

PREPARED FOR:

SANTA BARBARA COUNTY ASSOCIATION OF GOVERNMENTS











APPENDIX A



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State Route 166 Comprehensive Corridor Study	
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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	Table B-1 – CAPTI 2021 Key Guiding Principle and Implementation Strategies				
	Building toward an integrated, statewide rail and transit network				
	Investing in networks of safe and accessible bicycle and pedestrian				
	infrastructure				
Voy Cuiding Principles	Making safety improvements to reduce fatalities and severe injuries of all				
Key Guiding Principles	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				
	S4.4 Refocus Caltrans Corridor Planning Efforts to Prioritize Sustainable				
	Multimodal Investments in Key Corridors of Statewide and Regional				
Voy Implementation	Significance				
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Strategies	California Freight Mobility Plan (CFMP)				
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Caltrans System Investment Strategy (CSIS) - The CSIS and the CSIS CAPTI Alignment Metrics provide an investment framework that will guide transportation investments and decisions to support CAPTI. CSIS is developing scoring metrics that will be used to make funding decisions within state transportation grant programs. Scoring metrics are being developed in the areas of:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The plan identifies active transportation needs in eight categories:

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

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

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

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

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

	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 SR 166, 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.
 - \circ 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	Υ	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 Roadf/Carbillo 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	Υ	8	Access and Multimodal Connectivity	Rail mobility is mentioned as important for stakeholders

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 eastwest 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):

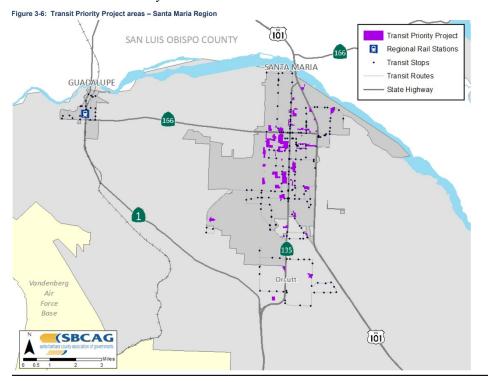
Table C-1 Connec	ted 2050 RTP/SCS Key Goals and Policies
	Policy 1.1 Land Use states in part: The planning, construction and operation of transportation facilities shall be coordinated with local land use planning and should encourage local agencies to:
Goal Area 1: Environment	 3. Plan for transit-oriented development consistent with the RTP-SCS by: 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.
	Policy 2.1 Access, Circulation and Congestion states in part: The planning, construction and operation of transportation facilities shall be coordinated with local land use planning and should encourage local agencies to: 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.
Goal Area 2: Mobility & System Reliability	 Policy 2.3 Alternative Transportation Modes states in part: Transportation planning and projects shall: 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. Provide for a variety of transportation modes and ensure connectivity within and between transportation modes within and outside the Santa Barbara region. Plan and provide for ancillary support facilities for alternative transportation, such as bicycle parking. Promote inter-regional commuter transit and rail service. Promote local and inter-city transit. Work to complete the California Coastal Trail through provision and implementation of trail segments and connection in coordination with appropriate agencies.

Policy 2.4 Freight and Goods Movement states in part: Transportation planning and projects shall facilitate secure and efficient movement of goods and freight in a manner consistent with the general mobility needs of the region by: 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 6. Planning for intermodal connectivity (airport, rail and highway) in freight and goods movement. Policy 2.5 Transportation System Management (TSM) Technologies states in part: Transportation planning and projects shall: 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. Goal Area 3: Policy 3.1 Access states in part: The planning, construction and operation of Equity transportation facilities and the system as a whole shall: 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. Policy 4.1 Safe Roads and Highways states in part: The planning, construction and operation of transportation facilities and the system as a whole shall: 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. Goal Area 4: 5. Maintain consistency with the State Strategic Highway Safety Plan. **Health & Safety** 6. Address the resiliency of new projects to possible future impacts resulting from climate change (e.g. sea level rise and inundation of low-lying areas). Policy 4.2 Public Health states in part: The RTP-SCS shall promote integrated transportation and land use planning that encourages: 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.

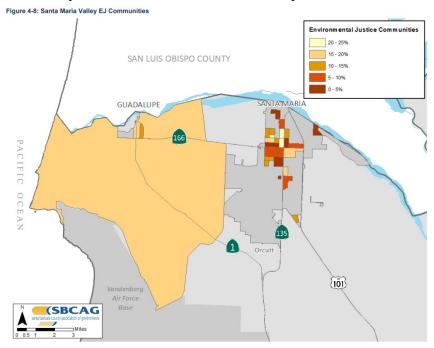
	Policy 5.4 Transportation Funding states in part: SBCAG and its member agencies
Goal Area 5:	should:
Prosperous	4. Make efficient use of funding by maintaining, preserving, or enhancing existing
Economy	infrastructure for all modes, using low-cost operational improvements, and using
	performance-based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

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

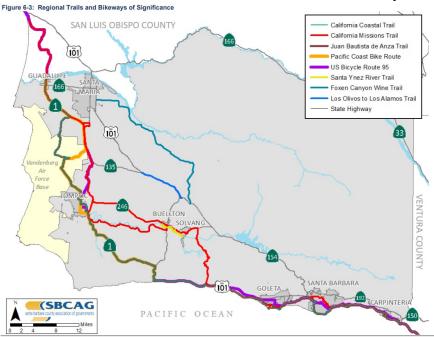
Connected 2050 maps Transit Priority Areas (TPAs), which are defined as areas within one half-mile of all major transit stops that are existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program or applicable Regional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



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



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.



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)
 - o Segment 2 Blosser Road (PM 6.52) to State Route 101 (PM 8.93)
- Eastern Segment (State Route 101 to State Route 33)
 - o 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
Tier 1		A	SR1/SR166 Signalization and Intersection Improvements
	Heri	Е	Black Road/SR166 Signalization and Intersection Improvements
1		В	Simas Road/SR166 Signalization and Intersection Improvements
1	Tier 2	G	S. Hanson Way/SR 166 Signalization and Intersection Improvements
		F	Widen SR 166 from 2 to 4 lanes (PM 0.0 – PM 6.7)
	Tier 3	U	CHP Enforcement Pullouts

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

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

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

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

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

Data of interest for SMV subregion:

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

Data of interest for Guadalupe:

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

Data of interest for Santa Maria:

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

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

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

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

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

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

Highway 166 Truck Study Final Report (SBCAG August 2003) – SBCAG, in partnership with Caltrans, the County of Santa Barbara, and the Cities of Guadalupe and Santa Maria, conducted a study to acquire information on heavy truck activity and movements on Route 166 within and through the City of Santa Maria. The information

obtained in this study was to be used to help develop the Santa Maria Downtown Specific Plan and accompanying West Main Street Improvement Concept, with one of the goals being to create an attractive "pedestrian-friendly" business district. The study findings, which were based on surveys of truck drivers on SR 166 at Blosser Road, include:

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

Summary of Local Plans

County of Santa Barbara

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

City of Guadalupe

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

City of Santa Maria

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

COUNTY OF SANTA BARBARA

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

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

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

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

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

CITY OF GUADALUPE

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

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

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

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

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

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

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

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

Mitigation Action # 2016 - 7

Project Description: Improve drainage along Highway 166 and continuing along Main Street in Guadalupe to the western city limit.

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.

Existing and Potential Resources: Follow up work should be financed by CalTrans, Measure A funds, or other alternative grant funding source.

Responsible Department: Public Utilities Department, Planning Department, Engineering Department, City Administrator, City Council, Contract City Attorney, and CalTrans.

Target Completion Date: January 30, 2019

Cost Benefit Consideration:

Moderately Cost Beneficial: CalTrans completed a highway shoulder expansion and improved storm drain runoff within the past two years. The improvements eased and increased the flow of water along the highway until reaching the City of Guadalupe, where construction halted. This improved flow and capacity resulted in a higher run off volume which dumped in the storm drain through the City which had not been improved. The solution through the unincorporated area created a chronic flooding problem within Guadalupe in storm drains that were not designed to carry the increased level of flow. The result is a overflowing drains, plugged under passes and water and an unsafe quantity of water and debris through the City of Guadalupe.

Status Report: This is a High priority as the exclusive access to the housing developments west of Pioneer has only one route of escape during a flood which is through areas of flooding. This is a recently identified risk which was created upstream by the improvements of others without mitigating the impact as the water flows toward the ocean. A peripheral concern is in the agricultural chemical runoff which travels without obstruction into the City.

Local Road Safety Plan (2022) – The Guadalupe Local Road Safety Plan (LRSP) is intended to reduce traffic collisions by: 1) Analyzing the factors that previously impacted prominent intersections and roadway segments in the City; and 2) identifying

countermeasures for high collision intersections. Two of the highest ranked intersections are within the project area: SR 166/Obispo Street and SR166/SR 1.

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

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

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

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

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

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

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

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

<u>Bikeway Network</u> - 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.

<u>Pedestrian Network</u> - 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.

	Maria General Plan Active Transportation and cies and Objectives
-	nensive Transportation System. To provide and maintain a comprehensive em that provides for the safe and efficient transport of people and goods y.
POLICY C.1.a	The City shall maintain an acceptable peak-hour level of service on all arterials and
Acceptable	collectors and at signalized intersections. Service Level "D" on all roadways and at
Levels of Service	all signalized intersections shall be the levels maintained.
	OBJECTIVE C.1.a.1 Improved Levels of Service. Arterials and collectors with
	peak hour levels of service worse than D, and all intersections with peak
	hour levels of service worse than D shall be improved to operate at an
	acceptable peak-hour level of service within the planning period.

	·
	 OBJECTIVE C.1.b.1 Traffic Signal Spacing. Plan spacing between traffic signals to optimize interconnection, signalize only warranted locations, and strive to implement signal timing that will result in efficient travel times and fuel conservation.
	ive Modes of Transportation. Provide for the development and use of alternative
modes of transpor	tation within an integrated system of transportation facilities.
	Promote the use of alternative transportation modes such as transit, bicycle, pedestrian, airplane, and light rail to relieve traffic congestion and improve air quality. • OBJECTIVE C.6.a.1 Reduce Vehicle Miles Traveled Reduce vehicle miles
	traveled and disperse peak hour traffic to better utilize the existing and planned transportation infrastructure.
POLICY C.6.a.1	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.
Promote	IMPLEMENTATION PROGRAMS
Alternative Modes of Transportation	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.
	2. In reviewing discretionary projects, the City will encourage pedestrian-
	oriented development (POD) and transit-oriented development (TOD). The
	design, configuration and mix of uses will emphasize a pedestrian-oriented environment and reinforce the use of alternative modes of transportation.
	(For related policies and programs refer to Land Use Element).
	3. Review all major projects for their consistency with the goals and policies
	of the Santa Maria Circulation Element, the Santa Barbara County
	Congestion Management Plan (CMP) and Air Quality Attainment Plan
	(AQAP).
POLICY C.6.b.1 Transit (Bus Transportation)	Continue to work with transit operators to improve and expand Santa Maria Area Transit (SMAT) service to meet those transit needs that can be reasonably met, with particular emphasis on the needs of the elderly, handicapped, low income, and community college students.
	Offer convenient, safe, and reliable transit services, and provide that the financial stability of the transit system continues.
	OBJECTIVE C.6.b.1 – Transit. Maintain the current level of bus services and
201107.0.01.2	expand such services as required when demand levels increase.
POLICY C.6.b.2 -	IMPLEMENTATION PROGRAMS
Transit	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.
	2. Plan for the existing transit system's incorporation into the ultimate fixed
	bus lane and light rail routes as a "feeder" system.
POLICY C.6.c.1 –	Develop bicycling and pedestrian facilities as a major transportation and
Bicycle and	recreational mode to serve the transportation and recreational needs of the
2.070.00.00	·

Pedestrian	residents.
POLICY C.6.c.2 Safe Streets for Bicycles	Provide safe, efficient and convenient streets for the use of pedestrians and cyclists throughout the City, and where possible, provide separate bikeway access to major destinations (e.g. schools, parks, and commercial and employment centers) to assure safety.
	 OBJECTIVE C.6.C1 (in part) 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. IMPLEMENTATION PROGRAMS
	 Integrate bicycle transportation in all appropriate transportation and recreation programs and facilities.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Safer Streets for Santa Maria – Local Road Safety Plan (2022) - The Local Road Safety Plan (LRSP) uses data and stakeholder input to identify, analyze, and prioritize safety projects and programs in the City of Santa Maria that will allow residents and visitors to safely access their desired destinations. The Plan addresses the four "E's" (Engineering, Enforcement, Education, and Emergency Services) approach for proactive safety planning, and adds a 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).

City of Santa Maria General Plan Potential "High Quality Transit Corridor" Legend Transit Corridor Figure C-4 Main St Main St Black Road Stowell Rd Betteravia Rd Fairway nion Valley Parkway State Hwy 1 Clark

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

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

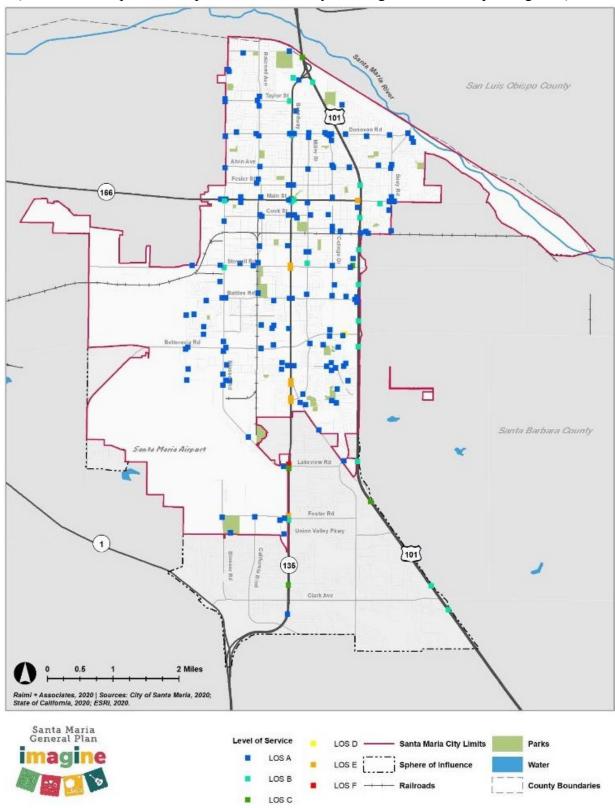


Figure D-3 - Intersection Level of Service (General Plan Update Transportation & Mobility Existing Conditions Report Figure 6)

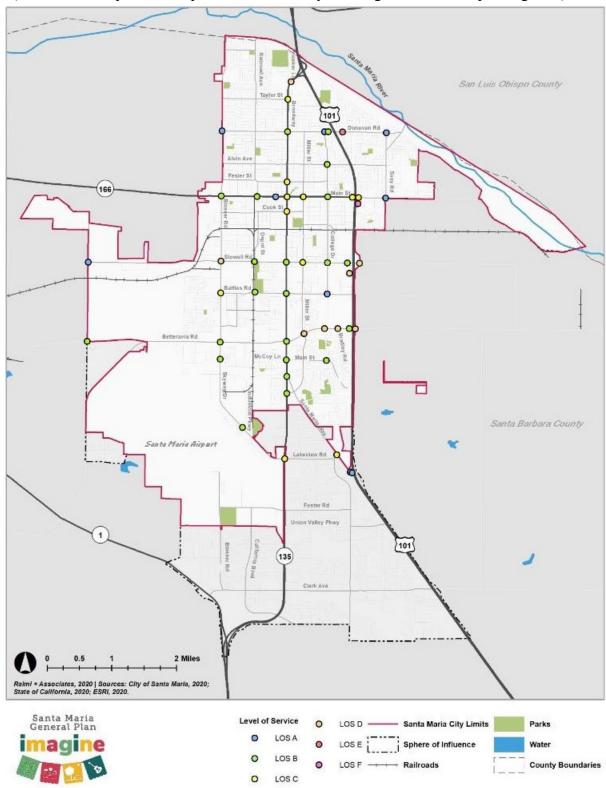


Figure D-4 – Bicycle and Pedestrian Collision Heat Map (Active Transportation Plan Figure 4)

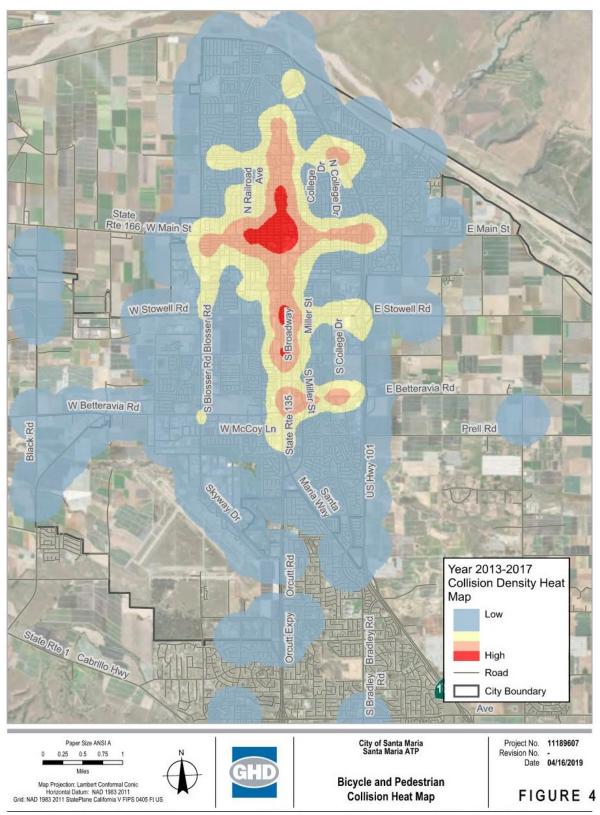
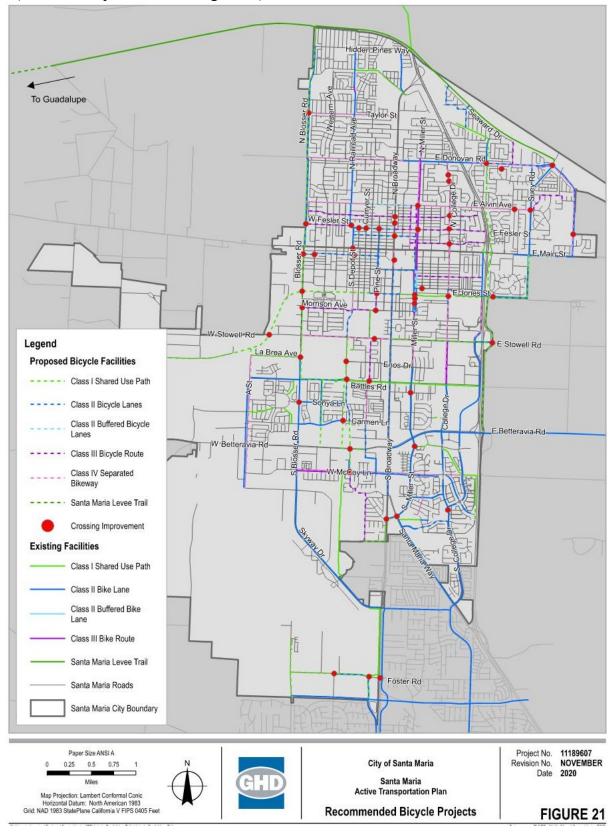


Figure D-5 – Recommended Bicycle Projects (Active Transportation Plan Figure 21)



(Active Transportation Plan Figure 22) To Guadalupe E Stowell Rd La Brea Ave Legend E Betteravia Rd **Proposed Pedestrian Facilities** Crossing Improvement Class I Shared Use Path Santa Maria Valley Levee Trail Lighting Improvement Traffic Calming Sidewalk Sidewalk **Existing Facilities** Class I Shared Use Path Santa Maria Levee Trail Foster Rd Santa Maria Roads Santa Maria City Boundary Project No. 11189607 Revision No. NOVEMBER Date 2020 Paper Size ANSI A City of Santa Maria 0.5 0.75 Santa Maria **Active Transportation Plan** Map Projection: Lambert Conformal Conic Horizontal Datum: North American 1983 Grid: NAD 1983 StatePlane California V FIPS 0405 Feet FIGURE 22 **Recommended Pedestrian Projects**

Figure D-6 Recommended Pedestrian Projects

APPENDIX A	A.2 SOCI	OECONON	IIC DATA	
APPENDIX A	A.2 SOCI	OECONON	IIC DATA	
APPENDIX A	A.2 SOCI	OECONON	IIC DATA	

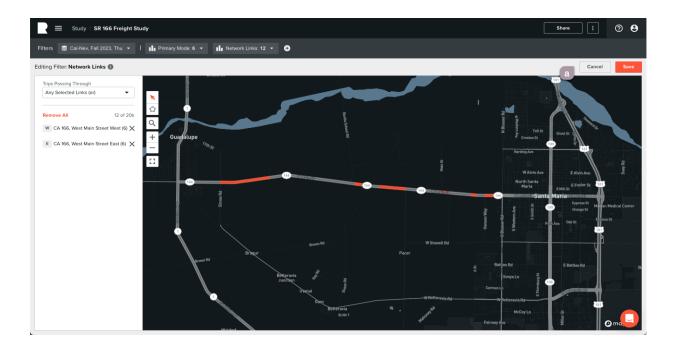
State Route 166 between Guadalupe and Santa Maria

TRAVEL DEMOGRAPHICS AND TRIP SUMMARY

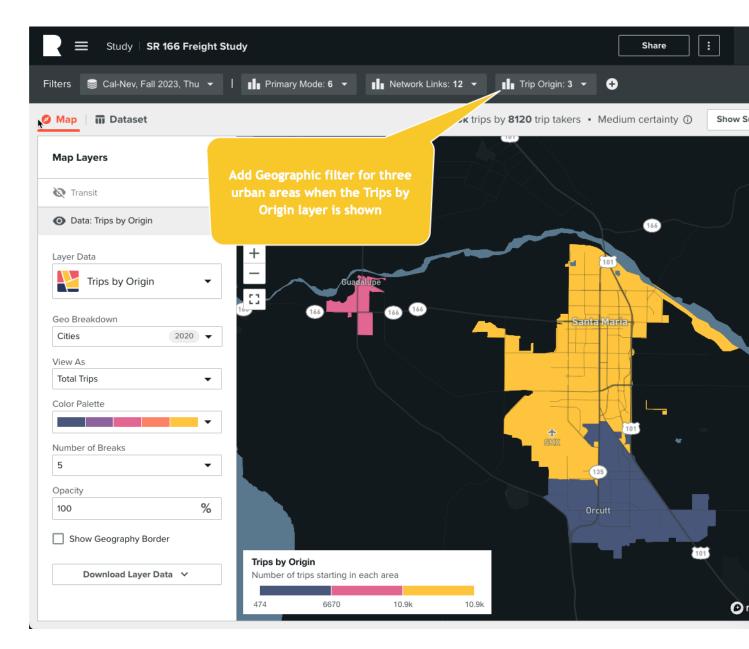
According to Replica's modeled data for 2023, State Route 166, which connects Guadalupe to Santa Maria, was evaluated to quantify various information about typical weekday travelers. The summary information addresses the demographic characteristics of the travelers, and the trip activity describes the trip purpose, trip lengths, travel mode, and other information.

The selections made in Replica to conduct this evaluation are explained below.

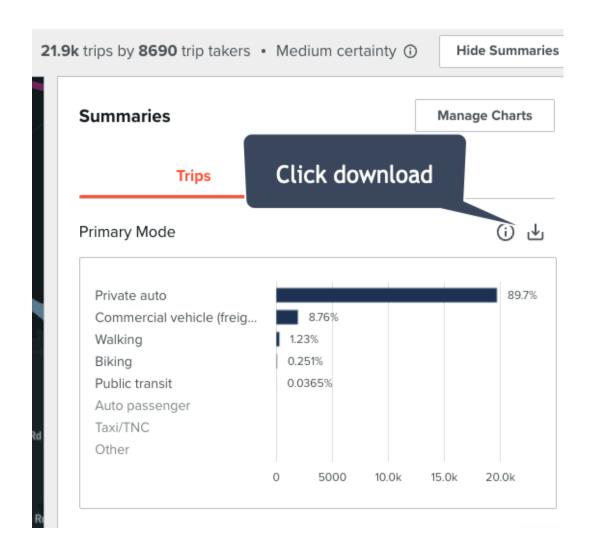
Highway segments were selected in both directions to create a
 Network Links filter. The screenshot below shows these in red. This
 filter includes all trips that use one or more of these segments
 anywhere in the corridor.



- 2) An additional filter was applied to Primary Trip Mode to uncheck Auto Passengers.
- 3) We used two use cases:
 - a) ALL TRIPS USING CORRIDOR, AND
 - b) ONLY TRIPS ORIGINATING IN GUADALUPE, SAN MARIA AND ORCUTT)
- 4) To restrict the outputs to only local origins as listed in Use Case B, create a new Geographic Filter and pick the boundaries of those three geographic areas. When finished, the screen should look like this:



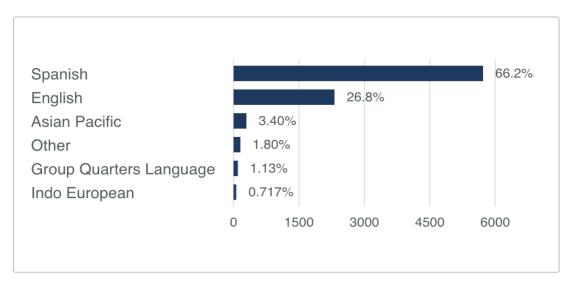
5) Once the above filters have been made, click the Show Summaries button in the upper right. You can scroll through the People and Trip chart summaries provided. To download images of any chart, click the download button.



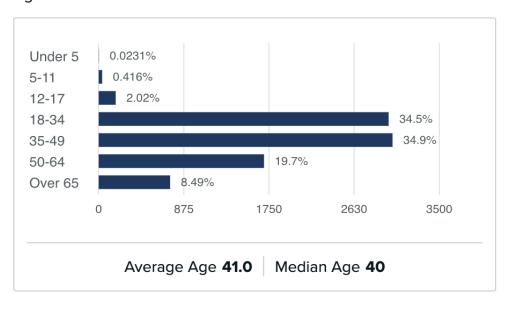
6) Below is a sample of some of the available charts. You need to individually select and download on set for EACH use case (ALL TRIPS and LOCAL ORGINS ONLY). The resulting SUMMARY charts could include some or all of the following.

[EXAMPLE CHARTS FOR ALL TRIPS USING CORRIDOR]

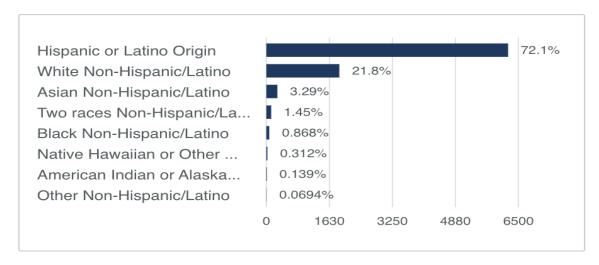
Language



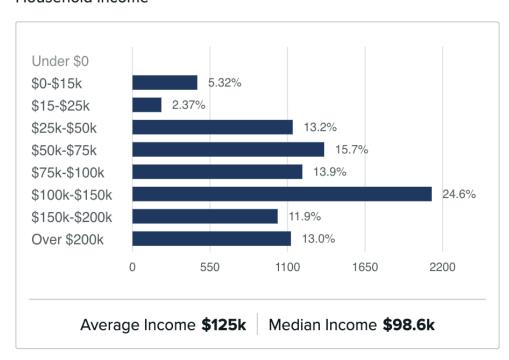
Age



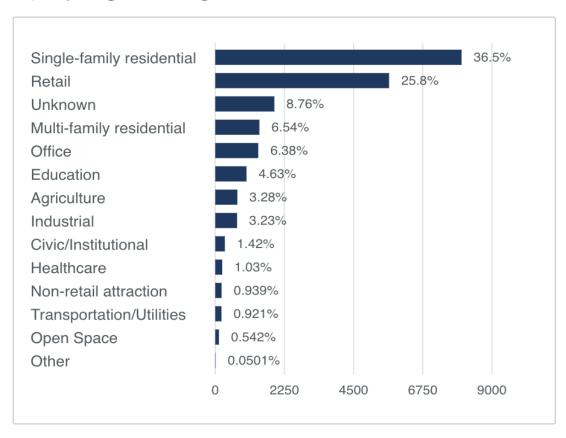
Race & Ethnicity



Household Income



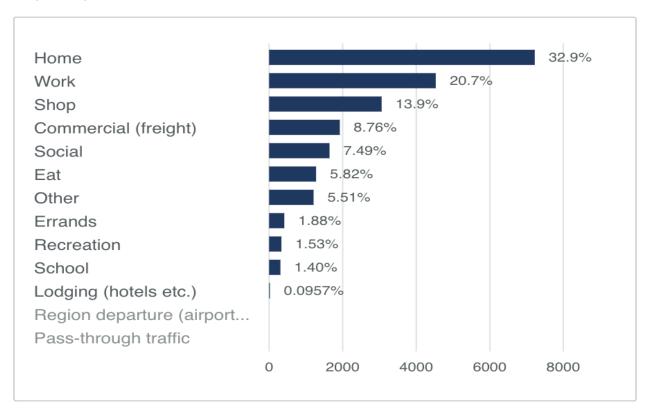
Trips by Origin Building Use



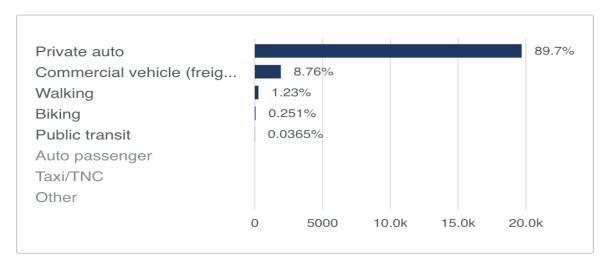
Trip Distance (Miles)



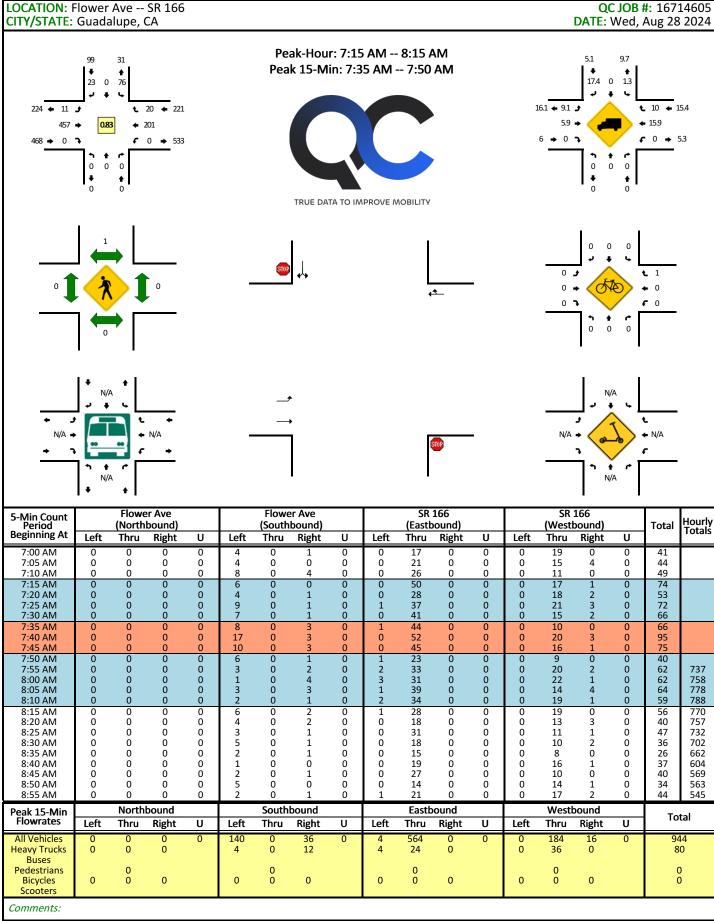
Trip Purpose

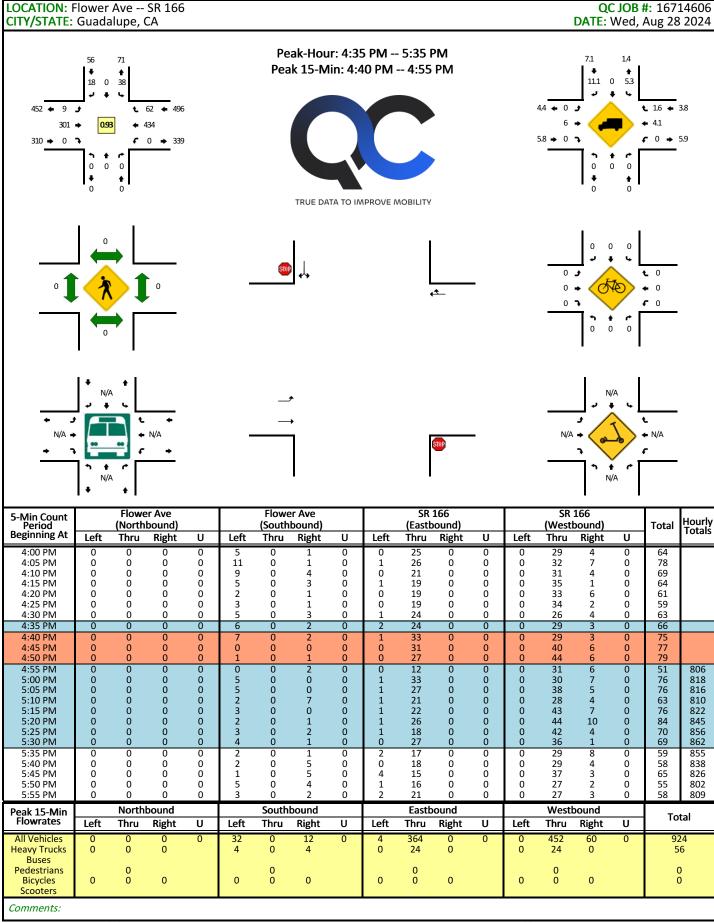


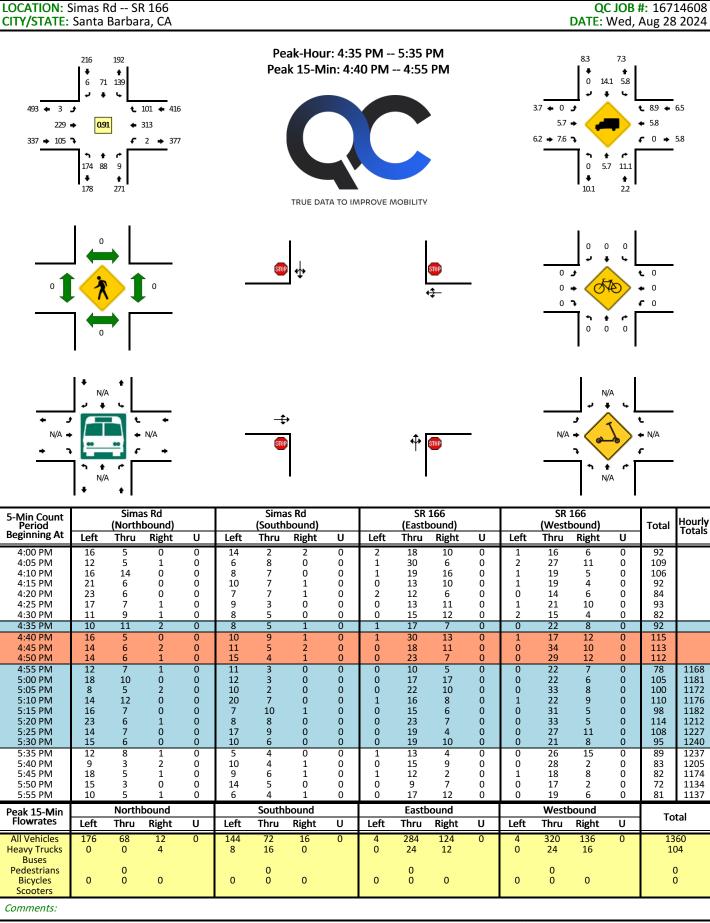
Primary Mode

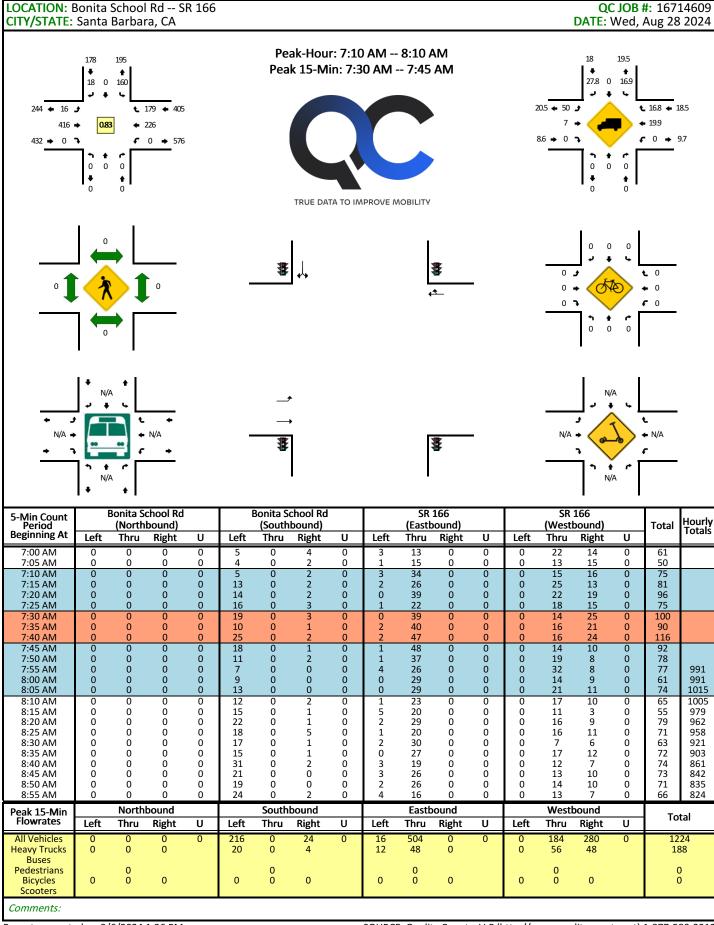


APPENDIX	(A.3 TRAF	FIC COUNT	ΓS	



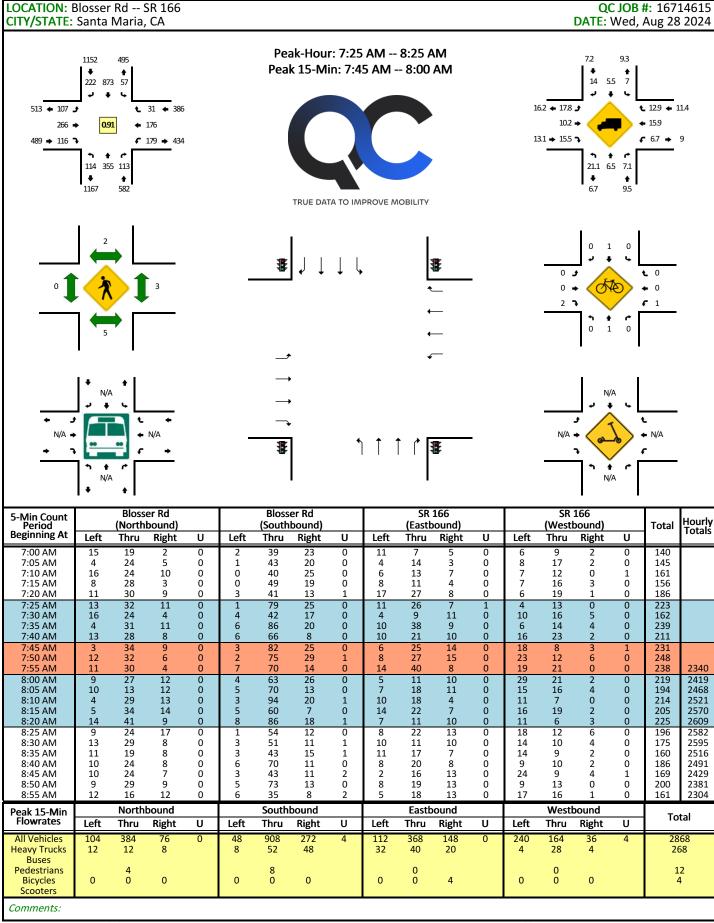






Report generated on 9/6/2024 1:36 PM

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



LOCATION: Black Rd -- Betteravia Rd QC JOB #: 16714625 CITY/STATE: Santa Maria, CA **DATE: Wed, Aug 28 2024** Peak-Hour: 7:40 AM -- 8:40 AM 12.7 Peak 15-Min: 7:45 AM -- 8:00 AM 10 17.4 20 280 23 110 💠 21 🗲 7 32.7 **4** 4.8 **3 17.6 ←** 31.6 24 → 33.8 75 → 0.83 68 20.2 🗢 23.1 🥆 **€** 33.3 **⇒** 22.4 **€** 51 **→** 134 109 → 13 → 22 143 36 18.2 11.2 22.2 . • TRUE DATA TO IMPROVE MOBILITY 0 🗲 € 0 O Ω N/A N/A → N/A → ♣ N/A ⋪ ç N/A Black Rd Black Rd Betteravia Rd Betteravia Rd 5-Min Count Period Beginning At Hourly (Northbound) (Southbound) (Eastbound) (Westbound) Total Left Thru Right υ Left Thru Right U Left Thru Right υ Left Thru Right υ 7:00 AM 7:05 AM 7:10 AM 7:15 AM Ō Ō Ō 7:20 AM 7:25 AM 7:30 AM 7:35 AM 7:40 AM 7:45 AM 77 Ö ō ŏ Ö ō Ö 7:50 AM 7:55 AM 736 8:00 AM 20 25 70 4 7 Ö 8:05 AM 22 61 8:10 AM 8:15 AM 60 8:20 AM 4 2 8:25 AM 8:30 AM 8:35 AM 8:40 AM 8:45 AM Ö Ö ō Ö ŏ 8:50 AM 8:55 AM Northbound Eastbound Westbound Southbound Peak 15-Min **Total Flowrates** Left Thru Right U Left Thru Right U Left Thru Right U Left Thru Right U All Vehicles **Heavy Trucks** Buses Pedestrians ŏ **Bicycles** Scooters Comments:

APPENDIX	A.4 SIGNAL T	IMING SHEETS	5	

PAGE 1

Location: SB-166 pm 03.75 Bonita School Rd

System:

District: 5

I/C: n/a

Designed By: KJV Installed By: KJV

Service Info:

Timing Change:

Master At:

Date Start: 4/11/2018

Date End:

Designed:

Installed:

TSCP: 2.21

1) p 2) EB H 3) SB Bonita School Rd S 5) **EB LT** WB E 6) 7) 8)

O A) B) C) Ε R R D) L E) P F)

FLASH



Comments and Notes:

RAM Checksum

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

Cabinet
332
Configuration
CALTRANS

Phases (2-1-1-1)			
Permitted .2.456			
Restricted			

CONFIGURATION PHASE FLAGS

114303 (2-1-1-1)			
Permitted	.2.456		
Restricted			
٥.\			

Phase Recalls (2-1-1-2)		Phase Locks (2-1-1-3)
Vehicle Min	.26	Red	
Vehicle Max		Yellow	
Pedestrian		Force/Max	
Bicycle			

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		

Cá	all 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	
Α					
В					
С					
D					
E					
F					

Н
A
S
E
T
I
M
ı
N
G

P

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

Red Revert

Max 2 Extension

Overlap (2-4)	Α	В	С	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 (2-5)
Time	4.0
All-Red Sec/Min	(2-6)
All-Red Sec/Min	OFF

Max/Gap Ou	ıt (2-7)
Max Cnt	0
Gap Cnt	0

Post Mile: SB-166 PM 03.75 Bonita School Rd

PAGE 3

CHECKSUM:

40AA

Printed: 4/11/2018

Location:	SB-166	pm 03.75	Bonita	School Rd
-----------	--------	----------	--------	-----------

Local Plan 19 (7-1) TIMING DATA					COORDINATION										Master Timer Sync (7-A)				
		•	•			Offset	s]	Gr	een Fa	ctors o	r Press	s [F] to	Select	Force-0	Off	i 🗆	Ena	able in	Plans
			Multi	Lag Gap	Α	В	С	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-]! '	1-9		
Plan 1	Green Factor															1	1-19		
Plan 2	Green Factor															2	1-29		
Plan 3	Green Factor																Master S	Sub Ma	ster
Plan 4	Green Factor															- i	Output		
Plan 5	Green Factor															F	REE PL	AN PH	SE FLAGS
Plan 6	Green Factor															(7	-E) Fre	e	
Plan 7	Green Factor																Lag 2 . 4 . 6	. 8	Omit
Plan 8	Green Factor	<u> </u>														╬═	Veh Mi	n	Veh Max
Plan 9	Green Factor															╣	. 2 6 Ped		Bike
																╝			
Lo	cal Plan 1	9 (7	7-1) P	HASE FLA	\GS											<u> </u>	Cond		Cond Grn
	Lag		Sync	Hold	<u> </u>	Omit		Veh N	lin l	Veh M	lav	Pec	1	Bik	Δ				10
Plan																	IANUA	L COI	MMANDS
Plan	2																nual Plar		Plan: 1-9
Plan	3															F	Plan	OffSet	15 or 254 = Flas 14 or 255 = Free
Plan	4															<u> </u>		Α	Offset A, B, or C
Plan	5																		verride (4-2)
Plan	6															#	Conti		Control NORMAL
Plan	7															2	NORM		NORMAL
Plan	8																Detector	Reset	(4-3)
Plan	9															1	ocal Ma	nual (4-4) OFF

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

COORDINATION

Location: SB-166 pm 03.75 Bonita School Rd

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

	[Onsets] Green actions of these [1] to defect those on														
		Cycle	Multi	Lag Gap	Α	В	С	-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								

Post Mile: SB-166 PM 03.75 Bonita School Rd PAGE 5 CHECKSUM: 191A Printed: 4/11/2018

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

COORDINATION

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

• • • • • • • • • • • • • • • • • • • •	[Chiscis] Green's determined in the select in the content of the chi														
-8-	-7-	-6-	-5-	-4-	-3-	-2-	-1-	С	В	Α	Lag Gap	Multi	Cycle		
														Green Factor	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
_															

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								

Post Mile: SB-166 PM 03.75 Bonita School Rd PAGE 6 CHECKSUM: 191A Printed: 4/11/2018

DETECTORS

Det	ector Attributes (5-1)			Slot	ot Detector Configuration (5-2)					
		Dhasas	Look		Det		Extend		Dort	
Det 1	COUNT+CALL+EXTEND	Phases	Lock NO	TATI		Delay	Extend	10	Port 3.2	
2	COUNT+CALL+EXTEND	1	NO	I1U	1			10	7.2	
3	COUNT+CALL+EXTEND		NO	IIL	2			10	1.1	
_		.2		I2U	3					
4	COUNT+CALL+EXTEND	.2	NO	I2L	4		0.0	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	
	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	
	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	
	LIMITED	6	NO	J4U	27		3.5	25	2.2	
28	COUNT+CALL+EXTEND	6	NO	J4L	28			10	7.3	
	COUNT+CALL+EXTEND	7.	NO	J5U	29			10	3.3	
	COUNT+CALL+EXTEND	7.	NO	J5L	30			10	7.5	
31	COUNT+CALL+EXTEND	8	NO	J6U	31			10	1.4	
	COUNT+CALL+EXTEND	8	NO	J6L	32			10	1.8	
33	COUNT+CALL+EXTEND	8	NO	Jol J7U	33			10	4.8	
34	CALL+EXTEND	8	NO	J7L	34			10	6.5	
	LIMITED	8	NO	J8U	35			10	2.4	
	COUNT+CALL+EXTEND	8	NO	J8L	36			10	7.7	
	COUNT+CALL+EXTEND	5	NO	J9U	37			10	3.5	
	COUNT+CALL+EXTEND	7.	NO	.J9U	38			10	3.7	
	COUNT+CALL+EXTEND	6	NO		39			10	4.3	
	COUNT+CALL+EXTEND	8	NO	J10U	40			10	4.4	
41	PEDESTRIAN	.2	NO	J10L	41			10	5.1	
	PEDESTRIAN		NO	I12U				10	5.1	
42	PEDESTRIAN	4	NO	I12L	42			10	5.3	
43	PEDESTRIAN	6	NO	I13U	43 44			10	5.4	
44	FEDES RIAIN	8	INO	I13L	44			10	5.4	

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

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

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

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

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

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

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

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

TOD SCHEDULE

Table 1	(8-2-1)		Table 2	(8-2-2)		Table 3	(8-2-3)		Table 4	(8-2-4)		Table 5	(8-2-5)		Table 6	(8-2-6)	
Time	Plan	os															
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			A			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			A			Α			Α			Α			Α
		Α			A			Α			Α			Α			Α
		Α			A			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α

WEEKDAY ASSIGNMENT

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

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HOLIDAY TABLES

• • • •							
Flo	ating H	oliday T	able (8-2-8)				
#	Mnth	Week	DOW	Table			
1	9	1	М	3			
2	5	5	М	3			
3	2	3	М	3			
4	11	4	TF	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	MTWTF	3		
2	1	1	MTWTF	3		
3	7	4	MTWTF	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

TO	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
- 1. DIKE NECAL
- 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
- IU. Walk Z
- 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

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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

So	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

NETWORK

Network (6-4)				
Address				
Protocol	AB3418			
Port	27000			
Туре	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

Area Code

Phone Number

3698

Red Flash

.

ABCDEF

Red Flash

.

.

.

Overlap Flags (3-1-4)

Yel Flash

.

.

Overlap Flags (3-2-4)

Yel Flash

.

.

.

Overlap

Green

Overlap

RAILROAD PREEMPTION

F	?	F	
	٠	1	

(3-1-1)	Timing	Ph	ase Flags (3-1	-2)	Pede	Pedestrian Flags (3-1-3			
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	So		
Clear 1	10	. 2 5					. 2 .		
Clear 2									
Clear 3									
Hold				12345678					
Exit		Exit Parame	ters (3-1-5)			Co	onfigu		
Min Grn			n Overlap Gr	een Vehicle Ca	II Ped Call		rimary		
Ped Clr				1234567	78 .2.4.6.	8	2.5		

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

Grn Hold

.

.

.

Grn Hold

.

.

.

.

Solid DW

.2.4.6.8

.

Solid DW

.2.4.6.8

.

...4...8

Preempt Timers

Clear

Preempt Timers

Delay

RR	(3-2-1)	Timing
2	Delay	
	Clear 1	10
	Clear 2	

?	(3-2-1)	Timing	Ph	ase Flags (3-2	-2)	Pede	estrian Flags ((3-2-3)
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	So
	Clear 1	10	47.					. 2 .
	Clear 2							
	Clear 3							
	Hold		1236			.26		
	Exit		E 11 D	1 (O.O.E)				
	Min Grn		Exit Parame		T			Configu
	Ped Clr		Phase Gree	en Overlap Gr	een Vehicle Ca	all Ped Cal	<u>'</u>	Primary
	. 54 611				47			2.0

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

Phase Green

Phase Green

EMERGENCY VEHICLE PREEMPTION

EVB

(3-B)

EVD

EVA	Pro	eempt	t Tim	ers	Phase Green	Overlap
(3-A)	Delay	Cle	ear	Max		Green
		5	5	30	.25	• • • • •
	Port	Port		atching	Phase Termination	
	5.5			NO	ADVA	NCE

	5		30	47.	• • • • •		
Port		Latching		Phase Termination			
5.6		NO		NO ADV		ADVA	NCE

Max

	EVC	Pre	eempt Tim	ers	Phase Green	Overlap
((3-C)	Delay	Clear	Max		Green
			5	30	16	•••••

(3-D)	Delay	Clear	Max		Green
		5	30	38	• • • • • •
	Port		atching	Phase Ter	rmination

Port	Latching	Phase Termination
5.7	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		

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

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

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					

OUTPUTS

Loadswitch Assignments (2-1-6) +							
Α	1	2	22	3	4	24	9
В	5	6	26	7	8	28	10
Х	13	14	0	11	12	0	0

Loadswitch Codes: 51-57 Special Functions
0 Unused (no output) 71-72 Seven Wire I/C

8D98

1-8 Vehicle 1-8

9-14 Overlap A-F

21-28 Ped 1-8 41-47 Special Functions

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

41 Protected Permissive Flashing Phase 1

43 Protected Permissive Flashing Phase 3

45 Protected Permissive Flashing Phase 5

47 Protected Permissive Flashing Phase 7

TRANSIT PRIORITY

Location: SB-166 pm 03.75 Bonita School Rd

Local Plans (3-E) 19 1119	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											
		·····	·			i			·		
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 Prio	Indicator Output					
Enable in P	lans	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

]				Force	e-Offs							
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													.26	.2.4.6.8		
Plan D													.26	.2.4.6.8		

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next	Phase Green						
				Priority		Port	Port	Port	Output	Input	Output
						0.0	0.0	0.0	0	0.0	0

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PAGE 1

TSCP: 2.23

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 FLASH** 1) LT to SB Black Rd. **EB SR166** 2-DLC 7 **Main Street Strawberry** 166 LT to Main Street Strawberry **WB SR166** 9 R3-4 8) NB Black Rd. DETAIL C 11 2|3L 6'X20' Z_{END OF} Exist PIPELINE CASING SLEEVE 0 5 Ε C) LEGEN R D) E) A P ROAD F) 7 2-DLC TRANS STD. ES-2E. CONSTRUCT NEW N (20' CLEAR OF EXISTING 42' AT OLD LOCATION. P 42" PIPEUNE DETAIL (NO SCAL

Comments and Notes:

NO PED CW

Black Rd RTOL hardwired to ph1 yellow and green.

RAM Checksum

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. 2 . . . 6 . .

Location: SB-166 PM 04.50 Black Rd.

Cabinet
332
Configuration
CALTRANS

Vehicle Min

Vehicle Max Pedestrian

Bicycle

Phase Recalls (2-1-1-2)

Phases (2-1-1-1)			
Permitted	12.456.8		
Restricted			

Force/Max

CONFIGURATION PHASE FLAGS

		i
Pł	nase Locks ((2-1-1-3)
Re	ed	
Ye	ellow	

.

Phase Features (2-1-1-4)				
Double Entry	48			
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	12.456.8
Pedestrian Calls	
Yellow Start Overlaps	
Startup All-Red	6.0

Cá	all 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		
Р3			
P4	4		
P5			
P6	6		
P 7			
P8	8		

Overlap (2-1-4)						
Overlap	Parent	Omit	No Start	Not		
Α						
В						
С						
D						
E						
F						

Overlap (2-4)

Green

Yellow

Red

P

Н

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

Red Revert OVERLAP TIMING Red Revert (2-5) F Е Time 3.0 0.0 0.0 0.0 0.0 All-Red Sec/Min (2-6) 5.0 5.0 5.0 0.0 All-Red Sec/Min: OFF 0.0 0.0 0.0

Max 2 Extension

Max/Gap Ou	it (2-7)
Max Cnt	0
Gap Cnt	0

Α

0.0

5.0

0.0

В

0.0

5.0

0.0

4D3D

Loc	al Plan 1	.9 (7-	1) TIN	IING DAT	Α		(COOF	RDIN	ATIOI	V						Master Tim	er Syr	nc (7-A)
						Offset	s]	Gr	een Fa	ctors o	r Pres	s [F] to	Select	Force-	Off	i		le in F	Plans
			Multi	Lag Gap	Α	В	С	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-		1-9		
Plan 1	Green Factor	1															11-19		
Plan 2	Green Factor	•															21-29		
Plan 3	Green Factor															į	Master Su Input	ıb Mas	ter
Plan 4	Green Factor	1														╣	Output		
Plan 5	Green Factor															-∦- -	FREE PLAI	N PHA	SE FLAGS
Plan 6	Green Factor															(7-E) Free		
Plan 7	Green Factor	-														╣	Lag		Omit
Plan 8	Green Factor									-	-					╣╌	. 2 . 4 . 6 . Veh Min		Veh Max
																_i[. 2 6 .		
Plan 9	Green Factor																Ped		Bike
_								•		•	•	•		•		_i			
Lo	cal Plan 1	9 (7	7-1) P	HASE FLA	AGS	5										⋰	Cond		Cond Grn
	Lag		Sync	Hold		Omit		Veh N	/lin	Veh N	lax	Ped	k	Bik	æ	<u>i</u>		<u> </u>	10
Plan	1	.													• • •	[]	MANUAL	CON	MANDS
Plan	2																anual Plan (•	Plan: 1-9 15 or 254 = Fla
Plan	3																	fSet	14 or 255 = Fre
Plan	4															_		Α	Offset A, B, or
Plan	5																		verride (4-2)
Plan	6															#			Control NORMAL
Plan	7															<u> </u>			NORMAL
Plan	8															∤ I L	Detector Re		(4-3)
Plan	9															11	Local Manu		

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

COORDINATION

Γ	Offsets]	Green Factors or Press [F1 to Select Force-O	ff
L	Olisels	Green Factors of Fress	[F] 10 361661 F0166-0	

							•					<u> </u>			
		Cycle	Multi	Lag Gap	Α	В	С	-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								

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

COORDINATION

[Offsets]

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

					<u> </u>	7113013			cii i ac			[.]			
		Cycle	Multi	Lag Gap	Α	В	С	-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								

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DETECTORS

Dete	ector Attributes (5-1)			Slot							
Det		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		
	COUNT+CALL+EXTEND	4	NO	I10L	20			10	4.2		
21	COUNT+CALL+EXTEND	5	RED	J1U	21	1		15	3.1		
	COUNT+CALL+EXTEND	5	NO	J1L	22			10	7.1		
		6	NO	J2U	23		2.5	0	1.2		
	CALL+EXTEND	6	NO	J2L	24		3.0	0	1.6		
	COUNT+CALL+EXTEND	6	NO	J3U	25			10	4.6		
	CALL+EXTEND	6	NO	J3L	26			10	6.3		
	LIMITED	6	NO	J4U	27		3.0	25	2.2		
	COUNT+CALL+EXTEND	6	NO	J4L	28			10	7.3		
	COUNT+CALL+EXTEND	7 .	NO	J5U	29			10	3.3		
	COUNT+CALL+EXTEND	7 .	NO	J5L	30			10	7.5		
	COUNT+CALL+EXTEND	8	NO	J6U	31		2.5	0	1.4		
	COUNT+CALL+EXTEND	8	NO	J6L	32			0	1.8		
	COUNT+CALL+EXTEND	8	RED	J7U	33	1		20	4.8		
34		8	NO	J7L	34	5		0	6.5		
_	BICYCLE	8	YEL	J8U	35	1		10	2.4		
	COUNT+CALL+EXTEND	8	NO	J8L	36			10	7.7		
	COUNT+CALL+EXTEND	5	NO	J9U	37			10	3.5		
	COUNT+CALL+EXTEND	7.	NO	J9L	38			10	3.7		
	COUNT+CALL+EXTEND	6	NO	J10U	39			10	4.3		
	COUNT+CALL+EXTEND	8	NO	J10L	40			10	4.4		
	PEDESTRIAN	. 2	NO	112U	41			10	5.1		
	PEDESTRIAN	4	NO	112U	42			10	5.3		
43	PEDESTRIAN	6	NO	112L 113U	43			10	5.2		
44	PEDESTRIAN	8	NO	113U	44			10	5.4		
	·····			HJL				. •	÷. •		

Fa	ilure Times(5-3)	Minutes
Ma	aximum On Time	10
Fa	il Reset Time	60

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

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

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

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

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

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

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

TOD SCHEDULE

Table 1	(8-2-1)		Та	ble 2	(8-2-2)		Table 3	(8-2-3)		Table 4	1 (8-2-4)		Table 5	(8-2-5)		Table 6	(8-2-6)	
Time	Plan	os	Т	ime	Plan	os	Time	Plan	os	Time	Plan	os	Time	Plan	os	Time	Plan	os
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α

WEEKDAY ASSIGNMENT

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

HOLIDAY TABLES

Flo	ating H	oliday T	able (8-2-8)	
#	Mnth	Week	DOW	Table
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Fix	ed Holi	day Tab	le (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	g (8-6)
Enabled	YES

TOD FUNCTIONS

TO	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

So	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 (6-33)						
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				
Туре	STATIC				
Central Acces	0				
Field Access	0				

IP Address	0	0	0	0
Netmask	255	255	255	0
Broadcast	0	0	0	255
Gateway	0	0	0	254

Red Flash

.

ABCDEF

Overlap Flags (3-1-4)

Yel Flash

.

Location: SB-166 PM 04.50 Black Rd.

RAILROAD PREEMPTION

R	₹
1	

R	(3-1-1)	Timing	Pha	se Flags (3-1-	2)	Pede		O		
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	
	Clear 1	10	. 2 5					.2.4.6.8	3	
	Clear 2									
	Clear 3									
	Hold				12345678					
	Exit		Exit Paramete	ers (3-1-5)			C	onfiguration (3-1-6)	
	Min Grn			Overlap Gre	en Vehicle Ca	II Ped Call		Primary Port	Secondary Port	ī
	Ped Clr				1234567	8 .2.4.6.	8	2.5	0.0	ſ

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

RR
2

Ped CIr

R	(3-2-1)) Timing Phase Flags (3-2-2)			Pede	Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
2	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	47.					.2.4.6.8			
	Clear 2										
	Clear 3										
	Hold		1236			. 2 6		48			
	Exit		Evit Derem	otoro (2.2 E)	_	_	0 6 10		1.0.0)		
	Min Grn		Exit Parameters (3-2-5)					onfiguration (3-2	2-0)		

Exit Parameters (3-2-5)					
Phase Green	n Overlap Green Vehicle Call Ped Call				
		47.			

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

Phase Green

Overlap

EMERGENCY VEHICLE PREEMPTION

EVB

EVA	Pre	Preempt Timers			Phase Green	Overlap
(3-A)	Delay	Cle	ear	Max		Green
		4	5	30	.25	
	Port		L	atching	Phase Ter	mination
	5.5			NO	ADVA	NCE

(3-B)	Delay	Clear	Max		Green
		5	30	47.	• • • • •
•	Port		Latching	Phase Ter	rmination
	5.6		NO	ADVA	NCE

Preempt Timers

EVC	Preempt Timers			Phase Green	Overlap
(3-C)	Delay	Clear	Max		Green
		5	30	16	

EVD	Preempt Timers			Phase Green	Overlap
(3-D)	Delay	Clear	Max		Green
		5	30	38	

Port	Latching	Phase Termination
5.7	NO	ADVANCE
3.7	110	TID VILICE

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	

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

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

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

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					

+ middle output of loadswitches 3 and 6

Channel 9 and 10

OUTPUTS

Loadswitch Assignments (2-1-6)										
Α	1	2	22	3	4	24	9			
В	5	6	26	7	8	28	10			
Х	13	14	0	11	12	0	0			

Loadswitch Codes: 51-57 Special Functions
0 Unused (no output) 71-72 Seven Wire I/C

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

Plan 11-19

TRANSIT PRIORITY

Location: SB-166 PM 04.50 Black Rd.

Local Plans ((3-E) 19 1119	Early Gree			Inhibit Cycles			Phase 3 Minimum					
Plan 1 Gre	een Factor				- 70.00								
Plan 2 Gre	een Factor												
Plan 3 Gre	een Factor												
Plan 4 Gre	een Factor												
Plan 5 Gre	een Factor												
Plan 6 Gre	een Factor												
Plan 7 Gre	een Factor												
Plan 8 Gre	een Factor												
Plan 9 Gre	een Factor												
			1					T		i		· · · · · · · · · · · · · · · · · · ·	
Plan 11 Gre													
Plan 12 Gre													
Plan 13 Gre													
Plan 14 Gre													
Plan 15 Gre													
Plan 16 Gre													
Plan 17 Gre													
Plan 18 Gre													
Plan 19 Gre	een Factor												
nsit Priority	Configuration	(3-E-A)		Indicat	or Outpu	ut Que	ue Jump (3	B-E-B)	Free P	lans (3-E-E	i)	Access	Utilities (9-
able in Plans	3	Input	Type	Stop	Go	Gr	n Hold H	old Phase	Max G	rn Hold F	lold Phase	Passw	ord *
an 1-9		0.0	OPT	0	0							Timeou	ıt

YELLOW YIELD COORDINATION

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

TRUCK PRIORITY

OPT

0.0

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green						Slave Output
						0.0	0.0	0.0	0	0.0	0

Post Mile: SB-166 PM 04.50 Black Rd. PAGE 13 CHECKSUM: 86F7 Printed: 9/26/2024

System: 2070

Master At:

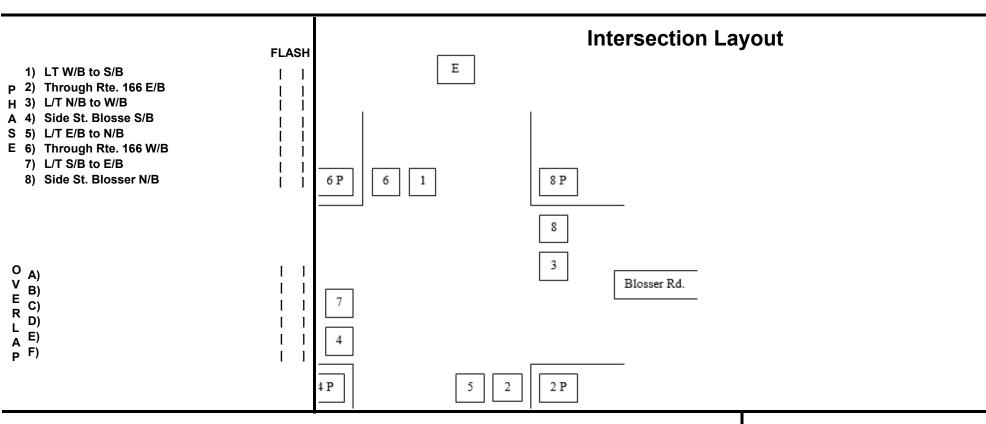
District: 5

I/C:

Designed By: AJC Installed By: AJC

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

. 2 . . . 6 . .

Location: SB-166-PM 06.87 Blosser Rd.

Cabinet							
332							
Configuration							
CALTRANS							

Vehicle Min

Vehicle Max Pedestrian

Bicycle

Phase Recalls (2-1-1-2)

Phases (2-1-1-1)						
Permitted	12345678					
Restricted						

CONFIGURATION PHASE FLAGS

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

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

Startup (2-1-1-5)	
First Green Phases	. 2 6
Yellow Start Phases	
Vehicle Calls	12345678
Pedestrian Calls	. 2 . 4 . 6 . 8
Yellow Start Overlaps	
Startup All-Red	6.0

Ca	all 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								
Р3									
P4	4								
P5									
P6	6								
P 7									
P8	8								

Overlap (2-1-4)											
Overlap	Parent	Omit	No Start	Not							
Α											
В											
С											
D											
E											
F											

Н
Α
S
Ε
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T
M
ı
N
G

Overlap (2-4)

Green

Yellow

Red

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

Red Revert Red Revert (2-5) F Е Time 0.0 0.0 0.0 0.0 All-Red Sec/Min (2-6) 5.0 5.0 5.0 5.0 5.0 0.0 All-Red Sec/Min: 0.0 0.0 0.0

Max 2 Extension

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

Α

0.0

5.0

0.0

В

0.0

0.0

2.0

OFF

Local Plan 19 (7-1) TIMING DATA COORDINATION									M	aster Ti	mer Syr	nc (7-A)							
		•	,			Offsets] Green Factors or Press [F] to Select Force-Off							Enable in Plans						
		Cycle	Multi	Lag Gap	Α	В	С	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-		1-9		
Plan 1	Green Factor															1	1-19		
Plan 2	Green Factor															2	1-29		
Plan 3	Green Factor							 									Master S Input	Sub Mas	ster
Plan 4	Green Factor															i	Output		
Plan 5	Green Factor															- - F	REE PL	AN PHA	SE FLAGS
Plan 6	Green Factor															(7	'-E)Fre	e	
Plan 7	Green Factor																Lag 2.4.6	. 8	Omit
Plan 8	Green Factor							1									Veh Mi		Veh Max
Plan 9	Green Factor															╣	Ped		Bike
																┦╏			
Lo	cal Plan 1	9 (7	7-1) P	HASE FLA	AGS											į 🗀	Cond		Cond Grn
	Lag		Sync	Hold		Omit		Veh N	/lin	Veh N	lax	Ped	l k	Bik	e	ı¦L			10
Plan	1															[_/	 MANUA	L CO	 ИMANDS
Plan	2																nual Plar		Plan: 1-9 15 or 254 = Flas
Plan	3															F	Plan	OffSet	14 or 255 = Free
Plan	4																		Offset A, B, or C
Plan	5																		verride (4-2)
Plan	6															# 1 1			Control NORMAL
Plan	7															2			NORMAL
Plan	8																Detector	Reset	(4-3)
Plan	9																ocal Ma	nual (4-4) OFF

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

COORDINATION

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

		[Chiecks] Green's detects of 1 ress [1] to delect 1 order on													
		Cycle	Multi	Lag Gap	Α	В	С	-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								

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

COORDINATION

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

									•						
		Cycle	Multi	Lag Gap	Α	В	С	-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								

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DETECTORS

	ector Attributes (5-1)	Phonos	Look		Detector Configuration (5-2) Det Delay Extend Recal					
<u>Det</u> 1	Type COUNT+CALL+EXTEND	Phases 1	Lock NO	I1U	Det 1	Delay	Extend	15	Port 3.2	
	COUNT+CALL+EXTEND	1	NO	IIL	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		0.0	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	I4U I4L	8		3.0	10	7.4	
9	COUNT+CALL+EXTEND	3	RED	I5U	9			15	3.4	
	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	16U 16L	12		1.5	0	1.7	
	COUNT+CALL+EXTEND	4	NO		13		1.5	0	4.7	
	CALL+EXTEND	4	NO	I7U			1.5	0	6.4	
	LIMITED		NO	I7L	14 15		3.0	20	2.3	
	COUNT+CALL+EXTEND	4	NO	I8U			3.0	10	7.8	
		4	NO	I8L	16			10	3.6	
	COUNT+CALL+EXTEND COUNT+CALL+EXTEND	1	NO	I9U	17			10		
18 19		3	NO	I9L	18			10	3.8 4.1	
	COUNT+CALL+EXTEND	.2		I10U	19			10		
	COUNT+CALL+EXTEND	4	NO	I10L	20				4.2	
	COUNT+CALL+EXTEND	5	NO	J1U	21			20	3.1	
	COUNT+CALL+EXTEND	5	NO	J1L	22			10	7.1	
	COUNT+CALL+EXTEND	6	NO	J2U	23		2.0	0	1.2	
	COUNT+CALL+EXTEND	6	NO	J2L	24		2.0	0	1.6	
	COUNT+CALL+EXTEND	6	NO	J3U	25			10	4.6	
_	CALL+EXTEND	6	NO	J3L	26			10	6.3	
	LIMITED	6	NO	J4U	27		3.0	20	2.2	
28	COUNT+CALL+EXTEND	6	NO	J4L	28			10	7.3	
29	COUNT+CALL+EXTEND	7.	NO	J5U	29			15	3.3	
30	COUNT+CALL+EXTEND	7.	NO	J5L	30			10	7.5	
31	COUNT+CALL+EXTEND	8	NO	J6U	31		1.5	0	1.4	
32	COUNT+CALL+EXTEND	8	NO	J6L	32		1.5	0	1.8	
33	COUNT+CALL+EXTEND	8	NO	J7U	33		1.0	0	4.8	
34	COUNT+CALL+EXTEND	8	NO	J7L	34		1.0	0	6.5	
35	LIMITED	8	NO	J8U	35		3.0	20	2.4	
36	COUNT+CALL+EXTEND	8	NO	J8L	36			10	7.7	
37	COUNT+CALL+EXTEND	8	NO	J9U	37	5		10	3.5	
38	COUNT+CALL+EXTEND	7 .	NO	J9L	38			10	3.7	
39	COUNT+CALL+EXTEND	6	NO	J10U	39			10	4.3	
40	COUNT+CALL+EXTEND	8	NO	J10L	40			10	4.4	
41	PEDESTRIAN	. 2	NO	I12U	41	_		10	5.1	
42	PEDESTRIAN	4	NO	I12L	42			10	5.3	
43	PEDESTRIAN	6	NO	I13U	43			10	5.2	
44	PEDESTRIAN	8	NO	I13L	44			10	5.4	

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

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

System De	etector	Assigi	nment ((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	

	Detec	tor-to-	Phase	Assig	ınmen	t (5-6-	3)	
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

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

TOD SCHEDULE

Table 1	Table 1 (8-2-1)		Table 2	Table 2 (8-2-2)		Table 3	(8-2-3)		Table 4	(8-2-4)		Table 5	(8-2-5)		Table 6	(8-2-6)	
Time	Plan	os	Time	Plan	os	Time	Plan	os	Time	Plan	os	Time	Plan	os	Time	Plan	os
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α
		Α			Α			Α			Α			Α			Α

WEEKDAY ASSIGNMENT

Week	day Ta	ble As	signn	nents ((8-2-7)	
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Flo	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 Recal			
Sabbath			
Holiday			

Daylight Saving (8-6)		
Enabled	YES	

TOD FUNCTIONS

TO	TOD Functions (8-3)					
#	Start	End	DOW	Action	Phases	
1	0700	1800	MTWTF	21	14.6.8	
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

So	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	

NETWORK

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

IP Address	0	0	0	0
Netmask	255	255	255	0
Broadcast	0	0	0	255
Gateway	0	0	0	254

Phone Number

Red Flash

.

ABCDEF

Red Flash

.

.

Power-up

DARK

Overlap Flags (3-1-4) Yel Flash

.

Overlap

Overlap

Location: SB-166-PM 06.87 Blosser Rd.

RAILROAD PREEMPTION

RI	R
1	ı

R	(3-1-1)	Timing	Pha	se Flags (3-1-	2)	Pede	estrian Flags	(3-1-3)	C
	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold
	Clear 1	10	. 2 5					.2.4.6.8	8
	Clear 2								
	Clear 3								
	Hold				12345678				
	Exit		Exit Paramete	ers (3-1-5)				Configuration (3-1-6)
	Min Grn			Overlap Gre	en Vehicle Ca	II Ped Call		Primary Port	Secondary Port
	Ped Clr				1234567	8 .2.4.6.	8	2.5	0.0

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

Phase Green

Phase Green

RR
RR 2

Ped Clr

RR	(3-2-1)	Timing	Pł	nase Flags (3-2	-2)	Pede	estrian Flags (3-2-3)	O	verlap Flags (3-2-4)
2	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	R
	Clear 1	10	47.					.2.4.6.8			
	Clear 2										
	Clear 3										
	Hold		1236			. 2 6		48			
	Exit			. (2.2.7)						•	
	Min Grn		Exit Parame	, ,				onfiguration (3-2	,		
	DI OI:		Phase Gre	en Overlap Gr	een Vehicle Ca	all Ped Call		Primary Port Se	condary Port	Latching	Pow

...4..7.

	Configuration	(3-2-6)	
d Call	Primary Port	Secondary Port	Latching
	2.6	0.0	YES

Preempt Timers

Preempt Timers

EMERGENCY VEHICLE PREEMPTION

EVB

EVD

EV.		Pre	reempt Timers			Phase Green	Overlap
(3-4	A)	Delay	Clo	ear	Max		Green
			4	5	30	.25	••••
		Port		L	atching	Phase Ter	rmination
		5.5			NO	ADVA	NCE

(3-B)	Delay	Clo	ear	Max		Green
		4	5	30	47.	• • • • •
	Port		L	atching	Phase Ter	rmination
,	5.6			NO	ADVA	NCE

EVC	Pre	empt Tim	ers	Phase Green	Overlap
(3-C)	Delay	Clear	Max		Green
		5	30	16	

(3-D)	Delay	Clear	Max		Green
		5	30	38	• • • • •
•	Port	L	atching	Phase Ter	rmination

FDAC

ſ	Port	Latching	Phase Termination
	5.7	NO	ADVANCE

Port	Latching	Phase Termination
5.8	NO	ADVANCE

Location: SB-166-PM 06.87 Blosser Rd.

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			

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

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

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

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				

+ middle output of loadswitches 3 and 6

Channel 9 and 10

OUTPUTS

Loadswitch Assignments (2-1-6)							
Α	1	2	22	3	4	24	9
В	5	6	26	7	8	28	10
Х	13	14	0	11	12	0	0

Loadswitch Codes: 51-57 Special Functions
0 Unused (no output) 71-72 Seven Wire I/C

1-8 Vehicle 1-8

9-14 Overlap A-F

21-28 Ped 1-8 41-47 Special Functions

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

TRANSIT PRIORITY

Location: SB-166-PM 06.87 Blosser Rd.

Local Plans (3-E) 19 1119	Early Gree			Inhibit Cycles	Phase 1	Phase 2	Phase 3			Phase 6 Minimum		Phase 8
Plan 1 Green Factor	Gree	III EX	tena	Cycles	WIIIIIIIIIIIII	Williamum	Williamum	Willillillium	Williamum	William	Willillillium	Williamum
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	T					T	T		 	T	 	T
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												
nsit Priority Configuration (3-E-A)		Indicat	or Outpu	t Queu	e Jump (3	-E-B)	Free Pl	ans (3-E-E)	Access	Utilities (9
· · · · · · · · · · · · · · · · · · ·	Input	Type	Stop	Go	_	Hold Ho		_		lold Phase	Passw	ord

Transit Priority Configuration (3-E-A) Indicator Output								
Enable in P	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

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

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green						Slave Output
						0.0	0.0	0.0	0	0.0	0

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TSCP: 2.21 PAGE 1

Location: SB-166-PM 7.42 Depot St

System: Main St

District: 5

Designed By: KJV Installed By: KJV

Intersection Layout

W Main St

Master At: n/a

I/C:

Service Info:

Timing Change:

Date Start: 12/1/2017

Date End:

Designed:

Depot

Installed:

1) WB LT

P 2) EB Main (166)

H 3) NB LT

A 4) Depot SB

S 5) EBLT

E 6) WB Main (166)

7) SB LT

8) Depot NB

O A)

E C)

R D)

A E) P F)]]]]



Comments and Notes:

3.5'/Sec FDW Dist: 2P- 82', 4P- 92', 6P- 65', 8P- 94'

RAM Checksum

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Post Mile: SB-166-PM 7.42 Depot St

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. 2 . . . 6 . .

Location: SB-166-PM 7.42 Depot St

Cabinet
332
Configuration
CALTRANS

Vehicle Min

Vehicle Max Pedestrian

Bicycle

Phase Recalls (2-1-1-2)

Phases (2-1-1-1)					
Permitted	12345678				
Restricted					

CONFIGURATION PHASE FLAGS

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

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

Startup (2-1-1-5)	
First Green Phases	. 2 6
Yellow Start Phases	
Vehicle Calls	12345678
Pedestrian Calls	. 2 . 4 . 6 . 8
Yellow Start Overlaps	
Startup All-Red	6.0

Ca	all 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	2-2)
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	

Pede	Pedestrian (2-1-3)					
P1						
P2	. 2					
Р3						
P4	4					
P5						
P6	6					
P7						
P8	8					

Overlap (Overlap (2-1-4)													
Overlap	Parent	Omit	No Start	Not										
Α														
В														
С														
D														
E														
F														

Post Mile: SB-166-PM 7.42 Depot St PAGE 2 CHECKSUM: B1A2 Printed: 10/17/2024

Location:	SB-166-PM 7.42 Depot	St
-----------	----------------------	----

Н
A
S
Ε
Ţ
M
I N
G
J

Overlap (2-4)

Green

Yellow

Red

P

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

Е С F 0.0 0.0 0.0 0.0 5.0 5.0 5.0 5.0 5.0 0.0 0.0 0.0 0.0 0.0

Red Revert

3012

	Red Revert (2-5)
0	Time	3.0
0	All-Red Sec/Min	
0	All-Red Sec/Min	: OFF

Max 2 Extension

it (2-7)
0
0

Α

0.0

5.0

0.0

В

l acations	CD 466 DM 7	12 Donat St
Localion.	SB-166-PM 7	.42 Depot St

Local	ocal Plan 19 (7-1) TIMING DATA					COORDINATION										Master Timer Sync (7-A)			
		•	•			Offset	s]	Gr	een Fa	ctors o	r Press	s [F] to	Select	Force-0	Off	i L	Enable i	n Plans	
		Cycle	Multi	Lag Gap	Α	В	С	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-]! 1	1-9		
Plan 1 G	Freen Factor															11	1-19		
Plan 2 G	reen Factor															21	1-29		
Plan 3 G	reen Factor																Master Sub N	laster	
Plan 4 G	Green Factor															-6	nput Output		
Plan 5 G	Green Factor															FF	REE PLAN P	HASE FLAGS	
Plan 6 G	Freen Factor															(7	-E) Free		
Dian 7 C	Yuaan Faatau													-		-	Lag	Omit	
Pian / G	Freen Factor															il .	2.4.6.8		
Plan 8 G	reen Factor																Veh Min	Veh Max	
Diam 0 0	\ Faatan															┇╚	. 2 6		
Pian 9 G	Freen Factor																Ped	Bike	
			,													ʻi			
Loc	al Plan 1.	9 (7	'-1) P	HASE FLA	\GS											!	Cond	Cond Grn	
	Lag		Sync	Hold		Omit		Veh N	lin	Veh N	lax	Ped	i	Bik	е	ţL		10	
Plan 1																į –	MANUAL C	 OMMANDS	
Plan 2																Mar	nual Plan (4-1)		
Plan 3																Р	Plan OffSe	15 or 254 = Flasi 14 or 255 = Free	
Plan 4																	A	Offset A, B, or C	
Plan 5																		Override (4-2)	
Plan 6																#	Control NORMAL	# Control 3 NORMAL	
Plan 7		 			\top											2	NORMAL	4 NORMAL	
Plan 8		 			\top												Detector Reset		
Plan 9		1															ocal Manual (` '	

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

COORDINATION

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

		[Onsets] Orden actors of these filts delect and on													
		Cycle	Multi	Lag Gap	Α	В	С	-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								

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

COORDINATION

[Offsets]

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

			[Chacks] Creen ractors of riess [1] to delect roice-on												
		Cycle	Multi	Lag Gap	Α	В	С	-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								

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DETECTORS

Dete	ector Attributes (5-1)		Slot	Detector Configuration (5-2)					
Det		Phases		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
	COUNT+CALL+EXTEND	5	NO	J1L	22			10	7.1
23		6	NO	J2U	23		2.0	0	1.2
	COUNT+CALL+EXTEND	6	NO	J2L	24		2.0	0	1.6
	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		6	NO	J4U	27		2.0	15	2.2
28		6	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	7.	NO	J5U	29			10	3.3
30		7.	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	8	NO	J6U	31			10	1.4
	COUNT+CALL+EXTEND	8	NO	J6L	32			10	1.8
33		8	NO	J7U	33			10	4.8
34		8	NO	J7L	34	10		0	6.5
_	COUNT+CALL+EXTEND	8	NO	J8U	35		0.5	10	2.4
	COUNT+CALL+EXTEND	8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	5	NO	J9U	37			10	3.5
38		7.	NO	J9L	38			10	3.7
	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	112U	41			10	5.1
42		4	NO	112U	42			10	5.3
43		6	NO	112L 113U	43			10	5.2
44	PEDESTRIAN	8	NO	113L	44			10	5.4
	- == ==			1131				. •	

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

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

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

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

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

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

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

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

TOD SCHEDULE

Table 1 (8-2-1)		Table 2 (8-2-2)		Table 3	Table 3 (8-2-3)		Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)					
Time	Plan	os	Tim	е	Plan	os	Time	Plan	os	Time	Plan	os	Time	Plan	os	Time	Plan	os
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α
		Α				Α			Α			Α			Α			Α

WEEKDAY ASSIGNMENT

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

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HOLIDAY TABLES

Flo	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	g (8-6)
Enabled	YES

TOD FUNCTIONS

TO	TOD Functions (8-3)							
#	Start	End	DOW	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

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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		

10

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 (6-33)				
Line Out				
Local Toll				
Long Distance				
Delay	10			
Area Code				
Phone Number				
Line Out				
Local Toll				
Long Distance				

i ilolle itallibei	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

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

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

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Delay

Area Code

Red Flash

.

ABCDEF

Red Flash

.

.

.

Overlap Flags (3-1-4)

Yel Flash

.

.

Overlap Flags (3-2-4)

Yel Flash

.

.

Location: SB-166-PM 7.42 Depot St

RAILROAD PREEMPTION

RI	₹
1	ı

(3-1-1)	Timing	Pha	ase Flags (3-1	-2)	Pede	strian Flags	(3-1-3)
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW
Clear 1	10	. 2 5					.2.4.6.8
Clear 2							
Clear 3							
Hold				12345678			
Exit		Exit Paramet	ore (3-1-5)		·		Configuration (
Min Grn			n Overlap Gr	een Vehicle Ca	II Ped Call		Primary Port S
Ped CIr		1 Hase Gree	overlap or	1234567		. 	2.5

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

Grn Hold

.

.

.

RR
2

Ped CIr

R	(3-2-1)	Timing	Pr	nase Flags (3-2-2)		Ped	estrian Flags	(3-2-3)	
2	Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold
	Clear 1	10	47.					.2.4.6.8	
	Clear 2								
	Clear 3								
	Hold		1236			. 2 6		48	
	Exit			1 (2.2.5)					
	Min Grn		Exit Parame	eters (3-2-5)				Configuration (3-	•
	David Oliv		Phase Gre	en Overlap Gree	n Vehicle Cal	I Ped Cal		Primary Port Se	condary Port

...4..7.

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

EMERGENCY VEHICLE PREEMPTION

EVA	Preempt Timers			Phase Green	Overlap
(3-A)	Delay	Clear	Max		Green
		5	30	.25	• • • • •
	Port	L	atching	Phase Ter	rmination

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVC	Pre	eempt Tim	ers	Phase Green	Overlap
(3-C)	Delay	Clear	Max		Green
		5	30	16	• • • • •

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVB	Pre	Preempt Timers			Overlap
(3-B)	Delay	Clear	Max		Green
		5	30	47.	• • • • •

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVD	Pre	empt Tim	ers	Phase Green	Overlap		
(3-D)	Delay	Clear	Max		Green		
		5	30	38	•••••		

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

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										

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	ı (2-1-5-6)
Port C	Port D
6.1	2.8

OUTPUTS

Loadsw	Loadswitch Assignments (2-1-6) +											
Α	1	2	22	3	4	24	9					
В	5	6	26	7	8	28	10					
Х	13	14	0	11	12	0	0					

Loadswitch Codes: 51-57 Special Functions
0 Unused (no output) 71-72 Seven Wire I/C

1-8 Vehicle 1-8

9-14 Overlap A-F

21-28 Ped 1-8 41-47 Special Functions

loadswitches 3 and 6 Channel 9 and 10

+ middle output of

41 Protected Permissive Flashing Phase 1

43 Protected Permissive Flashing Phase 3

45 Protected Permissive Flashing Phase 5

47 Protected Permissive Flashing Phase 7

Plan 11-19

0.0

OPT

TRANSIT PRIORITY

Location: SB-166-PM 7.42 Depot St

Local Plans (3-E) 19		Early Green		end	Inhibit Cycles			Phase 3 Minimum					
Plan 1 Green Fac		Oreen	LAU	ena	Oycics	- IVIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	- William Gar	- I	IVIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	IVIIIII	IVIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	l l	William
Plan 2 Green Fac	tor												
Plan 3 Green Fac	tor												
Plan 4 Green Fac	tor												
Plan 5 Green Fac	tor												
Plan 6 Green Fac	tor												
Plan 7 Green Fac	tor												
Plan 8 Green Fac	tor												
Plan 9 Green Fac	tor												
DI 44 0 5			111111111111111111111111111111111111111				<u> </u>	1		i	1	1	
Plan 11 Green Fac			4	-									
Plan 12 Green Fac			_										
Plan 13 Green Fac			4	-									
Plan 14 Green Fac													
Plan 15 Green Fac			-										
Plan 16 Green Fac													
Plan 17 Green Fac													
Plan 18 Green Fac													
Plan 19 Green Fac	tor												
nsit Priority Configu	ration (3-E	E-A)		Indica	tor Outpu	ut Que	ue Jump (3-E-B)	Free P	lans (3-E-F	≣)	Access	Utilities (9-
ble in Plans	Inj	put	Type	Stop	Go	Gr	n Hold H	old Phase	Max G	rn Hold I	Hold Phase	Passw	ord *
an 1-9	0	0.0	OPT	0	0							Timeou	ıt

YELLOW YIELD COORDINATION

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

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green						Slave Output
						0.0	0.0	0.0	0	0.0	0

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APPENDIX	A.5 EXIS	TING CON	DITIONS S	YNCHRO R	EPORTS

	۶	→	←	•	-	4
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	*	†	1		W	
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	0.0	2.0	0.0	3.2	2.1	0.0
Unsig. Movement Delay, s/veh		2.0	0.0	J.Z	۷.۱	0.0
		6 5	0.0	11.6	21.0	0.0
LnGrp Delay(d), s/veh	24.2	6.5	0.0	11.6		0.0
LnGrp LOS	С	A	400	В	<u>C</u>	
Approach Vol, veh/h		520	488		216	
Approach Delay, s/veh		7.2	11.6		21.0	
Approach LOS		Α	В		С	
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
		5.0		0.1	0.0	0.0
Intersection Summary			4			
HCM 7th Control Delay, s/veh			11.4			
HCM 7th LOS			В			
Notes						

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	↑ ↑		7	† 1>		*	^	7	*	^	7
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	С	С	С	С	С	D	В	Α	С	С	С
Approach Vol, veh/h		537			424			639			1266	
Approach Delay, s/veh		32.9			28.7			19.4			30.7	
Approach LOS		С			С			В			С	
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+l1), 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			С									
Notes												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	†		*	^		7	^	7	7	₽	
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		04.0	04.0	20.0	00.4	00.0	24.0	04.4	40.7	22.0	0.0	05.7
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	С	C (40)	С	С	C	С	С	C	В	С	400	С
Approach Vol, veh/h		648			553			288			488	
Approach Delay, s/veh		21.9			21.1			22.6			27.5	
Approach LOS		С			С			С			С	
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+l1), 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			С									
Notes												
User approved pedestrian inter	rval to be	e less thai	n phase n	nax greer	۱.							

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ersection Delay, s/veh 16.2
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1>			4	7		4		*	13	
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	С			С			В			В		

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							
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							
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	В	В	С	С	В	В	В	
HCM 95th-tile Q	1.1	1	4.7	2.8	8.0	1.4	1.4	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
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			С			С			С		

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	
Сар	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	С	F	С	С	
HCM 95th-tile Q	1.7	17.2	2.8	2.1	

Intersection			
Intersection Delay, s/veh	13.8		
Intersection LOS	В		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
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	В			В			В			С		

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	В	В	В	С	
HCM 95th-tile Q	1.8	0.9	1.2	3.9	

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	f)		*	f)		*	↑	7		4	
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	e, # -	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 I	Major1		I	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							С			С		
Minor Lane/Major Mvm	nt 1	NBLn11	NBLn21	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	
Capacity (veh/h)		217	259	721	1307	_	_	1207	_	_	390	
HCM Lane V/C Ratio			0.233		0.096	_	_		_	_	0.302	
HCM Control Delay (s/	veh)	35	23.1	10.7	8	_	-	8.1	_	_	400	
HCM Lane LOS	••••	D	C	В	A	_	_	A	_	_	C	
HCM 95th %tile Q(veh))	2.2	0.9	0.4	0.3	_	_	0.1	_	_	1.3	
704110 4(1011)			3.0	7.1	5.5			0.1			1.5	

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	7	↑	1		N. W.	
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	e.# -	0	0	-	0	-
Grade, %	-, -	0	0	_	0	_
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	9	9	9	9	9	9
Mymt Flow	13	551	242	24	92	28
IVIVIII(I IOW	13	JJ 1	242	24	32	20
Major/Minor	Major1	N	Major2	1	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	
Pot Cap-1 Maneuver	1257		-	_	330	767
•		-	_	_	771	-
Stage 1	-	-	-			
Stage 2	-	-	-	-	548	-
Platoon blocked, %	10=0	-	-	-		
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/			0		18.97	
	V 0.19		U		16.97 C	
HCM LOS					U	
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR S	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	ven)	7.9 A				C
HCM 95th %tile Q(veh	.\	0	-	-	-	1.3
HOIVI 95(II %(IIIE Q(Ven)	U	-	-	-	1.3

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	7>		ሻ	1>	.,,,,,	-1106	4	11511		4	- OD, K
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		ı	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/				1.08			30.05			24.04		
HCM LOS	• 0			1.00			D			C C		
Minor Lane/Major Mvm	nt N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBI n1			
Capacity (veh/h)	·· ·	219	1069	-	-	858	-	-				
HCM Lane V/C Ratio		0.35	1009	-		0.064	_		0.018			
HCM Control Delay (s/	(veh)	30.1	0	_	_	9.5	-	_	24			
HCM Lane LOS	von)	D	A	_	_	9.5 A	_	_	C			
HCM 95th %tile Q(veh)	1.5	0	_	_	0.2	_	_	0.1			
Holvi Jour 70the Q(Veri	1	1.0	U			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	ሻ	1>	LDIX	ሻ	4	WER	INDL	4	HOIL	ODL	4	ODIT
Traffic Vol, veh/h	8	479	89	52	370	13	60	5	38	2		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 I	Major1		ı	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			С		
Minor Lane/Major Mvm	nt I	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		185	1045			865	-	-				
HCM Lane V/C Ratio		0.646		_	_	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			
77												

	٠	→	←	•	-	4
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	*	†	1		W	
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	1.00	No	No	1.00	No	1.00
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
			0.07	0.07	0.07	0.07
Percent Heavy Veh, %	8	4002				
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	0.00	10.0	17.7	0.00
Incr Delay (d2), s/veh	6.4	0.2	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		<u> </u>	0.0	44 =	04.0	
LnGrp Delay(d), s/veh	29.1	6.7	0.0	11.7	21.6	0.0
LnGrp LOS	С	Α		В	С	
Approach Vol, veh/h		504	577		255	
Approach Delay, s/veh		7.1	11.7		21.6	
Approach LOS		Α	В		С	
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+l1), s		9.8		8.7	2.2	14.5
(6 _):						
Green Ext Time (p_c), s		5.6		8.0	0.0	7.2
Intersection Summary						
HCM 7th Control Delay, s/veh			11.8			
HCM 7th LOS			В			
Notes						

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	↑ ↑		*	† 1>		*	^	7	*	^	7
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	С	С	С	С	С	С	С	Α	С	С	С
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				
	4.9	* 4.9	4.2		4.2	4.9	4.2					
Change Period (Y+Rc), s				5.3				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+l1), 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			90 :									
HCM 7th Control Delay, s/veh			28.4									
HCM 7th LOS			С									
Notes												

Existing PM Existing PM Peak 11:30 am 09/10/2024 EX DKS Associates

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	†		*	†		*	↑	7	*	f)	
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	С	С	С	С	С	С	D	С	С	С		С
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			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+l1), 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			С									
Notes												

User approved pedestrian interval to be less than phase max green.

ntersection	
ntersection Delay, s/veh	19
ntersection LOS	С

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1			र्स	7		4		7	1	
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	С			С			С			С		

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							
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							
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	С	В	С	С	В	С	С	
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		4			4			4			4	
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			С		

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	
Сар	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	С	
HCM 95th-tile Q	4.8	6.7	10.9	3.3	

Intersection	
Intersection Delay, s/veh	24.7
Intersection LOS	С

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
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	В			С			С			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	С	В	С	D	
HCM 95th-tile Q	6.1	1.1	2.2	8.3	

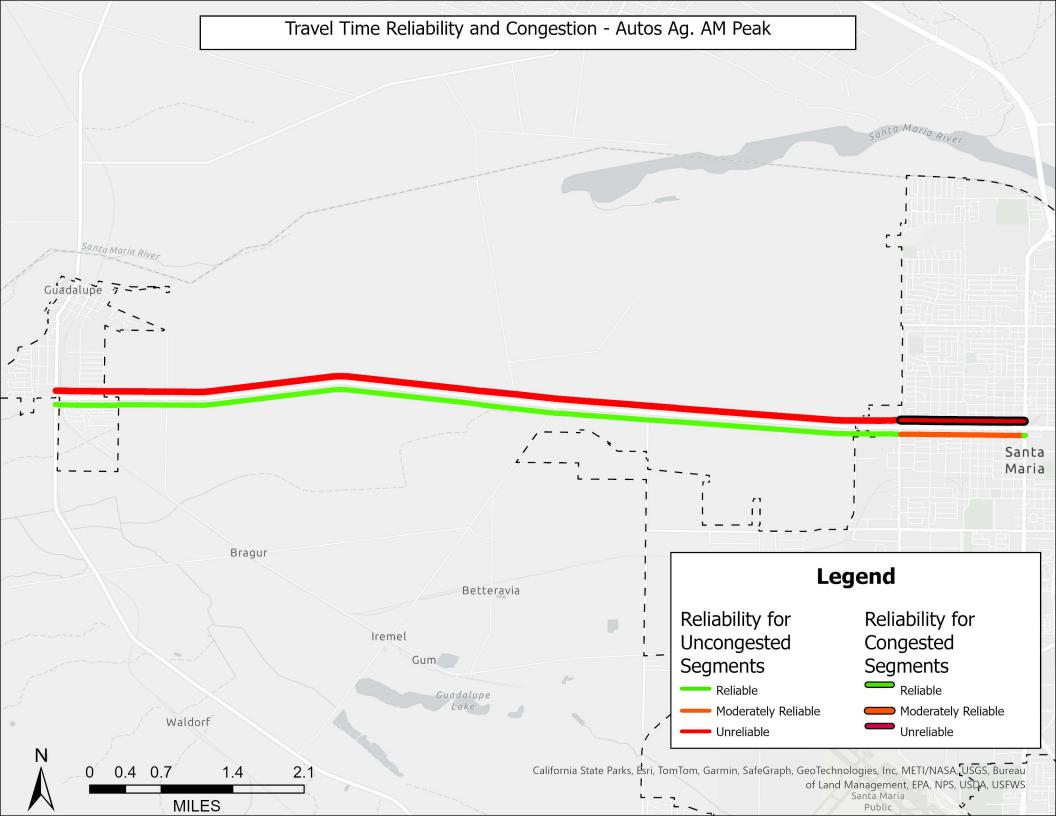
Int Delay, s/veh	Intersection												
Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBR SBR Lane Configurations Taffic Vol., veh/h 73 329 74 50 248 30 44 19 28 95 12 89 Future Vol., veh/h 73 329 74 50 248 30 44 19 28 95 12 89 Future Vol., veh/h 73 329 74 50 248 30 44 19 28 95 12 89 Future Vol., veh/h 73 329 74 50 248 30 44 19 28 95 12 89 Future 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 Future 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 Future 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 Future 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 Future 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 Future Vol., veh/h 73 329 74 50 248 30 44 19 28 95 12 89 Future Vehicles, we form 90 90 90 90 90 90 90 9		12.1											
Lane Configurations	iiii Deiay, S/Veii	12.1											
Traffic Vol, veh/h Traffi	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT		SBL	SBT	SBR
Future Vol, veh/h Conflicting Peds, #/hr Sign Control Free Free Free Free Free Free Free Fre	Lane Configurations	7	13		1	13		7	↑	7		4	
Conflicting Peds, #/hr	Traffic Vol, veh/h	73	329	74	50	248	30	44	19	28	95	12	89
Sign Control Free Stop	Future Vol, veh/h	73	329	74	50	248	30	44	19	28	95	12	89
RT Channelized	Conflicting Peds, #/hr	0	0	0	0	0	0	7	0	0	0	0	7
Storage Length	Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Veh in Median Storage, # - 0	RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Grade, %	Storage Length	470	-	-	340	-	-	50	-	50	-	-	-
Grade, %	Veh in Median Storage	e,# -	0	-	-	0	-	-	0	-	-	0	-
Heavy Vehicles, % 5 5 5 5 5 5 5 5 5	Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Mymt 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 - - - - - - 6.15 5.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 <td>Peak Hour Factor</td> <td>90</td>	Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Mymt 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 - - - - - 6.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 6.25 7.15 6.55 <td></td> <td>5</td> <td></td> <td>5</td>		5	5	5	5	5	5	5	5	5	5		5
Major/Minor Major1		81	366	82	56	276	33	49	21	31	106	13	99
Conflicting Flow All 309 0 0 448 0 0 969 989 407 942 1013 299													
Conflicting Flow All 309 0 0 448 0 0 969 989 407 942 1013 299	Main #/Min an	M-:4			M-:0			A:4			\ 4: O		
Stage 1									000			40.40	000
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 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.18 5.34 5.26 5.26 7.23 5.26 5.26 5.26			0	0	448		0						
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 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.55 - 6.15 5.26 7.33 3.345 3.345 3.345 3.345 3.345 3.345 3.345 3.345 3.345 9.36 9.36 - - 6.20 5.84			-	-	-		-						
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 3.345 3.345 3.345 9.345 7.33 3.545 4.045 3.345 3.345 4.045 3.345 3.345 7.33 3.545 4.045 3.345 3.345 4.045 3.345 4.045 3.345 4.045 3.345 7.33 3.545 4.045 3.345 4.045 3.345 7.33 3.545 4.045 3.345 7.33 3.545 4.045 3.345 7.33 7.33 5.55 - 6.18 5.94 - 5.22 480 - 7.22 4.045 3.57 7.22 4.045 3.57 7.22 4.045 3.57 7.22 <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			-	-	-	-	-						
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 - - - - - 620 584 - 522 480 - Stage 2 - - - - - - - 522 480 - Platoon blocked, % - - - - - - - - 522 480 - Mov Cap-1 Maneuver 1235 - 1097 - - 165 216 638 185 209 728 Mov Cap-2 Maneuver - - - - -			-	-		-	-						
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 - Flatoon blocked, % Platoon blocked, % 620 584 - 522 480 - Flatoon blocked, % Mov Cap-1 Maneuver 1235 - 1097 - 165 216 638 185 209 728 Mov Cap-2 Maneuver 165 216 638 185 209 728 Mov Cap-2 Maneuver 165 216 - 185 209 - Stage 1 469 468 - 586 564 - Stage 2 469 468 - 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	, ,	-	-	-	-	-	-			-			-
Pot Cap-1 Maneuver 1235	, ,		-	-	-	-	-						
Stage 1 - - - - 502 501 - 618 594 - Stage 2 - - - - 620 584 - 522 480 - Platoon blocked, % -<			-	-		-	-						
Stage 2 - - - - 620 584 - 522 480 - Platoon blocked, % - <	· · · · · · · · · · · · · · · · · · ·		-	-	1097	-	-						
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 NB SB HCM Control Delay, s/v 1.25 1.29 25.53 50.27 HCM 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<		-	-	-	-	-	-	620	584	-	522	480	-
Mov Cap-2 Maneuver - - - - - 165 216 - 185 209 - Stage 1 - - - - - 469 468 - 586 564 - Stage 2 - - - - 493 555 - 443 449 - Approach EB WB NB		1000	-	-	40	-	-	4					
Stage 1 - - - - 469 468 - 586 564 - Stage 2 - - - - - 493 555 - 443 449 - Approach EB WB NB 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 - 0.051 - 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		1235	-	-	1097	-	-						
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 - 0.051 - 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	•	-	-	-	-	-	-			-			-
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 Control Delay, s/v 1.25 HCM LOS D Solution 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	Stage 2	-	-	-	-	-	-	493	555	-	443	449	-
HCM Control Delay, s/v 1.25 HCM LOS D Solution 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 Control Delay, s/v 1.25 HCM LOS D Solution 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	Approach	EB			WB			NB			SB		
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													
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		1.20			1.20								
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	TOW LOO							J			'		
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 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		nt l					EBT	EBR		WBT	WBR		
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	1 7 1						-			-			
HCM Lane LOS E C B A F							-	-		-	-		
		/veh)	35.7		10.9	8.1	-	-	8.5	-	-	50.3	
HCM 95th %tile Q(veh) 1.2 0.3 0.2 0.2 0.2 5.9							-	-		-	-		
	HCM 95th %tile Q(veh)	1.2	0.3	0.2	0.2	-	-	0.2	-	-	5.9	

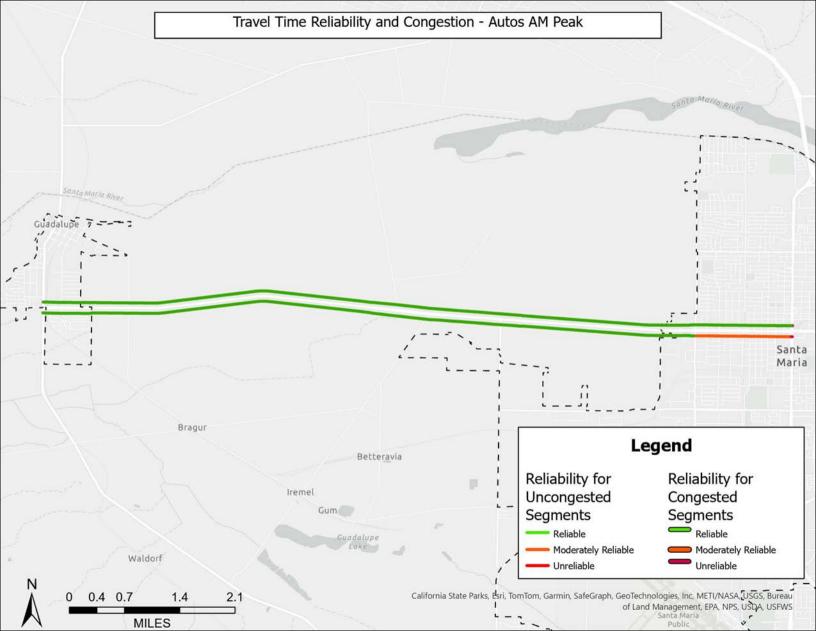
Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	ሻ	↑	1	11011	7	ODIN
Traffic Vol, veh/h	9	301	434	62	38	18
Future Vol, veh/h	9	301	434	62	38	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-		- Otop	None
Storage Length	380	-	_	-	0	-
Veh in Median Storage		0	0	_	0	_
Grade, %	-, π	0	0	_	0	_
Peak Hour Factor	93	93	93	93	93	93
	5	5	5	5	5	5
Heavy Vehicles, %				67		19
Mvmt Flow	10	324	467	07	41	19
Major/Minor I	Major1	N	Major2	N	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	_	_	_		3.345
Pot Cap-1 Maneuver	1019	_	_	_	330	565
Stage 1	-	_	_	_	603	-
Stage 2	_	_	_	_	712	_
Platoon blocked, %		_	_	_	1 12	
Mov Cap-1 Maneuver	1019	_		_	327	565
Mov Cap-1 Maneuver	-	_		_	327	-
Stage 1	_	<u>-</u>	_	-	598	
_	_	-	-	_	712	-
Stage 2	-	-	-	-	112	-
Approach	EB		WB		SB	
			WB 0		SB 16.32	
HCM Control Delay, s/v					16.32	
HCM Control Delay, s/v HCM LOS	v 0.25	- FDI	0	MDT	16.32 C	
HCM Control Delay, s/v HCM LOS Minor Lane/Major Mvm	v 0.25	EBL		WBT	16.32 C	
HCM Control Delay, s/A HCM LOS Minor Lane/Major Mvm Capacity (veh/h)	v 0.25	1019	0	WBT -	16.32 C WBR	378
HCM Control Delay, s/NHCM LOS Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio	v 0.25	1019 0.009	0 EBT	WBT - -	16.32 C WBR :	378 0.159
HCM Control Delay, s/NHCM LOS Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s/NHCM)	v 0.25	1019 0.009 8.6	0 EBT	-	16.32 C WBR :	378 0.159 16.3
HCM Control Delay, s/NHCM LOS Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio	nt veh)	1019 0.009	0 EBT -	-	16.32 C WBR :	378 0.159

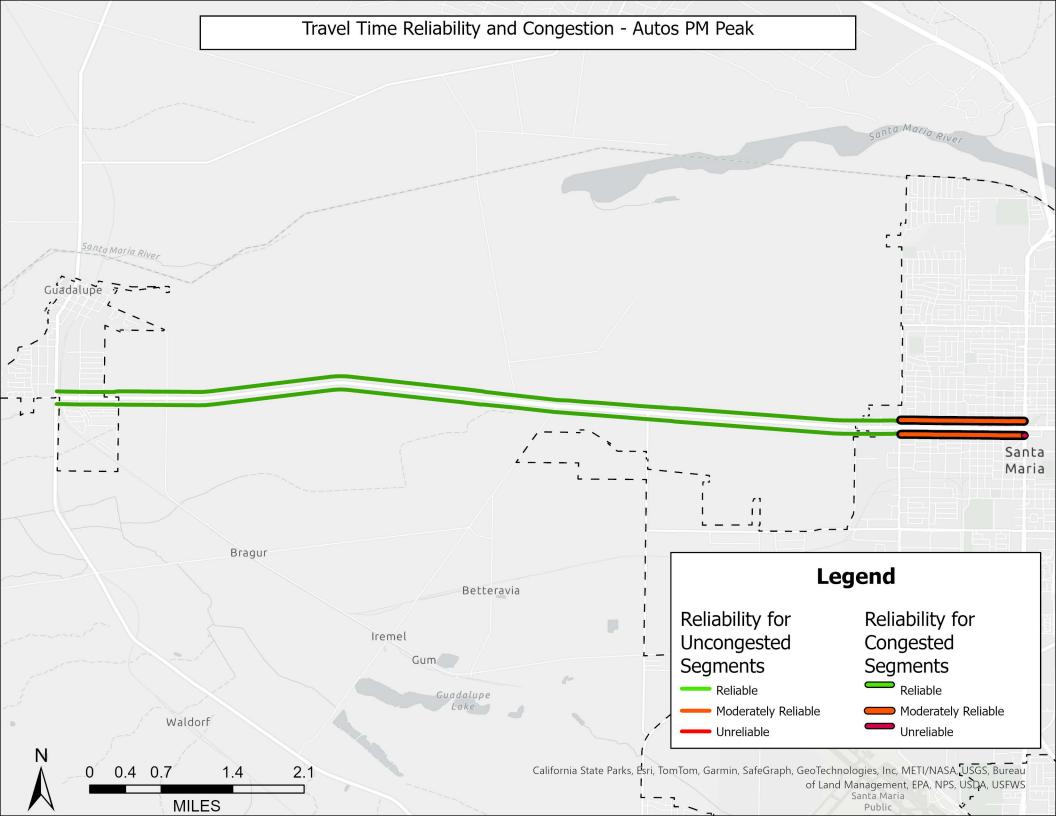
Intersection												
Int Delay, s/veh	2.9											
•												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1		*	13			4			4	
Traffic Vol, veh/h	0	622	20	55	475	1	17	0	100	2	0	0
Future Vol, veh/h	0	622	20	55	475	1	17	0	100	2	0	0
Conflicting Peds, #/hr	0	0	0	0	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	e, # -	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 I	Major1		ı	Major2			Minor1			Minor2		
Conflicting Flow All	541	0	0	730	0	0	1383	1384	718	1372	1395	540
Stage 1	341	U	U	130	-	U	718	718	7 10	665	665	540
Stage 2	_	-	-	_	_	-	665	666	-	707	730	_
Critical Hdwy	4.18	<u>-</u>	<u>-</u>	4.18		-	7.18	6.58	6.28	7.18	6.58	6.28
Critical Hdwy Stg 1	4.10	_	_	4.10	_		6.18	5.58	0.20	6.18	5.58	0.20
Critical Hdwy Stg 2	_	-	-	-	-	-	6.18	5.58	-	6.18	5.58	-
Follow-up Hdwy	2.272	_	_	2.272	_			4.072	3 372	3.572	4.072	
Pot Cap-1 Maneuver	998	_	_	848			117	139	419	120	137	530
Stage 1	330			U 1 U			411	424	413	439	449	-
Stage 2		_	_				440	448	_	417	419	_
Platoon blocked, %		_	_	_	_	_	770	UFF		717	710	
Mov Cap-1 Maneuver	998			848		_	109	129	419	81	127	530
Mov Cap-1 Maneuver	-	_	_	-	_	_	109	129	- 13	81	127	-
Stage 1				_		_	411	424	_	407	415	_
Stage 2	_	_	_	_	_	_	407	415	<u> </u>	304	419	_
Olugo Z							701	710		504	713	
Approach	EB			WB			NB			SB		
HCM Control Delay, s/	v 0			0.99			26.68			50.91		
HCM LOS							D			F		
Minor Lane/Major Mvm	nt l	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBI n1			
Capacity (veh/h)		296	998		LDIX	848	-	-	81			
HCM Lane V/C Ratio		0.449	990	-		0.074	-		0.028			
HCM Control Delay (s/	veh)	26.7	0		-	9.6	-	-	50.9			
HCM Lane LOS	ven)	20. <i>1</i>	A		-	9.6 A		-	50.9 F			
HCM 95th %tile Q(veh)	١	2.2	0	-	-	0.2	-		0.1			
How som while Q(ven))	2.2	U	-	-	0.2	-	_	0.1			

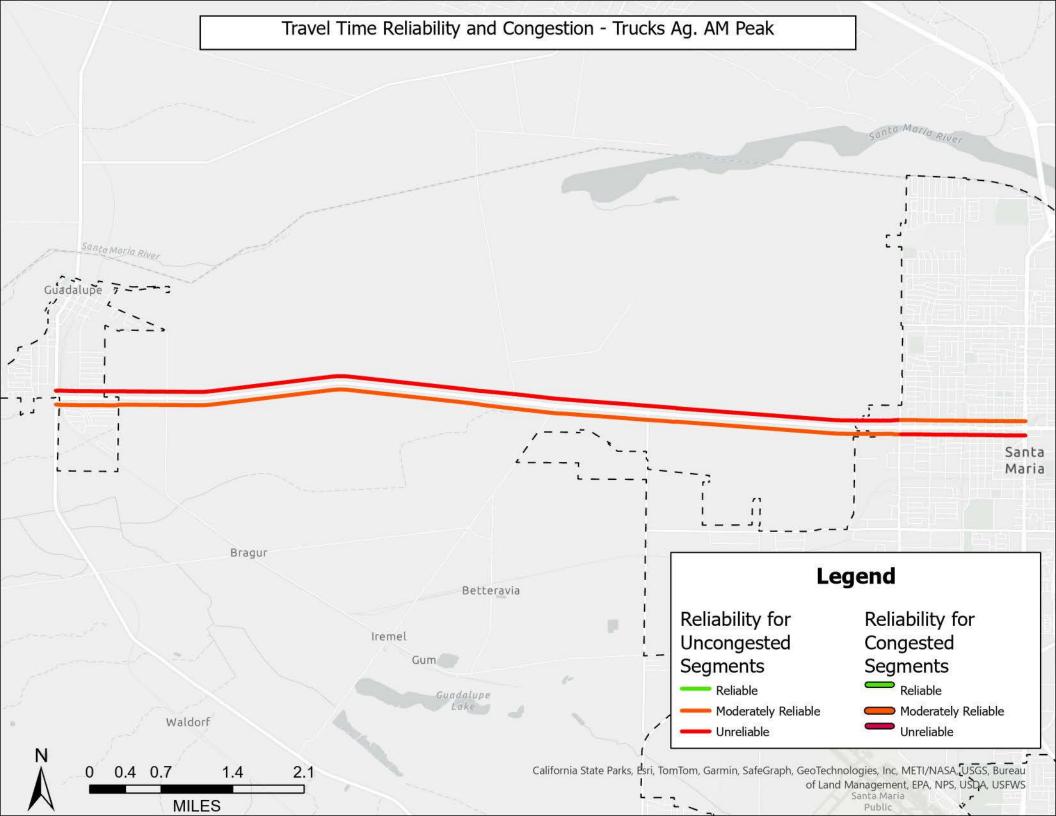
Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	f)		*	₽			4			4	
Traffic Vol, veh/h	1	624	115	26	461	4	63	4	52	14	5	7
Future Vol, veh/h	1	624	115	26	461	4	63	4	52	14	5	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	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	e, # -	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 I	Major1		ı	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 Mvm	nt I	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR:	SBI n1			
Capacity (veh/h)		177	1024	-	-	791	-	-	155			
HCM Lane V/C Ratio		0.733		_		0.036	_		0.182			
HCM Control Delay (s/	(veh)	67	8.5	<u>-</u>	-	9.7	_	_	33.3			
HCM Lane LOS	v Giij	F	0.5 A	<u> </u>	_	9.7 A	_	_	33.3 D			
HCM 95th %tile Q(veh))	4.6	0	_	_	0.1	_	_	0.6			
HOW JOHN JOHNE WIVELL)	7.0	U			0.1	_	-	0.0			

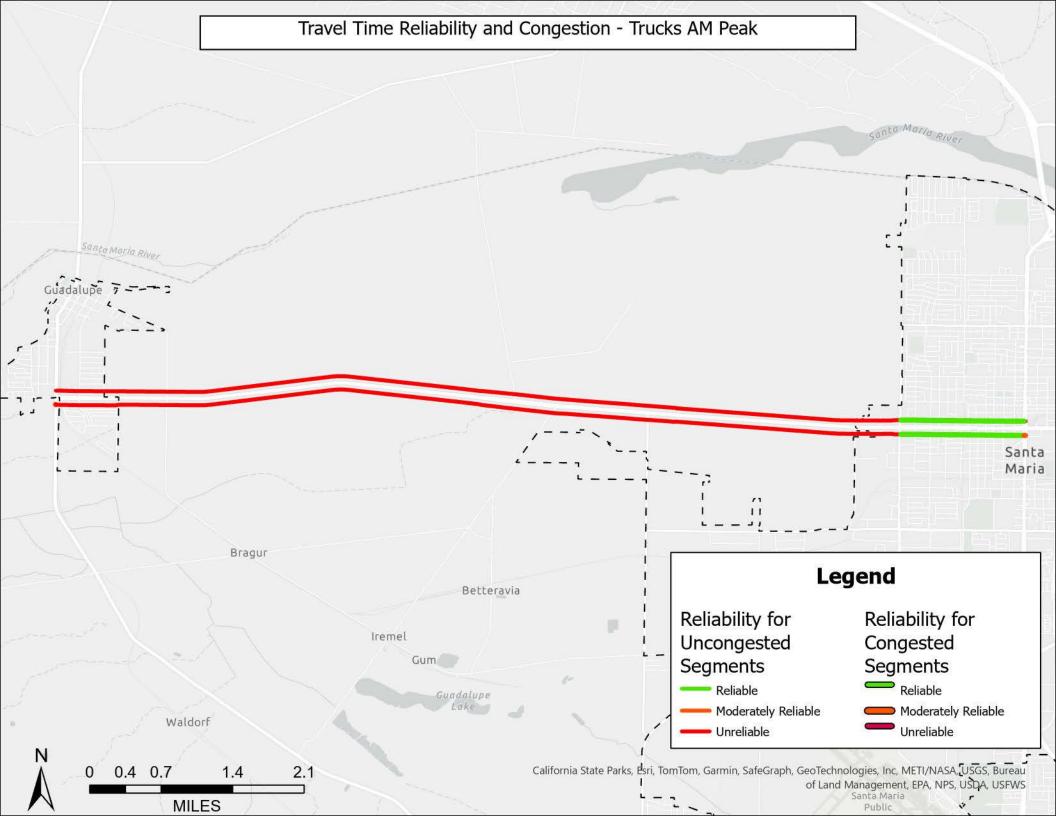
APPENDIX Analysis	A.6 TRAVEL	TIME REL	IABILITY A	AND CONGES	STION

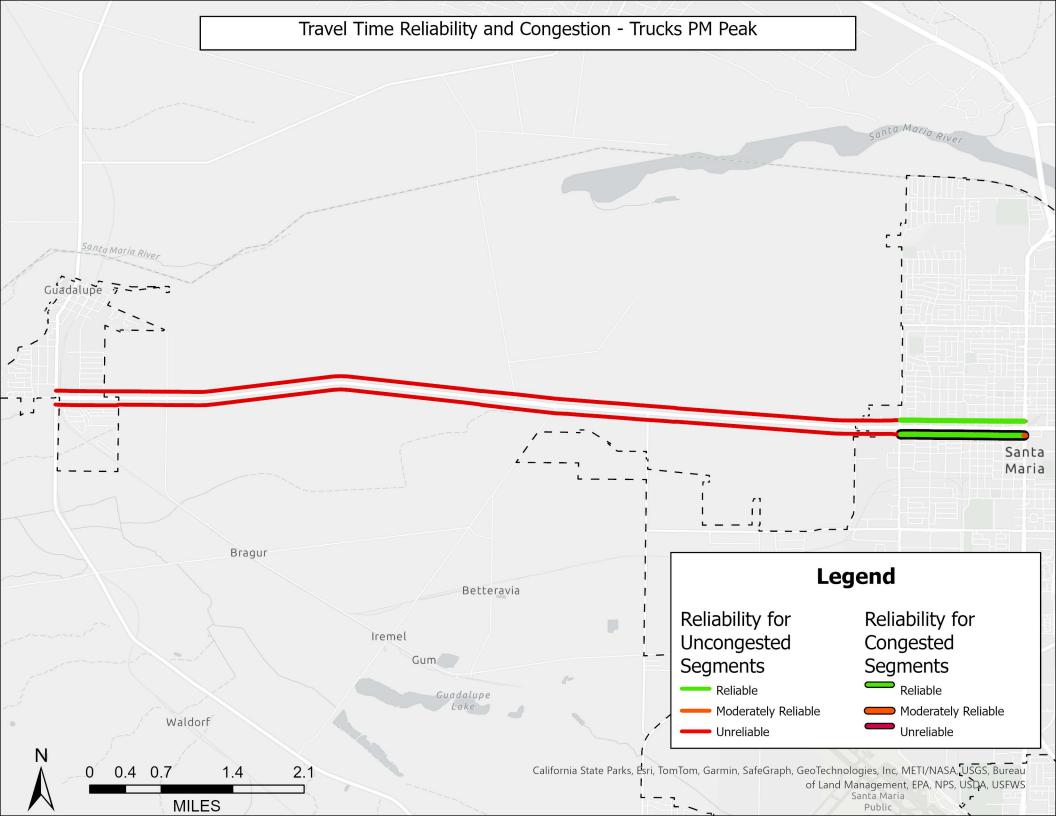


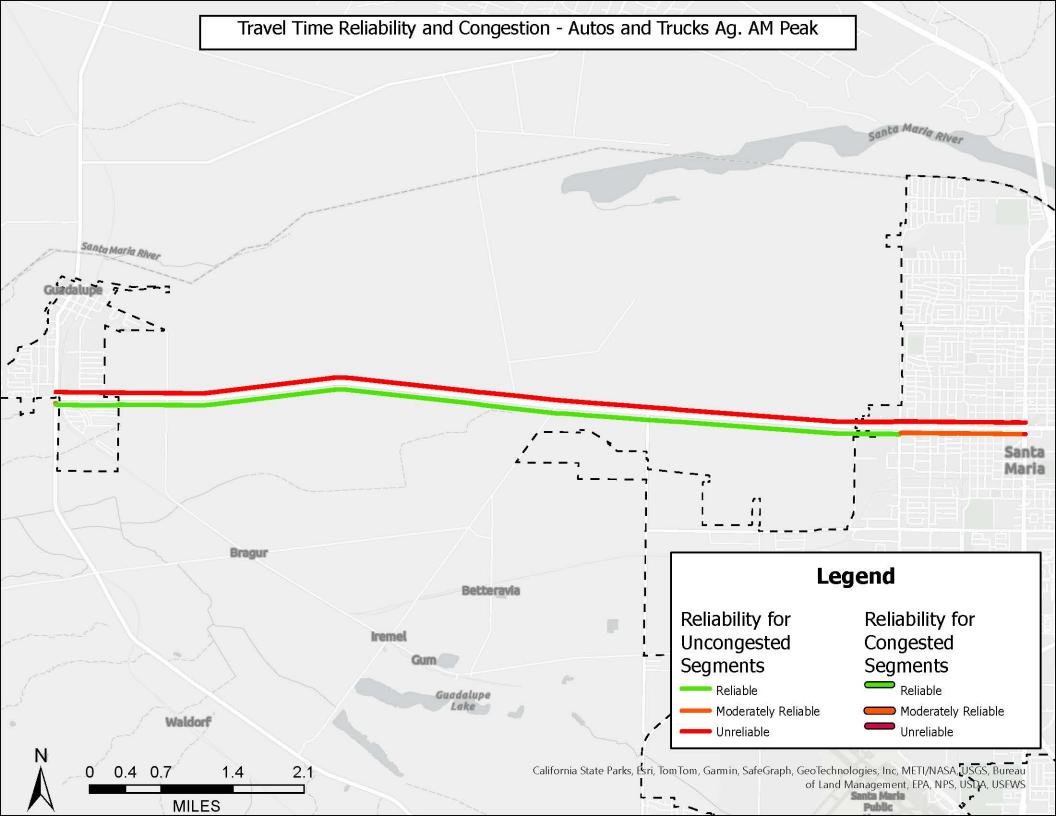


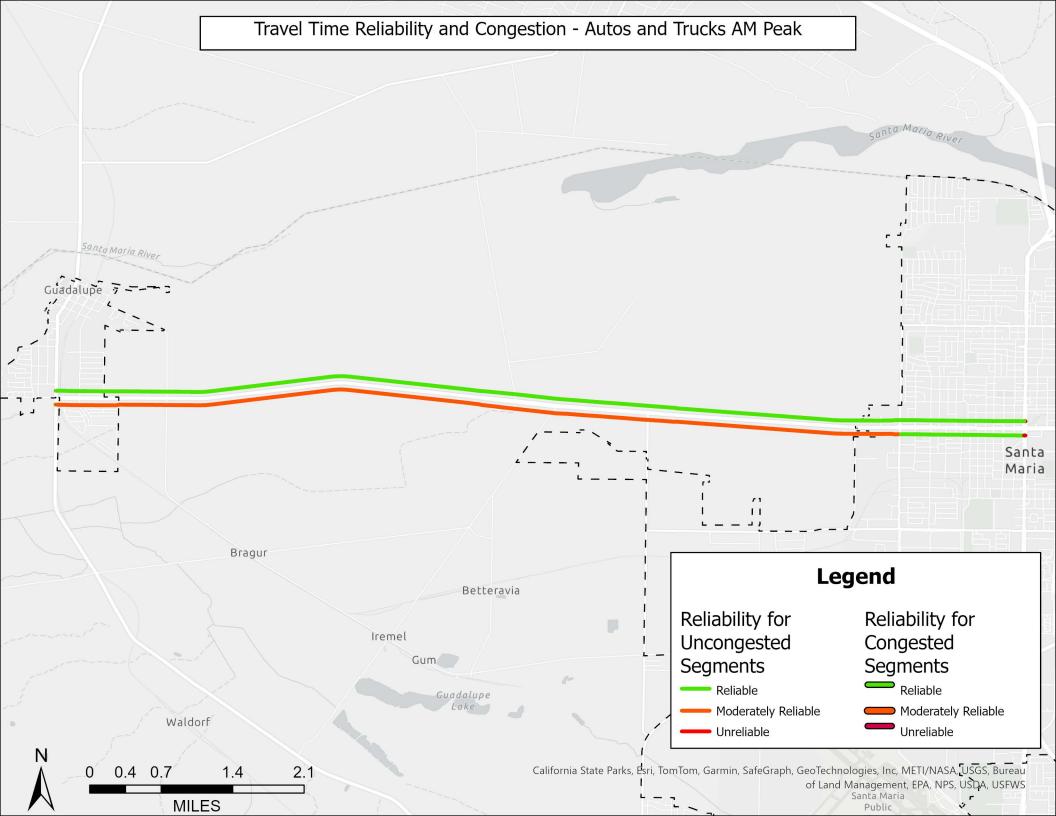


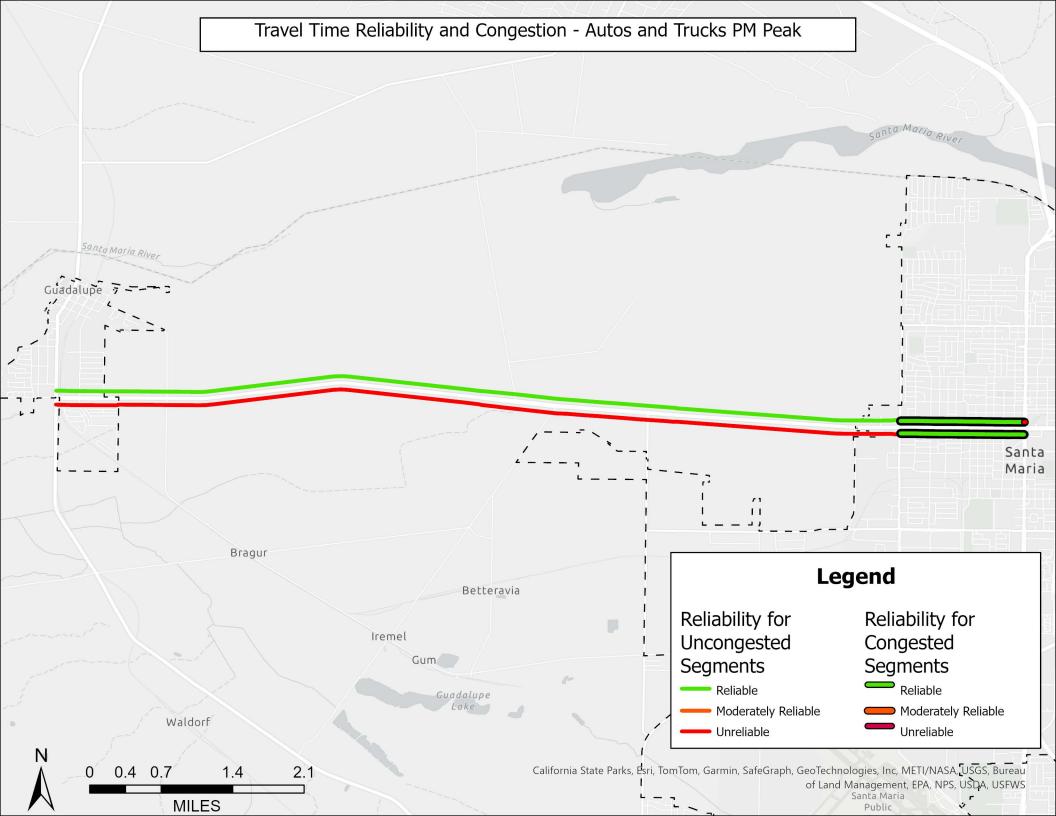












APPENDIX A.7 SAFETY DATA AND CRASH RATE CALCULATIONS

										Ī I																	
						INTER		COLLI SION_	NUMB	NUMB PRIMAI ER_IN Y_COL		PCF VI	PCF_VI	TYPE_O					CONTRO	PEDEST	BICYCLE	MOTORC YCLF A	TRUCK_	NOT_PRI VATE_P			
	COLLISION_DAT				DIREC	SECTI		SEVE	ER_KI	JURE _FACT	O ATEG	OLATIO	BSECTI	F_COLLI			ROAD_S		L_DEVIC	RIAN_AC	_ACCIDE			ROPERT	L_INVOL	LATITUD	
CASE_ID	E	PRIMARY_RD	SECONDARY_RD	NCE	TION	ON	ER_1	RITY	LLED	D R	ORY	N	ON	SION	MVIW	TION	URFACE	G	E	CIDENT	NT	Т	NT	Υ	VED	E	UDE
81947802	12/5/2022	WESTERN AVE	MAIN ST	185	N	N	A	4	0	1 A	08	22107	<u> </u>	D	С	A	Α	Α	D					Υ		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		С	С	A	Α	Α	D					Υ		34.954250	-120.476
91399763	1/20/2021	SR-166 (W. MAIN ST.)	SIMAS RD	2112	2 E	N	A	4	0	1 A	03	22350		С	С	A	Α	Α	D					Υ		34.958930	-120.527
81941791	11/28/2022	MAIN ST	MARY DR	85	E	N	Α	4	0	1 A	01	23152	A	В	E	Α	Α	С	D					Υ	Υ	34.953010	-120.448
92163652	8/28/2023	SR-166	BLACK ROAD	0)	Υ	A	4	0	1 A	09	21802	. A	D	С	А	Α	В	А					Υ		34.955371	-120.49
92247714	11/20/2023	SR-166 (W. MAIN STRE	SIMAS STREET	7392	2 E	N	Α	3	0	1 A	03	22350)	С	С	Α	Α	В	D					Υ		34.959659	-120.534
81952638	12/6/2022	MAIN ST	DEPOT ST	10	W	N	Α	4	0	1 A	11	21955		G	В	D	А	D	D	Υ				Υ		34.953388	-120.444
91100025	10/7/2019	SR-166	SIMAS RD	300	W	N	E	4	0	1 A	08	22107	'	F	А	Α	Α	D	D				Υ	Υ		34.957511	-120.559
9186868	11/7/2020	BLOSSER RD	MAIN ST	100	S	N	Α	4	0	1 A	08	21460	5	D	С	A	Α	С	D					Υ	Υ	34.953159	-120.454
82283540	12/19/2023	BLOSSER RD	MAIN ST	0)	Υ	С	3	0	2 A	12	21453	A	D	С	А	В	А	А					Υ		34.952548	-120.453
81802534	5/31/2022	MAIN ST	HANSON WAY	60	E	N	Α	3	0	2 A	09	21804	A	D	С	Α	Α	В	D					Υ		34.953319	-120.46
91491902	5/29/2021	SIMAS STREET	RT 166	202	2 N	N	Α	3	0	1 A	03	22350		С	С	Α	А	А	Α					Υ		34.958110	-120.558
91307938	9/10/2020	SR-166	RAY ROAD	82	W	N	Α	2	0	1 A	08	22107	,	E	J	Α	А	В	D			Υ		Υ		34.956478	-120.503
81848343	8/6/2022	MAIN ST	RUSSELL AVE	200	E	N	Α	4	0	1 A	03	22350		А	E	Α	Α	С	Α					Υ	Υ	34.953121	-120.452
91248205	5/26/2020	SR-166 W/B	SIMAS RD	528	E	N	Α	4	0	1 A	03	22350		С	С	А	А	А	D					Υ		34.957431	-120.556
9283122	6/24/2021	MAIN ST	BENWILEY AV	0)	Υ	А	4	0	2 A	03	22350		С	С	А	А	А	А					Υ		34.953441	-120.446
90968003	4/11/2019	SR-166 (MAIN STREET)	BLACK ROAD	376	S W	N	Α	1	1	0 A	08	22107		D	С	Α	А	А	D					Υ		34.955490	-120.491
9281458	7/15/2021	MAIN ST	WESTERN AVE	0		Υ	Α	4	0	2 A	12	21453	Α	D	С	Α	Α	С	Α					Υ		34.953048	-120.449
91240787	5/18/2020	SR-166 E/B (W. MAIN S	SIMAS RD	7075	E	N	С	3	0	1 A	08	22107		F	А	Α	В	D	D					Υ		34.959529	-120.535
9221944	2/18/2021	MAIN ST	BLOSSER RD	200	E	N	Α	3	0	2 A	03	22350		С	С	Α	Α	Α	D					Υ		34.953159	-120.454
92038264	3/26/2023	SR-166 (W. MAIN STRE	RAY RD	100	E	N	Α	3	0	1 A	03	22350		E	ı	Α	Α	А	D					Υ		34.956329	-120.502
92048729	4/13/2023	SR-166 (W. MAIN STRE	SIMAS ROAD	20	W	N	Α	4	0	2 A	03	22350		С	С	Α	Α	С	Α					Υ		34.957420	-120.558
9098976		MAIN ST	OAKLEY AV	100	E	N	С	4	0	1 A	11	21954	A	G	В	E	В	С	D	Υ				Υ	Υ	34.95349	-120.447
9106848	5/25/2020	MAIN ST	BLOSSER RD	0		Υ	Α	4	0	1 A	21	22106		С	С	А	А	А	A					Υ		34.952548	-120.453
82065570	4/24/2023		BLOSSER RD	0		Υ	А	2	0	1 D	00			D	С	А	А	С	A					Υ		34.952548	-120.453
82121530		BLOSSER RD	CHURCH ST	205	N	N	Α	3	0	1 A	09	21804	A	D	С	А	Α	Α	D					Υ		34.951919	
92233743		SR-166 (W. MAIN STRE		O		Υ	В	3	0	1 A	09	21802	: A	D	С	Α	Α	А	A				Υ	Υ		34.956241	-120.503
9186926	11/19/2020	`	KATHLEEN CT	98	8 W	N	Α	3	0	1 A	08	22100		D	С	Α	Α	С	D					Υ		34.953269	
91108416	10/21/2019	SR-166 E/B	BLACK ROAD	70	E	N	Α	4	0	1 A	03	22350		С	С	А	А	А	D					Υ			-120.489
81858626	8/18/2022		BLOSSER RD	1	3 N	N	Α	4	0	1 A	03	22350		С	С	Α	Α	А	D					Υ			
91021857	6/21/2019		HANSON WAY	300	E	N	Α	3	0	1 A	03	22350		С	С	Α	Α	Α	D					Υ		34.953208	
91822149	7/14/2022		RAY RD	0		Υ	Α	3	0	1 A	09	21802	A	D	С	Α	Α	Α	D					Υ		34.956378	-120.503
9212582	12/28/2020		DEPOT ST	15	E E	N	С	4	0	1 A	03	22350		С	E	Α	В	Α	Α					Υ		34.953388	
9201848	12/20/2020		DEPOT ST		W	N	A	4	0	1 A	03	22350		С	c	Α	Α	A	A					Υ		34.95227	-120.444
9108160		WESTERN AV	MAIN ST	0)	Y	A	4	0	1 A	12	21453	Α	D	С	A	A	A	A					Υ		34.953048	
9132843	7/26/2020		WESTERN AV			Y	A	1	0	1 Δ	12	21453		D	C	A	Α	A	Α					Y		34.952438	
91790177		SR-166 (W. MAIN STRE		950	w	N.	Α	1	0	1 Δ	08	22107		F	l i	A	A	A	D					· Y		34.953308	
91257542	6/18/2020	`	BONITA SCHOOL	5280	+	N	Δ	2	0	3 4	00	21804	Δ	D	<u> </u>	Δ	Δ	Δ	D					· V		34.959018	-120.403
8949952	9/13/2019		BENWLEY AV	0200)	Y	Δ	2	0	1 4	12	22450		D	G	Δ	Δ	Δ	Δ		Y			· Y		34.952331	
81754980			BLOSSER RD	150) E	N	Δ	1	^	1 1 1	07	21658	1	B	C	Δ	Δ	Δ	D		<u> </u>			, ,		34.953159	
91489068	5/24/2021		BLACK ROAD	3168	1	N.	Δ	4	^	1 1 1	03	22350		C	C	Δ	Δ	Δ	ם					, ,		34.954479	
31403000	3/24/2021	OK-100	DEAGN NOAD	3100	<u>'I</u> -	IIA	I'^	4	U	<u>'I ' ^</u>	100	22330	<u>'</u>	<u> </u>	10	Iv.	Α	I ^A	יי		<u> </u>			Ι'	<u> </u>	J4.3J4418	120.413

		l	1	T	1	1	l	I	I	1 1		1	1	1		1											$\overline{}$
						INTER		COLLI	NII IMD	NUMB PRIM			PCF_VI	TVDE O					CONTRO	DEDECT	BICYCLE	MOTORC	TRUCK_	NOT_PRI VATE_P			1
	COLLISION_DAT			DISTA	DIREC	INTER	WEATH			ER_IN Y_CC JURE _FAC				TYPE_O F_COLLI		PED AC	ROAD_S	LIGHTIN			_ACCIDE					LATITUD	LONGIT
CASE_ID		PRIMARY_RD	SECONDARY_RD		TION				LLED	D R	ORY	N	ON	SION	MVIW	TION	URFACE			CIDENT		Т	NT	Y	VED		UDE
92333314	12/25/2023	SR-166 (W. MAIN STRE	SIMAS ROAD	7219	E	N	Α	1	1	1 A	01	23152	2 A	А	С	А	А	D	D					Υ	Υ	34.959640	-120.534
9226639	2/14/2021	MAIN ST	DEPOT ST	C		Υ	Α	4	C	2 A	03	22350)	С	С	А	А	В	Α					Υ		34.95227	-120.444
9380156	1/27/2022	MAIN ST	BLOSSER RD	C)	Υ	А	4	C	1 A	01	23152	2 A	D	С	А	А	С	А					Υ	Υ	34.953159	-120.454
9341894	10/1/2021	MAIN ST	WESTERN AV	C)	Υ	В	4	C	1 A	12	21453	ВА	D	С	А	А	С	А					Υ		34.953048	-120.449
91753455	4/15/2022	SR-166	BLACK RD.	500	E	N	А	3	C	1 A	03	22350)	С	С	A	Α	А	D					Υ		34.955131	-120.485
91543551	8/6/2021	SR 166 (W. MAIN STRE	BLACK ROAD	2112	2 E	N	А	4	C	1 A	09	21804	A	D	С	А	А	А	D					Υ		34.954811	-120.481
9071356	6/17/2020	MAIN ST	OAKLEY AV	75	W	N	А	2	C	1 A	1	21954	A	G	В	D	А	С	А	Υ				Υ	Υ	34.953399	-120.447
9185770	11/3/2020	MAIN ST	WESTERN AV	10	W	N	А	4	C	1 A	03	22350)	С	С	А	А	А	Α					Υ		34.952438	-120.449
91090984	10/1/2019	SR-166	BLACK ROAD	2112	2 E	N	А	4	C	1 A	03	22350)	С	С	А	А	А	D					Υ		34.954650	-120.482
8875210	5/28/2019	BLOSSER RD	MAIN ST	100	N	N	А	2	C	3 A	09	21804	A	D	С	А	А	А	D					Υ	Υ	34.952548	-120.453
9283195	6/23/2021	MAIN ST	BLOSSER RD	300	W	N	Α	4	C	1 A	09	21804	A	D	С	А	А	А	D					Υ		34.953159	-120.454
91594006	10/5/2021	SR-166	RAY RD	2112	2 E	N	А	3	C	2 A	03	22350)	С	С	А	А	А	D					Υ		34.955890	-120.496
9136778	9/2/2020	MA RD	WESTERN AV	50	W	N	А	4	C	1 A	03	22350)	С	С	А	Α	А	D					Υ		34.953048	-120.449
9192438	12/10/2020	MAIN ST	BENWILEY AV	128	3 W	N	А	4	С	3 A	08	22102	2	D	С	А	-	А	D					Υ		34.952331	-120.445
91627510	11/8/2021	SR-166 (GUADALUPE C	BONITA SCHOOL	630	W	N	А	3	C	2 A	08	22107	,	D	С	А	А	А	D					Υ		34.957229	-120.511
91875625	9/27/2022	SR-166 (W. MAIN STRE	BLACK RD	3960	E	N	А	2	C	1 A	08	22107	,	E	I	А	В	D	D					Υ		34.954448	-120.476
92096760	6/12/2023	SR-166	RAY RD	528	E	N	А	4	C	1 A	03	22350)	С	С	A	Α	А	D					Υ		34.956138	-120.501
81975394	12/25/2022	MAIN ST	RUSSELL AVE	20	N	N	А	4	C	1 A	12	21453	ВА	D	С	А	А	С	Α					Υ		34.952510	-120.451
82242464	11/2/2023	MAIN ST	RUSSELL AVE	()	Υ	А	4	C	1 A	10	21950	Α	G	В	В	А	А	Α	Υ				Υ		34.952510	-120.451
91229047	4/17/2020	SR-166 (W. MAIN STRE	BONITA SCHOOL	5280	W	N	А	4	C	1 A	09	21801	А	D	С	A	Α	В	D					Υ		34.958889	-120.526
9287478	6/25/2021	MAIN ST	WESTERN AV	360	W	N	А	3	C	1 -	00			D	G	A	А	А	D		Υ			Υ		34.953048	-120.449
9098978	4/5/2020	BLOSSER RD	MAIN ST	25	S	N	С	4	C	1 A	01	23152	2 A	С	С	A	В	С	Α					Υ	Υ	34.953159	-120.454
9076663	3/15/2020	MAIN ST	DEPOT ST	()	Υ	А	4	C	2 A	01	23152	2 A	D	С	A	Α	С	Α					Υ	Υ	34.95227	-120.444
81785556	5/8/2022	MAIN ST	BENWILEY AVE	()	Υ	А	3	C	2 A	01	23152	2 A	D	С	A	А	В	D					Υ	Υ	34.953441	-120.446
8955453	9/13/2019	MAIN ST	KATHLEEN CT	350	W	N	Α	4	C	2 A	03	22350)	С	С	A	А	Α	Α					Υ		34.952659	-120.456
91185395	2/4/2020	RT 166	BONITA SCHOOL	398	Ε	N	А	4	C	1 A	03	22350)	С	С	А	А	Α	D					Υ		34.956848	-120.507
9280476	6/9/2021	MAIN ST	BLOSSER RD	C)	Υ	Α	4	C	1 A	12	21453	ВА	Н	G	Α	А	А	А		Υ			Υ		34.953159	-120.454
9192106	11/20/2020	MAIN ST	BLOSSER RD	750	W	N	Α	4	C	1 A	01	23152	2 A	С	С	Α	Α	А	D					Υ		34.953159	-120.454
81934836	11/18/2022	MAIN ST	BLOSSER RD	C)	Υ	Α	4	C	3 A	12	21453	ВА	D	С	А	А	С	А					Υ		34.952548	-120.453
91655215	12/8/2021	SR-166	SIMAS RD	144	W	N	E	4	C	1 A	03	22350)	С	С	Α	В	А	А					Υ		34.957359	-120.559
82000947	2/7/2023	MAIN ST	BLOSSER RD	C)	Υ	Α	3	C	1 A	10	21950	Α	G	В	В	Α	В	Α	Υ				Υ		34.953159	-120.454
92041929	1/7/2023	SR-166 (WEST MAIN ST	BLACK ROAD	23	Ε	N	Α	1	1	1 A	01	23152	2 A	E	8	3 A	Α	С	D					Υ	Υ	39.955211	-120.49
91372587	12/10/2020	SR-166	HANSON WAY	528	8 W	N	Α	4	C	1 A	03	22350)	В	С	А	Α	А	D				Υ	Υ		34.953601	-120.465
91619084	11/2/2021	SR-166 (W. MAIN STRE	BONITA SCHOOL	2376	S W	N	Α	3	C	1 A	03	22350)	С	С	Α	Α	А	D					Υ		34.960250	-120.51
8834343	3/29/2019	HANSON WY	MAIN ST	106	S	N	Α	3	C	1 A	03	22350)	F	J	A	A	A	A			Υ		Υ		34.953319	-120.46
9163929	9/12/2020	MAIN ST	BLOSSER RD	30	E	N	Α	4	C	2 A	2	22106	6	С	С	A	A	С	A					Υ		34.963161	-120.454
9271443	5/19/2021	MAIN ST	BLOSSER RD	50	W	N	A	4	C	2 A	03	22350)	С	С	Α	Α	Α	Α					Υ	Υ	34.953159	-120.454
9363097	10/31/2021	BLOSSER RD	MAIN ST	18	N N	N	A	4	C	1 A	03	22350)	С	С	Α	A	С	A					Υ		34.952548	-120.453
81900612	10/10/2022	DEPOT ST	MAIN ST	125	N	N	Α	4	C	1 A	03	22350)	С	С	A	A	В	D					Υ		34.953388	-120.444
91238349	5/14/2020	SR-166	BLACK ROAD	3168		N	A	4	C	1 C	18	3		E	I	A	A	A	D					Υ		34.954498	-120.478
91631305	11/12/2021	SR-166 (W. MAIN STRE	HANSON WAY	291	W	N	A	4	C	2 A	03	22350)	С	С	Α	Α	Α	D					Υ		34.953289	-120.461
											-																

								COLLI		NUMB PRIN	MAR PCF_\	,	PCF_VI		Τ							MOTORC		NOT_PRI			
						INTER		SION_	NUMB	ER_IN Y_C	OLL IOL_C	PCF_VI	OL_SU	TYPE_O					CONTRO	PEDEST	BICYCLE	YCLE_A	TRUCK_	VATE_P			1
CASE_ID	COLLISION_DAT	PRIMARY_RD	SECONDARY_RD		DIREC TION				ER_KI LLED	JURE _FAG	OTO ATEG	OLATIO	BSECTI ON	F_COLLI SION	MVIW	PED_AC TION	ROAD_S URFACE			RIAN_AC CIDENT	_ACCIDE	CCIDEN T	ACCIDE NT	ROPERT Y	L_INVOL VED	LATITUD I	LONGIT UDE
8890632		DEPOT ST	CHURCH ST	190	+	N	Δ	4	0	2 Δ	09	21804	+	D	C	Δ	Δ	Δ	Δ	OID ZIVI				· Y			-120.444
82127260		WESTERN AVE	MAIN ST	100	1	N	Δ	4	0	1 A	09	21804	1	D	C	Δ	Δ	Δ	D					· Y			-120.449
91013945		SR-166 E/B	BLACK RD	2112		N	Δ	4	0	1 A	03	22350		C	C	Δ	Δ	Δ	D					· Y		- t	
92264780	12/13/2023		RAY ROAD	1003	1	N	Α	4	0	1 A	03	22350		C	C	Α	Δ	Δ	D					· Y			
8813823	1/16/2019		WESTERN AV	150	1	N	Δ	3	0	1 A	08	22107	7	F	J	Δ	Δ	Δ	D					· Y		34.330003	120.433
91889456		SR-166 (W. MAIN STRE		3432	+	N	Α	3	0	7 A	01	23152	Δ	Δ	C	Α	Δ	D	D			Υ	Y	· Y	Υ	34.958240	-120.52
91783971		SR-166 (W. MAIN STRE		0.102)	V	Α	4	0	2 A	09	21802	1	D	C	Α	Δ	Δ	Δ			•	· Y	· Y			
9429297		WEST MAIN ST	OBISPO ST	0	<u> </u>	N.	F	4	0	2 A	04	21703		C	С	A	Α	D	D					Y		04.007400	120.000
9325817	9/13/2021		DEPOT ST	15	E E	N	Δ	4	0	1 Δ	03	22350		С	C	Δ	Δ	D	D					· ∨		34.95227	-120.444
8988857	11/26/2019		BLOSSER RD	10	<u> </u>	V	Δ	4	0	1 Δ	03	22350)	C	C	Δ	Δ	C	D				v	· v		34.952548	-120.453
91943660		SR-166 (W. MAIN STRE		5280) F	N.	Δ	3	0	1 Δ	08	22107	,	D	C	Δ	Δ	Δ	D				· ·	· v		34.955978	-120.498
81750870		BLOSSER RD	MAIN ST	136	1	N	Δ	4	0	1 Δ	ng	21804	1 Δ	Δ	C	Δ	Δ	Δ	D					· ∨			-120.454
81777208	4/27/2022		RUSSELL AVE	130	1	V	Δ	4	0	1 Δ	1	2 21453		D	C	Δ	Δ	Δ	Δ			V		· v			-120.452
81926188		BLOSSER RD	MAIN ST	0	1	\ <u>'</u>	Δ	4	0	2 Δ	1	2 21453		D	C	Δ	Δ	C	Δ			•		· v			
82048310	3/26/2023		DEPOT ST	100	1//	N.	Δ	3	0	1 Δ	01	23152		C	C	Δ	Δ	C	Δ					· v			-120.444
82079869		BLOSSER RD	MAIN ST	†	s	N	Δ	4	0	1 Δ	03	22350)	C	C	Δ	Δ	Δ	Δ				v	· v		34.952548	
8813896		WEST MAIN ST	OBISPO ST	0	\ <u>\</u>	-	R	4	0	1 R	2		1	C	D	Δ	В	Δ	Δ					· v		04.002040	120.400
8925931			OBISPO ST 100	0	<u> </u>	V	F	4	0	1 Δ	08	22107	7	C	F	Δ	D	C	_					· v			
8927603	8/12/2019		RAILROAD AV	0	<u>'</u>	' '	Δ	4	0	1 Δ	01	23152	Δ	С	C	Δ	Δ	Δ	Δ					' '	V	34.952301	-120.445
8932139	8/29/2019		DEPOT ST	20	E	N.	Δ	4	0	1 Δ	03	22350)	C	C	Δ	Δ	Δ	Δ					· v			-120.444
8949956	9/13/2019		HANSON WY	0	<u> </u>	V	Δ	3	0	1 Δ	00	21801	Δ	D	C	Δ	Δ	R	D				v	· v		34.953319	-120.46
8964413	10/3/2019		OBISPO ST	0	<u>'</u>	<u> </u>	Δ	3	0	3 Δ	09	21804	1	D	C	Δ	Δ	Δ	Δ					' '		34.933313	-120.40
9049153	1/22/2020		RUSSELL AV	0	<u> </u>	v	R R	1	0	1 A	1	2 21453	NΔ	D	C	Δ	Δ	Δ	Δ					' '		34.953098	-120.452
90969012	4/9/2019		SIMAS RD	1637	, _E	N.	G	3	0	1 Δ	01	23152		F	Δ	Δ	Δ	Δ	D					· v		34.957309	-120.553
90989026	5/6/2019		BLACK ROAD	-) W	N N	Δ	1	0	1 Δ	03	22350	1	C	C	Δ	Δ	Δ	Δ				v	' '		34.955348	-120.333
91036347		SR-166 (WEST MAIN ST		0	1	V	Δ	4	0	1 D	00	22330	1	D	C	Δ	Δ	Δ	Δ				1	' '			
91048525		SR-166 (MAIN STREET)		2640	<u> </u>	N .	_	2	0	2 1	08	22107	,	<u> </u>		^	٨	л В	Λ D					' '		34.954471	
91061892	8/19/2019	` '	SIMAS RD	3168	1	N	Δ	1	0	1 Δ	08	22107		-	 	Δ	Δ	Δ	D					' '			
91093711	9/29/2019		SIMAS RD	3100	1	N	Δ	2	0	1 Δ	01	23152		<u>-</u>	<u> </u>	Δ	Δ	n n	D					' '		34.957950	
91199827	2/16/2020		RAY RD	1056	1	N	^	2	0	1 1	01	23152		-	 	^	٨	ח	D					' '		34.956100	
91241700			SR-166	1030		N	Δ	1	0	1 Δ	03	22350		C	<u>'</u>	Δ	Δ	Δ	Δ					' '			
91243841	5/23/2020		BLACK RD	1584	+	N	Δ	4	0	2 Δ	03	22350	<u> </u>	С	C	Δ	Δ	Δ	D					' '			
91248388	5/25/2020		HANSON ST	1304	\	N	Δ	4	0	1 Δ	08	22107	,	D	C	Δ	Δ	Δ	D					' '			
91265607		SR-166 (MAIN STREET)	1	1900	1//	N	R	1	2	1 A	08	22107	,	Δ	C	Δ	Δ	Δ	D					' '			-120.497
91273243	7/21/2020		BLACK RD	4800	1	N	В	1	0	2 ^	00	23152	Δ Δ	C	C	^	٨	n	ם					' v		34.954189	
91273243		WEST MAIN ST	N WESTERN		w W	N	Δ	4		1 1	1	2 21453		D	C	Δ	Δ	Δ	Δ					· v	'	J4.9J4108	-120.414
91304437	9/10/2020		BLACK ROAD	135	1	N	В	4	^	1 1	03	22350	<u>'</u>	С	C	Δ	Δ	Δ	D					' '		34.955341	-120.489
91316068	9/28/2020		BLACK RD	2640	-	N	Δ	4	^	1 1	03	22350		С	C	Δ	Δ	Δ	D					· _			-120.469
91347053	11/6/2020		BONITA SCHOOL	2112	1	N	Δ	2		5 Δ	03	22350	<u> </u>	С	C	Δ	Δ	B	D					· ·		1	
9143792			CHAPEL ST	125		N	Δ	1		1 Δ	03	22350		С	C	Δ	Δ	C	D					· ·		34.954521	
91485642	5/20/2021		BLACK ROAD	2640		N	Δ	2	^	1 1	00	21804	1 Δ	D	C	Δ	Δ	<u></u>	D					, _		34.954799	
91400042	3/20/2021	100	DEAGN NOAD	2040	<u>′</u> 1∟	Į i v	1^	3	U	I IA	UB	Z 10U4	' <u> </u> ^	I _n	I _C	<u></u>	<u> ^</u>	I <u>n</u>	<u> </u>		<u> </u>		<u> </u>	<u> ' </u>		J4.3J4133	120.402

CASE_ID	COLLISION_DAT E	PRIMARY_RD	SECONDARY_RD					SEVE	NUMB ER_KI LLED	ER_IN JURE	PRIMAR Y_COLL _FACTO R	IOL_C ATEG	OLATIO	BSECTI	F_COLLI	MVIW		ROAD_S URFACE	LIGHTIN	L_DEVIC		BICYCLE _ACCIDE NT		TRUCK_	NOT_PRI VATE_P ROPERT Y		LATITUD I	LONGIT UDE
91546181	8/8/2021	SR-166 (W. MAIN STRE	BONITA SCHOOL	8237	w	N	А	3	0	1	А	08	22107	,	E	I	А	А	D	D					Υ		34.95923	-120.536
91595647	10/5/2021	SR-166	SIMAS STREET	1579	E	N	Α	4	0	1	Α	03	22350		С	С	A	А	D	D					Υ		34.957359	-120.553
91619027	11/2/2021	SR-166 (W. MAIN STRE	BLACK ROAD	1000	W	N	E	3	0	1	Α	05	21460	А	В	С	А	А	D	D					Υ		34.955551	-120.493
91650724	12/1/2021	SR-166	BONITA SCHOOL	5280	W	N	E	3	0	1	Α	09	21804	A	D	С	A	А	D	D					Υ		34.959339	-120.527
91673378	12/31/2021	SR-166	BONITA SCHOOL	0		Υ	Α	4	0	1	D	00			D	С	A	Α	Α	Α					Υ		34.956981	-120.508
91703131	2/10/2022	SR-166 (W. MAIN STRE	HANSON WAY	600	W	N	Α	3	0	1	Α	08	22107	,	E	1	A	Α	Α	D					Υ		34.954071	-120.47
91741393	3/24/2022	SR-166	SIMAS ROAD	100	E	N	Α	4	0	1	А	01	23152	2 A	С	С	А	А	С	A					Υ	Υ	34.957458	-120.558
91873666	9/19/2022	SR-166	BONITA SCHOOL	5280	W	N	В	4	0	2	Α	03	22350)	С	С	A	В	Α	D					Υ		34.958980	-120.526
9199693	11/21/2020	MAIN ST	DEPOT ST	0		Υ	Α	3	0	1	А	12	21453	А	D	С	А	А	А	A			Υ		Υ		34.95227	-120.444
92064174	4/27/2023	SR-166 (W. MAIN STRE	SIMAS ROAD	30	W	N	В	4	0	1	А	03	22350		С	С	А	А	А	A					Υ		34.957420	-120.558
92171412	9/11/2023	SR-166 WESTBOUND	BLACK ROAD	1874	E	N	В	3	0	1	А	08	22107	,	F	А	А	А	А	D					Υ		34.955001	-120.482
92209286	10/24/2023	SR-166 (W. MAIN STRE	SIMAS ROAD	250	W	N	В	4	0	1	А	03	22350)	С	С	А	А	А	D					Υ		34.957431	-120.559
92230286	11/7/2023	SR-166	HANSON WAY	2112	W	N	В	3	0	1	А	09	21801	А	D	С	А	А	А	D					Υ		34.953731	-120.467
9231889	4/4/2021	MAIN ST	WESTERN AV	182	w	N	А	4	0	1	А	09	21804	A	A	С	А	А	А	D					Υ		34.953048	-120.449
9243642	3/27/2021	BLOSSER RD	MAIN ST	0		Υ	Α	4	0	1	А	01	23152	2 A	A	С	А	А	С	A					Υ	Υ	34.952548	-120.453
9263100	5/1/2021	MARY DR	MAIN ST	0		Υ	Α	3	0	3	А	03	22350)	D	С	А	А	А	Α					Υ		34.953010	-120.448
9287738	7/1/2021	OBISPO ST	WEST MAIN ST	0		Υ	Α	4	0	2	А	09	21802	2 A	D	D	А	А	А	D					Υ			
9288503	6/19/2021	MAIN ST	DEPOT ST	170	E	N	Α	4	0	2	А	03	22350)	С	С	А	А	А	D					Υ		34.95227	-120.444
9295649	7/13/2021	MAIN ST	RAILROAD AV	0		Υ	Α	4	0	2	Α	03	22350		С	С	A	Α	Α	Α					Υ		34.952301	-120.445
9355638	10/6/2021	MAIN ST	DEPOT ST	0		Υ	Α	4	0	1	А	12	21453	А	D	С	А	А	А	A					Υ		34.953388	-120.444
9366996	10/25/2021	MAIN ST	HANSON WY	0		Υ	A	4	0	1	А	01	23152	2 A	D	С	A	А	С	D					Υ	Υ	34.952709	-120.46
9379038	11/10/2021	MAIN ST	WESTERN AV	0		Υ	A	4	0	1	А	10	21950	A	G	В	В	A	А	A	Υ				Υ		34.952438	-120.449
9404645	1/21/2022	MAIN ST	KATHLEEN CT	80	W	N	А	4	0	2	А	09	21802	A	D	С	А	А	А	D					Υ		34.952659	-120.456
9407274	2/8/2022	WEST MAIN ST	OBISPO ST	0		-	A	3	0	1	А	04	21703	3	С	С	A	A	A	D					Υ			

APPENDIX A	.8 ROAD SAFET	Y AUDIT	
APPENDIX A	.8 ROAD SAFET	Y 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 brough unique backgrounds and perspectives to roadway performance, collision history, safety concerns, and potential improvements. Additionally, the Federal Highway Administration (FHWA) has identified RSAs as a safety countermeasure.

-

¹ The SR 166 Comprehensive Corridor Study as a whole is approximately 7.4 miles in length from the SR 166 juncture with SR 1 in the City of Guadalupe to Depot Street in the City of Santa Maria.

TABLE 1. SR 166 RSA ATTENDEES

NAME	ORGANIZATION
MAYA KULKARNI FRED LUNA	Santa Barbara County Association of Governments
	City of Conta Maria - Dublic Works Department
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	DKS Associates
SYLINDA VILLADO	

WHAT IS THE RSA PROCESS?

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

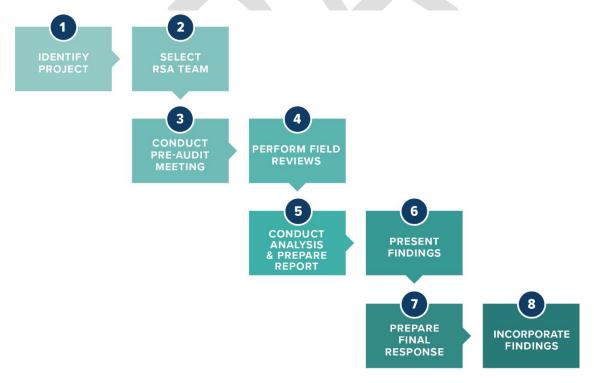


FIGURE 1. RSA PROCESS

Analysis of reported crash history is a key part of an RSA and identifying potential underlying crash risks. Identifying the potential of a crash occurring and the possible injury severity is a method to prioritize crash risks. Potential crash frequency can be qualitatively estimated by exposure or how many users will be vulnerable to the identified safety risk and probability of a collision occurring. Crash severity can be estimated based on anticipated speeds, expected collision types, and road use exposure. Frequency and severity can be combined to identify a qualitative risk assessment based on the matrix in **Table 2**.

TABLE 2. CRASH RISK PRIORITIZATION MATRIX

	-	-		
RISK FREQUENCY CATEGORY	POTENTIAL CRASH SEVERITY: NEGLIGIBLE	POTENTIAL CRASH SEVERITY: LOW	POTENTIAL CRASH SEVERITY: MEDIUM	POTENTIAL CRASH SEVERITY: HIGH
FREQUENT				High Priority
OCCASIONAL				
INFREQUENT				
RARE	Low Priority			

STUDY INTERSECTIONS AND CORRIDOR

The study corridor is State Route 166 (SR 166) in Santa Barbara County between the City of Guadalupe and the City of Santa Maria, from SR 1 to Blosser Road. SR 166 currently varies in speed from 45 mph in Guadalupe and Santa Maria to 55 mph in Santa Barbara County. The Guadlupe Flyer Express is the only existing transit service that traverses the SR 166 corridor, connecting transit users from Guadalupe to Santa Maria. At SR 1 and SR 166, there are railroad tracks that serve Amtrak. Seven intersections along the study corridor were identified as priority locations in advance of the workshop due to recent crash history and are identified below and depicted in **Figure 2**. Of the seven intersections, three intersections are signalized and labeled in yellow in **Figure 2**.

The study intersections and their cross streets are listed below and summarized in the following sections:

- Intersection 1 SR 166 and Obispo Street
- Intersection 2 SR 166 and Simas Road
- Intersection 3 SR 166 and Bonita School Road
- Intersection 4 SR 166 and Ray Road

- Intersection 5 SR 166 and Black Road
- Intersection 6 SR 166 and Hanson Way
- Intersection 7 SR 166 and Blosser Road



FIGURE 2. RSA STUDY INTERSECTIONS

PAST AND UPCOMING PROJECTS AND IMPROVEMENTS

At the time of the RSA, construction was near completion at Intersection 5 (SR 166 and Black Road) to install a 4-way signal². On September 27, 2024, SBCAG celebrated the competition 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 Plan 4 was developed and received several comments during the public comment period to improve Santa Maria and SR 166 bicycle facilities. The City of Guadalupe also received public interest in installing roundabouts and Class IV bicycle lanes along SR 166. On May 16, 2024, the California Transportation Commission requested that Caltrans include "No Right on Red" signage/signaling, additional bicycle/pedestrian facilities, curb extensions (bulb outs), traffic calming, advanced traffic stop bars, and public transit accommodations into the scope of the project. A majority of Caltrans improvements will occur in Santa Maria, outside of the SR 166 CCS limits. However, Caltrans expects construction to be completed in fall 2028.

⁴ Guadalupe Mobility + Revitalization Plan (2020)



SR 166 COMPREHENSIVE CORRIDOR STUDY • SR 166 ROAD SAFETY AUDIT • NOVEMBER 6, 2024



FIGURE 3. SR 166 AND BLACK ROAD TRAFFIC SIGNAL CONSTRUCTION COMPLETION (SOURCE: SBCAG SR 166 AND BLAACK ROAD RIBBON CUTTING)

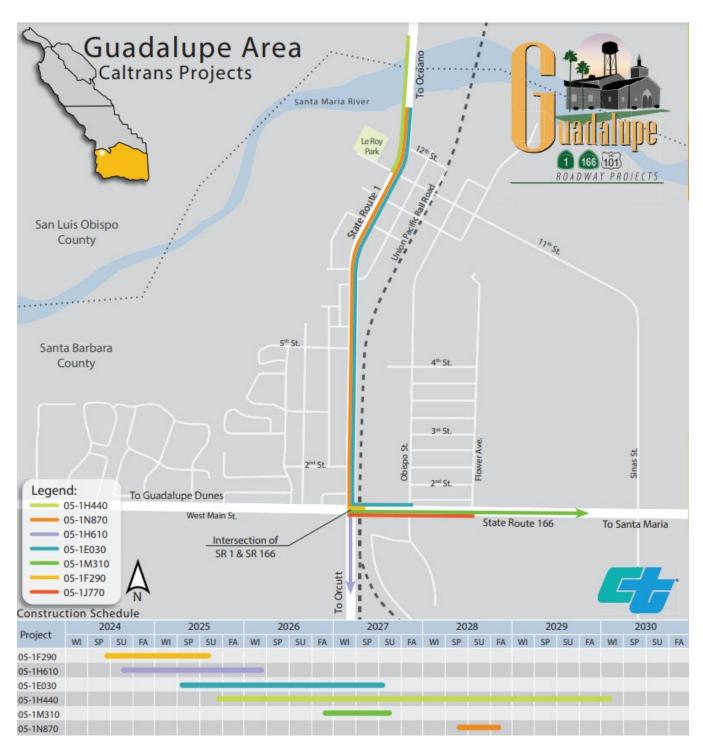


FIGURE 4. CALTRANS GUADALUPE ROADWAY PROJECTS (SOURCE: CALTRANS GUADALUPE ROADWAY PROJECT FACT SHEET)

SUMMARY OF CORRIDOR COLLISON DATA

Crash data for a five-year period from January 2019 to December 2023 was obtained from the Traffic Injury Monitoring System (TIMS). The study corridor consisted of 88 reported collisions for the five-year review period, however, 85 collisions occurred at the seven intersections. This corridor is heavily traveled by agricultural workers and trucks as the roadway is a designated STAA route. As shown in **Figure 5**, the majority of collisions occurred in 2020 and saw an ongoing reduction through to 2023. Additionally, a majority of collisions in 2020 occurred at SR 166/Black Road (Intersection 5) while SR 166/Simas Road (Intersection 2) accounted for a significant number of crashes in 2023 (**Figure 6**).

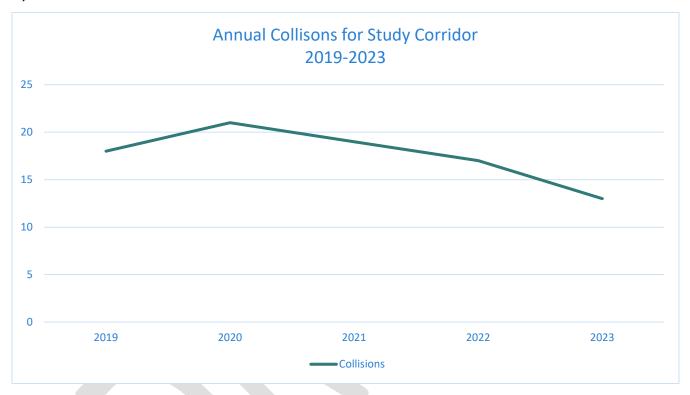


FIGURE 5. ANNUAL COLLISIONS - SR 166 (2019-2023)

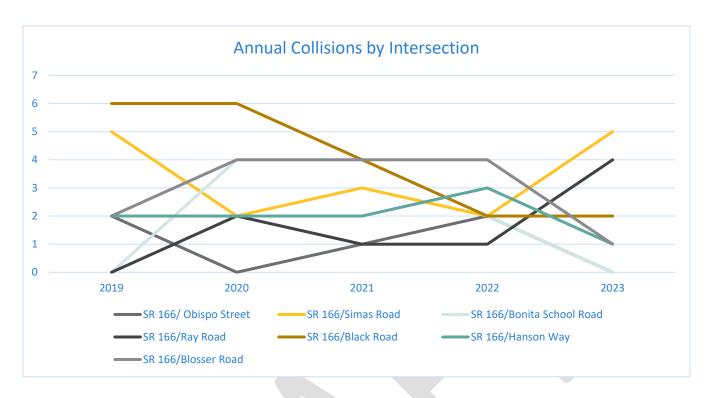
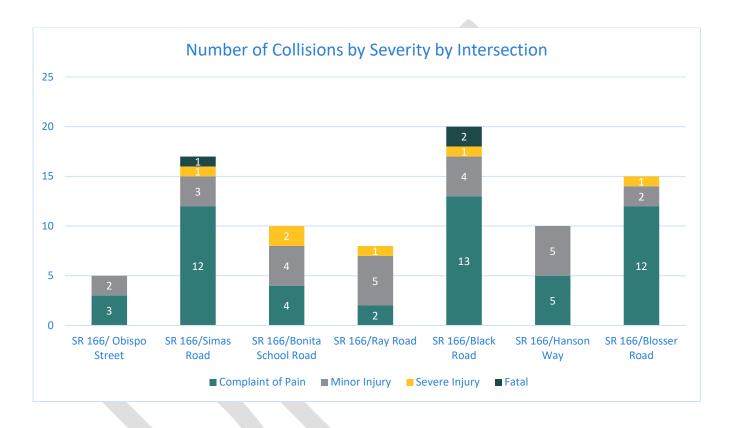


FIGURE 6. ANNUAL COLLISIONS BY INTERSECTION

COLLISIONS BY SEVERITY

While the RSA locations were primarily intersections, collisions for the entire study corridor were reviewed and identified by cross streets that were tied to the seven RSA intersections. Of the seven intersections, SR 166/Black Road (Intersection 5) consisted of the most collisions in a five-year period (20) with a total of 20 collisions and 3 Fatal or Severe Injury crashes as shown in . The study corridor primarily consisted of minor injury or complaint of pain crashes but experienced 9 Fatal or Severe Injury crashes along SR 166 (**Figure 7**).



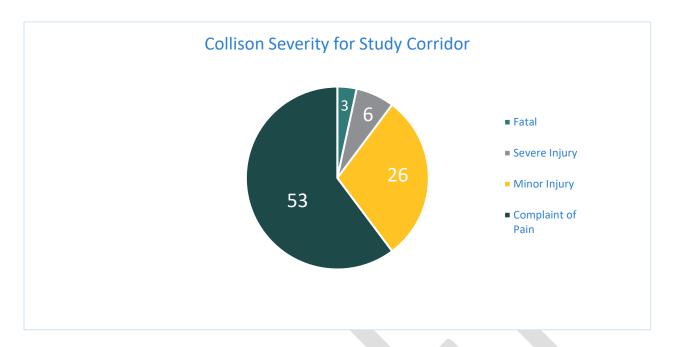


FIGURE 7. COLLISION SEVERITY - SR 166 (2019-2023)

COLLISIONS BY MODE

SR 166 lacks any safe and designated facilities for pedestrians and bicyclists. The only designated crossing locations are at SR 166/Obispo Street (Intersection 1) and SR 166/Blosser Road (Intersection 7). At Bonita School Road, crossing and pedestrian traffic is discouraged throughout the intersection with "no pedestrian crossing" signs throughout the intersection. From 2019 to 2023, there have only been two pedestrian or bicyclists' accidents, both occurring at SR 166 and Blosser Road.

COLLISIONS BY MONTH, TIME OF DAY, AND DAY OF WEEK

Due to the high density of adjacent agricultural land and volume of agricultural workers, time of day, day of week, and month were reviewed for the five-year period. As shown in **Figure 8**, the number of collisions increases in May and throughout fall months from September to November, this increase may be attributed to harvest months or peak agricultural activity. Collisions typically occurred early and midweek (**Figure 9**) and primarily midday or in the evening (**Figure 10**).

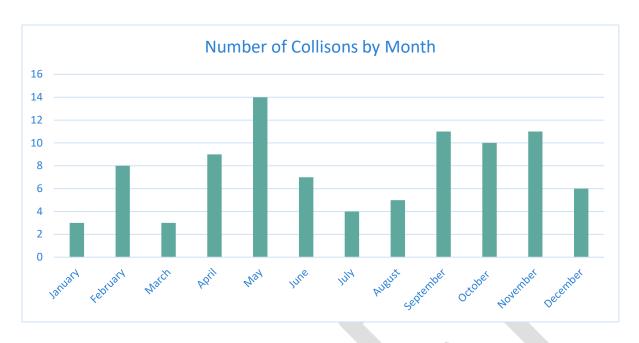


FIGURE 8. NUMBER OF COLLISIONS BY MONTH

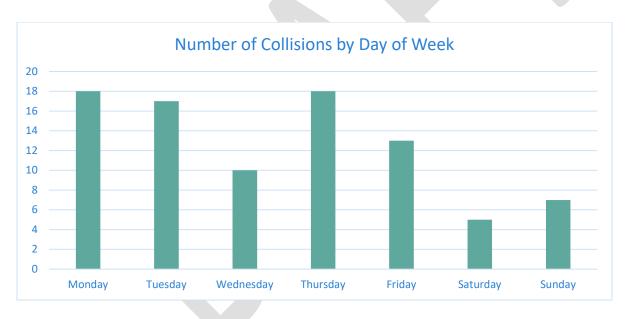


FIGURE 9. NUMBER OF COLLISIONS BY DAY OF WEEK

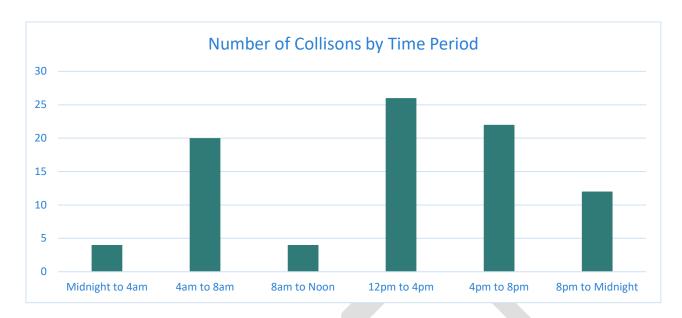


FIGURE 10. NUMBER OF COLLISIONS BY TIME

FIELD REVIEW AND ROAD SAFETY AUDIT

The RSA workshop was conducted over 4 hours (12:00pm – 4:00pm) on September 26, 2024, on SR 166 between the cities of Santa Maria and Guadalupe under partly cloudy and windy conditions. The RSA group convened for lunch in Guadalupe to do introductions and discuss goals and objectives of the workshop, and the purpose of the project. The group also discussed existing conditions and findings so far, particularly collision trends and upcoming projects along the corridor. During the opening discussion, several topics were explored including pedestrian and bicycle accessibility, connectivity, development patterns, upcoming projects, and collision trends. Due to the nature of the study corridor, attendees had to drive and park to each intersection identified, as it would be unsafe for attendees to walk along the corridor with no designated pedestrian facilities and vehicles traveling at high speeds. The selection of intersection field visit locations was determined based on crash history.

INTERSECTION 1 - SR 166 AND OBISPO STREET

Intersection 1 at SR 166 and Obispo Street is a four-way intersection. The intersection is unsignalized with minor-street stop control on the NB and SB approaches from Obispo Street. SR 166 at Obispo Street has one lane of travel in each direction and a left turn pockets for each approach. Obispo Street is stop-controlled at SR 166 and has one lane of travel in each direction. The southbound approach has a short right turn pocket while the northbound approach has a right and a left turn pocket. There are two striped crosswalks with ADA curb ramps at the EB SR 166/Obispo Street and NB Obispo St/SR 166 approaches with an RRFB at the EB SR 166/Obispo Street crosswalk. **Figure 11** and **Figure 12** illustrate the existing configuration of SR 166/Obispo Street (Intersection 1) from the southwest corner. **Figure 13** and **Figure 14** show the striped crosswalk and RRFB at the southwest corner of Intersection 1.

A 5-year review of collision history at this location found no clear collision trends. However, all five collisions associated with this location occurred within the intersection and three were rear ends. There have been no pedestrian or bicyclists collisions at the intersection.

The existing roadway is in good condition with roadway markings visible, likely due to development south of SR 166. One transit stop is located at the northwest corner of SR 166 and Obispo St.



FIGURE 11: AERIAL VIEW OF SR 166 AND OBISPO STREET



FIGURE 12. SR 166 AND OBISPO STREET EXISTING CONFIGURATION - SOUTHWEST CORNER



FIGURE 13. SR 166 AND OBISPO STREET SOUTHWEST CORNER - CROSSWALKS



FIGURE 14. SR 166 AND OBISPO STREET SOUTHWEST CROSSWALK

INTERSECTION 2 - SR 166 AND SIMAS ROAD

Intersection 2 at SR 166 and Simas Road is a four-way intersection. The intersection is unsignalized with four stop signs on all direction approaches. All intersection approaches at Intersection 2 were equipped with red flashing lights either above a stop sign or on a light pole to increase stop sign visibility and awareness. There are no sidewalks or crosswalks at this intersection. During the RSA, participants observed vehicles approaching the EB SR 166 stop and using the shoulder to turn right onto NB Simas Road. **Figure 14** and **Figure 15** demonstrate existing operations at Intersection 2. This intersection consisted of heavy truck traffic from nearby agricultural property.

A five-year review of collision history at this location revealed approximately 17 collisions at this location. Two collisions were fatal or severely injured crashes, both crashes were considered impaired or DUI accidents. Approximately 9 crashes were rear end collisions, 8 of which were unsafe speed. There have been no pedestrian or bicyclist collisions at the intersection within the five-year review history.



FIGURE 15. SR 166 AND SIMAS ROAD - SOUTHEAST CORNER



FIGURE 16. SR 166 AND SIMAS ROAD OPERATIONS - SOUTHEAST CORNER

INTERSECTION 3 - SR 166 AND BONITA SCHOOL ROAD

Intersection 3 is a three-way intersection at SR 166 and Bonita School Road providing access to and from Bonita Elementary School at the northwest corner of the intersection. The intersection is signalized for all approaches. SR 166 EB consists of one through lane and a protected left turn lane onto Bonita School Road while WB SR 166 is a one through lane. Bonita School Road SB is one lane with only left- and right-hand turn options. Prior to the intersection approach EB and WB SR 166 is considered a school zone with 25 mph speed limit when children are present. The intersection does not consist of any sidewalks or crosswalks. This intersection and prohibits pedestrian traffic and enforce that with six "no pedestrian signs", shown in **Figure 16**. **Figure 17** and **Figure 18** demonstrate current configuration and operations at Intersection 3. During the RSA, participants observed school release and noted congestion caused from school pick up and school bus queuing (**Figure 19**) on SB Bonita School Road. Additionally, school staff and overflow parking parked diagonally in the shoulder of SB Bonita School Rd.

At this intersection, there have been 10 crashes in a five-year period, two of which were severe injury crashes. There are no apparent collision patterns at this intersection. There have been no reported pedestrian and bicyclist collisions in the five-year history period.



FIGURE 17. NO PEDESTRIAN CROSSING AT SR 166 AND BONITA SCHOOL ROAD

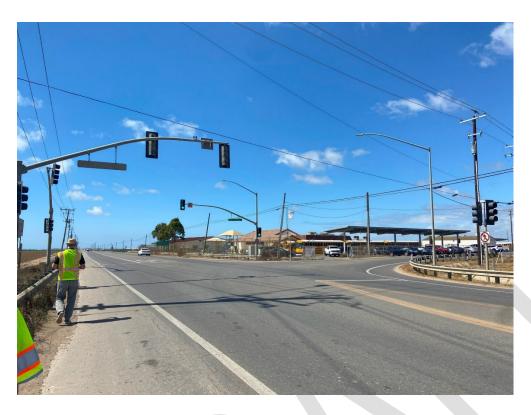


FIGURE 18. SR 166 AND BONITA SCHOOL ROAD EXISTING CONFIGURATION - SOUTHEAST CORNER



FIGURE 19. SR 166 AND BONITA SCHOOL ROAD EXISTING OPERATIONS - NORTHWEST CORNER



FIGURE 20. SR 166 AND BONITA SCHOOL ROAD SCHOOL BUS QUEUING - SOUTHWEST CORNER

INTERSECTION 4 - SR 166 AND RAY ROAD

Intersection 4 at SR 166 and Ray Road. SR 166 EB and WB consists of through travel, each direction containing a turning lane onto Ray Road or a private driveway. Ray Road approach has a stop sign adhering to SR 166 however, vehicles creep into the intersection or do not stop at all. The intersection is unsignalized and does not consist of any sidewalks or crosswalks. **Figure 21** shows the traffic queue on Ray Road waiting to run WB or EB on SR 166. **Figure 22** illustrates how far the stop extends into the intersection as a vehicle waits for a clearing to turn onto SR 166.

The five-year collision history indicates 8 collisions at this location, two of which are intersection crashes. This location consisted of one severe injury crash caused by improper turning. Four collisions were considered unsafe speed crashes.



FIGURE 21. SR 166 AND RAY ROAD TRAFFIC QUEUE - SOUTHWEST CORNER



FIGURE 22. SR 166 AND RAY ROAD OPERATIONS - SOUTHWEST CORNER

INTERSECTION 5 - SR 166 AND BLACK ROAD

Intersection 5 at SR 166 and Black Road. This intersection is undergoing final stages of construction to become a four-way signalized intersection, as shown in **Figure 23**. Intersection 5 was previously unsignalized with two stop signs at Black Road and a private driveway. Previously the intersection consisted of one through lane each direction on SR 166 and one turn lane per direction. There are no sidewalks or crosswalks. The new configuration will be a four-way signalized intersection with protected turn lanes for all directions.

The five-year collisions history indicated an increase in collisions at this location with approximately 20 collisions and three fatal or severe injury crashes. The primary crash factor violation for 50% of collisions at this location was unsafe speed.



FIGURE 23. SR 166 AND BLACK ROAD EXISTING CONSTRUCTION - NORTHEAST CORNER

INTERSECTION 6 - SR 166 AND HANSON WAY

Intersection 6 is at SR 166 and Hanson Way. This intersection is not signalized with the only traffic control being a stop sign at the NB Hanson Way approach. Hanson Way ends at the NB SR 166 approach and offers east and west bound movement onto SR 166. Hanson way consists of one lane; however, many vehicles use the right shoulder as a right turn lane. During the RSA, long queues on EB SR 166 formed and NB Hanson Way. Attendees noticed several vehicles struggled to find a gap in vehicles to turn left onto WB SR 166. Participants observed a truck pictured in **Figure 24** turn left or EB onto SR 166 and complete a U-turn to travel WB on SR 166.



FIGURE 24. VEHICLE U-TURN AT SR 166/HANSON WAY

INTERSECTION 7 - SR 166 AND BLOSSER ROAD

Intersection 7 is SR 166 and Blosser Road. This intersection is signalized and consists of sidewalks and crosswalks. The NB and SB Blosser Road approaches consists of four lanes, 2 through lanes and 2 turn lanes. EB and WB SR 166 consist of three lanes, 2 through lanes and one turn lane, however as shown in **Figure 25**, many vehicles use the right lane shoulder as a right turn lane. At this intersection, attendees noticed that vehicles in the EB through lanes on SR 166 tended to stop several feet before the crosswalk markings. Only one ADA curb ramp is existent at the SE corner of the intersection. Crossing signal timing was noticed to be just enough crossing time for the average pace. Additionally, for pedestrians to traverse WB on SR 166, they must walk on the sidewalk along the WB SR 166 lanes due as it is the only sidewalk that extends past the intersection on SR 166.

The five-year collision history of this intersection shows that 15 crashes have occurred, however 80% of the crashes were considered "complaint of pain" and there has been one severe injury.



FIGURE 25. SR 166 AND BLOSSER ROAD APPROACH - SOUTHWEST CORNER

RECOMMENDATIONS

CHALLENGES

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

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

RECOMMENDED IMPROVEMENTS

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

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

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

- Possibility for ITS improvements along the corridor
- Recommendations for public outreach and programs that would provide improved education about trip planning and coordinating with stakeholders.
- Support or freight benefits such as Weigh in Motion and/or automated freight counts.
- Bicycle infrastructure is lacking along the entire corridor, including at intersections.
- Left turn pockets and accelerations lanes for left turning vehicles along SR 166 may improve operations and safety for turning vehicles at high-volume private driveways along the eastern portion of the corridor
- Based on crash history, the curve between Simas Road and Ray Road should be evaluated for guard rail, chevrons, and curve signs, and other improvements to assist drivers in navigating the turn during low visibility conditions.

- Intersection lighting should be evaluated for improvement.
- Stop signs at all unsignalized intersections should be oversized, include retroreflective tape on poles, and LED borders for additional visibility/awareness due to low visibility conditions (nighttime, fog, and dusk/dawn glare)
- Transverse rumble strips on approaches to intersections to alert drivers of upcoming stops should be implemented.

Recommendations were also discussed and provided for each of the key intersections visited and observed:

Intersection 1 - SR 166 and Obispo Street

- Incorporate the latest improvements proposed by Caltrans as part of GAPS 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 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
 - o 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)



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- Better define overflow parking
- o 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	A.9 LEVEL	OF TRAFFI	C STRESS A	NALYSIS	

LEVEL OF TRAFFIC STRESS ANALYSIS

DATE: August 1, 2025

TO: SBCAG

FROM: Jim Damkowitch | DKS Associates

Connor Wolff, AICP | DKS Associates

Sylinda Villado | DKS Associates

SUBJECT: Bicycle and Pedestrian Level of Traffic Stress Methodology Project #24666-000

LEVEL OF TRAFFIC STRESS METHODOLOGY

Level of Traffic Stress (LTS) is an analysis of the level of stress bicyclists and pedestrians experience on a roadway segment. LTS is determined through a variety of criteria for both bike LTS and pedestrian LTS analysis.

BICYCLE LTS METHODOLOGY

The bike LTS was developed using the methodologies described in the Mineta Transportation Institute's Report 11-10 Low-Stress Bicycling and Network Connectivity (2012).

The Bicycle LTS methodology was conducted using two categories: segments (bike lanes, paths, routes) and intersection crossings (any traffic-controlled intersection). The LTS methodology is heavily table-oriented criteria and are applied separately for each category using the worst (highest) score among the criteria considered and governs the overall LTS score for that category.

Depending on the community context and the detail level desired, the overall methodology can be simplified based on consistency of facility types and certain elements (i.e. turn lanes, bike lanes, speed limits).

SEGMENTS

The LTS scoring criteria for analyzing the level of traffic stress for various roadway segments, (i.e. mixed traffic, bicycle lanes alongside a parking lane, bicycle lanes not alongside a parking lane). Note that physically separated bikeways such as Class I shared-use paths and Class IV separated bikeways typically receive an LTS score of 1 based on increased level of comfort due to separation from vehicle travel lanes. Bicycle LTS for roadway segments accounts for traffic volumes, speed, presence and width of a bicycle lane, presence and width of a parking lane, and bicycle lane blockage, which denotes the frequency at which a bicycle lane is blocked. However, in the Goleta LTS analysis, there was no known data available suggesting frequent blockage of bicycle lanes in the city. Therefore, bicycle lane blockage was assumed to be rare, consistent with the Mineta methodology approach.

Table 1 shows Bicycle LTS criteria for segments in mixed traffic. Mixed traffic segments are roadway segments with no defined Class II bike lanes. Roadway segments with Class III bicycle routes are analyzed using the mixed traffic criteria.

Table 2 and **Table 3** present the LTS criteria for segments with bicycle lanes alongside and not alongside parking lanes. As shown, some criteria result in "no effect", meaning that when other variables are accounted for there is no impact on the LTS score at the designated traffic stress level. For example, in Table 2, "no effect is shown for two of four criteria considered LTS 4, meaning that a roadway segment with a bicycle lane alongside a parking lane means that there will be no impact on the score if the roadway segment is 40 mph or higher.

TABLE 1. BICYCLE LTS CRITERIA - MIXED TRAFFIC

SPEED LIMIT OR PREVAILING	NU	MBER OF TRAVEL LAN	IES
SPEED	2-3 lanes	4-5 lanes	6+ lanes
UP TO 25 MPH	LTS 1 or 2	LTS 3	LTS 4
30 MPH	LTS 2 or 3	LTS 4	LTS 4
35+ MPH	LTS 4	LTS 4	LTS 4

TABLE 2. BICYCLE LTS CRITERIA - BIKE LANES ALONGSIDE PARKING LANE

	LTS 1	LTS 2	LTS 3	LTS 4
THROUGH LANES PER DIRECTION	1	No effect	2 or more	No effect
BICYCLE LANE + PARKING LANE WIDTH	15+ feet	14 to 15 feet	<14 feet	No effect
SPEED LIMIT OR PPREVAILING SPEED	Up to 25 mph	30 mph	35 mph	40+ mph
BICYCLE LANE BLOCKAGE	Rare	No effect	Frequent	No effect

TABLE 3. BICYCLE LTS CRITERIA - BIKE LANES NOT ALONGSIDE PARKING LANE

	LTS 1	LTS 2	LTS 3	LTS 4
THROUGH LANES PER DIRECTION	1	No effect	2 or more	No effect
BICYCLE LANE + PARKING LANE WIDTH	6 feet or more	<6 feet	No effect	No effect
SPEED LIMIT OR PPREVAILING SPEED	Up to 30 mph	No effect	35 mph	40 mph or more
BICYCLE LANE BLOCKAGE	Rare	No effect	Frequent	No Effect

CROSSINGS

For the purpose of this analysis, crossings at any unsignalized intersections were considered in the LTS analysis.

Using the Mineta methodology, signalized crossings are not generally analyzed as these control types typically do not create a connectivity barrier. Typically, signalized intersections provide adequate protection when crossing an intersection, except where roadways are exceptionally wide or where data exists to suggest that signal timings do not provide adequate crossing time for bicyclists.

Crossings on roadways classified as local/residential were given an LTS 1, assuming that crossing would be low-stress due to low speed and low volumes.

TABLE 4. BICYCLE LTS CRITERIA CROSSINGS - MEDIAN REFUGE AT LEAST 6 FEET AND CROSSINGS WITHOUT A MEDIAN

SPEED LIMIT OF STREET BEING		NUMBER OF TRAVEL LANES			
CROSSED	Up to 3 Lanes	4-5 Lanes	6+ Lanes		
UP TO 25 MPH	LTS 1	LTS 1	LTS 2		
30 MPH	LTS 1	LTS 2	LTS 3		
35 MPH	LTS 2	LTS 3	LTS 4		
40+MPH	LTS 3	LTS 4	LTS 4		

PEDESTRIAN LTS METHODOLOGY

The Pedestrian Level of Traffic Stress (LTS) methodology was developed by the Oregon Department of Transportation (ODOT). It is broken into two categories: segments (sidewalks, paths, and multiuse paths) and intersection crossings (unsignalized intersections). Table-based criteria are applied separately for each category using the "worst case principle," meaning the worst (or highest) score among the criteria considered governs the overall LTS score for that facility.

Depending on the community context and the detail level desired, the overall methodology may be simplified based on the general consistency of facility types, as certain elements (e.g., median islands, buffer type and width, sidewalk ramps, etc.) may not exist in a particular community. If there are no sidewalk ramps on a crossing, then this portion of the methodology is skipped. Signalized intersections generally do not receive an LTS score. Similar to the Bicycle LTS methodology, signalized crossings usually do not create a barrier, as the signal provides a protected crossing, and are not considered in the methodology.

SEGMENTS

Table 5 displays the LTS scoring criteria utilized for analyzing the level of traffic stress based on varying criteria such as sidewalk condition and total buffering width. There are four tables used to classify sidewalk segments, and the methodology follows a "worst case principle" meaning the lowest score assigned through the table criteria is applied to the segment. These tables are the criteria tables presented in the ODOT methodology.

Pedestrian LTS for sidewalk segments accounts for sidewalk condition, physical buffer type, total buffering width, and general land use. Pedestrian LTS criteria for analyzing segments based on these criteria are presented in **Table 6**.

Table 7 presents the LTS analysis criteria for segments with bicycle lanes. As shown, some criteria do not change across changing conditions. This denotes that when other variables are accounted for there is no impact, or no effect, on the LTS score at that traffic stress level. For example, **Table 7** shows no change in LTS when total buffering width increases from 10 to 25 feet on a two-lane roadway. In this example, a 10-foot buffer has been found sufficient to facilitate a low stress experience on a two-lane road. This begins to change as more travel lanes are introduced and facilitate higher speeds with more traffic volume.

TABLE 5. PEDESTRIAN LTS CRITERIA - SEGMENT SIDEWALK CONDITION

Actual/Effective		Sidewalk Condition					
Sidewalk	Width (ft) ²	Good	Fair	Poor	Very Poor	No Sidewalk	
	<4	PLTS 4	PLTS 4	PLTS 4	PLTS 4	PLTS 4	
Actual	≥4 to <5	PLTS 3	PLTS 3	PLTS 3	PLTS 4	PLTS 4	
	≥5	PLTS 2	PLTS 2	PLTS 3	PLTS 4	PLTS 4	
Effective	≥6⁴	PLTS 1	PLTS 1	PLTS 2	PLTS 3	PLTS 4	

TABLE 6. PEDESTRIAN LTS CRITERIA - SEGMENT PHYSICAL BUFFER TYPE

Physical Buffer Type				
Buffer Type ¹	Prevailing or Posted Speed			
	≤25 MPH	30 MPH	35 MPH	≥40 MPH
No Buffer (curb tight)	PLTS 2	PLTS 3	PLTS 3	PLTS 4
Solid surface	PLTS 2 ²	PLTS 2	PLTS 2	PLTS 2
Landscaped	PLTS 1	PLTS 2	PLTS 2	PLTS 2
Landscaped with trees	PLTS 1	PLTS 1	PLTS 1	PLTS 2
Vertical	TEIST	ILISI	ILISI	12152

¹Combined buffers: If two or more of the buffer conditions apply, use the most appropriate, typically the lower stress level.

TABLE 7. PEDESTRIAN LTS CRITERIA - SEGMENT TOTAL BUFFERING WIDTH

Total Number of	Total Buffering Width (ft) ¹				
Travel Lanes (both directions)	<5	≥5 to <10	≥10 to <15	≥15 to <25	≥25
2	PLTS 2	PLTS 2	PLTS 1	PLTS 1	PLTS 1
3	PLTS 3	PLTS 2	PLTS 2	PLTS 1	PLTS 1
4 - 5	PLTS 4 ²	PLTS 3	PLTS 2	PLTS 1	PLTS 1
6	PLTS 4 ²	PLTS 4 ²	PLTS 3	PLTS 2	PLTS 2

¹Total Buffering Width is the summation of the width of buffer, width of parking, shoulder, and bike lane on the same side of the roadway as the pedestrian facility being evaluated.

TABLE 8. PEDESTRIAN LTS CRITERIA - SEGMENT GENERAL LAND USE

PLTS	Overall Land Use	HDM Land Use Context	
PLTS 1	Residential, central business districts (CBD), neighborhood commercial, parks and other public facilities, governmental buildings/plazas, offices/office parks	Traditional Downtown/CBD Urban Mix Residential Corridor	
PLTS 2	Low density development, rural subdivisions, un-incorporated communities, strip commercial, mixed employment	Suburban Fringe Rural Community	
PLTS 3	Light industrial, big-box/auto-oriented commercial	Commonsial Comiden	
PLTS 4	Heavy industrial, intermodal facilities, freeway interchanges	Commercial Corridor	

CROSSINGS

Pedestrian Crossing LTS is assessed based on the criteria presented in **Table 9** through **Table 13**. There are 5 criteria tables, and the lowest score assessed is applied to the crossing. Crossings at signalized intersections generally receive an LTS of 1 unless engineering judgement necessitates adjustments based on factors such as illumination and crossing distance. Unsignalized intersections with median refuges and those without a median refuge are analyzed separately, as shown in **Table 9** and **Table 10**.

According to the ODOT methodology, signalized crossings are generally not analyzed as these crossing control types generally do not create a barrier to connectivity. In most cases, signalization provides adequate protection when crossing an intersection. An exception to this scoring criteria is roadways that are exceptionally wide (i.e., more than eight travel lanes), where data exists to suggest that signal timings do not provide adequate crossing time for pedestrians, or where limited sight lines on conflicting movements are insufficiently marked or illuminated.

Crossings at intersections between two roadways classified as local/residential that received LTS 1 (low-stress) scores, were also assumed to be low-stress due to low volumes and speed.

TABLE 9. PEDESTRIAN LTS CROSSINGS - COLLECTOR AND LOCAL UNSIGNALIZED CROSSSINGS 1,2,3,4

Prevailing Speed or	No Median Refuge Total Lanes Crossed		Median Refuge Present Maximum One Through/Turn
Speed Limit (mph)			Lane Crossed per Direction
≤ 25	1 Lane PLTS 1	2 Lanes PLTS 1	PLTS 1 ⁵
30	PLTS 1	PLTS 2	PLTS 1
35	PLTS 2	PLTS 2	PLTS 2
≥ 40	PLTS 3	PLTS 3	PLTS 3

¹For street being crossed.

²Minimum PLTS 3 when crossing lacks standard ramps.

³Use Table X for one-way streets, when ADT exceeds 5,000, or total number of lanes exceeds 2.

⁴Street may be considered a one-lane road when no centerline is striped and when oncoming vehicles commonly yield to each other.

⁵Refuge should be at least 10 feet for PLTS 1, otherwise use PLTS 2 6 to <10 feet.

TABLE 10. PEDESTRIAN LTS CRITERIA CROSSINGS - ARTERIAL UNSIGNALIZED CROSSING WITHOUT MEDIAN REFUGE 1,2,3,4

Prevailing Speed	Total Lanes Crossed (Both Directions) ³					
or		2 Lanes 3			3 Lanes	
Speed Limit (mph)	<5,000 vpd	5,000- 9,000 vpd ⁴	>9,000 vpd	<8,000 vpd	8,000- 12,000 vpd ⁴	>12,000 vpd
≤ 25	PLTS 2	PLTS 2	PLTS 3	PLTS 3	PLTS 3	PLTS 4
30	PLTS 2	PLTS 3	PLTS 3	PLTS 3	PLTS 3	PLTS 4
35	PLTS 3	PLTS 3	PLTS 4	PLTS 3	PLTS 4	PLTS 4
≥ 40	PLTS 3	PLTS 4	PLTS 4	PLTS 4	PLTS 4	PLTS 4

¹For street being crossed.

TABLE 11. PEDESTRIAN LTS CRITERIA CROSSINGS - ARTERIAL CROSSWALK ENHANCEMENTS^{1,2,3}

Treatment ²	Adjustment	Treatment	Adjustment
Markings ³	-0.5	In-street signs	-1.0
Roadside signage ³	-0.5	Curb extensions	-0.5
Illumination	-0.5	Raised crosswalk	-1.0
PAB (e.g. RRFB)	-1.0	Standard 12"	-0.5
		flashing beacon	

¹2.0 Maximum reduction or PLTS 2. Not intended for application at roundabouts.

TABLE 12. PEDESTRIAN LTS CRITERIA CROSSINGS - ARTERIAL UNSIGNALIZED INTERSECTION CROSSING (1 TO 2 LANES) WITH A MEDIAN REFUGE 1,2,3,4

Prevailing Speed or Speed Limit (mph)	Maximum Through/Turn Lanes Crossed per Direction												
	1 Lane	2 Lanes											
	Any	<5,000 vpd	5,000-9,000 vpd ⁴	>9,000 vpd									
≤ 25	PLTS 1 ³	PLTS 1 ³	PLTS 2	PLTS 2									
30	PLTS 2	PLTS 2	PLTS 2	PLTS 2									
35	PLTS 2	PLTS 2	PLTS 2	PLTS 3									
≥ 40	PLTS 3	PLTS 3	PLTS 3	PLTS 4									

¹For street being crossed.

²Minimum PLTS 3 when crossing lacks standard ramps.

³Use Table X for one-way streets. Use PLTS 4 for crossings of four or more lanes.

⁴Use these columns when ADT volumes are not available.

²Pedestrian hybrid beacons (PHB) are equivalent to signalized crossings.

³Not applicable for roadways with pedestrian median refuges as crosswalk markings and roadside signage assumed as part of the basic installation.

TABLE 13. PEDESTRIAN LTS CRITERIA CROSSINGS - ARTERIAL UNSIGNALIZED INTERSECTION CROSSINGS (3 OR MORE LANES) WITH A MEDIAN REFUGE 1,2

Prevailing Speed or Speed Limit	Maximum Through/Turn Lanes Crossed per Direction 3 Lanes 4+ Lanes										
(mph)	<8,000 vpd	8,000-12,000 vpd ⁴	>12,000 vpd	Any							
≤ 25	PLTS 1 ³	PLTS 2	PLTS 3	PLTS 4							
30	PLTS 2	PLTS 2	PLTS 3	PLTS 4							
35	PLTS 3	PLTS 3	PLTS 4	PLTS 4							
≥ 40	PLTS 4	PLTS 4	PLTS 4	PLTS 4							

¹For street being crossed.

²Minimum PLTS 3 when crossing lacks standard ramps.

 $^{^3}$ Refuge should be at least 10 feet for PLTS 1, otherwise use PLTS 2 for refuges 6 to <10 feet.

⁴Use these columns when ADT volumes are not available.

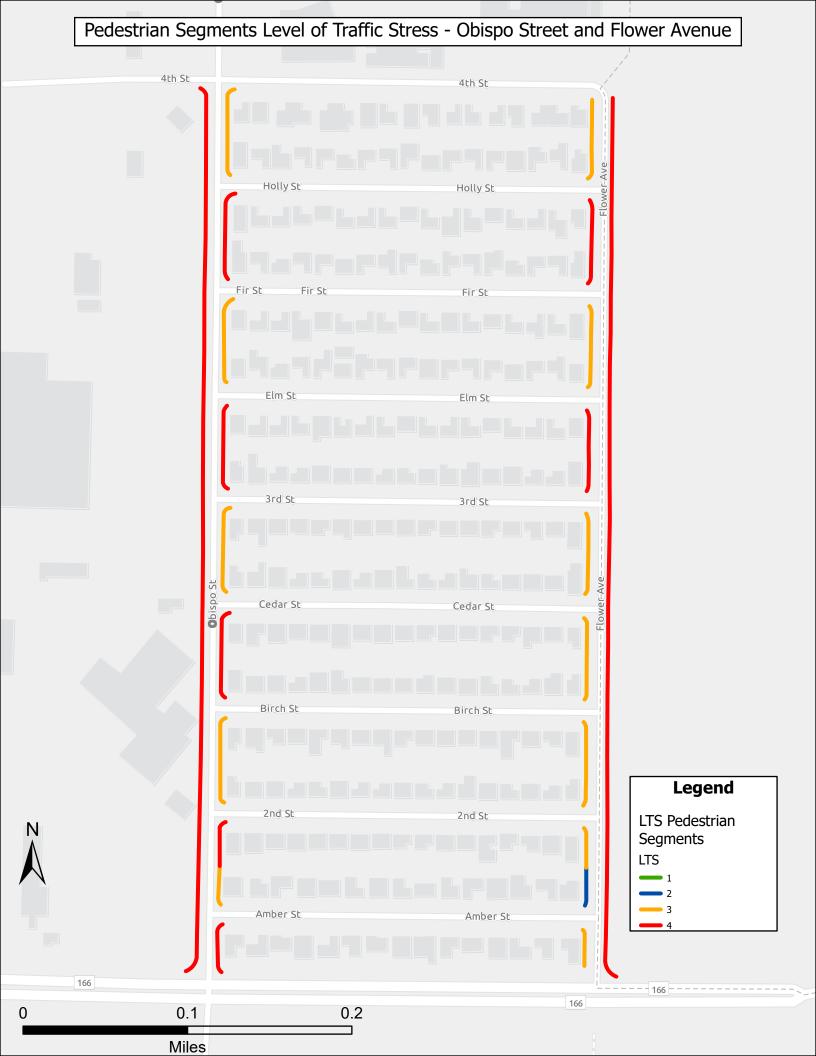
²Minimum PLTS 3 when crossing lacks standard ramps.

 $^{^{3}}$ Refuge should be at least 10 feet for PLTS 1, otherwise use PLTS 2 for refuges 6 to <10 feet.

⁴Use these columns when ADT volumes are not available.

Bicycle Segments Level of Traffic Stress - Obispo Street and Flower Avenue 4th St Holly St Holly St Fir St Fir St Elm St 3rd St Cedar St Birch St Birch St Legend 2nd St 2nd St Level of Traffic Stress 2 Amber St Amber St 166 0.1 0.2

Miles



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.

Table 3-2. California Road System Classification

RURAL ROADS	41%	URBAN ROADS	59%
Local Street	16%	Local Street	38%
Minor Collector	6%	G. H	700/
Major Collector	19%	Collector	12%
Minor Arterial	< 1%	Minor Arterial	4%
Principal Arterial-Other	< 1%	Principal Arterial-Other	4%
		Residential/Local	1%

Source: County of Santa Barbara Dept. of Public Works, 2022.

Level of traffic stress (LTS) is one metric that is used to understand how comfortable and attractive roadways are to bicyclists. LTS quantifies the amount of discomfort the people feel when they bicycle close to traffic. LTS assigns a numeric stress level (one to four) representing a spectrum from lowest to highest stress to roadways based on attributes such as traffic speed, number of lanes, existing bicycle facilities, and parking.

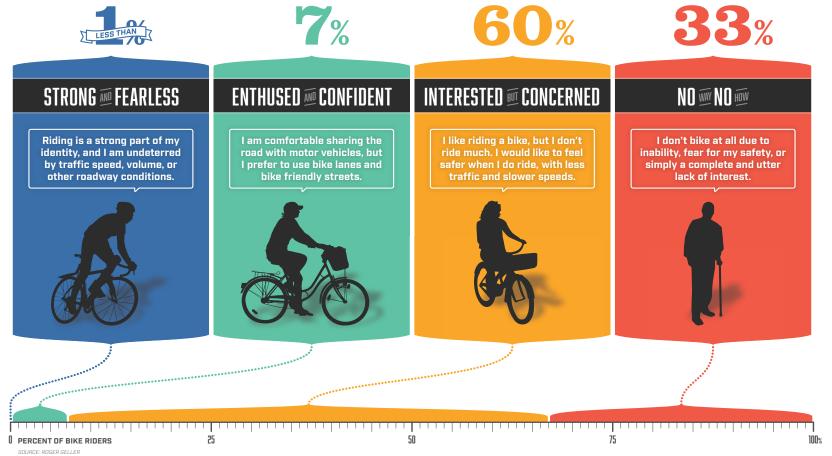
As shown in **Figure 3-2** and **3-3**, very low stress facilities (LTS 1) are assigned to roads that would be suitable for most children to ride or suitable for inexperienced adults riding bicycles with small children.

Low stress facilities (LTS 2) are roads that could be comfortably ridden by the general adult population (about 60 percent of adults).

Higher stress facilities (LTS 3 and 4) represent roads that would be comfortable for confident bicyclists (7 percent of adults) or are only acceptable to "strong and fearless" bicyclists (1 percent of adults) who can tolerate roadways with higher motorized traffic volumes and speeds without protection. Roughly 30 percent of people may have no interest in biking at all.

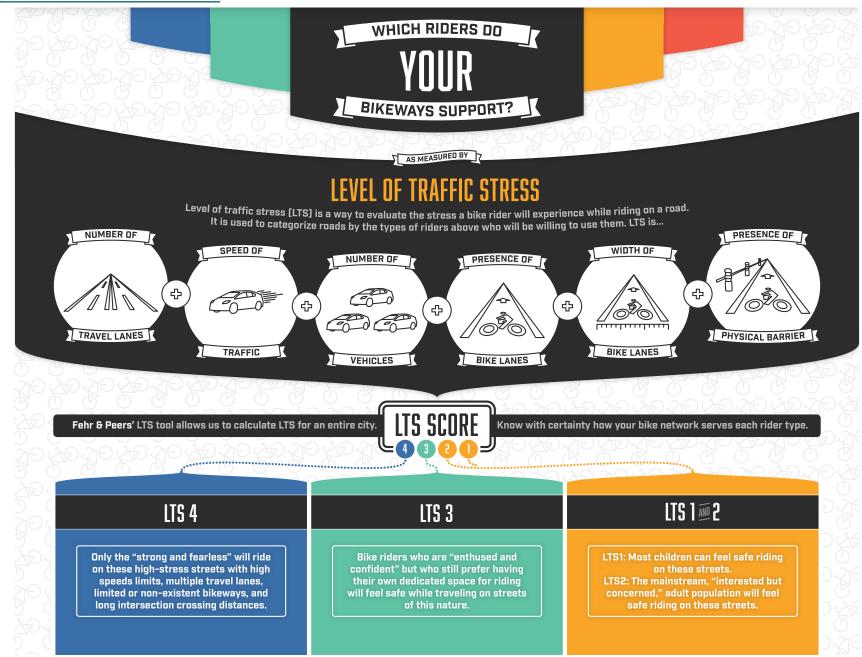
Figure 3-2. Types of Bicyclists





Source: Fehr & Peers, 2022

Figure 3-3. Level of Traffic Stress



Source: Fehr & Peers, 2022

This plan aims to identify projects that will build out a network of connected and low stress facilities that will appeal to users of all ages and abilities.

The County leveraged their consultants' prior data analysis to map all roadways in the county by their LTS score. Fehr & Peers calibrated a methodology for estimating LTS scores based on roadway data from OpenStreetMap, an open-source global database of GIS data in standardized, accessible formats.

The LTS Scores are based on analysis of tags (attributes) coded into the OpenStreetMap database, including functional classification, number of travel lanes, posted speed limit, presence of on-street bike facilities, presence of striped centerline and others.

Since the County did not ground truth the LTS data, the LTS analysis in **Table 3-3** and **Figure 3-4** was included to introduce the concept of LTS only. The project ideas and recommendations in **Chapter 5** were not based on the unverified LTS analysis

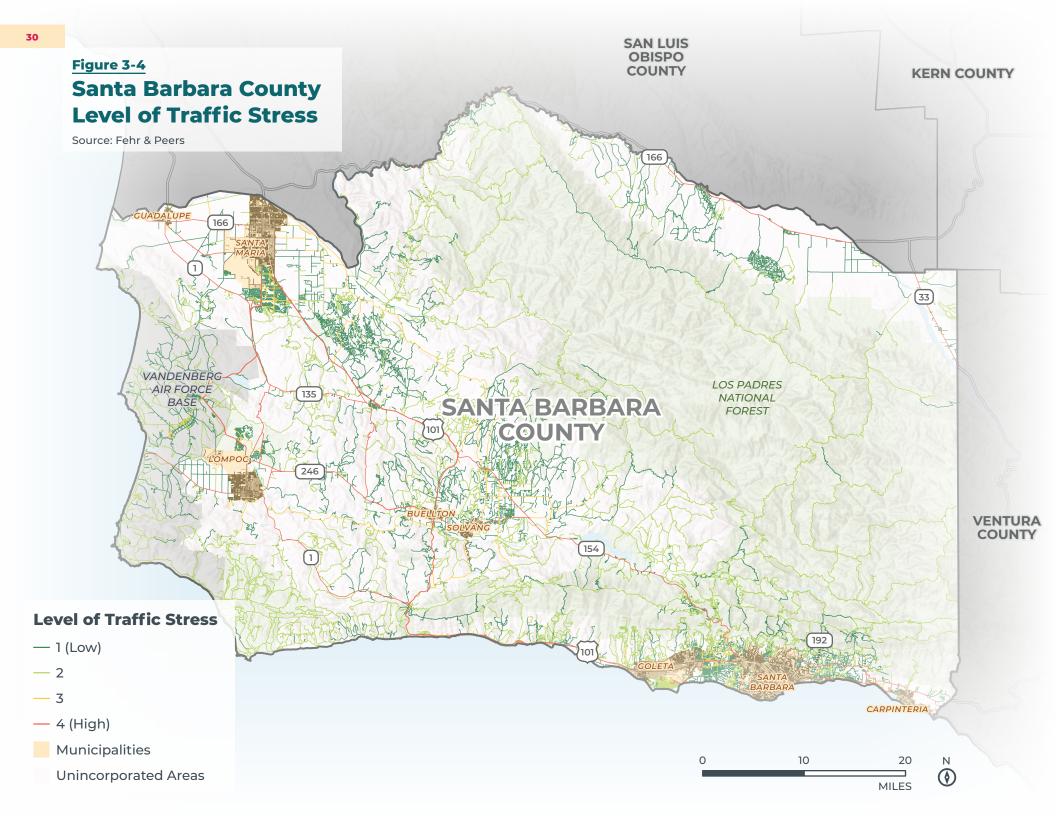
in this chapter. However, LTS is a useful tool for evaluating projects in the future.

Staff found the LTS scores in this chapter to generally under represent the level of traffic stress experienced by people who bike on County roadways. Therefore, any future LTS analysis should include a refined methodology that is locally specific to Santa Barbara County.

Table 3-3. Santa Barbara County Level of Traffic Stress by County Road System Classification

SUBAREA 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.



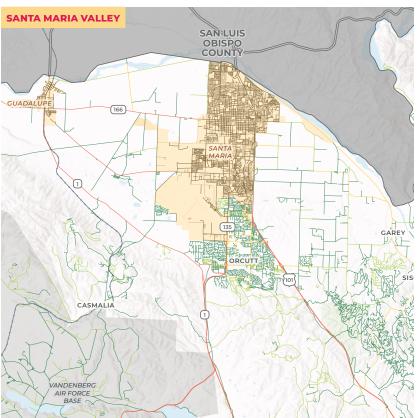
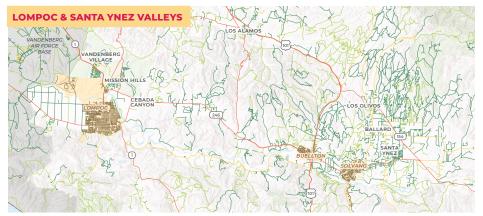


Figure 3-4. Santa Barbara County Level of Traffic Stress (cont.)





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