Transportation Impact Study for the Masamigas Mercado Project

Prepared for the City of Santa Rosa

Submitted by
W-Trans

March 4, 2025

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Executive Summary

The Masamigas Mercado project is a proposed specialty marketplace to be located in an existing building at 2970 Santa Rosa Avenue. The existing 10,983-square-foot space would be remodeled to accommodate the sale of fresh and prepared food together with associated kitchen space, offices and dining areas. A 4,700 square foot second story addition is proposed to house the office space, and 1,327 square feet of outdoor dining space are also proposed.

Though proposed primarily as a market, to reflect the inclusion of dining space per staff direction the project was evaluated using the trip generation rates for a "Fast Casual Restaurant," translating to an average of 1,523 trips per day, with 22 during the morning peak hour and 197 during the evening peak hour. After deducting trips associated with the previous use as a furniture store as well as trips that would be captured from traffic passing the site on Santa Rosa Avenue, the project is expected to generate an average of 1,149 new primary trips per day, including 15 during the morning peak hour and 106 during the evening peak hour.

The proposed project complies with City policy regarding transportation facilities, including those for pedestrians, bicyclists, and transit riders except that long-term bicycle parking is not shown on the plans. With the inclusion of such parking the project would have a less-than-significant impact on transportation facilities.

The project provides local-serving retail, so would be presumed to have a less-than-significant impact on VMT. No hazards would be introduced by the project, and it would have a nominal effect on response times, so the project's impact on safety and emergency response would also be less than significant.

Three signalized intersections on Santa Rosa Avenue (at Hearn Avenue, US 101 North Ramps-Yolanda Avenue, and Todd Road) were analyzed. All three had collision rates below the statewide average, so appear to be operating within normal safety parameters. The three study intersections are currently operating acceptably at LOS C or D and would be expected to continue doing so upon adding trips associated with other proposed developments in the area as well as the proposed project.

The required parking supply was evaluated based on the planned uses for the various areas within the building (market, dining, food preparation, office) rather than a single land use as was applied for the operational analysis. Based on the application of the City's parking requirements the project would need to provide 51 parking spaces; the proposed supply is 52 spaces, so exceeds the minimum number required.

Introduction

This report presents an analysis of the potential transportation impacts and adverse operational effects that would be associated with redevelopment of the site at 2970 Santa Rosa Avenue in the City of Santa Rosa to accommodate the proposed Masamigas Mercado project. The transportation study was completed in accordance with the criteria established by the City of Santa Rosa, reflects a scope of work approved by City staff, and is consistent with standard traffic engineering techniques.

Prelude

The purpose of a transportation impact study is to provide City staff and policy makers with data that they can use to make an informed decision regarding the potential transportation impacts of a proposed project and any associated improvements that would be required to mitigate these impacts to an acceptable level under CEQA, the City's General Plan, or other policies. This report provides an analysis of those items that are identified as areas of environmental concern under the California Environmental Quality Act (CEQA) and that, if significant, require an EIR. Impacts associated with access for pedestrians, bicyclists, and to transit; the vehicle miles traveled (VMT) generated by the project; potential safety concerns such as increased queuing in dedicated turn lanes, adequacy of sight distance, need for turn lanes, and need for additional right-of-way controls; and emergency access are addressed in the context of the CEQA criteria. While no longer a part of the CEQA review process, vehicular traffic service levels at key intersections were evaluated for consistency with General Plan policies by determining the number of new trips that the proposed use would be expected to generate, distributing these trips to the surrounding street system based on anticipated travel patterns specific to the proposed project, then analyzing the effect the new traffic would be expected to have on the study intersections, and potentially identifying the need for improvements to maintain acceptable operation. The adequacy of parking is also addressed as a policy issue.

Applied Standards and Criteria

The report is organized to provide background data that supports the various aspects of the analysis, followed by the assessment of CEQA issues and an evaluation of policy-related issues. The CEQA criteria evaluated are as follows.

Would the project:

a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?
b. Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
d. Result in inadequate emergency access?

Additionally, Section 5.8, Transportation Goals & Policy, of the City of Santa Rosa General Plan provides the following guidance relative to these CEQA criteria.

T-H-3 *Require new development to provide transit improvements, where a rough proportionality to demand from the project is established. Transit improvements may include:*

- *Direct and paved pedestrian access to transit stops*
- *Bus turnouts and shelters*
- *Lane width to accommodate buses*

General interpretation of Policy T-H-3. An impact is considered adverse if the project has the potential to disrupt existing transit operations or establishes transit facilities and equipment such that it creates a sight distance deficiency or vehicle conflict point.

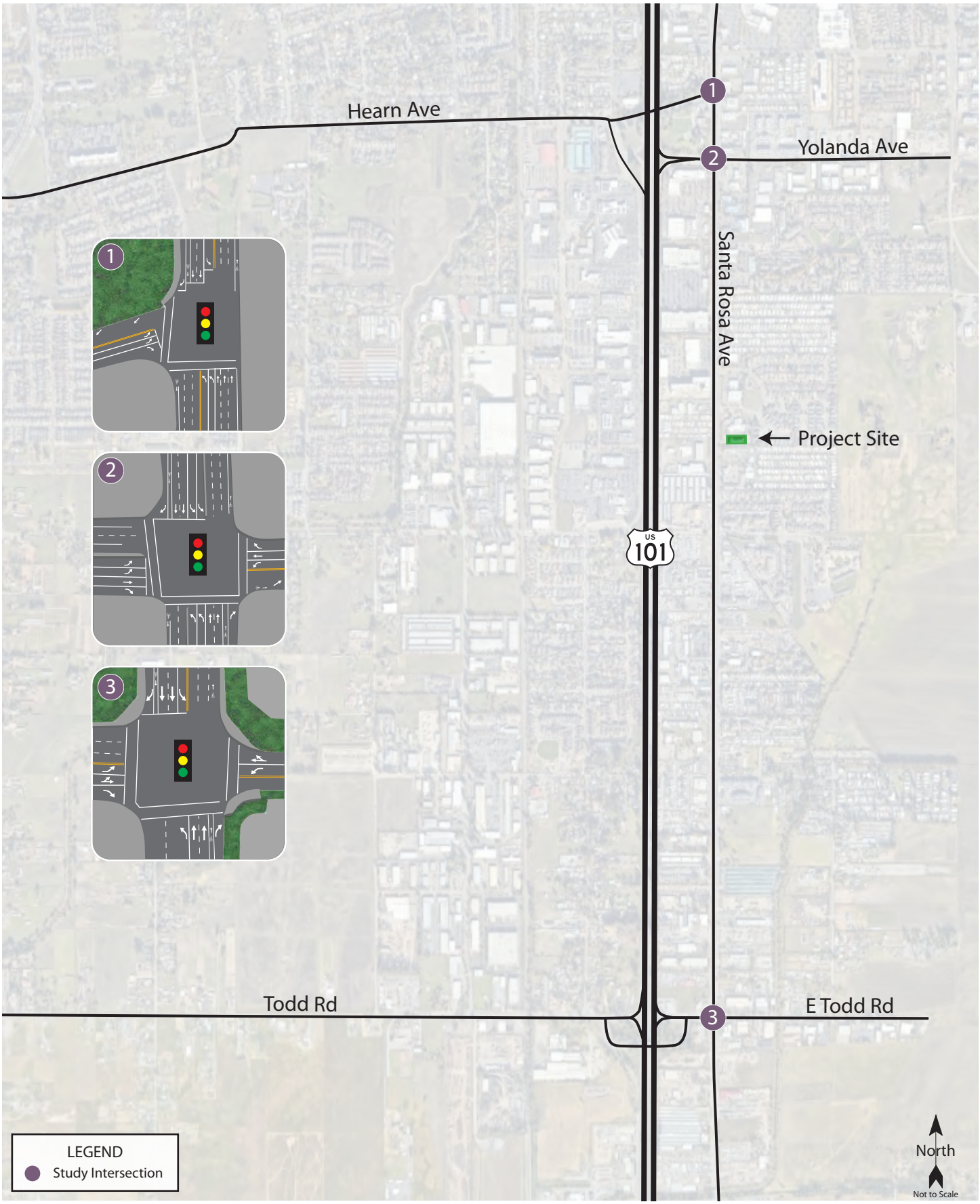
T-J *Provide attractive and safe streets for pedestrian and bicyclists.*

General interpretation of Policy T-J. An impact is considered adverse if the project generates 20 pedestrians in any single hour at an unsignalized intersection, mid-block crossing or where no crossing has been established.

An impact is further considered significant if the project interrupts existing or proposed pedestrian, bicycle, and transit facilities, their path of travel, hinders direct access resulting in excessive rerouting, or creates a vehicle conflict condition that affects the safety of other roadway users.

Project Profile

The project as proposed includes the renovation of an existing 10,983-square-foot commercial space to a specialty marketplace that would include fresh and prepared food vending, kitchen space, offices, and dining areas. The project also includes construction of a 4,700 square-foot second story addition to the building and development of 1,327 square feet of outdoor dining space. The project site is located at 2970 Santa Rosa Avenue, as shown in Figure 1.



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Transportation Impact Study for the Masamigas Mercado Project

Figure 1 – Study Area and Existing Lane Configurations

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Transportation Setting

Study Area and Periods

The study area varies depending on the topic. For pedestrian trips it consists of all streets within approximately one-half mile of the project site that would lie along primary routes of pedestrian travel or those leading to nearby generators. For bicycle trips it consists of all streets within one mile of the project site that would lie along primary routes of bicycle travel. For the safety and operational analyses, it consists of the project frontage and the following intersections:

1. Hearn Avenue/Santa Rosa Avenue
2. US 101 North Ramps-Yolanda Avenue/Santa Rosa Avenue
3. Todd Road/Santa Rosa Avenue

Operating conditions during the p.m. peak period were evaluated to capture the highest potential impacts for the proposed project as well as the highest volumes on the local transportation network. The p.m. peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion during the homeward bound commute. Counts were obtained for the study intersections on Tuesday, October 29, 2024.

Study Intersections

Hearn Avenue/Santa Rosa Avenue is a four-legged signalized intersection with a driveway controlled by the signal as the east leg. The signal operates with protected left-turn phasing on the northbound and southbound Santa Rosa Avenue approaches and split phasing on the eastbound and westbound Hearn Avenue approaches, as well as right turn overlaps on the southbound and eastbound approaches. There are marked crosswalks on the south and west legs and curb ramps on the northwest, southwest, and southeast corners. Bike lanes are present on the north and south legs.

US 101 North Ramps-Yolanda Avenue/Santa Rosa Avenue is a four-legged signalized intersection with protected left-turn phasing on all approaches as well as a right turn overlap on the southbound approach. There are marked crosswalks on the south, east, and west legs as well as curb ramps on all corners of the intersection. Bike lanes are present on the north, south, and east legs.

Todd Road/Santa Rosa Avenue is a signalized intersection with protected left-turn phasing on the northbound and southbound approaches and split phasing on the eastbound and westbound Todd Road approaches. There are bike lanes on the north and south legs, marked crosswalks on all but the north leg, and curb ramps on all four corners of the intersection.

The locations of the study intersections and the existing lane configurations and controls are shown in Figure 1.

Study Roadway

Santa Rosa Avenue is a north-south arterial roadway with a posted speed limit of 40 mph. Along the project frontage the road has two approximately 12-foot travel lanes in each direction and a 16-foot center two-way left-turn lane. Bike lanes are present on both sides of the street. Traffic counts collected over 24 hours on Tuesday, October 29, 2024, indicate that the roadway is currently carrying approximately 21,000 vehicles per day.

Existing Transportation Facilities

Existing and Planned Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, curb ramps, curb extensions, and various streetscape amenities. In general, there are continuous sidewalks in the study area along developed property frontages, including in front of the project site.

- **Santa Rosa Avenue** – There is continuous sidewalk coverage on Santa Rosa Avenue on both sides of the street between Todd Road and Hearn Avenue. There are overhead streetlights, marked crosswalks, and curb ramps at intersections along Santa Rosa Avenue, as well as midblock crossings within the study area.

Existing and Planned Bicycle Facilities

The *Highway Design Manual*, Caltrans, 2020, classifies bikeways into four categories:

- **Class I Multi-Use Path** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane** – a striped and signed lane for one-way bicycle travel on a street or highway.
- **Class III Bike Route** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- **Class IV Bikeway** – also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

In the project area, Class II bike lanes exist on Santa Rosa Avenue between Todd Road and South A Street-Maple Avenue, on Kawana Springs Road between Santa Rosa Avenue and Brookwood Avenue, and on Petaluma Hill Road between Old Petaluma Hill Road and Barham Avenue-Pressley Street. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the project study area. With the implementation of planned Class II bike lanes on Hearn Avenue and Todd Road, the bicycle facilities on Santa Rosa Avenue would be connected to the bikeway network west of the US 101 freeway. Table 1 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the *City of Santa Rosa Bicycle and Pedestrian Master Plan Update 2018* as well as the *Countywide Active Transportation Plan Update Bike Route Map*.

Table 1 – Bicycle Facilities Summary				
Status **Facility**	**Class**	**Length (miles)**	**Begin Point**	**End Point**
Existing				
Kawana Springs Rd	II	1.00	Santa Rosa Ave	Brookwood Ave
Petaluma Hill Rd	II	1.40	Old Petaluma Hill Rd	Barham Ave-Pressley St
Santa Rosa Ave	II	3.10	Todd Rd	South A St-Maple Ave
Planned				
SMART Trail	I	2.77	Bellevue Ave	Golf Course Dr
Todd Creek Trail	I	1.56	Bellevue Ave	Hunter Creek Trail
Bellevue Ave	II	1.95	Petaluma Hill Rd	Burgess Dr
Dutton Ave	II	2.77	W Robles Ave	West 3rd St
Hearn Ave	II	0.42	Santa Rosa Ave	Whitewood Dr
Petaluma Hill Rd	II	1.09	City Limit	Barham Ave-Pressley St
Todd Rd	II	1.51	Santa Rosa Ave	Stony Point Rd
Yolanda Ave	II	0.50	Santa Rosa Ave	Petaluma Hill Rd
Wiljan Ct-Dowd Dr	III	0.75	Bellevue Ave	Corby Ave Extension

Source: *City of Santa Rosa Bicycle & Pedestrian Master Plan Update 2018*, City of Santa Rosa, 2018; *Countywide Active Transportation Plan Update* Bike Route Map, Sonoma County Transportation Authority (SCTA), 2024

Existing Transit Facilities

Santa Rosa CityBus and Sonoma County Transit (SCT) provide fixed route bus service in the Santa Rosa area. Existing transit routes and their operation are summarized in Table 2.

Table 2 – Existing Transit Routes					
Transit Agency Route	**Distance to Stop (mi)[1]**	**Service**			**Connection**
		Days of Operation	**Time**	**Frequency**	
Santa Rosa CityBus					
Route 3	0.1	Mon-Fri Sat Sun	6:00 AM – 7:20 PM 6:00 AM – 8:20 PM 10:00 AM – 5:20 PM	1 hour	Santa Rosa Transit Mall, Southside Shopping Center, Santa Rosa Marketplace
Route 5	0.7	Mon-Fri Sat Sun	6:30 AM – 8:50 PM 6:30 AM – 7:50 PM 10:30 AM – 4:50 PM	1 hour	Santa Rosa Transit Mall, Council on Aging
Sonoma County Transit					
Route 44	0.1	Mon-Fri Sat-Sun	6:00 AM – 11:15 PM 7:00 AM – 10:30 PM	30 min – 1 hr 1 – 3 hours	Santa Rosa Junior College, Sonoma State, Cotati SMART Station
Route 48					Santa Rosa Junior College, Cotati Hub, Downtown Petaluma

Note: [1] Defined as the shortest walking distance between the project site and the nearest bus stop
Source: Santa Rosa CityBus, Sonoma County Transit

Two bicycles can be carried on the front of all Santa Rosa CityBus and SCT buses. Bike rack space is available on a first come, first served basis. Additional bicycles can be carried on Santa Rosa CityBus buses while one additional bike rack space is provided on some SCT buses.

Dial-a-ride, also known as paratransit or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. Santa Rosa ParaTransit is designed to serve the needs of individuals with disabilities within the Santa Rosa area and SCT Paratransit provides service throughout all of Sonoma County.

Collision History

The collision histories for intersections within the study area were reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current five-year period available is July 1, 2019, through June 30, 2024.

As presented in Table 3, the calculated collision rates for the study intersections were compared to average collision rates for similar facilities statewide, as indicated in *2021 Collision Data on California State Highways*, California Department of Transportation (Caltrans), 2023. These average rates statewide are for intersections in a similar environment (urban, suburban, or rural), with the same number of approaches (three or four), and the same controls (all-way stop, two-way stop, or traffic signal). Collision rates for all three intersections were below the statewide average during the five-year period analyzed. The collision rate calculations are provided in Appendix A.

Table 3 – Collision Rates for the Study Intersections

Study Intersection	Number of Collisions (2019-2024)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
1. Hearn Ave/Santa Rosa Ave	10	0.16	0.33
2. US 101 North Ramps-Yolanda Ave/ Santa Rosa Ave	5	0.07	0.33
3. Todd Rd/Santa Rosa Ave	7	0.15	0.55

Note: c/mve = collisions per million vehicles entering

Pedestrian Safety

The collision history for the study area was reviewed to determine any trends or patterns that may indicate a safety issue for pedestrians. During the five-year study period, there was one reported collision involving a pedestrian at the study intersection of US 101 North Ramps-Yolanda Avenue/Santa Rosa Avenue.

Bicyclist Safety

During the five-year study period, there were four reported collisions involving a bicyclist at the study intersections, including two at Hearn Avenue/Santa Rosa Avenue and two at Todd Road/Santa Rosa Avenue. Collision records show the cause of two of these crashes as vehicle right-of-way violations while one involved a wrong-way bicyclist, and one was a pedestrian right-of-way violation.

Project Data

The project includes the renovation of an existing 10,983-square-foot commercial building to transform it into a specialty marketplace that would include fresh and prepared food vending, kitchen space, offices, and dining areas. A 4,700-square-foot second story addition as well as 1,327 square feet of outdoor dining areas are also proposed. The market sales area and supporting functions, such as the meat department, will comprise approximately 10,090 square feet of the total space and about 2,168 square feet will be used for offices. The project site plan is shown in Figure 2.

Trip Generation

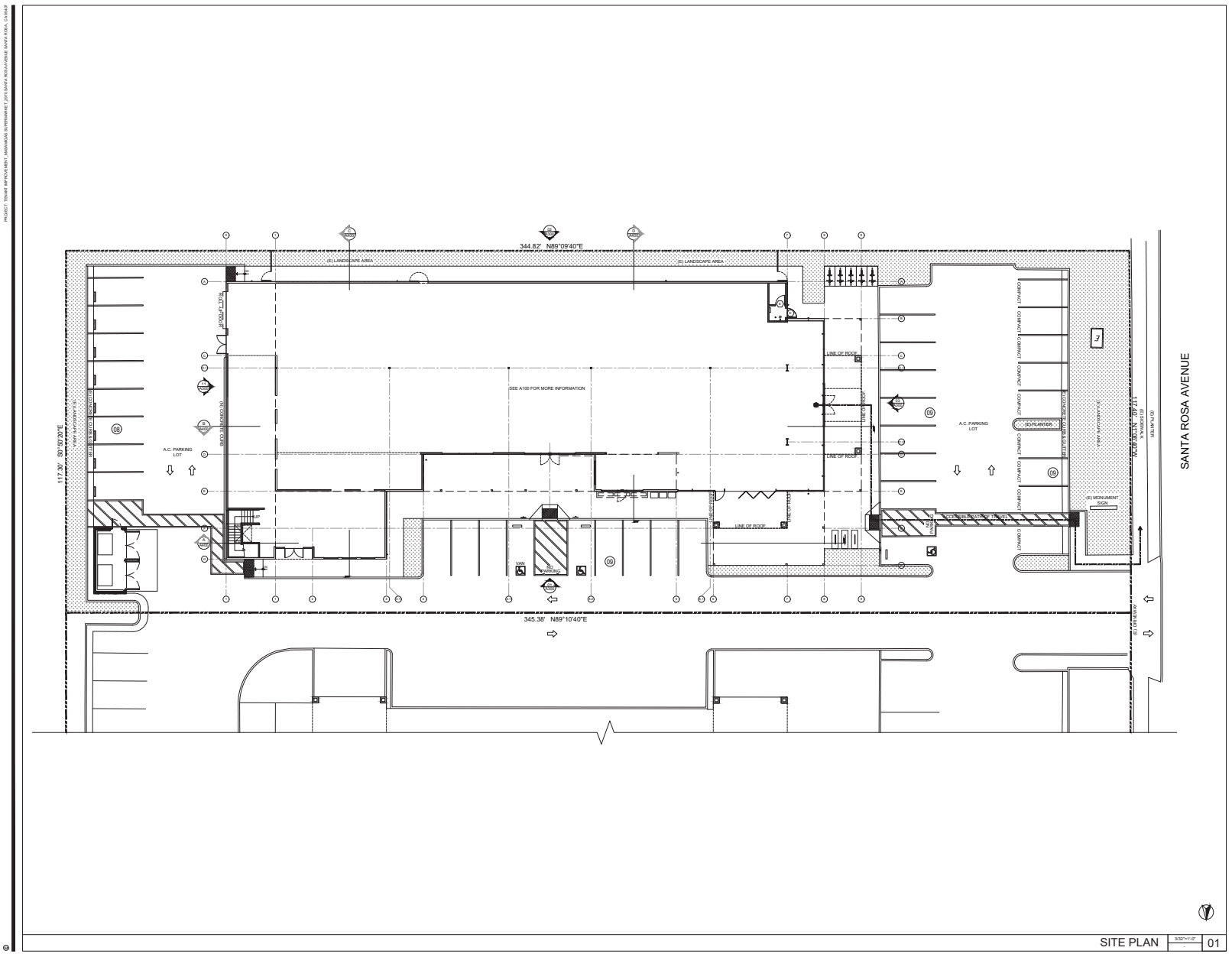
Although the bulk of the proposed project is a market, because there will be seating areas and prepared food can be purchased, the estimated trip generation for the proposed project was conservatively based upon standard rates published by ITE in *Trip Generation Manual*, 11th Edition, 2021, for Fast Casual Restaurant (LU #930) per staff direction. With 1,327 square feet of eating space to 10,090 square feet of preparation and sales space, the eating space is a much smaller percentage of the preparation space than is typical for a restaurant, where a ratio of one-to-one or two-to-one would be anticipated. Because the higher restaurant rates are being applied to the entire floor area and because they are not part of the building size, the proposed outdoor seating areas were not included in the floor area. The rates for a Furniture Store (LU #890) would be most appropriate for the most recent prior use.

Pass-by Trips

Some portion of traffic associated with the project would be drawn from existing traffic on Santa Rosa Avenue. These vehicle trips are not considered "new" but would instead be comprised of motorists who are already driving on the adjacent street system and choose to make an interim stop, referred to as “pass-by”. The percentage of these pass-by trips is based on information provided in the *Trip Generation Manual*. The pass-by rate for a High-Turnover (Sit-Down) Restaurant (LU #932), which is the closest similar use for which rates are available, was applied. Only a p.m. peak hour rate is available; rates for the a.m. peak hour and daily were estimated based on this rate.

Total Project Trip Generation

After deducting for pass-by trips, the project is anticipated to generate an average of 1,218 daily weekday primary trips with 18 trips occurring during the a.m. peak hour and 112 occurring during the p.m. peak hour. Compared to the previous use, the proposed use would be expected to generate 1,149 net new primary trips daily, including 15 trips during the morning peak hour and 106 during the evening peak hour, as presented in Table 4.



Transportation Impact Study for the Masamigas Mercado Project

Figure 2 – Site Plan

Table 4 – Trip Generation Summary											
Land Use	**Units**	**Daily**		**AM Peak Hour**				**PM Peak Hour**			
		Rate	**Trips**	**Rate**	**Trips**	**In**	**Out**	**Rate**	**Trips**	**In**	**Out**
Prior Use											
Furniture Store	-10.983 ksf	6.30	-69	0.26	-3	-2	-1	0.52	-6	-3	-3
Proposed Use											
Fast Casual Restaurant	15.683 ksf	97.14	1,523	1.43	22	11	11	12.55	197	108	89
Pass-by		*-20%*	*-305*	*-20%*	*-4*	*-2*	*-2*	*-43%*	*-85*	*-47*	*-38*
Net Project Trips			**1,218**		**18**	**9**	**9**		**112**	**61**	**51**
Net New Primary Trips			***1,149***		***15***	***7***	***8***		***106***	***58***	***48***

Note: ksf = 1,000 square feet

As the project would be expected to generate more than 50 p.m. peak hour trips, an operations analysis is required per the City's guidelines.

Trip Distribution

The pattern used to allocate new project trips to the street network was based on knowledge of the study area. The applied distribution assumptions and resulting trips associated with the proposed project are presented in Table 5.

Table 5 – Trip Distribution Assumptions				
Route	**Percent**	**Daily Trips**	**AM Trips**	**PM Trips**
From/To US 101 to the north	35%	426	6	40
From/To US 101 to the south	25%	304	4	28
From/To Hearn Ave to the west	15%	183	3	17
From/To Santa Rosa Ave to the north	15%	183	3	17
From/To Todd Rd to the west	5%	61	1	5
From/To Santa Rosa Ave to the south	5%	61	1	5
TOTAL	**100%**	**1218**	**18**	**112**

Circulation System

This section addresses the first transportation bullet point on the CEQA checklist, which relates to the potential for a project to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Pedestrian Facilities

Site Design

According to the preliminary site plan, new sidewalks would be installed connecting the existing sidewalk on Santa Rosa Avenue to the parking lot as well as along the southern edge of the site connecting to existing sidewalks surrounding the building. A marked crosswalk is proposed to be installed across the parking lot that would provide a continuous accessible path of travel between the sidewalk on Santa Rosa Avenue and the building entrance. No changes are proposed that would conflict with City policies regarding existing or planned future pedestrian facilities.

Project Impacts on Pedestrian Facilities

Given the proximity of residential uses to the project site, it is reasonable to assume that some employees would walk, bicycle, and/or use transit to reach it. Sidewalks currently exist along both sides of Santa Rosa Avenue, including along the project frontage. The proposed pedestrian facilities in the project site plan would allow for connectivity within the site and to the existing sidewalks along Santa Rosa Avenue.

The closest marked crosswalk to the project site across Santa Rosa Avenue is located 670 feet to the north at Court Street, and another is located 0.2 miles to the south at Bellevue Avenue. Both of these crossings include refuge medians and Rectangular Rapid Flashing Beacons (RRFBs) that are push-button activated and provide a measure of safety for pedestrians crossing this busy arterial roadway. Although there are two new residential apartment buildings either under construction or planned on the west side of Santa Rosa Avenue that could potentially generate walking trips to the project site, the vast majority of land uses there are industrial or commercial in nature and would likely generate few, if any, walking trips to the site.

With a p.m. peak hour trip generation of 112 primary trips, it is unlikely that there would be 20 walking trips from/to the other side of Santa Rosa Avenue given the mix of land uses there. It is therefore concluded that the number of walking trips made across the roadway would be less than 20 and thus would not have an adverse impact according to the Santa Rosa General Plan 2035, Section 5.8 T-J.

Finding – The project would not conflict with any policies related to pedestrian facilities.

Bicycle Facilities

Project Impacts on Bicycle Facilities

Existing Class II bicycle facilities in the study area, together with shared use of minor streets, provide adequate access for bicyclists around the project site. Completion of the planned Class II bike lanes on Hearn Avenue and Todd Road would further improve bicycle access to the project site. No physical changes are proposed along the project's frontage that would affect existing or planned bicycle facilities.

Bicycle Storage

Per the site plan, bicycle parking would be provided by bike racks located outside the west entrance. A total of 20 short-term bicycle parking spaces are proposed, some of which would be designated for employee use. Per the *Santa Rosa City Code Section 20-36.040*, one bicycle parking space per 4,000 square feet must be provided for the "Restaurant – Counter Ordering" use. As the proposed project would include 15,683 square feet, four bicycle parking spaces would be required.

Section 20-36.090 of the Municipal Code provides further requirements and design standards for bicycle parking. When the number of spaces required is based on square footage, at least 25 percent of bicycle parking spaces must be long-term, and 50 percent must be short-term. Thus, the Municipal Code requires a minimum of one long-term and two short-term parking spaces at the project site. Further, the Code specifies that short-term bicycle parking spots must include securely anchored bike racks positioned in convenient, well-lit locations with sufficient space for bicycles to be accessed and stored. Long-term bicycle parking spots include covered bicycle lockers with a built-in locking mechanism or covered, restricted-access bicycle enclosures containing only one bicycle each.

Finding – Off-site bicycle facilities serving the project site are adequate and would be improved upon the completion of Class II bike lanes on Hearn Avenue and Todd Road. Bicycle parking or storage facilities are required by the City of Santa Rosa, and 20 bicycle parking spaces are proposed via bike racks in the project site plan, though long-term facilities are not identified.

Recommendation – Long-term bicycle parking accommodations should be provided based on the City's municipal code requirements.

Transit Facilities

Impact on Transit Facilities

Given the four available bus routes serving the project area within a one-mile radius, existing transit routes are adequate to accommodate project-generated transit trips. No modifications to the project's frontage on Santa Rosa Avenue are proposed, so the project would not conflict with any existing or planned facilities or amenities for transit.

Finding – Transit facilities serving the project site are adequate.

Significance Finding – The proposed project would not conflict with any plans or policies for transportation facilities and would provide adequate on-site pedestrian and bicycle facilities; however, this finding assumes that at least one long-term bicycle parking accommodation would be included on the project site.

Vehicle Miles Traveled (VMT)

The potential for the project to conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b) was evaluated based on the project's anticipated Vehicle Miles Traveled (VMT).

Senate Bill (SB) 743 established the increase in Vehicle Miles Traveled (VMT) as a result of a project as the basis for determining transportation impacts. The City of Santa Rosa has established parameters for VMT analyses in the *Vehicles Miles Traveled Guidelines Final Draft*, 2020. The City's parameters are consistent with guidance provided in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, California Governor's Office of Planning and Research (OPR), 2018.

The City guidelines state that for retail projects, any increase in total VMT would be considered a significant impact. In addition, the policy notes that retail projects with a floor area less than 10,000 square feet would be presumed to have a less-than-significant VMT impact. Smaller retail projects do not draw customers from a regional level and tend to redistribute existing customer trips as new retail opportunities provide additional local destinations and result in more efficient trip patterns. The project as proposed would occupy a total of 15,683 square feet. Since this is greater than the City's significance threshold, there is the potential that the project would have a significant VMT impact, which was evaluated qualitatively.

As indicated in the trip generation analysis, an estimated 20 percent of project-generated trips are considered "pass-by", indicating that these project trips were previously existing and would therefore not add to regional VMT. In fact, such trips may have the effect of reducing VMT since customers could avoid trips to stores that require more of a diversion from their travel route.

The development context of the project was also considered to assess the trip patterns associated with the project. The project includes a grocery and casual restaurant that would serve items targeting the population living in the vicinity. According to the 2019 American Community Survey, the Census tract where the project is located has a population of 9,583 residents, of whom 46 percent are of Mexican origin. Given the availability of markets and restaurants throughout Santa Rosa that sell similar products, the proposed market would not be expected to generate new regional trips as residents outside the vicinity of the project would have access to similar shopping and dining options closer to their homes. In the more immediate area surrounding the site there is a relatively dense concentration of residential development as the transportation analysis zone (TAZ) where the project is located includes 1,796 residents that live within approximately one-quarter mile of the site, a walkable distance for most people. As a result, it is expected that many customers would access the site by walking, and those who opt to drive would typically drive relatively short distances.

While the City has the authority to apply its own thresholds for CEQA analysis, it is noted that the Governor's Office of Planning and Research (OPR) technical advisory regarding the implementation of SB 743 provides policies that are employed by a large number of agencies throughout California. The technical advisory includes a recommended significance threshold of 50,000 square feet for retail uses, which is substantially higher than Santa Rosa's threshold. This threshold was established to reflect evidence that large-scale retail such as supermarkets and big box stores have the potential to draw from a larger geographic area, which could increase regional VMT. While smaller retail projects would conceivably generate new trips in a rural setting, Santa Rosa includes numerous markets, many of which are larger than the proposed project. As noted above, based on the specific uses proposed and the area's demographic characteristics, the proposed market appears to be more similar to local-serving uses and would therefore be expected to have more of a local customer base. Such uses tend to produce a more efficient trip pattern as residents would no longer need to leave their neighborhood to access this type of store and may result in a net reduction in VMT.

Given the size of the project, its proximity to US 101, and the overall land use context in the immediately surrounding area, it is expected that the project would be a local-serving use, would not act as a regional attractor, and would tend to redistribute existing retail trips rather than increasing regional VMT. Therefore, it is

recommended that the City consider these factors in the application of its VMT policy, as the project's impact is expected to be less than significant.

Significance Finding – Based on application of the City's VMT guidelines, the project would have a potentially significant VMT impact. Given the specifics of the proposed use, the land use context, and the population surrounding the site, it is expected that the project would be local-serving and would therefore have a less-than-significant impact on VMT.

Safety Issues

This section addresses the third transportation bullet on the CEQA checklist which is whether the project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). The potential for the project to impact safety was evaluated in terms of the adequacy of sight distance at the project driveway.

Site Access

According to the project site plan, the project site would be accessed via an existing driveway on the east side of Santa Rosa Avenue approximately 260 feet south of Elsa Drive. An existing internal circulation roadway exists around the project building that would provide access to parking spaces on the west, north, and east sides of the structure.

Sight Distance

Sight distance along Santa Rosa Avenue at the project driveway was evaluated based on sight distance criteria contained in in the *Highway Design Manual* published by Caltrans. These guidelines include recommended sight distances for various conditions. Although sight distance requirements are not applicable to urban driveways, the stopping sight distance criterion was applied for safety evaluation purposes.

For the posted 40-mph speed limit on Santa Rosa Avenue adjacent to the project site, the minimum stopping sight distance needed is 300 feet. During a review of field conditions, it was determined that sight lines extend more than 300 feet in each direction at the driveway.

Finding – Sight distances along Santa Rosa Avenue at the project driveway are adequate for the approach speeds.

Significance Finding – The proposed project would not create any new hazards or introduce incompatible uses to the roadway system, so its impact on safety would be less than significant.

Emergency Access

The final transportation bullet on the CEQA checklist requires an evaluation as to whether the project would result in inadequate emergency access.

Adequacy of Site Access

Emergency vehicles would be able to enter the project site from the existing driveway on Santa Rosa Avenue. According to the City of Santa Rosa's Municipal Code, Section 20-36.080, the minimum width of driveways is 12 feet for one-way traffic and 20 feet for two-way traffic. Interior drive aisles would be 26 feet wide per the preliminary site plan, which is greater than the minimum driveway width for two-way traffic. The Santa Rosa Fire Prevention Bureau Standards specify minimum roadway turning radii of 20 feet for the inside turn radius and 40 feet for the outside turn radius. On-site roadway turning radii appear to be in accordance with the City's standards, though review and approval from the fire code official would be required as part of the entitlement process.

Finding – Internal roadway width would be adequate for two-way traffic, and it is assumed that adequate radii would be provided for turns as the site plan would require review and approval by a fire code official.

Off-Site Impacts

While the project would be expected to result in minor increases in delay for vehicles at the study intersections as detailed in the Capacity Analysis section of this report (less than five-second increases in average delay), emergency response vehicles may use their lights and sirens to bypass queued traffic and minimize the effects of intersection delay; therefore, the project would be expected to have a negligible impact on emergency response times.

Finding – The proposed project is expected to have a nominal effect on response times.

Significance Finding – The proposed project would have a less-than-significant impact on emergency response.

Capacity Analysis

Intersection Level of Service Methodologies

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

The study intersections were analyzed using the signalized methodology published in the *Highway Capacity Manual* (HCM) *7th Edition*, Transportation Research Board, 2022. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle. The signalized methodology is based on factors that include traffic volumes, green time for each movement, phasing, whether the signals are coordinated, and pedestrian activity. Signal timing information was provided by City of Santa Rosa and County of Sonoma staff. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. The ranges of delay associated with the various levels of service are presented in Table 6.

Table 6 – Intersection Level of Service Criteria

LOS	Signalized Intersections
A	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop, and drivers consider the delay excessive.
F	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Reference: *Highway Capacity Manual 7th Edition,* Transportation Research Board, 2022

Traffic Operation Standards

Caltrans

The intersection of US 101 North Ramps-Yolanda Avenue/Santa Rosa Avenue is under the jurisdiction of the California Department of Transportation (Caltrans). Caltrans does not have operations standards for intersection Level of Service as it now uses VMT as the basis for determining significant transportation impacts. The City of Santa Rosa's standards were therefore applied.

City of Santa Rosa

Section 5.8 Transportation Goals & Policy of the *Santa Rosa General Plan 2035* provides the following guidance relative to traffic operation.

T-D-1 *Maintain a Level of Service (LOS) D or better along all major corridors. Exceptions to meeting the standard include:*

- *Within downtown;*

- *Where attainment would result in significant degradation;*
- *Where topography or impacts makes the improvement impossible; or*
- *Where attainment would ensure loss of an area's unique character.*

The LOS is to be calculated using the average traffic demand over the highest 60-minute period.

Traffic Engineering Division will require a level of service evaluation of arterial and collector corridors if deemed necessary.

T-D-2 *Monitor level of service at intersections to assure that improvements or alterations to improve corridor level of service do not cause severe impacts at any single intersection.*

General interpretation of Policy T-D-2. The impact to an intersection is considered adverse if the project related and/or future trips result in:

1. The level of service (LOS) at an intersection degrading from LOS D or better to LOS E or F, or
2. An increase in average vehicle delay of greater than 5 seconds at a signalized intersection where the current LOS is either LOS E or F.
3. Queuing impacts based on a comparative analysis between the design queue length and the available queue storage capacity. Impacts include, but are not limited to, spillback queue at project access locations (both ingress and egress), turn lanes at intersections, lane drops, spillback that impacts upstream intersections or interchange ramps.
4. Exceptions may be granted under the following conditions:
   a. Within downtown,
   b. Where attainment would result in significant degradation,
   c. Where topography or impacts makes the improvement impossible; or
   d. Where attainment would ensure loss of an area's unique character.

County of Sonoma

The intersection of Santa Rosa Avenue/Todd Road is under the jurisdiction of the County of Sonoma. The following criterion published by the County of Sonoma in 2016, and updated in 2019, was applied in evaluating potential for the project to have an adverse effect on operation.

The Level of Service standard for County intersection operations is to maintain a Level of Service D or better pursuant to General Plan Policy CT-4.2. The project would have an adverse effect if the project's traffic would cause an intersection currently operating at an acceptable service level (LOS D or better) to operate at an unacceptable level (LOS E or worse).

If the intersection currently operates or is projected to operate below the County standard, the project's effect is considered adverse if it causes the average delay to increase by five seconds or more. The delay will be determined by comparing intersection operations with and without the project's traffic for the projected future conditions.

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the p.m. peak period. This condition does not include project-generated traffic volumes. Volume data was collected in October 2024 while local schools were in session.

Under Existing Conditions, all three study intersections operate acceptably at LOS D or better. The Existing traffic volumes are shown in Figure 3, and copies of the calculations are provided in Appendix B. A summary of the intersection Level of Service calculations is presented in Table 7.

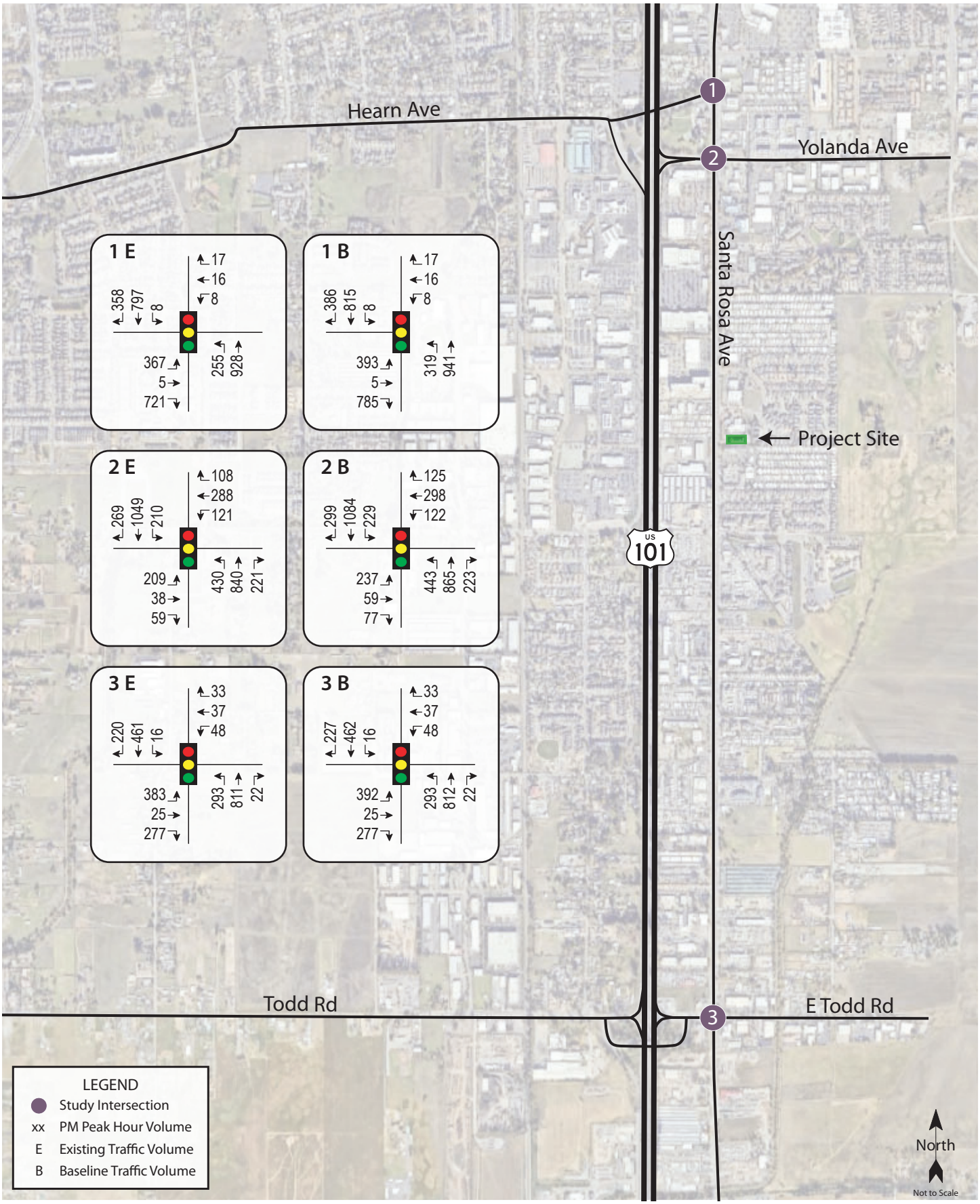


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Figure 3 – Existing and Baseline Traffic Volumes

W-Trans

Table 7 – Existing PM Peak Hour Intersection Levels of Service		
Study Intersection	**Delay (seconds)**	**LOS**
1. Hearn Ave/Santa Rosa Ave	32.5	C
2. US 101 North Ramps-Yolanda Ave/Santa Rosa Ave	40.0	D
3. Todd Rd/Santa Rosa Ave	28.7	C

Note: Delay is measured in average seconds per vehicle; LOS = Level of Service

Baseline Conditions

Baseline operating conditions were assessed with traffic from approved projects in and near the study area added to the existing volumes. The following eight projects contained in the *Citywide Summary of Pending Development Report*, 2023, were included in the evaluation of Baseline Conditions. Unless stated otherwise, all projects have been approved and the same trip generation and distribution assumptions used in the traffic studies for the various projects, where available, were used in this analysis.

38 Degrees North Phase 3 Apartment Homes is a multi-family residential development project recently completed at 2660 Petaluma Hill Road that consists of 30 apartment homes. Based on rates published in the *Trip Generation Manual,* the project is expected to generate 12 trips during the p.m. peak hour.

Avenue 3111 Storage and Apartments is a multi-family residential development project approved in 2022 to be located at 3111 Santa Rosa Avenue that will include 48 units of multi-family housing and a self-storage facility of 85,000 square feet. Based on the *Focused Traffic Analysis for the 3111 Santa Rosa Avenue Project,* W-Trans, 2022, the project is expected to generate 36 trips during the p.m. peak hour.

Bellevue Ranch 7 is a residential project approved in 2020 to be located at 2903 Dutton Meadow that will consist of 30 single-family homes. Based on rates published in the *Trip Generation Manual*, the project is expected to generate 28 trips during the p.m. peak hour.

Canine Companions Early Development Center Expansion Project is a veterinary project approved in 2021 to be located at 2965 Dutton Avenue that will consist of 21,991 square feet of veterinary-related uses. Based on rates published in the *Trip Generation Manual*, the project is expected to generate 78 trips during the p.m. peak hour.

Kawana Meadows is a residential project approved in 2005 to be located at 1230 Goya Street that will consist of 62 single-family homes. Based on the *Trip Generation Manual*, the project is expected to generate 66 trips during the p.m. peak hour.

Meadowood Ranch Subdivision is a small lot residential project approved in 2023 to be located at 2853 Dutton Meadow that will consist of 137 single-family homes. Based on the *Traffic Impact Study for the Meadowood Ranch Project,* W-Trans, 2021, the project is expected to generate 77 trips during the p.m. peak hour.

Old Dominion is a freight transfer terminal project that will include a 17,695 square-foot building and 224,901 square feet of paving for the maneuvering and parking of trailers located at 2960 Dutton Avenue. Based on the *Trip Generation Study for the 2960 and 2970 Dutton Avenue Project,* W-Trans, 2018, the project is expected to generate 33 trips during the p.m. peak hour.

Santa Rosa Avenue Apartments is a multi-family residential development project currently under construction located at 2905 Santa Rosa Avenue that will consist of 154 apartment units. Based on the *Traffic Impact Study for the Santa Rosa Avenue Apartments*, W-Trans, 2020, the project is expected to generate 68 trips during the p.m. peak hour.

Under the baseline volumes resulting from adding trips associated with the eight projects detailed above to existing volumes, all the study intersections would be expected to operate acceptably at LOS D or better. These results are shown in Table 8, and Baseline traffic volumes are shown in Figure 3.

Table 8 – Baseline PM Peak Hour Intersection Levels of Service

Study Intersection	Delay (seconds)	LOS
1. Hearn Ave/Santa Rosa Ave	35.9	D
2. US 101 North Ramps-Yolanda Ave/Santa Rosa Ave	43.0	D
3. Todd Rd/Santa Rosa Ave	28.8	C

Note: Delay is measured in average seconds per vehicle; LOS = Level of Service

Project Conditions

Existing plus Project Conditions

Upon the addition of anticipated project-generated traffic volumes to existing volumes, the study intersections would be expected operate acceptably at LOS D or better with increases to delay of less than five seconds. These results are summarized in Table 9 while Existing plus Project volumes are shown in Figure 4.

Table 9 – Existing and Existing plus Project PM Peak Hour Intersection Levels of Service

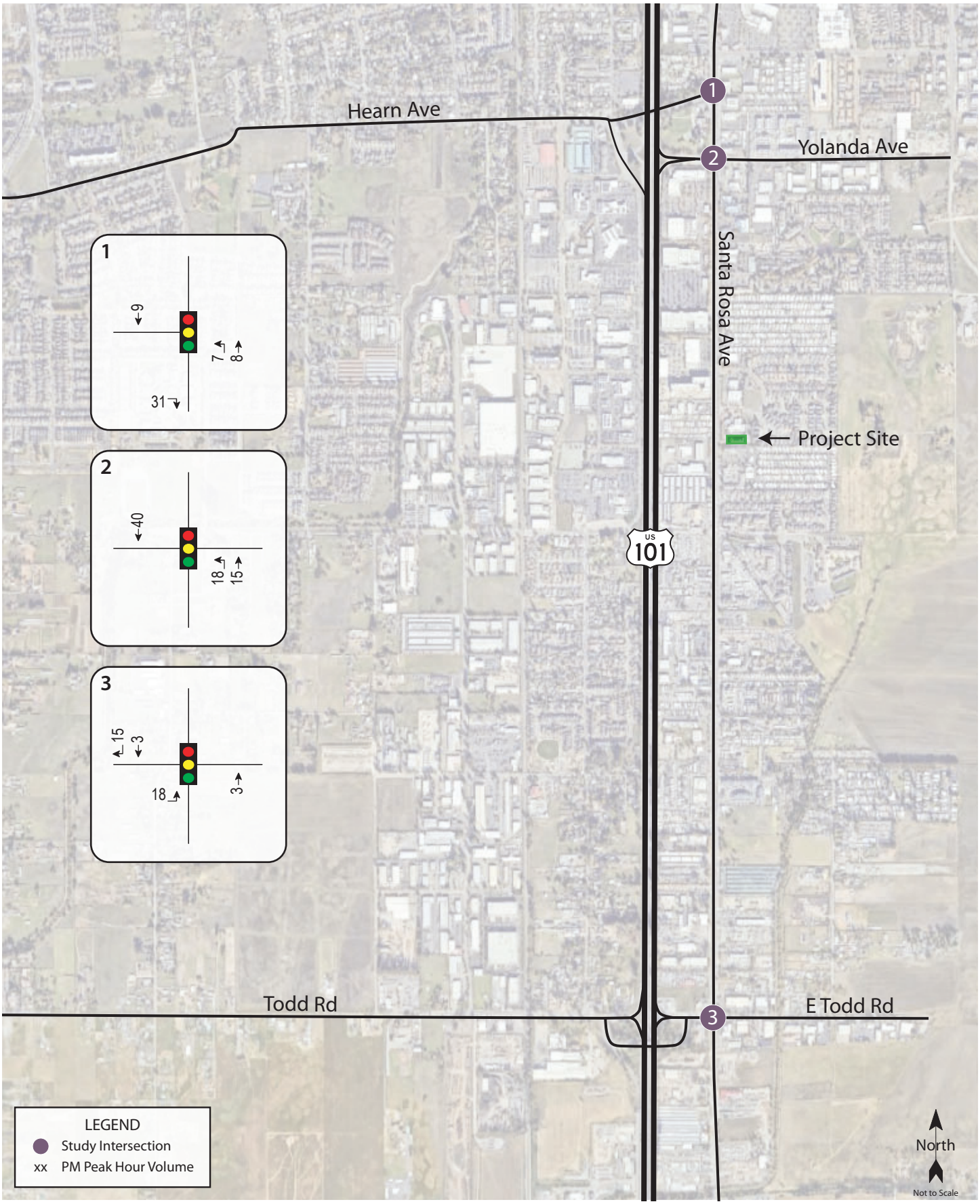
Study Intersection	Existing		Existing plus Project	
	Delay	LOS	Delay	LOS
1. Hearn Ave/Santa Rosa Ave	32.5	C	33.8	C
2. US 101 North Ramps-Yolanda Ave/Santa Rosa Ave	40.0	D	41.0	D
3. Todd Rd/Santa Rosa Ave	28.7	C	28.9	C

Note: Delay is measured in average seconds per vehicle; LOS = Level of Service

Finding – The study intersections would continue operating acceptably with project traffic added to existing volumes.

Baseline plus Project Conditions

Upon the addition of expected project-generated traffic to baseline volumes, the study intersections are expected to operate acceptably at the same Levels of Service as without the project. The Baseline plus Project volumes are shown in Figure 5 and the operating conditions are summarized in Table 10.



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Transportation Impact Study for the Masamigas Mercado Project

Figure 4 – Project Traffic Volumes

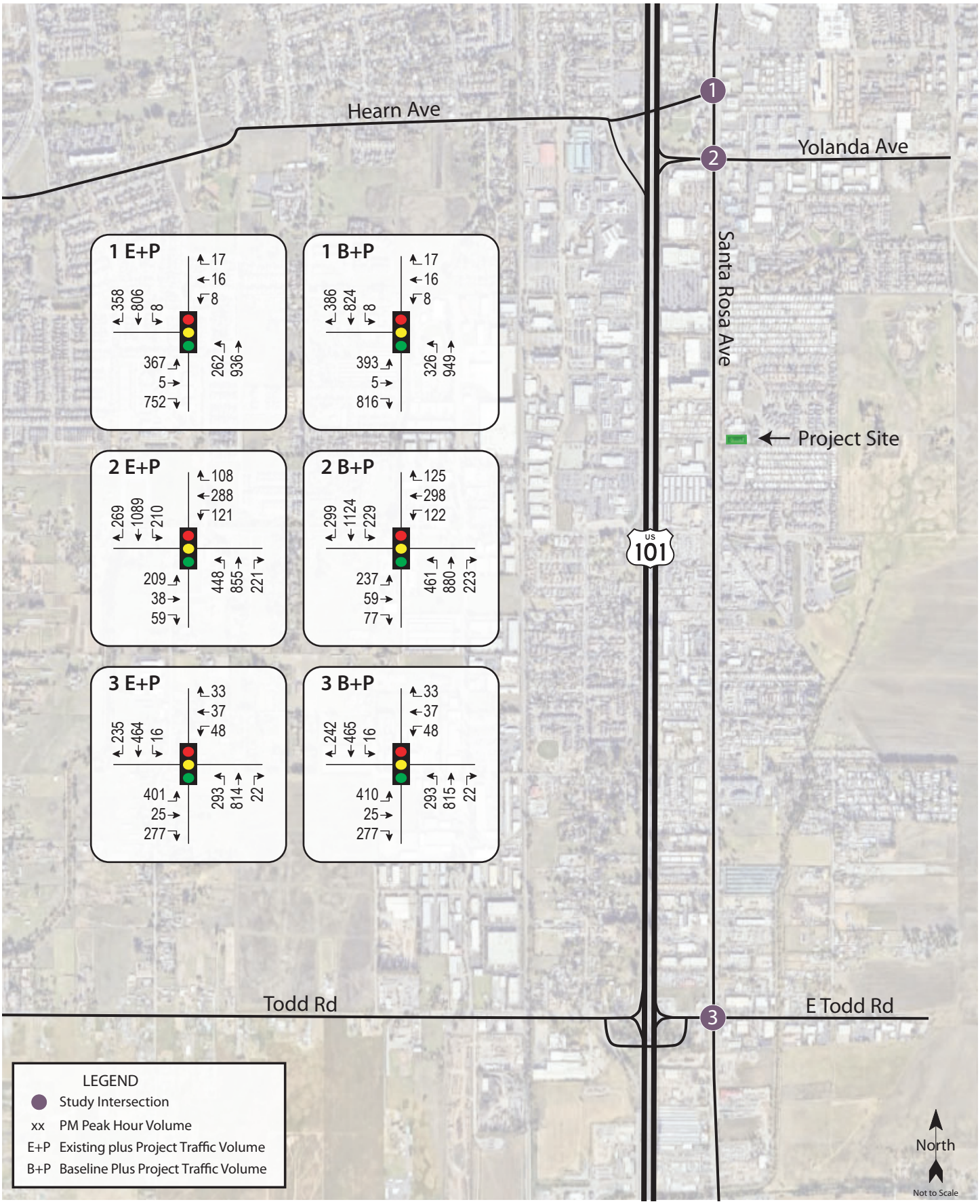

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Figure 5 – Existing plus Project and Baseline plus Project Traffic Volumes

Table 10 – Baseline and Baseline plus Project PM Peak Hour Intersection Levels of Service				
Study Intersection	**Baseline**		**Baseline plus Project**	
	Delay	**LOS**	**Delay**	**LOS**
1. Hearn Ave/Santa Rosa Ave	35.9	D	37.2	D
2. US 101 North Ramps-Yolanda Ave/Santa Rosa Ave	43.0	D	44.8	D
3. Todd Rd/Santa Rosa Ave	28.8	C	29.0	C

Note: Delay is measured in average seconds per vehicle; LOS = Level of Service

Finding – The study intersections would continue operating acceptably at the same service levels as under Baseline Conditions with project traffic added.

Parking

The project was analyzed to determine whether the proposed parking supply would be sufficient for the anticipated parking demand and provide the number of spaces required by City code. According to the project site plan, 52 vehicle parking spaces would be provided with 35 spaces in the existing on-site lot and 17 spaces on the adjacent property to the north per a parking easement.

Jurisdiction parking supply requirements are based on the Santa Rosa City Code, Section 20-36.040. While the operational analysis was conservatively based on restaurant rates for the entire project, the parking analysis was broken down into discreet areas to better match the way that parking requirements are typically established. Space that is dedicated to circulation (such as halls) as well as restrooms and the electric room do not require parking. The City's code includes various land use categories that were applied to the proposed project as shown in Table 11.

Table 11 – Parking Required

Land Use Category (Project Component)	Units	Rate	Parking Spaces
Industry, Manufacturing and Processing, Wholesaling, less than 50,000 sf (Departments)	5,116 sf	1/350 sf	14.6
Retail Trade (Market)	4,975 sf	1/250 sf	19.9
Industry, Manufacturing and Processing, Wholesaling (Storage)	2,070 sf	1/1,000 sf	2.1
Services – Business, Financial, Professional (Office)	2,216 sf	1/250 sf	8.9
Retail Trade (Outdoor Seating)	1,327 sf	1/250 sf	5.3
City Required Parking Total			***51***
Proposed Parking Supply			**52**

Note: sf = square feet

Finding – The proposed parking supply would exceed the City's code requirements by one space, so would be adequate to meet the City's requirements.

Conclusions and Recommendations

Conclusions

- The project would be expected to generate an average of 1,149 net new primary trips per day, including 15 a.m. peak-hour trips and 106 p.m. peak-hour trips.
- The calculated collision rates for the study intersections are below the statewide average for similar facilities, and there was one reported collision during the study period involving a pedestrian and four involving bicyclists. It does not appear that the causes of these crashes indicate a consistent safety issue.
- The project would not conflict with any policies or plans regarding pedestrian, bicycle, or transit modes of travel. Short-term bicycle parking would be provided for 20 bicycles, which exceeds municipal code requirements, but the project would need to include at least one long-term bicycle parking accommodation in order to fully comply.
- The project is expected to have a less-than-significant impact on VMT.
- Sight lines at the project driveway are adequate. No hazards would be introduced so the project would have a less-than-significant impact on safety.
- Emergency access and circulation within the project site would be adequate. The project would have a less-than-significant impact on emergency response times.
- All study intersections would operate at acceptable Levels of Service under Existing and Baseline Conditions and with traffic generated by the project added.
- The proposed on-site vehicle parking supply of 52 parking spaces would be sufficient to meet the City's code requirement of 51 spaces.

Recommendations

- The project should include a minimum of one long-term bicycle parking accommodation for use by employees.

Study Participants and References

Study Participants

Principal in Charge	Dalene J. Whitlock, PE (Civil, Traffic), PTOE
Assistant Engineer	Alyssa Labrador, EIT
Graphics	Jessica Bender
Editing/Formatting	Rebecca Mansour
Quality Control	Dalene J. Whitlock, PE (Civil, Traffic), PTOE

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Appendix A

Collision Rate Calculations

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Intersection Collision Rate Worksheet

Transportation Impact Study for The Masamigas Mercado Project

Intersection # 1: Santa Rosa Ave & Hearn Ave
Date of Count: Tuesday, October 29, 2024

Number of Collisions: 10
Number of Injuries: 10
Number of Fatalities: 0
Average Daily Traffic (ADT): 34800
Start Date: July 1, 2019
End Date: June 30, 2024
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{Collision Rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x Days per Year x Number of Years}}$$

$$\text{Collision Rate} = \frac{10 \times 1{,}000{,}000}{34{,}800 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.16 c/mve**	**0.0%**	**100.0%**
Statewide Average*	**0.33 c/mve**	**0.6%**	**47.7%**

Notes
ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2021 Collision Data on California State Highways, Caltrans

Intersection # 2: Santa Rosa Ave & US 101 North-Yolanda Ave
Date of Count: Tuesday, October 29, 2024

Number of Collisions: 5
Number of Injuries: 5
Number of Fatalities: 0
Average Daily Traffic (ADT): 38400
Start Date: July 1, 2019
End Date: June 30, 2024
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{Collision Rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x Days per Year x Number of Years}}$$

$$\text{Collision Rate} = \frac{5 \times 1{,}000{,}000}{38{,}400 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.07 c/mve**	**0.0%**	**100.0%**
Statewide Average*	**0.33 c/mve**	**0.6%**	**47.7%**

Notes
ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2021 Collision Data on California State Highways, Caltrans

Intersection Collision Rate Worksheet

Transportation Impact Study for The Masamigas Mercado Project

Intersection # 3: Santa Rosa Ave & Todd Rd

Date of Count: Tuesday, October 29, 2024

Number of Collisions: 7
Number of Injuries: 7
Number of Fatalities: 0
Average Daily Traffic (ADT): 26300
Start Date: July 1, 2019
End Date: June 30, 2024
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Suburban

$$\text{Collision Rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x Days per Year x Number of Years}}$$

$$\text{Collision Rate} = \frac{7 \times 1{,}000{,}000}{26{,}300 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.15 c/mve**	**0.0%**	**100.0%**
Statewide Average*	**0.55 c/mve**	**0.5%**	**39.2%**

Notes
ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2021 Collision Data on California State Highways, Caltrans

Appendix B

Intersection Level of Service Calculations

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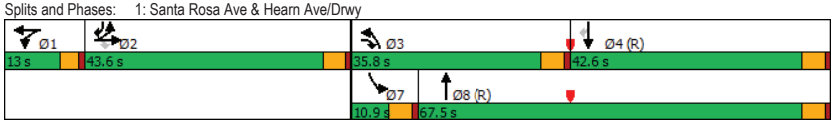
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	367	5	721	8	16	17	255	928	0	8	797	358
Future Volume (vph)	367	5	721	8	16	17	255	928	0	8	797	358
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	0		0	345		0	150		0
Storage Lanes	1		1	0		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.95	1.00
Frt			0.850		0.945							0.850
Flt Protected	0.950	0.954			0.990		0.950			0.950		
Satd. Flow (prot)	1681	1688	1583	0	1743	0	3433	5085	0	1770	3539	1583
Flt Permitted	0.950	0.954			0.990		0.950			0.950		
Satd. Flow (perm)	1681	1688	1583	0	1743	0	3433	5085	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190		18							369
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		994			888			733			825	
Travel Time (s)		22.6			24.2			14.3			16.1	
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
Adj. Flow (vph)	399	5	784	9	17	18	277	1009	0	9	866	389
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	203	201	784	0	44	0	277	1009	0	9	866	389
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	2	2	3	1	1		3	8		7	4	2
Permitted Phases			2									4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	3	1	1		3	8		7	4	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	9.0	9.0		8.0	6.0		6.0	8.0	8.0
Minimum Split (s)	43.6	43.6	12.9	13.0	13.0		12.9	10.9		10.9	38.9	43.6
Total Split (s)	43.6	43.6	35.8	13.0	13.0		35.8	67.5		10.9	42.6	43.6
Total Split (%)	32.3%	32.3%	26.5%	9.6%	9.6%		26.5%	50.0%		8.1%	31.6%	32.3%
Maximum Green (s)	39.0	39.0	30.9	9.0	9.0		30.9	62.6		6.0	37.7	39.0
Yellow Time (s)	3.6	3.6	3.9	3.0	3.0		3.9	3.9		3.9	3.9	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9		4.0		4.9	4.9		4.9	4.9	4.6
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)	7.0	7.0									7.0	7.0
Flash Dont Walk (s)	32.0	32.0									27.0	32.0
Pedestrian Calls (#/hr)	5	5									16	5
Act Effct Green (s)	25.4	25.4	63.8		9.0		33.8	87.5		6.2	51.0	77.6
Actuated g/C Ratio	0.19	0.19	0.47		0.07		0.25	0.65		0.05	0.38	0.57
v/c Ratio	0.64	0.63	0.92		0.33		0.32	0.31		0.11	0.65	0.36
Control Delay	58.7	58.2	41.4		47.3		64.1	10.4		65.0	40.7	2.1
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	58.7	58.2	41.4		47.3		64.1	10.4		65.0	40.7	2.1
LOS	E	E	D		D		E	B		E	D	A
Approach Delay		47.2			47.3			22.0			29.0	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 32.5		Intersection LOS: C	
Intersection Capacity Utilization 85.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Santa Rosa Ave & Hearn Ave/Drwy

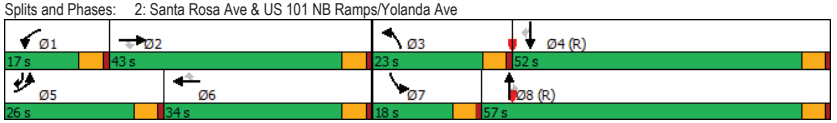


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	38	59	121	288	108	430	840	221	210	1049	269
Future Volume (vph)	209	38	59	121	288	108	430	840	221	210	1049	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1824	1900	1900
Storage Length (ft)	350		160	130		210	230		230	190		0
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3296	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3296	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134			174			221			114
Link Speed (mph)		35			40			35			35	
Link Distance (ft)		461			1211			476			733	
Travel Time (s)		9.0			20.6			9.3			14.3	
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
Adj. Flow (vph)	227	41	64	132	313	117	467	913	240	228	1140	292
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	41	64	132	313	117	467	913	240	228	1140	292
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	42.9	42.9	9.9	22.9	22.9	9.9	35.9	35.9	9.9	43.9	9.9
Total Split (s)	26.0	43.0	43.0	17.0	34.0	34.0	23.0	57.0	57.0	18.0	52.0	26.0
Total Split (%)	19.3%	31.9%	31.9%	12.6%	25.2%	25.2%	17.0%	42.2%	42.2%	13.3%	38.5%	19.3%
Maximum Green (s)	21.1	38.1	38.1	12.1	29.1	29.1	18.1	52.1	52.1	13.1	47.1	21.1
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0					7.0	7.0		7.0	
Flash Dont Walk (s)		31.0	31.0					24.0	24.0		32.0	
Pedestrian Calls (#/hr)		8	8					15	15		6	
Act Effct Green (s)	14.4	26.9	26.9	16.7	27.1	27.1	23.0	60.3	60.3	13.5	50.8	70.1
Actuated g/C Ratio	0.11	0.20	0.20	0.12	0.20	0.20	0.17	0.45	0.45	0.10	0.38	0.52
v/c Ratio	0.62	0.11	0.15	0.60	0.84	0.26	0.80	0.58	0.29	0.69	0.86	0.33
Control Delay	64.9	39.5	0.8	70.5	70.9	2.4	65.0	31.2	5.4	70.0	35.6	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.9	39.5	0.8	70.5	70.9	2.4	65.0	31.2	5.4	70.0	35.6	7.9
LOS	E	D	A	E	E	A	E	C	A	E	D	A
Approach Delay		49.4			56.6			37.1			35.4	
Approach LOS		D			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 126 (93%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 40.0		Intersection LOS: D	
Intersection Capacity Utilization 78.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Santa Rosa Ave & US 101 NB Ramps/Yolanda Ave

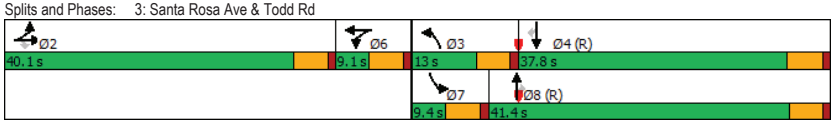


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	383	25	277	48	37	33	293	811	22	16	461	220
Future Volume (vph)	383	25	277	48	37	33	293	811	22	16	461	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	0		0	110		290	200		200
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.929				0.850			0.850
Flt Protected	0.950	0.958		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1695	1583	1770	1730	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.958		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1695	1583	1770	1730	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			241		34				137			239
Link Speed (mph)		25			25			35			40	
Link Distance (ft)		716			780			596			492	
Travel Time (s)		19.5			21.3			11.6			8.4	
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
Adj. Flow (vph)	416	27	301	52	40	36	318	882	24	17	501	239
Shared Lane Traffic (%)	47%											
Lane Group Flow (vph)	220	223	301	52	76	0	318	882	24	17	501	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2						8			4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	6	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	40.1	40.1	40.1	9.1	9.1		9.1	28.1	28.1	9.4	37.4	37.4
Total Split (s)	40.1	40.1	40.1	9.1	9.1		13.0	41.4	41.4	9.4	37.8	37.8
Total Split (%)	40.1%	40.1%	40.1%	9.1%	9.1%		13.0%	41.4%	41.4%	9.4%	37.8%	37.8%
Maximum Green (s)	35.0	35.0	35.0	4.0	4.0		7.9	36.3	36.3	4.0	32.4	32.4
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1	4.4	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1		5.1	5.1	5.1	5.4	5.4	5.4
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	6.0	6.0	6.0					6.0	6.0		6.0	6.0
Flash Dont Walk (s)	29.0	29.0	29.0					17.0	17.0		26.0	26.0
Pedestrian Calls (#/hr)	0	0	0					1	1		3	3
Act Effct Green (s)	18.4	18.4	18.4	7.5	7.5		31.8	54.1	54.1	5.0	21.6	21.6
Actuated g/C Ratio	0.18	0.18	0.18	0.08	0.08		0.32	0.54	0.54	0.05	0.22	0.22
v/c Ratio	0.71	0.71	0.62	0.39	0.47		0.57	0.46	0.03	0.19	0.66	0.45
Control Delay	50.1	50.3	13.8	51.9	36.4		38.3	17.9	0.0	49.9	39.3	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	50.3	13.8	51.9	36.4		38.3	17.9	0.0	49.9	39.3	6.6
LOS	D	D	B	D	D		D	B	A	D	D	A
Approach Delay		35.5			42.7			22.9			29.2	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 28.7		Intersection LOS: C	
Intersection Capacity Utilization 59.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Santa Rosa Ave & Todd Rd

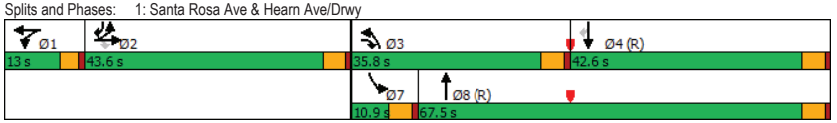


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	367	5	752	8	16	17	262	936	0	8	806	358
Future Volume (vph)	367	5	752	8	16	17	262	936	0	8	806	358
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	0		0	345		0	150		0
Storage Lanes	1		1	0		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.95	1.00
Frt			0.850		0.945							0.850
Flt Protected	0.950	0.954			0.990		0.950			0.950		
Satd. Flow (prot)	1681	1688	1583	0	1743	0	3433	5085	0	1770	3539	1583
Flt Permitted	0.950	0.954			0.990		0.950			0.950		
Satd. Flow (perm)	1681	1688	1583	0	1743	0	3433	5085	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		18							362
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		994			888			733			825	
Travel Time (s)		22.6			24.2			14.3			16.1	
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
Adj. Flow (vph)	399	5	817	9	17	18	285	1017	0	9	876	389
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	203	201	817	0	44	0	285	1017	0	9	876	389
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	2	2	3	1	1		3	8		7	4	2
Permitted Phases			2									4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	3	1	1		3	8		7	4	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	9.0	9.0		8.0	6.0		6.0	8.0	8.0
Minimum Split (s)	43.6	43.6	12.9	13.0	13.0		12.9	10.9		10.9	38.9	43.6
Total Split (s)	43.6	43.6	35.8	13.0	13.0		35.8	67.5		10.9	42.6	43.6
Total Split (%)	32.3%	32.3%	26.5%	9.6%	9.6%		26.5%	50.0%		8.1%	31.6%	32.3%
Maximum Green (s)	39.0	39.0	30.9	9.0	9.0		30.9	62.6		6.0	37.7	39.0
Yellow Time (s)	3.6	3.6	3.9	3.0	3.0		3.9	3.9		3.9	3.9	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9		4.0		4.9	4.9		4.9	4.9	4.6
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)	7.0	7.0									7.0	7.0
Flash Dont Walk (s)	32.0	32.0									27.0	32.0
Pedestrian Calls (#/hr)	5	5									16	5
Act Effct Green (s)	25.4	25.4	65.2		9.0		35.2	87.5		6.2	49.6	76.2
Actuated g/C Ratio	0.19	0.19	0.48		0.07		0.26	0.65		0.05	0.37	0.56
v/c Ratio	0.64	0.63	0.95		0.33		0.32	0.31		0.11	0.67	0.37
Control Delay	58.7	58.2	45.0		47.3		64.0	10.5		65.0	42.2	2.3
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	58.7	58.2	45.0		47.3		64.0	10.5		65.0	42.2	2.3
LOS	E	E	D		D		E	B		E	D	A
Approach Delay		49.4			47.3			22.2			30.2	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 33.8		Intersection LOS: C	
Intersection Capacity Utilization 87.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Santa Rosa Ave & Hearn Ave/Drwy

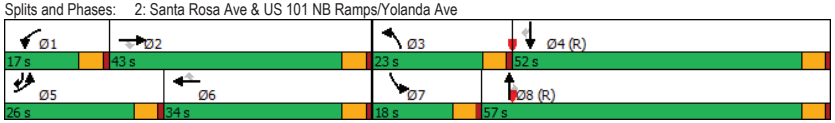


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	38	59	121	288	108	448	855	221	210	1089	269
Future Volume (vph)	209	38	59	121	288	108	448	855	221	210	1089	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1824	1900	1900
Storage Length (ft)	350		160	130		210	230		230	190		0
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3296	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3296	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134			174			217			113
Link Speed (mph)		35			40			35			35	
Link Distance (ft)		461			1211			476			733	
Travel Time (s)		9.0			20.6			9.3			14.3	
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
Adj. Flow (vph)	227	41	64	132	313	117	487	929	240	228	1184	292
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	41	64	132	313	117	487	929	240	228	1184	292
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	42.9	42.9	9.9	22.9	22.9	9.9	35.9	35.9	9.9	43.9	9.9
Total Split (s)	26.0	43.0	43.0	17.0	34.0	34.0	23.0	57.0	57.0	18.0	52.0	26.0
Total Split (%)	19.3%	31.9%	31.9%	12.6%	25.2%	25.2%	17.0%	42.2%	42.2%	13.3%	38.5%	19.3%
Maximum Green (s)	21.1	38.1	38.1	12.1	29.1	29.1	18.1	52.1	52.1	13.1	47.1	21.1
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0					7.0	7.0		7.0	
Flash Dont Walk (s)		31.0	31.0					24.0	24.0		32.0	
Pedestrian Calls (#/hr)		8	8					15	15		6	
Act Effct Green (s)	14.4	26.9	26.9	16.7	27.1	27.1	24.2	60.3	60.3	13.5	49.7	69.0
Actuated g/C Ratio	0.11	0.20	0.20	0.12	0.20	0.20	0.18	0.45	0.45	0.10	0.37	0.51
v/c Ratio	0.62	0.11	0.15	0.60	0.84	0.26	0.79	0.59	0.29	0.69	0.91	0.34
Control Delay	64.9	39.5	0.8	70.5	70.9	2.4	63.6	31.4	5.7	69.9	39.2	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.9	39.5	0.8	70.5	70.9	2.4	63.6	31.4	5.7	69.9	39.2	8.0
LOS	E	D	A	E	E	A	E	C	A	E	D	A
Approach Delay		49.4			56.6			37.2			38.0	
Approach LOS		D			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 126 (93%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 41.0		Intersection LOS: D	
Intersection Capacity Utilization 80.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Santa Rosa Ave & US 101 NB Ramps/Yolanda Ave

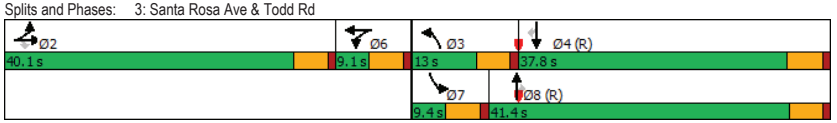


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	401	25	277	48	37	33	293	814	22	16	464	235
Future Volume (vph)	401	25	277	48	37	33	293	814	22	16	464	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	0		0	110		290	200		200
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.929				0.850			0.850
Flt Protected	0.950	0.958		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1695	1583	1770	1730	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.958		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1695	1583	1770	1730	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			240		34				137			255
Link Speed (mph)		25			25			35			40	
Link Distance (ft)		716			780			596			492	
Travel Time (s)		19.5			21.3			11.6			8.4	
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
Adj. Flow (vph)	436	27	301	52	40	36	318	885	24	17	504	255
Shared Lane Traffic (%)	47%											
Lane Group Flow (vph)	231	232	301	52	76	0	318	885	24	17	504	255
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2						8			4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	6	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	40.1	40.1	40.1	9.1	9.1		9.1	28.1	28.1	9.4	37.4	37.4
Total Split (s)	40.1	40.1	40.1	9.1	9.1		13.0	41.4	41.4	9.4	37.8	37.8
Total Split (%)	40.1%	40.1%	40.1%	9.1%	9.1%		13.0%	41.4%	41.4%	9.4%	37.8%	37.8%
Maximum Green (s)	35.0	35.0	35.0	4.0	4.0		7.9	36.3	36.3	4.0	32.4	32.4
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1	4.4	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1		5.1	5.1	5.1	5.4	5.4	5.4
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	6.0	6.0	6.0					6.0	6.0		6.0	6.0
Flash Dont Walk (s)	29.0	29.0	29.0					17.0	17.0		26.0	26.0
Pedestrian Calls (#/hr)	0	0	0					1	1		3	3
Act Effct Green (s)	19.1	19.1	19.1	7.5	7.5		31.1	53.7	53.7	4.9	21.6	21.6
Actuated g/C Ratio	0.19	0.19	0.19	0.08	0.08		0.31	0.54	0.54	0.05	0.22	0.22
v/c Ratio	0.72	0.72	0.61	0.39	0.47		0.58	0.47	0.03	0.20	0.66	0.47
Control Delay	50.1	49.8	13.5	51.9	36.4		39.2	18.2	0.0	50.6	39.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	49.8	13.5	51.9	36.4		39.2	18.2	0.0	50.6	39.4	6.6
LOS	D	D	B	D	D		D	B	A	D	D	A
Approach Delay		35.6			42.7			23.3			28.8	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 28.9		Intersection LOS: C	
Intersection Capacity Utilization 60.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Santa Rosa Ave & Todd Rd

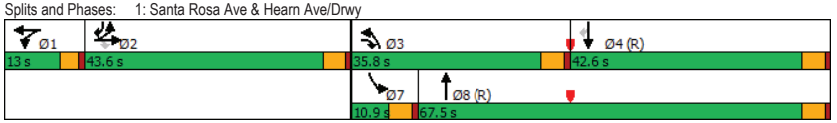


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	393	5	785	8	16	17	319	941	0	8	815	386
Future Volume (vph)	393	5	785	8	16	17	319	941	0	8	815	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	0		0	345		0	150		0
Storage Lanes	1		1	0		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.95	1.00
Frt			0.850		0.945							0.850
Flt Protected	0.950	0.953			0.990		0.950			0.950		
Satd. Flow (prot)	1681	1686	1583	0	1743	0	3433	5085	0	1770	3539	1583
Flt Permitted	0.950	0.953			0.990		0.950			0.950		
Satd. Flow (perm)	1681	1686	1583	0	1743	0	3433	5085	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		18							313
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		994			888			733			825	
Travel Time (s)		22.6			24.2			14.3			16.1	
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
Adj. Flow (vph)	427	5	853	9	17	18	347	1023	0	9	886	420
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	218	214	853	0	44	0	347	1023	0	9	886	420
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	2	2	3	1	1		3	8		7	4	2
Permitted Phases			2									4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	3	1	1		3	8		7	4	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	9.0	9.0		8.0	6.0		6.0	8.0	8.0
Minimum Split (s)	43.6	43.6	12.9	13.0	13.0		12.9	10.9		10.9	38.9	43.6
Total Split (s)	43.6	43.6	35.8	13.0	13.0		35.8	67.5		10.9	42.6	43.6
Total Split (%)	32.3%	32.3%	26.5%	9.6%	9.6%		26.5%	50.0%		8.1%	31.6%	32.3%
Maximum Green (s)	39.0	39.0	30.9	9.0	9.0		30.9	62.6		6.0	37.7	39.0
Yellow Time (s)	3.6	3.6	3.9	3.0	3.0		3.9	3.9		3.9	3.9	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9		4.0		4.9	4.9		4.9	4.9	4.6
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)	7.0	7.0									7.0	7.0
Flash Dont Walk (s)	32.0	32.0									27.0	32.0
Pedestrian Calls (#/hr)	5	5									16	5
Act Effct Green (s)	26.3	26.3	67.3		9.0		36.4	86.7		6.2	47.5	75.0
Actuated g/C Ratio	0.19	0.19	0.50		0.07		0.27	0.64		0.05	0.35	0.56
v/c Ratio	0.67	0.65	0.97		0.33		0.37	0.31		0.11	0.71	0.41
Control Delay	59.2	58.4	47.7		47.3		64.4	11.3		65.0	44.6	4.1
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	59.2	58.4	47.7		47.3		64.4	11.3		65.0	44.6	4.1
LOS	E	E	D		D		E	B		E	D	A
Approach Delay		51.5			47.3			24.8			31.8	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 35.9		Intersection LOS: D	
Intersection Capacity Utilization 90.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Santa Rosa Ave & Hearn Ave/Drwy

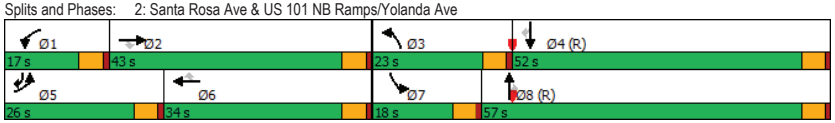


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	237	59	77	122	298	125	443	865	223	229	1084	299
Future Volume (vph)	237	59	77	122	298	125	443	865	223	229	1084	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1824	1900	1900
Storage Length (ft)	350		160	130		210	230		230	190		0
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3296	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3296	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134			174			217			106
Link Speed (mph)		35			40			35			35	
Link Distance (ft)		461			1211			476			733	
Travel Time (s)		9.0			20.6			9.3			14.3	
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
Adj. Flow (vph)	258	64	84	133	324	136	482	940	242	249	1178	325
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	64	84	133	324	136	482	940	242	249	1178	325
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	42.9	42.9	9.9	22.9	22.9	9.9	35.9	35.9	9.9	43.9	9.9
Total Split (s)	26.0	43.0	43.0	17.0	34.0	34.0	23.0	57.0	57.0	18.0	52.0	26.0
Total Split (%)	19.3%	31.9%	31.9%	12.6%	25.2%	25.2%	17.0%	42.2%	42.2%	13.3%	38.5%	19.3%
Maximum Green (s)	21.1	38.1	38.1	12.1	29.1	29.1	18.1	52.1	52.1	13.1	47.1	21.1
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0					7.0	7.0		7.0	
Flash Dont Walk (s)		31.0	31.0					24.0	24.0		32.0	
Pedestrian Calls (#/hr)		8	8					15	15		6	
Act Effct Green (s)	15.6	31.4	31.4	11.9	27.8	27.8	22.8	58.5	58.5	13.5	49.2	69.7
Actuated g/C Ratio	0.12	0.23	0.23	0.09	0.21	0.21	0.17	0.43	0.43	0.10	0.36	0.52
v/c Ratio	0.65	0.15	0.18	0.85	0.85	0.29	0.83	0.61	0.30	0.76	0.91	0.37
Control Delay	64.7	39.5	1.7	102.1	71.4	4.0	67.4	32.9	5.9	71.6	40.6	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	39.5	1.7	102.1	71.4	4.0	67.4	32.9	5.9	71.6	40.6	8.9
LOS	E	D	A	F	E	A	E	C	A	E	D	A
Approach Delay		47.7			62.8			39.0			39.1	
Approach LOS		D			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 126 (93%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 43.0		Intersection LOS: D	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Santa Rosa Ave & US 101 NB Ramps/Yolanda Ave

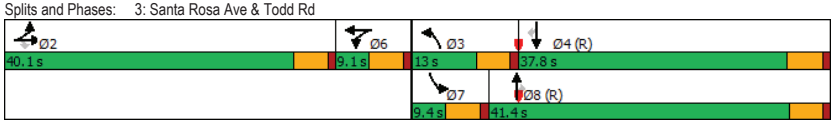


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	392	25	277	48	37	33	293	812	22	16	462	227
Future Volume (vph)	392	25	277	48	37	33	293	812	22	16	462	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	0		0	110		290	200		200
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.929				0.850			0.850
Flt Protected	0.950	0.958		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1695	1583	1770	1730	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.958		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1695	1583	1770	1730	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			241		34				137			247
Link Speed (mph)		25			25			35			40	
Link Distance (ft)		716			780			596			492	
Travel Time (s)		19.5			21.3			11.6			8.4	
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
Adj. Flow (vph)	426	27	301	52	40	36	318	883	24	17	502	247
Shared Lane Traffic (%)	47%											
Lane Group Flow (vph)	226	227	301	52	76	0	318	883	24	17	502	247
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2						8			4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	6	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	40.1	40.1	40.1	9.1	9.1		9.1	28.1	28.1	9.4	37.4	37.4
Total Split (s)	40.1	40.1	40.1	9.1	9.1		13.0	41.4	41.4	9.4	37.8	37.8
Total Split (%)	40.1%	40.1%	40.1%	9.1%	9.1%		13.0%	41.4%	41.4%	9.4%	37.8%	37.8%
Maximum Green (s)	35.0	35.0	35.0	4.0	4.0		7.9	36.3	36.3	4.0	32.4	32.4
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1	4.4	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1		5.1	5.1	5.1	5.4	5.4	5.4
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	6.0	6.0	6.0					6.0	6.0		6.0	6.0
Flash Dont Walk (s)	29.0	29.0	29.0					17.0	17.0		26.0	26.0
Pedestrian Calls (#/hr)	0	0	0					1	1		3	3
Act Effct Green (s)	18.7	18.7	18.7	7.5	7.5		31.4	53.9	53.9	5.0	21.7	21.7
Actuated g/C Ratio	0.19	0.19	0.19	0.08	0.08		0.31	0.54	0.54	0.05	0.22	0.22
v/c Ratio	0.72	0.72	0.61	0.39	0.47		0.57	0.46	0.03	0.19	0.66	0.46
Control Delay	50.3	50.1	13.6	51.9	36.4		38.9	18.0	0.0	50.2	39.1	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.3	50.1	13.6	51.9	36.4		38.9	18.0	0.0	50.2	39.1	6.6
LOS	D	D	B	D	D		D	B	A	D	D	A
Approach Delay		35.6			42.7			23.1			28.9	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 28.8		Intersection LOS: C	
Intersection Capacity Utilization 60.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Santa Rosa Ave & Todd Rd

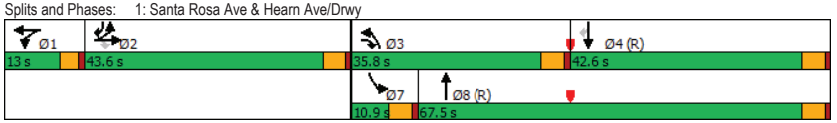


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	393	5	816	8	16	17	326	949	0	8	824	386
Future Volume (vph)	393	5	816	8	16	17	326	949	0	8	824	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	0		0	345		0	150		0
Storage Lanes	1		1	0		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.95	1.00
Frt			0.850		0.945							0.850
Flt Protected	0.950	0.953			0.990		0.950			0.950		
Satd. Flow (prot)	1681	1686	1583	0	1743	0	3433	5085	0	1770	3539	1583
Flt Permitted	0.950	0.953			0.990		0.950			0.950		
Satd. Flow (perm)	1681	1686	1583	0	1743	0	3433	5085	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			188		18							308
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		994			888			733			825	
Travel Time (s)		22.6			24.2			14.3			16.1	
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
Adj. Flow (vph)	427	5	887	9	17	18	354	1032	0	9	896	420
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	218	214	887	0	44	0	354	1032	0	9	896	420
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	2	2	3	1	1		3	8		7	4	2
Permitted Phases			2									4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	3	1	1		3	8		7	4	2
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	9.0	9.0		8.0	6.0		6.0	8.0	8.0
Minimum Split (s)	43.6	43.6	12.9	13.0	13.0		12.9	10.9		10.9	38.9	43.6
Total Split (s)	43.6	43.6	35.8	13.0	13.0		35.8	67.5		10.9	42.6	43.6
Total Split (%)	32.3%	32.3%	26.5%	9.6%	9.6%		26.5%	50.0%		8.1%	31.6%	32.3%
Maximum Green (s)	39.0	39.0	30.9	9.0	9.0		30.9	62.6		6.0	37.7	39.0
Yellow Time (s)	3.6	3.6	3.9	3.0	3.0		3.9	3.9		3.9	3.9	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9		4.0		4.9	4.9		4.9	4.9	4.6
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)	7.0	7.0									7.0	7.0
Flash Dont Walk (s)	32.0	32.0									27.0	32.0
Pedestrian Calls (#/hr)	5	5									16	5
Act Effct Green (s)	26.3	26.3	69.1		9.0		38.3	86.7		6.2	45.7	73.2
Actuated g/C Ratio	0.19	0.19	0.51		0.07		0.28	0.64		0.05	0.34	0.54
v/c Ratio	0.67	0.65	0.98		0.33		0.36	0.32		0.11	0.75	0.42
Control Delay	59.2	58.4	51.3		47.3		63.3	11.4		65.0	46.9	4.4
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	59.2	58.4	51.3		47.3		63.3	11.4		65.0	46.9	4.4
LOS	E	E	D		D		E	B		E	D	A
Approach Delay		53.8			47.3			24.7			33.5	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 37.2		Intersection LOS: D	
Intersection Capacity Utilization 92.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Santa Rosa Ave & Hearn Ave/Drwy

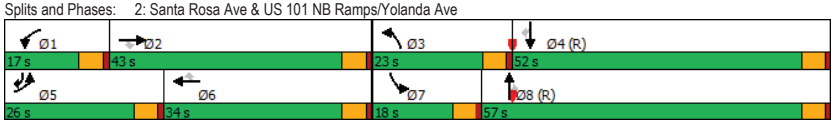


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	237	59	77	122	298	125	461	880	223	229	1124	299
Future Volume (vph)	237	59	77	122	298	125	461	880	223	229	1124	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1824	1900	1900
Storage Length (ft)	350		160	130		210	230		230	190		0
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3296	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3296	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134			174			213			106
Link Speed (mph)		35			40			35			35	
Link Distance (ft)		461			1211			476			733	
Travel Time (s)		9.0			20.6			9.3			14.3	
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
Adj. Flow (vph)	258	64	84	133	324	136	501	957	242	249	1222	325
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	64	84	133	324	136	501	957	242	249	1222	325
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	42.9	42.9	9.9	22.9	22.9	9.9	35.9	35.9	9.9	43.9	9.9
Total Split (s)	26.0	43.0	43.0	17.0	34.0	34.0	23.0	57.0	57.0	18.0	52.0	26.0
Total Split (%)	19.3%	31.9%	31.9%	12.6%	25.2%	25.2%	17.0%	42.2%	42.2%	13.3%	38.5%	19.3%
Maximum Green (s)	21.1	38.1	38.1	12.1	29.1	29.1	18.1	52.1	52.1	13.1	47.1	21.1
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0					7.0	7.0		7.0	
Flash Dont Walk (s)		31.0	31.0					24.0	24.0		32.0	
Pedestrian Calls (#/hr)		8	8					15	15		6	
Act Effct Green (s)	15.6	31.4	31.4	11.9	27.8	27.8	23.9	58.5	58.5	13.5	48.1	68.6
Actuated g/C Ratio	0.12	0.23	0.23	0.09	0.21	0.21	0.18	0.43	0.43	0.10	0.36	0.51
v/c Ratio	0.65	0.15	0.18	0.85	0.85	0.29	0.82	0.62	0.30	0.76	0.97	0.38
Control Delay	64.7	39.5	1.7	102.1	71.4	4.0	65.9	33.2	6.2	70.8	47.4	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	39.5	1.7	102.1	71.4	4.0	65.9	33.2	6.2	70.8	47.4	8.9
LOS	E	D	A	F	E	A	E	C	A	E	D	A
Approach Delay		47.7			62.8			39.0			43.7	
Approach LOS		D			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 126 (93%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 44.8		Intersection LOS: D	
Intersection Capacity Utilization 83.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Santa Rosa Ave & US 101 NB Ramps/Yolanda Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	410	25	277	48	37	33	293	815	22	16	465	242
Future Volume (vph)	410	25	277	48	37	33	293	815	22	16	465	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	0		0	110		290	200		200
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.929				0.850			0.850
Flt Protected	0.950	0.958		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1695	1583	1770	1730	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.958		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1695	1583	1770	1730	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			239		34				137			263
Link Speed (mph)		25			25			35			40	
Link Distance (ft)		716			780			596			492	
Travel Time (s)		19.5			21.3			11.6			8.4	
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
Adj. Flow (vph)	446	27	301	52	40	36	318	886	24	17	505	263
Shared Lane Traffic (%)	47%											
Lane Group Flow (vph)	236	237	301	52	76	0	318	886	24	17	505	263
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2						8			4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	6	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	40.1	40.1	40.1	9.1	9.1		9.1	28.1	28.1	9.4	37.4	37.4
Total Split (s)	40.1	40.1	40.1	9.1	9.1		13.0	41.4	41.4	9.4	37.8	37.8
Total Split (%)	40.1%	40.1%	40.1%	9.1%	9.1%		13.0%	41.4%	41.4%	9.4%	37.8%	37.8%
Maximum Green (s)	35.0	35.0	35.0	4.0	4.0		7.9	36.3	36.3	4.0	32.4	32.4
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1	4.4	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1		5.1	5.1	5.1	5.4	5.4	5.4
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	6.0	6.0	6.0					6.0	6.0		6.0	6.0
Flash Dont Walk (s)	29.0	29.0	29.0					17.0	17.0		26.0	26.0
Pedestrian Calls (#/hr)	0	0	0					1	1		3	3
Act Effct Green (s)	19.3	19.3	19.3	7.5	7.5		30.9	53.5	53.5	4.8	21.5	21.5
Actuated g/C Ratio	0.19	0.19	0.19	0.08	0.08		0.31	0.54	0.54	0.05	0.22	0.22
v/c Ratio	0.73	0.72	0.60	0.39	0.47		0.58	0.47	0.03	0.20	0.66	0.48
Control Delay	50.1	49.8	13.4	51.9	36.4		39.5	18.3	0.0	51.1	39.5	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	49.8	13.4	51.9	36.4		39.5	18.3	0.0	51.1	39.5	6.6
LOS	D	D	B	D	D		D	B	A	D	D	A
Approach Delay		35.7			42.7			23.4			28.7	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 29.0		Intersection LOS: C	
Intersection Capacity Utilization 60.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Santa Rosa Ave & Todd Rd