Transportation Impact Study for the Wright Corner Project

Prepared for the County of Napa

File Number: P22-00241

Submitted by

W-Trans

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Table of Contents

Appendices

A. Traffic Counts
B. Collision Rate Calculations
C. Trip Generation Spreadsheets
D. Turn Lane Warrant Graph
E. Level of Service Calculations

Executive Summary

The proposed project would allow conversion of a three-bedroom structure (4374 Old Sonoma Highway) to be used as an inn, which would then be expanded to include five additional free-standing one-bedroom cottages. The existing 1,843 square-foot building at 4372 Old Sonoma Highway would remain a retail establishment but with the addition of the sale of wine and/or beer. Within the retail space is a small tasting area associated with the retail sale of alcohol. A 130 square-foot mobile concession trailer would be parked next to the retail building and operate in the mornings. The existing 1,371 square-foot building at 4370 Old Sonoma Highway would be converted to a tavern/tasting bar operating from 11:00 a.m. to 7:00 p.m. with an associated outdoor patio and porch space of 1,107 square feet. Additionally, the project would include outdoor events on-site for up to 80 guests as an accessory to the Inn; all other retail and hospitality uses aside from the inn would be closed during such events. Per the project description, 4372 Old Sonoma Highway (the retail store) and 4370 Old Sonoma Highway (the Tavern/Tasting Bar) would be closed during events or, if open, would only be available for uses directly associated with the event and its guests. All registered guests of the Inn, on the date of the event, would be invited attendees or otherwise associated with the event. People not associated with the event shall not occupy the Inn on event days. Three marketing events with up to 50 attendees are currently held annually for the retail business. These events would continue to be held in the retail areas at 4372 Old Sonoma Highway and would not coincide with any other events. The proposed project would be expected to generate an average of 278 trips per day, including 35 during the weekday p.m. peak hour, and 108 trips during the Saturday peak hour. After deducting trips associated with existing site uses the project would be expected to generate 165 net new trips per weekday, with 18 during the weekday p.m. peak hour and 95 during the Saturday peak hour.

There are no pedestrian facilities in the study area nor is there transit service. There are, however, bike lanes on Old Sonoma Road and the project would provide ten bike parking spaces, five of which would be covered. These facilities are adequate given the type of use and rural setting.

A Transportation Demand Management (TDM) plan will need to be established and implemented for the project to have a less-than-significant impact in terms of vehicle miles traveled (VMT). This program would need to reduce trips by 15 percent and should be monitored to ensure that it is successful at achieving the desired reduction.

Sight distances are adequate at all four project driveways. Left-turn lanes are not warranted at the three locations where such movements would be allowed. The project would have adequate access for emergency response vehicles. It would be expected to have a less-than-significant impact on safety and emergency response.

The three study intersections are currently operating acceptably under the applicable standards and would be expected to continue doing so in the future and with project trips added. It is noted that the intersection of SR 12-121/Old Sonoma Highway experienced an above-average rate of collisions so the County and/or Caltrans may wish to evaluate this location to determine if the striping, lighting, and sight distance are adequate.

A total of 36 parking spaces would be provided on-site and shared among all proposed uses. Access would be provided by four driveways, with two each on Old Sonoma Road and Old Sonoma Highway. The northernmost driveway on Old Sonoma Road would be limited to right turns in and out and the northwesternmost driveway to right turns out only. The proposed parking supply is adequate to serve the anticipated demand provided that staff carpools, which is also needed to meet the VMT recommendation.

Introduction

This report presents an analysis of the potential transportation impacts that would be associated with development of a proposed inn, retail, and tavern/tasting facilities to be located at 4370, 4372, and 4374 Old Sonoma Highway in the County of Napa. The traffic study was completed in accordance with the criteria established by the County of Napa and is consistent with standard traffic engineering techniques.

Prelude

The purpose of a traffic impact study is to provide County 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 County'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 need for improvements to maintain acceptable operation. 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 then 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?

Project Profile

There are three existing buildings on the project site. Following are details of their existing and proposed uses as well as the event components of the proposal.

- The proposal would result in the existing three-bedroom residence (4374 Old Sonoma Highway) being converted to an inn and expanded to include five additional free-standing one-bedroom cottages.

- There is an existing 1,843 square-foot building (4372 Old Sonoma Highway) that houses an art gallery together with retail uses; this use will be modified to include a small tasting area associated with the retail sale of beer or wine, though the use will generally remain consistent with what is currently allowed. A 130 square-foot mobile concession trailer would be located outside the 1,843 square-foot building and operate in the morning only. The three 50-person events associated with the retail space would continue to be held though they would be scheduled so as not to occur with any other events on the site.

- The 1,371 square-foot building (4370 Old Sonoma Highway) currently houses the 740 square-foot two-car transportation facility for off-site wine tours. This space would be converted to a tavern or tasting room operating from 11:00 a.m. to no later than 7:00 p.m. and with an associated outdoor patio and porch space of 1,107 square feet. It is noted that the structure has approval for a 740 square-foot bike rental and retail shop and, as there is not currently a tenant operating such a business, it would not be part of the modified Conditional Use Permit.

- The project would also include outdoor events on-site for up to 80 guests. Per the project description, 4372 Old Sonoma Highway and 4370 Old Sonoma Highway are to be closed during these events or used only in direct association with the event and its guests. All registered guests of the inn located at 4374 Old Sonoma Highway, on the date of the event, must be participants of the event. People not associated with the event will not be allowed to occupy the inn on those days.

The County of Napa file number for this project is P22-00241. The location of the project site is shown in Figure 1.

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Transportation Impact Study for The Wright Corner 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 a half-mile of the project site that would lie along primary routes of pedestrian travel. 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. SR 12-121/Old Sonoma Road
2. Old Sonoma Road/Old Sonoma Highway
3. SR 12-121/Old Sonoma Highway

Operating conditions during the Friday and Saturday p.m. peak periods were evaluated as these time periods reflect the highest volumes for the proposed project, as well as high traffic volumes areawide. The Friday p.m. peak hour is evaluated between 4:00 and 6:00 p.m. and the Saturday p.m. peak hour occurs between 1:00 p.m. and 4:00 p.m. Counts were obtained for the study intersections on Friday, October 7, 2022, and Saturday, October 8, 2022, and are provided in Appendix A.

Study Intersections

SR 12-121/Old Sonoma Road is a signalized tee intersection with protected left-turn phasing on the eastbound approach. The southbound Old Sonoma Road approach has a right-turn overlap phase. There are no pedestrian facilities at the intersection.

Old Sonoma Road/Old Sonoma Highway is a tee intersection with a stop control on the terminating westbound Old Sonoma Highway approach and a channelized northbound right-turn lane.

SR 12-121/Old Sonoma Highway is a tee intersection with a stop control on the terminating southbound Old Sonoma Highway approach.

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

Study Roadway

Old Sonoma Road is a two-lane road that is located between SR 12-121 and the City of Napa and is classified as a major collector by the California Department of Transportation (Caltrans) *California Road System – Functional Classification* map. Old Sonoma Road generally has a north-south configuration in the vicinity of the project site. The road has a *prima facie* speed limit of 55 miles per hour (mph), carries approximately 7,000 vehicles per day, and has 11- to 12-foot lanes in the study area.

Collision History

The collision history for the study area was 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 January 1, 2017, through December 31, 2021.

As presented in Table 1, the calculated collision rates for the study intersections were compared to average collision rates for similar facilities statewide, as indicated in *2019 Collision Data on California State Highways*, Caltrans. These average rates statewide are for intersections in the same 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). The collision rate calculations are provided in Appendix B.

Table 1 – Collision Rates at the Study Intersections

Study Intersection	Number of Collisions (2017-2021)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
1. SR 12-121/Old Sonoma Rd	15	0.33	0.45
2. Old Sonoma Rd/Old Sonoma Hwy	3	**0.21**	0.19
3. SR 12-121/Old Sonoma Hwy	19	**0.56**	0.19

Note: c/mve = collisions per million vehicles entering; **Bold** = rate is higher than statewide average

Because the collision rates for two of the three study intersections were higher than the statewide average, the crashes at these locations were reviewed in greater detail.

At the intersection of Old Sonoma Road/Old Sonoma Highway, two of the three collisions were hit object collisions involving turning vehicles traveling south, and the remaining collision was a broadside collision. Given the nominal amount by which the crash rate exceeds the statewide average and that the two hit object collisions were reported to take place in different locations, no remedial action appears necessary.

At SR 12-121/Old Sonoma Highway, 18 of the 19 reported collisions were hit object collisions and 13 of these were attributed to improper turning, while four of the crashes had a primary collision factor of driving under the influence. Of the 18 hit object collisions, 14 occurred outside of daylight hours and 15 involved vehicles traveling south, most often turning right from Old Sonoma Highway. The injury rate at the intersection was 68.4 percent which is well above the statewide average of 39.8 percent. Given the high injury rate at the intersection and clear pattern of hit object collisions occurring at night and involving turning vehicles, the County may wish to work with Caltrans to further investigate the details of these crashes as well as the existing lighting, striping, and sight distances at the intersection of SR 12-121/Old Sonoma Highway to ensure that drivers can see the road and evaluate the speed and distance to oncoming traffic at all hours of the day.

Project Data

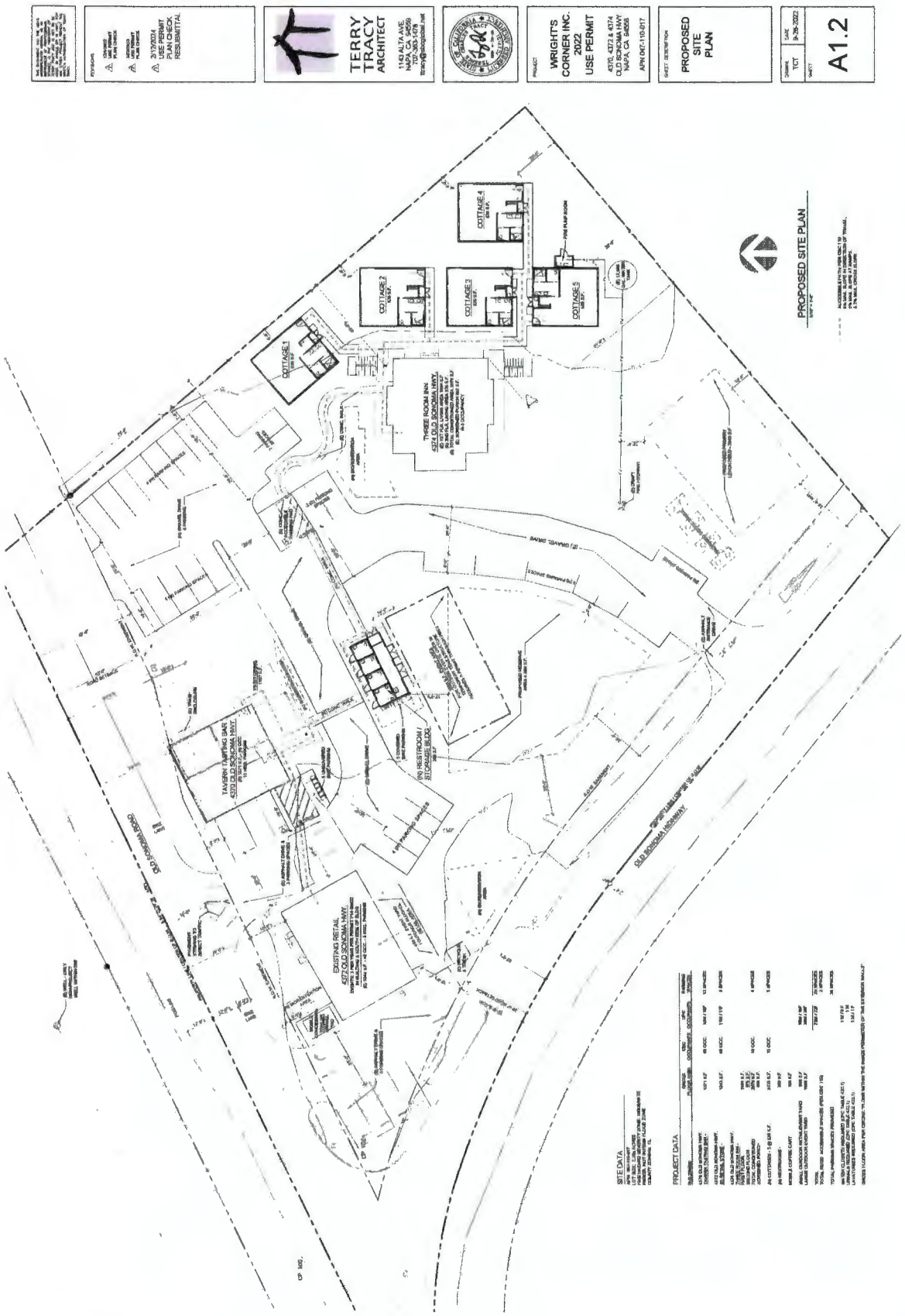
The project consists of several components, including conversion of a three-bedroom residence (4374 Old Sonoma Highway) to an inn, which would then be expanded to include five additional free-standing one-bedroom cottages, repurposing of an existing 1,843 square-foot building (4372 Old Sonoma Highway) to house a small wine or beer tasting area associated with the retail function, a 130 square-foot mobile concession trailer, and a 1,371 square foot tavern or tasting room (4370 Old Sonoma Highway) operating from 11:00 a.m. to 7:00 p.m. and with associated outdoor patio and porch space of 1,107 square feet. Additionally, the project would include outdoor events on-site for up to 80 guests. Per the project description, all other retail and hospitality uses aside would be closed during such events or, if open, used only in direct association with the event and its guests; persons not associated with the event would not be allowed to stay at the inn on event days. Finally, the three 50-person events that are currently held at the retail space at 4372 Old Sonoma Highway would continue to occur; these events would not coincide with any other events. A total of 36 parking spaces would be provided on-site and shared among all proposed uses.

The proposed project site plan is shown in Figure 2.

Trip Generation

The anticipated trip generation for existing site uses as well as the proposed project were estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 11th Edition, 2021. Existing trips from the three-bedroom residence were based on ITE's rates for LU #210 (Single-Family Detached Housing). Trips generated by the proposed eight-room inn were based on ITE's rates for LU #310 (Hotel). The small coffee cart would only operate during the morning, so it was not considered in the trip generation estimate. The retail use was evaluated using LU #822, Strip Retail Plaza (<40 ksf). While this use would draw some traffic passing by the site, this deduction was not estimated since the use is the same for both existing and proposed conditions, therefore the trips cancel out. The trips generated by the tavern or wine tasting room were based on rates for a Wine Tasting Room (LU #970). Because the outdoor area comprises a substantial portion of the facility, it was included for trip generation purposes. The existing wine tour transportation business was assumed to generate four trips during the weekday p.m. peak hour but none during the weekend peak hour as the drivers arrive in their own vehicles and leave in the company vehicles during the morning and return in the late evening, during the weekday p.m. peak hour but outside the Saturday peak hour.

Based on application of these rates and assumptions, the proposed project is expected to generate an average of 278 trips per day, including 35 weekday p.m. peak hour trips and 108 trips during the weekend peak hour. Compared to current uses on the site, the net new trips associated with the project include an average of 165 trips daily, with 18 additional trips during the evening peak hour and 95 more trips during the weekend peak hour. These results are summarized in Table 2.



Source: Terry Tracy Architect 2/27

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Transportation Impact Study for The Wright Corner Project

Figure 2 - Site Plan

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Table 2 – Trip Generation Summary											
Land Use	**Units**	**Daily (Friday)**		**Friday PM Peak Hour**				**Saturday PM Peak Hour**			
		Rate	**Trips**	**Rate**	**Trips**	**In**	**Out**	**Rate**	**Trips**	**In**	**Out**
Existing											
Single Family Dwelling	1 du	9.43	9	0.94	1	1	0	0.92	1	0	1
Strip Retail Plaza	1.843 ksf	54.45	100	6.59	12	6	6	6.57	12	6	6
Transportation Facility	2 veh	2.0	4	n/a	4	2	2	n/a	0	0	0
Total Existing Trips			***113***		***17***	***9***	***8***		***13***	***6***	***7***
Proposed (Normal Operation)											
Hotel	8 occ rm	7.99	64	0.59	5	2	3	0.72	6	3	3
Strip Retail Plaza	1.843 ksf	54.45	100	6.59	12	6	6	6.57	12	6	6
Wine Tasting Room	2.478 ksf	45.96	114	7.31	18	9	9	36.50	90	42	48
Total (Normal Operation)			***278***		***35***	***17***	***18***		***108***	***51***	***57***
Net New Trips (Normal Operation)			**165**		**18**	**8**	**10**		**95**	**45**	**50**
Proposed (Event Days)											
Guests	80 pers	0.77	62	0.38	30	30	0	0.36	29	29	0
Staff	5 pers	1.2	6	0.00	0	0	0	0.00	0	0	0

Note: du = dwelling unit; ksf = 1,000 square feet; occ rm = occupied room; pers = persons; veh = vehicles

Although the project is not a winery and does not include wine production, as requested by County staff a winery trip generation form was completed to determine the trip generation for the 80-person events proposed as part of the project. Such events would occur no more than four times per month, could be on weekdays or weekends, and would start no earlier than 11 a.m. Based on the vehicle occupancies applied for Fridays and Saturdays, events would be expected to generate a total of 62 attendee trips on a Friday and 58 on a Saturday, with half the trips being inbound before the event and half outbound after the event. The five staff would be required to carpool, resulting in six trips per event, though these would occur outside the peak traffic time as staff would arrive before the event to set up and leave after cleaning up. A copy of the trip generation form is provided in Appendix C. Because less trips are associated with an event than with normal operation, conditions on event days were not evaluated.

Trip Distribution

The pattern used to allocate new project trips to the street network was determined by reviewing existing traffic counts and turning movements near the study area, including 2018 daily volumes on Old Sonoma Road and peak hour turning movements at the intersection of SR 12-121 and Old Sonoma Road (both of which are contained in Appendix A). The assumptions shown in Table 3 were applied.

Table 3 – Trip Distribution Assumptions	
Route	**Percent**
SR 12-121 West of Project (Sonoma)	60%
SR 12-121 East of Project (Napa)	20%
Old Sonoma Rd (Napa)	20%
TOTAL	**100%**

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

Existing and Planned Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, there are no sidewalks or pedestrian facilities within one-half mile of the project site except for a segment of sidewalk on Old Sonoma Highway and a discontinuous network of paved shoulders wide enough for pedestrians. However, given the rural character of the area, limited pedestrian traffic occurs and the condition wherein pedestrians are expected to walk on the shoulders on each side of the roadway is considered acceptable for the rural setting.

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. Collision records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports were reviewed for the most current five-year period available, which was January 1, 2017, through December 31, 2021, at the time of the analysis. During the five-year study period there were no reported collisions involving pedestrians at the study intersections.

Finding – The lack of existing dedicated facilities for pedestrians in the project vicinity is acceptable given that the project is in a rural setting.

Bicycle Facilities

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 bike 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.

There are existing bicycle lanes along the project frontage on Old Sonoma Road and the 2019 *Napa Countywide Bicycle Plan*, Napa Valley Transportation Authority (NVTA), indicates that four continuous

miles of Class II bike lanes are planned along Old Sonoma Road between SR 12 and Jefferson Street. These bike lanes could increase bicycle traffic and bring limited bicycle trips to the project site.

Bicyclist Safety

Collision records for the study area were reviewed to determine if there had been any bicyclist-involved crashes. During the five-year study period between January 1, 2017, through December 31, 2021, there was one reported collision involving a bicyclist at the study intersections. A broadside collision was reported to have occurred at the intersection of SR 12-121/Old Sonoma Highway between a left-turning bicyclist and driver continuing straight. The primary collision factor was reported to be improper turning. As only right turns in and out of Old Sonoma Highway at SR 12-121 are permitted, the bicyclist involved in the collision made an illegal left turn; therefore, no remedial action is suggested as adherence to the existing controls and restrictions on movements would eliminate the potential for this kind of crash.

Bicycle Storage

The Napa County Municipal Code, Chapter 18.110.040 states that ten bicycle parking spaces are required when the number of automobile parking spaces required is greater than ten. Further, at least half of the required bicycle parking spaces must be covered if more than 20 automobile parking spaces are required. As 36 automobile parking spaces would be provided at the project site, ten bicycle parking spaces are required, including five covered spaces. Short-term bicycle parking is typically provided by bicycle racks, and covered bicycle parking may include bicycle racks in a covered area, bicycle lockers, or spaces within the project buildings. As five uncovered and five covered bicycle parking spaces are shown on the project site plan, the provision of bicycle parking at the project site would meet the County's requirements.

Finding – Class II bicycle lanes existing along Old Sonoma Road at the project site and completion of these lanes to connect to the City of Napa would improve bicycle access. Bicycle storage at the project site would be adequate to meet the requirements of the County Code.

Transit Facilities

Existing Transit Facilities

There are no transit stops within a walkable distance of the project site. However, transit demand to and from the project site is not anticipated given the rural nature of the project site and the type of project proposed.

Finding – There are no transit stops within a walkable distance of the project site, which is acceptable given the project's rural setting.

Significance Finding – The project would not affect any existing or planned facilities or services for alternative mode travel nor would it be expected to generate demand for such facilities or services.

Vehicle Miles Traveled (VMT)

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

Background and Significance Criteria

Senate Bill (SB) 743 established Vehicle Miles Traveled (VMT) as the basis for determining impacts with respect to transportation and traffic in the California Environmental Quality Act (CEQA). The project's impact on VMT was evaluated in accordance with *Attachment C – VMT Analysis Approach for Development Projects in Napa County* contained in the *Napa County Traffic Impact Study Guidelines*, 2022.

Based on the County Guidelines, projects that would generate more than 110 net daily trips are required to provide feasible strategies to reduce the project's VMT by at least 15 percent to be considered to have a less-than-significant impact on VMT. To address the project's anticipated potential impact on VMT and adverse effects on traffic operation, implementation of a Transportation Demand Management (TDM) Plan is recommended. TDM measures aim to reduce single-occupancy vehicle trips during peak hours, parking demand, and total vehicle miles traveled (VMT) through use of alternative modes of transportation and more efficiently planned trips. Due to the project's rural location, the site does not have as many options to reduce VMT as one located in an urban environment, but the project includes a tasting room, retail, and lodging components, which generate both employee and visitor trips so there is potential to reduce vehicular trips and parking demand with implementation of a TDM program.

The proposed project would generate approximately 165 new daily trips during standard operation without implementation of trip or VMT reduction mitigation measures. During special events of up to 80 guests with five staff, the project would generate 67 to 73 new daily trips which is below the County's 110 trip threshold. To comply with the County of Napa's VMT significance criteria, the unmitigated level of auto travel associated with standard operation of the proposed project must be reduced by 15 percent, or 25 daily trips. Note that since the County of Napa applies a uniform trip length of 11.8 miles to all trips in VMT analyses, the number of daily trips is directly proportional to the amount of VMT generated; for simplification, the following section focuses on trip reductions as a more easily understood proxy for VMT reductions.

Project VMT Types and Potential Reduction Targets

Based on trip purpose tables developed by the Sonoma County Transportation Authority (SCTA) for the agency's travel demand model, which reflects conditions in the northern Bay Area wine country and would have similar characteristics to Napa County trip purpose characteristics, approximately 12 percent of daily retail and hotel trips are associated with employee travel. TDM strategies that are aimed at reducing employee travel would apply to both existing employees working at the site as well as new employees that would be added. As shown in Table 2, the land use mix associated with the proposed project would generate approximately 278 daily trips (before deducting existing trips). Accordingly, it is estimated that approximately 33 daily trips would be generated by employees. It is recommended that the TDM plan strive to reduce employee travel by 20 percent, or seven daily trips.

As with VMT reduction strategies oriented to employee travel, visitor-focused VMT reduction strategies would be oriented to all visitors traveling to and from the site. Of the 278 daily trips associated with the

proposed project (before deducting existing trips), approximately 245 trips would be associated with visitor-based travel. This translates to 123 inbound visitor vehicles per day.

Based on County of Napa guidance, visitor-based trips are assumed to have an average weekday vehicle occupancy of 2.6 persons per vehicle. Multiplying this vehicle occupancy by the estimated 123 daily inbound visitor vehicles results in an estimated 320 daily visitors/guests patronizing the project. Since reducing the number of visitors and guests is not a viable VMT reduction strategy, it is necessary to instead focus on measures that increase the average number of people transported in each vehicle. Increasing the effective vehicle occupancy to 2.8 persons per vehicle would result in 114 daily inbound visitor vehicles (320 daily visitors divided by 2.8 persons per vehicle), which is a reduction of nine inbound visitor vehicles or 18 daily trips.

The combined reductions of seven daily employee trips and 18 daily visitor trips would result in 25 fewer daily trips as compared to unmitigated conditions, or a reduction of 15 percent of the 165 net-new trips. This would achieve the County of Napa's VMT reduction requirements.

Transportation Demand Management Plan

The focus of the project's TDM plan would be to provide information, encouragement, and access to travel options to reduce the number of vehicle trips during peak hours and overall, thus reducing VMT. The following measures are suggested and are consistent with the goals of Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*. It is recommended that the incentives offered as part of the program be available for the first two years of operation, after which the effectiveness of the program should be reevaluated and modified, if needed.

Employee VMT Reduction Measures

The following measures are quantifiable strategies intended to reduce the project's employee-based VMT.

Ridesharing Program

Carpooling is one of the most common and cost-effective alternative modes of transportation and one that commuters can adopt part-time. There are numerous benefits to ridesharing. Carpooling can reduce peak-period vehicle trips and increase commuters' travel choices. Further, it reduces congestion, road and parking facility costs and pollution emissions. Carpooling tends to have the lowest cost per passenger-mile of any motorized mode of transportation, since it makes use of a vehicle seat that would otherwise be empty. Carpooling also provides consumer financial savings by decreasing fuel and parking costs.

Ride-matching

The greatest barrier to workplace carpooling is often simply being able to identify and travel with other nearby employees. Fortunately, there are many services that can assist in pairing employees within the same organization or across organizations. The most basic publicly available service is 511.org's free ride-matching service. There are also various private ride-matching providers (e.g., Zimride, RideAmigos, Via, Scoop) that can effectively create carpool networks while making them safe and convenient for their users. The Napa Valley Transportation Authority (NVTA) uses RideAmigos as a resource for local employers as part of its V-Commute program.

Carpool Incentives

In non-metropolitan areas, carpooling is often the most effective trip reduction measure. Financial incentives can be an effective way to encourage employees to do so. The applicant should provide an incentive of $50 per month to employees who agree to carpool to work a minimum of 50 percent of the time. This program should be offered to all employees of the project, including existing employees.

Guaranteed Ride Home Program

One of the reasons that many employees do not carpool to work is the fear of being stranded should they need to leave in an emergency. Employees who carpool to work should be guaranteed a ride home in the case of an emergency or unique situation. The Napa Valley Transportation Authority (NVTA) offers a Guaranteed Ride Home (GRH) program, which is available to employees who carpool or commute via alternative modes. Participants are able to use a taxi, rental car, Lyft, Uber, or other means to get home in an emergency – such as taking care of a sick child or other unexpected need – and are reimbursed for the full cost of the service. The program is available to all who work or attend college in Napa County and is free to join, but registration is required. As part of the project's TDM program, employees should be provided information about V-Commute and encouraged to register for the service.

Active Transportation Incentives

Financial incentives can also be an effective way to encourage employees to use active modes of transportation to reach the site. In addition to those who carpool, the applicant should provide an incentive of $50 per month to employees who agree to bicycle to work a minimum of 50 percent of the time.

Cash-Out

A cash-out program operates when employers pay their employees a cash incentive for the days they use an alternative mode of transportation (transit, bike, or carpool to work) to help reduce vehicle commute trips and emissions. The cash value of the subsidy can be equal to the cost they would otherwise incur for travel and would be offered to both employees who carpool to provide an equitable benefit.

Bicycle Parking

The provision of both short-term and long-term bicycle parking is important. Secure long-term parking (e.g., bike lockers) is a critical component in encouraging employees to bike to work as the lack of secure parking is often cited by employees as a deterrent. Short-term parking (e.g., bike racks) can be utilized by employees or visitors and is generally an inexpensive way to accommodate visitors traveling between wineries.

Transportation Coordinator

One person should be designated as the transportation coordinator for the project site. This is not an additional position, but rather should fall under a manager's responsibilities. It is important to select someone to oversee the different TDM measures available, answer questions, pair carpoolers, administer incentives, etc.

Visitor VMT Reduction Measures

As described above, given the rural context of the project site, the most effective VMT reduction strategies will entail increasing the average number of visitors per vehicle for patrons and guests traveling to the

site. The average vehicle occupancy associated with the project's visitor trips should be increased from the baseline level of 2.6 persons per vehicle to at least 2.8 persons per vehicle. The following strategies for mitigating visitor VMT are identified in the Napa County Traffic Impact Study (TIS) Guidelines.

Visitor Shuttle or Charter Program

Participate in an on-demand or scheduled shuttle service that circulates among multiple wineries. Allow visitors to park at one winery or centralized location and ride a shuttle.

Manage Visitor Travel

When taking reservations, ask visitors about their travel plans and encourage carpooling. For groups of six or more, provide a car or van for the group's travel that day.

Transportation Coordinator

The designated transportation coordinator for the project, who will also oversee employee VMT reduction strategies, should also oversee the above visitor VMT reduction strategies. The transportation coordinator may also organize incentives and/or discounts for visitors traveling in larger groups or by bicycle.

Effectiveness of TDM Measures

Implementation of the above measures would be expected to result in at least 20 percent fewer employee trips, which translates to approximately seven daily trips. Increasing the average occupancy of visitor vehicles to an average of 2.8 persons per vehicle, or approximately 7.7 percent, would be expected to reduce visitor travel by at least 18 daily trips. Combined, the strategies would reduce the project's net daily trip generation by 25 trips, achieving the County's required 15 percent VMT reduction significance threshold.

Finding – The project would need to reduce its unmitigated net increase in daily trips by 15 percent, or 25 daily trips, to have a less-than-significant VMT impact.

Recommendation – A TDM plan should be implemented that reduces the project's daily trip generation by 25 trips, relying on a combination of measures to reduce both employee- and visitor-related auto travel.

Recommendation – TDM monitoring of both employee and visitor travel should occur for a minimum of five years and be reported to the County once per year. It is suggested that monitoring occur for one week every month, ideally covering the same dates for every month; this data would then be averaged over the course of the year to achieve annualized daily trip generation estimates.

Significance Finding – The proposed project would have a less-than-significant VMT impact with implementation of a TDM program and demonstration of effectiveness through annual monitoring and reporting.

Safety Issues

The potential for the project to impact safety was evaluated in terms of the adequacy of sight distance and need for turn lanes at the project accesses. This section addresses the third transportation bullet on the CEQA checklist which is whether or not 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).

Site Access

The project site would be accessed from two existing driveways on Old Sonoma Highway and two existing driveways on Old Sonoma Road. According to the site plan, a raised concrete island would be installed in the center of the northern driveway on Old Sonoma Road; this concrete island would physically prohibit drivers from turning left in or out of the driveway, and it would include signage prohibiting left turns entering and exiting the site. Parking areas adjacent to the tavern or tasting room, outdoor event space, and inn would be connected via gravel driveways allowing circulation within the project site. The parking lot west of the 1,843 square foot retail use is only accessible from the existing southern driveway on Old Sonoma Road and the existing western driveway on Old Sonoma Highway, and it would remain disconnected from the other parking areas with the proposed project.

Sight Distance

Sight distances along Old Sonoma Highway and Old Sonoma Road at the four project driveways were evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. Recommended sight distances for minor street approaches that are either a private road or a driveway are based on stopping sight distance, which uses approach travel speeds as the basis for determining the recommended sight distance. Additionally, the stopping sight distance needed for a following driver to stop if there is a vehicle waiting to turn into a side street or driveway is evaluated based on stopping sight distance criterion and the approach speed on the major street.

Since there are no speed limit signs posted along Old Sonoma Highway or Old Sonoma Road, the *prima facie* speed limit of 55 mph was used to assess sight distances. Based on a design speed of 55 mph, the minimum stopping sight distance needed is 500 feet. It was assumed that there would be no parking permitted on the paved shoulder of either Old Sonoma Highway or Old Sonoma Road. According to field measurements, sight distances to and from the two project driveways on Old Sonoma Road exceed 600 feet in both directions. To ensure that sight lines are adequate a brief speed survey was performed, and it showed an 85th percentile speed of 50 mph on Old Sonoma Road near Old Sonoma Highway, indicating that the sight lines meet the applied standard.

At the project driveways on Old Sonoma Highway, sight lines to and from the driveways extend to the western terminus of Old Sonoma Highway to the west and exceed 600 feet to the east. Also, drivers on Old Sonoma Highway will be able to see a vehicle stopped to turn left into the driveway from the start of the highway to the north.

Finding – Stopping sight distance at the project driveways is adequate to meet the applied criteria for both entering and exiting movements.

Access Analysis

Left-Turn Lane Warrants

The need for left-turn lanes on Old Sonoma Road and Old Sonoma Highway was evaluated based on criteria contained in the *Napa County Road and Street Standards*, 2023. Average daily volumes on Old Sonoma Road and Old Sonoma Highway were estimated by increasing Friday p.m. peak hour volumes by a factor of ten, which is consistent with the daily distribution of traffic observed during 24-hour counts from Old Sonoma Road in 2018. Near the project driveways, Old Sonoma Road has a daily volume of approximately 7,100 vehicles on Fridays and Old Sonoma Highway has a daily volume of approximately 1,100 vehicles on Fridays. The average daily number of trips at each driveway was also estimated by proportioning each of the 165 project-generated daily trips to the four proposed driveways. Trips were proportioned based on trip distribution percentages and the number of parking spaces accessible from each driveway.

As the northern driveway on Old Sonoma Road would be designed to only accommodate right turns in and out of the project site, the left-turn lane warrant was not evaluated for that location. Using the County's criteria, a left-turn lane is not warranted at the remaining three project driveways. The turn lane warrant graph showing the three driveways and number of trips assigned to each driveway is provided in Appendix D.

Finding – Left turns in or out of the project site would be prohibited at the northern driveway on Old Sonoma Road and left-turn lanes are not warranted at the remaining three project driveways.

Significance Finding – The project would be expected to have a less-than-significant impact on safety and would not introduce any safety hazards.

Emergency Access

The final transportation bullet on the CEQA checklist requires an evaluation as to whether the project would result in inadequate emergency access or not.

Adequacy of Site Access

The proposed site circulation and access exist with the exception of an additional parking lot to the east of the tavern or tasting room. As all project buildings would be accessible from the existing site circulation and driveways, the proposed site circulation and access would reasonably be expected to have been designed to meet applicable design criteria and therefore provide adequate drive aisle widths and turning radii to accommodate emergency response vehicles.

Off-Site Impacts

While the project would be expected to result in a minor increase in delay for traffic in the study area, emergency response vehicles have lights and sirens to bypass queued traffic and minimize the effects of intersection delay; therefore, the project would be expected to have a negligible effect on emergency response times.

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

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 methodologies published in the *Highway Capacity Manual 7th Edition* (HCM), 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 Levels of Service for the intersections with side street stop controls, or those which are unsignalized and have one or two approaches stop controlled, were analyzed using the "Two-Way Stop-Controlled" intersection capacity method from the HCM. This methodology determines a level of service for each minor turning movement by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements together with the weighted overall average delay for the intersection.

The study intersection of SR 12-121/Old Sonoma Road, which is controlled by a traffic signal, was evaluated using the signalized methodology from the HCM. This methodology is based on factors including traffic volumes, green time for each movement, phasing, whether the signals are coordinated or not, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. For purposes of this study, delays were calculated using optimized signal timing.

The ranges of delay associated with the various levels of service are indicated in Table 4.

Table 4 – Intersection Level of Service Criteria		
LOS	**Two-Way Stop-Controlled**	**Signalized**
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	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 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	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

Napa County

In the Circulation Element of the *Napa County General Plan*, the following policies have been adopted:

- **Policy CIR-31** – *The County seeks to provide a roadway system that maintains current roadway capacities in most locations and is efficient in providing local access.*

- **Policy CIR-38** – *The County seeks to maintain operations of roads and intersections in the unincorporated County area that minimize travel delays and promote safe access for all users. Operational analysis shall be conducted according to the latest version of the Highway Capacity Manual and as described in the current version of the County's Transportation Impact Study Guidelines. In general, the County seeks to maintain Level of Service (LOS) D on arterial roadways and at signalized intersections, as the service level that best aligns with the County's desire to balance its rural character with the needs of supporting economic vitality and growth.*

  In situations where the County determines that achieving LOS D would cause an unacceptable conflict with other goals and objectives, minimizing collisions and the adequacy of local access will be the County's priorities. Mitigating operational impacts should first focus on reducing the project's vehicular trips through modifying the project definition, applying TDM strategies, and/or applying new technologies that could reduce vehicular travel and associated delays;

then secondarily should consider physical infrastructure changes. Proposed mitigations will be evaluated for their effect on collisions and local access, and for their effectiveness in achieving the maximum potential reduction in the project's operational impacts (see the County's Transportation Impact Study Guidelines for a list of potential mitigation measures).

The following roadway segments are exceptions to the LOS D standard described above:

- *State Route 29 in the unincorporated areas between Yountville and Calistoga: LOS F is acceptable.*
- *Silverado Trail between State Route 128 and Yountville Cross Road: LOS E is acceptable.*
- *State Route 12/121 between the Napa/Sonoma County line and Carneros Junction: LOS F is acceptable.*
- *American Canyon Road from I-80 to American Canyon City Limit: LOS E is acceptable.*

Quantitative methods of adhering to the above standards are provided in the *Napa County Traffic Impact Study Guidelines*, 2021. The document establishes thresholds of significance for road segments and various intersection control types and states a project would cause an adverse effect requiring remediation if, for existing conditions:

- *A signalized intersection operates at LOS A, B, C, or D during the selected peak hours without Project trips, and the LOS deteriorates to LOS E or F with the addition of Project trips; or*

- *A signalized intersection operates at LOS E or F during the selected peak hours without Project trips, and the addition of Project trips increases the total entering volume by one percent or more.*
  - *Project Contribution % = Project Trips ÷ Existing Volumes*

- *An unsignalized intersection operates at LOS A, B, C, or D during the selected peak hours without Project trips, and the LOS deteriorates to LOS E or F with the addition of Project traffic; the peak hour traffic signal warrant criteria should also be evaluated and presented for informational purposes; or*

- *An unsignalized intersection operates at LOS E or F during the selected peak hours without Project trips, and the project increases delay by more than five seconds, measured by the overall intersection delay at an all-way stop-controlled intersection or the delay for each stop-controlled approach at a side-street stop-controlled intersection; the peak hour traffic signal criteria should also be evaluated and presented for informational purposes. Each stop-controlled approach that operates at LOS E or F should be analyzed individually.*

- *An arterial segment operates at LOS A, B, C or D during the selected peak hours without Project trips, and deteriorates to LOS E or F with the addition of Project trips; or*

- *An arterial segment operates at LOS E or F during the selected peak hours without Project trips, and the addition of Project trips increases the total segment volume by one percent or more. The following equation should be used if the arterial segment operates at LOS E or F without the Project:*
  - *Project Contribution % = Project Trips ÷ Existing Volumes*

Further, a project would cause an adverse effect requiring remediation if, for cumulative (future) conditions, the Project's volume is equal to, or greater than five percent of the difference between cumulative (future) and existing volumes.

- *Cumulative Conditions* – A *Project's contribution to a cumulative condition would be calculated as the Project's percentage contribution to the total growth in traffic. This calculation applies to arterials, signalized intersections, and unsignalized intersections.*
  - *Project Contribution % = Project Trips ÷ (Cumulative Volumes – Existing Volumes)*

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the Friday p.m. and Saturday p.m. peak periods. This condition does not include project-generated traffic volumes. Volume data was collected in October 2022 during harvest conditions. Additionally, heavy vehicle percentages were collected per movement and incorporated into the operational analysis. Due to the Covid-19 pandemic, it is expected that counts reflect volumes that are less than "normal" volumes. Therefore, counts collected at SR 12-121/Old Sonoma Road in 2018 were used as a "control" to establish adjustment factors to be applied to the 2022 counts. This led to an additional factor of 7 percent being applied to counts obtained during the Friday and Saturday p.m. peaks.

Under the applied existing volumes, all three study intersections operate acceptably at LOS C or better both overall and on the stop-controlled approaches during the Friday p.m. peak hour, while during the Saturday p.m. peak hour the intersection of SR 12-121/Old Sonoma Road operates at LOS F and the remaining intersections operate at LOS C or better. This condition of LOS F is considered acceptable as the Circulation Element of the *Napa County General Plan* establishes that the segment of SR 12-121 in the study area may operate at LOS F. The existing traffic volumes are shown in Figure 3. A summary of the intersection Level of Service calculations is contained in Table 5, and copies of the calculations are provided in Appendix E.

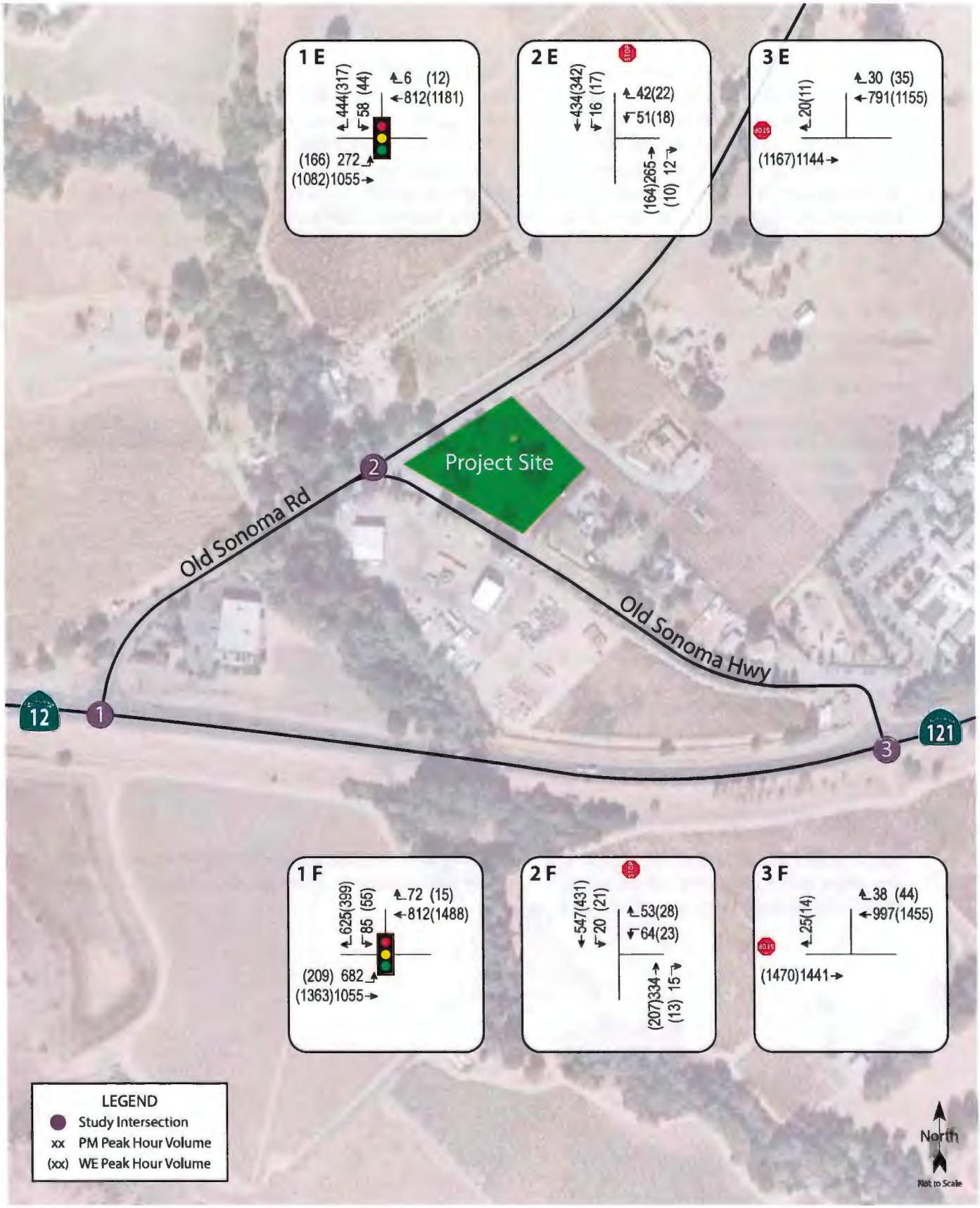
Table 5 – Existing Peak Hour Intersection Levels of Service

Study Intersection *Approach*	Friday PM Peak		Saturday PM Peak	
	Delay	LOS	Delay	LOS
1. SR 12-121/Old Sonoma Rd	29.1	C	84.2	F
2. Old Sonoma Rd/Old Sonoma Hwy	19.3	C	13.4	B
Westbound (Old Sonoma Hwy) Approach	*16.5*	*C*	*11.4*	*B*
3. SR 12-121/Old Sonoma Hwy	15.8	C	22.5	C
Southbound (Old Sonoma Hwy) Right Turn	*15.8*	*C*	*22.5*	*C*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Future Conditions

Segment volumes for the horizon year of 2040 were obtained from the Napa Solano Travel Demand model maintained by the Solano Transportation Authority (STA). Model-generated segment volumes



nax140.ai 11/22

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Figure 3 – Existing and Future Traffic Volumes

W-Trans

were translated to turning movement volumes at the intersection of SR 12-121/Old Sonoma Road for the Friday p.m. peak hour using the "Furness" method. The Furness method is an iterative process that employs existing turn movement data, existing link volumes, and future link volumes to project likely turning future movement volumes at intersections. As neither future weekend volumes nor volumes along Old Sonoma Highway are available in the model, future volumes for the Saturday p.m. peak hour and future volumes at Old Sonoma Road/Old Sonoma Highway and SR 12-121/Old Sonoma Highway were estimated by applying growth rates of 1.26 to existing volumes. This growth rate was developed by comparing the existing and calculated future volumes for weekday peak hours at SR 12-121/Old Sonoma Road.

Under the anticipated Future volumes, two of the three study intersections are expected to operate acceptably at LOS D or better and the intersection of SR 12-121/Old Sonoma Road is expected to operate acceptably by County standards at LOS F. Future volumes are shown in Figure 3 and operating conditions are summarized in Table 6.

Table 6 – Future Peak Hour Intersection Levels of Service

Study Intersection *Approach*	Friday PM Peak		Saturday PM Peak	
	Delay	LOS	Delay	LOS
1. SR 12-121/Old Sonoma Rd	84.8	F	**	F
2. Old Sonoma Rd/Old Sonoma Hwy	21.2	C	14.7	B
Westbound (Old Sonoma Hwy) Approach	*17.9*	*C*	*12.1*	*B*
3. SR 12-121/Old Sonoma Hwy	18.1	C	30.9	D
Southbound (Old Sonoma Hwy) Right Turn	*18.1*	*C*	*30.9*	*D*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* ** = delay greater than 120 seconds

Project Conditions

Existing plus Project Conditions

Upon the addition of project-related traffic to the existing volumes, the study intersections are expected to operate at the same Levels of Service as without the project volume. These results are summarized in Table 7. Project traffic volumes are shown in Figure 4.

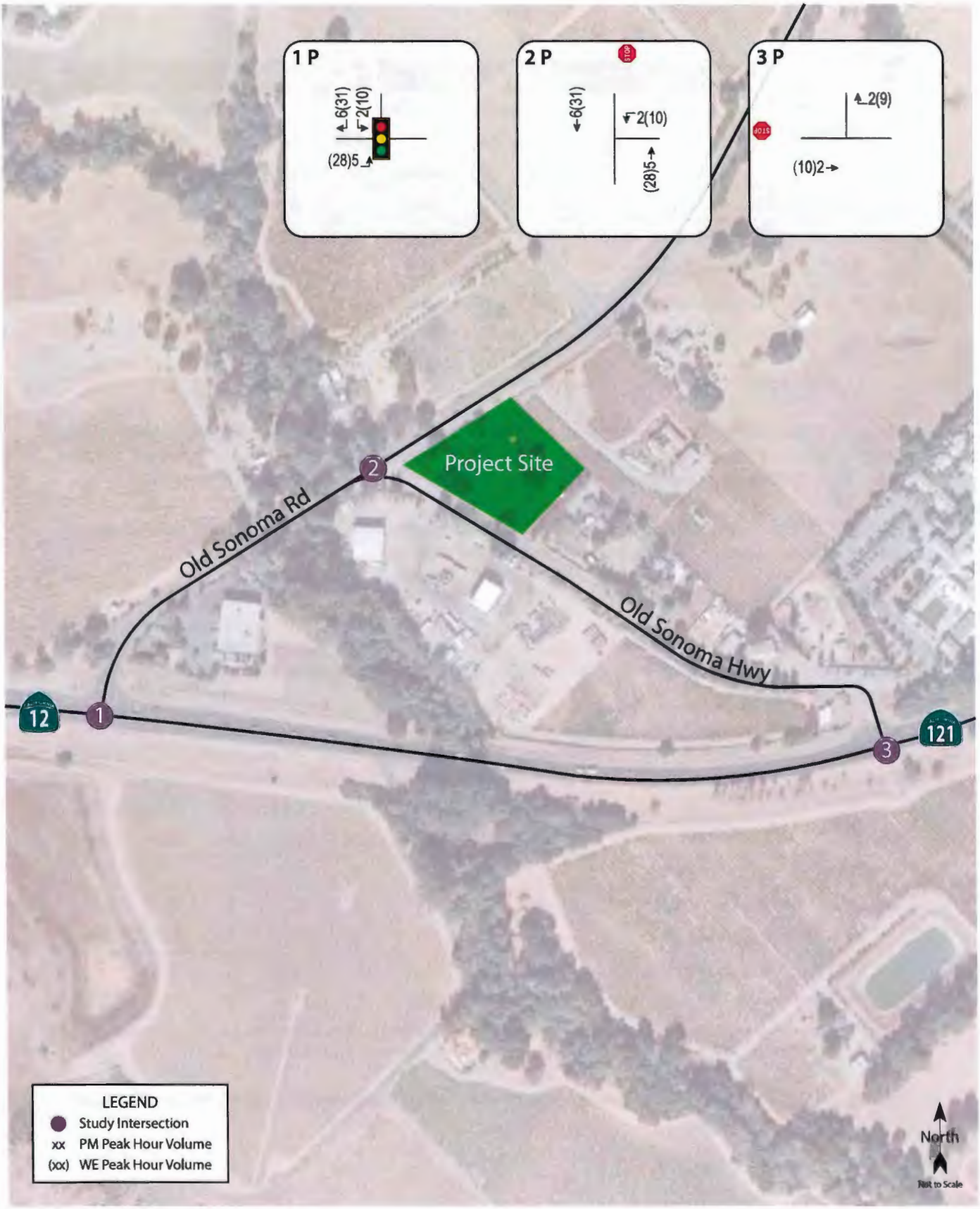

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Figure 4 – Project Traffic Volumes

Table 7 – Existing and Existing plus Project Peak Hour Intersection Levels of Service								
Study Intersection *Approach*	**Existing Conditions**				**Existing plus Project**			
	Friday PM		**Saturday PM**		**Friday PM**		**Saturday PM**	
	Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1. SR 12-121/Old Sonoma Rd	29.1	C	84.2	F	30.2	C	84.4	F
2. Old Sonoma Rd/Old Sonoma Hwy	19.3	C	13.4	B	19.8	C	14.4	B
WB (Old Sonoma Hwy) Approach	*16.5*	*C*	*11.4*	*B*	*16.9*	*C*	*12.5*	*B*
3. SR 12-121/Old Sonoma Hwy	15.8	C	22.5	C	15.8	C	22.5	C
SB (Old Sonoma Hwy) Right Turn	*15.8*	*C*	*22.5*	*C*	*15.8*	*C*	*22.5*	*C*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

The study intersections were not evaluated under event-only volumes as an 80-person event would result in fewer than the 95 net new trips anticipated during the Saturday p.m. peak hour, especially as trips associated with the event may not be concentrated within a single hour or overlap the peak hours.

Finding – The study intersections are expected to continue operating acceptably at the same Levels of Service upon the addition of project-generated traffic to existing volumes.

Future plus Project Conditions

Upon the addition of project-generated traffic to the anticipated future volumes, the study intersections are expected to continue operating acceptably. The Future plus Project operating conditions are summarized in Table 8.

Table 8 – Future and Future plus Project Peak Hour Intersection Levels of Service								
Study Intersection *Approach*	**Future Conditions**				**Future plus Project**			
	Friday PM		**Saturday PM**		**Friday PM**		**Saturday PM**	
	Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1. SR 12-121/Old Sonoma Rd	84.8	F	**	F	86.5	F	**	F
2. Old Sonoma Rd/Old Sonoma Hwy	21.2	C	14.7	B	21.7	C	15.8	C
WB (Old Sonoma Hwy) Approach	*17.9*	*C*	*12.1*	*B*	*18.4*	*C*	*13.5*	*B*
3. SR 12-121/Old Sonoma Hwy	18.1	C	30.9	D	18.1	C	30.9	D
SB (Old Sonoma Hwy) Right Turn	*18.1*	*C*	*30.9*	*D*	*18.1*	*C*	*30.9*	*D*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* ** = delay greater than 120 seconds

Finding – The study intersections will continue operating acceptably at the same service levels with project traffic added as without it.

Parking

The project was analyzed to determine whether the proposed parking supply would be sufficient for the anticipated parking demand. The project site as proposed would provide a total of 36 standard parking spaces, including two accessible spaces; this would be an increase of 26 spaces compared to the existing supply of ten spaces. The proposed parking supply would be shared by different uses, and therefore the parking analysis was conducted for all land uses together.

Jurisdiction parking supply requirements are based on the Napa County Municipal Code, Chapter 18.110, Off-Street Parking and Loading Facilities. The proposed parking supply of 36 spaces is anticipated to be greater than the 29 required spaces by the County based on standard requirements. It is noted that the outdoor patio space associated with the proposed tavern or tasting room would not contribute to the County parking requirement. The proposed parking supply and County requirements are shown in Table 9.

Table 9 – Parking Analysis Summary

Land Use	Units	Rate	Parking Spaces
Hotel	8 rm + 1 per emp	1.0	9
Retail	1.843 ksf	1 per 250 sf	8
Restaurant, Including Bars and Taverns	1.371 ksf	1 per 120 sf	12
Required Parking Spaces			**29**
Total Parking Supply Proposed			*36*

Notes: rm = rooms; emp = employee; ksf = 1,000 square feet; sq = square foot

The County's standard vehicle occupancies of one employee or 2.8 visitors per vehicle were also used to calculate the number of on-site spaces needed to accommodate employees and visitors during on-site, outdoor events of up to 80 guests. During such events, all retail and hospitality uses aside from the inn would be closed or used only in direct association with the event guests, and the estimated five staff required for the event would not be included in the 80-person maximum. As it would be required that all registered guests of the inn on the day of the event must be participants of the event, the 16 guests staying at the inn would be expected to occupy eight spaces. The number of spaces needed for employees would be reduced as employees would be required to park off-site and carpool to the event. For an 80-person event, 23 spaces for the remaining 64 visitors that are not staying at the inn, eight spaces for inn guests, and three spaces for employees would be needed, for a total of 34 spaces. There is sufficient space available to provide parking for these vehicles, with a surplus of two spaces.

Finding – The proposed parking supply for the project would satisfy the County's code requirements and meet the anticipated peak parking demand, even if employees do not carpool together as proposed.

Conclusions and Recommendations

Conclusions

- There are no dedicated facilities for pedestrians, nor are there any transit stops within a walkable distance of the project site. This condition is acceptable as the project is located in a rural area and such trips are not expected.
- Existing and planned bike lanes on Old Sonoma Road provide adequate connectivity to attract bicycle trips.
- Bicycle storage at the project site is adequate to meet the County's Code requirements.
- To result in a less-than-significant on VMT, based on the application of the County's policies the project would need to reduce the 165 net-new trips by 15 percent or 25 trips.
- Adequate sight distance is available at all four project driveways.
- Based on the County's criteria, left-turn lanes are not warranted at the project driveways.
- The proposed site access and on-site circulation are expected to be adequate for emergency response vehicles.
- All four study intersections would operate at acceptable Levels of Service under existing and future conditions, without and with traffic generated by the project.
- The proposed parking supply would be sufficient to meet County requirements. The parking supply would also meet peak demand during an event even if employees do not carpool, as proposed, or else contain a surplus of two spaces.

Recommendations

- TDM measures should be implemented to reduce the project's unmitigated VMT by 15 percent. It is suggested that the monitoring occur for one week every month, ideally covering the same dates for every month; this data would then be averaged over the course of the year to achieve annualized rates and reported annually to the County.

Study Participants and References

Study Participants

Principal in Charge	Dalene J. Whitlock, PE (Civil, Traffic), PTOE
Transportation Planner	Zack Matley, AICP
Traffic Engineer	Kevin Carstens, PE (Civil, Traffic)
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Graphics	Cameron Wong
Editing/Formatting	Hannah Yung-Boxdell, Jessica Bender
Quality Control	Dalene J. Whitlock, PE (Civil, Traffic), PTOE

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Appendix A

Traffic Counts

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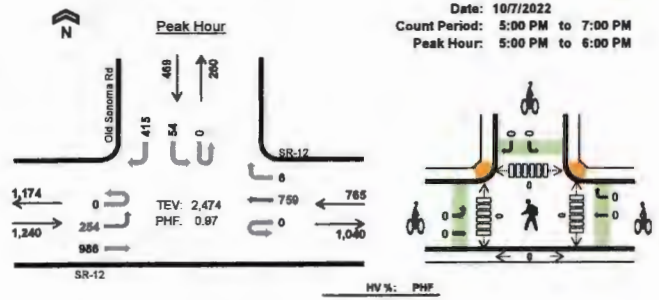
Old Sonoma Rd
SR-12



Date: 10/7/2022
Count Period: 5:00 PM to 7:00 PM
Peak Hour: 5:00 PM to 6:00 PM

	HV %:	PHF
EB	2.7%	0.95
WB	3.0%	0.86
NB	-	-
SB	2.8%	0.77
TOTAL	2.8%	0.97

Two-Hour Count Summaries

Interval Start	SR-12 Eastbound				SR-12 Westbound				n/a Northbound				Old Sonoma Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	0	65	247	0	0	0	185	2	0	0	0	0	0	9	0	105	613	0
5:15 PM	0	74	244	0	0	0	148	0	0	0	0	0	0	10	0	134	620	0
5:30 PM	0	56	229	0	0	0	204	3	0	0	0	0	0	13	0	98	603	0
5:45 PM	0	53	286	0	0	0	221	1	0	0	0	0	0	13	0	78	638	2,474
6:00 PM	0	76	258	0	0	0	181	3	0	0	0	0	0	6	0	58	580	2,421
6:15 PM	0	46	270	0	0	0	168	1	0	0	0	0	0	8	0	44	537	2,338
6:30 PM	0	35	237	0	0	0	141	2	0	0	0	0	0	11	0	44	470	2,205
6:45 PM	0	45	283	0	0	0	140	1	0	0	0	0	0	7	0	37	513	2,080
Count Total	0	456	2,034	0	0	0	1,369	13	0	0	0	0	0	86	0	596	4,554	0
Peak Hour All	0	254	986	0	0	0	759	6	0	0	0	0	0	54	0	415	2,474	0
Peak Hour HV	0	1	32	0	0	0	23	0	0	0	0	0	0	0	0	13	69	0
Peak Hour HV%	-	0%	3%	-	-	-	3%	0%	-	-	-	-	-	0%	-	3%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	11	9	0	1	21	0	0	0	0	0	0	0	0	0	0
5:15 PM	8	4	0	5	17	0	0	0	0	0	0	0	0	0	0
5:30 PM	8	5	0	4	15	0	0	0	0	0	0	0	0	0	0
5:45 PM	5	5	0	3	13	0	0	0	0	0	0	0	0	0	0
6:00 PM	11	3	0	1	15	1	0	0	0	1	0	0	0	0	0
6:15 PM	6	2	0	0	8	0	0	0	0	0	0	0	0	0	0
6:30 PM	6	4	0	1	13	0	0	0	0	0	0	0	0	0	0
6:45 PM	7	4	0	0	11	0	0	0	0	0	0	0	0	0	0
Count Total	65	36	0	15	116	1	0	0	0	1	0	0	0	0	0
Peak Hr	33	23	0	13	69	0	0	0	0	0	0	0	0	0	0

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SR-12 Eastbound				SR-12 Westbound				n/a Northbound				Old Sonoma Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	0	0	11	0	0	0	9	0	0	0	0	0	0	0	0	1	21	0
5:15 PM	0	0	8	0	0	0	4	0	0	0	0	0	0	0	0	5	17	0
5:30 PM	0	0	6	0	0	0	5	0	0	0	0	0	0	0	0	4	15	0
5:45 PM	0	1	7	0	0	0	5	0	0	0	0	0	0	0	0	3	16	69
6:00 PM	0	2	9	0	0	0	3	0	0	0	0	0	0	0	0	1	15	63
6:15 PM	0	0	6	0	0	0	2	0	0	0	0	0	0	0	0	0	8	54
6:30 PM	0	2	6	0	0	0	4	0	0	0	0	0	0	0	0	1	13	52
6:45 PM	0	0	7	0	0	0	4	0	0	0	0	0	0	0	0	0	11	47
Count Total	0	5	60	0	0	0	36	0	0	0	0	0	0	0	0	15	116	0
Peak Hour	0	1	32	0	0	0	23	0	0	0	0	0	0	0	0	13	69	0

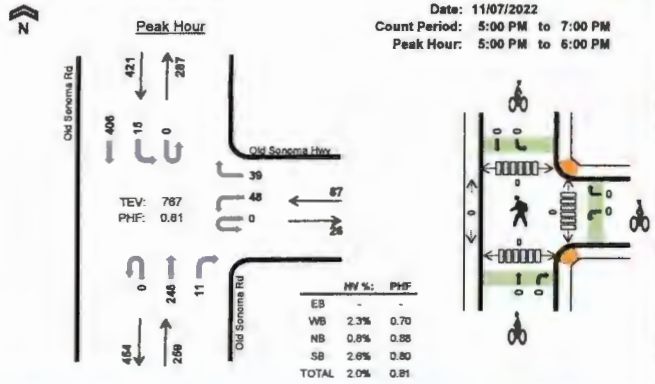
Two-Hour Count Summaries - Bikes

Interval Start	SR-12 Eastbound			SR-12 Westbound			n/a Northbound			Old Sonoma Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Project Manager: (415) 310-6469 project.manager.ca@idaxdata.com

Old Sonoma Rd
Old Sonoma Hwy



Date: 11/07/2022
Count Period: 5:00 PM to 7:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Two-Hour Count Summaries

Interval Start	n/a Eastbound UT	LT	TH	RT	Old Sonoma Hwy Westbound UT	LT	TH	RT	Old Sonoma Rd Northbound UT	LT	TH	RT	Old Sonoma Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM	0	0	0	0	0	6	0	11	0	0	66	2	0	7	100	0	191	0
5:15 PM	0	0	0	0	0	12	0	13	0	0	72	2	0	4	100	0	203	0
5:30 PM	0	0	0	0	0	13	0	5	0	0	56	4	0	2	94	0	180	0
5:45 PM	0	0	0	0	0	6	0	10	0	0	56	3	0	2	82	0	159	767
6:00 PM	0	0	0	0	0	3	0	3	0	0	78	3	0	3	57	0	145	721
6:15 PM	0	0	0	0	0	1	0	5	0	0	39	2	0	1	46	0	94	578
6:30 PM	0	0	0	0	0	3	0	6	0	0	36	2	0	4	52	0	103	501
6:45 PM	0	0	0	0	0	4	0	8	0	0	46	0	0	1	35	0	94	436
Count Total	0	0	0	0	0	58	0	61	0	0	445	18	0	24	596	0	1,203	0
Peak Hour All	0	0	0	0	0	42	0	39	0	0	248	11	0	15	406	0	767	0
Peak Hour HV	0	0	0	0	0	1	0	1	0	0	2	0	0	0	11	0	15	0
Peak Hour HV%	-	-	-	-	-	2%	-	3%	-	-	1%	0%	-	0%	3%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	1	5	7	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	3	4	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	2	1	3	0	0	1	0	1	0	0	0	0	0
6:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	4	6	12	22	0	0	1	0	1	0	0	0	0	0
Peak Hr	0	2	2	11	15	0	0	0	0	0	0	0	0	0	0

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	n/a Eastbound UT	LT	TH	RT	Old Sonoma Hwy Westbound UT	LT	TH	RT	Old Sonoma Rd Northbound UT	LT	TH	RT	Old Sonoma Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	2	0
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	4	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	10
6:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	10
6:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	12
6:30 PM	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	3	11
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Count Total	0	0	0	0	0	1	0	3	0	0	5	1	0	0	12	0	22	0
Peak Hour	0	0	0	0	0	1	0	1	0	0	2	0	0	0	11	0	15	0

Two-Hour Count Summaries - Bikes

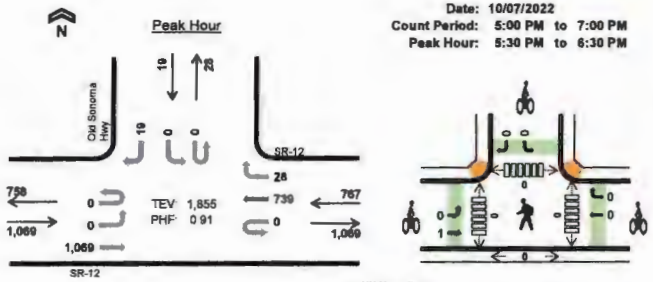
Interval Start	n/a Eastbound LT	TH	RT	Old Sonoma Hwy Westbound LT	TH	RT	Old Sonoma Rd Northbound LT	TH	RT	Old Sonoma Rd Southbound LT	TH	RT	15-min Total	Rolling One Hour
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Project Manager: (415) 310-6469 project.manager.ca@idaxdata.com

Old Sonoma Hwy
SR-12

Date: 10/07/2022
Count Period: 5:00 PM to 7:00 PM
Peak Hour: 5:30 PM to 6:30 PM



	HV %:	PHF
EB	2.6%	0.95
WB	2.1%	0.87
NB	-	-
SB	0.0%	0.68
TOTAL	2.5%	0.91

Two-Hour Count Summaries

Interval Start	SR-12 Eastbound				SR-12 Westbound				n/a Northbound				Old Sonoma Hwy Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	0	0	254	0	0	0	181	4	0	0	0	0	0	0	0	4	443	0
5:15 PM	0	2	254	0	0	0	150	14	0	0	0	0	0	0	0	1	421	0
5:30 PM	0	0	245	0	0	0	201	12	0	0	0	0	0	0	0	6	463	0
5:45 PM	0	0	231	0	0	0	210	5	0	0	0	0	0	0	0	7	453	1,838
6:00 PM	0	0	270	0	0	0	155	3	0	0	0	0	0	0	0	4	435	1,826
6:15 PM	0	0	273	0	0	0	164	8	0	0	0	0	0	0	0	3	448	1,855
6:30 PM	0	0	249	0	0	0	142	6	0	0	0	0	0	1	0	0	398	1,790
6:45 PM	0	1	293	0	0	0	140	8	0	0	0	0	0	0	0	2	444	1,725
Count Total	0	3	2,119	0	0	0	1,352	60	0	0	0	0	0	1	0	26	3,561	0
Peak Hour All	0	0	1,069	0	0	0	739	28	0	0	0	0	0	0	0	19	1,855	0
Peak Hour HV	0	0	30	0	0	0	16	1	0	0	0	0	0	0	0	0	46	0
Peak Hour HV%	-	-	3%	-	-	-	2%	4%	-	-	-	-	-	-	-	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
5:00 PM	10	8	0	0	18	0	0	0	0	0	0	0	0	0	0
5:15 PM	8	4	0	0	12	0	0	0	0	0	0	0	0	0	0
5:30 PM	7	5	0	0	12	1	0	0	0	1	0	0	0	0	0
5:45 PM	9	5	0	0	14	0	0	0	0	0	0	0	0	0	0
6:00 PM	8	3	0	0	11	0	0	0	0	0	0	0	0	0	0
6:15 PM	8	3	0	0	9	0	0	0	0	0	0	0	0	0	0
6:30 PM	4	5	0	0	9	0	0	0	0	0	0	0	0	0	0
6:45 PM	7	4	0	0	11	0	0	0	0	0	0	0	0	0	0
Count Total	59	37	0	0	96	1	0	0	0	1	0	0	0	0	0
Peak Hr	30	16	0	0	46	1	0	0	0	1	0	0	0	0	0

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SR-12 Eastbound				SR-12 Westbound				n/a Northbound				Old Sonoma Hwy Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	0	0	10	0	0	0	8	0	0	0	0	0	0	0	0	0	18	0
5:15 PM	0	0	8	0	0	0	4	0	0	0	0	0	0	0	0	0	12	0
5:30 PM	0	0	7	0	0	0	5	0	0	0	0	0	0	0	0	0	12	0
5:45 PM	0	0	5	0	0	0	7	1	0	0	0	0	0	0	1	0	14	56
6:00 PM	0	0	8	0	0	0	3	0	0	0	0	0	0	0	0	0	11	49
6:15 PM	0	0	6	0	0	0	2	1	0	0	0	0	0	0	0	0	9	46
6:30 PM	0	0	4	0	0	0	4	1	0	0	0	0	0	0	0	0	9	43
6:45 PM	0	0	7	0	0	0	4	0	0	0	0	0	0	0	0	0	11	40
Count Total	0	0	59	0	0	0	35	2	0	0	0	0	0	0	0	0	96	0
Peak Hour	0	0	30	0	0	0	16	1	0	0	0	0	0	0	0	0	46	0

Two-Hour Count Summaries - Bikes

Interval Start	SR-12 Eastbound			SR-12 Westbound			n/a Northbound			Old Sonoma Hwy Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	0	1	0	0	0	0	0	0	0	0	0	0	1	0

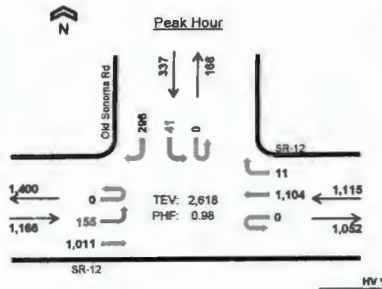
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

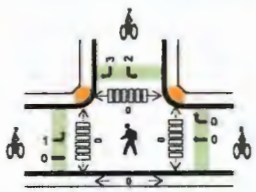
Project Manager: (415) 310-6469 project.manager.ca@idaxdata.com

Old Sonoma Rd
SR-12

Peak Hour

Date: 10/08/2022
Count Period: 1:00 PM to 4:00 PM
Peak Hour: 1:00 PM to 2:00 PM





	HV %:	PHF
EB	2.7%	0.95
WB	2.8%	0.98
NB	-	-
SB	2.7%	0.79
TOTAL	2.8%	0.98

Three-Hour Count Summaries

Interval Start		SR-12 Eastbound				SR-12 Westbound				n/a Northbound				Old Sonoma Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM		0	33	245	0	0	0	281	3	0	0	0	0	0	8	0	98	668	0
1:15 PM		0	41	290	0	0	0	268	1	0	0	0	0	0	8	0	66	644	0
1:30 PM		0	42	239	0	0	0	282	1	0	0	0	0	0	12	0	66	642	0
1:45 PM		0	39	267	0	0	0	273	0	0	0	0	0	0	13	0	86	664	2,618
Peak Hour	All	0	155	1,011	0	0	0	1,104	11	0	0	0	0	0	41	0	296	2,618	0
	HV	0	0	32	0	0	0	31	0	0	0	0	0	0	4	0	6	72	0
	HV%	-	0%	3%	-	-	-	3%	0%	-	-	-	-	-	10%	-	2%	3%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:00 PM	12	4	0	1	17	1	0	0	0	1	0	0	0	0	0
1:15 PM	8	11	0	2	21	0	0	0	2	2	0	0	0	0	0
1:30 PM	7	10	0	4	21	0	0	0	3	3	0	0	0	0	0
1:45 PM	5	6	0	2	13	0	0	0	0	0	0	0	0	0	0
Peak Hour	32	31	0	9	72	1	0	0	5	6	0	0	0	0	0

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Three-Hour Count Summaries

Interval Start		SR-12 Eastbound				SR-12 Westbound				n/a Northbound				Old Sonoma Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM		0	33	245	0	0	0	281	3	0	0	0	0	0	8	0	98	668	0
1:15 PM		0	41	290	0	0	0	268	1	0	0	0	0	0	8	0	66	644	0
1:30 PM		0	42	239	0	0	0	282	1	0	0	0	0	0	12	0	66	642	0
1:45 PM		0	39	267	0	0	0	273	0	0	0	0	0	0	13	0	86	664	2,618
2:00 PM		0	42	265	0	0	0	245	1	0	0	0	0	0	10	0	66	629	2,579
2:15 PM		0	40	274	0	0	0	275	2	0	0	0	0	0	13	0	53	657	2,592
2:30 PM		0	42	234	0	0	0	271	8	0	0	0	0	0	7	0	83	645	2,595
2:45 PM		0	55	265	0	0	0	239	6	0	0	0	0	0	8	0	70	643	2,574
3:00 PM		0	29	234	0	0	0	272	6	0	0	0	0	0	10	0	63	614	2,559
3:15 PM		0	47	250	0	0	0	255	4	0	0	0	0	0	8	0	63	627	2,529
3:30 PM		1	31	264	0	0	0	199	6	0	0	0	0	0	9	0	65	575	2,459
3:45 PM		0	55	255	0	0	0	232	4	0	0	0	0	0	12	0	91	649	2,465
Count Total		1	496	3,052	0	0	0	3,092	48	0	0	0	0	0	118	0	850	7,657	0
Peak Hour	All	0	168	1,011	0	0	0	1,104	11	0	0	0	0	0	41	0	296	2,618	0
	HV	0	0	32	0	0	0	31	0	0	0	0	0	0	4	0	6	72	0
	HV%	-	0%	3%	-	-	-	3%	0%	-	-	-	-	-	10%	-	2%	3%	0

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:00 PM	12	4	0	1	17	1	0	0	0	1	0	0	0	0	0
1:15 PM	8	11	0	2	21	0	0	0	2	2	0	0	0	0	0
1:30 PM	7	10	0	4	21	0	0	0	3	3	0	0	0	0	0
1:45 PM	5	6	0	2	13	0	0	0	0	0	0	0	0	0	0
2:00 PM	2	5	0	0	7	0	0	0	0	0	0	0	0	0	0
2:15 PM	8	5	0	0	13	0	0	0	0	0	0	0	0	0	0
2:30 PM	8	2	0	2	12	0	0	0	0	0	0	0	0	0	0
2:45 PM	5	6	0	0	14	1	0	0	0	1	0	0	0	0	0
3:00 PM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0
3:15 PM	5	7	0	1	13	0	0	0	0	0	0	0	0	0	0
3:30 PM	3	6	0	1	10	1	0	0	0	1	0	0	0	0	0
3:45 PM	3	2	0	1	6	0	0	0	0	0	0	0	0	0	0
Count Total	71	67	0	14	152	3	0	0	5	8	0	0	0	0	0
Peak Hr	32	31	0	9	72	1	0	0	5	6	0	0	0	0	0

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	SR-12 Eastbound				SR-12 Westbound				n/a Northbound				Old Sonoma Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM	0	0	12	0	0	0	4	0	0	0	0	0	0	0	0	1	17	0
1:15 PM	0	5	0	0	0	0	11	0	0	0	0	0	0	0	0	2	21	0
1:30 PM	0	0	7	0	0	0	10	0	0	0	0	0	0	3	0	1	21	0
1:45 PM	0	0	8	0	0	0	0	0	0	0	0	0	0	1	0	1	13	72
2:00 PM	0	1	1	0	0	0	5	0	0	0	0	0	0	0	0	0	7	62
2:15 PM	0	0	8	0	0	0	5	0	0	0	0	0	0	0	0	0	13	54
2:30 PM	0	3	5	0	0	0	2	0	0	0	0	0	0	0	0	2	12	45
2:45 PM	0	1	7	0	0	0	5	1	0	0	0	0	0	0	0	0	14	46
3:00 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	44
3:15 PM	0	1	4	0	0	0	7	0	0	0	0	0	0	0	0	1	13	44
3:30 PM	0	0	3	0	0	0	6	0	0	0	0	0	0	0	0	1	10	42
3:45 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	1	6	34
Count Total	0	6	65	0	0	0	66	1	0	0	0	0	0	4	0	10	152	0
Peak Hour	0	0	32	0	0	0	31	0	0	0	0	0	0	4	0	5	72	0

Three-Hour Count Summaries - Bikes

Interval Start	SR-12 Eastbound			SR-12 Westbound			n/a Northbound			Old Sonoma Rd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
1:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	0
1:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	2	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	3	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	6
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	1
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	3	0	0	0	0	0	0	0	0	2	0	3	8	0
Peak Hour	1	0	0	0	0	0	0	0	0	2	0	3	6	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

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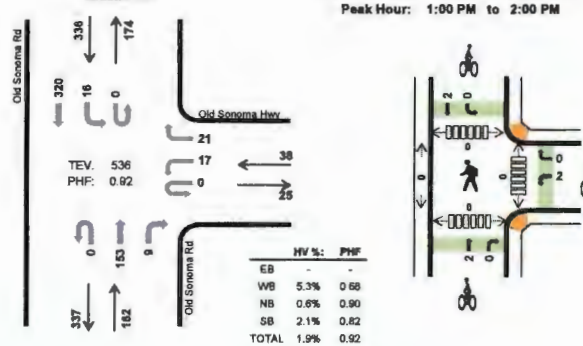
Old Sonoma Rd
Old Sonoma Hwy

idax

Date: 10/08/2022
Count Period: 1:00 PM to 4:00 PM
Peak Hour: 1:00 PM to 2:00 PM

N

Peak Hour



Three-Hour Count Summaries

Interval Start		n/a Eastbound				Old Sonoma Hwy Westbound				Old Sonoma Rd Northbound				Old Sonoma Rd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM		0	0	0	0	0	1	0	5	0	0	35	2	0	4	99	0	146	0
1:15 PM		0	0	0	0	0	4	0	4	0	0	33	3	0	3	78	0	123	0
1:30 PM		0	0	0	0	0	8	0	6	0	0	44	0	0	4	67	0	129	0
1:45 PM		0	0	0	0	0	4	0	8	0	0	41	4	0	6	78	0	138	536
Peak Hour	All	0	0	0	0	0	17	0	21	0	0	153	9	0	16	320	0	536	0
	HV	0	0	0	0	0	1	0	1	0	0	1	0	0	0	7	0	10	0
	HV%	-	-	-	-	-	6%	-	5%	-	-	1%	0%	-	0%	2%	-	2%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
1:00 PM	0	0	0	2	2	0	0	1	0	1	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
1:30 PM	0	2	1	3	6	0	0	1	2	3	0	0	0	0	0
1:45 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	2	1	7	10	0	2	2	2	6	0	0	0	0	0

Three-Hour Count Summaries

Interval Start	n/a				Old Sonoma Hwy				Old Sonoma Rd				Old Sonoma Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM	0	0	0	0	0	1	0	5	0	0	33	2	0	4	69	0	116	0
1:15 PM	0	0	0	0	0	4	0	4	0	0	33	3	0	3	76	0	123	0
1:30 PM	0	0	0	0	0	0	0	6	0	0	44	0	0	4	67	0	129	0
1:45 PM	0	0	0	0	0	4	0	6	0	0	41	4	0	5	78	0	138	536
2:00 PM	0	0	0	0	0	1	0	3	0	0	41	0	0	2	66	0	113	503
2:15 PM	0	0	0	0	0	7	0	3	0	0	34	2	0	3	61	0	110	490
2:30 PM	0	0	0	0	0	4	0	4	0	0	45	1	0	1	90	0	145	506
2:45 PM	0	0	0	0	0	4	0	8	0	0	53	5	0	6	71	0	147	515
3:00 PM	0	0	0	0	0	2	0	4	0	0	35	0	0	4	62	0	107	509
3:15 PM	0	0	0	0	0	4	0	5	0	0	49	0	0	3	63	0	124	523
3:30 PM	0	0	0	0	0	3	0	7	0	0	34	3	0	8	78	0	133	511
3:45 PM	0	0	0	0	0	4	0	10	0	0	50	3	0	1	94	0	162	526
Count Total	0	0	0	0	0	46	0	55	0	0	494	23	0	44	905	0	1,577	0
Peak Hour All	0	0	0	0	0	17	0	21	0	0	163	9	0	16	320	0	536	0
Peak Hour HV	0	0	0	0	0	1	0	1	0	0	1	0	0	0	7	0	10	0
Peak Hour HV%	-	-	-	-	-	6%	-	5%	-	-	1%	0%	-	0%	2%	-	2%	0

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:00 PM	0	0	0	2	2	0	0	1	0	1	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
1:30 PM	0	2	1	3	6	0	0	1	2	3	0	0	0	0	0
1:45 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
Count Total	0	3	4	10	17	0	2	3	5	10	0	0	0	0	0
Peak Hr	0	2	1	7	10	0	2	2	2	6	0	0	0	0	0

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Three-Hour Count Summaries - Heavy Vehicles

Interval Start	n/a				Old Sonoma Hwy				Old Sonoma Rd				Old Sonoma Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	1	0	1	0	0	1	0	0	0	3	0	6	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	10
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
2:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	5
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	4
Count Total	0	0	0	0	0	1	0	2	0	0	4	0	0	0	10	0	17	0
Peak Hour	0	0	0	0	0	1	0	1	0	0	1	0	0	0	7	0	10	0

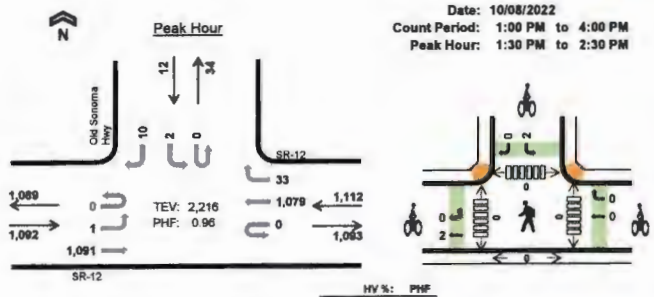
Three-Hour Count Summaries - Bikes

Interval Start	n/a			Old Sonoma Hwy			Old Sonoma Rd			Old Sonoma Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
1:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
1:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	2	0
1:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	3	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	6
2:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	2	7
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	2	4
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	2	0	0	0	3	0	3	2	0	10	0
Peak Hour	0	0	0	2	0	0	0	2	0	0	2	0	6	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Project Manager: (415) 310-6469 project.manager.ca@idaxdata.com

Old Sonoma Hwy
SR-12



Date: 10/08/2022
Count Period: 1:00 PM to 4:00 PM
Peak Hour: 1:30 PM to 2:30 PM

	HV %:	PHF
EB	2.6%	0.95
WB	2.3%	0.96
NB	-	-
SB	8.3%	0.60
TOTAL	2.5%	0.96

Three-Hour Count Summaries

Interval Start		SR-12 Eastbound UT	LT	TH	RT	SR-12 Westbound UT	LT	TH	RT	n/a Northbound UT	LT	TH	RT	Old Sonoma Hwy Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
1:30 PM		0	1	254	0	0	0	281	10	0	0	0	0	0	0	0	1	547	0
1:45 PM		0	0	276	0	0	0	280	8	0	0	0	0	0	2	0	2	568	0
2:00 PM		0	0	274	0	0	0	241	6	0	0	0	0	0	0	0	5	526	0
2:15 PM		0	0	267	0	0	0	277	9	0	0	0	0	0	0	0	2	575	2,216
Peak Hour	All	0	1	1,091	0	0	0	1,079	33	0	0	0	0	0	2	0	10	2,216	0
	HV	0	0	28	0	0	0	25	1	0	0	0	0	0	0	0	1	55	0
	HV%	-	0%	3%	-	-	-	2%	3%	-	-	-	-	-	0%	-	10%	2%	0

Note: For all three-hour count summary, see next page

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
1:30 PM	11	11	0	0	22	2	0	0	0	2	0	0	0	0	0
1:45 PM	7	5	0	1	13	0	0	0	0	0	0	0	0	0	0
2:00 PM	3	5	5	0	5	0	0	0	2	2	0	0	0	0	0
2:15 PM	7	5	0	0	12	0	0	0	0	0	0	0	0	0	0
Peak Hour	28	26	0	1	55	2	0	0	2	4	0	0	0	0	0

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Three-Hour Count Summaries

Interval Start		SR-12 Eastbound UT	LT	TH	RT	SR-12 Westbound UT	LT	TH	RT	n/a Northbound UT	LT	TH	RT	Old Sonoma Hwy Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
1:00 PM		0	0	255	0	0	0	285	3	0	0	0	0	0	0	0	3	546	0
1:15 PM		0	0	267	0	0	0	265	6	0	0	0	0	0	0	0	2	542	0
1:30 PM		0	1	254	0	0	0	281	10	0	0	0	0	0	0	0	1	547	0
1:45 PM		0	0	276	0	0	0	280	8	0	0	0	0	0	2	0	2	568	2,203
2:00 PM		0	0	274	0	0	0	241	6	0	0	0	0	0	0	0	5	526	2,183
2:15 PM		0	0	267	0	0	0	277	9	0	0	0	0	0	0	0	2	575	2,216
2:30 PM		0	0	239	0	0	0	272	5	0	0	0	0	0	0	0	5	521	2,190
2:45 PM		0	1	272	0	0	0	243	9	0	0	0	0	0	0	0	2	527	2,149
3:00 PM		0	0	244	0	0	0	270	7	0	0	0	0	0	0	0	4	525	2,148
3:15 PM		0	0	261	0	0	0	253	16	0	0	0	0	0	1	0	4	535	2,106
3:30 PM		0	0	272	0	0	0	201	3	0	0	0	0	0	1	0	2	479	2,066
3:45 PM		0	1	269	0	0	0	236	6	0	0	0	0	0	0	0	1	513	2,052
Count Total		0	3	3,170	0	0	0	3,104	90	0	0	0	0	0	4	0	33	6,404	0
Peak Hour	All	0	1	1,091	0	0	0	1,079	33	0	0	0	0	0	2	0	10	2,216	0
	HV	0	0	28	0	0	0	25	1	0	0	0	0	0	0	0	1	55	0
	HV%	-	0%	3%	-	-	-	2%	3%	-	-	-	-	-	0%	-	10%	2%	0

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
1:00 PM	12	5	0	0	17	0	0	0	0	0	0	0	0	0	0
1:15 PM	6	11	0	0	17	0	0	0	0	0	0	0	0	0	0
1:30 PM	11	11	0	0	22	2	0	0	0	2	0	0	0	0	0
1:45 PM	7	5	0	1	13	0	0	0	0	0	0	0	0	0	0
2:00 PM	3	5	0	0	8	0	0	0	2	2	0	0	0	0	0
2:15 PM	7	5	0	0	12	0	0	0	0	0	0	0	0	0	0
2:30 PM	5	2	0	0	7	0	0	0	0	0	0	0	0	0	0
2:45 PM	5	7	0	0	12	0	0	0	0	0	0	0	0	0	0
3:00 PM	3	2	0	1	6	0	0	0	0	0	0	0	0	0	0
3:15 PM	5	8	0	0	13	0	0	0	0	0	0	0	0	0	0
3:30 PM	3	6	0	0	9	0	0	0	0	0	0	0	0	0	0
3:45 PM	4	2	0	0	6	0	0	0	0	0	0	0	0	0	0
Count Total	71	69	0	2	142	2	0	0	2	4	0	0	0	0	0
Peak Hr	28	26	0	1	55	2	0	0	2	4	0	0	0	0	0

Project Manager: (415) 310-6469 project.manager.ca@idaxdata.com

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Three-Hour Count Summaries - Heavy Vehicles

Interval Start	SR-12 Eastbound				SR-12 Westbound				n/a Northbound				Old Sonoma Hwy Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:00 PM	0	0	12	0	0	0	5	0	0	0	0	0	0	0	0	0	17	0
1:15 PM	0	0	6	0	0	0	11	0	0	0	0	0	0	0	0	0	17	0
1:30 PM	0	0	11	0	0	0	10	1	0	0	0	0	0	0	0	0	22	0
1:45 PM	0	0	7	0	0	0	5	0	0	0	0	0	0	0	0	1	13	69
2:00 PM	0	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	8	60
2:15 PM	0	0	7	0	0	0	6	0	0	0	0	0	0	0	0	0	13	56
2:30 PM	0	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	7	40
2:45 PM	0	0	5	0	0	0	6	1	0	0	0	0	0	0	0	0	12	39
3:00 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	1	6	37
3:15 PM	0	0	5	0	0	0	7	1	0	0	0	0	0	0	0	0	13	36
3:30 PM	0	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	9	40
3:45 PM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6	34
Count Total	0	0	71	0	0	0	68	3	0	0	0	0	0	0	0	2	142	0
Peak Hour	0	0	28	0	0	0	25	1	0	0	0	0	0	0	0	1	55	0

Three-Hour Count Summaries - Bikes

Interval Start	SR-12 Eastbound			SR-12 Westbound			n/a Northbound			Old Sonoma Hwy Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	2	4
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	2	0	0	0	0	0	0	0	2	0	0	4	0
Peak Hour	0	2	0	0	0	0	0	0	0	2	0	0	4	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Prepared by NDS/ATD

VOLUME

Old Sonoma Rd N/O Dealy Ln

Day: Wednesday
Date: 3/7/2018

City: Napa
Project #: CA18_8096_001

DAILY TOTALS	NB	SB	EB	WB	Total
	2,531	3,565	0	0	6,096

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	3	0			3	12:00	42	34			76
00:15	5	1			6	12:15	43	39			82
00:30	1	0			1	12:30	36	50			86
00:45	1 10	3 4			4 14	12:45	35 156	32 155			67 311
01:00	1	2			3	13:00	33	52			85
01:15	0	2			2	13:15	33	39			72
01:30	2	0			2	13:30	34	44			78
01:45	1 4	0 4			1 8	13:45	40 140	46 181			86 321
02:00	0	1			1	14:00	29	50			79
02:15	0	1			1	14:15	36	49			85
02:30	0	0			0	14:30	50	49			99
02:45	1 1	2 4			3 5	14:45	65 180	61 209			126 389
03:00	2	0			2	15:00	71	64			135
03:15	1	1			2	15:15	63	67			130
03:30	2	1			3	15:30	67	66			133
03:45	0 5	7 9			7 14	15:45	82 283	58 255			140 538
04:00	1	2			3	16:00	77	69			146
04:15	0	5			5	16:15	68	59			127
04:30	1	7			8	16:30	83	64			147
04:45	0 2	10 24			10 26	16:45	93 321	72 264			165 585
05:00	1	16			17	17:00	91	89			180
05:15	5	18			23	17:15	67	85			152
05:30	8	43			51	17:30	73	57			130
05:45	7 21	51 128			58 149	17:45	57 288	43 274			100 562
06:00	7	69			76	18:00	44	54			98
06:15	18	102			120	18:15	60	42			102
06:30	18	134			152	18:30	36	39			75
06:45	27 70	131 436			158 506	18:45	32 172	28 163			60 335
07:00	23	92			115	19:00	41	18			59
07:15	24	103			127	19:15	32	24			56
07:30	42	92			134	19:30	31	14			45
07:45	31 120	111 398			142 518	19:45	20 124	13 69			33 193
08:00	24	116			140	20:00	21	9			30
08:15	24	102			126	20:15	19	18			37
08:30	44	78			122	20:30	18	10			28
08:45	26 118	80 376			106 494	20:45	17 75	15 52			32 127
09:00	24	55			79	21:00	14	9			23
09:15	18	43			61	21:15	17	11			28
09:30	37	45			82	21:30	13	7			20
09:45	24 103	48 191			72 294	21:45	15 59	7 34			22 93
10:00	28	40			68	22:00	15	7			22
10:15	20	43			63	22:15	15	9			24
10:30	33	38			71	22:30	9	8			17
10:45	26 107	30 151			56 258	22:45	6 45	3 27			9 72
11:00	31	46			77	23:00	4	5			9
11:15	22	27			49	23:15	1	1			2
11:30	20	42			62	23:30	4	3			7
11:45	41 114	31 146			72 260	23:45	4 13	2 11			6 24
TOTALS	675	1871			2546	TOTALS	1856	1694			3550
SPLIT %	26.5%	73.5%			41.8%	SPLIT %	52.3%	47.7%			58.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,531	3,565	0	0	6,096

AM Peak Hour	11:45	06:30		06:30	11:30
AM Pk Volume	162	460		552	644
Pk Hr Factor	0.942	0.858		0.871	0.894
7 - 9 Volume	238	774		1012	1147
7 - 9 Peak Hour	07:45	07:15		07:15	16:30
7 - 9 Pk Volume	123	422		543	644
Pk Hr Factor	0.899	0.909		0.956	0.894
PM Peak Hour	16:15	16:30			16:30
PM Pk Volume	335	310			644
Pk Hr Factor	0.901	0.871			0.894
4 - 6 Volume	609	538			1147
4 - 6 Peak Hour	16:15	16:30			16:30
4 - 6 Pk Volume	335	310			644
Pk Hr Factor	0.901	0.871			0.894

Project Manager: (415) 310-6469

project.manager.ca@idaxdata.com

Prepared by NDS/ATD

VOLUME

Old Sonoma Rd N/O Dealy Ln

Day: Thursday
Date: 3/8/2018

City: Napa
Project #: CA18_8096_001

DAILY TOTALS	NB	SB	EB	WB	Total
	2,602	3,693	0	0	6,295

AM Period	NB		SB		EB	WB	TOTAL	
00:00	0		0				0	
00:15	7		0				7	
00:30	4		3				7	
00:45	1	12	2	5			3	17
01:00	3		2				5	
01:15	3		0				3	
01:30	0		0				0	
01:45	1	7	0	2			1	9
02:00	1		0				1	
02:15	0		4				4	
02:30	1		1				2	
02:45	1	3	2	7			3	10
03:00	1		0				1	
03:15	0		0				0	
03:30	1		1				2	
03:45	0	2	7	8			7	10
04:00	1		4				5	
04:15	1		4				5	
04:30	0		9				9	
04:45	3	5	11	28			14	33
05:00	3		12				15	
05:15	3		12				15	
05:30	5		35				40	
05:45	7	18	58	117			65	135
06:00	7		57				64	
06:15	16		101				117	
06:30	27		144				171	
06:45	18	68	131	433			149	501
07:00	27		110				137	
07:15	39		92				131	
07:30	30		106				136	
07:45	25	121	123	431			148	552
08:00	34		114				148	
08:15	30		108				138	
08:30	41		96				137	
08:45	32	137	66	384			98	521
09:00	26		58				84	
09:15	36		48				84	
09:30	24		41				65	
09:45	34	120	48	195			82	315
10:00	36		43				79	
10:15	29		62				91	
10:30	32		49				81	
10:45	22	119	34	188			56	307
11:00	30		44				74	
11:15	24		33				57	
11:30	27		48				75	
11:45	48	129	33	158			81	287
TOTALS		741		1956				2697
SPLIT %		27.5%		72.5%				42.8%

PM Period	NB		SB		EB	WB	TOTAL	
12:00	54		48				102	
12:15	31		37				68	
12:30	33		30				63	
12:45	43	161	41	156			84	317
13:00	47		33				80	
13:15	48		39				87	
13:30	27		46				73	
13:45	32	154	40	158			72	312
14:00	52		58				110	
14:15	45		52				97	
14:30	46		53				99	
14:45	43	186	56	219			99	405
15:00	52		45				97	
15:15	52		56				108	
15:30	45		77				122	
15:45	59	208	61	239			120	447
16:00	70		63				133	
16:15	80		67				147	
16:30	87		88				175	
16:45	73	310	87	305			160	615
17:00	70		87				157	
17:15	86		81				167	
17:30	74		60				134	
17:45	55	285	65	293			120	578
18:00	47		46				93	
18:15	56		43				99	
18:30	40		25				65	
18:45	54	197	34	148			88	345
19:00	36		23				59	
19:15	40		27				67	
19:30	39		19				58	
19:45	26	141	15	84			41	225
20:00	24		16				40	
20:15	12		14				26	
20:30	19		16				35	
20:45	22	77	15	61			37	138
21:00	14		10				24	
21:15	20		9				29	
21:30	20		8				28	
21:45	15	69	13	40			28	109
22:00	9		8				17	
22:15	15		3				18	
22:30	12		6				18	
22:45	13	49	7	24			20	73
23:00	8		2				10	
23:15	6		5				11	
23:30	4		2				6	
23:45	6	24	1	10			7	34
TOTALS		1861		1737				3598
SPLIT %		51.7%		48.3%				57.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,602	3,693	0	0	6,295

AM Peak Hour	11:45	06:15	08:30
AM Pk Volume	166	486	588
Pk Hr Factor	0.769	0.844	0.860
7 - 9 Volume	258	815	1073
7 - 9 Peak Hour	08:00	07:30	07:45
7 - 9 Pk Volume	137	451	571
Pk Hr Factor	0.835	0.917	0.965

PM Peak Hour	16:30	16:30	16:30
PM Pk Volume	316	343	659
Pk Hr Factor	0.908	0.974	0.941
4 - 6 Volume	595	598	1193
4 - 6 Peak Hour	16:30	16:30	16:30
4 - 6 Pk Volume	316	343	659
Pk Hr Factor	0.908	0.974	0.941

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Appendix B

Collision Rate Calculations

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Intersection Collision Rate Worksheet

Wright Corner Project

Intersection # 1: SR 12-121 & Old Sonoma Road
Date of Count: Friday, October 7, 2022

Number of Collisions: 15
Number of Injuries: 3
Number of Fatalities: 0
Average Daily Traffic (ADT): 24700
Start Date: January 1, 2017
End Date: December 31, 2021
Number of Years: 5

Intersection Type: Tee
Control Type: Signals
Area: Rural

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

$$\text{Collision Rate} = \frac{15 \times 1{,}000{,}000}{24{,}700 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.33 c/mve**	**0.0%**	**20.0%**
Statewide Average*	**0.45 c/mve**	**0.5%**	**34.6%**

Notes
ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2019 Collision Data on California State Highways, Caltrans

Intersection # 2: Old Sonoma Road & Old Sonoma Highway
Date of Count: Friday, October 7, 2022

Number of Collisions: 3
Number of Injuries: 2
Number of Fatalities: 0
Average Daily Traffic (ADT): 7700
Start Date: January 1, 2017
End Date: December 31, 2021
Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls
Area: Rural

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

$$\text{Collision Rate} = \frac{3 \times 1{,}000{,}000}{7{,}700 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.21 c/mve**	**0.0%**	**66.7%**
Statewide Average*	**0.19 c/mve**	**1.7%**	**39.8%**

Notes
ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2019 Collision Data on California State Highways, Caltrans

Intersection Collision Rate Worksheet

Wright Corner Project

Intersection # 3: SR 12-121 & Old Sonoma Highway
Date of Count: Friday, October 7, 2022

Number of Collisions: 19
Number of Injuries: 13
Number of Fatalities: 0
Average Daily Traffic (ADT): 18600
Start Date: January 1, 2017
End Date: December 31, 2021
Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls
Area: Rural

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

$$\text{Collision Rate} = \frac{19 \times 1{,}000{,}000}{18{,}600 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.56 c/mve**	**0.0%**	**68.4%**
Statewide Average*	**0.19 c/mve**	**1.7%**	**39.8%**

Notes
ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2019 Collision Data on California State Highways, Caltrans

Appendix C

Trip Generation Spreadsheets

WINERY TRIP GENERATION WORKSHEET

Planning, Building & Environmental Services
1195 Third Street, Suite 210
Napa, CA 94559-3082
(707) 253-4417

A Tradition of Stewardship
A Commitment to Service

Clear Form

PROJECT DESCRIPTION

Winery Name: Wright Corner **Date Prepared:** 11/21/22

Existing Entitled Winery		Harvest	Non-Harvest
Number of Full Time Employees*	Weekday		
	Weekend		
Number of Part Time Employees*	Weekday		
	Weekend		
Maximum Daily Visitation	Weekday		
	Weekend		
Annual Gallons of Production			
Annual Tons of Grape Haul		0.0	N/A
Number of Visitors at the Largest Event that occurs two or more times per month, on average	Weekday		
	Weekend		

Proposed Winery		Harvest	Non-Harvest
Number of Full Time Employees*	Weekday		
	Weekend		
Number of Part Time Employees*	Weekday		
	Weekend		
Maximum Daily Visitation	Weekday		
	Weekend		
Annual Gallons of Production			
Annual Tons of Grape Haul		0.0	N/A
Number of Visitors at the Largest Event that occurs two or more times per month, on average	Weekday	80	80
	Weekend	80	80

*Number of full time and part time employees should represent the max number of employees that will be working on any given day (including all vendors and contractors employed for the largest event that occurs two or more times per month on average).

Wright Corner
TRIP GENERATION

Existing Winery					Harvest	Non-Harvest
Maximum Daily Weekday Traffic (Friday)						
	Harvest	*Non-Harvest*				
FT Employees			3.05 one way trips/employee	FT Employee Daily Trips	0.0	0.0
PT Employees			1.9 one way trips/employee	PT Employee Daily Trips	0.0	0.0
Max Visitors			2.6 visitors/vehicle for 2 one way trips	Max Visitor Daily Trips	0.0	0.0
Max Event			2.6 visitors/vehicle for 2 one way trips	Max Event Daily Trips	0.0	0.0
Gallons of Production			0.000018 truck trips	Production Daily Trips	0.0	0.0
Tons of Grape Haul#	0.0		0.013889 truck trips	Grape Haul Daily Trips	0.0	0.0
				Total Weekday Daily Trips	0	0
				Total Weekday Peak Hour Trips*	0	0
Maximum Daily Weekend Traffic (Saturday)						
	Harvest	*Non-Harvest*				
FT Employees			3.05 one way trips/employee	FT Employee Daily Trips	0.0	0.0
PT Employees			1.9 one way trips/employee	PT Employee Daily Trips	0.0	0.0
Max Visitors			2.8 visitors/vehicle for 2 one way trips	Max Visitor Daily Trips	0.0	0.0
Max Event			2.8 visitors/vehicle for 2 one way trips	Max Event Daily Trips	0.0	0.0
Gallons of Production			0.000018 truck trips	Production Daily Trips	0.0	0.0
Tons of Grape Haul#	0.0		0.013889 truck trips	Grape Haul Daily Trips	0.0	0.0
				Total Weekend Daily Trips	0	0
				Total Weekend Peak Hour Trips*	0	0
Maximum Annual Traffic						
				Total Annual Trips**	0	

Proposed Winery					Harvest	Non-Harvest
Maximum Daily Weekday Traffic (Friday)						
	Harvest	*Non-Harvest*				
FT Employees			3.05 one way trips/employee	FT Employee Daily Trips	0.0	0.0
PT Employees			1.9 one way trips/employee	PT Employee Daily Trips	0.0	0.0
Max Visitors			2.6 visitors/vehicle for 2 one way trips	Max Visitor Daily Trips	0.0	0.0
Max Event	80	80	2.6 visitors/vehicle for 2 one way trips	Max Event Daily Trips	61.5	61.5
Gallons of Production			0.000018 truck trips	Production Daily Trips	0.0	0.0
Tons of Grape Haul#	0.0		0.013889 truck trips	Grape Haul Daily Trips	0.0	0.0
				Total Weekday Daily Trips	62	62
				Total Weekday Peak Hour Trips*	0	0
Maximum Daily Weekend Traffic (Saturday)						
	Harvest	*Non-Harvest*				
FT Employees			3.05 one way trips/employee	FT Employee Daily Trips	0.0	0.0
PT Employees			1.9 one way trips/employee	PT Employee Daily Trips	0.0	0.0
Max Visitors			2.8 visitors/vehicle for 2 one way trips	Max Visitor Daily Trips	0.0	0.0
Max Event	80	80	2.8 visitors/vehicle for 2 one way trips	Max Event Daily Trips	57.1	57.1
Gallons of Production			0.000018 truck trips	Production Daily Trips	0.0	0.0
Tons of Grape Haul#	0.0		0.013889 truck trips	Grape Haul Daily Trips	0.0	0.0
				Total Weekend Daily Trips	58	58
				Total Weekend Peak Hour Trips*	0	0
Maximum Annual Traffic						
				Total Annual Trips**	22,214	

Net New Trips		Harvest	Non-Harvest
Maximum Weekday Traffic (Friday)			
If total net new daily trips is greater than 40, a TIS is required	**Net New Weekday Daily Trips**	62	62
	Net New Weekday Peak Hour Trips*	0	0
Maximum Weekend Traffic (Saturday)			
If total net new daily trips is greater than 40, a TIS is required	**Net New Weekend Daily Trips**	58	58
	Net New Weekend Peak Hour Trips*	0	0
Maximum Annual Traffic			
Please Prepare a Traffic Impact Study	**Net New Annual Trips****	22,214	

#Trips associated with Grape Haul represent harvest season only.

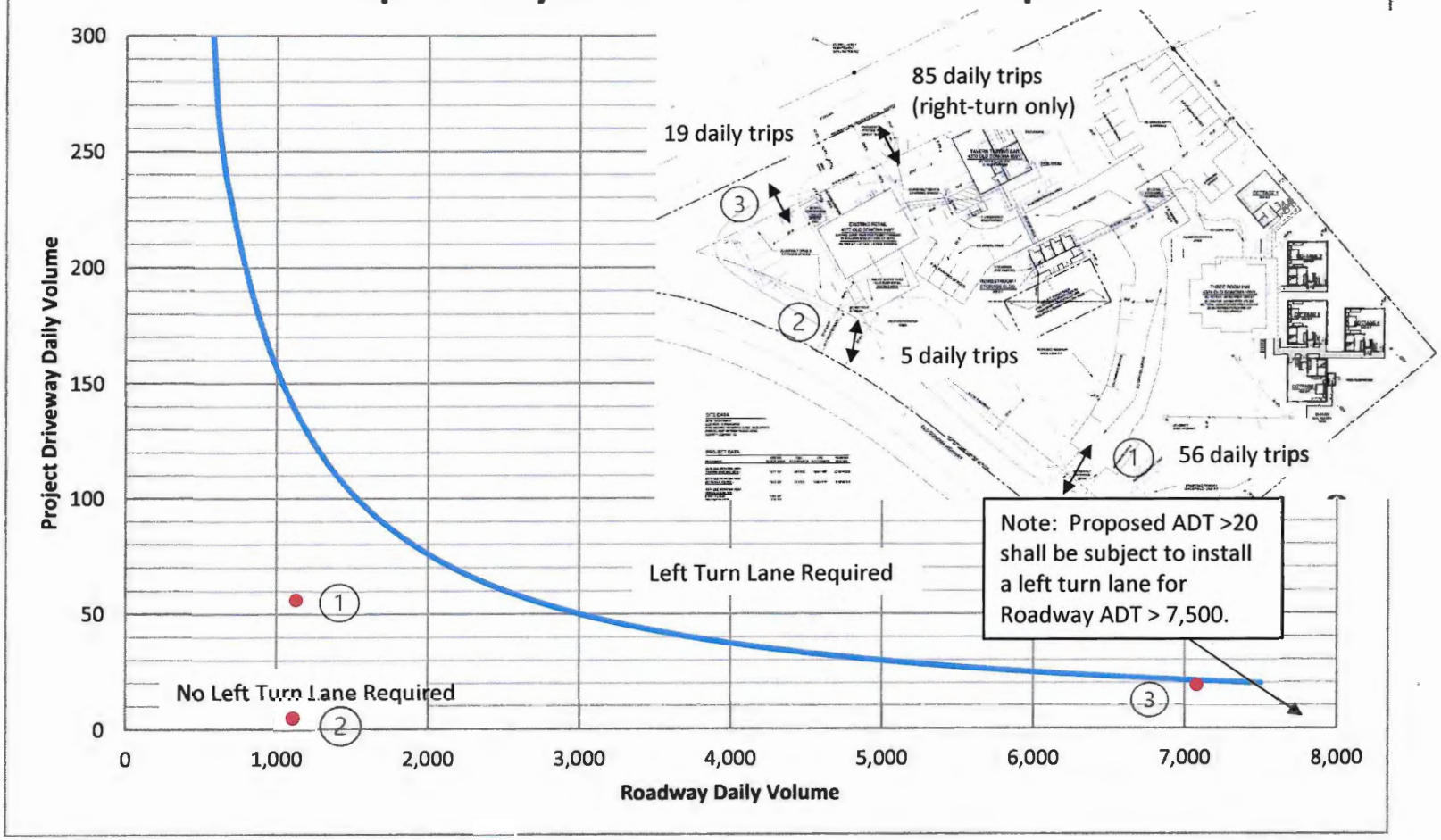
*Weekday peak hour trips are calculated as 38% of daily trips associated with visitors and production plus one trip per employee. Weekend peak hour trips are calculated as 57% of daily trips associated with visitors and production plus one trip per employee.

**Annual trips represent a conservative calculation that assumes 11 weeks of harvest, all weekdays are Fridays, all weekends are Saturdays, and assumes that the largest event that occurs two or more times per month on average occurs every day.

Appendix D

Turn Lane Warrant Graph

Napa County Left Turn Lane Warrant Graph



Appendix E

Level of Service Calculations

Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Road

Control Type:	Signalized	Delay (sec / veh):	29.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.760

Intersection Setup

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]		245.00	330.00			475.00
No. of Lanes in Exit Pocket	0	0	0	1	1	0
Exit Pocket Length [ft]				300.00	30.00	
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Base Volume Input [veh/h]	54	415	254	986	759	6
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	0.00	3.00	0.00	3.00	3.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]		138				2
Total Hourly Volume [veh/h]	58	306	272	1055	812	4
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	79	70	272	209	1
Total Analysis Volume [veh/h]	60	315	280	1088	837	4
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]						
Local Bus Stopping Rate [/h]		0		0		0
v_do, Outbound Pedestrian Volume crossing						
v_di, Inbound Pedestrian Volume crossing m						
v_co, Outbound Pedestrian Volume crossing						
v_ci, Inbound Pedestrian Volume crossing mi						
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	
Offset Reference	
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	4	4	5	2	6	
Auxiliary Signal Groups		4,5				
Lead / Lag	Lag		Lead			
Minimum Green [s]	10	10	10	10	10	
Maximum Green [s]	30	30	30	30	30	
Amber [s]	3.0	3.0	3.0	3.0	3.0	
All red [s]	1.0	1.0	1.0	1.0	1.0	
Split [s]	24	24	23	86	63	
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	
Walk [s]	0			0	0	
Pedestrian Clearance [s]	0			0	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]						
Detector Length [ft]						
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	
Pedestrian Walk [s]	
Pedestrian Clearance [s]	

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	68	68	68	68	68	68
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]						
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	30	13	47	30	30
g / C, Green / Cycle	0.18	0.44	0.20	0.70	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.03	0.20	0.15	0.59	0.45	0.00
s, saturation flow rate [veh/h]	1810	1577	1810	1855	1855	1615
c, Capacity [veh/h]	332	694	358	1296	820	714
d1, Uniform Delay [s]	23.41	13.29	25.83	7.44	18.93	10.59
k, delay calibration	0.11	0.11	0.11	0.50	0.47	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.28	0.47	3.75	6.64	35.70	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	0.45	0.78	0.84	1.02	0.01
d, Delay for Lane Group [s/veh]	23.67	13.76	29.58	14.08	54.63	10.59
Lane Group LOS	C	B	C	B	F	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.73	2.98	4.05	6.73	17.65	0.03
50th-Percentile Queue Length [ft/ln]	18.22	66.55	101.20	168.27	441.20	0.66
95th-Percentile Queue Length [veh/ln]	1.31	4.79	7.29	10.99	24.91	0.05
95th-Percentile Queue Length [ft/ln]	32.80	119.79	182.15	274.84	622.72	1.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.67	13.76	29.58	14.08	54.63	10.59
Movement LOS	C	B	C	B	F	B
d_A, Approach Delay [s/veh]	15.35		17.25		54.43	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	29.07					
Intersection LOS	C					
Intersection V/C	0.760					

Other Modes

g_Walk,mi, Effective Walk Time [s]			
M_corner, Corner Circulation Area [ft²/ped]			
M_CW, Crosswalk Circulation Area [ft²/ped]			
d_p, Pedestrian Delay [s]			
l_p,int, Pedestrian LOS Score for Intersection			
Crosswalk LOS			
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	590	2419	1741
d_b, Bicycle Delay [s]	16.84	1.49	0.57
l_b,int, Bicycle LOS Score for Intersection	1.560	3.817	2.951
Bicycle LOS	A	D	C

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Old Sonoma Road/Old Sonoma Highway

Control Type	Two-way stop	Delay (sec / veh):	19.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c)	0.190

Intersection Setup

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]						
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Base Volume Input [veh/h]	248	11	15	406	48	39
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	1.00	0.00	0.00	3.00	2.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	265	12	16	434	51	42
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	4	5	128	15	12
Total Analysis Volume [veh/h]	312	14	19	511	60	49
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]			
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio			0.02		0.19	0.07
d_M, Delay for Movement [s/veh]			7.91		19.33	12.94
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	1.02	1.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.80	0.80	25.42	25.42
d_A, Approach Delay [s/veh]	0.00		0.28		16.46	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	2.01					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: SR 12-121/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

Intersection Setup

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]		12.00		12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]						80.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Base Volume Input [veh/h]		19		1069	739	28
Base Volume Adjustment Factor		1.0700		1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]		3.00		3.00	2.00	4.00
Growth Factor		1.0000		1.0000	1.0000	1.0000
In-Process Volume [veh/h]		0		0	0	0
Site-Generated Trips [veh/h]		0		0	0	0
Diverted Trips [veh/h]		0		0	0	0
Pass-by Trips [veh/h]		0		0	0	0
Existing Site Adjustment Volume [veh/h]		0		0	0	0
Other Volume [veh/h]		0		0	0	0
Total Hourly Volume [veh/h]		20		1144	791	30
Peak Hour Factor		0.9100		0.9100	0.9100	0.9100
Other Adjustment Factor		1.0000		1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]		5		314	217	8
Total Analysis Volume [veh/h]		22		1257	869	33
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio		0.06				
d_M, Delay for Movement [s/veh]		15.83				
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]		0.20		0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]		4.94		0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.83		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Road

Control Type	Signalized	Delay (sec / veh):	84.2
Analysis Method	HCM 7th Edition	Level Of Service:	F
Analysis Period	15 minutes	Volume to Capacity (v/c):	0.856

Intersection Setup

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]		245.00	330.00			475.00
No. of Lanes in Exit Pocket	0	0	0	1	1	0
Exit Pocket Length [ft]				300.00	30.00	
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Base Volume Input [veh/h]	41	296	155	1011	1104	11
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	10.00	2.00	0.00	3.00	3.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]		104				4
Total Hourly Volume [veh/h]	44	213	166	1082	1181	8
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	54	42	276	301	2
Total Analysis Volume [veh/h]	45	217	169	1104	1205	8
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]			-			
Local Bus Stopping Rate [/h]		0		0		0
v_do, Outbound Pedestrian Volume crossing						
v_di, Inbound Pedestrian Volume crossing m						
v_co, Outbound Pedestrian Volume crossing						
v_ci, Inbound Pedestrian Volume crossing mi						
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	5		1		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	-
Offset Reference	-
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	4	4	5	2	6	
Auxiliary Signal Groups		4,5				
Lead / Lag	Lag	-	Lead		-	-
Minimum Green [s]	10	10	10	10	10	
Maximum Green [s]	30	30	30	30	30	
Amber [s]	3.0	3.0	3.0	3.0	3.0	
All red [s]	1.0	1.0	1.0	1.0	1.0	
Split [s]	14	14	14	56	42	
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	
Walk [s]	0			0	0	
Pedestrian Clearance [s]	0		-	0	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]						
Detector Length [ft]		-	-	- -		-
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	
Pedestrian Walk [s]	-
Pedestrian Clearance [s]	

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	61	61	61	61	61	61
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]						
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	23	9	43	30	30
g / C, Green / Cycle	0.16	0.38	0.15	0.71	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.09	0.60	0.65	0.00
s, saturation flow rate [veh/h]	1667	1577	1810	1855	1855	1615
c, Capacity [veh/h]	270	602	281	1313	905	788
d1, Uniform Delay [s]	22.20	13.59	24.21	6.48	15.76	8.12
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.29	0.36	2.07	6.83	157.06	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.17	0.36	0.60	0.84	1.33	0.01
d, Delay for Lane Group [s/veh]	22.48	13.95	26.28	13.11	172.82	8.12
Lane Group LOS	C	B	C	B	F	A
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.50	1.70	2.10	5.03	47.76	0.04
50th-Percentile Queue Length [ft/ln]	12.43	42.58	52.52	125.84	1194.40	0.97
95th-Percentile Queue Length [veh/ln]	0.89	3.07	3.78	8.71	71.48	0.07
95th-Percentile Queue Length [ft/ln]	22.37	76.64	94.53	217.82	1786.98	1.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.48	13.95	26.28	13.11	172.82	8.12
Movement LOS	C	B	C	B	F	A
d_A, Approach Delay [s/veh]	15.42		14.86		171.73	
Approach LOS	B		B		F	
d_I, Intersection Delay [s/veh]	84.16					
Intersection LOS	F					
Intersection V/C	0.856					

Other Modes

g_Walk,mi, Effective Walk Time [s]			
M_corner, Corner Circulation Area [ft²/ped]			
M_CW, Crosswalk Circulation Area [ft²/ped]			
d_p, Pedestrian Delay [s]			
l_p,int, Pedestrian LOS Score for Intersection			
Crosswalk LOS			
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	326	1693	1237
d_b, Bicycle Delay [s]	21.58	0.72	4.47
l_b,int, Bicycle LOS Score for Intersection	1.560	3.660	3.568
Bicycle LOS	A	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 2: Old Sonoma Road/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]						
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Base Volume Input [veh/h]	153	9	16	320	17	21
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	1.00	0.00	0.00	2.00	6.00	5.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	164	10	17	342	18	22
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	3	5	93	5	6
Total Analysis Volume [veh/h]	178	11	18	372	20	24
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]						
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median						

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio			0.01		0.04	0.03
d_M, Delay for Movement [s/veh]			7.60		13.37	9.68
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.23	0.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.76	0.76	5.81	5.81
d_A, Approach Delay [s/veh]	0.00		0.35		11.36	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: SR 12-121/Old Sonoma Highway

Control Type	Two-way stop	Delay (sec / veh)	22.5
Analysis Method	HCM 7th Edition	Level Of Service	C
Analysis Period	15 minutes	Volume to Capacity (v/c)	0.051

Intersection Setup

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration		┌		|		┌|
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]		12.00		12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]						80.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Base Volume Input [veh/h]		10		1091	1079	33
Base Volume Adjustment Factor		1.0700		1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]		10.00		3.00	2.00	3.00
Growth Factor		1.0000		1.0000	1.0000	1.0000
In-Process Volume [veh/h]		0		0	0	0
Site-Generated Trips [veh/h]		0		0	0	0
Diverted Trips [veh/h]		0		0	0	0
Pass-by Trips [veh/h]		0		0	0	0
Existing Site Adjustment Volume [veh/h]		0		0	0	0
Other Volume [veh/h]		0		0	0	0
Total Hourly Volume [veh/h]		11		1167	1155	35
Peak Hour Factor		0.9600		0.9600	0.9600	0.9600
Other Adjustment Factor		1.0000		1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]		3		304	301	9
Total Analysis Volume [veh/h]		11		1216	1203	36
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio		0.05				
d_M, Delay for Movement [s/veh]		22.54				
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]		0.16		0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]		4.00		0.00	0.00	0.00
d_A, Approach Delay [s/veh]	22.54		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Road

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

Intersection Setup

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]		245.00	330.00			475.00
No. of Lanes in Exit Pocket	0	0	0	1	1	0
Exit Pocket Length [ft]				300.00	30.00	
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Base Volume Input [veh/h]	54	415	254	986	759	6
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	0.00	3.00	0.00	3.00	3.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	6	5	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]		138				2
Total Hourly Volume [veh/h]	60	312	277	1055	812	4
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	80	71	272	209	1
Total Analysis Volume [veh/h]	62	322	286	1088	837	4
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]						
Local Bus Stopping Rate [/h]		0		0		0
v_do, Outbound Pedestrian Volume crossing						
v_di, Inbound Pedestrian Volume crossing						
v_co, Outbound Pedestrian Volume crossing						
v_ci, Inbound Pedestrian Volume crossing						
v_sb, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	
Offset Reference	
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	4	4	5	2	6	
Auxiliary Signal Groups		4,5				
Lead / Lag	Lag		Lead			
Minimum Green [s]	10	10	10	10	10	
Maximum Green [s]	30	30	30	30	30	
Amber [s]	3.0	3.0	3.0	3.0	3.0	
All red [s]	1.0	1.0	1.0	1.0	1.0	
Split [s]	24	24	23	86	83	
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	
Walk [s]	0			0	0	
Pedestrian Clearance [s]	0			0	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]						
Detector Length [ft]						
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	
Pedestrian Walk [s]	
Pedestrian Clearance [s]	

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	68	68	68	68	68	68
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]						
I2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	30	14	48	30	30
g / C, Green / Cycle	0.19	0.44	0.20	0.70	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.03	0.20	0.16	0.59	0.45	0.00
s, saturation flow rate [veh/h]	1810	1577	1810	1855	1855	1615
c, Capacity [veh/h]	336	702	364	1294	812	707
d1, Uniform Delay [s]	23.52	13.24	25.96	7.58	19.25	10.85
k, delay calibration	0.11	0.11	0.11	0.50	0.47	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.47	3.77	6.72	38.77	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	0.46	0.79	0.84	1.03	0.01
d, Delay for Lane Group [s/veh]	23.78	13.71	29.73	14.31	58.02	10.85
Lane Group LOS	C	B	C	B	F	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.76	2.74	4.18	6.97	18.36	0.03
50th-Percentile Queue Length [ft/ln]	19.00	68.39	104.42	174.20	459.07	0.68
95th-Percentile Queue Length [veh/ln]	1.37	4.92	7.52	11.30	25.95	0.05
95th-Percentile Queue Length [ft/ln]	34.20	123.10	187.96	282.43	648.69	1.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.78	13.71	29.73	14.31	58.02	10.85
Movement LOS	C	B	C	B	F	B
d_A, Approach Delay [s/veh]	15.34		17.52		57.80	
Approach LOS	B		B		E	
d_I, Intersection Delay [s/veh]	30.23					
Intersection LOS	C					
Intersection V/C	0.787					

Other Modes

g_Walk,mi, Effective Walk Time [s]						
M_corner, Corner Circulation Area [ft²/ped]						
M_CW, Crosswalk Circulation Area [ft²/ped]						
d_p, Pedestrian Delay [s]						
l_p,int, Pedestrian LOS Score for Intersection						
Crosswalk LOS						
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	585		2397		1724	
d_b, Bicycle Delay [s]	17.14		1.35		0.85	
l_b,int, Bicycle LOS Score for Intersection	1.560		3.827		2.951	
Bicycle LOS	A		D		C	

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Old Sonoma Road/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	19.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.200

Intersection Setup

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]						
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Base Volume Input [veh/h]	248	11	15	406	48	39
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	1.00	0.00	0.00	3.00	2.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	6	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	12	18	440	53	42
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	4	5	129	16	12
Total Analysis Volume [veh/h]	318	14	19	518	62	49
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]						
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median						

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio			0.02		0.20	0.07
d_M, Delay for Movement [s/veh]			7.93		19.76	13.21
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	1.07	1.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.80	0.80	26.76	26.76
d_A, Approach Delay [s/veh]	0.00		0.28		16.87	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	2.06					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: SR 12-121/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh)	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c)	0.062

Intersection Setup

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	r		l		lr	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]		12.00		12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]						80.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Base Volume Input [veh/h]		19		1069	739	28
Base Volume Adjustment Factor		1.0700		1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]		0.00		3.00	2.00	4.00
Growth Factor		1.0000		1.0000	1.0000	1.0000
In-Process Volume [veh/h]		0		0	0	0
Site-Generated Trips [veh/h]		0		2	0	2
Diverted Trips [veh/h]		0		0	0	0
Pass-by Trips [veh/h]		0		0	0	0
Existing Site Adjustment Volume [veh/h]		0		0	0	0
Other Volume [veh/h]		0		0	0	0
Total Hourly Volume [veh/h]		20		1146	791	32
Peak Hour Factor		0.9100		0.9100	0.9100	0.9100
Other Adjustment Factor		1.0000		1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]		5		315	217	9
Total Analysis Volume [veh/h]		22		1259	869	35
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio		0.06				
d_M, Delay for Movement [s/veh]		15.83				
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]		0.20		0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]		4.94		0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.83		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Road

Control Type:	Signalized	Delay (sec / veh):	84.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.888

Intersection Setup

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]		245.00	330.00			475.00
No. of Lanes in Exit Pocket	0	0	0	1	1	0
Exit Pocket Length [ft]				300.00	30.00	
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Base Volume Input [veh/h]	41	296	155	1011	1104	11
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	10.00	2.00	0.00	3.00	3.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	31	28	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]		104				4
Total Hourly Volume [veh/h]	54	244	194	1082	1181	8
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	62	49	276	301	2
Total Analysis Volume [veh/h]	55	249	198	1104	1205	8
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]						
Local Bus Stopping Rate [/h]		0		0		0
v_do, Outbound Pedestrian Volume crossing						
v_di, Inbound Pedestrian Volume crossing in						
v_co, Outbound Pedestrian Volume crossing						
v_ci, Inbound Pedestrian Volume crossing in						
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	5		1		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	
Offset Reference	
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	4	4	5	2	6	
Auxiliary Signal Groups		4,5				
Lead / Lag	Lag		Lead			
Minimum Green [s]	10	10	10	10	10	
Maximum Green [s]	30	30	30	30	30	
Amber [s]	3.0	3.0	3.0	3.0	3.0	
All red [s]	1.0	1.0	1.0	1.0	1.0	
Split [s]	14	14	14	56	42	
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	
Walk [s]	0			0	0	
Pedestrian Clearance [s]	0			0	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	
Rest in Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]						
Detector Length [ft]						
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	
Pedestrian Walk [s]	
Pedestrian Clearance [s]	

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	-	-	-	-		
t2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	24	10	44	30	30
g / C, Green / Cycle	0.16	0.39	0.16	0.71	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.03	0.16	0.11	0.80	0.65	0.00
s, saturation flow rate [veh/h]	1667	1578	1810	1855	1855	1615
c, Capacity [veh/h]	270	609	289	1315	899	782
d1, Uniform Delay [s]	22.49	13.82	24.54	6.49	15.97	8.27
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.44	2.86	6.57	161.00	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.41	0.68	0.84	1.34	0.01
d, Delay for Lane Group [s/veh]	22.86	14.26	27.40	13.06	176.97	8.28
Lane Group LOS	C	B	C	B	F	A
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/in]	0.62	2.00	2.55	5.06	48.59	0.04
50th-Percentile Queue Length [ft/in]	15.45	50.10	63.67	126.56	1214.70	1.00
95th-Percentile Queue Length [veh/in]	1.11	3.61	4.58	8.75	72.81	0.07
95th-Percentile Queue Length [ft/in]	27.81	90.18	114.60	218.81	1820.15	1.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.86	14.26	27.40	13.06	176.97	8.28
Movement LOS	C	B	C	B	F	A
d_A, Approach Delay [s/veh]	15.82		15.24		175.85	
Approach LOS	B		B		F	
d_I, Intersection Delay [s/veh]	84.41					
Intersection LOS	F					
Intersection V/C	0.888					

Other Modes

g_Walk,mi, Effective Walk Time [s]			
M_corner, Corner Circulation Area [ft²/ped]	-		-
M_CW, Crosswalk Circulation Area [ft²/ped]	-		-
d_p, Pedestrian Delay [s]			
I_p,int, Pedestrian LOS Score for Intersection			
Crosswalk LOS	-		-
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	323	1682	1229
d_b, Bicycle Delay [s]	21.78	0.78	4.59
I_b,int, Bicycle LOS Score for Intersection	1.560	3.708	3.568
Bicycle LOS	A	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Old Sonoma Road/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	14.4
Analysis Method	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.072

Intersection Setup

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]						
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Base Volume Input [veh/h]	153	9	16	320	17	21
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	1.00	0.00	0.00	2.00	6.00	5.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	0	0	31	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	192	10	17	373	28	22
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	3	5	101	8	8
Total Analysis Volume [veh/h]	209	11	18	405	30	24
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]						
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median						

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio			0.01		0.07	0.03
d_M, Delay for Movement [s/veh]			7.66		14.39	10.16
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.34	0.34
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.76	0.76	8.40	8.40
d_A, Approach Delay [s/veh]	0.00		0.33		12.51	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.17					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: SR 12-121/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	22.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]		12.00		12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]						80.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Base Volume Input [veh/h]		10		1091	1079	33
Base Volume Adjustment Factor		1.0700		1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]		10.00		3.00	2.00	3.00
Growth Factor		1.0000		1.0000	1.0000	1.0000
In-Process Volume [veh/h]		0		0	0	0
Site-Generated Trips [veh/h]		0		10	0	9
Diverted Trips [veh/h]		0		0	0	0
Pass-by Trips [veh/h]		0		0	0	0
Existing Site Adjustment Volume [veh/h]		0		0	0	0
Other Volume [veh/h]		0		0	0	0
Total Hourly Volume [veh/h]		11		1177	1155	44
Peak Hour Factor		0.9600		0.9600	0.9600	0.9600
Other Adjustment Factor		1.0000		1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]		3		307	301	11
Total Analysis Volume [veh/h]		11		1226	1203	46
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio		0.05				
d_M, Delay for Movement [s/veh]		22.54				
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]		0.16		0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]		4.00		0.00	0.00	0.00
d_A, Approach Delay [s/veh]	22.54		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Road

Control Type:	Signalized	Delay (sec / veh):	84.8
Analysis Method:	HCM 7th Edition	Level Of Service	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.016

Intersection Setup

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]		245.00	330.00			475.00
No. of Lanes in Exit Pocket	0	0	0	1	1	0
Exit Pocket Length [ft]				300.00	30.00	
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Base Volume Input [veh/h]	85	625	682	1055	812	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	3.00	0.00	3.00	3.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]		138				2
Total Hourly Volume [veh/h]	85	487	682	1055	812	70
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	122	171	264	203	18
Total Analysis Volume [veh/h]	85	487	682	1055	812	70
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]						
Local Bus Stopping Rate [/h]		0		0		0
v_do, Outbound Pedestrian Volume crossing						
v_di, Inbound Pedestrian Volume crossing						
v_co, Outbound Pedestrian Volume crossing						
v_ci, Inbound Pedestrian Volume crossing						
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	
Offset Reference	-
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	4	4	5	2	6	
Auxiliary Signal Groups		4,5				
Lead / Lag	Lag	-	Lead	-	-	-
Minimum Green [s]	10	10	10	10	10	
Maximum Green [s]	30	30	30	30	30	-
Amber [s]	3.0	3.0	3.0	3.0	3.0	
All red [s]	1.0	1.0	1.0	1.0	1.0	
Split [s]	14	14	21	76	55	
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	
Walk [s]	0	-		0	0	-
Pedestrian Clearance [s]	0			0	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]						
Detector Length [ft]						
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	
Pedestrian Walk [s]	-
Pedestrian Clearance [s]	

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	92	92	92	92	92	92
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		-				
t2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	54	30	64	30	30
g / C, Green / Cycle	0.22	0.59	0.32	0.69	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.05	0.31	0.38	0.57	0.44	0.04
s, saturation flow rate [veh/h]	1810	1577	1810	1855	1855	1615
c, Capacity [veh/h]	398	927	587	1286	603	525
d1, Uniform Delay [s]	29.44	11.32	31.15	10.07	31.13	21.96
k, delay calibration	0.11	0.41	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	1.76	90.15	5.96	166.64	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.53	1.16	0.82	1.35	0.13
d, Delay for Lane Group [s/veh]	29.71	13.09	121.30	16.03	197.77	22.07
Lane Group LOS	C	B	F	B	F	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.45	5.06	26.27	11.52	39.79	0.99
50th-Percentile Queue Length [ft/ln]	36.35	126.48	656.68	288.01	994.69	24.70
95th-Percentile Queue Length [veh/ln]	2.62	9.75	38.04	17.09	59.40	1.78
95th-Percentile Queue Length [ft/ln]	65.43	218.69	951.04	427.17	1485.06	44.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.71	13.09	121.30	18.03	197.77	22.07
Movement LOS	C	B	F	B	F	C
d_A, Approach Delay [s/veh]	15.56		57.36		183.82	
Approach LOS	B		E		F	
d_I, Intersection Delay [s/veh]	84.82					
Intersection LOS	F					
Intersection V/C	1.016					

Other Modes

g_Walk,mi, Effective Walk Time [s]			
M_corner, Corner Circulation Area [ft²/ped]			
M_CW, Crosswalk Circulation Area [ft²/ped]			
d_p, Pedestrian Delay [s]			
I_p,int, Pedestrian LOS Score for Intersection			
Crosswalk LOS			
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	217	1561	1105
d_b, Bicycle Delay [s]	36.68	2.23	9.23
I_b,int, Bicycle LOS Score for Intersection	1.560	4.426	3.018
Bicycle LOS	A	E	C

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Old Sonoma Road/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	21.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.220

Intersection Setup

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	⊢		⊣		⊤	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]						
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Base Volume Input [veh/h]	248	11	15	406	48	39
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	1.00	0.00	0.00	3.00	2.00	3.00
Growth Factor	1.2600	1.2600	1.2600	1.2600	1.2600	1.2600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	334	15	20	547	64	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	4	5	137	16	13
Total Analysis Volume [veh/h]	334	15	20	547	64	53
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]			
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio			0.02		0.22	0.08
d_M, Delay for Movement [s/veh]			7.97		21.20	13.95
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	1.22	1.22
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.84	0.84	30.51	30.51
d_A, Approach Delay [s/veh]	0.00		0.28		17.91	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	2.18					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: SR 12-121/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.084

Intersection Setup

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	⌜					⌜
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]		12.00		12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]						80.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Base Volume Input [veh/h]		19		1069	739	28
Base Volume Adjustment Factor		1.0700		1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]		0.00		3.00	2.00	4.00
Growth Factor		1.2600		1.2600	1.2600	1.2600
In-Process Volume [veh/h]		0		0	0	0
Site-Generated Trips [veh/h]		0		0	0	0
Diverted Trips [veh/h]		0		0	0	0
Pass-by Trips [veh/h]		0		0	0	0
Existing Site Adjustment Volume [veh/h]		0		0	0	0
Other Volume [veh/h]		0		0	0	0
Total Hourly Volume [veh/h]		25		1441	997	38
Peak Hour Factor		1.0000		1.0000	1.0000	1.0000
Other Adjustment Factor		1.0000		1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]		6		360	249	10
Total Analysis Volume [veh/h]		25		1441	997	38
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio		0.08				
d_M, Delay for Movement [s/veh]		18.14				
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]		0.27		0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]		6.79		0.00	0.00	0.00
d_A, Approach Delay [s/veh]	18.14		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Road

Control Type:	Signalized	Delay (sec / veh)	178.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.067

Intersection Setup

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]		245.00	330.00			475.00
No. of Lanes in Exit Pocket	0	0	0	1	1	0
Exit Pocket Length [ft]				300.00	30.00	
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Base Volume Input [veh/h]	41	295	155	1011	1104	11
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	10.00	2.00	0.00	3.00	3.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.2600	1.2600	1.2600	1.2600	1.2600	1.2600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]		104				4
Total Hourly Volume [veh/h]	55	295	209	1363	1488	11
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	74	52	341	372	3
Total Analysis Volume [veh/h]	55	295	209	1363	1488	11
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]						
Local Bus Stopping Rate [/h]		0		0		0
v_do, Outbound Pedestrian Volume crossing						
v_di, Inbound Pedestrian Volume crossing m						
v_co, Outbound Pedestrian Volume crossing						
v_ci, Inbound Pedestrian Volume crossing mi						
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume (bicycles/h)	5		1		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	
Offset Reference	
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	4	4	5	2	6	
Auxiliary Signal Groups		4,5				
Lead / Lag	Lag		Lead			
Minimum Green [s]	10	10	10	10	10	
Maximum Green [s]	30	30	30	30	30	
Amber [s]	3.0	3.0	3.0	3.0	3.0	
All red [s]	1.0	1.0	1.0	1.0	1.0	
Split [s]	16	16	14	84	70	
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	
Walk [s]	0			0	0	
Pedestrian Clearance [s]	0			0	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	
Rest In Walk	No			No	No	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
l2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]						
Detector Length [ft]						
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	
Pedestrian Walk [s]	
Pedestrian Clearance [s]	

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]						
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	27	12	46	30	30
g / C, Green / Cycle	0.18	0.42	0.18	0.70	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.03	0.19	0.12	0.73	0.60	0.01
s, saturation flow rate [veh/h]	1667	1578	1810	1855	1855	1615
c, Capacity [veh/h]	296	659	325	1298	852	742
d1, Uniform Delay [s]	22.84	13.57	24.86	9.80	17.66	9.61
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.48	2.14	39.14	340.84	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.45	0.64	1.05	1.75	0.01
d, Delay for Lane Group [s/veh]	23.14	14.05	27.00	48.94	358.50	9.62
Lane Group LOS	C	B	C	F	F	A
Critical Lane Group	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50th-Percentile Queue Length [veh/ln]	0.64	2.45	2.78	20.22	89.74	0.07
50th-Percentile Queue Length [ft/ln]	16.10	61.38	68.94	505.45	2243.47	1.64
95th-Percentile Queue Length [veh/ln]	1.16	4.42	4.96	28.74	141.66	0.12
95th-Percentile Queue Length [ft/ln]	28.97	110.45	124.09	718.58	3541.43	2.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.14	14.05	27.00	48.94	358.50	9.62
Movement LOS	C	B	C	F	F	A
d_A, Approach Delay [s/veh]	15.48		46.02		355.94	
Approach LOS	B		D		F	
d_I, Intersection Delay [s/veh]	178.69					
Intersection LOS	F					
Intersection V/C	1.067					

Other Modes

g_Walk,mi, Effective Walk Time [s]			
M_corner, Corner Circulation Area [ft²/ped]			
M_CW, Crosswalk Circulation Area [ft²/ped]			
d_p, Pedestrian Delay [s]			
l_p,int, Pedestrian LOS Score for Intersection			
Crosswalk LOS			
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	368	2453	2024
d_b, Bicycle Delay [s]	21.77	1.68	0.00
l_b,int, Bicycle LOS Score for Intersection	1.560	4.153	4.040
Bicycle LOS	A	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Old Sonoma Road/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.058

Intersection Setup

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	-					-
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	-					-
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Base Volume Input [veh/h]	153	9	16	320	17	21
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	1.00	0.00	0.00	2.00	6.00	5.00
Growth Factor	1.2600	1.2600	1.2600	1.2600	1.2600	1.2600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	207	13	21	431	23	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	3	5	108	6	7
Total Analysis Volume [veh/h]	207	13	21	431	23	28
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]					-	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median					-	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	-	-	0.02		0.06	0.03
d_M, Delay for Movement [s/veh]			7.67		14.69	10.05
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.30	0.30
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.89	0.89	7.55	7.55
d_A, Approach Delay [s/veh]	0.00		0.36		12.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: SR 12-121/Old Sonoma Highway

Control Type	Two-way stop	Delay (sec / veh)	30.9
Analysis Method	HCM 7th Edition	Level Of Service	D
Analysis Period	15 minutes	Volume to Capacity (v/c)	0.092

Intersection Setup

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration		┌				┐
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]		12.00		12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]						80.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Base Volume Input [veh/h]		10		1091	1079	33
Base Volume Adjustment Factor		1.0700		1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]		10.00		3.00	2.00	3.00
Growth Factor		1.2600		1.2600	1.2600	1.2600
In-Process Volume [veh/h]		0		0	0	0
Site-Generated Trips [veh/h]		0		0	0	0
Diverted Trips [veh/h]		0		0	0	0
Pass-by Trips [veh/h]		0		0	0	0
Existing Site Adjustment Volume [veh/h]		0		0	0	0
Other Volume [veh/h]		0		0	0	0
Total Hourly Volume [veh/h]		14		1470	1455	44
Peak Hour Factor		1.0000		1.0000	1.0000	1.0000
Other Adjustment Factor		1.0000		1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]		4		368	364	11
Total Analysis Volume [veh/h]		14		1470	1455	44
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio		0.09				
d_M, Delay for Movement [s/veh]		30.91				
Movement LOS		D		A	A	A
95th-Percentile Queue Length [veh/ln]		0.30		0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]		7.43		0.00	0.00	0.00
d_A, Approach Delay [s/veh]	30.91		0.00		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Road

Control Type:	Signalized	Delay (sec / veh):	86.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.022

Intersection Setup

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]		245.00	330.00			475.00
No. of Lanes in Exit Pocket	0	0	0	1	1	0
Exit Pocket Length [ft]				300.00	30.00	
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Base Volume Input [veh/h]	85	625	682	1055	812	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	3.00	0.00	3.00	3.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	6	5	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]		138				2
Total Hourly Volume [veh/h]	87	493	687	1055	812	70
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	123	172	264	203	18
Total Analysis Volume [veh/h]	87	493	687	1055	812	70
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]						
Local Bus Stopping Rate [/h]		0		0		0
v_do, Outbound Pedestrian Volume crossing						
v_di, Inbound Pedestrian Volume crossing						
v_co, Outbound Pedestrian Volume crossing						
v_ci, Inbound Pedestrian Volume crossing						
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	
Offset Reference	
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	4	4	5	2	6	
Auxiliary Signal Groups		4,5				
Lead / Lag	Lag		Lead			
Minimum Green [s]	10	10	10	10	10	
Maximum Green [s]	30	30	30	30	30	
Amber [s]	3.0	3.0	3.0	3.0	3.0	
All red [s]	1.0	1.0	1.0	1.0	1.0	
Split [s]	14	14	21	76	55	
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	
Walk [s]	0			0	0	
Pedestrian Clearance [s]	0			0	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]						
Detector Length [ft]						
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	
Pedestrian Walk [s]	
Pedestrian Clearance [s]	

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	93	93	93	93	93	93
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]						
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	55	30	64	30	30
g / C, Green / Cycle	0.22	0.59	0.32	0.69	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.05	0.31	0.38	0.57	0.44	0.04
s, saturation flow rate [veh/h]	1810	1577	1810	1855	1855	1615
c, Capacity [veh/h]	403	929	586	1282	601	523
d1, Uniform Delay [s]	29.38	11.35	31.31	10.26	31.28	22.10
k, delay calibration	0.11	0.43	0.50	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.27	1.84	95.06	6.08	168.82	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.53	1.17	0.82	1.35	0.13
d, Delay for Lane Group [s/veh]	29.64	13.19	126.36	16.33	199.90	22.22
Lane Group LOS	C	B	F	B	F	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.49	5.16	27.03	11.77	40.04	0.99
50th-Percentile Queue Length [ft/ln]	37.24	129.08	675.86	294.16	1001.07	24.86
95th-Percentile Queue Length [veh/ln]	2.68	8.89	39.25	17.39	59.82	1.79
95th-Percentile Queue Length [ft/ln]	67.03	222.24	981.22	434.80	1495.59	44.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.64	13.19	126.36	16.33	199.90	22.22
Movement LOS	C	B	F	B	F	C
d_A, Approach Delay [s/veh]	15.66		59.73		185.80	
Approach LOS	B		E		F	
d_I, Intersection Delay [s/veh]	86.45					
Intersection LOS	F					
Intersection V/C	1.022					

Other Modes

g_Walk,mi, Effective Walk Time [s]			
M_corner, Corner Circulation Area [ft²/ped]			
M_CW, Crosswalk Circulation Area [ft²/ped]			
d_p, Pedestrian Delay [s]			
l_p,int, Pedestrian LOS Score for Intersection			
Crosswalk LOS			
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	216	1555	1102
d_b, Bicycle Delay [s]	36.83	2.29	9.34
l_b,int, Bicycle LOS Score for Intersection	1.560	4.434	3.018
Bicycle LOS	A	E	C

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Old Sonoma Road/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	21.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.231

Intersection Setup

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]						
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Base Volume Input [veh/h]	248	11	15	406	48	39
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	1.00	0.00	0.00	3.00	2.00	3.00
Growth Factor	1.2600	1.2600	1.2600	1.2600	1.2600	1.2600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	6	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	339	15	20	553	66	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	4	5	138	17	13
Total Analysis Volume [veh/h]	339	15	20	553	66	53
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]			
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio			0.02		0.23	0.08
d_M, Delay for Movement [s/veh]			7.98		21.66	14.25
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	1.28	1.28
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.84	0.84	32.04	32.04
d_A, Approach Delay [s/veh]	0.00		0.28		18.36	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	2.24					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: SR 12-121/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.084

Intersection Setup

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	r		l		lr	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]		12.00		12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]						80.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Base Volume Input [veh/h]		19		1089	739	28
Base Volume Adjustment Factor		1.0700		1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]		0.00		3.00	2.00	4.00
Growth Factor		1.2600		1.2600	1.2600	1.2600
In-Process Volume [veh/h]		0		0	0	0
Site-Generated Trips [veh/h]		0		2	0	2
Diverted Trips [veh/h]		0		0	0	0
Pass-by Trips [veh/h]		0		0	0	0
Existing Site Adjustment Volume [veh/h]		0		0	0	0
Other Volume [veh/h]		0		0	0	0
Total Hourly Volume [veh/h]		25		1443	997	40
Peak Hour Factor		1.0000		1.0000	1.0000	1.0000
Other Adjustment Factor		1.0000		1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]		6		361	249	10
Total Analysis Volume [veh/h]		25		1443	997	40
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]			
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio		0.08				
d_M, Delay for Movement [s/veh]		18.14				
Movement LOS		C		A	A	A
95th-Percentile Queue Length [veh/ln]		0.27		0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]		6.79		0.00	0.00	0.00
d_A, Approach Delay [s/veh]	18.14		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Road

Control Type:	Signalized	Delay (sec / veh):	192.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.095

Intersection Setup

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]		245.00	330.00			475.00
No. of Lanes in Exit Pocket	0	0	0	1	1	0
Exit Pocket Length [ft]				300.00	30.00	
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		SR 12-121		SR 12-121	
Base Volume Input [veh/h]	41	296	155	1011	1104	11
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	10.00	2.00	0.00	3.00	3.00	0.00
Proportion of CAVs [%]	0.00					
Growth Factor	1.2600	1.2600	1.2600	1.2600	1.2600	1.2600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	31	28	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]		104				4
Total Hourly Volume [veh/h]	65	326	237	1363	1488	11
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	82	59	341	372	3
Total Analysis Volume [veh/h]	65	326	237	1363	1488	11
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]						
Local Bus Stopping Rate [/h]		0		0		0
v_do, Outbound Pedestrian Volume crossing						
v_di, Inbound Pedestrian Volume crossing						
v_co, Outbound Pedestrian Volume crossing						
v_ci, Inbound Pedestrian Volume crossing						
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	5		1		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	
Offset Reference	
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	4	4	5	2	6	
Auxiliary Signal Groups		4,5				
Lead / Lag	Lag		Lead			
Minimum Green [s]	10	10	10	10	10	
Maximum Green [s]	30	30	30	30	30	
Amber [s]	3.0	3.0	3.0	3.0	3.0	
All red [s]	1.0	1.0	1.0	1.0	1.0	
Split [s]	16	16	14	84	70	
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	
Walk [s]	0			0	0	
Pedestrian Clearance [s]	0			0	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	
Minimum Recall	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	
Detector Location [ft]						
Detector Length [ft]						
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	
Pedestrian Walk [s]	
Pedestrian Clearance [s]	

Lane Group Calculations

Lane Group	L	R	L	C	C	R
C, Cycle Length [s]	68	68	68	68	68	68
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]						
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	30	13	47	30	30
g / C, Green / Cycle	0.19	0.44	0.19	0.69	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.04	0.21	0.13	0.73	0.80	0.01
s, saturation flow rate [veh/h]	1667	1578	1810	1855	1855	1615
c, Capacity [veh/h]	316	697	351	1285	817	711
d1, Uniform Delay [s]	23.27	13.33	25.48	10.47	19.07	10.75
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.49	2.28	42.88	374.72	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.47	0.68	1.06	1.82	0.02
d, Delay for Lane Group [s/veh]	23.59	13.82	27.76	53.35	393.79	10.76
Lane Group LOS	C	B	C	F	F	B
Critical Lane Group	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50th-Percentile Queue Length [veh/in]	0.79	2.77	3.28	22.72	94.53	0.07
50th-Percentile Queue Length [ft/in]	19.79	69.37	82.01	567.89	2363.23	1.85
95th-Percentile Queue Length [veh/in]	1.42	4.99	5.90	32.09	149.81	0.13
95th-Percentile Queue Length [ft/in]	35.62	124.86	147.62	802.13	3745.36	3.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.59	13.82	27.76	53.35	393.79	10.76
Movement LOS	C	B	C	F	F	B
d_A, Approach Delay [s/veh]	15.44		49.56		390.98	
Approach LOS	B		D		F	
d_I, Intersection Delay [s/veh]	192.38					
Intersection LOS	F					
Intersection V/C	1.095					

Other Modes

g_Walk,mi, Effective Walk Time [s]			
M_corner, Corner Circulation Area [ft²/ped]	-	-	
M_CW, Crosswalk Circulation Area [ft²/ped]	-	-	
d_p, Pedestrian Delay [s]			
I_p,int, Pedestrian LOS Score for Intersection	-	-	
Crosswalk LOS		-	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	353	2354	1942
d_b, Bicycle Delay [s]	23.10	1.07	0.03
I_b,int, Bicycle LOS Score for Intersection	1.560	4.200	4.040
Bicycle LOS	A	D	D

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Old Sonoma Road/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]						
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Road		Old Sonoma Road		Old Sonoma Highway	
Base Volume Input [veh/h]	153	9	16	328	17	21
Base Volume Adjustment Factor	1.0700	1.0700	1.0700	1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]	1.00	0.00	0.00	2.00	6.00	5.00
Growth Factor	1.2600	1.2600	1.2600	1.2600	1.2600	1.2600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	0	0	31	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	235	13	21	462	33	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	3	5	116	8	7
Total Analysis Volume [veh/h]	235	13	21	462	33	28
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]						
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median						

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio			0.02		0.09	0.04
d_M, Delay for Movement [s/veh]			7.73		15.85	10.61
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.43	0.43
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.89	0.89	10.65	10.65
d_A, Approach Delay [s/veh]	0.00		0.34		13.45	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.24					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: SR 12-121/Old Sonoma Highway

Control Type:	Two-way stop	Delay (sec / veh):	30.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.092

Intersection Setup

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration		r				r
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]		12.00		12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]						50.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]						
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Old Sonoma Highway		SR 12-121		SR 12-121	
Base Volume Input [veh/h]		10		1091	1079	33
Base Volume Adjustment Factor		1.0700		1.0700	1.0700	1.0700
Heavy Vehicles Percentage [%]		10.00		3.00	3.00	3.00
Growth Factor		1.2600		1.2600	1.2600	1.2600
In-Process Volume [veh/h]		0		0	0	0
Site-Generated Trips [veh/h]		0		10	0	9
Diverted Trips [veh/h]		0		0	0	0
Pass-by Trips [veh/h]		0		0	0	0
Existing Site Adjustment Volume [veh/h]		0		0	0	0
Other Volume [veh/h]		0		0	0	0
Total Hourly Volume [veh/h]		14		1480	1455	53
Peak Hour Factor		1.0000		1.0000	1.0000	1.0000
Other Adjustment Factor		1.0000		1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]		4		370	364	13
Total Analysis Volume [veh/h]		14		1480	1455	53
Pedestrian Volume [ped/h]						

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]						
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median						

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio		0.09				
d_M, Delay for Movement [s/veh]		30.91				
Movement LOS		D		A	A	A
95th-Percentile Queue Length [veh/ln]		0.30		0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]		7.43		0.00	0.00	0.00
d_A, Approach Delay [s/veh]	30.91		0.00		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	D					