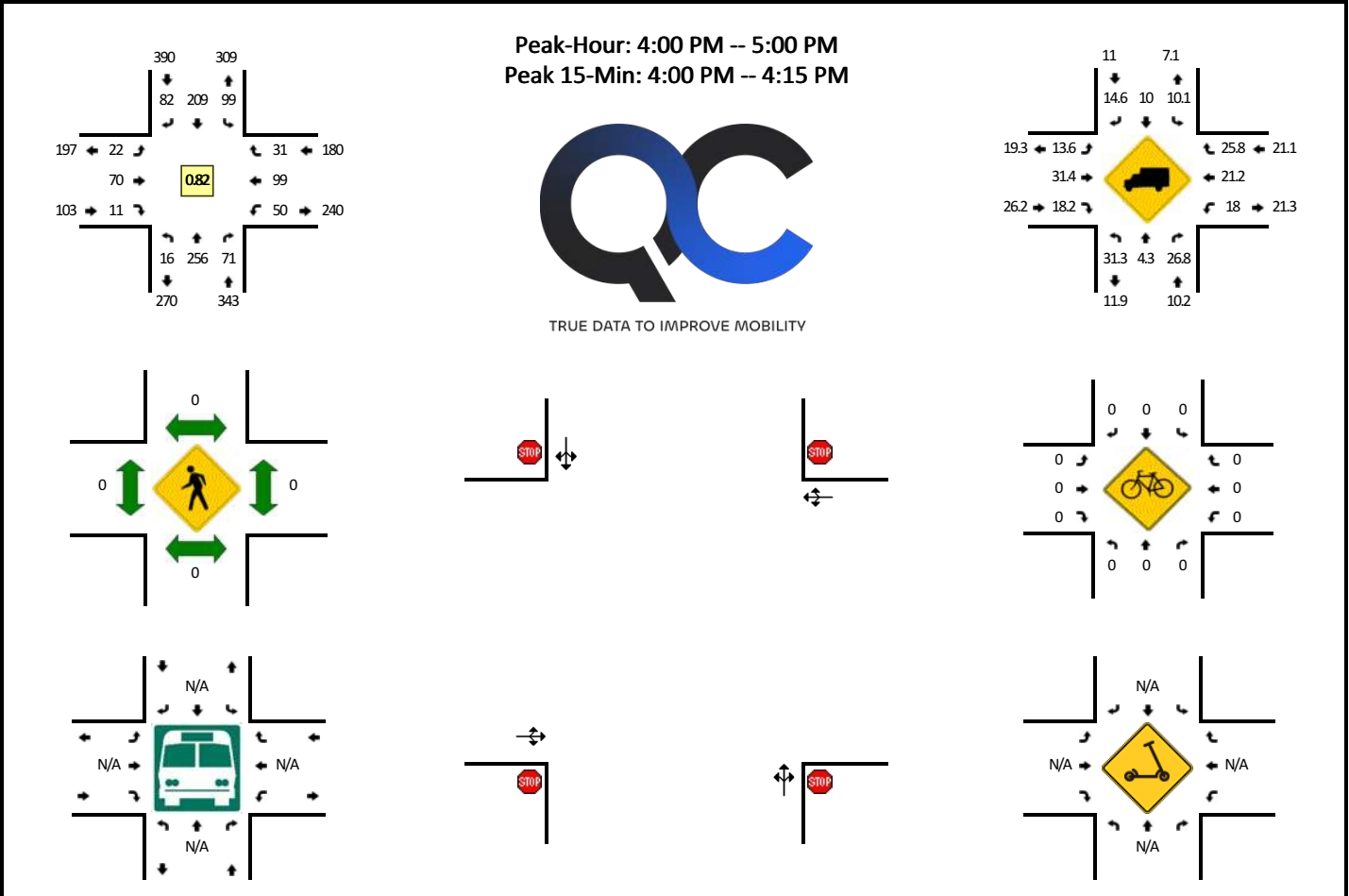


5-Min Count Period Beginning At	Black Rd (Northbound)				Black Rd (Southbound)				Betteravia Rd (Eastbound)				Betteravia Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	10	2	0	0	10	2	0	0	10	0	0	1	3	2	0	42	
7:05 AM	2	9	4	0	1	9	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	0			0	0			0	
Bicycles	0	0			0	0			0	0			0	0			0	
Scoters																		

Comments:

LOCATION: Black Rd -- Betteravia Rd
CITY/STATE: Santa Maria, CA

QC JOB #: 16714626
DATE: Wed, Aug 28 2024



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	
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																	0	
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																	0	

Comments:

APPENDIX D. SIGNAL TIMING SHEETS

Location: SB-166 pm 03.75 Bonita School Rd

Designed By: KJV

System:

District: 5

Installed By: KJV

Master At:

I/C: n/a

Service Info:

Timing Change:

Date Start:

Date End:

Designed:

Installed:

4/11/2018

	FLASH	
1)	[]	
P 2) EB	[]	
H 3)	[]	
A 4) SB Bonita School Rd	[]	
S 5) EB LT	[]	
E 6) WB	[]	
7)	[]	
8)	[]	
O A)	[]	
V B)	[]	
E C)	[]	
R D)	[]	
L E)	[]	
A F)	[]	
P	[]	

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

CONFIGURATION PHASE FLAGS

Cabinet
332
Configuration
CALTRANS

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

[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			.....										

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

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

MANUAL COMMANDS

Manual Plan (4-1)		<i>Plan: 1-9</i>
Plan	OffSet	<i>15 or 254 = Flash</i>
	A	<i>14 or 255 = Free</i>
		<i>Offset A, B, or C</i>

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	.....
Detectors 17-24	.....
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

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							

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

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

RAILROAD PREEMPTION

RR 1	(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	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		Exit Parameters (3-1-5)				Configuration (3-1-6)				
Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	Primary Port	Secondary Port	Latching	Power-Up		
Ped Clr		.....	.....	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8	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)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. . . 4 . . 7 .	.....	.....	.....	.....	. 2 . 4 . 6 . 8	.....	.....	.....
	Clear 2		.....	.....	.....	.....	.....	.....	.....	.....	.....
	Clear 3		.....	.....	.....	.....	.....	.....	.....	.....	.....
	Hold		1 2 3 . . 6 . .	.....	.....	. 2 . . . 6 . .	.....	. . . 4 . . . 8	.....	.....	.....
	Exit		Exit Parameters (3-2-5)				Configuration (3-2-6)				
Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	Primary Port	Secondary Port	Latching	Power-up		
Ped Clr		.....	.....	. . . 4 . . 7 .	.....	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

Enable	NO
Max ON	
Max OFF	

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

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

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

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	

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								Coord	Lag	Min Recall	Restricted
					-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-				
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

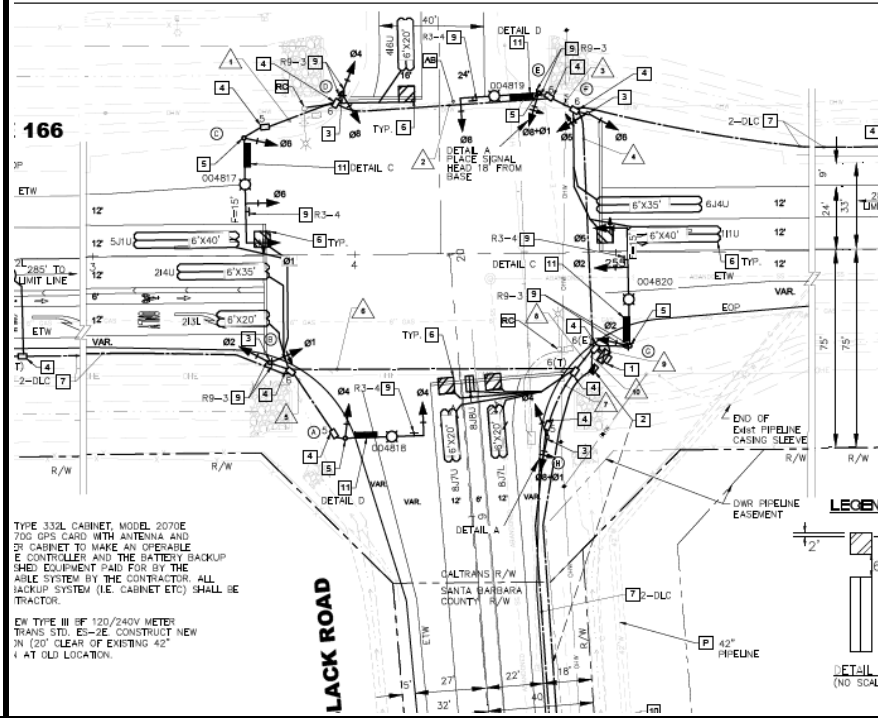
9/26/2024

Intersection Layout

- 1) LT to SB Black Rd.
- P 2) EB SR166
- H 3) -----
- A 4) Main Street Strawberry
- S 5) LT to Main Street Strawberry
- E 6) WB SR166
- 7) -----
- 8) NB Black Rd.

FLASH

O
V
E
R
L
A
P



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

**P
H
A
S
E

T
I
M
I
N
G**

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			.....											

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

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

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.....	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)	Minutes
Maximum On Time	10
Fail Reset Time	60

Failure Override (5-4)	
Detectors 1-8	.....
Detectors 9-16	.....
Detectors 17-24	.....
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

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	MTWTF..	17	.2.....
2	0430	0830	MTWTF..	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 Access	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)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	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		Exit Parameters (3-1-5)				Configuration (3-1-6)				
Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	Primary Port	Secondary Port	Latching	Power-Up		
Ped Clr		.....	.....	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8	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)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. . . 4 . . 7 .	.....	.....	.....	.....	. 2 . 4 . 6 . 8	.....	.....	.....
	Clear 2		.....	.....	.....	.....	.....	.....	.....	.....	.....
	Clear 3		.....	.....	.....	.....	.....	.....	.....	.....	.....
	Hold		1 2 3 . . 6 . .	.....	.....	. 2 . . . 6 . .	.....	. . . 4 . . . 8	.....	.....	.....
	Exit		Exit Parameters (3-2-5)				Configuration (3-2-6)				
Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	Primary Port	Secondary Port	Latching	Power-up		
Ped Clr		.....	.....	. . . 4 . . 7 .	.....	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	

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	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								Coord	Lag	Min Recall	Restricted
					-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-				
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:

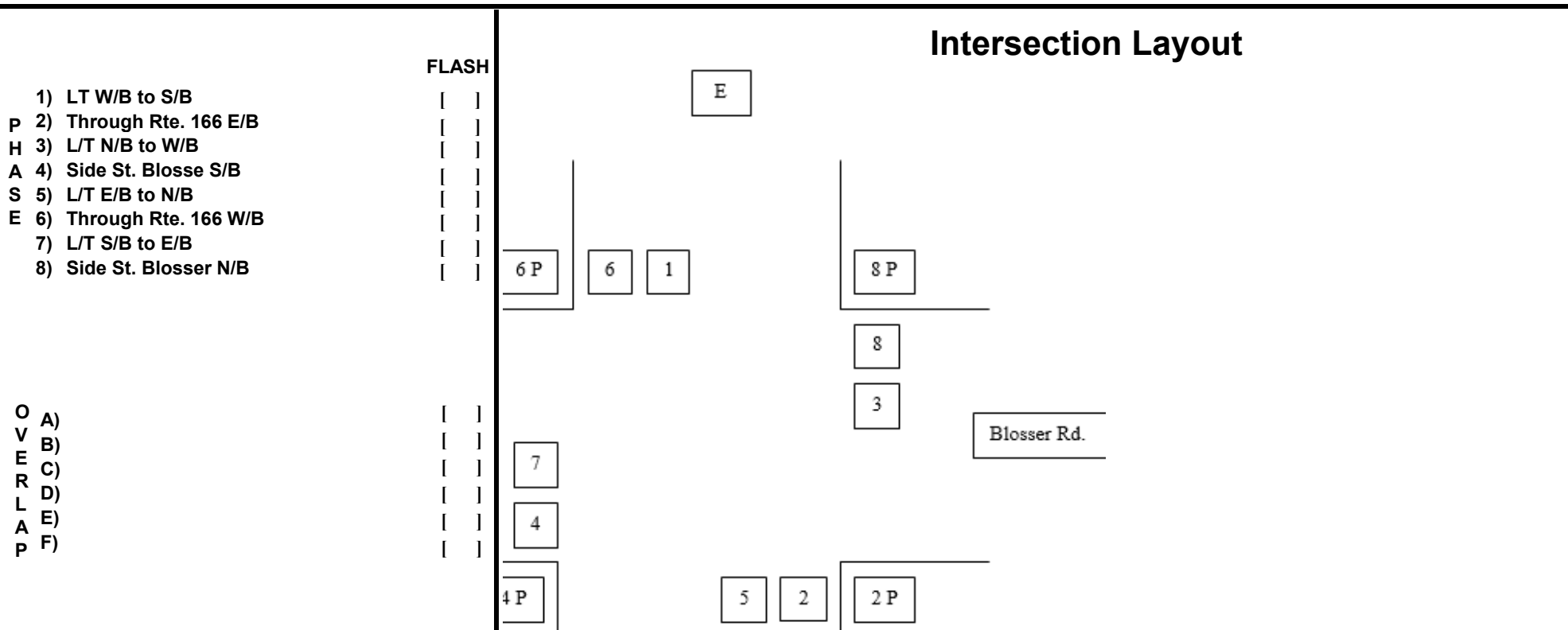
Timing Change:

Date Start:

Date End:

Designed:

Installed:



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

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	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			.....											

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

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

MANUAL COMMANDS

Manual Plan (4-1)		<i>Plan: 1-9</i>
Plan	OffSet	<i>15 or 254 = Flash</i>
	A	<i>14 or 255 = Free</i>
		<i>Offset A, B, or C</i>

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			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	.....
Detectors 17-24	.....
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

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	MTWTF..	21	1..4.6.8
2	1530	1615	MTWTF..	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 Access	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)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	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		Exit Parameters (3-1-5)				Configuration (3-1-6)				
Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	Primary Port	Secondary Port	Latching	Power-Up		
Ped Clr		.....	.....	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8	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)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. . . 4 . . 7 .	.....	.....	.....	.....	. 2 . 4 . 6 . 8	.....	.....	.....
	Clear 2		.....	.....	.....	.....	.....	.....	.....	.....	.....
	Clear 3		.....	.....	.....	.....	.....	.....	.....	.....	.....
	Hold		1 2 3 . . 6 . .	.....	.....	. 2 . . . 6 . .	.....	. . . 4 . . . 8	.....	.....	.....
	Exit		Exit Parameters (3-2-5)				Configuration (3-2-6)				
Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	Primary Port	Secondary Port	Latching	Power-up		
Ped Clr		.....	.....	. . . 4 . . 7 .	.....	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	

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								Coord	Lag	Min Recall	Restricted
					-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-				
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

Designed By: KJV

System: Main St

District: 5

Installed By: KJV

Master At: n/a

I/C:

Service Info:

Timing Change:

Date Start:
12/1/2017

Date End:

Designed:

Installed:

	FLASH	
1) WB LT	[]	
P 2) EB Main (166)	[]	
H 3) NB LT	[]	
A 4) Depot SB	[]	
S 5) EB LT	[]	
E 6) WB Main (166)	[]	
7) SB LT	[]	
8) Depot NB	[]	
O A)	[]	
V B)	[]	
E C)	[]	
R D)	[]	
L E)	[]	
A F)	[]	
P	[]	

Intersection Layout



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

**P
H
A
S
E

T
I
M
I
N
G**

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			.....											

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

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

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		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	.....
Detectors 17-24	.....
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

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 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)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	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		Exit Parameters (3-1-5)				Configuration (3-1-6)				
Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	Primary Port	Secondary Port	Latching	Power-Up		
Ped Clr		.....	.....	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8	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)		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	. . . 4 . . 7 .	.....	.....	.....	.....	. 2 . 4 . 6 . 8	.....	.....	.....
	Clear 2		.....	.....	.....	.....	.....	.....	.....	.....	.....
	Clear 3		.....	.....	.....	.....	.....	.....	.....	.....	.....
	Hold		1 2 3 . . 6 . .	.....	.....	. 2 . . . 6 . .	.....	. . . 4 . . . 8	.....	.....	.....
	Exit		Exit Parameters (3-2-5)				Configuration (3-2-6)				
Min Grn		Phase Green	Overlap Green	Vehicle Call	Ped Call	Primary Port	Secondary Port	Latching	Power-up		
Ped Clr		.....	.....	. . . 4 . . 7 .	.....	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								Coord	Lag	Min Recall	Restricted
					-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-				
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

APPENDIX E. EXISTING CONDITIONS SYNCHRO REPORTS

HCM 7th Signalized Intersection Summary
 5: SR 166 & Bonita School Rd

11/12/2024



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.

HCM 7th Signalized Intersection Summary

8: S Blosser Rd/N Blosser Rd & SR 166

11/12/2024



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.

HCM 7th Signalized Intersection Summary

9: Depot St & SR 166

11/12/2024



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

HCM 7th TWSC
2: Obispo St & SR 166

11/12/2024

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

HCM 7th TWSC
3: SR 166 & Flower Ave

11/12/2024

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

HCM 7th TWSC
6: Ray Rd & SR 166

11/12/2024

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

HCM 7th Signalized Intersection Summary
 5: SR 166 & Bonita School Rd

11/12/2024



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.

HCM 7th Signalized Intersection Summary

8: S Blosser Rd/N Blosser Rd & SR 166

11/12/2024



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

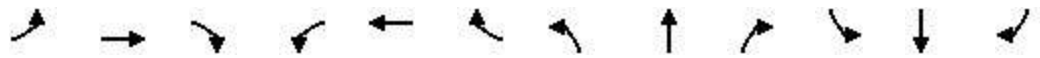
Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

9: Depot St & SR 166

11/12/2024



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

HCM 7th TWSC
2: Obispo St & SR 166

11/12/2024

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

HCM 7th TWSC
3: SR 166 & Flower Ave

11/12/2024

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

HCM 7th TWSC
6: Ray Rd & SR 166

11/12/2024

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

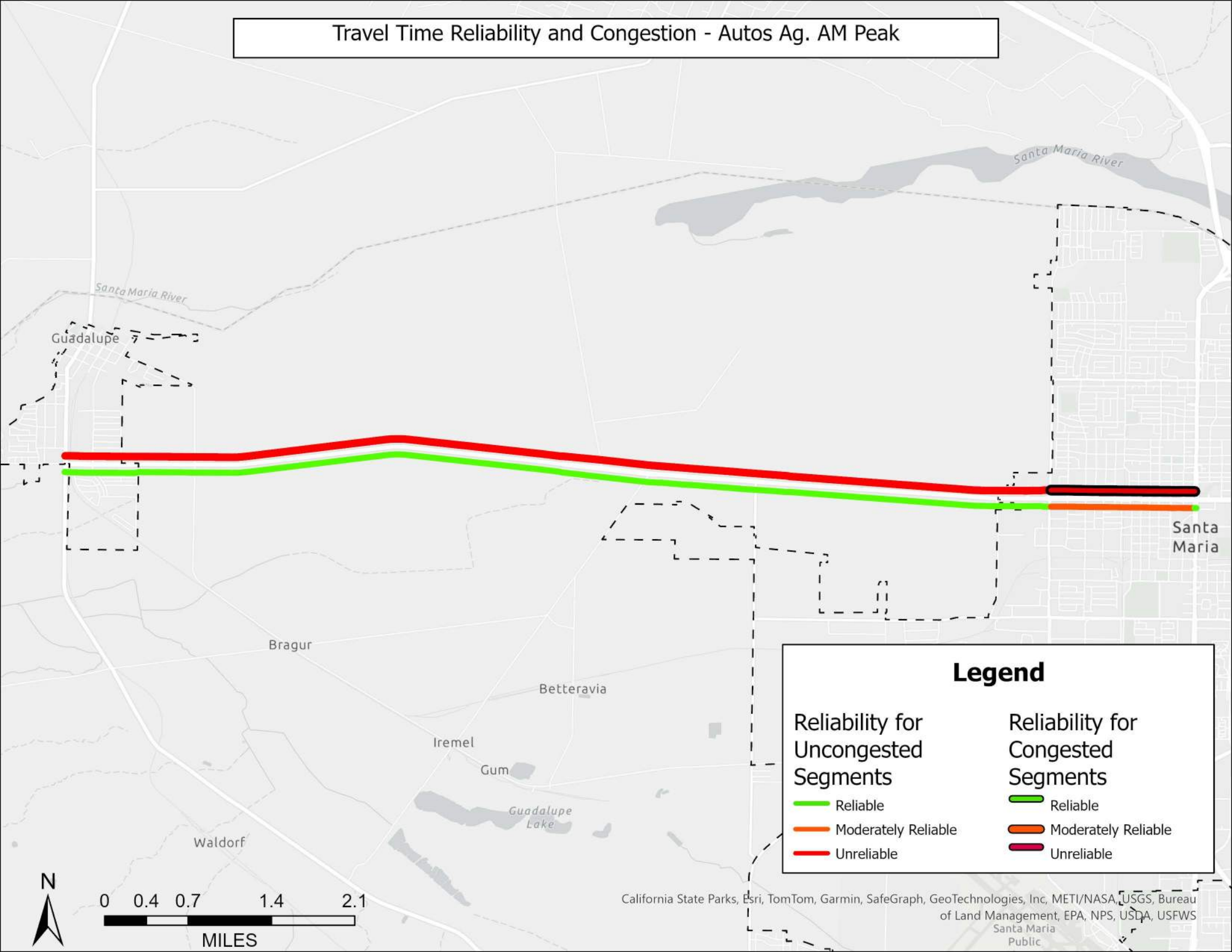
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	505	0	0	803	0	0	1303	1305	741	1242	1365	503
Stage 1	-	-	-	-	-	-	743	743	-	560	560	-
Stage 2	-	-	-	-	-	-	560	562	-	683	805	-
Critical Hdwy	4.19	-	-	4.19	-	-	7.19	6.59	6.29	7.19	6.59	6.29
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.19	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

APPENDIX F. TRAVEL TIME RELIABILITY AND CONGESTION ANALYSIS

Travel Time Reliability and Congestion - Autos Ag. AM Peak



Legend

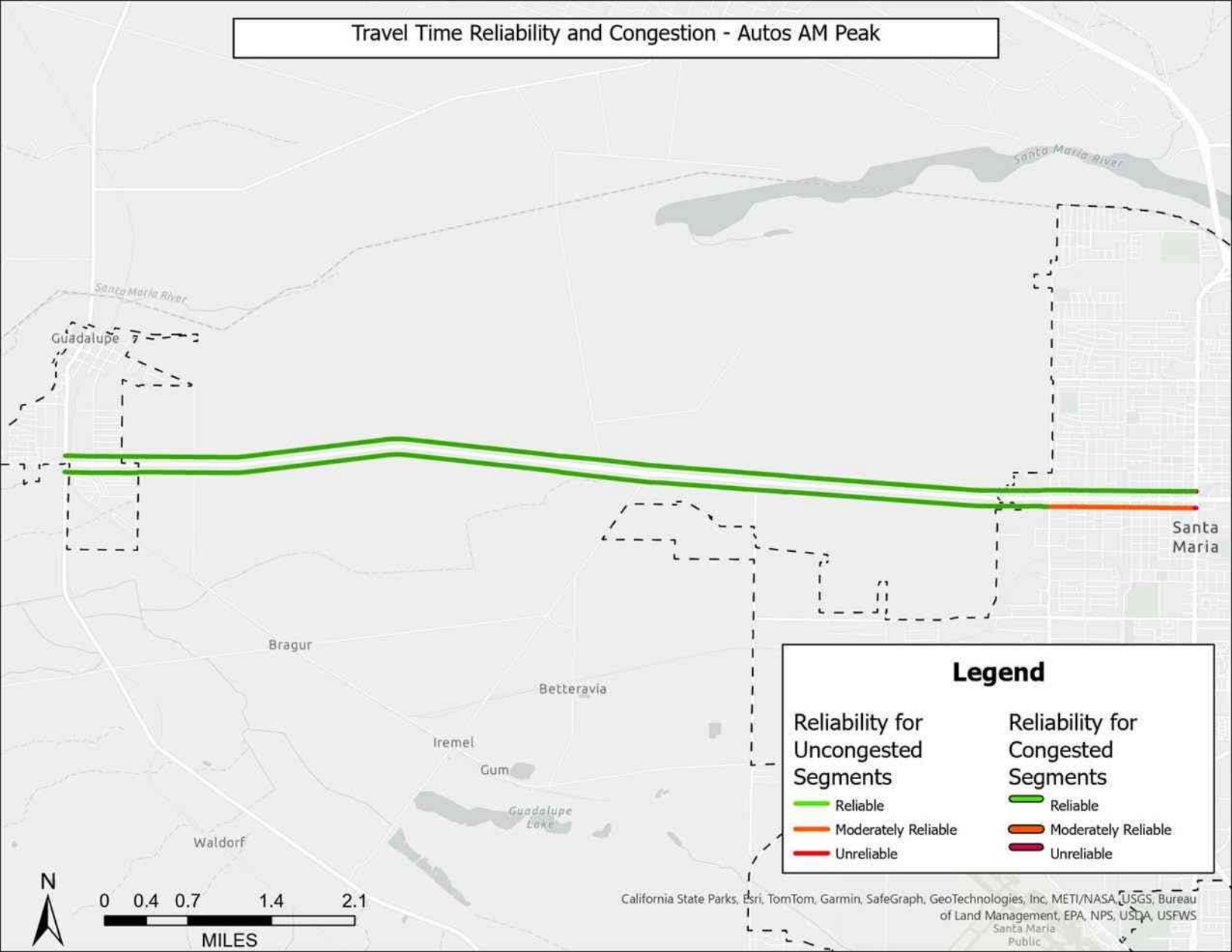
Reliability for
Uncongested
Segments

- Reliable
- Moderately Reliable
- Unreliable

Reliability for
Congested
Segments

- Reliable
- Moderately Reliable
- Unreliable

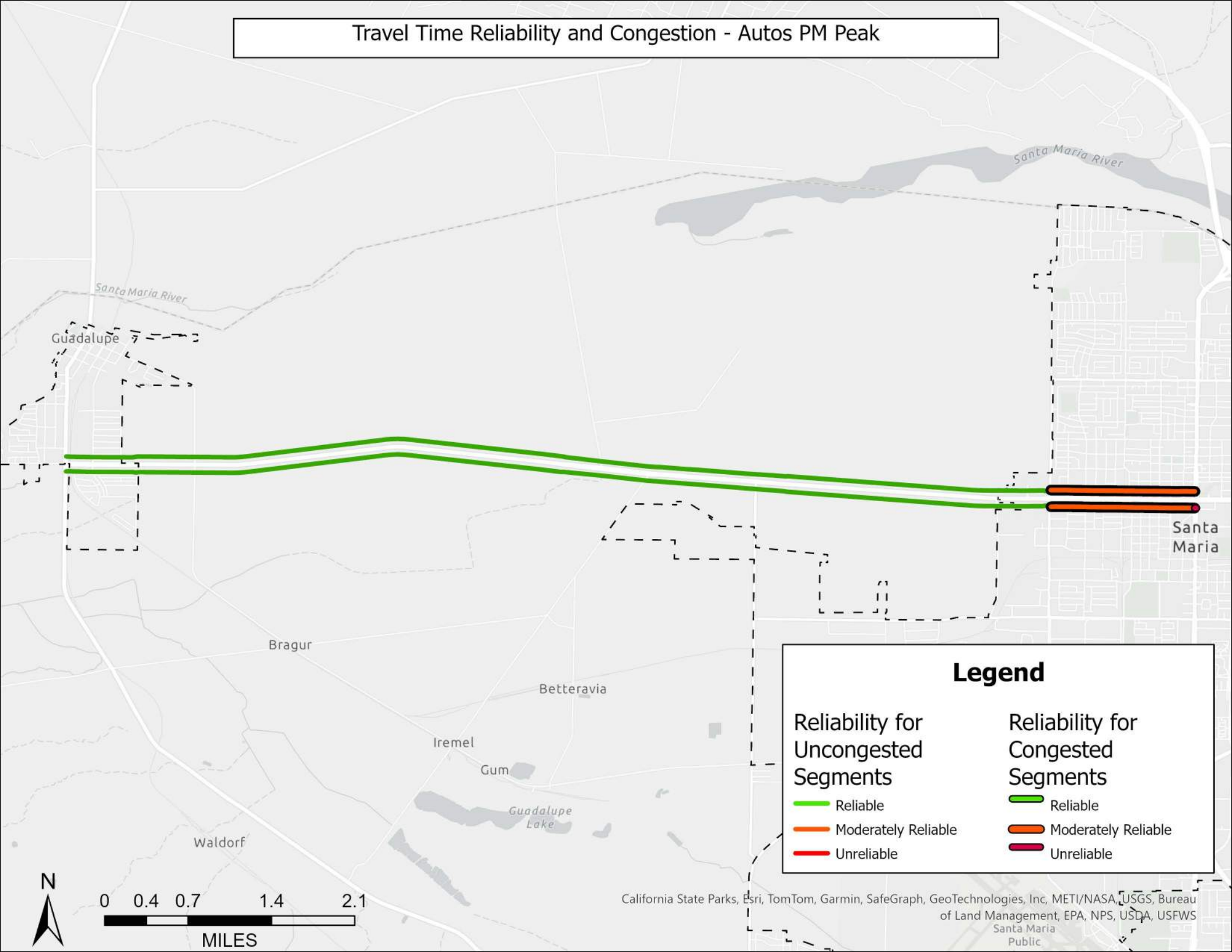
Travel Time Reliability and Congestion - Autos AM Peak



Legend

Reliability for Uncongested Segments	Reliability for Congested Segments
Reliable	Reliable
Moderately Reliable	Moderately Reliable
Unreliable	Unreliable

Travel Time Reliability and Congestion - Autos PM Peak

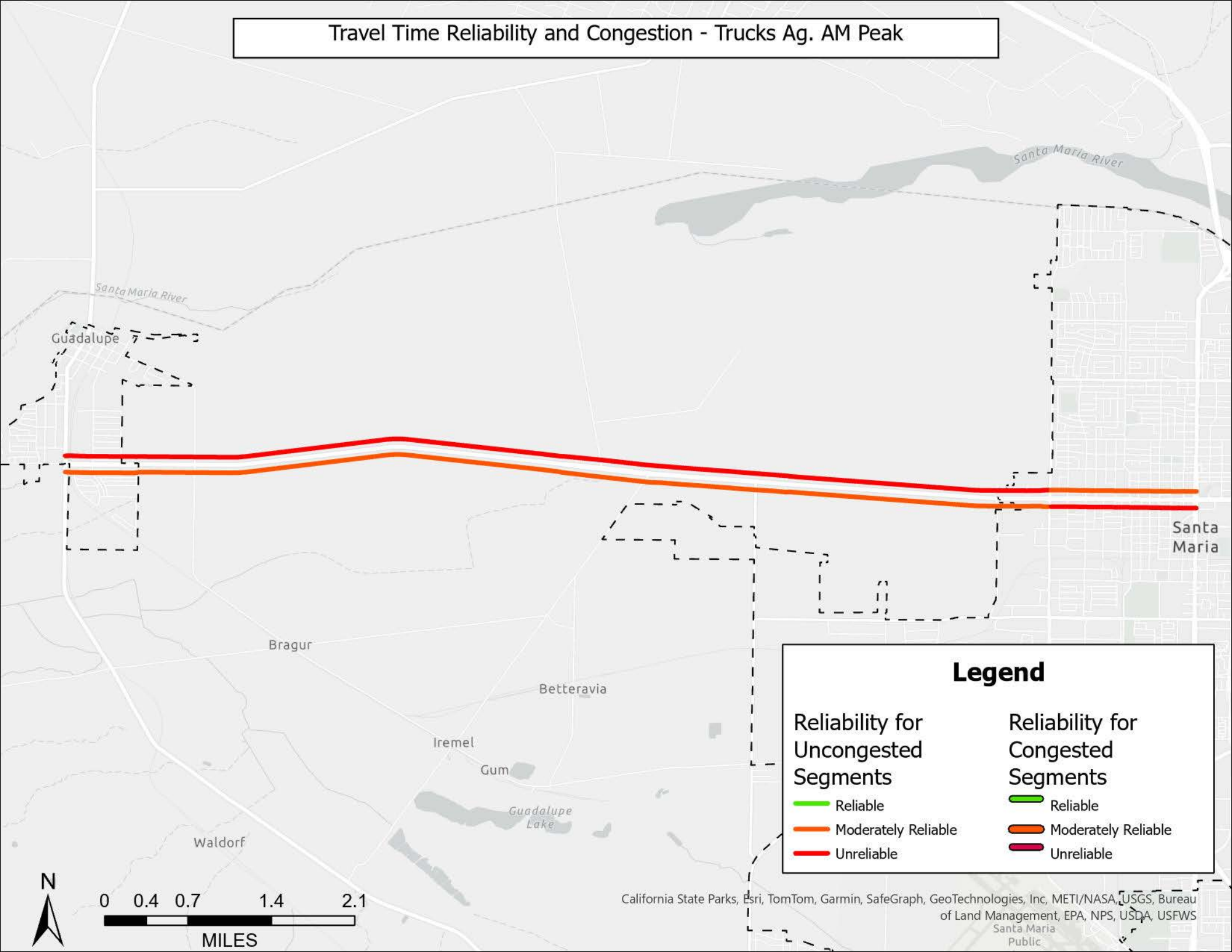


Legend

Reliability for Uncongested Segments	Reliability for Congested Segments
Reliable	Reliable
Moderately Reliable	Moderately Reliable
Unreliable	Unreliable



Travel Time Reliability and Congestion - Trucks Ag. AM Peak



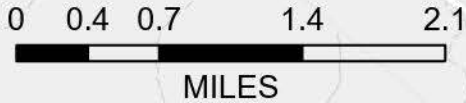
Legend

Reliability for
Uncongested
Segments

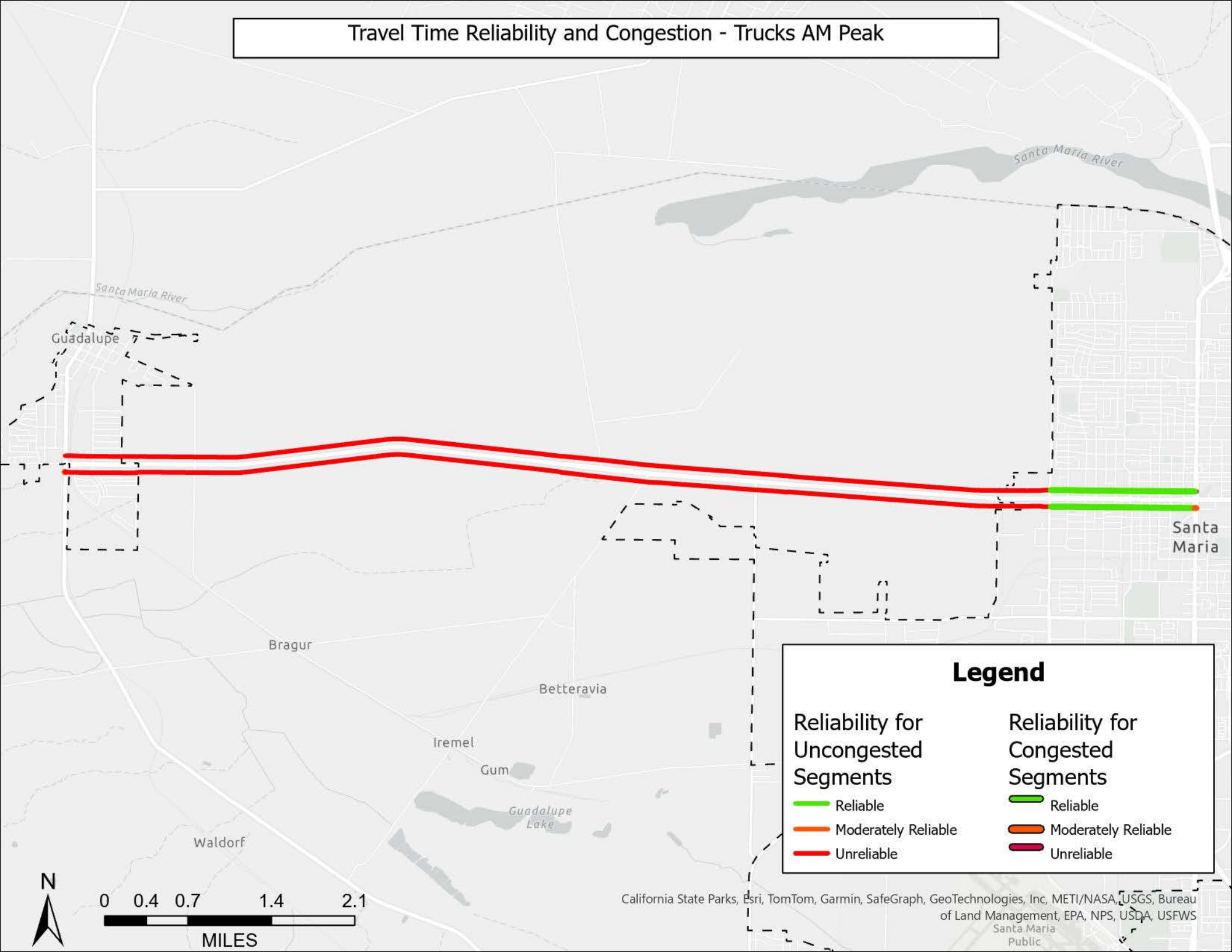
- Reliable
- Moderately Reliable
- Unreliable

Reliability for
Congested
Segments

- Reliable
- Moderately Reliable
- Unreliable



Travel Time Reliability and Congestion - Trucks AM Peak

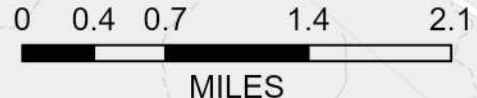
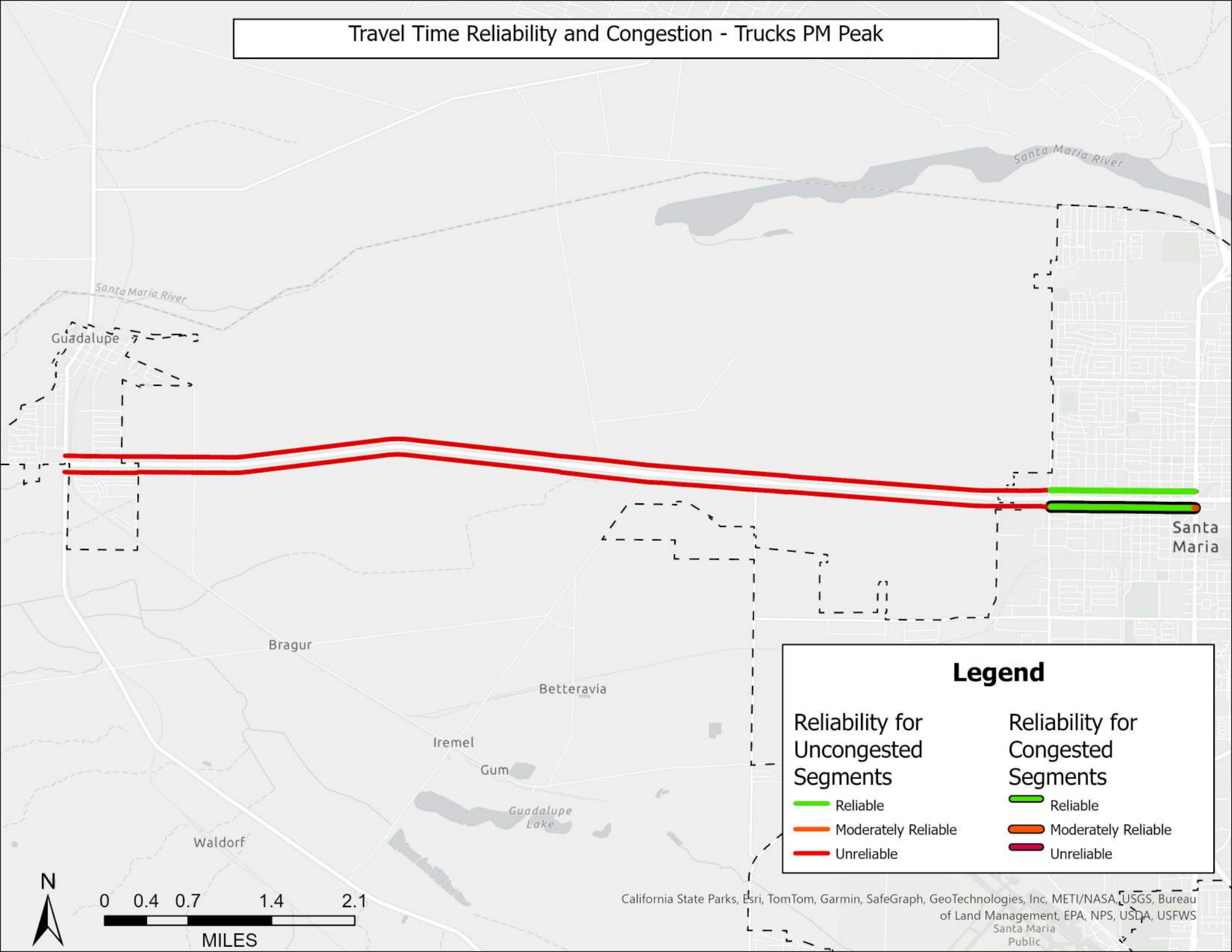


Legend

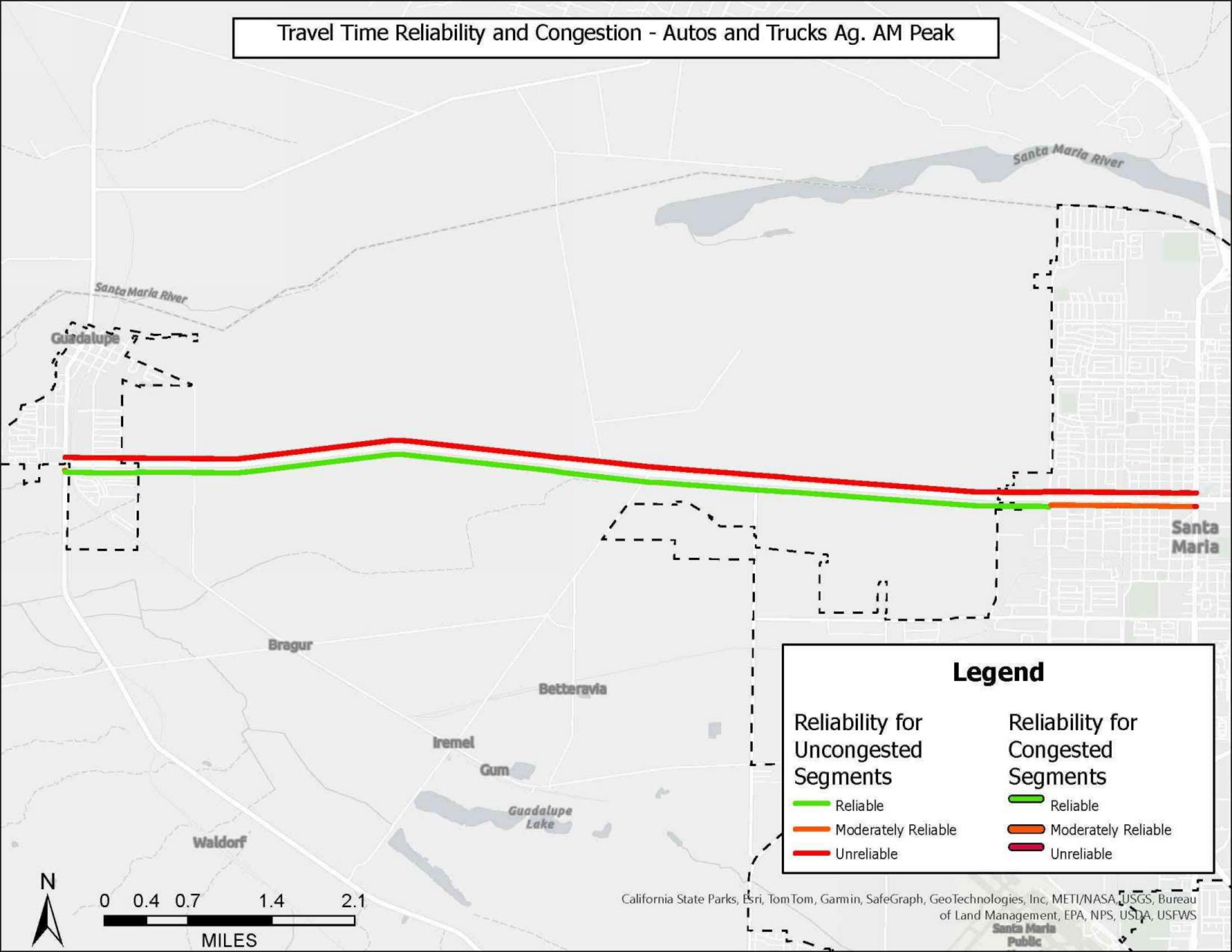
Reliability for Uncongested Segments	Reliability for Congested Segments
Reliable	Reliable
Moderately Reliable	Moderately Reliable
Unreliable	Unreliable



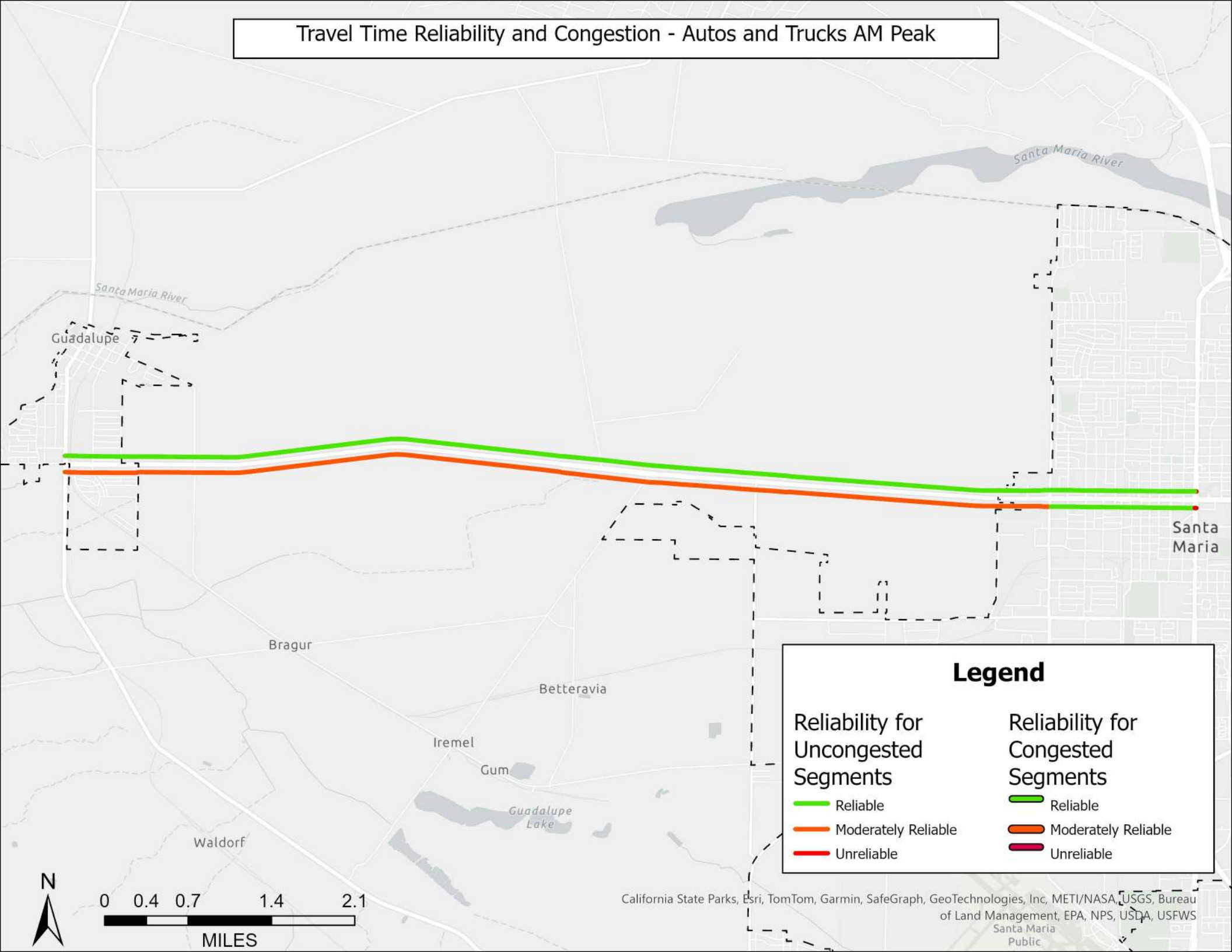
Travel Time Reliability and Congestion - Trucks PM Peak



Travel Time Reliability and Congestion - Autos and Trucks Ag. AM Peak



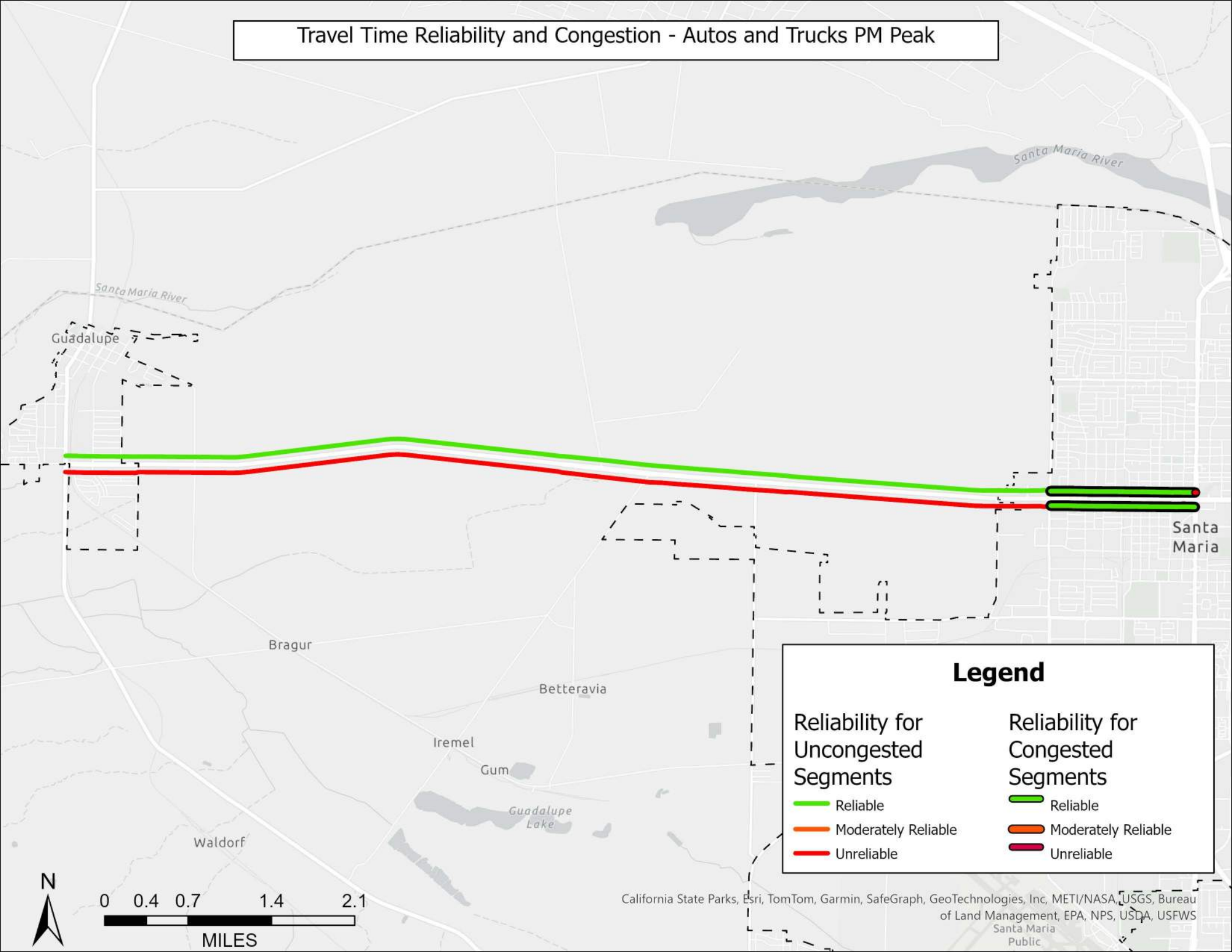
Travel Time Reliability and Congestion - Autos and Trucks AM Peak



0 0.4 0.7 1.4 2.1

MILES

Travel Time Reliability and Congestion - Autos and Trucks PM Peak



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_SECTION	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 S	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	BENWILEY 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

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_SECTION	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						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_SECTION	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 STREET)	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 STREET)	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 STREET)	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 STREET)	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_SECTION	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



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 Road¹. 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 brought 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 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 SYLINDA VILLADO	DKS Associates

WHAT IS THE RSA PROCESS?

Figure 1 illustrates the RSA process steps consistent with FHWA RSA Guidelines.

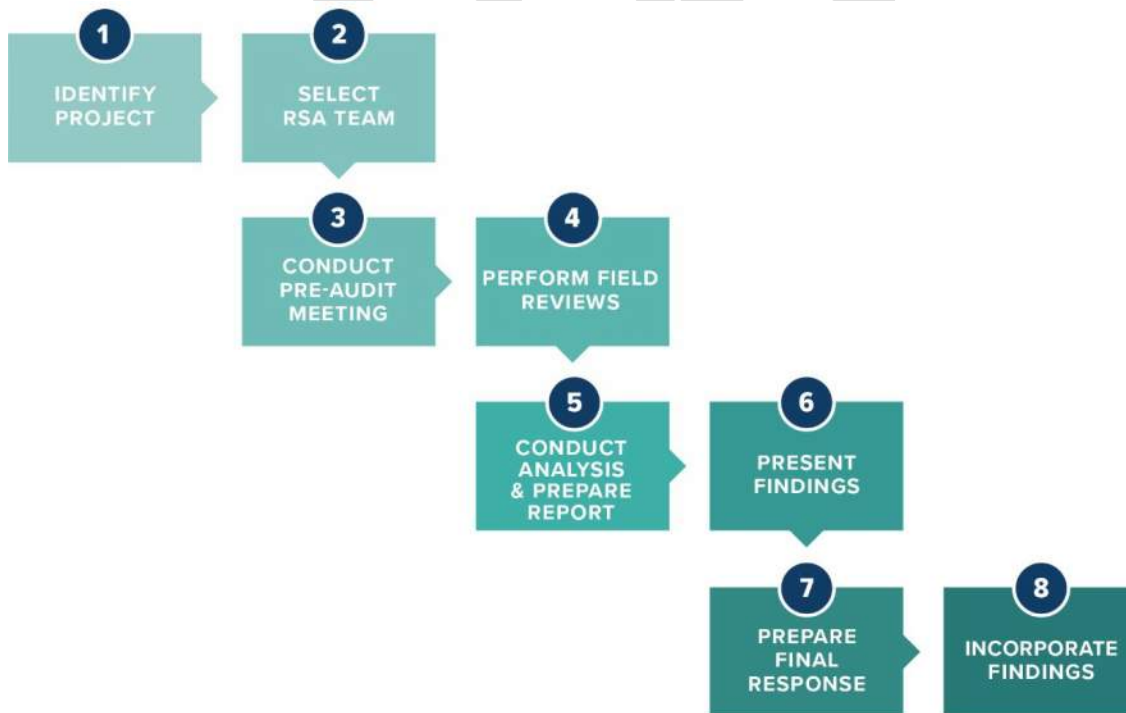


FIGURE 1. RSA PROCESS

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 Guadalupe 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 signal². On September 27, 2024, SBCAG celebrated the completion of the SR 166 and Black Road Traffic Signal and Safety Improvement Project³. **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 Plan⁴ 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 BLACK ROAD RIBBON CUTTING)

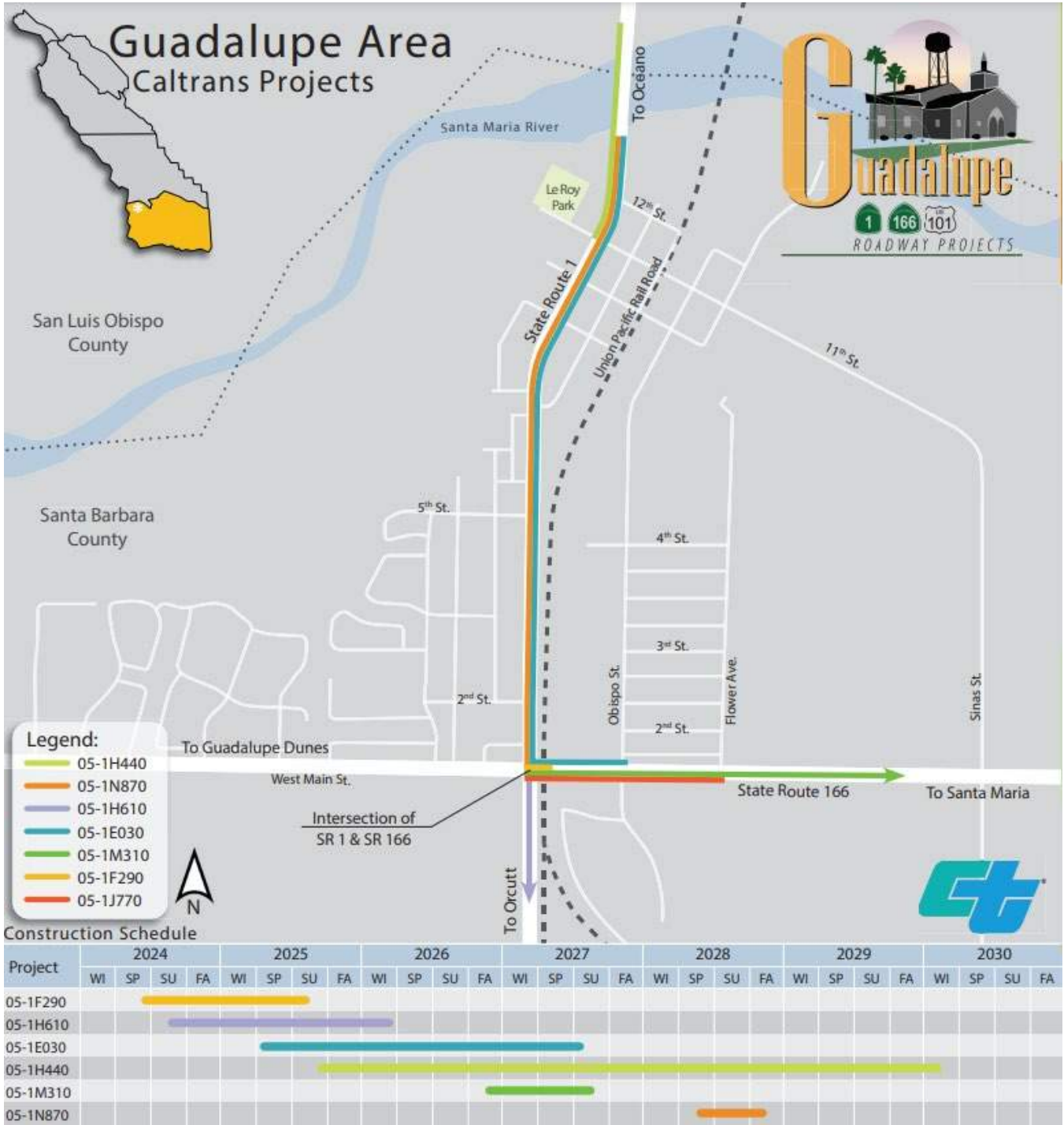


FIGURE 4. CALTRANS GUADALUPE ROADWAY PROJECTS (SOURCE: [CALTRANS GUADALUPE ROADWAY PROJECT FACT SHEET](#))

SUMMARY OF CORRIDOR COLLISION 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**).

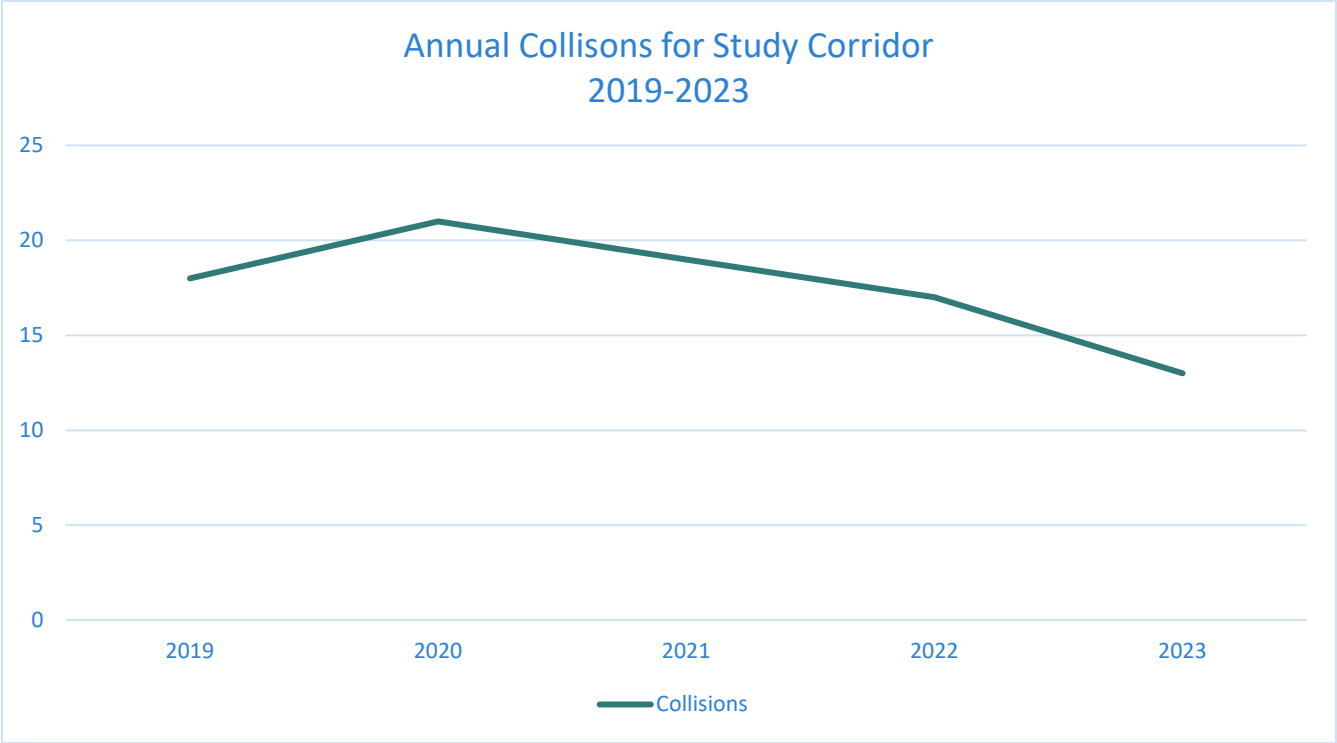


FIGURE 5. ANNUAL COLLISIONS - SR 166 (2019-2023)

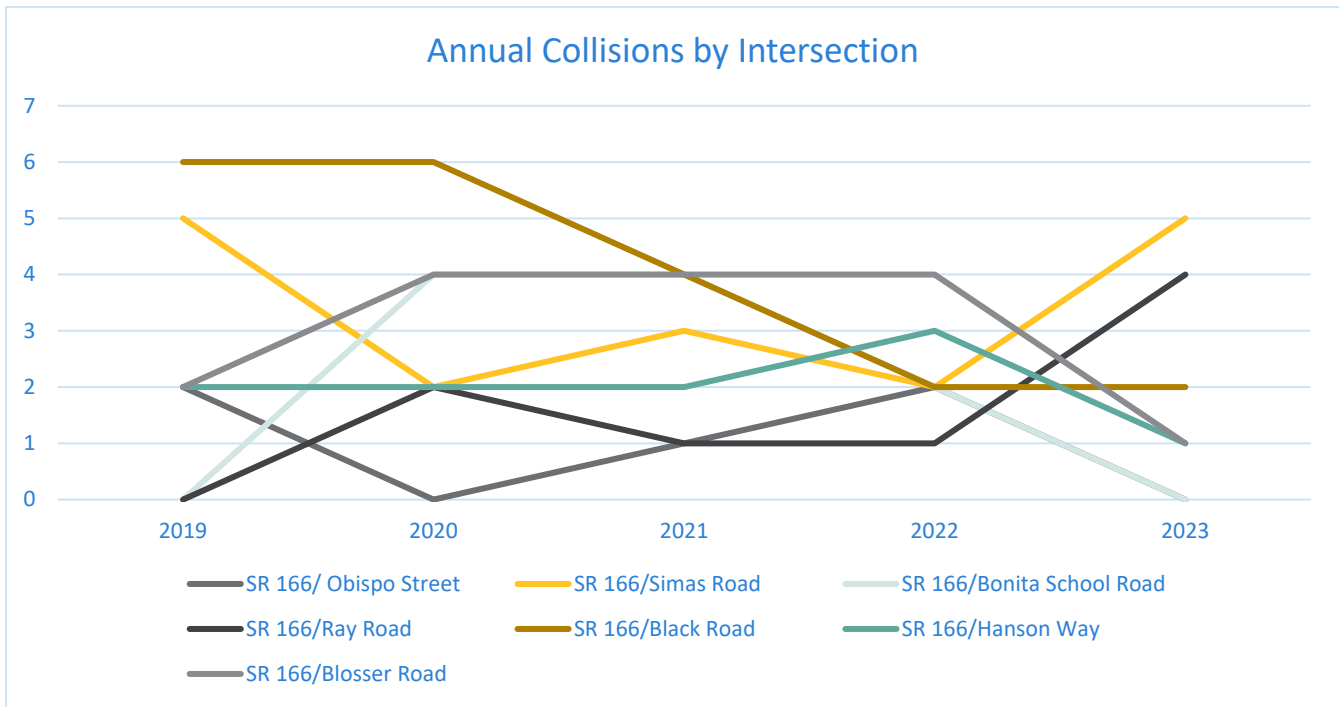
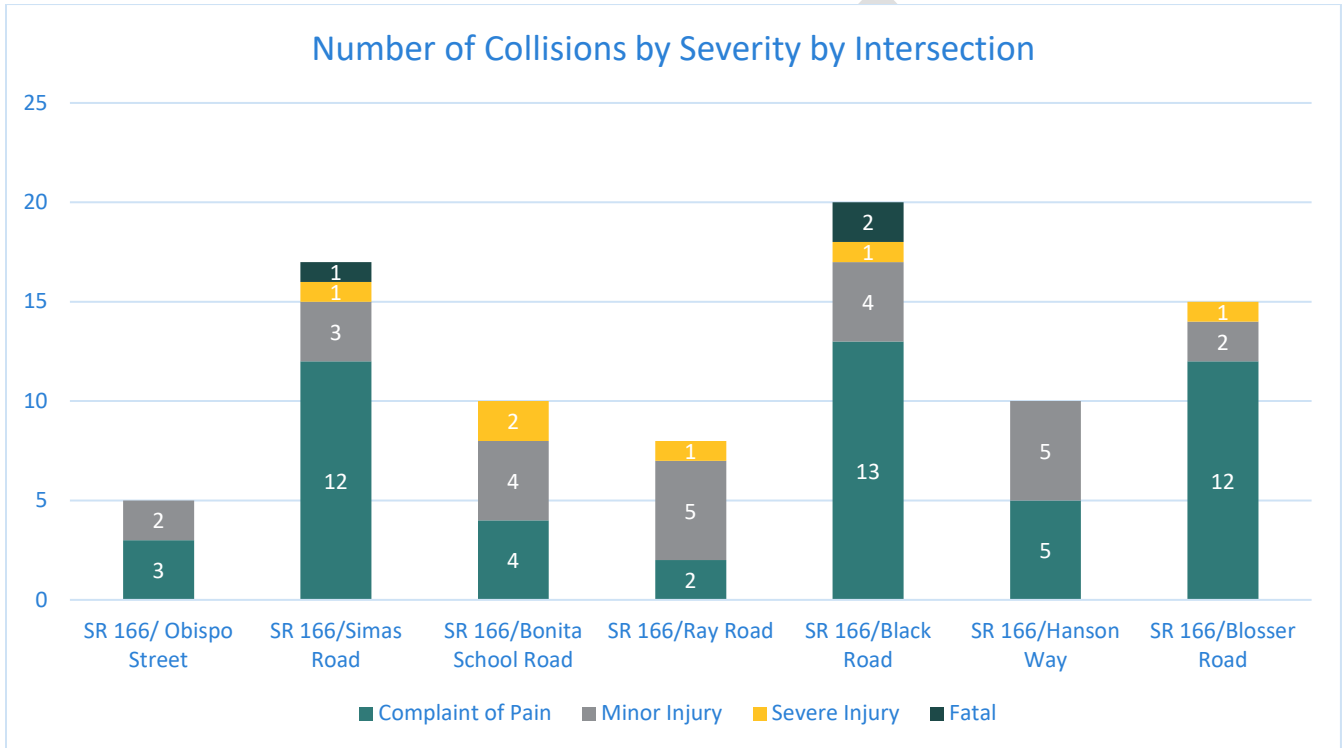


FIGURE 6. ANNUAL COLLISIONS BY INTERSECTION

DRAFT

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**).



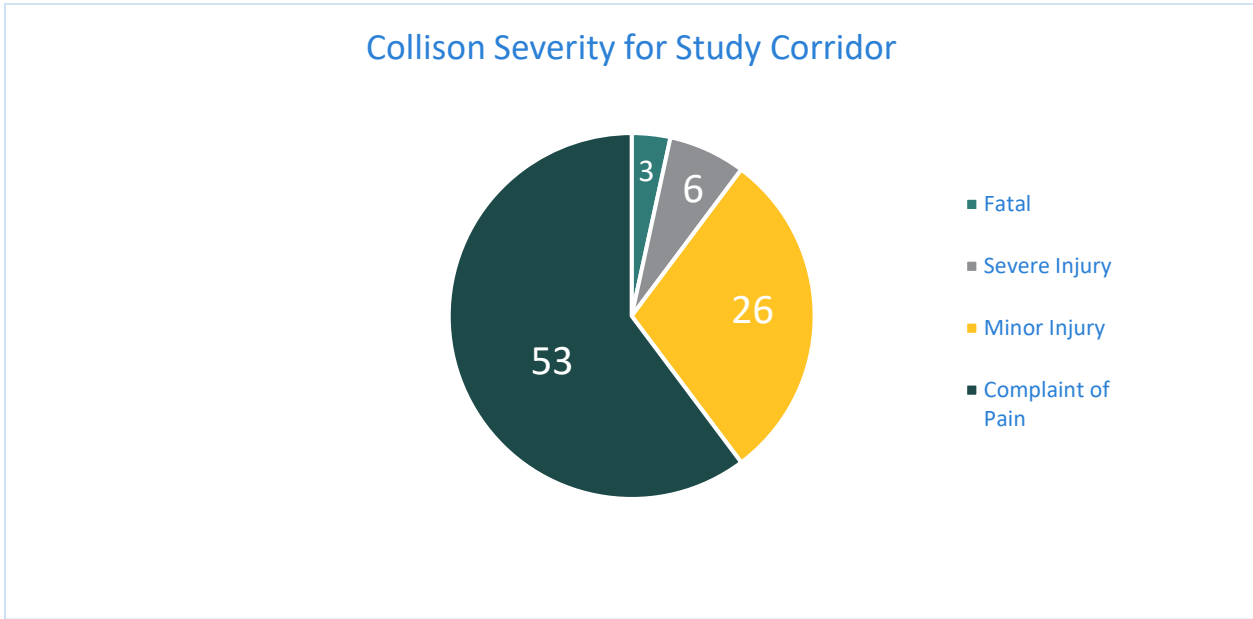


FIGURE 7. COLLISION SEVERITY - SR 166 (2019-2023)

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**).

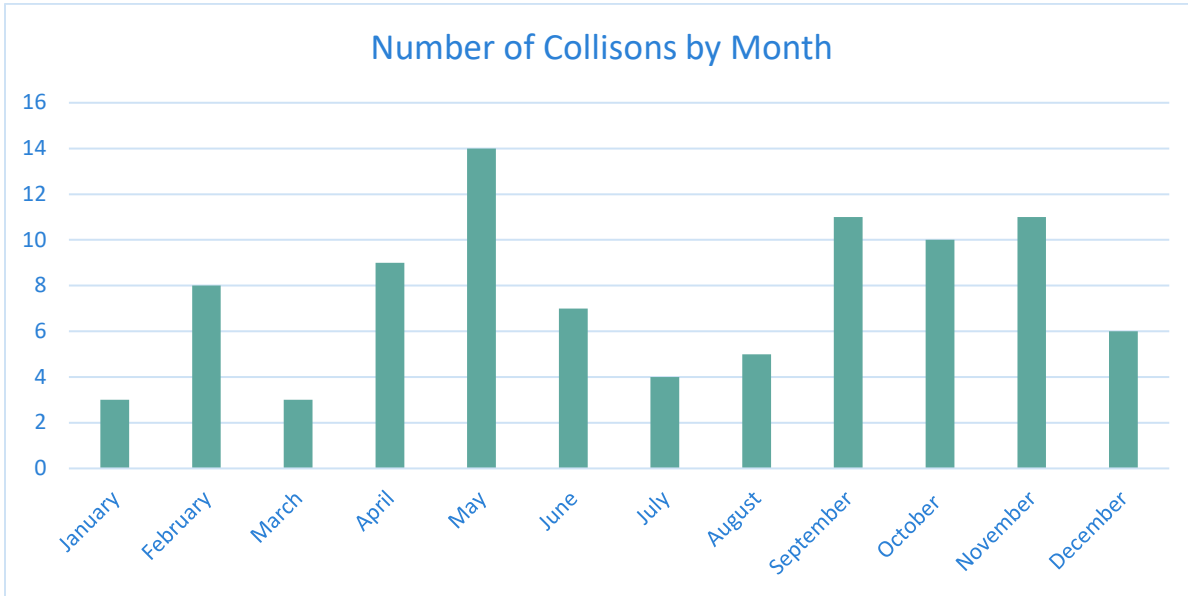


FIGURE 8. NUMBER OF COLLISIONS BY MONTH

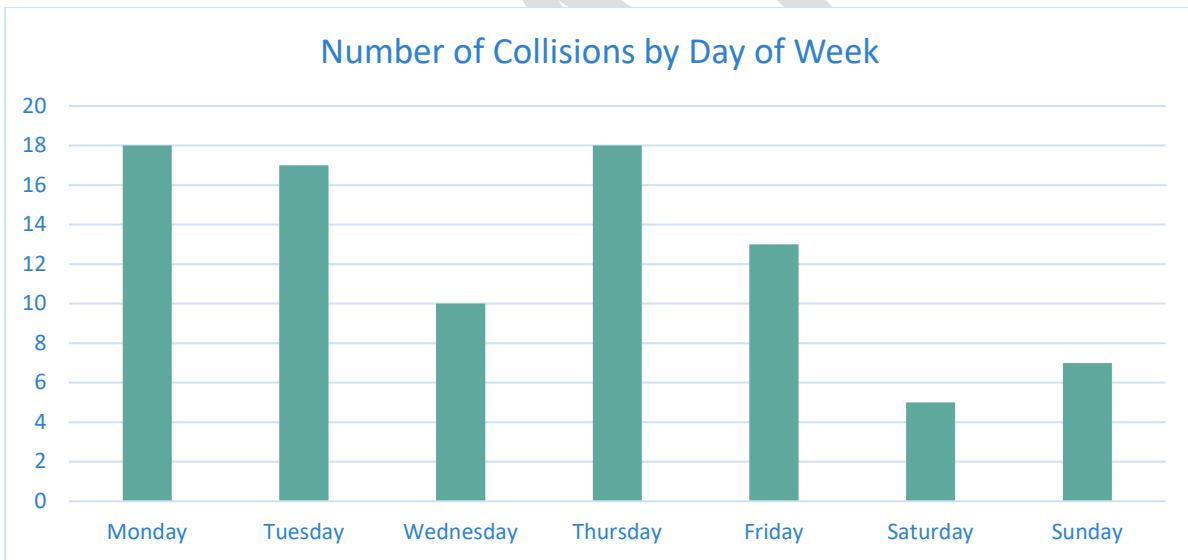


FIGURE 9. NUMBER OF COLLISIONS BY DAY OF WEEK

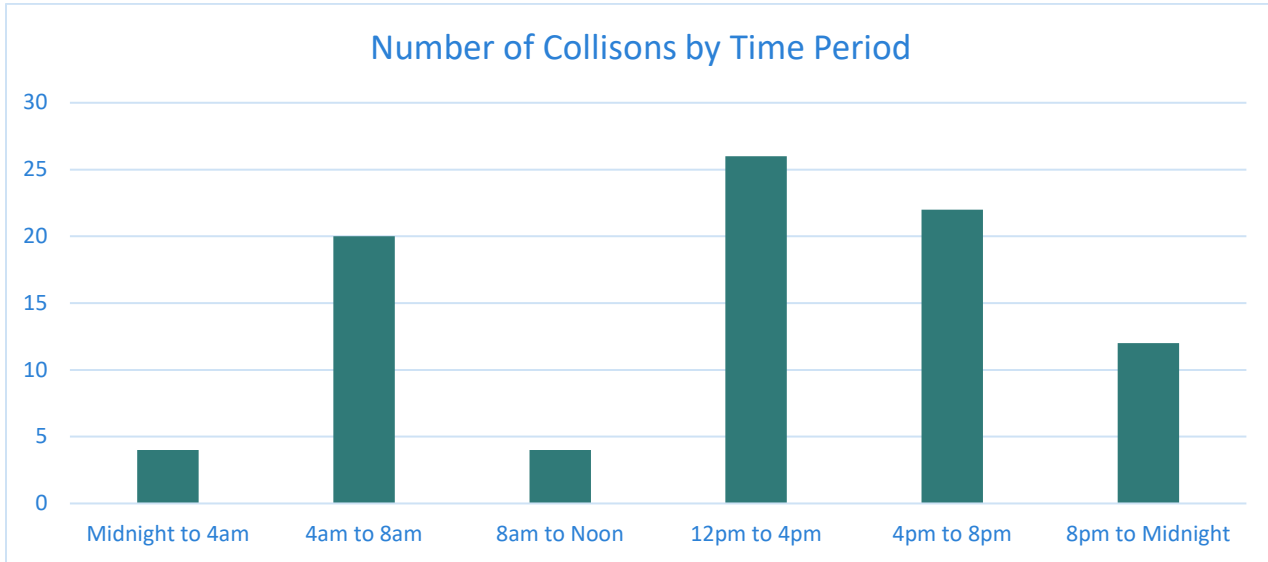


FIGURE 10. NUMBER OF COLLISIONS BY TIME

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

DRAFT

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 land 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 project⁵ 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 stop 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 stop 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

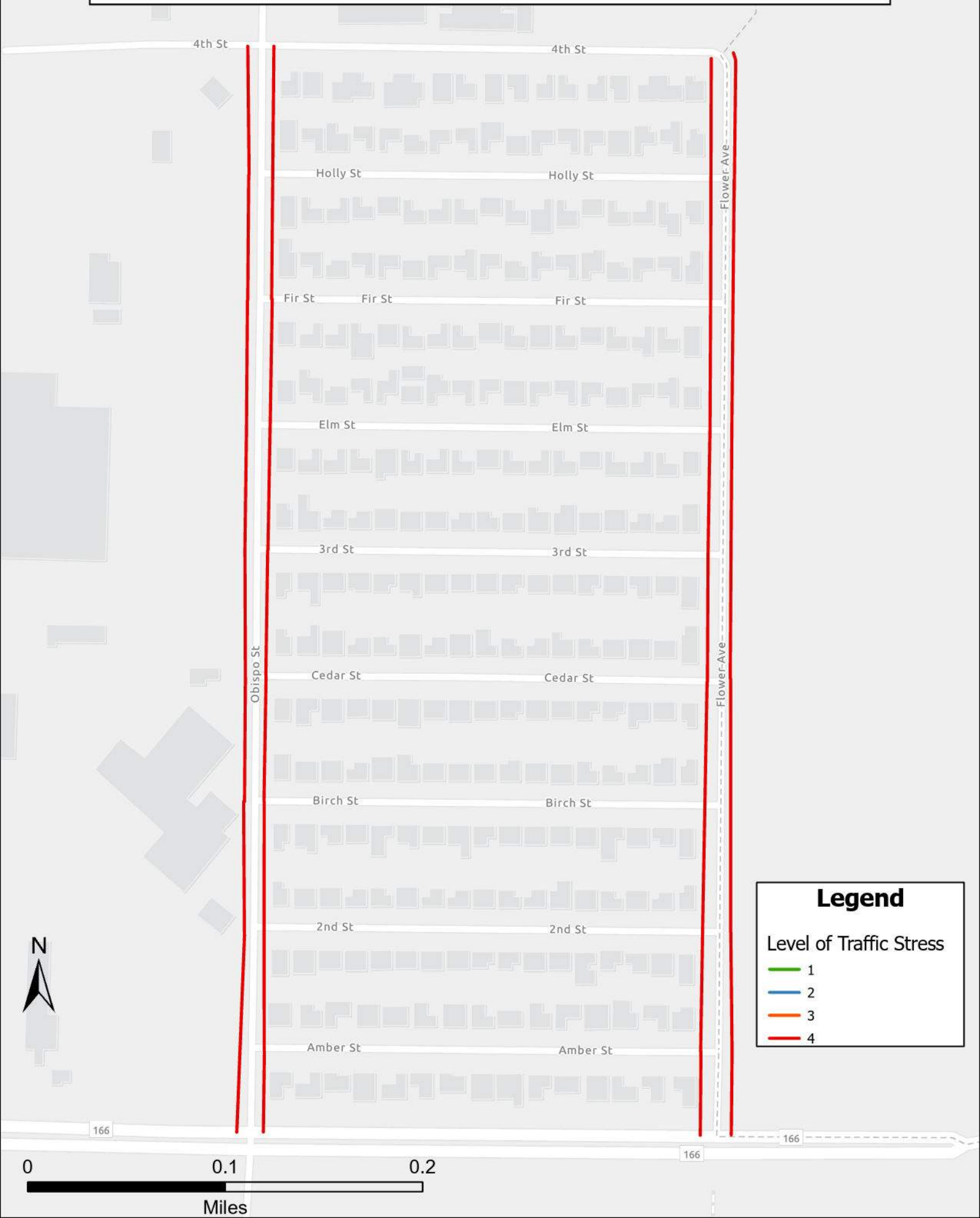
- Install consistent sidewalk along the southwest quadrant of the intersection and connecting to the Saint Marie Mobil Home Park to the west.
- Stripe a right-turn pocket for the eastbound approach to better define parking and shoulder areas
- Update corner treatments to meet current ADA requirements
- 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

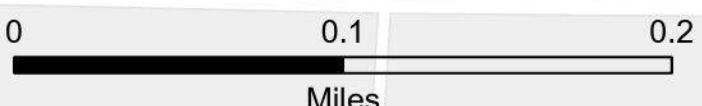
Bicycle Segments Level of Traffic Stress - Obispo Street and Flower Avenue



Legend

Level of Traffic Stress

- 1
- 2
- 3
- 4



3HGHVWULDQ 6HJPHQWV /HYHO RI 7UDIILF 6WUHV V

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

Bispo St

Flower Ave

Flower Ave

166

166

166

0LOHV

/HJHQG

/76 3HGHVWULD

6HJPHQWV

/76

—

—

—

—



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.

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.

Table 3-2. California Road System Classification

RURAL ROADS		URBAN ROADS	
	41%		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.

Figure 3-2. Types of Bicyclists

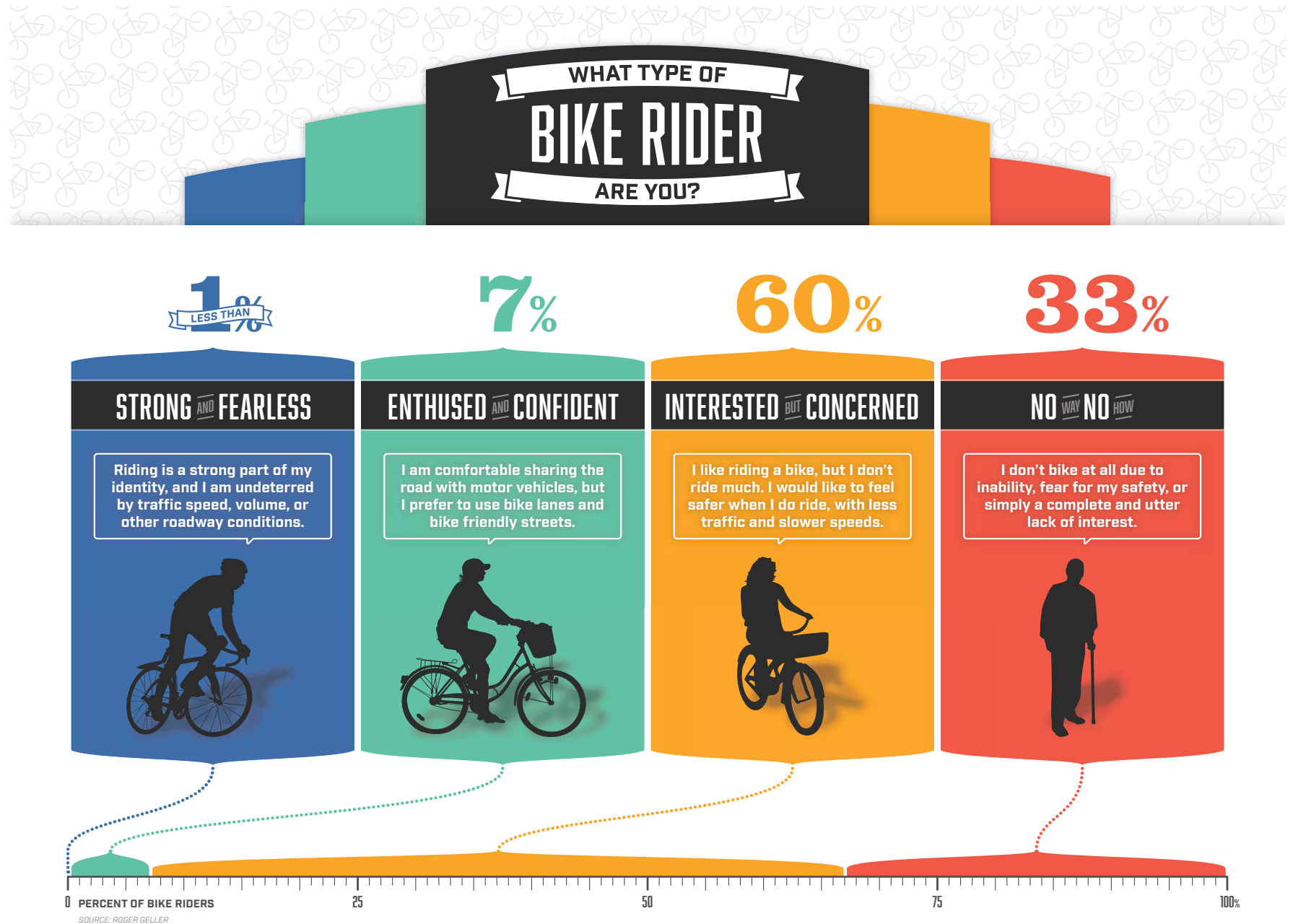


Figure 3-3. Level of Traffic Stress



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	LTS	ALL ROADS				PRINCIPAL ARTERIAL				MINOR ARTERIAL				MAJOR COLLECTOR				MINOR COLLECTOR				LOCAL			
		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

SAN LUIS
OBISPO
COUNTY

KERN COUNTY

VENTURA
COUNTY

Level of Traffic Stress

- 1 (Low)
- 2
- 3
- 4 (High)

■ Municipalities

■ Unincorporated Areas

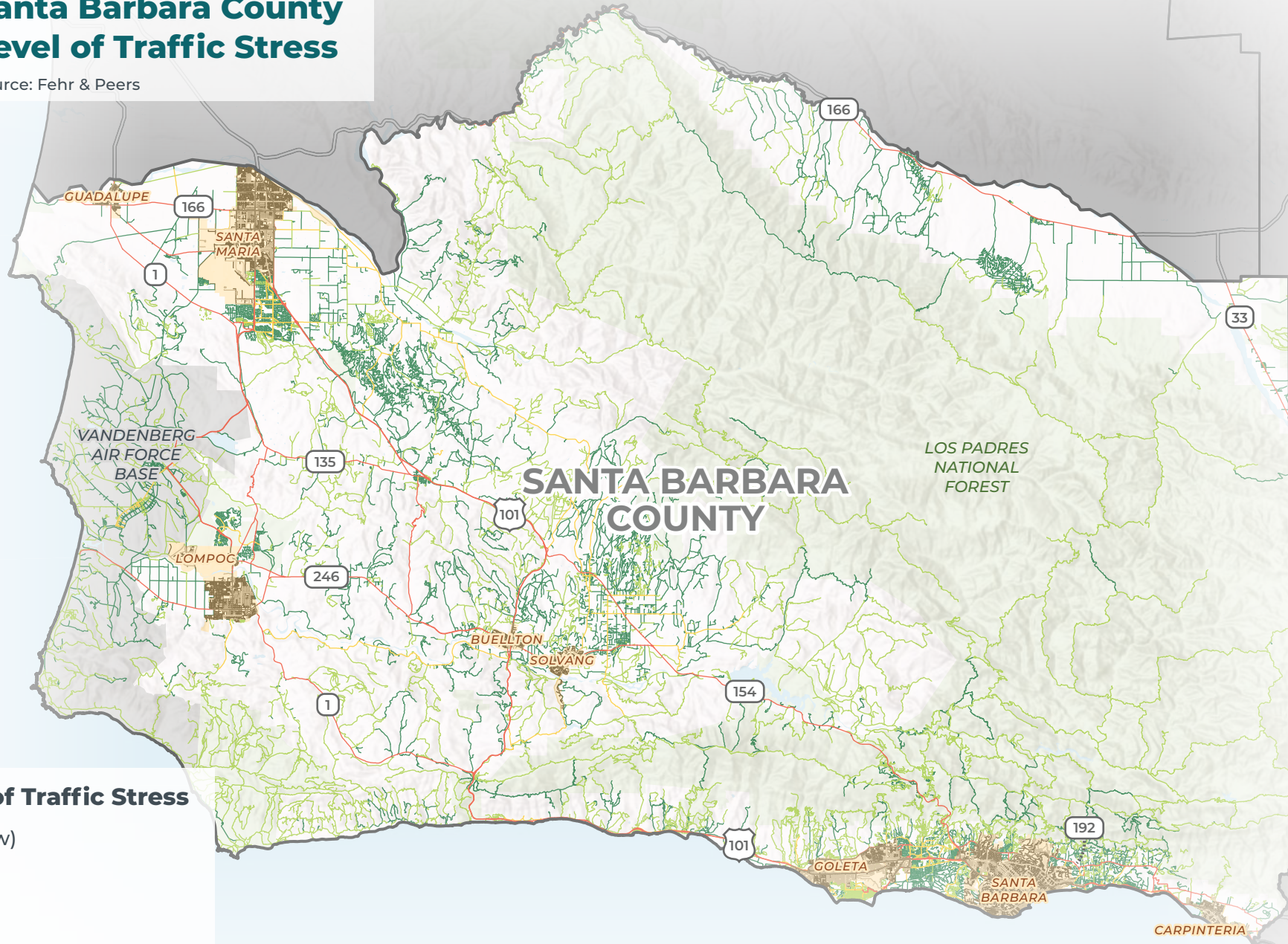
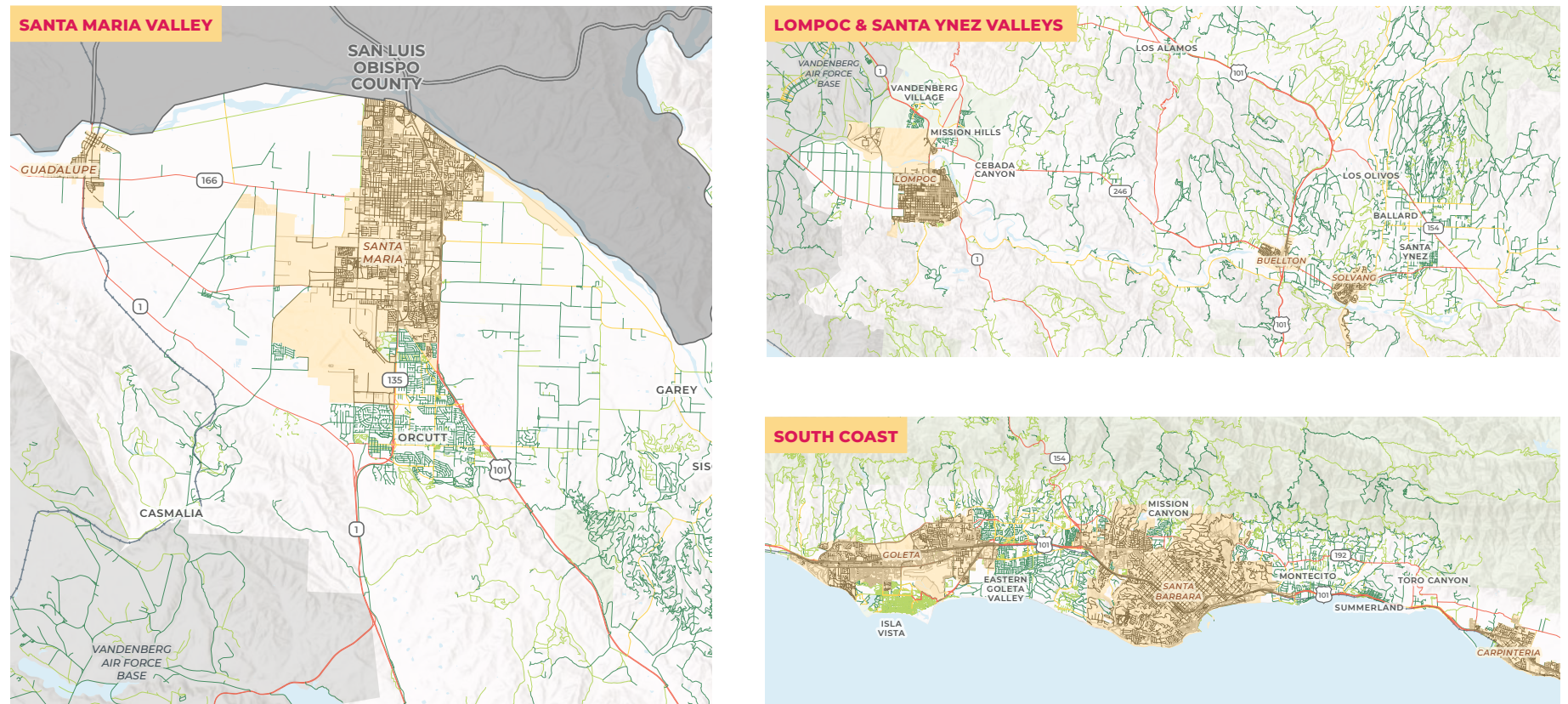


Figure 3-4. Santa Barbara County Level of Traffic Stress (cont.)



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