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Traffic Study and Addendum



July 28, 2020

Mr. Christopher Hyde Larry Hyde & Sons Winery 3520 Los Carneros Avenue Napa, CA 94559

Addendum to the Traffic Study for the Hyde Winery Expansion

Dear Mr. Hyde;

In the *Traffic Impact Study for the Hyde Winery Expansion* (TIS), September 14, 2018, it was noted that the proposed expansion of the Hyde Winery would have a potentially significant impact at the intersection of SR 12-121/Los Carneros Avenue during both the weekday evening and weekend midday peak periods. This finding was based on the County's significance criterion, which establishes a threshold percentage as to the amount of traffic a project can add to an intersection that is already operating deficiently, such as the northbound Los Carneros Avenue approach to SR 12-121. While the TIS indicated that the County could consider the impact acceptable because a traffic signal is not warranted, this addendum proposes an alternate means of addressing this impact.

Standards of Significance

The County's policy states that a project would cause a significant impact requiring mitigation if, for existing conditions:

- An unsignalized intersection operates at LOS E or F during the selected peak hours without Project trips, and the project contributes ten percent or more of the traffic on a side-street approach for sidestreet stop-controlled intersections; the peak hour traffic signal criteria should also be evaluated and presented for informational purposes.
 - <u>Side-Street Stop-Controlled Intersections</u> The following equation should be used if the sidestreet stop-controlled intersection operates at LOS E or F without the Project:
 - Project Contribution % = Project Trips ÷ Existing Volumes

Further, a project would cause a significant impact requiring mitigation 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.

- <u>Cumulative Conditions</u> 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)

Proposed Project Trip Generation

The project as proposed would result in an increase in both employees and visitors. Table 7 from the TIS has been expanded to indicate how this increase in trips would translate to employee and visitor trips. Note that this version of the table supersedes the one in the TIS.

Table 7 – Trip Generation Sur	nmary							
Scenario	Weekda	y PM Pe	ak Hour	Weeken	Weekend MD Peak Hour			
Generator	Trips	ln	Out	Trips	In	Out		
Existing	10	3	7	14	7	7		
Employees	4	0	4	6	3	3		
Visitors	6	3	3	8	4	4		
Proposed	46	15	31	64	32	32		
Employees	9	1	8	13	6	7		
Visitors	37	14	23	51	26	25		
Net New Trips	36	12	24	50	25	25		
With Proposed Mitigation	23	15	8	39	32	7		
Employees	9	1	8	13	6	7		
Visitors	14	14	0	26	26	0		
Net New Trips with Mitigation	13	12	1	25	25	0		

Existing plus Project and Baseline plus Project Conditions

As noted in the TIS, the incremental increase in trips associated with the project exceeds the 10-percent threshold indicated in the County's criteria for short-term traffic operation. A review of the volumes indicates that the project could add a maximum of four outbound trips during the weekday p.m. peak hour or one during the weekend midday peak hour without exceeding this 10-percent threshold. It is further noted that the number of net new outbound trips for both peak hours is within one trip of the total number of outbound visitor trips for that peak hour. Elimination of the 23 weekday and 25 weekend peak hour outbound trips by visitors would result in an acceptable change in volumes (less than 10 percent) approaching SR 12-121 on Los Carneros Road as there would be only one more trip during the weekday peak hour and the same number during the weekend peak hour.

Finding: By scheduling tastings such that none would end during the weekday and weekend peak hours, the potential impact at SR 12-121/Los Carneros Road would be less-than-significant under the County's adopted policy.

Future plus Project Conditions

Under the criterion for future operation, the contribution in trips to all movements is included and may not exceed 5 percent of the total increase in trips between existing and future conditions. The potential for a change in winery operation to eliminate outbound trips during peak hours was tested and determined to be feasible and adequate to achieve a less-than-significant impact under long-term volumes.

Finding: An operational change to eliminate outbound visitor trips during the weekday and weekend peak hours would result in a less-than-significant impact on cumulative traffic operation.

Recommendation: Tastings should be scheduled to ensure that none end and generate outbound trips between 4:00 and 5:00 p.m. on weekdays or between 3:45 and 4:45 p.m. on Saturdays. The elimination of these outbound trips approaching the stop control at SR 12-121 on Los Carneros Road would reduce the impact to a less-than-significant level.

A spreadsheet showing the changed volumes highlighted in yellow and the resulting findings is enclosed for reference.

We hope this information adequately addresses and mitigates the project's potential impact. Feel free to contact me if you have any further questions. Thank you for giving us the opportunity to provide these services.

TR001552

Sincerely,

Dalene J. Whitlock, PE, PTOE

Senior Principal

DJW/djw/NAX109.L1

Enclosure: Significance Criteria Worksheet

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Traffic Impact Study for the Hyde Winery Expansion



Prepared for the County of Napa

Submitted by **W-Trans**

September 14, 2018



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- A. Collision Rate Calculations
- B. Intersection Turning Movement Counts
- C. Intersection Level of Service Calculations
- D. Trip Generation Spreadsheets
- E. Warrant Analyses
- F. Napa County Significance Criteria



Executive Summary

Hyde Winery seeks to modify the existing Use Permit to allow for an increase in the number of employees from two full-time and two part-time employees to five full-time and four part-time employees. An increase in visitation to allow for a maximum of 125 visitors per day is also proposed. Further, the Use Permit Modification would adjust the special event allowance to eight events with 55 attendees and two events with up to 150 attendees annually.

Using the County's winery trip generation assumptions, the proposed project would be expected to generate an average of 94 new daily trips on weekdays, including 36 weekday p.m. peak hour trips, and 88 new trips on weekends, including 50 peak hour trips. Accounting for pass-by trips, the project would add 28 trips during the weekday p.m. peak hour and 35 trips during the weekend peak hour.

The study area included the intersections of SR 12-121 with Old Sonoma Road, Los Carneros Avenue, and Cuttings Wharf Road. All three of the study intersections currently operate at an unacceptable service level during one or both peaks.

The study intersection of SR 12-121/Old Sonoma Road operates at an unacceptable LOS E during the evening peak hour and would be expected to continue operating unacceptably upon the addition of project traffic. Under anticipated future volumes, the intersection would operate unacceptably during both peak hours and continue doing so with the project. Because the project generates less than one percent of existing volumes and less than five percent of the anticipated future increase, the impact is considered less-than-significant under the County's standards.

SR 12-121/Los Carneros Avenue currently operates unacceptably at LOS F on the minor street approaches during both peak periods. The project-related volumes at the intersection exceed the County's level of significance for existing and future conditions. Warrants for signalization of the intersection are not met under current or future volumes, therefore the County may deem the impact less-than-significant under County policies.

The intersection of SR 12-121/Cuttings Wharf Road operates with unacceptable service levels on the minor street approaches during both peak hours under all scenarios evaluated; however, the project does not add traffic to the minor street approaches and adds less than five percent of the difference between future and existing volumes to the overall volumes at the intersection. Therefore, the impact is considered less-than-significant per County standards.

While the study area lacks pedestrian facilities or transit service, given the rural nature of the area it is reasonable to assume there would not be any pedestrian travel or demand for transit service, and therefore, the lack of facilities is considered acceptable. The project should provide ten bicycle parking spaces.

Access to the site occurs via Los Carneros Avenue. Sight lines along Los Carneros Avenue from the project driveway is adequate. Left-turn lanes are not warranted, and therefore not recommended, at the project's driveway on Los Carneros Avenue.



Introduction

This report presents an analysis of the potential traffic impacts that would be associated with the proposed increase in visitation and employees at the Hyde Winery located at 1044 Los Carneros Avenue 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 traffic impacts of a proposed project, and any associated improvements that would be required to mitigate these impacts to a level of insignificance as defined by the County's General Plan or other policies. Vehicular traffic impacts are typically evaluated 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 existing travel patterns or anticipated travel patterns specific to the proposed project, then analyzing the impact the new traffic would be expected to have on critical intersections or roadway segments. Impacts relative to access for pedestrians, bicyclists, and to transit are also addressed.

Project Profile

The Hyde Winery at 1044 Los Carneros Avenue is proposing a Use Permit Modification to increase the number of winery employees, increase daily tasting room visitors, and adjust their special event allowance. Hyde Winery is currently permitted for four regular season employees (two full-time and two part-time), 20 visitors per day, and 10 specials events per year for up to 30 people. The requested amendment to the Use Permit proposes nine regular season employees (five full-time and four part-time), a maximum of 125 visitors per day, and eight events with 55 attendees and two with up to 150 attendees annually. The location of the project site is shown in Figure 1.





Figure 1 – Study Area, Lane Configurations and Existing Traffic Volumes Traffic Impact Study for the Hyde Winery Expansion



Transportation Setting

Operational Analysis

Study Area and Periods

The study area consists of the following intersections:

- 1. SR 12-121/Old Sonoma Road
- 2. SR 12-121/Los Carneros Avenue
- 3. SR 12-121/Cuttings Wharf Road

Operating conditions during the weekday p.m. and weekend midday peak periods were evaluated as these time periods reflect the highest traffic volumes areawide and for the proposed project. The evening peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion of the day during the homeward bound commute, while the weekend midday peak occurs between 3:00 and 5:00 p.m.

Study Intersections

SR 12-121/Old Sonoma Road is a signalized tee intersection with protected left-turn phasing on the eastbound SR 12-121 approach. The southbound Old Sonoma Road approach includes a right-turn overlap phase.

SR 12-121/Los Carneros Avenue is a four-legged intersection stop-controlled at the north and south legs. Both legs include a right-turn flared lane.

SR 12-121/Cuttings Wharf Road is a tee intersection stop-controlled at the northbound Cuttings Wharf Road approach. The northbound approach includes a right-turn flared lane.

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

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, 2013 through December 31, 2017.

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 2014 Collision Data on California State Highways, California Department of Transportation (Caltrans). Two of the three study intersections experienced collisions at rates higher than the statewide averages for similar facilities. The collision rate calculations are provided in Appendix A.



Table 1 – Collision Rates at the Study Intersections									
Study Intersection	Number of Collisions (2013-2017)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)						
1. SR 12-121/Old Sonoma Road	24	0.50	0.24						
2. SR 12-121/Los Carneros Avenue	6	0.16	0.23						
3. SR 12-121/Cuttings Wharf Road	7	0.17	0.16						

Note: c/mve = collisions per million vehicles entering; **Bold** text indicates an above-average collision rate

Because the collision rates for SR12-121/Old Sonoma Road and SR 12-121/Cuttings Wharf Road were higher than the Statewide averages, the crashes at these locations were reviewed in greater detail.

Twenty of the 24 collisions that occurred at the intersection of SR 12-121/Old Sonoma Road involved only southbound vehicles. The predominant collision type was rear-end collisions, with 11 of the 24 being of this type, which is common at a signalized intersection where there is congestion, especially during peak periods. The primary collision factors were improper turn or unsafe speed. The percent of collisions resulting in injuries was 50.0 percent for the study period, compared to a 40.7 percent average Statewide. It is noted that there is a "Signal Ahead" sign together with pavement markings and a flashing beacon on the southbound approach to the intersection, so there do not appear to be any engineering solutions to address the collision history at this location. It is suggested that the County work with the California Highway Patrol to increase or focus enforcement in this area to address this situation.

While the rate at SR 12-121/Cuttings Wharf Road was above average, it is only marginally so and with 28.6 percent of crashes resulting in injury, this rate is well below the Statewide average of 39.2 percent. The below-average incidence of injuries indicates that this intersection does not have a specific safety problem despite the slightly above-average collision rate.

Alternative Modes

Pedestrian Facilities

Given the rural location of the project site, pedestrian trips are not anticipated except within the site.

Bicycle Facilities

The Highway Design Manual, Caltrans, 2017, classifies bikeways into three 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.

In the project area, Class II bike lanes exist on Cuttings Wharf Road and on segments of SR 12. There are proposed Class II bike lanes on Old Sonoma Road and planned extensions of the existing Class II bike lanes on SR 12. Bicyclists ride in the roadway along all other streets within the project study area. Table 2 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the *Napa County Bicycle Plan*.



Status Facility	Class	Length (miles)	Begin Point	End Point
Existing				
Cuttings Wharf Road	II	2.50	SR 12	Napa River
SR 12	II	1.20	Stanly Ln	Cuttings Wharf Road
Planned				
Old Sonoma Road	II	2.42	SR 12	Congress Valley Rd
SR 12	II	1.03	Duhig Rd	Cuttings Wharf Rd
SR 12	II	1.97	Napa/Sonoma County Line	Duhig Rd

Source: Napa County Bicycle Plan, W-Trans, 2012

Transit Facilities

Given the rural location of the project site, there are no bus stops within walking distance of the site.



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* (HCM), Transportation Research Board, 2010. 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 of SR 12-121/Los Carneros Avenue and SR 12-121/Cuttings Wharf Road, 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 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 actual signal timing provided by Caltrans. The ranges of delay associated with the various levels of service are indicated in Table 3.

Table	3 – Intersection Level of Service Criteria	
LOS	Two-Way Stop-Controlled	Signalized
Α	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.
В	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.
С	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, Transportation Research Board, 2010



Traffic Operation Standards

Napa County

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

- **Policy CIR-13** The County seeks to provide a roadway system that maintains current roadway capacities in most locations and is both safe and efficient in terms of providing local access.
- **Policy CIR-16** The County shall seek to maintain an arterial Level of Service D or better on all county roadways, except where maintaining this desired level of service would require the installation of more travel lanes than shown on the Circulation Map. SR 12-121 is shown as a 2-lane Rural Throughway on the Circulation Map (Figure CIR-1).
- Policy CIR-18 Traffic safety and adequate local access will be priorities on roadway segments and at signalized intersections where Level of Service D or better cannot be achieved. Therefore, proposed capital improvements and development projects in these areas shall be evaluated to determine their effect on safety or local access. Projects that improve safety, improve local access, or alleviate congestion will be prioritized.

To provide a more quantitative method of adhering to the above standards, the County refers to *Guidelines for Interpretation of General Plan Circulation Policies on Significance Criteria* (Fehr & Peers, 2015). The document establishes thresholds of significance for road segments and different intersection control types. The memorandum states a project would cause a significant impact requiring mitigation 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 contributes one percent or more of the total entering traffic for all-way stop-controlled intersections, or ten percent or more of the traffic on a side-street approach for side-street stop-controlled intersections; the peak hour traffic signal criteria should also be evaluated and presented for informational purposes. Both of those volumes are for the stop-controlled approaches only. Each stop-controlled approach that operates at LOS E or F should be analyzed individually
 - o <u>All-Way Stop-Controlled Intersections</u> The following equation should be used if the all-way stop-controlled intersection operates at LOS E or F without the Project:
 - Project Contribution % = Project Trips ÷ Existing Volumes
 - o <u>Side-Street Stop-Controlled Intersections</u> The following equation should be used if the side-street stop-controlled intersection operates at LOS E or F without the Project:
 - Project Contribution % = Project Trips ÷ Existing Volumes

Further, a project would cause a significant impact requiring mitigation 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.



- <u>Cumulative Conditions</u> 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)

Caltrans

Although the study intersections are within Napa County limits, Caltrans has jurisdiction over any intersection that includes a State Route, such as the three study intersections. Caltrans indicates that they endeavor to maintain operation at the transition from LOS C to LOS D.

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the weekday p.m. and weekend midday peak periods. This condition does not include project-generated traffic volumes. Volume data was collected on Thursday April 5, 2018 and Saturday, April 14, 2018. A seasonal adjustment factor was applied to the weekday volumes to arrive at typical August Thursday traffic conditions. Copies of the counts are provided in Appendix B.

Intersection Levels of Service

Under existing conditions, the intersections of SR 12-121/Los Carneros Avenue and SR 12-121/Cuttings Wharf Drive are operating at LOS A overall during the weekday evening and weekend midday peak periods, but unacceptably at LOS E or F on the stop-controlled approaches. The intersection of SR 12-121/Old Sonoma Road is operating unacceptably at LOS E during the weekday p.m. peak hour and acceptably during the weekend midday peak hour at LOS C under existing conditions. The existing traffic volumes are shown in Figure 1. A summary of the intersection level of service calculations is contained in Table 4, and copies of the Level of Service calculations are provided in Appendix C.

Ta	ble 4 – Existing Peak Hour Intersection Levels of S	Service			
Stu	udy Intersection	Weekday	Weekend MD Peak		
	Approach	Delay	LOS	Delay	LOS
1.	SR 12-121/Old Sonoma Road	58.7	E	34.8	C
2.	SR 12-121/Los Carneros Avenue	2.9	Α	1.6	Α
	Northbound (Los Carneros Ave) Approach	80.2	F	50.0	F
	Southbound (Driveway) Approach	**	F	104.6	F
3.	SR 12-121/Cuttings Wharf Road	3.2	Α	2.9	Α
	Northbound (Cuttings Wharf Rd) Approach	49.9	E	63.1	F

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; **Bold** text = deficient operation

According to Policy CIR-12 of the *Napa County General* Plan, roadway improvements at entrances to the County shall be carefully considered and capacity improvements will generally not be made to key entrances, which includes Highway 121 from Sonoma County.

On sections of certain arterial streets, it is typical to have all side street approaches operating at LOS E or F with long traffic delays, even where side street volumes are very low. It may be operationally, physically, and/or



financially infeasible to provide mitigation which would allow LOS D or better operation for all side streets during peak hours. The most typical mitigation measure used to improve operation for the side street is a traffic signal, and it is both operationally and financially undesirable to provide a traffic signal at every intersection.

Baseline Conditions

Existing plus Approved volumes were developed to include trips from other approved and pending projects that would add traffic to the study intersections. The following projects were included to evaluate Existing plus Approved conditions:

- **Cuvaison Winery** 340,000-gallon winery at 1221 Duhig Road, south of SR 12-121 with up to 180 visitors per day and 28 regular season employees.
- Hudson Vineyards Winery 80,000-gallon winery at 5398 Sonoma Highway, north of SR 12-121 with up to 120 visitors per day and 16 employees.
- Mahoney Vineyards 30,000-gallon winery at 1134 Dealy Lane, with 15 visitors and two employees per day, located north of SR 12-121 and east of Old Sonoma Road.
- Sleeping Giant 30,000-gallon winery at 2258 Las Amigas Road, south of SR 12-121 with eight visitors and 10 employees.

Under Baseline conditions, SR 12-121/Los Carneros Avenue and SR 12-121/Cuttings Wharf Drive are expected to continue operating at LOS A overall, but unacceptably on the minor street approaches. SR 12-121/Old Sonoma Road is expected to continue operating at LOS E during the weekday evening peak hour and fall to LOS D during the weekend midday peak hour. These results are summarized in Table 5 and Baseline volumes are shown in Figure 2.

Та	ble 5 – Baseline Peak Hour Intersection Levels of	Service			
Stı	udy Intersection	Weekday	Weekend MD Peak		
	Approach	Delay	LOS	Delay	LOS
1.	SR 12-121/Old Sonoma Road	60.0	E	36.9	D
2.	SR 12-121/Los Carneros Avenue	3.2	Α	1.7	Α
	Northbound (Los Carneros Ave) Approach	87.4	F	52.4	F
	Southbound (Driveway) Approach	**	F	112.8	F
3.	SR 12-121/Cuttings Wharf Road	3.6	Α	3.2	Α
	Northbound (Cuttings Wharf Rd) Approach	55.5	F	66.3	F

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; **Bold** text = deficient operation

Future Conditions

Future volumes for the horizon year 2040 were calculated based on output from the *Napa Solano Travel Demand Model*, maintained by the Solano Transportation Authority (STA). Base year (2015) and future (2040) segment volumes for the weekday p.m. peak period were used to calculate growth factors for the study intersections and roadway segments.

The same growth factors used for the weekday p.m. peak hour were used for the weekend midday peak hour as the model does not contain information for weekend days. Volumes at the intersection of SR 12-121 and Old Sonoma Road are expected to grow by a factor of 1.14. There are no projected growth volumes on the *Napa*







Traffic Impact Study for the Hyde Winery Expansion Figure 2 – Baseline Traffic Volumes

Solano Travel Demand Model for Cuttings Wharf Road and model volumes at the intersection of SR 12-121 and Los Carneros Avenue indicate a growth of only two percent over 22 years which appears to be unreasonably low so the growth factor of 1.14 was applied for SR 12-121/Cuttings Wharf Road and SR 12-121/Los Carneros Avenue to project future volumes at these locations.

Under the anticipated future volumes, SR12-121/Los Carneros Avenue and SR 12-121/Cuttings Wharf Road are expected to continue operating acceptably at LOS A overall, though delays on the stop-controlled approaches are expected to continue increasing. The study intersection of SR 12-121/Old Sonoma Road is expected to operate unacceptably at LOS E during both peak hours. Future volumes are shown in Figure 3 and operating conditions are summarized in Table 6.

Та	ble 6 – Future Peak Hour Intersection Levels of Se	ervice			
Stu	udy Intersection	Weekday	Weekend MD Peak		
	Approach	Delay	LOS	Delay	LOS
1.	SR 12-121/Old Sonoma Road	82.4	E	57.4	E
2.	SR 12-121/Los Carneros Avenue	9.4	Α	3.3	Α
	Northbound (Los Carneros Ave) Approach	**	F	77.4	F
	Southbound (Driveway) Approach	**	F	**	F
3.	SR 12-121/Cuttings Wharf Road	6.6	Α	6.0	Α
	Northbound (Cuttings Wharf Rd) Approach	108.5	F	**	F

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; **Bold** text = deficient operation

Project Description

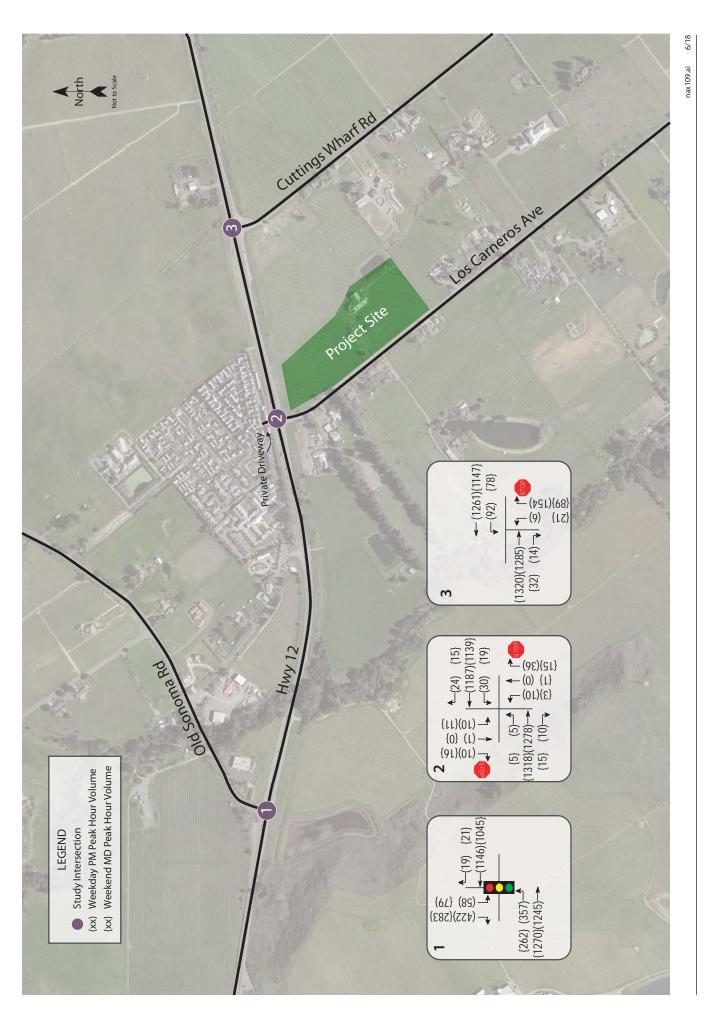
The project is a change in use at an existing winery facility to increase the number of employees and visitation. The proposal would increase visitation from the current level of 20 per day to 125 visitors per day. The number of employees would increase from the permitted two full-time and two part-time to five full-time and four part-time. The largest marketing event would include 150 visitors. An existing driveway from Los Carneros Avenue provides access to the winery. The proposed project site plan is shown in Figure 4.

Trip Generation

The County of Napa's Winery Traffic Information/Trip Generation Sheet was used to determine the anticipated traffic generated with the current staff, visitation and events as well as what would be generated with the proposed change in use at the site. Copies of the worksheets for both Existing and Proposed conditions are provided in Appendix D.

As the County of Napa's Winery Traffic Information/Trip Generation Sheet does not include guidance on inbound versus outbound trips during the peak hours, it was assumed that two-thirds of trip ends at the winery would be outbound during the weekday p.m. peak hour since most of the trips would be associated with employees and customers leaving at closure of the winery. For the Saturday midday peak-hour it was assumed that inbound and outbound trip ends would be evenly split.





W-Trans

Traffic Impact Study for the Hyde Winery Expansion Figure 3 – Future Traffic Volumes





Traffic Impact Study for the Hyde Winery Expansion Figure 4 – Site Plan

Source: James S. McCracken, Architect 3/17



nax109.ai 6/18

Pass-by Trips

According to the 2014 Napa County Travel Behavior Study prepared by Fehr & Peers for the Napa County Transportation and Planning Agency, the average number of wineries groups planned to visit was 3.1. Therefore, two out of three trips to Hyde Winery are drawn from existing traffic to other nearby wineries. These vehicle trips are not considered "new," but are instead comprised of drivers who are already driving on the adjacent street system and choose to make an interim stop, and are referred to as "pass-by." At the proposed project, pass-by trips would be "captured" from traffic on SR12-121.

The proposed project is expected to generate an increase of 94 trip ends per day compared to permitted conditions, including an increase of 36 trips during the weekday p.m. peak hour and 50 trips during the weekend peak hour; these values were applied at the driveway and used to determine turning movements at SR 12-121/Los Carneros Avenue. The pass-by deduction was applied to inbound visitor trips only, resulting in eight pass-by trips during the weekday p.m. peak hour and 15 during the weekend midday peak hour.

The trip generation estimates for the proposed project without application of the pass-by rates are shown in Table 7. Pass-by volumes are shown in Figure 5.

Table 7– Trip Generation Summary									
Scenario	D	aily	Weekda	y PM Pe	ak Hour	Weeken	d MD Pe	ak Hour	
	Weekday	Weekend	Trips	ln	Out	Trips	ln	Out	
Existing	26	24	10	3	7	14	7	7	
Proposed	120	112	46	15	31	64	32	32	
Net New Trips	94	88	36	12	24	50	25	25	

Note: Trip generation as estimated above does not include special events

In addition to typical daily operation, the anticipated trip generation for the largest proposed event, one with 150 guests, was also estimated as shown in Table 8. Using the County's Winery Traffic Information/Trip Generation Form, a 150-person marketing event would be expected to generate a total of 131 trips, including 107 trips for guests, 20 trips for employees, and 4 trips for special event trucks. To estimate the peak hour trip generation, it was assumed that all guests would be arriving at the site during the peak hour on either weekdays or weekend days. Event employees would arrive outside of the arrival and departure hours of the guests as they would be expected to be on-site for set-up and clean-up and are therefore not included in the peak hour totals. Similarly, the trucks associated with such events would be expected to arrive at and depart from the site outside of the weekday and weekend peak hours for guests.

Table 8 – Trip Generation for 150-Person Events											
Trip Generator	Units	Total	Weekday	PM Pea	k Hour	Weekend MD Peak Hour					
		Trips	Trips	ln	Out	Trips	ln	Out			
Event Employees	10	20	0	0	0	0	0	0			
Event Guests	150	107	54	54	0	54	54	0			
Event Trucks	2	4	0	0	0	0	0	0			
Total		131	54	54	0	54	54	0			





W-Trans

Traffic Impact Study for the Hyde Winery Expansion Figure 5 – Pass-By and Project Only Traffic Volumes

Trip Distribution

The pattern used to allocate new project trips to the street network was determined based on familiarity with the area and surrounding region as well as likely origins and destinations for patrons of the project. It is anticipated that trips would be split evenly to/from the east and west via SR 12-121.

Intersection Operation

Existing plus Project Conditions

Upon the addition of project-related traffic to the Existing volumes, the study intersection at SR 12-121/Los Carneros Avenue is expected to experience increased delay during both peak hours. The other two study intersections incur only minor changes to delay during both peak hours. These results are summarized in Table 9. Project traffic volumes are shown in Figure 5.

Tal	Table 9 – Existing and Existing plus Project Peak Hour Intersection Levels of Service									
Study Intersection Approach		E	xisting	Conditio	ns	Existing plus Project				
		Weekday PM Peak		Weekend MD Peak		Weekday PM Peak		Weekend MD Peak		
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
1.	SR 12-121/Old Sonoma Road	58.7	E	34.8	C	59.4	E	35.2	D	
2.	SR 12-121/Los Carneros Avenue	2.9	Α	1.6	Α	9.5	Α	4.1	Α	
	NB (Los Carneros Ave) Approach	80.2	F	50.0	F	**	F	**	F	
	SB (Los Carneros Ave) Approach	**	F	104.6	F	**	F	**	F	
3.	SR 12-121/Cuttings Wharf Road	3.2	Α	2.9	Α	3.3	Α	3.0	Α	
	NB (Cuttings Wharf Rd) Approach	49.9	E	63.1	F	51.0	F	64.6	F	

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; **Bold** text = deficient operation

Finding – All three of the study intersections currently operate at an unacceptable service level during one or both peaks, and would continue doing so upon adding project-generated traffic.

- Upon the addition of the project-related traffic to the Existing volumes, the study intersection of SR 12-121/Old Sonoma Road is expected to continue operating unacceptably at LOS E during the weekday p.m. peak hour. However, project trips would comprise 0.49 percent of the total entering volumes during the p.m. peak hour and 0.69 percent during the midday peak hour, which do not exceed the one percent threshold. This would therefore be a less-than-significant impact.
- Traffic delays on the stop-controlled northbound Los Carneros Avenue approach increase with the addition of project-related traffic during both peak hours and the project contributes 60 percent of the traffic on this approach during the weekend peak hour and 37 percent during the weekday peak hour, which exceed the ten percent threshold. This is considered a potentially significant impact by County standards. The guidance indicates that signal warrants should be evaluated, but does not indicate whether the impact would be reduced to less-than-significant if the warrant is not met. The volumes are well below the 100-trip threshold, so the Peak Hour Volume Warrant is not met for either peak hour; therefore, it is suggested that the impact



under this scenario be deemed less-than-significant. A copy of the warrant analysis is provided in Appendix E.

• Similarly, average delay on the Cuttings Wharf Road approach to SR 12-121 is anticipated to increase upon adding project-generated traffic, with LOS E or F operation without or with the project. The project is not expected to add any trips to the stop-controlled approach, so with less than a ten percent contribution to side-street traffic, the impact is considered less-than-significant. A spreadsheet indicating how the County of Napa significance criteria were evaluated is provided in Appendix F.

Baseline plus Project Conditions

With project-related traffic added to Baseline volumes, the study intersections are expected to continue operating unacceptably during one or both peak hours under the County's criteria. These results are summarized in Table 10.

Tal	Table 10 – Baseline and Baseline plus Project Peak Hour Intersection Levels of Service									
Study Intersection Approach		Ва	aseline (Condition	าร	Baseline plus Project				
		Weekday PM Peak		Weekend MD Peak		Weekday PM Peak		Weekend MD Peak		
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
1.	SR 12-121/Old Sonoma Road	60.0	E	36.9	D	60.7	E	37.5	D	
2.	SR 12-121/Los Carneros Avenue	3.2	Α	1.7	Α	10.4	В	4.5	Α	
	NB (Los Carneros Ave) Approach	87.4	F	52.4	F	**	F	**	F	
	SB (Los Carneros Ave) Approach	**	F	112.8	F	**	F	**	F	
3.	SR 12-121/Cuttings Wharf Road	3.6	Α	3.2	Α	3.7	Α	3.3	Α	
	NB (Cuttings Wharf Rd) Approach	55.5	F	66.3	F	56.8	F	67.9	F	

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; **Bold** text = deficient operation

Finding – All three study intersections operate unacceptably during one or both peak periods.

- The intersection of SR 12-121/Old Sonoma Road would be expected to continue operating at LOS E during the weekday p.m. peak hour and LOS D during the weekend midday peak hour with the addition of project trips. Project generated trips would be 0.48 and 0.72 percent of the total entering volumes during the weekday p.m. peak hour and weekend midday peak hour, respectively. These are less than one percent, so considered less-than-significant.
- Delays on the stop-controlled approaches of SR 12-121/Los Carneros Avenue are expected to increase substantially upon adding project-generated traffic to baseline conditions. Both Los Carneros approaches would continue to operate unacceptably at LOS F during both peak hours. The project contribution of traffic at this approach exceeds the 10 percent threshold during both peak periods, which is a potentially significant impact per County standards. A signal warrant analysis for Baseline plus Project volumes (copy in Appendix E) indicates that a signal is not warranted at SR 12-121/Los Carneros Avenue. For this reason, the County should consider deeming the impact at this location less-than-significant.
- As noted for Existing plus Project Conditions, while the Cuttings Wharf Road approach to SR 12-121 operates at LOS F and would experience a minor increase in delay due to project-added traffic on SR 12-121, because



the project adds no trips to the stop-controlled side-street movement, the impact is considered less-than-significant.

Future plus Project Conditions

Upon the addition of project-generated traffic to the anticipated Future volumes, the stop-controlled approaches of SR 12-121/Los Carneros Avenue and SR 12-121/Cuttings Wharf Drive would be expected operate at LOS F during both peak hours. The intersection of SR 12-121/Old Sonoma Road would be expected to operate unacceptably at LOS F during the p.m. peak period and at LOS E during the weekend midday peak period. The Future plus Project operating conditions are summarized in Table 11.

Ta	Table 11 – Future and Future plus Project Peak Hour Intersection Levels of Service										
Study Intersection Approach		F	uture C	ondition	S	F	uture p	lus Projec	:t		
		ach Weekday PM Peak		Weel MD	kend Peak	Weekday Week PM Peak MD P					
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
1.	SR 12-121/Old Sonoma Road	82.4	E	57.4	E	83.3	F	58.3	E		
2.	SR 12-121/Los Carneros Avenue	9.4	Α	3.3	Α	25.9	D	10.1	В		
	NB (Los Carneros Ave) Approach	**	F	77.4	F	**	F	**	F		
	SB (Los Carneros Ave) Approach	**	F	**	F	**	F	**	F		
3.	SR 12-121/Cuttings Wharf Road	6.6	Α	6.0	Α	6.8	Α	6.1	Α		
	NB (Cuttings Wharf Rd) Approach	108.5	F	**	F	112.4	F	**	F		

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; **Bold** text = deficient operation

Finding – All three study intersections are expected to experience further increases in delay under Future plus Project volumes.

- The intersection of SR 12-121/Old Sonoma Road would operate unacceptably at LOS F and E during the weekday p.m. peak hour and weekend midday peak hour, respectively, without and with project-generated trips added. The project's impact would be significant if it contributes five percent or more of the increase in traffic over existing volumes; this project adds 3.5 percent of the difference between future and existing volumes at SR 12-121/Old Sonoma Road during the weekday p.m. peak hour and 4.9 percent of the difference during the weekend midday peak hour. This would therefore be a less-than-significant impact.
- The study intersection of SR 12-121/Los Carneros Avenue would continue to experience unacceptable operation of LOS F at the minor street approaches during both peak hours without and with project-related traffic. The County applies the same five percent threshold of significance to unsignalized intersections as it does for signalized intersections. The project volumes represent 8.8 and 10.5 percent of the increase during the weekday and weekend peak hours, exceeding the five percent threshold between future and existing volumes at the intersection. This is considered a potentially significant impact under the County's standards. Further analysis indicates that a traffic signal would not be warranted under Future plus Project volumes during either peak hour, as shown on the warrant spreadsheets in Appendix E. The County may therefore consider the impact less-than-significant.
- Though delays would also increase at SR 12-121/Cuttings Wharf Drive, the project adds 4.1 percent of the difference between future and existing volumes at the intersection during the weekday evening peak hour



and 4.6 percent during the weekend midday peak hour, which are less than the five percent County threshold. Therefore, the impact at this location is less-than-significant.

Future plus Project plus 150-Person Event Conditions

The study intersections were evaluated under the worst-case highest-volume Future scenario with the largest proposed event. Upon the addition of project and event-generated traffic to the anticipated Future volumes, the stop-controlled approaches of SR 12-121/Los Carneros Avenue and SR 12-121/Cuttings Wharf Drive would be expected operate at LOS F during both peak hours. The intersection of SR 12-121/Old Sonoma Road would be expected to operate unacceptably at LOS F during the p.m. peak period and at LOS E during the weekend midday peak period. The Future plus Project plus 150-Person Event operating conditions are summarized in Table 12 with Future Conditions (without the project or an event) shown for comparison.

Tal	ble 12 – Future and Future plus Proje	ect plus 1	50-Pers	on Event	Peak H	our Inter	section	Levels of	Service	
Study Intersection Approach		F	uture C	ondition	S	Future plus Project plus 150- Person Event				
		Weekday PM Peak		Weekend MD Peak		Weekday PM Peak		Weekend MD Peak		
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
1.	SR 12-121/Old Sonoma Road	82.4	E	57.4	E	83.4	F	59.1	E	
2.	SR 12-121/Los Carneros Avenue	9.4	Α	3.3	Α	31.3	D	12.4	В	
	NB (Los Carneros Ave) Approach	**	F	77.4	F	**	F	**	F	
	SB (Los Carneros Ave) Approach	**	F	**	F	**	F	**	F	
3.	SR 12-121/Cuttings Wharf Road	6.6	Α	6.0	Α	6.8	Α	6.3	Α	
	NB (Cuttings Wharf Rd) Approach	108.5	F	**	F	113.1	F	**	F	

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; **Bold** text = deficient operation

Finding – All three study intersections continue to operate unacceptably during one or both peak hours with the addition of 150-person event volumes. The project and 150-person event volumes account for more than five percent of the difference between future and existing volumes at all three study intersections during both the weekday p.m. peak hour and weekend midday peak hour. This would be considered a significant impact under County thresholds.

Recommendation – The proposed new 150-person event should not begin or end during the weekday p.m. or weekend midday peak hours.

Future plus 90-Person Event Conditions

The study intersections were evaluated under event-only volumes with the tasting room closed to determine the largest event that could occur without resulting in a significant impact during the peak hours. Upon the addition of 90-person event-generated traffic to the anticipated Future volumes, the stop-controlled approaches of SR 12-121/Los Carneros Avenue and SR 12-121/Cuttings Wharf Drive would be expected to continue operating at LOS F during both peak hours. The intersection of SR 12-121/Old Sonoma Road would be expected to continue operating unacceptably at LOS F during the p.m. peak period and at LOS E during the weekend midday peak period. The Future plus 90-Person Event operating conditions are summarized in Table 13.



Tal	Table 13 – Future and Future plus 90-Person Event Peak Hour Intersection Levels of Service										
Study Intersection Approach		F	uture C	ondition	S	Future plus 90-Person Event					
		Weekday PM Peak		Weekend MD Peak		Weekday PM Peak		Weekend MD Peak			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
1.	SR 12-121/Old Sonoma Road	82.4	E	57.4	E	82.1	F	57.0	E		
2.	SR 12-121/Los Carneros Avenue	9.4	Α	3.3	Α	10.5	В	3.8	Α		
	NB (Los Carneros Ave) Approach	**	F	77.4	F	**	F	81.5	F		
	SB (Los Carneros Ave) Approach	**	F	**	F	**	F	**	F		
3.	SR 12-121/Cuttings Wharf Road	6.6	Α	6.0	Α	6.5	Α	6.0	Α		
	NB (Cuttings Wharf Rd) Approach	108.5	F	**	F	107.5	F	**	F		

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; **Bold** text = deficient operation

Finding – With the tasting room closed, during a 90-person event all three study intersections would be expected to continue operating unacceptably during one or both peak hours.

- The intersection of SR 12-121/Old Sonoma Road would operate unacceptably at LOS F and E during the weekday p.m. peak hour and weekend midday peak hours, respectively, without and with 90-Person Event-generated trips added. The event's impact would be significant if it contributes five percent or more of the increase in traffic over existing volumes; this event would add 4.1 percent of the difference between future and existing volumes at SR 12-121/Old Sonoma Road during the weekday p.m. peak hour and 4.3 percent of the difference during the weekend midday peak hour. This would therefore be a less-than-significant impact.
- The study intersection of SR 12-121/Los Carneros Avenue would continue to experience unacceptable operation of LOS F on the minor street approaches during both peak hours without and with event-related traffic. The County applies the same five percent threshold of significance to unsignalized intersections. The project volumes represent 9.9 and 10.1 percent of the increase during the weekday and weekend peak hours, exceeding the five percent threshold between future and existing volumes at the intersection. This could potentially be considered a significant impact under the County's standards. However, further analysis indicates that a traffic signal would not be warranted under Future plus 90-person event volumes during either peak hour, as shown on the warrant spreadsheets in Appendix E. Because a signal is not warranted, and this is the most feasible measure to achieve acceptable operation, under its policies the County may therefore consider the impact less-than-significant.
- Though delays would also increase at SR 12-121/Cuttings Wharf Drive, the project adds 4.7 percent of the difference between future and existing volumes at the intersection during the weekday evening peak hour and 4.9 percent during the weekend midday peak hour, which are less than the five percent County threshold. Therefore, the impact at this location is less-than-significant.



Alternative Modes

Pedestrian Facilities

Given the rural nature of the project site, there are no existing pedestrian facilities, except for shoulders in both directions along SR 12-121.

Finding – While there are no pedestrian facilities serving the project site, but none are expected to be needed.

Bicycle Facilities

Existing bicycle facilities, including bike lanes on Cuttings Wharf Road and SR 12-121, together with planned future facilities and the shared use of minor streets provide adequate access for bicyclists.

Bicycle Storage

The County does not have specific bicycle parking requirements for wineries; however, the project should provide bicycle parking consistent with the requirements for the specific uses outlined in Chapter 18.110.040 of the Napa County Code of Ordinances which states that ten bicycle parking spaces should be provided where more than ten automobile parking spaces are required. Hyde Winery has an existing supply of 12 permanent vehicle parking spaces, which will be increased to 35 permanent parking spaces to accommodate increased visitation under its Use Permit modification; therefore, the project should provide ten bicycle spaces.

Recommendation – The applicant should ensure parking for ten bicycles is provided.

Transit

There are no transit facilities serving the site; however, there is limited potential demand for transit, so this is considered an acceptable condition.

Finding – While there are no transit facilities serving the project site, there is also no anticipated demand for such service.



Access and Circulation

Site Access

The project site is accessed via the existing driveway on Los Carneros Avenue.

Sight Distance

At unsignalized intersections a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time must be provided for the waiting vehicle to either cross, turn left, or turn right, without requiring the through traffic to radically alter their speed.

Sight distance along Los Carneros Avenue at the project driveway was evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distance for minor street approaches that are either a private road or a driveway is based on stopping sight distance for the approach travel speeds. 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 the stopping sight distance criterion and the approach speed on the major street.

Sight distance along Los Carneros Avenue from the edge of traveled way in both directions from the driveway is clear for more than 550 feet, which exceeds the minimum sight distance required for vehicles traveling at 55 mph. Similarly, drivers on Los Carneros Avenue will have visibility of a vehicle stopped to turn left into the driveway for more than 550 feet.

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

Recommendation – Because landscaping and signs can impede clear sight lines, any new plantings or signs should be designed to ensure that adequate sight lines will be maintained.

Access Analysis

Left-Turn Lane Warrants

The County of Napa has a published policy that provides guidance on when a turn lane is needed based on the daily traffic volume projected to use the driveway as a function of roadway ADT (Average Daily Traffic). A left-turn lane meets warrants when the corresponding value plots above the curve indicated on the Left Turn Lane Warrant Graph from the Napa County Road and Street Standards, and is unwarranted if the value plots below the curve.

Based on worst-case Future plus Project volumes during the weekday peak hour, a left-turn lane would not be warranted with the proposed Use Permit Modification. A copy of the warrant graph is provided in Appendix E.

Finding – A left-turn lane is not warranted on Los Carneros Road at the project driveway.



Conclusions and Recommendations

Conclusions

- The proposed change in visitation and employees at the winery would be expected to result in an average of 94 new daily trips on weekdays, including 36 trips during the weekday p.m. peak hour, and 88 new trips on a Saturday, including 50 trips during the peak hour. After taking pass-by trips into account, the project would have 28 net-new weekday p.m. peak hour trips and 35 net-new weekend peak hour trips.
- A total of ten special events annually are proposed as part of the project, including eight events for 55 guests and two events for 150 guests. A maximum-sized 150-person event would require a staff of ten in addition to any winery staff that would also assist with the event.
- The study intersection of SR 12-121/Old Sonoma Road is currently operating unacceptably during the weekday p.m. peak hour and would experience further increases in delay due to the addition of project-generated traffic. Under future conditions, the intersection would be expected to operate unacceptably during both peak periods. However, because the project generates less than one percent of existing volumes (0.69 percent) and less than five percent of the anticipated future increase in volumes (4.9 percent), the impact is considered less-than-significant under the County's criteria.
- SR 12-121/Los Carneros Avenue is currently operating unacceptably at LOS F on the minor street approaches
 during both peak periods. The project adds more than ten percent of the volumes on the stop-controlled
 northbound approach for existing conditions and more than five percent of the total volumes at the
 intersection for future conditions, which are considered potentially significant impacts. However, because
 warrants for signalization are not met under either current or future volumes, the County may deem the
 impact less-than-significant under the County's policies.
- The intersection of SR 12-121/Cuttings Wharf Road is currently operating at LOS E or F during the two peak hours evaluated and would be expected to operate with higher delays during both peak hours in the future and with project traffic added. However, because the project adds no traffic to the stop-controlled approach and adds less than five percent of the difference between future and existing volumes to the overall volumes at the intersection, its impact is considered less-than-significant.
- The largest marketing event that would not cause significant impacts per County standards would include 90-persons and would require the winery tasting room to be closed.
- Stopping sight distance at the project driveway is adequate to meet the applied criteria for both entering and exiting movements.
- A left-turn lane is not warranted on Los Carneros Avenue at the project driveway.

Recommendations

- Because landscaping and signs can impede clear sight lines, any new plantings or signs should be designed to ensure that adequate sight lines will be maintained.
- Secure parking facilities for at least ten bicycles should be provided on-site.
- The applicant should ensure that marketing events of more than 30 visitors will not begin nor end during the weekday or weekend peak hours when the tasting room is open.



Study Participants and References

Study Participants

Principal in Charge Dalene J. Whitlock, PE, PTOE

Assistant Engineer Kevin Rangel, EIT
Assistant Planner Julia Walker
Graphics/Editing/Formatting Alex Scrobonia

References

2014 Collision Data on California State Highways, California Department of Transportation, 2017
Guidelines for Interpretation of General Plan Circulation Policies on Significance Criteria, Fehr & Peers, 2015
Highway Capacity Manual, Transportation Research Board, 2010
Highway Design Manual, 6th Edition, California Department of Transportation, 2017
Napa County Bicycle Plan, W-Trans, 2012
Napa County Code, Municipal Code Corporation, 2017
Napa County General Plan, County of Napa, 2013

Napa County Road and Street Standards, County of Napa, 2016 Napa County Travel Behavior Study, Fehr and Peers, 2014

Statewide Integrated Traffic Records System (SWITRS), California Highway Patrol, 2012-2017

Trip Generation Manual, 10th Edition, Institute of Transportation Engineers, 2017

NAX109



Appendix A

Collision Rate Calculations



Intersection Collision Rate Calculations

Hyde Winery TIS

Intersection # 1: SR 12-121 & Old Sonoma Road

Date of Count: Thursday, April 05, 2018

Number of Collisions: 24 Number of Injuries: 12 Number of Fatalities: 0 ADT: 26300

Start Date: January 1, 2013 End Date: December 31, 2017

Number of Years: 5

Intersection Type: Tee
Control Type: Signals
Area: Rural

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

 Study Intersection Statewide Average*
 Collision Rate | Fatality Rate | Injury Rate |
 Injury Rate |

 0.50 c/mve | 0.0% | 50.0% |
 50.0% |

 0.24 c/mve | 0.6% | 40.7% |
 40.7% |

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection

* 2013 Collision Data on California State Highways, Caltrans

Intersection # 2: SR 12-121 & Los Carneros Avenue

Date of Count: Thursday, April 05, 2018

Number of Collisions: 6 Number of Injuries: 3 Number of Fatalities: 0 ADT: 21000

Start Date: January 1, 2013 End Date: December 31, 2017

Number of Years: 5

Intersection Type: Four-Legged
Control Type: Stop & Yield Controls

Area: Rural

collision rate = Number of Collisions x 1 Million
ADT x 365 Days per Year x Number of Years

collision rate = $\frac{6}{21,000} \times \frac{1,000,000}{365} \times \frac{5}{1000,000}$

 Study Intersection Statewide Average*
 Collision Rate / 0.16 c/mve
 Fatality Rate / 0.0%
 Injury Rate / 50.0%

 0.23 c/mve
 2.0%
 40.4%

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection * 2013 Collision Data on California State Highways, Caltrans

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Intersection Collision Rate Calculaions

Hyde Winery TIS

Intersection # 3: SR 12-121 & Cuttings Wharf Road

Date of Count: Thursday, April 05, 2018

Number of Collisions: 7 Number of Injuries: 2 Number of Fatalities: 0

ADT: 22800

Start Date: January 1, 2013

End Date: December 31, 2017

Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls

Area: Rural

Number of Collisions x 1 Million
ADT x 365 Days per Year x Number of Years collision rate = -

 Study Intersection Statewide Average*
 Collision Rate
 Fatality Rate

 0.17
 c/mve
 0.0%

 0.16
 c/mve
 1.7%
 Injury Rate

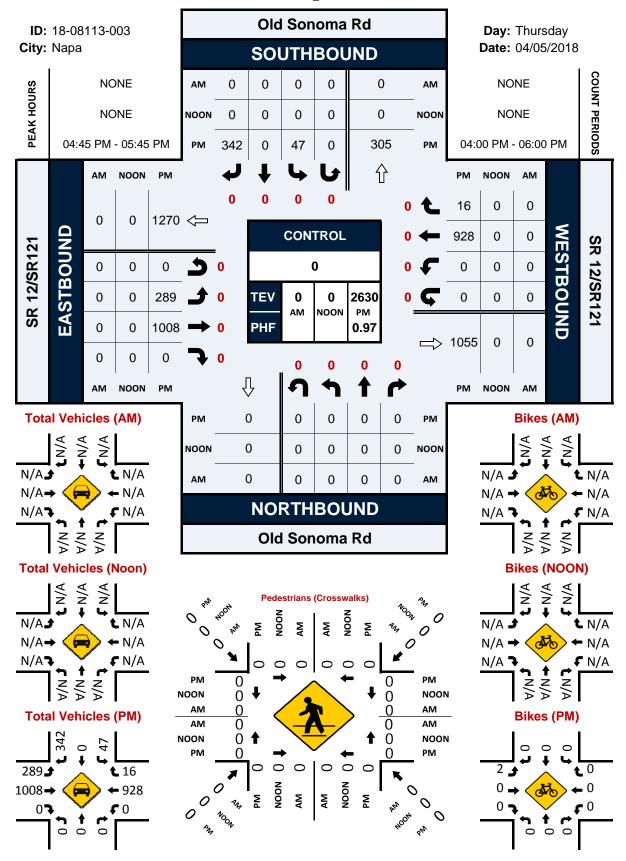
ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Appendix B

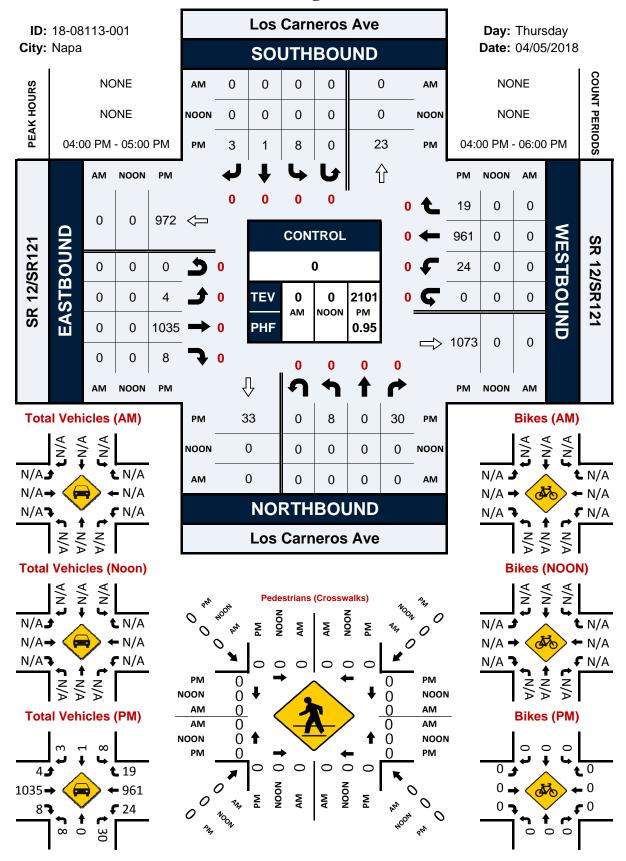
Intersection Turning Movement Counts



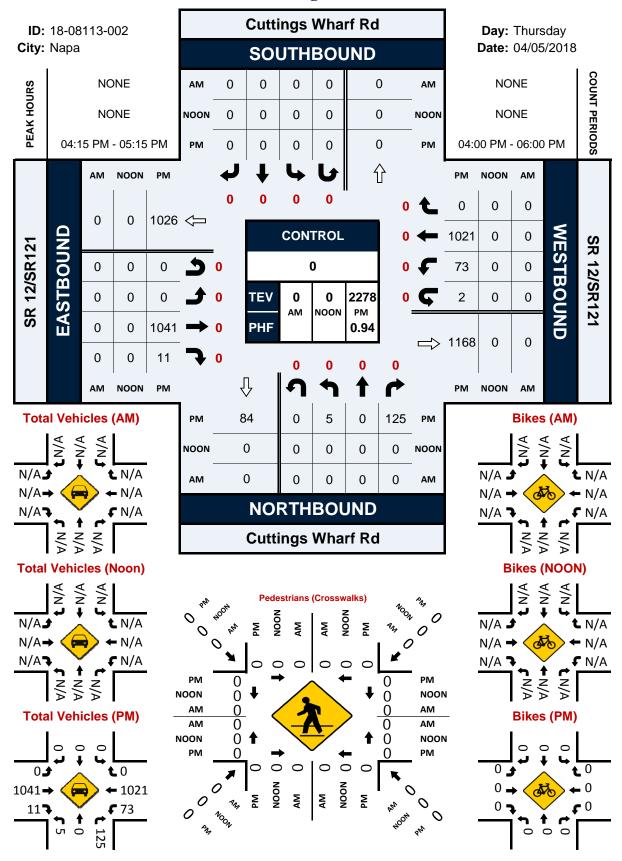
Old Sonoma Rd & SR 12/SR121



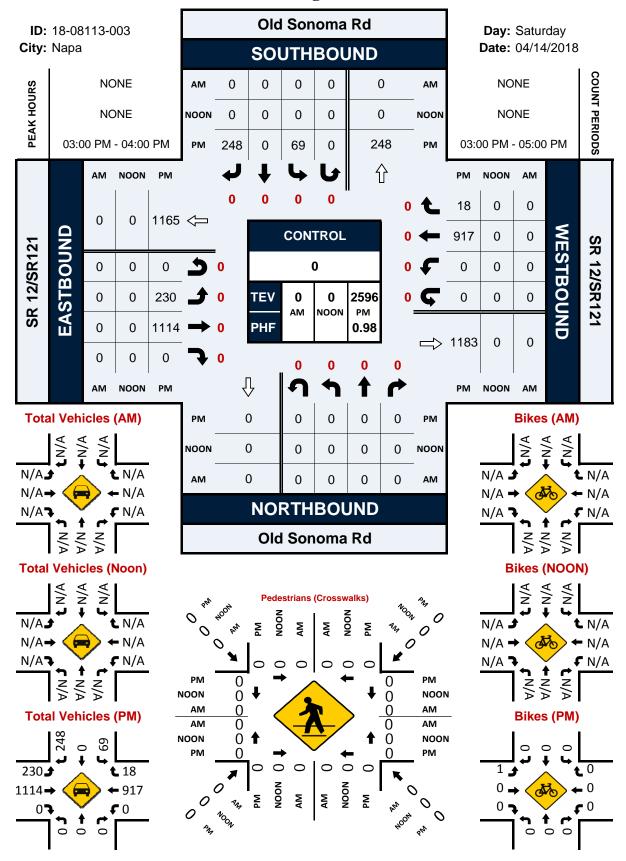
Los Carneros Ave & SR 12/SR121



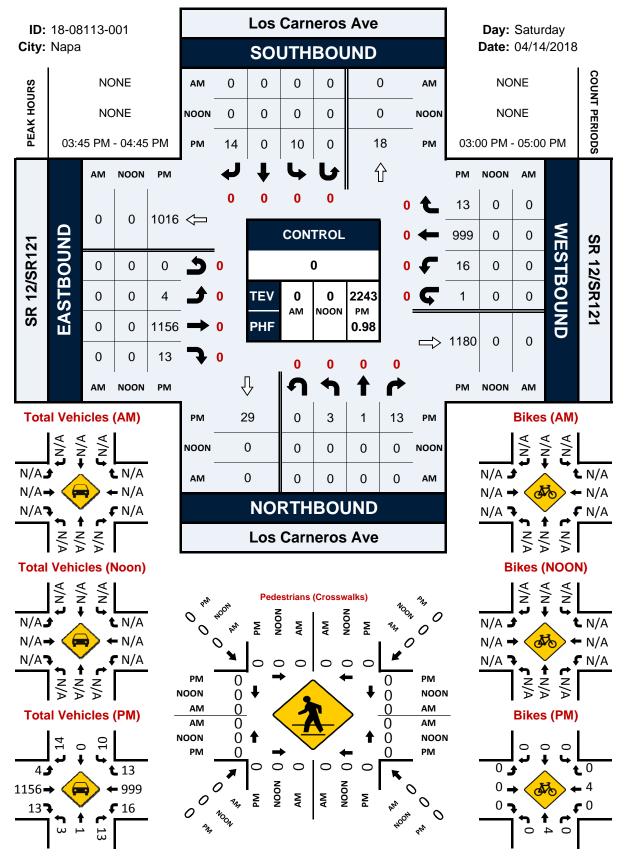
Cuttings Wharf Rd & SR 12/SR121



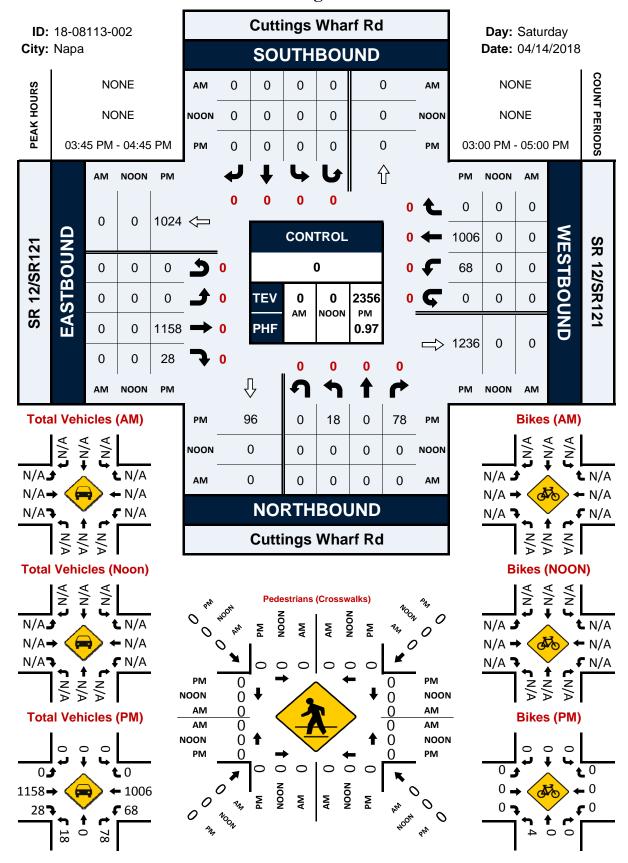
Old Sonoma Rd & SR 12/SR121



Los Carneros Ave & SR 12/SR121



Cuttings Wharf Rd & SR 12/SR121



Appendix C

Intersection Level of Service Calculations





Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:

Level Of Service:

Volume to Capacity (v/c): Signalized HCM 2010 15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

-121	puno		Right	12.00	1	410.00	00	0.00	0
SR12-121	Westbound	<u>-</u>	Thru	12.00	0	100.00	92:00	0.0	2
-121	puno		Thru	12.00	0	100.00	00	00:00	No
SR12-121	Eastbound	F	Left	12.00	1	310.00	22:00	0.0	Ž
ma Road	punoc	L	Right	12.00	1	230.00	55.00	00	No
Old Sonoma Road	Southbound	₽	Left	12.00	0	100.00	.55	0.00	Ž
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Permissive

Protected

120 Time of Day Pattern Isolated Fully actuated

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

58.7 E 0.920

Offset Reference Permissive Mode

Offset [s]

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

ટ

SingleBand LeadGreen 0.00 110 5.5 1.0 72 2.0

2.0

1.0 101

1.0 3.0

1.0

19

1.0

Ailreu,
Split [s]
Vehicle Extension [s]
Walk [s]

Pedestrian Clearance [s] Rest In Walk

2.0 4.5 ž 2 2

2.0

2.0

2.0 2.7

운

2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

30

9 8 5.5

29

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

Lead

Lag

Lead / Lag

4,5

Signal group Auxiliary Signal Groups

Control Type Lost time [s]

Phasing & Timing

_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
-121	16	1.0830	2.00	1.00	0	0	0	0	0	0	0	17	0.9700	1.0000	4	18	o _N	0	0		
SR12-121	928	1.0830	2.00	1.00	0	0	0	0	0	0	0	1005	0.9700	1.0000	259	1036	o _N	0	0	0	0
-121	1008	1.0830	2.00	1.00	0	0	0	0	0	0	0	1092	0.9700	1.0000	281	1126	Ŷ.	0	0		
SR12-121	289	1.0830	2.00	1.00	0	0	0	0	0	0	0	313	0.9700	1.0000	81	323	2	0	0	0	0
ma Road	342	1.0830	2.00	1.00	0	0	0	0	0	0	0	370	0.9700	1.0000	96	381	o _N	0	0	0	0
Old Sonoma Road	47	1.0830	2.00	1.00	0	0	0	0	0	0	0	51	0.9700	1.0000	13	53	o _N	0	0	0	0
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Right-Turn on Red Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Presence of On-Street Parking	On-Street Parking Maneuver Rate [/h]	Local Bus Stopping Rate [/h]	Pedestrian Volume [ped/h]	Bicycle Volume [bicycles/h]

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] 0

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

W-Trans

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W-Trans 5/15/2018

Hyde Winery TIS PM Existing

W-Trans

W-Trans 5/15/2018



Generated with PTV VISTRO Version 5.00-05 Lane Group Calculations

œ	158	6.50	0.00	4.50	88	0.56	0.01	1583	894	15.16	0.04	1.00	0.00	0.00	1.00	1.00
၁	158	6.50	0.00	4.50	89	0.56	0.56	1863	1052	33.78	0.29	1.00	17.73	14.60	1.00	1.00
၁	158	6.50	0.00	4.50	123	0.78	09:0	1863	1449	9.89	0.50	1.00	4.16	0:30	1.00	1.00
_	158	4.70	0.00	2.70	29	0.18	0.18	1774	325	64.57	0.43	1.00	44.77	89.10	1.00	1.00
æ	158	4.70	0.00	00:00	58	0.36	0.24	1583	27.5	42.10	0.50	1.00	5.84	4.80	1.00	1.00
٦	158	4.70	0.00	2.70	24	0.15	0.03	1774	269	58.72	0.04	1.00	0.13	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	11_p, Permitted Start-Up Lost Time [s]	I2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

Lane Group Results						
X, volume / capacity	0.20	99.0	0.99	0.78	0.98	0.02
d, Delay for Lane Group [s/veh]	62.36	52.74	198.44	14.36	66.11	15.17
Lane Group LOS	В	Q	ш	В	Е	В
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.83	12.94	16.64	18.07	40.47	0.28
50th-Percentile Queue Length [ft/In]	45.72	323.57	415.99	451.64	1011.70	6.90
95th-Percentile Queue Length [veh/ln]	3.29	18.84	23.33	25.04	20.90	0:00
95th-Percentile Orier le enoth [ff/ln]	82.29	471 07	583 24	625 90	1272 52	12.42

Generated with PTV VISTRO
Version 5.00-05
Movement, Approach, & Intersection Results

d M. Delav for Movement [s/veh] 62.36 52.74
ш
53.91
۵

Ring 1 - 2 4 - <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>															
92 5 6		2	4	,			,	,		,	,	,			٠
101s SG:6 72s		9										,			•
101s SG: 6.72s		-			,	-			,			,		-	٠
101s 29s SG: 6 72s				,								,		-	•
28s SG: 6 72s	6:2 101s												\$6.4	8	
			SS	5: 6 725											

Hyde Winery TIS PM Existing

W-Trans 5/15/2018

((W-Trans

Hyde Winery TIS PM Existing



Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

da por constant								1		ľ	1	
Name	Los C	Los Carneros Avenue	/enne		Driveway		,	SR12-121		0)	SR 12-121	
Approach	_	Northbound	_	S	Southbound	9	Ш	Eastbound		۸	Westbound	_
Lane Configuration		+			+		·	늗			늗	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	-	0	-	-	0	-
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	190.00
Speed [mph]		55.00			55.00			55.00			55.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		8			8			8			S	

A 0.00

0.05 0.01 11.43 0.00 B A 0.14 0.00 3.61 0.00

0.00 0.00

2.94

d_I, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop - No

Stop - 2

Priority Scheme Flared Lane

252.6 F 0.446

Intersection Settings

Version 5.00-05

Generated with PTV VISTRO

 U/IC, Movement WCRatio
 0.40
 0.00
 0.15
 0.45
 0.03
 0.03
 0.01
 0.01

 d_M, Delay for Movement [s/veh]
 194.26
 141.85
 50.03
 252.61
 173.57
 88.13
 10.80
 0.00

 Movement LOS
 F
 F
 F
 F
 F
 F
 B
 A

 95th-Percentile Queue Length [veh/n]
 1.36
 1.36
 1.36
 1.71
 1.71
 1.71
 0.02
 0.00

 95th-Percentile Queue Length [th/n]
 48.96
 48.96
 48.96
 42.77
 42.77
 42.77
 0.48
 0.00

 d_A Approach Delay [s/veh]
 18.0.22
 1.70.85
 1.70.85
 0.04
 0.00

Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Volumes

	19	.0830	2.00	1.00	0	0		0	0 0	0 0 0	0 0 0 0	21 0 0 0	0 0 0 0 21 21 0.9500	0 0 0 27 21 21 2500 0.0000.	0 0 0 0 0 0 0 0 .9500 .0000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SR 12-121	961	1.0830 1	2:00	1.00	0	0		0	0 0	0 0 0	0 0 0 0	0 0 0 0 1041			3 -	
Š	24	1.0830	2.00	1.00	0	0		0	0 0	0 0 0	0 0 0 0	0 0 0 0 0 28	9			
	8	1.0830	2.00	1.00	0	0		0	0 0	0 0 0	0 0 0 0	0 0 0 0	0 0 0 9500	0 0 0 0 9 9 0.9500 1.00001	0 0 0 0 0 9 0.9500 1.0000	0 0 0 0 0 0 9 0.9500 1.0000
SR12-121	1035	1.0830	2.00	1.00	0	0		0	0 0	0 0 0	0 0 0 0	0 0 0 0 1121	0 0 0 0 1121 0.9500	0 0 0 0 11211 0.9500 1.0000	0 0 0 0 11211 0.9500 1.0000	0 0 0 0 1,1121 0.9500 1,0000 295
	4	1.0830	2.00	1.00	0	0		0	0 0	0 0 0	0 0 0	0 0 0 4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0.9500 1.0000	0 0 0 0 4 4 0.9500 1.0000	0 0 0 0 0 0.9500 1.0000
	8	1.0830	2.00	1.00	0	0		0	0	0 0 0	0 0 0	0 0 0 6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 9 0.9500 1.0000	0 0 0 0 0 9 0.9500 1.0000	0 0 0 0 9 0.9500 1.0000 9
Driveway	-	1.0830	2.00	1.00	0	0		0	0 0	0 0	0 0 0	0 0 0 -	0 0 0 1 1 1 0 0.9500	0 0 0 1 1 0.9500 1.00001	0 0 0 1 0 0.9500 1.0000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	8	1.0830	2.00	1.00	0	0		0	0	0 0	0 0 0 0	0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 9 9 0.9500	0 0 0 0 0 9 0.9500 1.0000	0 0 0 0 9 0.9500 1.0000 2
/enne	30	1.0830	2.00	1.00	0	0		0	0 0	0 0	0 0 0	32 0 0	0 0 0 0 32 32 0.9500	0 0 0 0 32 32 0.9500 1.0000	0 0 0 0 32 0.9500 1.0000	0 0 0 0 32 0.9500 1.0000 8
Los Carneros Avenue	0	1.0830	2.00	1.00	0	0		0	0	0 0	000	0000	0 0 0 0.9500	0 0 0 0 0 0.9500 1.0000	0 0 0 0 0 0.9500 1.0000	0 0 0 0.9500 1.0000 0
Los C;	8	1.0830	2.00	1.00	0	0	С	,	0	0 0	000	0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 9 0.9500 1.0000	0 0 0 9 0.9500 1.0000	0 0 0 0 0 9 0.9500 1.0000
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]		Pass-by Trips [veh/h]	Pass-by Trips [veh/h] Existing Site Adjustment Volume [veh/h]	Pass-by Trips [veh/h] Existing Site Adjustment Volume [veh/h] Other Volume [veh/h]	Pass-by Trips (veh/h) Existing Site Adjustment Volume (veh/h) Other Volume (veh/h) Total Hourly Volume (veh/h)	Pass-by Trips (vehhi) Existing Site Adjustment Volume (vehhi) Other Volume (vehhi) Total Hourly Volume (vehhi) Peak Hour Factor	Pass-by Trips (vehhi) Existing Site Adjustment Volume (vehhi) Other Volume [vehhi] Tatal Houty Volume [vehhi] Peak Hour Factor Other Adjustment Factor	Pass-by Trips (verhri) Existing Site Adjustment Volume (verhri) Other Volume (verhri) Total Houry Volume (verhri) Peak Hour Eactor Other Adjustment Factor Total 15-Minute Volume (verhri)	Pass-by Trips (verhil) Existing Site Adjustment Volume (verhil) Other Volume (verhil) Total Houry Volume (verhil) Peak Hour Factor Other Adjustment Factor Total 15-Minute Volume (verhil) Total Analysis Volume (verhil)
8 0 30 8 1 8 4 1035 8 24 961		1 1 0830 1 0830 1 0830 1 0830 1 0830 1 0830 1 0830 1 0830 1 0830 1		2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	2.00 2.00 1.00	2.00 2.00	200 2.00 2	2.00 2.00	2.00 2.00	100 100	1.00 1.00	1.00 1.00	1.00 1.00	1.000 1.00	1,000 1,00 1,00	1.00 1.00



Hyde Winery TIS PM Existing

W-Trans 5/15/2018



Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

_									
2-121	Westbound	_	Thru	12.00	0	100.00	55.00	00.00	9
SR 12-121	West	F	Left	12.00	1	170.00	99	0.0	z
2-121	Eastbound	_	Right	12.00	1	100.00	55.00	00:00	No
SR 12-121	Eastb	_	Thru	12.00	0	100.00	22	0.0	Z
harf Road	Northbound	L	Right	12.00	0	100.00	55.00	00:00	No
Cuttings Wharf Road	North	1	Left	12.00	0	100.00	52.	0.0	Z
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

0.00 0.00

0.15 12.35 B 0.52 13.06

0.00 0.00

0.00 0.00 0.00

0.64 45.33 E 3.84 95.95

0.20 181.28 F 0.60 15.06

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

Stop

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

181.3 F 0.199

0.84

A 3.24 0.00

49.89

9Sth-Percentile Queue Length (veh/in) 9Sth-Percentile Queue Length (ti/in) d_A, Approach Delay (siveh) Approach LOS

d_l, Intersection Delay [s/veh]

ë	
⋚	

Name	Cuttings V	Cuttings Wharf Road	SR 1	SR 12-121	SR 1	SR 12-121
Base Volume Input [veh/h]	2	125	1041	11	75	1021
Base Volume Adjustment Factor	1.0830	1.0830	1.0830	1.0830	1.0830	1.0830
Heavy Vehicles Percentage [%]	2.00	2:00	2.00	2:00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
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]	5	135	1127	12	81	1106
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	-	36	300	е	22	294
Total Analysis Volume [veh/h]	5	144	1199	13	98	1177
Pedestrian Volume [ped/h]						0

Hyde Winery TIS PM Existing

W-Trans 5/15/2018

W-Trans



Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:

Level Of Service:

Volume to Capacity (v/c): Signalized HCM 2010 15 minutes Control Type: Analysis Method: Analysis Period:

34.8 C 0.766

Intersection Setup

	21	pur		Right	12.00	-	410.00			
	SR12-121	Westbound	<u></u>	Thru	12.00	0	100.00	55.00	00:00	4
	2-121	Eastbound		Thru	12.00	0	100.00	00:	00:00	
	SR12-121	Eastb	F	Left	12.00	-	310.00	55.00	0.0	No No
	Old Sonoma Road	Southbound	L	Right	12.00	1	230.00	55.00	00:00	
	Old Sono	South	1	Left	12.00	0	100.00	55.	0.0	2
dano il compo	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	llerroom

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Name Base Volume Input [veh/h]	ond Sono	Old Sonoma Road	SR1	SR12-121	SR12-121	15-1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	╙
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2:00	2.00	L
Growth Rate	1.00	1.00	1.00	1.00	1.00	
In-Process Volume [veh/h]	0	0	0	0	0	L
Site-Generated Trips [veh/h]	0	0	0	0	0	
Diverted Trips [veh/h]	0	0	0	0	0	L
Pass-by Trips [veh/h]	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	
Total Hourly Volume [veh/h]	69	248	230	1114	917	L
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	L
Total 15-Minute Volume [veh/h]	18	63	69	284	234	
Total Analysis Volume [veh/h]	70	253	235	1137	926	
Presence of On-Street Parking	No	oN	92	oN	oN.	
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	
Local Bus Stopping Rate [/h]	0	0	0	0	0	L
Pedestrian Volume [ped/h]		0		0		0
Bicycle Volume [bicycles/h]		0		1		

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] 0

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

1.0

1.0

1.0

1.0

1.0 14 2.0

4 2.0

2.0

3.0

Ailreu,
Split [s]
Vehicle Extension [s]
Walk [s]

No 2.0 ž § ž

2.0

2.0

2.0 No

Rest In Walk

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2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

30 5.5 65 2.0

9 5.5

Lead

Lag

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

Control Type Lost time [s]

Phasing & Timing

Time of Day Pattern Isolated Fully actuated

100

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

Offset Reference Permissive Mode

Offset [s]

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

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SingleBand LeadGreen

0.00

Protected

82

29 3.7

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

W-Trans

Hyde Winery TIS MD Existing

W-Trans 5/15/2018

W-Trans

Hyde Winery TIS MD Existing

W-Trans 5/15/2018



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ď	91	6.50	0.00	4.50	47	0.52	0.01	1583	822	10.66	0.04	1.00	0.00	0.00	1.00	1.00	
O	91	6.50	00.00	4.50	47	0.52	0.50	1863	896	21.19	0.05	1.00	4.39	14.60	1.00	1.00	
O	91	6.50	0.00	4.50	29	0.73	0.61	1863	1359	8.57	0.22	1.00	2.93	0:30	1.00	1.00	
_	91	4.70	0.00	2.70	14	0.16	0.13	1774	282	37.24	0.11	1.00	6.42	89.10	1.00	1.00	
ď	91	4.70	0.00	0.00	33	98.0	0.16	1583	295	22.40	0.08	1.00	0.42	4.80	1.00	1.00	
	91	4.70	0.00	2.70	13	0.15	0.04	1774	262	34.52	0.04	1.00	0.20	3.50	1.00	1.00	
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	11_p, Permitted Start-Up Lost Time [s]	l2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor	1
					_		_	_	_	_	_	_	_	_			

Lane Group Resurts						
X, volume / capacity	0.27	0.45	0.83	0.84	0.97	0.02
d, Delay for Lane Group [s/veh]	38.22	27.62	132.76	11.80	40.17	10.67
Lane Group LOS	۵	၁	Ы	В	Q	В
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.29	3.75	5.18	9.37	16.52	0.15
50th-Percentile Queue Length [ft/ln]	32.37	93.82	129.62	234.13	412.92	3.73
95th-Percentile Queue Length [veh/ln]	2.33	6.75	8.92	14.38	23.18	0.27
05th-Dercentile Orien Length [ft/lp]	58.26	168 87	30 000	350.60	570 55	67.9

Generated with PTV VISTRO
Version 5.00-05
Movement, Approach, & Intersection Results

_	_	_	_	_	_	_
10.67	В	39.62	0			
40.17	Q	39	_			
11.80	В	52		92		99
132.76	Н	32.52	0	34.76	0	0.766
27.62	c	92				
38.22	Q	29.92	0			
d_M, Delay for Movement [s/veh]	Movement LOS	d_A, Approach Delay [s/veh]	Approach LOS	d_l, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C

Sequence

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Ring 1	Ring 2	Ring 3	Ring 4	SG:2 86s SG:5 21s



W-Trans 5/15/2018



((W-Trans



Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes

176.8 F 0.378

Intersection Setup

Control Type: Analysis Method: Analysis Period:

da no compositioni						Ī						
Name	Los Ca	Los Carneros Avenue	enne/		Driveway		٠,	SR12-121		0)	SR 12-121	
Approach	z	Northbound	_	S	Southbound			Eastbound		>	Westbound	
Lane Configuration		+			+		·	늗			늗	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	-	0	-	-	0	-
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	190.00
Speed [mph]		55.00			55.00			55.00			55.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		9 N			8			9 N			ž	

A 0.00

0.03 0.01 11.34 0.00 B A 0.09 0.00 2.24 0.00

0.00 0.00

1.57

d_I, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop - No

Stop - 2

Priority Scheme Flared Lane

Intersection Settings

Version 5.00-05

Generated with PTV VISTRO

 U/IC, Movement WCRatio
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Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Volumes

Name	Los Ca	Los Carneros Avenue	/enne		Driveway			SR12-121		0,	SR 12-121	
Base Volume Input [veh/h]	3	1	13	10	0	14	4	1156	13	17	666	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	-	13	10	0	14	4	1156	13	17	666	13
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	е	8	0	4	-	295	8	4	255	6
Total Analysis Volume [veh/h]	3	1	13	10	0	14	4	1180	13	17	1019	13
Dodostripo Volumo food/h1		0			c			0			c	



Hyde Winery TIS MD Existing

W-Trans 5/15/2018



Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

206.1 F 0.565

Intersection Setup

2-121	puno	_	Thru	12.00	0	100.00	55.00	00.00	No
SR 12-121	Westbound	F	Left	12.00	1	170.00	92.)'0	2
2-121	puno	L	Right	12.00	1	100.00	55.00	00	No
SR 12-121	Eastbound	=	Thru	12.00	0	100.00	55.	0.00	Ž
harf Road	punoc	L	Right	12.00	0	100.00	00	00	0
Cuttings Wharf Road	Northbound	F	Left	12.00	0	100.00	55.00	0.00	No
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

No		
ON		
ON		
Crosswalk	Volumes	
_		

	Cuttings Wharf Road	Road	SR 12-121		SR 12-121	
18	_	78	1158	28	89	1006
1.0000		1.0000	1.0000	1.0000	1.0000	1.0000
2.00		2.00	2.00	2.00	2.00	2.00
1.00		1.00	1.00	1.00	1.00	1.00
0		0	0	0	0	0
0		0	0	0	0	0
0		0	0	0	0	0
0		0	0	0	0	0
0		0	0	0	0	0
0		0	0	0	0	0
18		78	1158	28	89	1006
0.9700		0.9700	0.9700	0.9700	0.9700	0.9700
1.0000		1.0000	1.0000	1.0000	1.0000	1.0000
2		20	298	7	18	259
19		80	1194	29	20	1037
	0		0			

Hyde Winery TIS MD Existing

W-Trans 5/15/2018

Generated with PTV VISTRO Version 5.00-05

Priority Scheme Stop Free Free Flared Lane Fased Lane Free Storage Area (veh) 0 0 Two-Stage Gap Acceptance No 0 Number of Storage Spaces in Median 0 0	Intersection Settings			
	Priority Scheme	Stop	Free	Free
	Flared Lane			
	Storage Area [veh]	0	0	0
Number of Storage Spaces in Median 0 0 0	Two-Stage Gap Acceptance	oN N		
	Number of Storage Spaces in Median	0	0	0

V/C, Movement V/C Ratio	0.57	0.35	0.01	0.00	0.12	0.01
d_M, Delay for Movement [s/veh]	206.07	29.19	0.00	0.00	12.20	0.00
Movement LOS	ш	۵	4	4	В	∢
95th-Percentile Queue Length [veh/ln]	1.91	1.51	0.00	00:00	0.42	0.00
95th-Percentile Queue Length [ft/ln]	47.69	37.64	0.00	00:00	10.43	00.00
d_A, Approach Delay [s/veh]	63.	63.13	0	0.00	0	0.77
Approach LOS				4	,	4
d_I, Intersection Delay [s/veh]			5	2.92		
Intersection LOS				L		

Hyde Winery TIS MD Existing



Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes Control Type: Analysis Method: Analysis Period:

59.9 E 0.924

Intersection Setup

	-121	puno	_	Right	12.00	1	410.00	00	0.00	No
	SR12-121	Mestbound	ų	Thru	12.00	0	100.00	00'99)'0	2
	-121	Eastbound	l	Thru	12.00	0	100.00	55.00	00:00	No
	SR12-121	Eastb	Ļ	Left	12.00	1	310.00	22	0.0	Z
	ma Road	Southbound		Right	12.00	1	230.00	55.00	0.00	No
	Old Sonoma Road	Routh	JL.	Left	12.00	0	100.00	99	0.0	Z
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Permissive

Protected

Permissive

Control Type Lost time [s]

Phasing & Timing

Signal group Auxiliary Signal Groups

Lead / Lag

120 Time of Day Pattern Isolated Fully actuated

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type
Offset [s]

Offset Reference Permissive Mode

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

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SingleBand LeadGreen 0.00 110 5.5 1.0 72 2.0

2.0

1.0 101 5.5

> 1.0 3.0

1.0

19

1.0

All reo ,
Split [s]
Vehicle Extension [s]
Walk [s]

Pedestrian Clearance [s] Rest In Walk

No 2.0 ž § 8

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2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

2.0

2.0

2.0 2.7

30

30 8

Lead

Lag

4,5

29 3.7

24 3.7

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

osswalk	ON	No	S	
	•			
Name	David Sonoma Boad	SB12-121	CD10.101	

Γ				Г			$\overline{}$	Г	$\overline{}$	Г	_	Г	Г	$\overline{}$	_	Г	П	Г	Г		П
100	-121	16	1.0830	2.00	1.00	0	-	0	0	0	0	0	18	0.9700	1.0000	2	19	8	0	0	
0	SK12-121	928	1.0830	2.00	1.00	0	8	0	0	0	0	0	1013	0.9700	1.0000	261	1044	o _N	0	0	0
707	121	1008	1.0830	2:00	1.00	0	23	0	0	0	0	0	1115	0.9700	1.0000	287	1149	o _N	0	0	
	SK12-121	289	1.0830	2.00	1.00	0	4	0	0	0	0	0	317	0.9700	1.0000	82	327	2	0	0	0
-	па Коад	342	1.0830	2:00	1.00	0	5	0	0	0	0	0	375	0.9700	1.0000	26	387	oN N	0	0	
0	Old Sonoma Koad	47	1.0830	2.00	1.00	0	2	0	0	0	0	0	53	0.9700	1.0000	14	55	oN N	0	0	0
	Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Right-Turn on Red Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Presence of On-Street Parking	On-Street Parking Maneuver Rate [/h]	Local Bus Stopping Rate [/h]	Pedestrian Volume [ped/h]

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] 0

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

0

0

0

Bicycle Volume [bicycles/h]

W-Trans 5/15/2018

W-Trans

Hyde Winery TIS PM Existing plus Approved



0.00 4.50 125 0.78 0.62 1463 10.12 0.50 1.00 1.00 1.00 1.00 C 160 6.50 2.70 29 29 0.18 0.18 1774 1774 322 65.42 65.42 1.00 1.00 1.00 160 4.70 0.00 0.00 0.36 0.24 1583 572 572 43.19 0.50 1.00 1.00 160 4.70 2.70 2.70 2.70 2.70 0.15 0.03 1.774 1.00 0.04 1.00 1.00 1.00 160 4.70 C, Oyde Length [6] L, Total Lost Time per Cyde [8] 11_p, Permitted Start Time [8] 12. Cleatmore Lost Time [8] 9_1, Effective Green Time [8] 9_1, C, Green Cycle (v / s)_i Volume / Saturation Flow Rate c, Capadiy (veh/h) d1, Uniform Delay [s] R, delay calibration i, Upstream Filtering Factor d2, Incremental Delay [s] d3, Intal Queue Delay [s] Rp, platoon ratio PF, progression factor Group Results s, saturation flow rate [veh/h] Lane Group Calculations Version 5.00-05

Lane Group Results							
X, volume / capacity	0.21	89'0	1.02	62.0	0.99	0.02	
d, Delay for Lane Group [s/veh]	63.21	54.32	205.95	14.89	66.54	15.03	
Lane Group LOS	Ш	Q	ш	В	В	В	
Critical Lane Group	oN N	Yes	Yes	No	Yes	No	
50th-Percentile Queue Length [veh/In]	1.92	13.48	17.31	19.07	41.25	0.29	
50th-Percentile Queue Length [ft/In]	48.10	336.99	432.71	476.75	1031.31	7.29	
95th-Percentile Queue Length [veh/In]	3.46	19.50	24.34	26.23	51.79	0.52	
95th-Percentile One Length [ft/ln]	86 59	487.52	608 53	655.80	1294 65	13.12	

Generated with PTV VISTRO Version 5.00-05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.21	54.32	205.95	14.89	66.54	15.03
Movement LOS	В	Q	Н	В	3	В
d_A, Approach Delay [s/veh]	55.43	.43	57.22	22	65.62	32
Approach LOS	В		В		3	
d_I, Intersection Delay [s/veh]			59.95	95		
Intersection LOS			Ш			
Intersection V/C			0.924	24		

0.00 0.01 1583

160 6.50

C 160 6.50

Sequence

15.03

901

0.00 4.50 91 0.57 0.56 1863 1060

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0.30 1.00 18.16 14.60 1.00

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	2			185
Ring 1	Ring 2	Ring 3	Ring 4	SG: 2 101s

Hyde Winery TIS PM Existing plus Approved

W-Trans 5/15/2018





Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

Г				_	Г	_	_	_	
_	٦		Right	12.00	-	190.00			
SR 12-121	Westbound	늗	Thru	12.00	0	100.00	55.00	00.00	Š
			Left	12.00	-	140.00			
			Right	12.00	-	100.00			
SR12-121	Eastbound	늗	Thru	12.00	0	100.00	55.00	0.00	8
			Left	12.00	1	140.00			
	,		Right	12.00	0	100.00			
Driveway	Southbound	+	Thru	12.00	0	100.00	55.00	0.00	8 N
	S		Left	12.00	0	100.00			
venue	_		Right	12.00	0	100.00			
os Carneros Avenue	Northbound	+	Thru	12.00	0	100.00	55.00	0.00	8 N
Los C	2		Left	12.00	0	100.00			
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

A 0.00

0.05 0.01 11.58 0.00 B A 0.15 0.00 3.69 0.00

0.00 0.00

3.15

d_I, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop - 8

Stop - 8

Priority Scheme Flared Lane

275.0 F 0.476

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 U/IC, Movement WCRatio
 0.42
 0.00
 0.15
 0.48
 0.03
 0.04
 0.01
 0.01

 d_M, Delay for Movement [s/veh]
 208.87
 152.27
 55.19
 275.00
 195.63
 98.64
 10.05
 0.00

 Movement LOS
 F
 F
 F
 F
 F
 F
 B
 A

 95th-Percentile Queue Length [veh/in]
 2.09
 2.09
 1.80
 1.80
 1.80
 0.02
 0.00

 95th-Percentile Queue Length [th/n]
 52.28
 52.28
 52.28
 44.99
 44.99
 0.49
 0.00

 4_A Approach Delay [s/veh]
 RM.35
 87.35
 187.35
 187.28
 0.04
 0.00

Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

o Z		101 0100
02		
oN		
Crosswalk	Volumes	
_		_

Hyde Winery TIS PM Existing plus Approved

W-Trans 5/15/2018





Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

_	_		_	_	_	_	_	_	_
2-121	Westbound	_	Thru	12.00	0	100.00	55.00	00:00	8
SR 12-121	West	Ļ	Left	12.00	1	170.00	55	0.0	z
2-121	Eastbound		Right	12.00	1	100.00	55.00	00	No
SR 12-121	Eastb	4	Thru	12.00	0	100.00	55	0.00	Z
harf Road	Northbound	F	Right	12.00	0	100.00	55.00	00:00	No
Cuttings Wharf Road	North	JL.	Left	12.00	0	100.00	55.)'0	Z
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

0.00 0.00

0.16 12.59 B 0.55 13.79

0.00 0.00

0.00 0.00

0.68 50.70 F 4.27 106.80

0.21 196.25 F 0.64 15.93

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

Stop

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

196.3 F 0.213

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

A 3.60 0.00

55.46

95th-Percentile Queue Length (veh/in)
95th-Percentile Queue Length (liftin)
d.A. Approach Deley (sveh)
Approach LOS

d_I, Intersection Delay [s/veh] Intersection LOS

οN	
ON	
Crosswalk	Volumes

_	1021	1.0830	2.00	1.00	0	6	0	0	0	0	1115	0.9400	1.0000	297	1186	
SR 12-121	75	1.0830	2.00	1.00	0	2	0	0	0	0	83	0.9400	1.0000	22	88	0
-121	11	1.0830	2:00	1.00	0	0	0	0	0	0	12	0.9400	1.0000	8	13	
SR 12-121	1041	1.0830	2.00	1.00	0	25	0	0	0	0	1152	0.9400	1.0000	306	1226	0
Cuttings Wharf Road	125	1.0830	2:00	1.00	0	4	0	0	0	0	139	0.9400	1.0000	37	148	
Cuttings W	5	1.0830	2.00	1.00	0	0	0	0	0	0	5	0.9400	1.0000	1	2	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]

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Hyde Winery TIS PM Existing plus Approved

Hyde Winery TIS PM Existing plus Approved





Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes

Intersection Setup

Control Type: Analysis Method: Analysis Period:

		_			_		_			
	2-121	Westbound	L	Right	12.00	1	410.00	55.00	00:00	8
	SR12-121	West	=	Thru	12.00	0	100.00	99	0.0	z
	-121	Eastbound		Thru	12.00	0	100.00	55.00	00:00	No
	SR12-121	Eastb	F	Left	12.00	1	310.00	55.	0.0	Ž
	ma Road	punoc	L	Right	12.00	1	230.00	00	00	No
	Old Sonoma Road	Southbound	1	Left	12.00	0	100:00	55.00	00:00	Ž
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Closswalk	ON.	001	200
Volumes			
ameN	Old Sonoma Road	SR12-121	SR12-121

5.5 1.0 2.0

1.0

1.0

1.0

1.0

3.7 4 2.0

Amber [s] All red [s] Split [s] Walk [s]

24

4 5.0

3.0

82

29 3.7 65

30

30 22 5.5 88

Lead

Lag

4,5

Auxiliary Signal Groups

Control Type Signal group

Phasing & Timing

Minimum Green [s] Maximum Green [s]

Lead / Lag

Time of Day Pattern Isolated

100

Signal Coordination Group

36.9 D 0.779

Located in CBD

Intersection Settings

Version 5.00-05

Cycle Length [s]
Coordination Type
Actuation Type

Offset Reference Permissive Mode

Offset [s]

Lost time [s]

Generated with PTV VISTRO

ž

Fully actuated LeadGreen SingleBand

0.00

Protected

2.0 2.0 4.5 ž ž ž

S 2.0 운 운 운

2.0

2.0

2.7 2.0 ž S S õ

12, Clearance Lost Time [s]

Minimum Recall
Maximum Recall
Pedestrian Recall Detector Location [ft]

I1, Start-Up Lost Time [s]

Pedestrian Clearance [s]

Rest In Walk

Vehicle Extension [s]

2 2 2

2 2 2

0.9800 1.0000 1.0000 2.00 1.00 19 19 ž 0.9800 1.0000 1.0000 1.00 931 238 920 ટ 1.0000 1127 1.0000 1114 1150 288 ŝ 234 230 1.0000 2.00 1.00 1.0000 239 No 9 1.0000 255 0.9800 1.0000 2.00 1.00 248 260 ŝ 92 0.9800 1.0000 1.0000 2.00 ž 69 18 73 Pass-by Trips (veh/h)
Existing Site Adjustment Volume [veh/h]
Other Volume [veh/h] On-Street Parking Maneuver Rate [/h] Heavy Vehicles Percentage [%] Right-Turn on Red Volume [veh/h] Base Volume Adjustment Factor Total 15-Minute Volume [veh/h] Presence of On-Street Parking Total Analysis Volume [veh/h] Local Bus Stopping Rate [/h] Base Volume Input [veh/h] In-Process Volume [veh/h] Site-Generated Trips [veh/h] Total Hourly Volume [veh/h] Pedestrian Volume [ped/h] Bicycle Volume [bicycles/h] Other Adjustment Factor Diverted Trips [veh/h] Peak Hour Factor Growth Rate

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Length [ft]

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

0

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MD Existing plus Approved Hyde Winery TIS

W-Trans 5/15/2018



М	26	6.50	00.00	4.50	51	0.53	0.01	1583	832	11.00	0.04	1.00	00:00	00:00	1.00	1.00
၁	26	6.50	00'0	4.50	51	0.53	0.51	1863	626	22.18	0.09	1.00	6.85	14.60	1.00	1.00
O	26	6.50	00'0	4.50	7.1	0.73	0.62	1863	1367	8.94	0.27	1.00	3.59	0:30	1.00	1.00
	26	4.70	00:00	2.70	15	0.16	0.13	1774	283	39.44	0.11	1.00	6.80	89.10	1.00	1.00
œ	26	4.70	00'0	00:00	35	0.36	0.16	1583	299	23.80	0.13	1.00	0.68	4.80	1.00	1.00
	26	4.70	00:00	2.70	14	0.15	0.04	1774	266	36.39	0.04	1.00	0.20	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	I1_p, Permitted Start-Up Lost Time [s]	I2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

Lane Group Results							
X, volume / capacity	0.27	0.46	0.84	0.84	0.97	0.02	
d, Delay for Lane Group [s/veh]	40.10	29.28	135.35	12.83	43.62	11.00	
Lane Group LOS	О	Э	ш	В	Q	В	
Critical Lane Group	oN N	Yes	Yes	No	Yes	No	
50th-Percentile Queue Length [veh/In]	1.44	4.21	5.65	10.73	18.73	0.17	
50th-Percentile Queue Length [ft/In]	36.10	105.22	141.23	268.26	468.18	4.21	
95th-Percentile Queue Length [veh/In]	2.60	7.57	9.55	16.10	25.82	0:30	
95th-Percentile Queue Lenath [ft/In]	64.98	189.33	238.68	402.56	645.60	7.57	

Generated with PTV VISTRO Version 5.00-05

Movement, Approach, & Intersection Results

$\overline{}$	_	_	_		_	_
11.00	В	42.98	0			
43.62	Q	42	J			
12.83	В	91		06		62
135.35	ч	33.91	S	36.90	۵	0.779
29.28	C	35				
40.10	Q	31.65	S			
d_M, Delay for Movement [s/veh]	Movement LOS	d_A, Approach Delay [s/veh]	Approach LOS	d_I, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C

Sequence

			_	000000000000000000000000000000000000000	
				s 7.	
-	-			S 4	2
-	-	,			
	-				
1					
,					
,	1			858	
4	,			9 SG	
2	9				
-	2	,			
Ring 1	Ring 2	Ring 3	Ring 4	G: 2 86s G: 5 21s	

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Hyde Winery TIS MD Existing plus Approved



Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

SR12-121	Bastbound	ᆌ	Thru Right Left Thru Right Left Thru Right	0 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00	0 0 1 0 1 0 1	0 100.00 100.00 140.00 100.00 100.00 140.00 100.00 190.00	55.00 55.00 55.00	00.00 00.00	CN CN
Los Cameros Avenue	Northbound	+	Left Thru Right Left	12.00 12.00 12.00 12.00	0 0 0 0	00.00 100.00 100.00 100.00	55.00	0.00	CZ.
ameN		Lane Configuration	Turning Movement Left	Lane Width [ft] 12.00	No. of Lanes in Pocket 0	Pocket Length [ft] 100.00	Speed [mph]	Grade [%]	Vicesimaly

0.03 0.01 0.00 1143 0.00 0.00 B A A 0.09 0.00 0.00 2.27 0.00 0.00

0.00 0.00

1.65

d_I, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop ~ No

Stop - 2

Priority Scheme Flared Lane

189.3 F 0.400

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 V//C, Movement (Svehi)
 0.12
 0.03
 0.06
 0.40
 0.00
 0.05
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
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 0.01
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 0.0

Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Crosswalk	INO.		2
Volumes			

	Los Carneros Avenue		Driveway		0,	SR12-121		0,	SR 12-121	
3	13	10	0	14	4	1156	13	17	666	13
1.0000 1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2.00 2.	2.00 2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
1.00 1.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0	0 0	0	0	0	0	0	0	0	0	0
0	0 0	0	0	0	0	16	0	0	15	0
0	0 0	0	0	0	0	0	0	0	0	0
0	0 0	0	0	0	0	0	0	0	0	0
0	0 0	0	0	0	0	0	0	0	0	0
0	0 0	0	0	0	0	0	0	0	0	0
3	1 13	10	0	14	4	1172	13	17	1014	13
0.9800 0.9	0.9800 0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
1.0000 1.0	1.0000 1.0000 1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
-	0 3	3	0	4	1	299	3	4	259	3
3	1 13	10	0	14	4	1196	13	17	1035	13
0			0			0			0	

W-Trans

Hyde Winery TIS MD Existing plus Approved

W-Trans 5/15/2018



Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

	_	_		_	_	_		_	_	
	2-121	Westbound		Thru	12.00	0	100.00	55.00	00.00	No No
	SR 12-121	West	F	Left	12.00	1	170.00	99	0.0	z
	2-121	Eastbound	L	Right	12.00	1	100.00	55.00	00:00	No
	SR 12-121	Eastb	_	Thru	12.00	0	100.00	22	0.0	Z
	harf Road	puno	L	Right	12.00	0	100.00	55.00	00:00	No
	Cuttings Wharf Road	Northbound	F	Left	12.00	0	100.00	.52	0.0	Z
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

0.00 0.00

0.13 12.36 B 0.44

0.00 0.00

0.00 0.00

0.39 31.20 D 1.75 43.65

0.60 227.07 F 2.00 49.96

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

Stop

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

227.1 F 0.602

0.80

A 3.21 0.00

66.31

95th-Percentile Queue Length (vervin)
95th-Percentile Queue Length (titn)
d_A, Approach Deley (sveh)
Approach LOS

d_l, Intersection Delay [s/veh] Intersection LOS

	0	
		Ė
	Ċ	
ū		
	:	

Volumes						
Name	Cuttings W	Cuttings Wharf Road	SR 12-121	2-121	SR 12-121	-121
Base Volume Input [veh/h]	18	82	1158	28	89	1006
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2:00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	16	0	33	15
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]	18	84	1174	28	71	1021
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]	2	22	303	7	18	263
Total Analysis Volume [veh/h]	19	28	1210	29	73	1053
Pedestrian Volume [bed/h]					0	



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W-Trans 5/15/2018



Intersection 1: SR 12-121/Old Sonoma Read

Delay (sec / veh):

Level Of Service:

Volume to Capacity (v/c): Signalized HCM 2010 15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

_	_	_		_	_	_	_	_	_	_
	-121	puno	•	Right	12.00	1	410.00	55.00	00.00	No.
	SR12-121	Westbound	<u>-</u>	Thru	12.00	0	100.00	55.	0.0	Ž
	-121	puno		Thru	12.00	0	100.00	00	00	0
0	SR12-121	Eastbound	L	Left	12.00	1	310.00	55.00	0.00	N
	ma Road	punoc	L	Right	12.00	1	230.00	55.00	00	No
Č	Old Sonoma Road	Southbound	JL	Left	12.00	0	100.00	55.	00:00	Z
	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Crosswalk	No	NO	ON
Volumes			

SR12-121	128 16	1.0830	2.00	1.14	0 0	0 0	0 0	0 0				,	00							0
SR12	928	1.0830	2.00	1.14	0	0	0	0	0 0	0 0 0	0 0 0	-								
SR12-121	1008	1.0830	2:00	1.14	0	0	0	0	0 0	0 0 0	0 0 0 0	0 0 0 0 0 1245	0 0 0 0 1245 0.9700	0 0 0 0 1245 0.9700 1.0000	0 0 0 0 0 17245 0.9700 1.0000	0 0 0 0 0 17245 0.9700 1.0000 321 1284	0 0 0 0 0 0 0.9700 1.0000 1.0000 1.1000 1.204 0.311 1.284	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 1245 0.9700 1,0000 321 1284 1284 0.9700 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0)	289	1.0830	2.00	1.14	0	0	0	0	0 0	0 0 0	0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 357 009700	0 0 0 0 357 357 0.9700 1.0000	0 0 0 0 357 0.9700 1.0000	0 0 0 0 357 0.9700 1.0000 92	0 0 0 0 0 357 0.9700 1.0000 92 92 82 96 No	0 0 0 0 357 0.9700 1.0000 28 92 82 88 88	0 0 0 0 1.0000 1.0000 92 92 92 92 98 88 96 96 96 96 96 96 96 96 96 96 96 96 96	0 0 0 0 0 357 1,0000 1,0000 1,0000 1,0000 N 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Old Sonoma Road	342	1.0830	2:00	1.14	0	0	0	0	0 0	0 0 0	0 0 0	0 0 0 422	0 0 0 0 422 0.9700	0 0 0 0 422 422 0.9700 1.0000	0 0 0 0 422 422 1,0000 1,0000	0 0 0 0 422 422 1.0000 1.0000 199	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Old Sono	47	1.0830	2.00	1.14	0	0	0	0	0 0	0 0 0	0 0 0	0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 58 0.9700 1.0000	0 0 0 58 0.9700 1.0000	0 0 0 58 0.9700 1.0000 15	0 0 0 0 58 58 1.0000 1.0000 15 60 No	0 0 0 0 0 1.0000 1,0000 15 60 0 0	0 0 0 0 0 88 1,0000 1,0000 15 16 0 0 0	0 0 0 0 0 58 58 1,0000 1,0000 15 60 No
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Pass-by Trips [veh/h] Site Adjustment Volume [veh/h]	Pass-by Trips [veh/h] Site Adjustment Volume [veh/h] Other Volume [veh/h]	Pass-by Trips [veh/h] Site Adjustment Volume [veh/h] Other Volume [veh/h] -Turn on Red Volume [veh/h]	Pass-by Trips (veh/h) Site Adjustment Volume [veh/h) Other Volume [veh/h] -Turn on Red Volume [veh/h]	Pass-by Trips (veh/h) Site Adjustment Volume [veh/h) Other Volume [veh/h] -Turn on Red Volume [veh/h] Atal Hourly Volume [veh/h] Peak Hour Factor	Pass-by Trips (vehh) Site Adjustment Volume (vehh) Other Volume (vehh) 12ta Houly Volume (vehh) Peak Hour Factor Other Adjustment Factor	Pass-by Trips (vehh) Site Adjushment Volume (vehh) Other Volume (vehh) Azal Hourly Volume (vehh) Peak Hour Factor Peak Hour Factor air 5-Minute Volume (vehh)	Pass-by Trips (velhi) Site Adjusment Volume (velhi) Other Volume (velhi) F-Tum on Red Volume (velhi) Adal Hourly Volume (vehhi) Peak Hour Factor Other Adjusment Factor Other Adjusment Factor (all 15-Minute Volume (vehhi)	Existing Site Adjustment Volume (behnhi) Other Volume (verlvhi) Other Volume (verlvhi) Total Hourty Volume (verlvhi) Total Hourty Volume (verlvhi) Total 15-Minute Volume (verlvhi) Total 15-Minute Volume (verlvhi) Total Analysis Volume (verlvhi) Total Analysis Volume (verlvhi)	Pass-by Tribos (behty) Sxisting Site Adjuanter Volume (behty) Other Volume (behty) Total Hourty Volume (behty) Total Hourty Volume (behty) Peak Hour Factor Other Adjustment Factor Total Analyses Volume (behty) Total Analyses Volume (behty) Presence of On-Street Parking On-Street Parking Maneuver Rate (ht)	Pass-by Tros (behh) 19 Ste Adjusment Volume (behh) Cher Volume (behh) Tatal Houny Volume (behh) Peak Hour Factor Other Adjusment Factor Other Adjusment Factor Other Adjusment Factor Testence of On-Street Parkh) Testence Admin Wareuver Factor Cocal Bus Stopping Rate (h)	Peass-by Trips (yeahh) g Ste Adjustment Volume (vehh) Other Volume (vehh) Crail Hourly Volume (vehh) Peak Hour Factor Other Adjustment Factor Cher Adjustment Factor Cher Adjustment Factor atla 15-Minute (vehh) gesence of On-Street Parking uset Parking Maraeuver Rate (th) ocal Bus Stopping Rate (h) Pedestrian Volume (pedh)

W-Trans

Hyde Winery TIS PM Future

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Intersection Settings

82.4 F 1.002

No		120	Time of Day Pattern Isolated	Fully actuated	0.0	LeadGreen	SingleBand	0000
Located in CBD	Signal Coordination Group	Cycle Length [s]	Coordination Type	Actuation Type	Offset [s]	Offset Reference	Permissive Mode	Lost time [s]

Phasing & Timing

rilasing & Illillig							
Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive	_
Signal group	4	4	2	2	9	0	_
Auxiliary Signal Groups		4,5					_
Lead / Lag	Lag		Lead				_
Minimum Green [s]	6	6	6	30	30	0	_
Maximum Green [s]	24	24	29	06	110	0	_
Amber [s]	3.7	3.7	3.7	5.5	5.5		_
All red [s]	1.0	1.0	1.0	1.0	1.0	0:0	_
Split [s]	14	14	59	106	77	0	_
Vehicle Extension [s]	2.0	2.0	3.0	2.0	2.0	0:0	_
Walk [s]	0	0	0	0	0	0	_
Pedestrian Clearance [s]	0	0	0	0	0	0	_
Rest In Walk	oN N			oN.	oN		_
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0		_
l2, Clearance Lost Time [s]	2.7	2.7	2.7	4.5	4.5	0:0	_
Minimum Recall	No	No	oN	No	oN		_
Maximum Recall	No	No	No	No	No		
Pedestrian Recall	No	No	oN	No	No		_
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0		_
Detector Length [ft]	0.0	0.0	0'0	0.0	0:0	0:0	_
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	_

Exclusive Pedestrian Phase	Pedestrian Signal Group 0	Pedestrian Walk [s] 0	Pedestrian Clearance [s] 0



ĸ	179	6.50	00.00	4.50	110	0.61	0.01	1583	973	13.45	0.04	1.00	00:00	00:00	1.00	1.00
0	179	6.50	00'0	4.50	110	0.61	0.63	1863	1145	34.45	0.49	1.00	34.85	14.60	1.00	1.00
O	179	6.50	00'0	4.50	144	08.0	69'0	1863	1496	11.16	0.50	1.00	6.61	0:30	1.00	1.00
	179	4.70	00:00	2.70	29	0.16	0.21	1774	288	74.86	0.50	1.00	149.34	89.10	1.00	1.00
ď	179	4.70	0.00	00:00	58	0.32	0.27	1583	511	56.49	0.50	1.00	16.19	4.80	1.00	1.00
Г	179	4.70	00:00	2.70	24	0.13	0.03	1774	238	69.31	0.04	1.00	0.20	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	I1_p, Permitted Start-Up Lost Time [s]	12, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

Lane Group Results

0.02	000
1.03	1 03
98.0	98 0
1.28	1 28
0.85	78.0
0.25	0.25
X, volume / capacity	Y volume / canadia

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Movement, Approach, & Intersection Results

	_		_		_	_
13.45	В	82.73	ш			
83.90	ш	82				
18.07	В	83		42		02
313.30	ч	83.83	ш	82.42	ш	1.002
77.49	Е	95				
73.02	3	76.95	3			
d_M, Delay for Movement [s/veh]	Movement LOS	d_A, Approach Delay [s/veh]	Approach LOS	d_I, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C

Sequence

_	_	_	_	000000000000000000000000000000000000000
	-			
	-			SG:4 148
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		,		
		,		
				3G:6 77s
4				8
2	9			
	2			
Ring 1	Ring 2	Ring 3	Ring 4	SG: 2 106s



W-Trans

Hyde Winery TIS PM Future







Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

SR12-121	Bastbound	ᆌ	Thru Right Left Thru Right Left Thru Right	0 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00	0 0 1 0 1 0 1	0 100.00 100.00 140.00 100.00 100.00 140.00 100.00 190.00	55.00 55.00 55.00	00.00 00.00	CN CN
Los Cameros Avenue	Northbound	+	Left Thru Right Left	12.00 12.00 12.00 12.00	0 0 0 0	00.00 100.00 100.00 100.00	55.00	0.00	CZ.
ameN		Lane Configuration	Turning Movement Left	Lane Width [ft] 12.00	No. of Lanes in Pocket 0	Pocket Length [ft] 100.00	Speed [mph]	Grade [%]	Vicesimaly

A 0.00

0.06 0.01 12.57 0.00 B A 0.20 0.00 5.03 0.00

0.00 0.00

9.42

d_I, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop - No

Stop - 2

Priority Scheme Flared Lane

673.6 F 1.039

Intersection Settings

Version 5.00-05

Generated with PTV VISTRO

 V/IC, Movement V/C Ratio
 0.30
 0.00
 0.21
 1.04
 0.05
 0.05
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Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

	Crosswalk	No	No	No	No
	Volumes				
٠					
	Nomo	Or Corporor Avonio	Drivovion	CD10 104	CD 10 101

	19	1.0830	2.00	1.14	0	0	0	0	0	0	24	0.9500	1.0000	9	25	
SR 12-121	961	1.0830	2.00	1.14	0	0	0	0	0	0	1187	0.9500	1.0000	312	1249	0
0)	24	1.0830	2.00	1.14	0	0	0	0	0	0	30	0.9500	1.0000	8	32	
	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	3	11	
SR12-121	1035	1.0830	2.00	1.14	0	0	0	0	0	0	1278	0.9500	1.0000	336	1345	0
,	4	1.0830	2.00	1.14	0	0	0	0	0	0	5	0.9500	1.0000	1	2	
	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	3	11	
Driveway	1	1.0830	2.00	1.14	0	0	0	0	0	0	1	0.9500	1.0000	0	1	0
	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	3	11	
/enne	30	1.0830	2.00	1.14	0	0	0	0	0	0	36	0.9500	1.0000	6	38	
Los Carneros Avenue	0	1.0830	2.00	1.14	0	0	0	0	0	0	0	0.9500	1.0000	0	0	0
Los Ca	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	3	11	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]

Hyde Winery TIS PM Future

W-Trans 6/12/2018

W-Trans



Intersection Level Of Service Report
Two-way sup PEM 210 (2014)
TWOM 2010
The POM 2

397.0 F 0.434

Intersection Setup

Control Type: Analysis Method: Analysis Period:

	2-121	puno		Thru	12.00	0	100.00	00	00:00	No.
	SR 12-121	Westbound	L	Left	12.00	1	170.00	00'99	0.0	2
	SR 12-121	Eastbound		Right	12.00	1	100.00	55.00	0.00	No
	SR 12	Eastb	4	Thru	12.00	0	100.00	22	0.0	Z
	harf Road	Northbound	F	Right	12.00	0	100.00	55.00	00:00	No
	Cuttings Wharf Road	North	T	Left	12.00	0	100.00	.52	0.0	Z
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

		7	

Name	Cuttings M	Cuttings Wharf Road	SR 12-121	-121	SR 12-121	2-121
Base Volume Input [veh/h]	ъ	125	1041	11	75	1021
Base Volume Adjustment Factor	1.0830	1.0830	1.0830	1.0830	1.0830	1.0830
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.14	1.14	1.14	1.14	1.14	1.14
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]	9	154	1285	14	92	1261
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	41	342	4	24	335
Total Analysis Volume [veh/h]	9	164	1367	15	86	1341
Pedestrian Volume [bed/h]			0		0	



Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	oN.		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

_	V/C, Movement V/C Ratio	0.43	0.91	0.01	00:0	0.20	0.01
—	d_M, Delay for Movement [s/veh]	396.97	92.36	0.00	00:00	14.04	00.00
—	Movement LOS	ш	ш	۷	٧	В	٧
_	95th-Percentile Queue Length [veh/ln]	1.09	6.91	00:00	0.00	0.73	00:00
—	95th-Percentile Queue Length [ft/ln]	27.21	172.85	0.00	0.00	18.21	0.00
_	d_A, Approach Delay [s/veh]	108	108.51	00:00	00	0	96.0
_	Approach LOS		L	×	_		٧
_	d_I, Intersection Delay [s/veh]			9:9	6.63		
_	Intersection LOS						



W-Trans

Hyde Winery TIS PM Future

W-Trans 6/12/2018



Hyde Winery TIS PM Future



Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

	_	_		_	_		_		_	
	2-121	Westbound	L	Right	12.00	1	410.00	55.00	00.00	92
	SR12-121	West	=	Thru	12.00	0	100.00	55	0.0	Z
	-121	puno		Thru	12.00	0	100.00	00	00	0
	SR12-121	Eastbound	r	Left	12.00	1	310.00	55.00	0.00	S _N
	na Road	puno	L	Right	12.00	1	230.00	00	01	0
	Old Sonoma Road	Southbound	F	Left	12.00	0	100:00	55.00	00:00	N _O
days of the second	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

SR12-121	18	1.0000	2.00	1.14	0	0	
S.	917	1.0000	2.00	1.14	0	0	
SR12-121	1114	1.0000	2:00	1.14	0	0	
SR12	230	1.0000	2.00	1.14	0	0	
ma Road	248	1.0000	2.00	1.14	0	0	
Old Sonoma Road	69	1.0000	2.00	1.14	0	0	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	

Volumes

262 1270 1045 21	0 0	0 0 0 0	0 0 0 0		_	0 0	0 0	1.14 1.14 1.14 1.14 1.10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
local Dounty volutile [ventril]	Right-Turn on Red Volume [veh/h]	Other Volume [veh/h] Right-Turn on Red Volume [veh/h]	Existing Site Adjustment Volume (veh/h) Other Volume (veh/h) Right-Turn on Red Volume (veh/h)	Pass-by Trips (vehh) Existing Ste Adjustment Volume (vehh) Other Volume (vehh) Right-Imm on Red Anne (vehh)	Diverted Trips (veh.h) Pass-by Trips (veh.h) Existing Ste Adjusment Volume (veh.h) Other Volume (veh.h) Right-Imm on Red durume (veh.h)	Site-Generated Trips (verh1) Diverted Trips (verh1) Pass-by Trips (verh1) Existing Ste Adjusment Volume (verh1) Right-Tum on Red Volume (verh1) Texat I treat, Volume (verh1)	In-Process Volume (velvh) Site-Generated Trips (vehh) Dexted Trips (vehh) Pass-by Trips (vehh) Existing Site Adjustment Volume (vehh) Right-Trin on Red Volume (vehh)	Growth Rate In-Process Volume (verhn) Sile-Generated Trips (verhn) Diverted Trips (verhn) Pass-by Trips (verhn) Existing Site Adjustment Volume (verhn) Other Volume (verhn) Right-Turn on Red Volume (verhn)

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] Pedestrian Signal Group Pedestrian Walk [s] Pedestrian Clearance [s]

0

1.0 119

1.0 154

1.0 35

1.0

16

1.0

All reo ,
Split [s]
Vehicle Extension [s]
Walk [s]

Pedestrian Clearance [s] Rest In Walk

2.0

No 2.0 ž § 8

2.0

2.0

2.0 No

운

2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

30 5.5

9 5.5

Lead

Lag

Lead / Lag

4,5

Signal group Auxiliary Signal Groups

Control Type

Phasing & Timing

Time of Day Pattern Isolated Fully actuated

170

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

57.4 E 0.873

Offset Reference Permissive Mode

Offset [s]

Lost time [s]

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

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SingleBand LeadGreen

0.00

Protected

82

29

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

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Hyde Winery TIS MD Future

W-Trans 6/12/2018



	_		_		_			_							_	_
ĸ	149	6.50	0.00	4.50	85	0.57	0.01	1583	903	13.92	0.04	1.00	0.00	0.00	1.00	1.00
၁	149	6.50	0.00	4.50	85	0.57	0.57	1863	1063	31.98	0.46	1.00	27.11	14.60	1.00	1.00
၁	149	6.50	00:00	4.50	114	72.0	0.70	1863	1429	13.27	0.50	1.00	9.93	0:30	1.00	1.00
٦	149	4.70	0.00	2.70	25	0.17	0.15	1774	293	61.12	0.27	1.00	22.09	89.10	1.00	1.00
М	149	4.70	0.00	00:00	53	0.35	0.18	1583	561	37.98	0.50	1.00	3.36	4.80	1.00	1.00
٦	149	4.70	0.00	2.70	23	0.16	90:0	1774	280	55.37	0.04	1.00	0.21	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	11_p, Permitted Start-Up Lost Time [s]	I2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

Lane Group Results						
X, volume / capacity	0.29	0.52	0.91	0.91	1.00	0.02
d, Delay for Lane Group [s/veh]	59.08	46.14	172.30	23.50	73.70	13.93
Lane Group LOS	В	Q	ш	O	ш	В
Critical Lane Group	oN	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.63	8.55	11.39	27.87	42.03	0.29
50th-Percentile Queue Length [ft/In]	65.83	213.69	284.81	696.70	1050.77	7.34
95th-Percentile Queue Length [veh/ln]	4.74	13.34	16.93	36.53	52.81	0.53
95th-Percentile One Length [#/lp]	118 50	333 56	423.20	913 13	1320.20	13.21

Generated with PTV VISTRO
Version 5.00-05

Movement, Approach, & Intersection Results

Г	Г	П		П		Г
13.93	В	72.54	ш			
73.70	н	72				
23.50	O	92		43	ш	73
172.30	ш	48.92		57.43	Ш	0.873
46.14	۵	97				
59.08	3	48.97	0			
d_M, Delay for Movement [s/veh]	MovementLOS	d_A, Approach Delay [s/veh]	Approach LOS	d_I, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C

Sequence	0												
Ring 1		2	4										,
Ring 2	2	9			-	í	,	-	-	,			
Ring 3								-			,	-	
Ring 4	-												,
SG: 2 154s												SS.	- R
SG: 5 35s			9.55	1138									



Hyde Winery TIS MD Future

W-Trans 6/12/2018





Intersection Level Of Service Report
Two-way stop
HOM 2010
Level Of Service:
15 minutes
Volume to Capacity (v/c): Control Type: Analysis Method: Analysis Period:

Intersection Setup

	SR 12-121	Westbound	<u>_</u>	Thru Right	12.00 12.00	0 1	0.00 190.00	55.00	00:00	No
	SR	West	1	Left	12.00 12	-	140.00 10	26	0	_
				Right	12.00	-	100.00			
0,00	SR12-121	Eastbound	나	Thru	12.00	0	100.00	55.00	0.00	9 N
Ĺ	,	ш	·	Left	12.00	-	140.00			
		р		Right	12.00	0	100.00			
	Driveway	Southbound	+	Thru	12.00	0	100.00	55.00	0.00	8
		S		Left	12.00	0	100.00			
	venue	р		Right	12.00	0	100.00			
ľ	Los Carneros Avenue	Northbound	+	Thru	12.00	0	100.00	55.00	0.00	8
	Los C	_		Left	12.00	0	100.00			
	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

A 0.00

0.04 0.01 12.40 0.00 B A 0.12 0.00 2.92 0.00

0.00 0.00

3.33

d_I, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop - No

Stop - 2

Priority Scheme Flared Lane

391.0 F 0.739

Intersection Settings

Version 5.00-05

Generated with PTV VISTRO

 VIC, Movement VIC Ratio
 0.19
 0.04
 0.08
 0.74
 0.00
 0.07
 0.01
 0.01

 d_M, Delay for Movement [siveh]
 248.89
 163.55
 37.34
 391.04
 294.87
 164.41
 11.12
 0.00

 Movement LOS
 F
 F
 F
 F
 F
 F
 B
 A

 95th-Percentile Queue Length [ver/nr]
 0.82
 0.82
 2.72
 2.72
 2.72
 0.03
 0.00

 95th-Percentile Queue Length [ver/nr]
 0.64
 0.06
 68.00
 68.00
 68.00
 0.64
 0.00

 4_A, Approach Delay [s/veh]
 77.39
 7.73
 2.75
 0.75
 0.04
 0.00

Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Crosswalk	No	No	No	No No
Volumes				
			101 0100	101 01 00

13	1.0000	2.00	1.14	0	0	0	0	0	0	15	0.9800	1.0000	4	15	
666	1.0000	2.00	1.14	0	0	0	0	0	0	1139	0.9800	1.0000	291	1162	0
17	1.0000	2.00	1.14	0	0	0	0	0	0	19	0.9800	1.0000	2	19	
13	1.0000	2.00	1.14	0	0	0	0	0	0	15	0.9800	1.0000	4	15	
1156	1.0000	2.00	1.14	0	0	0	0	0	0	1318	0.9800	1.0000	336	1345	0
4	1.0000	2.00	1.14	0	0	0	0	0	0	5	0.9800	1.0000	-	2	
14	1.0000	2.00	1.14	0	0	0	0	0	0	16	0.9800	1.0000	4	16	
0	1.0000	2.00	1.14	0	0	0	0	0	0	0	0.9800	1.0000	0	0	0
10	1.0000	2.00	1.14	0	0	0	0	0	0	11	0.9800	1.0000	3	11	
13	1.0000	2.00	1.14	0	0	0	0	0	0	15	0.9800	1.0000	4	15	
1	1.0000	2.00	1.14	0	0	0	0	0	0	1	0.9800	1.0000	0	1	0
3	1.0000	2.00	1.14	0	0	0	0	0	0	3	0.9800	1.0000	1	3	
Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]
	3 1 13 10 0 14 4 1156 13 17 999	3 1 13 10 0 14 4 1156 13 17 999 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,000 1,000 1,000 1,000 1	3 1 13 10 0 14 4 1156 13 17 999 1,0000 <td>3 1 13 10 0 14 4 1156 13 17 999 1,0000 1,000</td> <td> 3 1 13 10 0 14 4 1166 13 17 999 10000 1,</td> <td> 3 1 13 10 0 14 4 1156 13 17 999 10000 1,</td> <td> 3 11 13 10 0 14 4 1156 13 17 999 10000 1,0000 1</td> <td> 3 1 13 10 0 14 4 1156 13 17 989 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 1000000 1000000 100000000</td> <td> 1 13 10 10 14 4 1156 13 17 989 1.00000 1.0000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.000000 1.0000000 1.0000000000</td> <td> 1 13 10 10 14 4 1156 13 17 999 10000 1,000 1,00000 1,00000 1,00000 1,00000 1,00000 1,00000 1,00000 1,000000 1,0000000000</td> <td>3 1 13 10 0 14 4 1156 13 17 999 1,0000 1,000 1,0000 1,000<td>3 1 13 10 0 14 4 1166 13 17 980 1,0000<td>3 1 13 10 0 14 4 1166 13 17 980 1,0000 1,100 1,114 1,14<td>3 11 13 10 0 14 4 1166 13 17 989 1,0000 1,000<!--</td--><td>3 11 13 10 0 14 4 1156 13 17 890 1,0000<!--</td--></td></td></td></td></td>	3 1 13 10 0 14 4 1156 13 17 999 1,0000 1,000	3 1 13 10 0 14 4 1166 13 17 999 10000 1,	3 1 13 10 0 14 4 1156 13 17 999 10000 1,	3 11 13 10 0 14 4 1156 13 17 999 10000 1,0000 1	3 1 13 10 0 14 4 1156 13 17 989 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 1000000 1000000 100000000	1 13 10 10 14 4 1156 13 17 989 1.00000 1.0000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.000000 1.0000000 1.0000000000	1 13 10 10 14 4 1156 13 17 999 10000 1,000 1,00000 1,00000 1,00000 1,00000 1,00000 1,00000 1,00000 1,000000 1,0000000000	3 1 13 10 0 14 4 1156 13 17 999 1,0000 1,000 1,0000 1,000 <td>3 1 13 10 0 14 4 1166 13 17 980 1,0000<td>3 1 13 10 0 14 4 1166 13 17 980 1,0000 1,100 1,114 1,14<td>3 11 13 10 0 14 4 1166 13 17 989 1,0000 1,000<!--</td--><td>3 11 13 10 0 14 4 1156 13 17 890 1,0000<!--</td--></td></td></td></td>	3 1 13 10 0 14 4 1166 13 17 980 1,0000 <td>3 1 13 10 0 14 4 1166 13 17 980 1,0000 1,100 1,114 1,14<td>3 11 13 10 0 14 4 1166 13 17 989 1,0000 1,000<!--</td--><td>3 11 13 10 0 14 4 1156 13 17 890 1,0000<!--</td--></td></td></td>	3 1 13 10 0 14 4 1166 13 17 980 1,0000 1,100 1,114 1,14 <td>3 11 13 10 0 14 4 1166 13 17 989 1,0000 1,000<!--</td--><td>3 11 13 10 0 14 4 1156 13 17 890 1,0000<!--</td--></td></td>	3 11 13 10 0 14 4 1166 13 17 989 1,0000 1,000 </td <td>3 11 13 10 0 14 4 1156 13 17 890 1,0000<!--</td--></td>	3 11 13 10 0 14 4 1156 13 17 890 1,0000 </td

Hyde Winery TIS MD Future W-Trans 6/12/2018

W-Trans



Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

521.9 F 1.122

Intersection Setup

-121	puno		Thru	12.00	0	100:00	00	00	No No
SR 12-121	Mestbound	Ļ	Left	12.00	1	170.00	00'99	00:00	Ž
2-121	Eastbound	t_	Right	12.00	1	100.00	55.00	0.00	No
SR 12-121	Eastb	Į	Thru	12.00	0	100.00	55.	0.0	Ž
Cuttings Wharf Road	Northbound	L	Right	12.00	0	100:00	55.00	00:00	No
Cuttings M	North	JL.	Left	12.00	0	100:00	99	0	Z
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

0.00 0.00

0.16 13.76 B 0.58

0.00 0.00

0.00 0.00

0.51 43.70 E 2.52 63.02

1.12 521.87 F 3.03 75.65

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

Stop

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

A 5.99 0.00

135.98

9Sth-Percentile Queue Length (veh/in) 9Sth-Percentile Queue Length (ti/in) d_A, Approach Delay (siveh) Approach LOS

d_l, Intersection Delay [s/veh]

Volumes

a Saga	Cuttings M	Cuttings Wharf Road	SR 12-121	2-121	SR 12-121	2-121
	of commo	nan waa	5	171-3	5	171.
Base Volume Input [veh/h]	18	78	1158	28	89	1006
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.14	1.14	1.14	1.14	1.14	1.14
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]	21	68	1320	32	78	1147
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]	2	23	340	8	20	296
Total Analysis Volume [veh/h]	22	82	1361	33	80	1182
Pedestrian Volume [ped/h]						

Hyde Winery TIS MD Future

W-Trans 6/12/2018

W-Trans

Hyde Winery TIS MD Future



Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes

59.4 E 0.922

Intersection Setup

Control Type: Analysis Method: Analysis Period:

404	-121	Westbound		Right	12.00	1	410.00	55.00	0.00	No.
2,00	SK12-121	West	_	Thru	12.00	0	100.00	55.	0.0	z
404	SK12-121	Eastbound	_	Thru	12.00	0	100.00	55.00	00:00	No
0,000	SKTZ	Eastb	L	Left	12.00	1	310.00	55	0.0	Z
7000	Old Sonoma Road	Southbound	F	Right	12.00	1	230.00	55.00	00:00	No
0 3	Old Sono	South	JL.	Left	12.00	0	100.00	55.)'0	Z
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

ON ON		Old Sonoma Road
Crosswalk	Volumes	ond Sono

110 5.5 1.0 72 2.0

2.0

1.0 101

1.0 3.0

1.0

19

1.0

All reu ,
Split [s]
Vehicle Extension [s]
Walk [s]

No 2.0 ž 2 2

2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

2.0

2.0

2.0 No

Rest In Walk

30

30 8 5.5

Lead

Lag

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

Control Type Lost time [s]

Phasing & Timing

29

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

Time of Day Pattern Isolated Fully actuated

120

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

Offset Reference Permissive Mode

Offset [s]

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

ટ

SingleBand LeadGreen

0.00

Protected

-121	16	1.0830	2.00	1.00	0	0	0	0	0	0	0	17	0.9700	1.0000	4	18	No	0	0		
SR12-121	928	1.0830	2.00	1.00	0	12	0	4-	0	0	0	1013	0.9700	1.0000	261	1044	oN	0	0		0
-121	1008	1.0830	2.00	1.00	0	9	0	0	0	0	0	1098	0.9700	1.0000	283	1132	oN	0	0		
SR12-121	289	1.0830	2.00	1.00	0	0	0	0	0	0	0	313	0.9700	1.0000	81	323	92	0	0		0
ma Road	342	1.0830	2.00	1.00	0	0	0	0	0	0	0	370	0.9700	1.0000	96	381	No	0	0	0	
Old Sonoma Road	47	1.0830	2.00	1.00	0	0	0	0	0	0	0	51	0.9700	1.0000	13	53	No	0	0		0
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Right-Turn on Red Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Presence of On-Street Parking	On-Street Parking Maneuver Rate [/h]	Local Bus Stopping Rate [/h]	Pedestrian Volume [ped/h]	Bicycle Volume [bicycles/h]

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] Pedestrian Signal Group Pedestrian Walk [s] Pedestrian Clearance [s]

0

W-Trans

Hyde Winery TIS PM Existing plus Project

W-Trans 6/8/2018

W-Trans

Hyde Winery TIS PM Existing plus Project



Lane Group Calculations

œ	160	6.50	00'0	4.50	91	29.0	0.01	1583	901	15.02	0.04	1.00	00:00	0.00	1.00	1.00
O	160	6.50	00'0	4.50	91	0.57	0.56	1863	1060	33.78	0:30	1.00	18.16	14.60	1.00	1.00
O	160	6.50	00'0	4.50	125	0.78	0.61	1863	1452	9.88	0.50	1.00	4.20	0:30	1.00	1.00
	160	4.70	00:00	2.70	29	0.18	0.18	1774	322	65.41	0.44	1.00	47.72	89.10	1.00	1.00
œ	160	4.70	00'0	00:00	28	0.36	0.24	1583	572	42.97	0.50	1.00	6.05	4.80	1.00	1.00
Г	160	4.70	00:00	2.70	24	0.15	0.03	1774	266	59.49	0.04	1.00	0.13	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	11_p, Permitted Start-Up Lost Time [s]	l2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

Lane Group Results						
X, volume / capacity	0.20	29'0	1.00	0.78	0.99	0.02
d, Delay for Lane Group [s/veh]	63.13	53.82	202.24	14.38	66.55	15.02
Lane Group LOS	В	Q	ш	В	В	В
Critical Lane Group	No	Yes	Yes	No	Yes	oN
50th-Percentile Queue Length [veh/In]	1.85	13.18	16.98	18.31	41.25	0.28
50th-Percentile Queue Length [ft/ln]	46.30	329.51	424.42	457.67	1031.35	06.90
95th-Percentile Queue Length [veh/In]	3.33	19.13	23.78	25.32	51.79	0.50
95th-Percentile Queue Lenath [ft/In]	83.33	478.35	594.51	633.09	1294.69	12.42

Generated with PTV VISTRO Version 5.00-05

Movement, Approach, & Intersection Results

15.02	В	29				
66.55	Э	65.67	ш			
14.38	В	56.08		59.37		0.922
202.24	Н	26.	ш	59	ш	9:0
53.82	Q	54.96	0			
63.13	В	54				
d_M, Delay for Movement [s/veh]	MovementLOS	d_A, Approach Delay [s/veh]	Approach LOS	d_I, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C

Sequence

Hyde Winery TIS PM Existing plus Project

W-Trans 6/8/2018



((W-Trans



377.1 F 0.996 Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes

Intersection Setup

Control Type: Analysis Method: Analysis Period:

o service 4	-	V 00000	01100					107 707		ľ	40 404	
Name	Cos	Los Carneros Avenue	/enne		Driveway			SK12-121		,,	SK 12-121	
Approach	Z	Northbound	_	S	Southbound	70	_	Eastbound		>	Westbound	L
Lane Configuration		+			+			늗			늗	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	-	0	-	-	0	-
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	190.00
Speed [mph]		55.00			55.00			55.00			55.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		8			8			9 N			8	

0.06 0.01 0.00 11.53 0.00 0.00 B A A 0.018 0.00 0.00 4.61 0.00 0.00

A 0.00

9.46

d_l, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop - No

Stop - 8

Priority Scheme Flared Lane

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 V//C, Movement V/C Ratio
 1,00
 0,00
 0,20
 0,49
 0,03
 0,03
 0,01
 0,01

 d_M, Delay for Movement Is/vehi
 377.14
 323.83
 229.58
 286.533
 198.19
 103.26
 1078
 0,00

 Movement LOS
 F
 F
 F
 F
 F
 F
 B
 A

 95th-Percentile Queue Length [ver/nr]
 559
 5.59
 5.59
 1.84
 1.84
 1.84
 0.02
 0.00

 95th-Percentile Queue Length [th/n]
 139.72
 139.72
 139.72
 45.95
 45.96
 45.96
 0.48
 0.00

 4_A Approach Delay [s/veh]
 277.32
 277.32
 194.78
 194.78
 0.04
 0.00

Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Volumes

_	Γ.	8		<u> </u>	Г	Г	Г	Г	П	Г		8	8	$\overline{}$	Г.	
7.	19	1.0830	2.00	1.00	0	0	0	0	0	0	21	0.9500	1.0000	9	22	
SR 12-121	961	1.0830	2.00	1.00	0	0	0	4	0	0	1037	0.9500	1.0000	273	1092	0
,	24	1.0830	2:00	1.00	0	9	0	0	0	0	32	0.9500	1.0000	8	34	
	8	1.0830	2.00	1.00	0	9	0	0	0	0	15	0.9500	1.0000	4	16	
SR12-121	1035	1.0830	2.00	1.00	0	0	0	4-	0	0	1117	0.9500	1.0000	294	1176	0
	4	1.0830	2.00	1.00	0	0	0	0	0	0	4	0.9500	1.0000	1	4	
	80	1.0830	2.00	1.00	0	0	0	0	0	0	6	0.9500	1.0000	2	6	
Driveway	-	1.0830	2.00	1.00	0	0	0	0	0	0	-	0.9500	1.0000	0	1	0
	8	1.0830	2.00	1.00	0	0	0	0	0	0	6	0.9500	1.0000	2	6	
enue/	30	1.0830	2.00	1.00	0	12	0	0	0	0	44	0.9500	1.0000	12	46	
Los Carneros Avenue	0	1.0830	2.00	1.00	0	0	0	0	0	0	0	0.9500	1.0000	0	0	0
Los Ca	80	1.0830	2:00	1.00	0	12	0	0	0	0	21	0.9500	1.0000	9	22	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]

W-Trans

Hyde Winery TIS PM Existing plus Project

W-Trans 6/8/2018



Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

				_	_	_	_		_
2-121	Westbound	_	Thru	12.00	0	100.00	55.00	00:00	8
SR 12-121	West	F	Left 12.00 170.00 55		0.0	z			
2-121	Eastbound	t	Right	12.00	1	100.00	55.00	00	No
SR 12-121	Eastb	_	Thru	12.00	0	100.00	22	00:00	z
harf Road	punoc	L	Right	12.00	0	100.00	55.00	00:00	No
Cuttings Wharf Road	Northbound	F	Left	12.00	0	100.00	52.	0.0	z
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

0.00 0.00

0.15 12.41 B 0.53

0.00 0.00

0.00 0.00 0.00

0.64 46.35 E 3.90 97.60

0.20 186.00 F 0.61 15.34

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

Stop

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

186.0 F 0.204

0.84

A 3.29 0.00

51.03

95th-Percentile Queue Length (vervin)
95th-Percentile Queue Length (titn)
d_A, Approach Deley (sveh)
Approach LOS

d_I, Intersection Delay [s/veh] Intersection LOS

		ì
		,
		í

Name	Cuttings V	Cuttings Wharf Road	SR 1	SR 12-121	SR 1	SR 12-121
Base Volume Input [veh/h]	2	125	1041	11	75	1021
Base Volume Adjustment Factor	1.0830	1.0830	1.0830	1.0830	1.0830	1.0830
Heavy Vehicles Percentage [%]	2.00	2:00	2.00	2:00	2:00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	12	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	4-	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]	5	135	1135	12	81	1112
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	-	36	302	е	22	296
Total Analysis Volume [veh/h]	5	144	1207	13	98	1183
Pedestrian Volume [ped/h]		0		0		

W-Trans

Hyde Winery TIS PM Existing plus Project

W-Trans 6/8/2018



Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

	-121	ound	•	Right	12.00	1	410.00	00	01	
	SR12-121	Westbound	IJ	Thru	12.00	0	100.00	00'99	00:00	Š
	:-121	Eastbound		Thru	12.00	0	100.00	55.00	00	No
	SR12-121	Eastb	Ļ	Left	12.00	1	310.00	55.	00:00	Ž
	ma Road	Southbound	F	Right	12.00	1	230.00	55.00	00:00	No
	Old Sonoma Road	South	JL.	Left	12.00	0	100.00	99)'0	Z
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

o N

1.0

1.0

1.0

1.0

1.0

All reu ,
Split [s]
Vehicle Extension [s]
Walk [s]

3.7

29

24 3.7 4 2.0

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

86 2.0

3.0

No 2.0 ž § 2

2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

2.0

2.0

2.0 No

Rest In Walk

30 5.5 65 2.0

30 22 5.5

Lead

Lag

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

Control Type Lost time [s]

Phasing & Timing

Time of Day Pattern Isolated Fully actuated

100

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

35.2 D 0.769

Offset Reference Permissive Mode

Offset [s]

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

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SingleBand LeadGreen

0.00

Protected

82

121	18	1.0000	2.00	1.00	0	0	0	0	0	0	0	18	0.9800	1.0000	2	18	oN	0	0		0
SR12-121	917	1.0000	2.00	1.00	0	13	0	φ	0	0	0	922	0.9800	1.0000	235	941	No	0	0		
121	1114	1.0000	2.00	1.00	0	13	0	0	0	0	0	1127	0.9800	1.0000	288	1150	oN	0	0		
SR12-121	230	1.0000	2.00	1.00	0	0	0	0	0	0	0	230	0.9800	1.0000	69	235	9	0	0		1
na Road	248	1.0000	2:00	1.00	0	0	0	0	0	0	0	248	0.9800	1.0000	63	253	oN	0	0		
Old Sonoma Road	69	1.0000	2.00	1.00	0	0	0	0	0	0	0	69	0.9800	1.0000	18	70	oN	0	0	0	0
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Right-Turn on Red Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Presence of On-Street Parking	On-Street Parking Maneuver Rate [/h]	Local Bus Stopping Rate [/h]	Pedestrian Volume [ped/h]	Bicycle Volume [bicycles/h]

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] 0

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

W-Trans

Hyde Winery TIS MD Existing plus Project

W-Trans 6/8/2018

W-Trans

Hyde Winery TIS MD Existing plus Project



Lane Group Calculations

Lane Group	٦	ĸ	_	ပ	O	ĸ
C, Cycle Length [s]	92	92	92	92	92	92
L, Total Lost Time per Cycle [s]	4.70	4.70	4.70	6.50	6.50	6.50
11_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	00:00	00.00	0.00
I2, Clearance Lost Time [s]	2.70	0.00	2.70	4.50	4.50	4.50
g_i, Effective Green Time [s]	14	33	15	29	48	48
g / C, Green / Cycle	0.15	0.36	0.16	0.73	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.04	0.16	0.13	0.62	0.51	0.01
s, saturation flow rate [veh/h]	1774	1583	1774	1863	1863	1583
c, Capacity [veh/h]	262	565	281	1362	972	826
d1, Uniform Delay [s]	34.89	22.71	37.66	8.72	21.32	10.67
k, delay calibration	0.04	60'0	0.11	0.24	90.0	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.20	0.45	6.51	3.28	4.95	00:00
d3, Initial Queue Delay [s]	3.50	4.80	89.10	0:30	14.60	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

0.45
27.96
Yes
3.82
95.44
6.87
171 70

Generated with PTV VISTRO Version 5.00-05

Movement, Approach, & Intersection Results

	_	_	_	_	_	_
10.67	В	40.31	0			
40.87	Q	40	J			
12.30	В	82		21		69
133.27	ш	32.82	0	35.21		0.769
27.96	O	26				
38.59	a	30.26	0			
d_M, Delay for Movement [s/veh]	MovementLOS	d_A, Approach Delay [s/veh]	Approach LOS	d_I, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C

Ring 1 - 2 4						
ing 2 5 6						١.
ing 3 ing 4						
ing 4					,	١.
O.						٠.
Applications (CC)	ı			25	148	
Constant Const						
SG:5 21s SG:6 65s						



Hyde Winery TIS MD Existing plus Project







Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

da no composition												
Name	Los C	Los Carneros Avenue	/enne		Driveway		,	SR12-121		0)	SR 12-121	
Approach	_	Northbound	_	S	Southbound			Eastbound	_	>	Westbound	_
Lane Configuration		+			+		·	뉴			늗	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	-	0	-	-	0	-
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	190.00
Speed [mph]		55.00			55.00			55.00			55.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		8			8			S			S	

A 0.00

0.05 0.01 11.51 0.00 B A 0.00 4.06 0.00

A 0.00

4.14

d_l, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop - No

Stop - 2

Priority Scheme Flared Lane

221.2 F 0.607

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 V/C, Movement V/C Ratio
 0.61
 0.03
 0.11
 0.42
 0.00
 0.05
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.01
 0.02
 0.01
 0.02
 0.02
 0.02
 0.02
 0.02
 0.02
 0.02
 0.02
 0.00
 95th-Percentile Queue Length (verlvin)
 2.96
 2.96
 1.67
 1.67
 1.67
 1.67
 0.02
 0.00
 95th-Percentile Queue Length (verlvin)
 2.405
 7.405
 7.405
 4.715
 4.7175
 0.45
 0.00

 95th-Percentile Queue Length (verlvin)
 7.405
 7.405
 7.405
 4.7175
 4.7175
 0.45
 0.00

 4_A, Approach Delay (siveh)
 1.46.82
 7.405
 7.405
 4.7175
 4.7176
 0.45
 0.00

Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median



Hyde Winery TIS MD Existing plus Project

W-Trans 6/8/2018

W-Trans

Hyde Winery TIS MD Existing plus Project



Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes

213.2 F 0.578

Stop

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Intersection Setup

Control Type: Analysis Method: Analysis Period:

	2-121	puno		Thru	12.00	0	100.00	55.00	0.00	No
	SR 12-121	Westbound	F	Left	12.00	1	170.00	22	0.0	z
	2-121	Eastbound	L	Right	12.00	1	100.00	55.00	00:00	No
	SR 12-121	Eastb	_	Thru	12.00	0	100.00	22	0.0	Z
	harf Road	punoc	L	Right	12.00	0	100.00	55.00	0.00	No
	Cuttings Wharf Road	Northbound	₽	Left	12.00	0	100.00	.52	0.0	Z
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

0.00 0.00

0.12 12.22 B 0.42 10.46

0.00 0.00

0.00 0.00 0.00

0.35 29.33 D 1.51 37.84

0.58 213.19 F 1.94 48.49

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

0.76

A 2.97 0.00

64.62

95th-Percentile Queue Length (vervin)
95th-Percentile Queue Length (titn)
d_A, Approach Deley (sveh)
Approach LOS

d_l, Intersection Delay [s/veh]

"	
Volumes	

SR 12-121	89	1006	+				~ ° °	0 0 2	0 0 0 2	0 0 0 0 10	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	12 0 0 0 0 0 0 1018 0.9700 1.0000
		0				_						0 1	0 1
		1.0000	1.00	0	0	0 0	0 0	0 0 0	0 0 0 0	0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 68 68 69 0.9700 1.0000.1	0 0 0 0 0 0 68 68 0.9700 1,0000
2-121	28	1.0000	1.00	0	0	0	0 0	0 0 0	0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 28 28	0 0 0 0 0 28 28 0.9700	0 0 0 0 0 28 28 0.9700 1,0000
SB 12-121	1158	1.0000	1.00	0	12	12	12 09	09	12 0 0 0	12 0 -9 0 0 0	12 0 -9 0 0 0 1161 0.9700	12 0 -9 0 0 1161 0.9700 1.0000	12 0 -9 0 0 0 1161 0.9700 1.0000 299
arf Road	78	1.0000	1.00	0	0	0	0 0	0 0 0 0	0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 78 78	0 0 0 0 78 78 0.9700	0 0 0 0 78 78 0.9700 1.0000
Cuttings Wharf Boad	18	1.0000	1.00	0	0	0	0 0	0 0 0 0	0 0 0 0	0 0 0 0 0 0 0 0 18	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Amen	Base Volume Input [veh/h]	Base Volume Input [ven/h]	Heavy Vehicles Percentage [%] Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Site-Generated Trips [veh/h] Diverted Trips [veh/h]	Site-Generated Trips [veh/h] Diverted Trips [veh/h] Pass-by Trips [veh/h]	Site-Generated Trips [verVh] Diverted Trips [verVh] Pass-by Trips [verVh] Existing Site Adjustment Volume [verIh]	Site-Generated Trips (vehhi) Diverted Trips (vehhi) Pass-by Trips (vehhi) xisting Site Adjustment Volume (vehhi) Other Volume (vehhi)	Site-Generated Trips (veh/h) Diverted Trips (veh/h) Pass-by Trips (veh/h) Kisting Site Adjustment Volume (veh/h) Other Volume (veh/h) Total Hourly Volume (veh/h)	Site-Generated Trips (vehh) Diverted Trips (vehh) Pass-by Trips (vehh) Aksing Ste Adjusment Volume (vehh) Other Volume (vehh) Total Hourly Volume (vehh) Peak Hour Factor	Site-Generated Trips (vehh) Pass-by Trips (vehh) disting Site Adjustment Volume (vehh) Total Hourly Volume (vehh) Peak Hour Factor Other Adjustment Factor	Site-Generated Trips (vehh) Pass-by Trips (vehh) disting Site Adjustment Volume (vehh) Other Volume (vehh) Total Hourly Volume (vehh) Pask Hour Factor Other Adjustment Factor Total 15-Minute Volume (vehh)

Hyde Winery TIS MD Existing plus Project

W-Trans 6/8/2018

W-Trans



Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes

Intersection Setup

Control Type: Analysis Method: Analysis Period:

SR12-121	Westbound	L	Right	12.00	-	410.00	55.00	0.00	2
SR12	West	_	Thru	12.00	0	100.00	55	0	Z
-121	Eastbound	-	Thru	12.00	0	100:00	55.00	00:00	No
SR12-121	Eastb	L	Left	12.00	1	310.00	55	0.0	z
Old Sonoma Road	Southbound	L	Right	12.00	-	230.00	55.00	00:00	No
Old Sono	South	11	Left	12.00	0	100.00	55.	0.0	z
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Crosswalk	ON.	No	8
olumes			
o well	Caco amound Fig	SD12-121	CD12-121

110 5.5 1.0 72 2.0

1.0 101

1.0 59

1.0

3.0

19

1.0

Ailreu,
Split [s]
Vehicle Extension [s]
Walk [s]

No 2.0 ž § 2

2.0

2.0

2.0 No

Rest In Walk

운

2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

30

9 8 5.5

29

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

Lead

Lag

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

Control Type Lost time [s]

Phasing & Timing

Time of Day Pattern Isolated Fully actuated

120

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

60.7 E 0.927

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

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LeadGreen SingleBand

Offset Reference Permissive Mode

Offset [s]

0.00

Protected

SR12-121 289
1.0830
2.00
1.00
0.9700
1.0000
1

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] Pedestrian Signal Group Pedestrian Walk [s] Pedestrian Clearance [s]

0

W-Trans

Hyde Winery TIS PM Existing plus Approved plus Project

W-Trans 6/8/2018

W-Trans

PM Existing plus Approved plus Project Hyde Winery TIS



Lane Group Calculations

œ	162	6.50	00:00	4.50	93	0.57	0.01	1583	808	14.87	0.04	1.00	00:00	00:00	1.00	1.00
υ	162	6.50	00'0	4.50	63	0.57	0.57	1863	1068	33.79	0.31	1.00	18.64	14.60	1.00	1.00
O	162	6.50	00'0	4.50	126	0.78	0.62	1863	1457	10.11	0.50	1.00	4.53	0:30	1.00	1.00
	162	4.70	00.00	2.70	29	0.18	0.18	1774	318	66.29	0.45	1.00	55.12	89.10	1.00	1.00
œ	162	4.70	00'0	00:00	28	0.36	0.24	1583	565	44.20	0:20	1.00	09'9	4.80	1.00	1.00
_	162	4.70	00:00	2.70	24	0.15	0.03	1774	264	60.45	0.04	1.00	0.14	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	I1_p, Permitted Start-Up Lost Time [s]	I2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

14.87 B

67.03

14.93 B

210.51

55.60 E

64.09

Movement, Approach, & Intersection Results

Generated with PTV VISTRO
Version 5.00-05

56.65

d_M. Delay for Movement (siveh)
Movement LOS
d_A. Approach Delay (siveh)
Approach LOS
d_I. Intersection LOS
Intersection VIC

2

Sequence

Ring 1 - Ring 2 5 Ring 3 - Ring 4 - Rin

G:2 101s

3G: 5 29s

66.11

58.06 E 60.73 E E 0.927

Lane Group Results						
X, volume / capacity	0.21	0.68	1.03	62.0	0.99	0.02
d, Delay for Lane Group [s/veh]	64.09	55.60	210.51	14.93	67.03	14.87
Lane Group LOS	ш	ш	ш	В	В	В
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/In]	1.95	13.76	17.61	19.37	42.15	0.29
50th-Percentile Queue Length [ft/ln]	48.80	344.01	440.16	484.30	1053.83	7.29
95th-Percentile Queue Length [veh/ln]	3.51	19.84	24.84	26.59	52.80	0.52
95th-Percentile Cueue Length [ff/ln]	87.84	496 10	621 10	664.76	1320.02	13.12

W-Trans

Hyde Winery TIS PM Existing plus Approved plus Project

W-Trans 6/8/2018

Hyde Winery TIS PM Existing plus Approved plus Project

W-Trans



Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

416.1 F 1.059

Intersection Setup

Name	Los C	Los Carneros Avenue	/enne		Driveway			SR12-121		0,	SR 12-121	
Approach		Northbound	_	S	Southbound	,	"	Eastbound		>	Westbound	
Lane Configuration		+			+			늗			늗	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	-	0	-	-	0	-
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	190.00
Speed [mph]		55.00			55.00			55.00			55.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		S _N			ž			ž			2	

A 0.00

0.06 0.01 11.68 0.00 B A 0.19 0.00 4.72 0.00

0.00 0.00

10.37

d_I, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop 1 Ves No

Stop - 2

Priority Scheme Flared Lane

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 V/C, Movement V/C Ratio
 1.06
 0.00
 0.20
 0.53
 0.03
 0.01
 0.01
 0.00
 0.00
 0.00
 0.00
 0.00
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Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Volumes

_	Γ.	8	6	<u> </u>	Г	Г	Г	Г	Г	Г	Г	8	8	Г	Г.	Г
7	19	1.0830	2.00	1.00	0	0	0	0	0	0	21	0.9500	1.0000	9	22	
SR 12-121	961	1.0830	2.00	1.00	0	6	0	4	0	0	1046	0.9500	1.0000	275	1101	0
,	24	1.0830	2.00	1.00	0	9	0	0	0	0	32	0.9500	1.0000	8	34	
	8	1.0830	2.00	1.00	0	9	0	0	0	0	15	0.9500	1.0000	4	16	
SR12-121	1035	1.0830	2.00	1.00	0	25	0	4	0	0	1142	0.9500	1.0000	301	1202	0
0,	4	1.0830	2.00	1.00	0	0	0	0	0	0	4	0.9500	1.0000	1	4	
	8	1.0830	2.00	1.00	0	0	0	0	0	0	6	0.9500	1.0000	2	6	
Driveway	1	1.0830	2.00	1.00	0	0	0	0	0	0	-	0.9500	1.0000	0	1	0
	8	1.0830	2.00	1.00	0	0	0	0	0	0	6	0.9500	1.0000	2	6	
enue/	30	1.0830	2.00	1.00	0	12	0	0	0	0	44	0.9500	1.0000	12	46	
Los Carneros Avenue	0	1.0830	2.00	1.00	0	0	0	0	0	0	0	0.9500	1.0000	0	0	0
Los Ca	8	1.0830	2.00	1.00	0	12	0	0	0	0	21	0.9500	1.0000	9	22	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]

W-Trans

Hyde Winery TIS PM Existing plus Approved plus Project

W-Trans 6/8/2018



201.8 F 0.218 Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Volume to Capacity (v/c): Control Type: Analysis Method: Analysis Period:

Intersection Setup

	2-121	puno		Thru	12.00	0	100.00	55.00	0.00	9	
	SR 12-121	Mestbound	F	Left	12.00	1	170.00	99	0.0	z	
	2-121	Eastbound	t	Right	12.00	1	100.00	55.00	0.00	0	
	SR 12-121	Eastb	_	Thru	12.00	0	100.00	22	0.0	No No	
	Cuttings Wharf Road	ings Wharf Road Northbound	L	Right	12.00	0	100.00	55.00	00:00	0	
	Cuttings W	North	JL.	Left	12.00	0	100.00	99)'0	N N	
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk	

0.00 0.00

0.16 12.65 B 0.56 13.91

0.00 0.00

0.00 0.00

0.69 51.92 F 4.35 108.63

0.22 201.80 F 0.65 16.24

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

Stop

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

3.66 0.00

56.82

95th-Percentile Queue Length (vervin)
95th-Percentile Queue Length (titn)
d_A, Approach Deley (sveh)
Approach LOS

d_I, Intersection Delay [s/veh] Intersection LOS

Name	Cuttings M	Cuttings Wharf Road	SR 12-121	-121	SR 12-121	2-121
Base Volume Input [veh/h]	S	125	1041	11	75	1021
Base Volume Adjustment Factor	1.0830	1.0830	1.0830	1.0830	1.0830	1.0830
Heavy Vehicles Percentage [%]	2.00	2:00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	37	0	2	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	4	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]	5	139	1160	12	83	1121
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	+	37	309	3	22	298
Total Analysis Volume [veh/h]	2	148	1234	13	88	1193
Pedestrian Volume [ped/h]						

W-Trans

Hyde Winery TIS PM Existing plus Approved plus Project

W-Trans 6/8/2018

W-Trans

Hyde Winery TIS PM Existing plus Approved plus Project



Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes

37.5 D 0.783

Intersection Setup

Control Type: Analysis Method: Analysis Period:

	-121	Westbound	_	Right	12.00	-	410.00	55.00	00	9	
	SR12-121	West	-	Thru	12.00	0	100.00	55.	00:00	Ž	
	SR12-121	Eastbound	—	Thru	12.00	0	100.00	55.00	0.00	No	
	SR12	Eastb	Ļ	Left	12.00	1	310.00	22	0.0	Z	
	ma Road	Southbound		Right	12.00	1	230.00	55.00	00:00	No	
	Old Sonoma Road	Routh	JL.	Left	12.00	0	100.00	99)'0	Z	
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk	

9		FD40 404
No		5540 404
o _N		Pool owners of PiC
Crosswalk	Volumes	Nome
_		L

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1.0

1.0

4 2.0

1.0

All reu ,
Split [s]
Vehicle Extension [s]
Walk [s]

Pedestrian Clearance [s] Rest In Walk

86 2.0

3.0

2.0 4.5

2.0

2.0

2.0 No

2 2 2

2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

30 5.5 65 2.0

30 22 5.5

Lead

Lag

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

Control Type Lost time [s]

Phasing & Timing

Time of Day Pattern Isolated Fully actuated

100

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type
Offset [s]

Offset Reference Permissive Mode

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

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SingleBand LeadGreen

0.00

Protected

82

29 3.7

24

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

-121	18	1.0000	2.00	1.00	0	1	0	0	0	0	0	19	0.9800	1.0000	2	19	oN	0	0		
SR12-121	917	1.0000	2.00	1.00	0	27	0	φ	0	0	0	936	0.9800	1.0000	239	955	oN	0	0		0
:-121	1114	1.0000	2:00	1.00	0	26	0	0	0	0	0	1140	0.9800	1.0000	291	1163	oN	0	0		
SR12-121	230	1.0000	2.00	1.00	0	5	0	0	0	0	0	235	0.9800	1.0000	09	240	9	0	0	0	
ma Road	248	1.0000	2.00	1.00	0	7	0	0	0	0	0	255	0.9800	1.0000	65	260	oN	0	0	0	0
Old Sonoma Road	69	1.0000	2.00	1.00	0	3	0	0	0	0	0	72	0.9800	1.0000	18	73	o _N	0	0		0
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Right-Turn on Red Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Presence of On-Street Parking	On-Street Parking Maneuver Rate [/h]	Local Bus Stopping Rate [/h]	Pedestrian Volume [ped/h]	Bicycle Volume [bicycles/h]

1.00

1.00

9.1

1.00

1.00

0.0

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] Pedestrian Signal Group Pedestrian Walk [s] Pedestrian Clearance [s]

0

W-Trans

Hyde Winery TIS MD Existing plus Approved plus Project

W-Trans 6/8/2018

W-Trans

Hyde Winery TIS MD Existing plus Approved plus Project



Lane Group Calculations

ď	86	6.50	00:00	4.50	52	0.53	0.01	1583	836	11.06	0.04	1.00	0.00	00:00	1.00	1.00
၁	86	6.50	00.00	4.50	52	0.53	0.51	1863	984	22.42	0.10	1.00	7.50	14.60	1.00	1.00
O	86	6.50	0.00	4.50	72	0.74	0.62	1863	1371	9.11	0.29	1.00	4.02	0:30	1.00	1.00
٦ -	86	4.70	0.00	2.70	16	0.16	0.14	1774	283	40.08	0.11	1.00	68.9	89.10	1.00	1.00
œ	86	4.70	0.00	00:00	35	0.36	0.16	1583	999	24.23	0.14	1.00	0.73	4.80	1.00	1.00
٦	86	4.70	0.00	2.70	15	0.15	0.04	1774	266	36.99	0.04	1.00	0.21	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	I1_p, Permitted Start-Up Lost Time [s]	12, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

Laire Gloup nesuns							
X, volume / capacity	0.27	0.46	0.85	0.85	0.97	0.02	
d, Delay for Lane Group [s/veh]	40.69	29.76	136.07	13.43	44.51	11.06	
Lane Group LOS	۵	О	ш	В	٥	В	
Critical Lane Group	No	Yes	Yes	No	Yes	No	
50th-Percentile Queue Length [veh/ln]	1.47	4.31	5.78	11.36	19.36	0.17	
50th-Percentile Queue Length [ft/In]	36.79	107.67	144.46	283.94	483.88	4.27	
95th-Percentile Queue Length [veh/ln]	2.65	7.71	9.72	16.88	26.57	0.31	
Derocatile Original and the letter	CC 33	37 501	242.02	11001	3C 122	7 69	

((W-Trans

Hyde Winery TIS MD Existing plus Approved plus Project

W-Trans 6/8/2018

Hyde Winery TIS MD Existing plus Approved plus Project

Generated with PTV VISTRO Version 5.00-05

Movement, Approach, & Intersection Results

Г	$\overline{}$		_		_	$\overline{}$
11.06	В	98.	0			
44.51	Q	43.86	1			
13.43	В	11		37.53		33
136.07	ш	34.41	S	37.	۵	0.783
29.76	c	16				
40.69	Q	32.16	S			
d_M, Delay for Movement [s/veh]	MovementLOS	d_A, Approach Delay [s/veh]	Approach LOS	d_I, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C

Sequence

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King 1	Ring 2	Ring 3	Ring 4	G. 2 86s	G: 5 21s





Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

Г			Ę	_	Г	9	_		
_	ъ		Right	12.00	1	190.00			
SR 12-121	Westbound	늗	Thru	12.00	0	140.00	55.00	0.00	9 N
0,	۸	- 1	Left	12.00	1	140.00			
	_		Right	12.00	1	100.00			
SR12-121	Eastbound	늗	Thru	12.00	0	100.00	55.00	0.00	8
	3		Left	12.00	1	140.00			
	р		Right	12.00	0	100.00		0.00	
Driveway	Southbound	+	Thru	12.00	0	100.00	55.00		8 N
	S		Left	12.00	0	100.00			
venue	7		Right	12.00	0	100.00			
Los Carneros Avenue	Northbound	+	Thru	12.00	0	100.00	55.00	0.00	8 N
Los C	4		Left	12.00	0	100.00			
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

A 0.00

0.05 0.01 11.61 0.00 B A 0.16 0.00 4.12 0.00

A 0.00

4.46

d_l, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop 1 Ves No

Stop - 2

Priority Scheme Flared Lane

240.5 F 0.643

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 V/C, Movement V/C Ratio
 0.64
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Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

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Name	Los Ca	Los Carneros Avenue	enne/		Driveway			SR12-121			SR 12-121	
Base Volume Input [veh/h]	3	1	13	10	0	14	4	1156	13	17	666	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	12	0	0	0	0	16	13	12	15	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	o-	0	0	φ	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	1	25	10	0	14	4	1163	26	29	1006	13
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	9	3	0	4	1	297	7	7	257	8
Total Analysis Volume [veh/h]	16	1	26	10	0	14	4	1187	27	30	1027	13
Pedestrian Volume [ped/h]		0			0			0			0	

W-Trans

W-Trans 6/8/2018

Hyde Winery TIS MD Existing plus Approved plus Project



235.0 F 0.616 Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

	2-121	puno		Thru	12.00	0	100.00	00	00:00	No.
	SR 12-121	Westbound	L	Left	12.00	1	170.00	00'99	0.0	2
	SR 12-121	Eastbound		Right	12.00	1	100.00	55.00	0.00	No
	SR 12	Eastb	4	Thru	12.00	0	100.00	22	0.0	Z
	harf Road	Northbound	F	Right	12.00	0	100.00	55.00	00:00	No
	Cuttings Wharf Road	North	T	Left	12.00	0	100.00	.52	0.0	Z
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

0.00 0.00

0.13 12.38 B 0.45

0.00 0.00

0.00 0.00

0.39 31.37 D 1.76 43.89

0.62 234.98 F 2.03 50.76

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

Stop

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

A 3.26 0.00

67.86

95th-Percentile Queue Length (vervin)
95th-Percentile Queue Length (titn)
d_A, Approach Deley (sveh)
Approach LOS

d_I, Intersection Delay [s/veh]

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salino A		1			0	
Name	Cuttings W	Cuttings Whari Road	SK 12-121	-121	SK 12-121	-121
Base Volume Input [veh/h]	18	78	1158	28	89	1006
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	28	0	33	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	6-	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]	18	84	1177	28	71	1033
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]	2	22	303	7	18	266
Total Analysis Volume [veh/h]	19	28	1213	29	73	1065
Pedestrian Volume [bed/h]			0		0	

W-Trans

Hyde Winery TIS MD Existing plus Approved plus Project

W-Trans 6/8/2018

W-Trans

Hyde Winery TIS MD Existing plus Approved plus Project



Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

	-121	puno		Right	12.00	+	410.00	00	00	0
	SR12-121	Mestbound	_	Thru	12.00	0	100:00	00'99	00:00	9N
	-121	Eastbound		Thru	12.00	0	100.00	55.00	00:00	No
	SR12-121	Eastb	F	Left	12.00	1	310.00	22	0.0	Z
	ma Road	d Sonoma Road Southbound	L	Right	12.00	1	230.00	55.00	0.00	No
	Old Sonoma Road	South	1	Left	12.00	0	100.00	.52	0.0	Ž
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Permissive

Protected

Permissive

Control Type Lost time [s]

Phasing & Timing

120 Time of Day Pattern Isolated Fully actuated

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type
Offset [s]

83.3 F 1.007

Offset Reference Permissive Mode

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

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SingleBand LeadGreen 0.00 110 5.5 1.0 1 2.0

1.0 106 5.5

> 1.0 3.0

1.0

4 2.0

1.0

Ailreu,
Split [s]
Vehicle Extension [s]
Walk [s]

Pedestrian Clearance [s] Rest In Walk

3.7 29

24

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

2.0

No 2.0 ž § 2

8 S S S S S

2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

2.0

2.0

2.0 2.7

30

30 8

Lead

Lag

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

o N

Old Sonoma Road 289
1.0830 1.0830
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58 422
0.9700 0.9700
1.0000 1.0000
15 109
60 435
No No
0 0
0 0
0
0

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] 0

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

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ď	179	6.50	0.00	4.50	110	0.61	0.01	1583	973	13.45	0.04	1.00	00:00	0.00	1.00	1.00
0	179	6.50	00.00	4.50	110	0.61	0.64	1863	1145	34.45	0.50	1.00	37.40	14.60	1.00	1.00
O	179	6.50	0.00	4.50	144	08.0	69'0	1863	1496	11.27	0:20	1.00	6.79	0:30	1.00	1.00
٦ -	179	4.70	0.00	2.70	29	0.16	0.21	1774	288	74.86	0:00	1.00	149.36	89.10	1.00	1.00
ď	179	4.70	0.00	00:00	58	0.32	0.27	1583	511	56.50	0:20	1.00	16.20	4.80	1.00	1.00
٦	179	4.70	0.00	2.70	24	0.13	0.03	1774	238	69.32	0.04	1.00	0.20	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	11_p, Permitted Start-Up Lost Time [s]	l2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

Lane Group Results

\vdash
0.25
73.02
В
No
2.43
98:09
4.38
109.54

Generated with PTV VISTRO Version 5.00-05

	Movement, Approach, & Intersection Results	ults					
ш	d_M, Delay for Movement [s/veh]	73.02	77.50	313.33	18.37	86.45	13.45
ш	Movement LOS	ш	ш	ш	В	ш	В
ш	d_A, Approach Delay [s/veh]	92	76.95	83.84	84	85.25	25
	Approach LOS	ш	=	ш.		Ш	
-	d_I, Intersection Delay [s/veh]			83.33	33		
	Intersection LOS			_			
-	Intersection V/C			1.0	1.007		

Sequence

_	_	_	_	000000000000000000000000000000000000000
				SG:4 14s
				O)
	-	,		
	-	,		
	-	,		
		,		
,		,		
	-			SG: 6 77s
4		,		8
2	9			
	2			
Ring 1	Ring 2	Ring 3	Ring 4	G: 2 106s G: 5 29s



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Hyde Winery TIS PM Future plus Project





Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

4												
Name	Los C	Los Carneros Avenue	/enne		Driveway		,	SR12-121		0,	SR 12-121	
Approach	_	Northbound	_	S	Southbound			Eastbound	_	>	Westbound	_
Lane Configuration		+			+		·	뉴			늗	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	-	0	-	-	0	-
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	190.00
Speed [mph]		55.00			55.00			55.00			55.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		S _N			ž			2			S _N	

A 0.00

0.08 0.01 12.69 0.00 B A 0.24 0.00 6.06 0.00

0.00 0.00

25.94

d_I, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop - No

Stop - 2

Priority Scheme Flared Lane

967.4 F 1.905

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 V/IC, Movement V/C Ratio
 1.91
 0.00
 0.27
 1.17
 0.05
 0.05
 0.01
 0.01

 d_M, Delay for Movement [sveh]
 967.36
 852.82
 688.49
 789.20
 586.25
 421.75
 11.64
 0.00

 Movement LOS
 F
 F
 F
 F
 F
 F
 B
 A

 95th-Percentile Queue Length [verlvin]
 9.28
 8.28
 3.25
 3.25
 3.25
 0.03
 0.00

 95th-Percentile Queue Length [verlvin]
 207.00
 207.00
 813.0
 813.0
 81.30
 81.30
 0.03
 0.00

 4_A, Approach Delay [sveh]
 775.17
 775.17
 604.64
 9.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
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 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 0.04
 <td

Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Volumes

_	$\overline{}$	_	$\overline{}$		$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$		_	_	$\overline{}$	$\overline{}$	$\overline{}$
_	19	1.0830	2.00	1.14	0	0	0	0	0	0	24	0.9500	1.0000	9	22	
SR 12-121	961	1.0830	2:00	1.14	0	0	0	4-	0	0	1183	0.9500	1.0000	311	1245	0
0)	24	1.0830	2.00	1.14	0	9	0	0	0	0	36	0.9500	1.0000 1.0000	6	38	
	8	1.0830	2.00	1.14	0	9	0	0	0	0	16	0.9500	1.0000	4	17	
SR12-121	1035	1.0830	2:00	1.14	0	0	0	4-	0	0	1274	0.9500	1.0000	335	1341	0
0)	4	1.0830	2.00	1.14	0	0	0	0	0	0	2	0.9500	1.0000	-	2	
	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	е	11	
Driveway	1	1.0830	2.00	1.14	0	0	0	0	0	0	-	0.9500	1.0000	0	1	0
_	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	е	11	
enne/	30	1.0830	2.00	1.14	0	12	0	0	0	0	48	0.9500	1.0000	13	51	
Los Carneros Avenue	0	1.0830	2.00	1.14	0	0	0	0	0	0	0	0.9500	1.0000	0	0	0
Los Ca	8	1.0830	2.00	1.14	0	12	0	0	0	0	22	0.9500	1.0000	9	23	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]

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W-Trans 6/12/2018



Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

-121	puno		Thru	12.00	0	100:00	00	00	
SR 12	Westb	F	Left	12.00	1	170.00	55.	0.0	Š
2-121	puno	L	Right	12.00	1	100.00	00	00	No
SR 12	Eastb	=	Thru	12.00	0	100.00	99	0.0	Z
/harf Road	punoc	L	Right	12.00	0	100:00	00	0.00	0
Cuttings M	North	r	Left	12.00	0	100.00	929		No
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk
	Name Cuttings Wharf Road SR 12-121 SR 12-121	Cutings What Road SR 12-121 Northbound Eastbound	Cutings Wharf Road SR 12-121 Northbound Eastbound	Cutrings Wharf Road SR 12-121 SR 12-121 Northbound Eastbound Westbound Thru Right Left	Cutrings Wharf Road SR 12-121 SR 12-121 Northbound Eastbound Westbound The Left Right Thru Right Left 12.00 12.	Cuttings Wharf Road SR 12-121 SR 12-121 SR 12-121 Northbound Eastbound Westbound T Image: Property of the property of th	Cuttings Wharf Road SR 12-121 SR 12-121 Northbound Eastbound Westbound Left Right Thru Right Left 12.00 12.00 12.00 12.00 12.00 12.00 0 0 0 1 1 1 100.00 100.00 100.00 170.00 170.00	Cuttings Wharf Road SR 12-121 SR 12-121 Northbound Eastbound Westbound Mestbound	Cuttings Wharf Road SR 12-121 SR 12-121 Northbound Eastbound Westbound Westbound

0.00 0.00

0.20 14.13 B 0.74 18.39

0.00 0.00

0.00 0.00 0.00

0.92 101.33 F 7.03 175.87

0.45 410.63 F 1.10 27.61

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

Stop

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

410.6 F 0.446

96.0

A 6.81 0.00

112.24

95th-Percentile Queue Length (vervin)
95th-Percentile Queue Length (titn)
d_A, Approach Deley (sveh)
Approach LOS

d_I, Intersection Delay [s/veh] Intersection LOS

SN.		
ON		
ON		
Crosswalk	Volumes	

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W-Trans 6/12/2018



Hyde Winery TIS PM Future plus Project



Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

	_	_		_	_		_	_	_	
	2-121	puno	L	Right	12.00	1	410.00	55.00	00.00	8
	SR12-121	Mestbound	=	Thru	12.00	0	100.00	99	0.0	z
	-121	puno		Thru	12.00	0	100:00	00	0.00	0
	SR12-121	Eastbound	F	Left	12.00	1	310.00	55.00		No
	ma Road	punoc	L	Right	12.00	1	230.00	00		No
	Old Sonoma Road	Southbound	F	Left	12.00	0	100:00	55.00	00:00	Ž
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Permissive

Protected

Permissive

Control Type Lost time [s]

Phasing & Timing

Time of Day Pattern Isolated Fully actuated

170

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

58.2 E 0.875

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

ટ

SingleBand LeadGreen

Permissive Mode Offset Reference

Offset [s]

0.00

1.0 119

1.0 154 5.5

> 1.0 35

1.0

16

1.0

Ailreu,
Split [s]
Vehicle Extension [s]
Walk [s]

Pedestrian Clearance [s] Rest In Walk

3.7 29

2.0

2.0

30 5.5

30 22

Lead

Lag

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

82

2.0 4.5

8 S S S S S

2.0 No No No

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

2.0

2.0 2.7

2 2 2

Crosswalk	ON.	ON.	2
mes			
Nemo	Pool Company PIO	SB12.121	SB12-121

Name	Old Sono	Old Sonoma Road	SR12-121	-121	SR1	SR12-121
Base Volume Input [veh/h]	69	248	230	1114	917	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2:00	2.00	2.00	2.00	2.00
Growth Rate	1.14	1.14	1.14	1.14	1.14	1.14
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	13	13	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	φ	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]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	283	262	1283	1050	21
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]	20	72	29	327	268	2
Total Analysis Volume [veh/h]	81	289	267	1309	1071	21
Presence of On-Street Parking	oN	oN	S N	No	oN	oN
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h])	0)	0))
Bicycle Volume [bicycles/h])	0)	0

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] 0

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

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W-Trans 6/12/2018

W-Trans

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Lane Group Calculations

œ	149	6.50	00.00	4.50	85	0.57	0.01	1583	903	13.93	0.04	1.00	00:00	0.00	1.00	1.00	
O	149	6.50	00'0	4.50	85	0.57	0.57	1863	1063	31.99	0.46	1.00	28.43	14.60	1.00	1.00	
O	149	6.50	00'0	4.50	114	0.77	0.70	1863	1429	13.59	0.50	1.00	10.71	0:30	1.00	1.00	
_	149	4.70	00'0	2.70	25	0.17	0.15	1774	293	61.12	0.27	1.00	22.06	89.10	1.00	1.00	
œ	149	4.70	00'0	00:00	53	0.35	0.18	1583	561	37.98	0:20	1.00	3.36	4.80	1.00	1.00	
_	149	4.70	00:00	2.70	24	0.16	0.05	1774	280	55.37	0.04	1.00	0.21	3.50	1.00	1.00	
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	11_p, Permitted Start-Up Lost Time [s]	I2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor	

Lane Group Results						
X, volume / capacity	0.29	0.52	0.91	0.92	1.01	0.02
d, Delay for Lane Group [s/veh]	59.08	46.14	172.28	24.60	75.02	13.93
Lane Group LOS	В	Q	н	О	Ы	В
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.63	8.55	11.39	28.99	42.42	0.29
50th-Percentile Queue Length [ft/In]	65.84	213.70	284.78	724.81	1060.46	7.34
95th-Percentile Queue Length [veh/ln]	4.74	13.34	16.93	37.82	53.47	0.53
95th-Percentile Changle Length [#/ln]	118 50	333.57	423.16	945 57	1336 78	13.22

Generated with PTV VISTRO Version 5.00-05

Movement, Approach, & Intersection Results

_	_	_	_	_	_	_	
13.93	В	73.85					
75.02	ш	73.	ш				
24.60	0	62		25		75	
172.28	ш	49.62		58.25	Ш	0.875	
46.14	٥	97					
59.08	ш	48.97					
d_M, Delay for Movement [s/veh]	Movement LOS	d_A, Approach Delay [s/veh]	Approach LOS	d_I, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C	

Ring 1 - 2 4	Sequence	e													
92 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ring 1		2	4						,					
154 · · · · · · · · · · · · · · · · · · ·	Ring 2	2	9			ï	,	,							,
154s SG:6 119s SG:6 119s	Ring 3		-	,		,	,		-		,	,	,		,
154s 35s SG:6 119s	Ring 4		,												
	TO 100	1865		9.56.6	82									\$6.4	



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Hyde Winery TIS MD Future plus Project







Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

527.6 F 1.063

Intersection Setup

		_										
				Right	12.00	-	190.00					
	SR 12-121	Westbound	北	Thru	12.00	0	100.00	55.00	0.00	§.		
	0,	Λ		Left	12.00	-	140.00					
		1		Right	12.00	1	100.00					
	SR12-121	Eastbound	北	Thru	12.00	0	100.00	55.00	0.00	8 N		
		ш	Eac		Left	12.00	-	140.00				
		р		Right	12.00	0	100.00					
	Los Carneros Avenue Driveway	Southbound	+	Thru	12.00	0	100.001	55.00	00.00	9 N		
		S		Left	12.00	0	100.00					
		р		Right	12.00	0	100.00					
		Northbound	Vorthbound	Northbound	orthbound	+	+	+		55.00	55.00	0.00
	Los C	۷		Left	12.00	0	100.00					
	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk		

A 0.00

0.06 0.01 12.64 0.00 B A 0.20 0.00 5.08 0.00

0.00 0.00

10.08

d_I, Intersection Delay [s/veh] Intersection LOS

Approach LOS

Free

Stop 1 Ves No

Stop - 2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

 U/IC, Movement WCRatio
 1.06
 0.04
 0.15
 0.85
 0.00
 0.07
 0.01
 0.01

 d_M, Delay for Movement [s/veh]
 527.63
 440.11
 307.56
 47724
 354.88
 214.94
 11.08
 0.00

 Movement LOS
 F
 F
 F
 F
 F
 F
 B
 A

 95th-Percentile Queue Length [veh/in]
 463
 463
 2.98
 2.98
 2.98
 0.00
 0.00

 95th-Percentile Queue Length [th/n]
 115.83
 115.83
 74.54
 74.54
 0.63
 0.00

 4_A Approach Delay [s/veh]
 388.75
 32.80
 2.38
 7.34
 0.63
 0.00

Movement, Approach, & Intersection Results

13	1.0000	2.00	1.14	0	0	0	0	0	0	15	0.9800	1.0000	4	15	
666	1.0000	2.00	1.14	0	0	0	φ	0	0	1131	0.9800	1.0000	289	1154	0
17	1.0000	2.00	1.14	0	12	0	0	0	0	31	0.9800	1.0000	8	32	
13	1.0000	2.00	1.14	0	13	0	0	0	0	28	0.9800	1.0000	7	59	
1156	1.0000	2.00	1.14	0	0	0	φ	0	0	1309	0.9800	1.0000	334	1336	0
4	1.0000	2.00	1.14	0	0	0	0	0	0	2	0.9800	1.0000	-	5	
14	1.0000	2.00	1.14	0	0	0	0	0	0	16	0.9800	1.0000	4	16	
0	1.0000	2.00	1.14	0	0	0	0	0	0	0	0.9800	1.0000	0	0	0 0
10	1.0000	2.00	1.14	0	0	0	0	0	0	11	0.9800	1.0000	3	11	
13	1.0000	2.00	1.14	0	12	0	0	0	0	27	0.9800	1.0000	7	28	
1	1.0000	2.00	1.14	0	0	0	0	0	0	1	0.9800	1.0000	0	1	
3	1.0000	2.00	1.14	0	13	0	0	0	0	16	0.9800	1.0000	4	16	
Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]
	3 1 1 13 10 0 14 4 1156 13 17 999	3 1 13 10 0 14 4 1156 13 17 999 1 1.000 1.00	3 1 1 13 10 0 14 4 1156 13 17 899 1000 1.000	3 1 13 10 0 14 4 1156 13 17 989 1,000	3 1 13 10 0 14 4 1166 13 17 899 1.0000 1	3 1 13 10 0 14 4 1166 13 17 899 1,000 1,100	3 1 13 10 0 14 4 1156 13 17 899 1,0000 1,14 <	3 1 13 10 0 14 4 1156 13 17 890 1,0000 1,114 1,14	3 1 13 10 0 14 4 1156 13 17 899 1,0000 <td> 1 13 10 10 14 14 1156 13 17 899 10000 1,00000 1,00000 1,0000 1,00000 1,00000 1,00000 1,00000 1,00000 1,0000</td> <td>3 1 13 10 0 14 4 1156 13 17 989 1,0000 1,114 1,14<td>3 1 13 10 0 14 4 1156 13 17 980 1,0000 1,1000 1,100<</td><td>3 1 13 10 0 14 4 1156 13 17 989 1,0000 1,100 1,100 1,100 1,114 1,14<</td><td>3 11 13 10 0 14 4 1156 13 17 890 1,0000<!--</td--><td>3 11 13 10 0 14 4 1156 13 17 989 1,0000<!--</td--></td></td></td>	1 13 10 10 14 14 1156 13 17 899 10000 1,00000 1,00000 1,0000 1,00000 1,00000 1,00000 1,00000 1,00000 1,0000	3 1 13 10 0 14 4 1156 13 17 989 1,0000 1,114 1,14 <td>3 1 13 10 0 14 4 1156 13 17 980 1,0000 1,1000 1,100<</td> <td>3 1 13 10 0 14 4 1156 13 17 989 1,0000 1,100 1,100 1,100 1,114 1,14<</td> <td>3 11 13 10 0 14 4 1156 13 17 890 1,0000<!--</td--><td>3 11 13 10 0 14 4 1156 13 17 989 1,0000<!--</td--></td></td>	3 1 13 10 0 14 4 1156 13 17 980 1,0000 1,1000 1,100<	3 1 13 10 0 14 4 1156 13 17 989 1,0000 1,100 1,100 1,100 1,114 1,14<	3 11 13 10 0 14 4 1156 13 17 890 1,0000 </td <td>3 11 13 10 0 14 4 1156 13 17 989 1,0000<!--</td--></td>	3 11 13 10 0 14 4 1156 13 17 989 1,0000 </td

Hyde Winery TIS MD Future plus Project W-Trans 6/12/2018







540.9 F 1.150 Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes

Stop

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Intersection Setup

Control Type: Analysis Method: Analysis Period:

	2-121	puno		Thru	12.00	0	100.00	55.00	00	0
	SR 12-121	Westbound	F	Left	12.00	1	170.00	55.	00:00	9N
	2-121	Eastbound	L	Right	12.00	1	100.00	55.00	00:00	No
	SR 12-121	Eastb	_	Thru	12.00	0	100.00	22	0.0	Z
	harf Road	punoc	L	Right	12.00	0	100.00	55.00	00:00	No
	Cuttings Wharf Road	Northbound	1	Left	12.00	0	100.00	.52	0.0	Z
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

0.00 0.00

0.16 13.79 B 0.58 14.50

0.00 0.00

0.00 0.00

0.51 43.99 E 2.54 63.38

1.15 540.87 F 3.06 76.43

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

A 6.12 0.00

139.88

95th-Percentile Queue Length (vervin)
95th-Percentile Queue Length (titn)
d_A, Approach Deley (sveh)
Approach LOS

d_I, Intersection Delay [s/veh] Intersection LOS

Volumes	

Name	Cuttings M	Cuttings Wharf Road	SR 12-121	2-121	SR 12-121	2-121
Base Volume Input [veh/h]	18	78	1158	28	89	1006
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.14	1.14	1.14	1.14	1.14	1.14
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	12	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	6-	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]	21	68	1323	32	78	1159
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]	2	23	341	8	20	299
Total Analysis Volume [veh/h]	22	92	1364	33	80	1195
Pedestrian Volume [bed/h]						

W-Trans 6/12/2018

W-Trans

Hyde Winery TIS MD Future plus Project



Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

	_	_		_	_	_	_	_	_	_
	-121	puno		Right	12.00	1	410.00	00	00:00	No
	SR12-121	Westbound	=	Thru	12.00	0	100.00	00'99)'0	2
	-121	puno		Thru	12.00	0	100.00	55.00	00	0
	SR12-121	Eastbound	F	Left	12.00	1	310.00	55.	0.00	No
	ma Road	punoc	L	Right	12.00	1	230.00	92.00	0.00	No
	Old Sono	Old Sonoma Road Southbound	F	Left	12.00	0	100.00	52.	0.0	Z
da	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Crosswalk	No.	No	9
nes			
Name	Old Sonoma Boad	SB12-121	SB12,121

110 5.5 1.0 1 2.0

1.0 106

1.0 3.0

1.0

4 2.0

1.0

Ailreu,
Split [s]
Vehicle Extension [s]
Walk [s]

Pedestrian Clearance [s] Rest In Walk

2.0

2.0 4.5

2.0 No No No

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

2.0

2.0 2.7

2 2 2

30

30 8 5.5

Lead

Lag

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

Control Type

Phasing & Timing

29

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

120 Time of Day Pattern Isolated Fully actuated

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

83.4 F 1.007

Offset Reference Permissive Mode

Lost time [s]

Offset [s]

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

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SingleBand LeadGreen 0.00

Protected

Name	Old Sono	Old Sonoma Road	SR12	SR12-121	SR12-121	2-121
Base Volume Input [veh/h]	47	342	289	1008	928	16
Base Volume Adjustment Factor	1.0830	1.0830	1.0830	1.0830	1.0830	1.0830
Heavy Vehicles Percentage [%]	2.00	2:00	2.00	2:00	2.00	2.00
Growth Rate	1.14	1.14	1.14	1.14	1.14	1.14
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	33	12	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	4	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]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	422	357	1278	1154	19
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	109	76	329	297	2
Total Analysis Volume [veh/h]	09	435	368	1318	1190	20
Presence of On-Street Parking	No	oN	oN N	oN	oN	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0)))	
Bicycle Volume [bicycles/h]		0		0		0

1.00

1.00

9.1

1.00

1.00

0.0

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] Pedestrian Signal Group Pedestrian Walk [s] Pedestrian Clearance [s]

0

W-Trans

Hyde Winery TIS PM F + P + 150-P Event

W-Trans 9/11/2018





М	179	6.50	0.00	4.50	110	19:0	0.01	1583	973	13.45	0.04	1.00	00:00	0.00	1.00	1.00
၁	179	6.50	00.00	4.50	110	0.61	0.64	1863	1145	34.45	0.50	1.00	37.40	14.60	1.00	1.00
O	179	6.50	0.00	4.50	144	0.80	0.71	1863	1496	11.85	0.50	1.00	7.78	0:30	1.00	1.00
	179	4.70	0.00	2.70	29	0.16	0.21	1774	288	74.86	0:20	1.00	149.36	89.10	1.00	1.00
ĸ	179	4.70	0.00	00:00	58	0.32	0.27	1583	511	56.50	0.50	1.00	16.20	4.80	1.00	1.00
	179	4.70	0.00	2.70	24	0.13	0.03	1774	238	69.32	0.04	1.00	0.20	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	11_p, Permitted Start-Up Lost Time [s]	I2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

Generated with PTV VISTRO Version 5.00-05

Movement, Approach, & Intersection Results

\Box	_		_		_	_
13.45	В	85.25	ш			
86.45	ш	85				
19.94	В	97		40		20
313.33	ш	83.97	ш.	83.40	_	1.007
77.50	В	95				
73.02	3	76.95	3			
d_M, Delay for Movement [s/veh]	Movement LOS	d_A, Approach Delay [s/veh]	Approach LOS	d_I, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C

Sequence

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	2			
Ring 1	Ring 2	Ring 3	Ring 4	G: 2 106s G: 5 29s



W-Trans 9/11/2018







Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

SR12-121	Bastbound	ᆌ	Thru Right Left Thru Right Left Thru Right	0 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00	0 0 1 0 1 0 1	0 100.00 100.00 140.00 100.00 100.00 140.00 100.00 190.00	55.00 55.00 55.00	00.00 00.00	CN CN
Los Cameros Avenue	Northbound	+	Left Thru Right Left	12.00 12.00 12.00 12.00	0 0 0 0	00.00 100.00 100.00 100.00	55.00	0.00	CZ.
ameN		Lane Configuration	Turning Movement Left	Lane Width [ft] 12.00	No. of Lanes in Pocket 0	Pocket Length [ft] 100.00	Speed [mph]	Grade [%]	Vicesimaly

0.13 0.01 0.00 13.41 0.00 0.00 B A A 0.46 0.00 0.00 11.47 0.00 0.00

0.00 0.00

31.30

d_l, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop No - No

Stop - 8

Priority Scheme Flared Lane

1,171.0 F 2.220

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 V/IC, Movement WCRatio
 2.22
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Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Volumes

—	$\overline{}$	0	Г	Γ.	Г	Г		Г	Г	$\overline{}$	Г	<u>_</u>	6	_	Г	Г
_	19	1.0830	2.00	1.14	0	0	0	0	0	0	24	0.9500	1.0000	9	22	
SR 12-121	961	1.0830	2.00	1.14	0	0	0	4	0	0	1183	0.9500	1.0000	311	1245	0
0,	24	1.0830	2.00	1.14	0	33	0	0	0	0	63	0.9500	1.0000	17	99	
	8	1.0830	2.00	1.14	0	33	0	0	0	0	43	0.9500	1.0000	11	45	
SR12-121	1035	1.0830	2.00	1.14	0	0	0	4	0	0	1274	0.9500	1.0000	335	1341	0
0)	4	1.0830	2.00	1.14	0	0	0	0	0	0	2	0.9500	1.0000	-	2	
	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	3	11	
Driveway	1	1.0830	2.00	1.14	0	0	0	0	0	0	-	0.9500	1.0000	0	1	0
۵	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	3	11	
enne/	30	1.0830	2.00	1.14	0	12	0	0	0	0	48	0.9500	1.0000	13	51	
Los Carneros Avenue	0	1.0830	2.00	1.14	0	0	0	0	0	0	0	0.9500	1.0000	0	0	0
Los Ca	8	1.0830	2.00	1.14	0	12	0	0	0	0	22	0.9500	1.0000	9	23	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]



Hyde Winery TIS PM F + P + 150-P Event

W-Trans 9/11/2018

W-Trans

Hyde Winery TIS PM F + P + 150-P Event



Intersection Level Of Service Report
Two-way sup PEM 210 (2014)
TWOM 2010
The POM 2

Control Type: Analysis Method: Analysis Period:

Intersection Setup						
Name	Cuttings Wharf Road	harf Road	SR 12-121	2-121	SR 12-121	2-121
Approach	Northbound	punoc	Eastb	Eastbound	West	Westbound
Lane Configuration	1	L	_	L	F	_
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	170.00	100.00
Speed [mph]	22.00	00	22	55.00	99	55.00
Grade [%]	00'0	00	0.00	00	0.0	0.00
Crosswalk	No	0	Z	No	z	No No

Volumes

Name	Cuttings W	Cuttings Wharf Road	SR 12-121	2-121	SR 12-121	2-121
Base Volume Input [veh/h]	2	125	1041	11	75	1021
Base Volume Adjustment Factor	1.0830	1.0830	1.0830	1.0830	1.0830	1.0830
Heavy Vehicles Percentage [%]	2.00	2:00	2.00	2:00	2.00	2.00
Growth Rate	1.14	1.14	1.14	1.14	1.14	1.14
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	12	0	0	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	4	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]	9	154	1293	14	92	1294
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	41	344	4	24	344
Total Analysis Volume [veh/h]	9	164	1376	15	86	1377
Pedestrian Volume [ped/h]		0				



435.3 F 0.466

Generated with PTV VISTRO Version 5.00-05

Intersection Settings

Priority Scheme	Stop	Free	Free
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No.		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results	nlts						
V/C, Movement V/C Ratio	0.47	0.92	0.01	0.00	0.20	0.01	_
d_M, Delay for Movement [s/veh]	435.29	101.33	0.00	0.00	14.13	0.00	
Movement LOS	ш	ш	۷	¥	В	٧	_
95th-Percentile Queue Length [veh/ln]	1.13	7.03	0.00	0.00	0.74	00:00	_
95th-Percentile Queue Length [ft/ln]	28.28	175.87	0.00	0.00	18.39	00:00	_
d_A, Approach Delay [s/veh]	113	113.11	0.0	0.00	0	0.94	_
Approach LOS		L	ď		,	-	
d_I, Intersection Delay [s/veh]			6.79	62			_
Intersection LOS							_



Hyde Winery TIS PM F + P + 150-P Event

W-Trans 9/11/2018

Hyde Winery TIS PM F + P + 150-P Event





Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes

59.1 E 0.875

Intersection Setup

Control Type: Analysis Method: Analysis Period:

2-121	Westbound	L	Right	12.00	1	410.00	55.00	00:00	No.
SR12-121	Westt		Thru	12.00	0	100.00	55	0.0	z
2-121	Eastbound	_	Thru	12.00	0	100.00	55.00	0.00	No
SR12-121	Eastb	F	Left	12.00	1	310.00	55	0.0	Z
Old Sonoma Road	Southbound	Ŀ	Right	12.00	-	230.00	55.00	00:00	No
Old Sono	South	1	Left	12.00	0	100.00	55.)'0	Z
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Crosswalk	No	No	No
Volumes			
owold	Old Sonomo Bood	CD42.424	SD10,101

1.0 119

1.0 154 5.5 30

> 1.0 35

1.0

16

1.0

All reu ,
Split [s]
Vehicle Extension [s]
Walk [s]
''qara'

Pedestrian Clearance [s]

Rest In Walk

2.0

2.0

No 2.0 ž § 8

2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

2.0

2.0

2.0 No

30 5.5

Lead

Lag

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

Control Type

Phasing & Timing

Time of Day Pattern Isolated Fully actuated

170

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

Offset Reference Permissive Mode

Lost time [s]

Offset [s]

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

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SingleBand LeadGreen

0.00

Protected

82

29

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
SR12-121	18	1.0000	2.00	1.14	0	0	0	0	0	0	0	21	0.9800	1.0000	2	21	oN	0	0	0	0
SR12	917	1.0000	2.00	1.14	0	13	0	φ	0	0	0	1050	0.9800	1.0000	268	1071	oN	0	0		
-121	1114	1.0000	2:00	1.14	0	40	0	0	0	0	0	1310	0.9800	1.0000	334	1337	No	0	0		
SR12-121	230	1.0000	2.00	1.14	0	0	0	0	0	0	0	262	0.9800	1.0000	29	267	92	0	0	0	1
ma Road	248	1.0000	2.00	1.14	0	0	0	0	0	0	0	283	0.9800	1.0000	72	289	No	0	0	0	
Old Sonoma Road	69	1.0000	2.00	1.14	0	0	0	0	0	0	0	62	0.9800	1.0000	20	81	oN	0	0		0
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Right-Turn on Red Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Presence of On-Street Parking	On-Street Parking Maneuver Rate [/h]	Local Bus Stopping Rate [/h]	Pedestrian Volume [ped/h]	Bicycle Volume [bicycles/h]

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] Pedestrian Signal Group Pedestrian Walk [s] Pedestrian Clearance [s]

0

W-Trans

W-Trans 9/11/2018

Hyde Winery TIS MD F + P + 150-P Event





æ	149	6.50	00:00	4.50	85	0.57	0.01	1583	903	13.93	0.04	1.00	0.00	00:00	1.00	1.00
0	149	6.50	00.00	4.50	85	0.57	0.57	1863	1063	31.99	0.46	1.00	28.43	14.60	1.00	1.00
O	149	6.50	0.00	4.50	114	72.0	0.72	1863	1429	14.31	0.50	1.00	12.73	0:30	1.00	1.00
	149	4.70	0.00	2.70	25	0.17	0.15	1774	293	61.12	0.27	1.00	22.06	89.10	1.00	1.00
œ	149	4.70	0.00	00:00	53	0.35	0.18	1583	561	37.98	0.50	1.00	3.36	4.80	1.00	1.00
	149	4.70	0.00	2.70	24	0.16	0.05	1774	280	55.37	0.04	1.00	0.21	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	11_p, Permitted Start-Up Lost Time [s]	l2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

			_		_		_	_
	0.02	13.93	В	No	0.29	7.34	0.53	40.00
	1.01	75.02	Ы	Yes	42.42	1060.46	53.47	1335 70
	0.94	27.34	Э	No	31.67	791.67	40.90	1000 40
	0.91	172.28	Ы	Yes	11.39	284.78	16.93	31 661
	0.52	46.14	Q	Yes	8.55	213.70	13.34	230 67
	0.29	59.08	В	No	2.63	65.84	4.74	110 50
Faire Group results	X, volume / capacity	d, Delay for Lane Group [s/veh]	Lane Group LOS	Critical Lane Group	50th-Percentile Queue Length [veh/In]	50th-Percentile Queue Length [ft/In]	95th-Percentile Queue Length [veh/In]	14 Possonia Original 1440

Generated with PTV VISTRO Version 5.00-05

Movement, Approach, & Intersection Results

_	_	_	_	_	_	_
13.93	В	73.85				
75.02	Н	73.	ш			
27.34	၁	47		14		75
172.28	ч	51.47	۵	59.14	Ш	0.875
46.14	۵	97				
59.08	В	48.97				
d_M, Delay for Movement [s/veh]	Movement LOS	d_A, Approach Delay [s/veh]	Approach LOS	d_l, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C

Ring 1 2 4 - <th>Sequence</th> <th></th>	Sequence												
192 5 6	Ĺ							,	,	,			,
154													
154s SG:6 119s				,	-	,							
35s 5G: 6								,			-		,
9:5S 9:5S	SG:2 154s											ģ	æ
	1.00	SS	s 118s										30000000



W-Trans 9/11/2018

W-Trans

Hyde Winery TIS MD F + P + 150-P Event





Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes

639.7 F 1.221

Intersection Setup

Control Type: Analysis Method: Analysis Period:

da por constant								1		ľ	1	
Name	Los C	Los Carneros Avenue	/enne		Driveway		,	SR12-121		0)	SR 12-121	
Approach	_	Northbound	_	S	Southbound	70	Ш	Eastbound		۸	Westbound	_
Lane Configuration		+			+		·	늗			늗	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	-	0	-	-	0	-
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	190.00
Speed [mph]		55.00			55.00			55.00			55.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		8			8			8			S	

A 0.00

0.12 0.01 13.32 0.00 B A 0.41 0.00 10.16 0.00

0.00 0.00

12.43

d_I, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop - No

Stop - 8

Priority Scheme Flared Lane

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 V/IC, Movement V/C Ratio
 1.22
 0.05
 0.15
 1.00
 0.00
 0.07
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 0.01
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Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Volumes

_		9	_	_	Г	Г	Г	Г	П	_		<u> </u>	g	_	Г	
-	13	1.0000	2.00	1.14	0	0	0	0	0	0	15	0.9800	1.0000	4	15	
SR 12-121	666	1.0000	2.00	1.14	0	0	0	φ	0	0	1131	0.9800	1.0000	289	1154	0
0,	17	1.0000	2.00	1.14	0	39	0	0	0	0	58	0.9800	1.0000	15	69	
	13	1.0000	2.00	1.14	0	40	0	0	0	0	55	0.9800	1.0000	14	999	
SR12-121	1156	1.0000	2.00	1.14	0	0	0	6-	0	0	1309	0.9800	1.0000	334	1336	0
0,	4	1.0000	2:00	1.14	0	0	0	0	0	0	2	0.9800	1.0000	1	5	
	14	1.0000	2.00	1.14	0	0	0	0	0	0	16	0.9800	1.0000	4	16	
Driveway	0	1.0000	2.00	1.14	0	0	0	0	0	0	0	0.9800	1.0000	0	0	0
	10	1.0000	2.00	1.14	0	0	0	0	0	0	11	0.9800	1.0000	3	11	
enne/	13	1.0000	2.00	1.14	0	12	0	0	0	0	27	0.9800	1.0000	7	28	
Los Carneros Avenue	-	1.0000	2.00	1.14	0	0	0	0	0	0	1	0.9800	1.0000	0	1	0
Los Ca	9	1.0000	2.00	1.14	0	13	0	0	0	0	16	0.9800	1.0000	4	16	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]



Hyde Winery TIS MD F + P + 150-P Event

W-Trans 9/11/2018



Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

574.9 F 1.200

Intersection Setup

	2-121	puno		Thru	12.00	0	100.00	55.00	00	0
	SR 12-121	Westbound	F	Left	12.00	1	170.00	55.	00:00	9N
	2-121	Eastbound	L	Right	12.00	1	100.00	55.00	00:00	No
	SR 12-121	Eastb	_	Thru	12.00	0	100.00	22	0.0	Z
	harf Road	ponoc	L	Right	12.00	0	100.00	55.00	00:00	No
	Cuttings Wharf Road	Northbound	1	Left	12.00	0	100.00	.52	0.0	Z
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Volumes	

_			Г	Г	Г	_	Г	Г	Г	Г	Г	Г	_	Г	Г	
2-121	1006	1.0000	2.00	1.14	0	39	0	0	0	0	1186	0.9700	1.0000	306	1223	
SR 12-121	89	1.0000	2.00	1.14	0	0	0	0	0	0	78	0.9700	1.0000	20	80	
-121	28	1.0000	2:00	1.14	0	0	0	0	0	0	32	0.9700	1.0000	8	33	
SR 12-121	1158	1.0000	2.00	1.14	0	12	0	6-	0	0	1323	0.9700	1.0000	341	1364	0
harf Road	78	1.0000	2:00	1.14	0	0	0	0	0	0	68	0.9700	1.0000	23	92	
Cuttings Wharf Road	18	1.0000	2.00	1.14	0	0	0	0	0	0	21	0.9700	1.0000	2	22	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]

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Intersection Settings

Results
Intersection
જ
Approach
lovement,

V/C, Movement V/C Ratio	1.20	0.51	0.01	0.00	0.16	0.01
d_M, Delay for Movement [s/veh]	574.91	43.99	0.00	0.00	13.79	0.00
Movement LOS	ш	ш	۷	٧	В	۷
95th-Percentile Queue Length [veh/ln]	3.11	2.54	00:00	0.00	0.58	00:00
95th-Percentile Queue Length [ft/ln]	97.77	63.38	0.00	0.00	14.50	00:00
d_A, Approach Delay [s/veh]	146	146.45	0.0	0.00	ro	0.85
Approach LOS		L	×		,	-
d_I, Intersection Delay [s/veh]			9	6.33		
Intersection LOS						

W-Trans 9/11/2018

W-Trans

Hyde Winery TIS MD F + P + 150-P Event





Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

	-121	puno		Right	12.00	+	410.00	00	00	0
	SR12-121	Mestbound	_	Thru	12.00	0	100:00	55.00	00'0	<u>N</u>
	2-121	Eastbound		Thru	12.00	0	100.00	55.00	00:00	No
	SR12-121	East	F	Left	12.00	1	310.00	52	0.	Z
	ma Road	Southbound	L	Right	12.00	1	230.00	55.00	0.00	No
	Old Sonoma Road	gonth	JL.	Left	12.00	0	100:00	52	0	N
mersection setup	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Permissive

Protected

120 Time of Day Pattern Isolated Fully actuated

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

82.0 F 1.000

Offset Reference Permissive Mode

Offset [s]

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

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SingleBand LeadGreen 0.00 110 5.5 1.0 1 2.0

1.0 106

1.0 3.0

1.0

4 2.0

1.0

Ailreu,
Split [s]
Vehicle Extension [s]
Walk [s]

Pedestrian Clearance [s] Rest In Walk

2.0

2.0 4.5

2.0

2.0

2.0 No

2 2 2

운

2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

30

30 8 5.5

Lead

Lag

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

Control Type Lost time [s]

Phasing & Timing

29

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

2		SP12-121
2		CB12-121
2		Old Sonoma Boad
CIOSSWAIN	Volumes	ameN

owell	Second Second	Old Conomo Bood	VD40404	101	SD10 101	124
Maille	Old Sollic	IIIa Noau	- 1	- 1	- 1	
Base Volume Input [veh/h]	47	342	289	1008	928	16
Base Volume Adjustment Factor	1.0830	1.0830	1.0830	1.0830	1.0830	1.0830
Heavy Vehicles Percentage [%]	2.00	2:00	2.00	2.00	2.00	2.00
Growth Rate	1.14	1.14	1.14	1.14	1.14	1.14
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	4	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]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	422	357	1261	1142	19
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	109	92	325	294	2
Total Analysis Volume [veh/h]	09	435	368	1300	1177	20
Presence of On-Street Parking	oN	oN .	oN N	No	oN	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]		0	0	0	0	0
Bicycle Volume [bicycles/h]		0		0		0

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Length [ft]

Detector Location [ft]

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

0

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Hyde Winery TIS PM Future plus 90-P Event Only

W-Trans 9/11/2018

W-Trans

Hyde Winery TIS PM Future plus 90-P Event Only

W-Trans 9/11/2018



Lane Group Calculations

æ	179	6.50	00:00	4.50	110	0.61	0.01	1583	973	13.45	0.04	1.00	0.00	00:00	1.00	1.00
O	179	6.50	0.00	4.50	110	0.61	0.63	1863	1145	34.45	0.49	1.00	33.75	14.60	1.00	1.00
O	179	6.50	0.00	4.50	144	08'0	0.70	1863	1496	11.47	0:20	1.00	7.13	0:30	1.00	1.00
٦	179	4.70	00:00	2.70	29	0.16	0.21	1774	288	74.86	0:00	1.00	149.34	89.10	1.00	1.00
æ	179	4.70	0.00	00:00	58	0.32	0.27	1583	511	56.49	0:20	1.00	16.19	4.80	1.00	1.00
٦	179	4.70	0.00	2.70	24	0.13	0.03	1774	238	69.31	0.04	1.00	0.20	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	11_p, Permitted Start-Up Lost Time [s]	I2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

Lane Group Results

X, volume / capacity	0.25	0.85	1.28	0.87	1.03	0.02
d, Delay for Lane Group [s/veh]	73.02	77.48	313.29	18.90	82.80	13.45
Lane Group LOS	Ш	ш	ш	æ	ш	æ
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.43	20.06	24.86	27.73	55.62	0.31
50th-Percentile Queue Length [ft/In]	98.09	501.62	621.49	693.35	1390.38	7.68
95th-Percentile Queue Length [veh/ln]	4.38	27.41	36.97	36.37	69.61	0.55
95th-Percentile Queue Length [ft/In]	109.54	685.28	924.27	909.27	1740.18	13.82

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Version 5.00-05

Movement, Approach, & Intersection Results

d_M Deby for Movement [s/veh] 73.02 77.48 313.29 18.90 82.80 13.45 Movement LOS E F B F B F B d_A, Approach Delay [s/veh] T6.94 83.85 81.64 B F Adynoach LOS F F F F F d_L Intersection Delay [s/veh] T6.00 F F F Intersection Delay [s/veh] T6.00 T6.00 T6.00 T6.00				_	П	_	Г	1
73.02 77.48 313.29 18.90 82.80 E E F B F T F B F T F B F T F F T F F T F F T F F T T T T T T T T T T	13.45	В	.64					
73.02 77.48 313.29	82.80	F	81					
73.02 77.48 313.29 E	18.90	В	85		05		00	
73.02 E F 76.94	313.29	Ь	83.	ш.	82.	_	1.0	
73.02 E	77.48	Е	94					
d_M, Delay for Movement [s/veh] Movement LOS d_A, Approach Delay [s/veh] Approach LOS d_I, Intersection Delay [s/veh] Intersection LOS Intersection VOS Intersection VOS	73.02	Е	92	Ш				
	d_M, Delay for Movement [s/veh]	Movement LOS	d_A, Approach Delay [s/veh]	Approach LOS	d_I, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C	

	ochaciice												
Ring 1		2	4										·
Ring 2	2	9								,			•
Ring 3		,			,		,						'
Ring 4													'
SG: 2 106s	1005										v)	SG:4 14	148
SG: 5 29s			95	SG: 6 77s									



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Hyde Winery TIS PM Future plus 90-P Event Only

W-Trans 9/11/2018







Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes

748.9 F 1.125

Intersection Setup

Control Type: Analysis Method: Analysis Period:

da no composition						Ī						
Name	Los C	Los Carneros Avenue	enne/		Driveway		,	SR12-121		0)	SR 12-121	
Approach	Z	Northbound	_	S	Southbound			Eastbound		۸	Westbound	
Lane Configuration		+			+		·	늗			늗	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	-	0	-	-	0	-
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	190.00
Speed [mph]		55.00			55.00			55.00			55.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		9 N			8			9 N			S	

A 0.00

0.10 0.01 12.93 0.00 B A 0.32 0.00 7.89 0.00

0.00 0.00

10.51

d_I, Intersection Delay [s/veh]

Intersection LOS Approach LOS

Free

Stop ~ No

Stop - 2

Priority Scheme Flared Lane

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 V//C, Movement (Svehi)
 0.96
 0.00
 0.20
 1.12
 0.05
 0.05
 0.01
 0.00

 d_M, Delay for Movement (Svehi)
 538.45
 417.48
 243.12
 748.87
 574.96
 397.65
 1164
 0.00

 Movement LOS
 F
 F
 F
 F
 F
 F
 B
 A

 95th-Percentile Queue Length [ver/in]
 454
 454
 454
 3.20
 320
 0.03
 0.00

 95th-Percentile Queue Length [th/n]
 113.57
 113.57
 113.57
 80.12
 80.12
 80.12
 0.02
 0.00

 4_A Approach Delay [s/veh]
 380.42
 573.33
 673.33
 0.04
 0.04

Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

\vdash	H	1.0830 1.0830	2.00 2.00	1.14 1.14	0 0	0 0	0 0	0	0 0	0 0	1183 24	0.9500 0.9500	1.0000 1.0000	311 6	1245 25	0
1	24 96	1.0830 1.0	2.00	1.14 1.	0	16 (0	0	0	0	46 11	0.9500 0.9	1.0000 1.0	12 3	48 12	
	80	1.0830	2.00	1.14	0	16	0	0	0	0	56	0.9500	1.0000	7	27	
SK12-121	1035	1.0830	2:00	1.14	0	0	0	4-	0	0	1274	0.9500	1.0000	335	1341	0
0,	4	1.0830	2.00	1.14	0	0	0	0	0	0	5	0.9500	1.0000 1.0000	-	5	
	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	3	11	
Driveway	-	1.0830	2.00	1.14	0	0	0	0	0	0	-	0.9500	1.0000	0	1	0
	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	3	11	
venue	30	1.0830	2.00	1.14	0	0	0	0	0	0	36	0.9500	1.0000	6	38	
Los Carneros Avenue	0	1.0830	2.00	1.14	0	0	0	0	0	0	0	0.9500	1.0000	0	0	0
Los C	8	1.0830	2.00	1.14	0	0	0	0	0	0	10	0.9500	1.0000	3	11	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]
_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_

W-Trans

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Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

_	_		_	_	_	_	_	_		
2-121	puno	_	Thru	12.00	0	100.00	00	00	0	
SR 12-121	Mestbound	Ļ	Left	12.00	1	170.00	00'99	00:00	Š	
2-121	Eastbound	t_	Right	12.00	1	100.00	55.00	00	No	
SR 12-121	Eastb	Į	Thru	12.00	0	100.00	22	0.00	Z	
Cuttings Wharf Road	ponoc		Right	12.00	0	100.00	55.00	00	0	
Cuttings M	punoquuoN	JL.	Left	12.00	0	100:00	99	00'0	N	
Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk	

0.00 0.00

0.20 14.00 B 0.73

0.00 0.00

0.00 0.00

0.91 96.50 F 6.86 171.51

0.44 407.92 F

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

Movement, Approach, & Intersection Results

Stop

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

407.9 F 0.443

0.94

A 6.54 0.00

107.49

95th-Percentile Queue Length (vervin)
95th-Percentile Queue Length (titn)
d_A, Approach Deley (sveh)
Approach LOS

d_I, Intersection Delay [s/veh] Intersection LOS

1.10

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		1

Name	Cuttings M	Cuttings Wharf Road	SR 12	SR 12-121	SR 1	SR 12-121
Base Volume Input [veh/h]	2	125	1041	11	75	1021
Base Volume Adjustment Factor	1.0830	1.0830	1.0830	1.0830	1.0830	1.0830
Heavy Vehicles Percentage [%]	2.00	2:00	2.00	2:00	2.00	2.00
Growth Rate	1.14	1.14	1.14	1.14	1.14	1.14
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	4-	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]	9	154	1281	14	92	1277
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	41	341	4	24	340
Total Analysis Volume [veh/h]	9	164	1363	15	86	1359
Pedestrian Volume [ped/h]		0		0		0



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Intersection Level Of Service Report
Intersection 1: SR 12-121/Old Sonoma Read
Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c): Signalized HCM 2010 15 minutes

Intersection Setup

Control Type: Analysis Method: Analysis Period:

	-121	puno		Right	12.00	+	410.00	00	00	
	SR12-121	Mestbound	_	Thru	12.00	0	100.00	00'99	00:00	Š
	-121	Eastbound		Thru	12.00	0	100.00	55.00	00	No
	SR12-121	Eastb	F	Left	12.00	1	310.00	55.	00:00	Ž
	ma Road	Southbound	L	Right	12.00	1	230.00	55.00	00:00	No
	Old Sonoma Road	Routh	JL.	Left	12.00	0	100.00	99)'0	Z
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk

Crosswalk	ON	ON	ON.
Volumes			
Name	Old Sonoma Road	SR12-121	SR12-121

1.0 119

1.0 154

1.0 35

1.0

16

1.0

Ailreu,
Split [s]
Vehicle Extension [s]
Walk [s]

2.0

2.0

2.0 4.5

2.0

2.0

2.0 No

Rest In Walk

2 2 2

2 2 2

2 2 2

2 2 2

11. Start-Up Lost Time [s]
12. Clearance Lost Time [s]
Minimum Recall
Maximum Recall
Pedestrian Recall

30 5.5

30 5.5

Lead

Lag

4,5

Signal group Auxiliary Signal Groups

Lead / Lag

Control Type

Phasing & Timing

Time of Day Pattern Isolated Fully actuated

170

Located in CBD
Signal Coordination Group
Cycle Length [s]
Coordination Type
Actuation Type

57.0 E 0.868

Offset Reference Permissive Mode

Offset [s]

Lost time [s]

Generated with PTV VISTRO

Intersection Settings

Version 5.00-05

ટ

SingleBand LeadGreen

0.00

Protected

82

29

24 3.7

Minimum Green [s]
Maximum Green [s]
Amber [s]

-121	18	1.0000	2.00	1.14	0	0	0	0	0	0	0	21	0.9800	1.0000	2	21	o _N	0	0		
SR12-121	917	1.0000	2.00	1.14	0	0	0	φ	0	0	0	1037	0.9800	1.0000	265	1058	oN	0	0	0	0
-121	1114	1.0000	2.00	1.14	0	16	0	0	0	0	0	1286	0.9800	1.0000	328	1312	No	0	0		
SR12-121	230	1.0000	2.00	1.14	0	0	0	0	0	0	0	262	0.9800	1.0000	29	267	2	0	0		1
ma Road	248	1.0000	2.00	1.14	0	0	0	0	0	0	0	283	0.9800	1.0000	72	289	o _N	0	0		0
Old Sonoma Road	69	1.0000	2.00	1.14	0	0	0	0	0	0	0	62	0.9800	1.0000	20	81	oN.	0	0	0	
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Right-Turn on Red Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Presence of On-Street Parking	On-Street Parking Maneuver Rate [/h]	Local Bus Stopping Rate [/h]	Pedestrian Volume [ped/h]	Bicycle Volume [bicycles/h]

1.00

1.00

1.00

1.00

1.00

1.00

I, Upstream Filtering Factor

Exclusive Pedestrian Phase

Detector Location [ft] Detector Length [ft] 0

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

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М	149	6.50	00.00	4.50	85	0.57	0.01	1583	803	13.92	0.04	1.00	00:00	00:00	1.00	1.00
၁	149	6.50	00'0	4.50	85	0.57	0.57	1863	1063	31.79	0.45	1.00	25.12	14.60	1.00	1.00
O	149	6.50	00'0	4.50	114	0.77	0.70	1863	1429	13.66	0.50	1.00	10.91	0:30	1.00	1.00
	149	4.70	00:00	2.70	25	0.16	0.15	1774	293	61.13	0.27	1.00	22.16	89.10	1.00	1.00
œ	149	4.70	00'0	00:00	53	0.35	0.18	1583	561	37.99	0.50	1.00	3.36	4.80	1.00	1.00
	149	4.70	00:00	2.70	24	0.16	0.05	1774	280	55.36	0.04	1.00	0.21	3.50	1.00	1.00
Lane Group	C, Cycle Length [s]	L, Total Lost Time per Cycle [s]	I1_p, Permitted Start-Up Lost Time [s]	I2, Clearance Lost Time [s]	g_i, Effective Green Time [s]	g / C, Green / Cycle	(v / s)_i Volume / Saturation Flow Rate	s, saturation flow rate [veh/h]	c, Capacity [veh/h]	d1, Uniform Delay [s]	k, delay calibration	I, Upstream Filtering Factor	d2, Incremental Delay [s]	d3, Initial Queue Delay [s]	Rp, platoon ratio	PF, progression factor

Lane Group Resuits						
X, volume / capacity	0.29	0.52	0.91	0.92	1.00	0.02
d, Delay for Lane Group [s/veh]	59.07	46.15	172.39	24.87	71.51	13.92
Lane Group LOS	ш	О	ш	O	В	В
Critical Lane Group	No	Yes	Yes	No	Yes	oN
50th-Percentile Queue Length [veh/ln]	2.63	8.55	11.40	29.26	41.09	0.29
50th-Percentile Queue Length [ft/ln]	65.83	213.71	284.95	731.51	1027.28	7.34
95th-Percentile Queue Length [veh/ln]	4.74	13.34	16.93	38.13	51.60	0.53
95th-Percentile Oriene Length [#/In]	118 49	333 58	423.37	953.29	1290 10	13.21

Generated with PTV VISTRO
Version 5.00-05
Movement, Approach, & Intersection Results

46.15 172.39 24.87 71.51 13.92	B B	48.98 49.81 70.39	D D	57.04	Ш	0.868
29.07	ш					
d_M, Delay for Movement [s/veh]	Movement LOS	d_A, Approach Delay [s/veh]	Approach LOS	d_I, Intersection Delay [s/veh]	Intersection LOS	Intersection V/C

Ring 1 - 2 4	ochacijos												
92 5 6 6		2	4								,		
154s		9									,		
154s 154s 2G:6 119s 194 195		-			,	-	,	,		,	,		
154s 35s SG:6 118s													
	7			8								S6.4	<u>æ</u>

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Intersection Level Of Service Report
Two-way stop Dalay (sec/ veh):
HOM 2010
Tevel Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

Intersection Setup

da no composition												
Name	Los C	Los Carneros Avenue	/enne		Driveway		,	SR12-121		0)	SR 12-121	
Approach	_	Northbound	_	S	Southbound			Eastbound	_	>	Westbound	_
Lane Configuration		+			+		·	뉴			늗	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	-	0	-	-	0	-
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	140.00	100.00	100.00	140.00	100.00	190.00
Speed [mph]		55.00			55.00			55.00			55.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		8			8			S			S	

A 0.00

0.07 0.01 12.73 0.00 B A 0.23 0.00 5.77 0.00

0.00 0.00

3.78

d_I, Intersection Delay [s/veh]

Approach LOS Intersection LOS

Free

Stop ~ No

Stop - 2

Priority Scheme Flared Lane

436.0 F 0.793

Intersection Settings Version 5.00-05

Generated with PTV VISTRO

 V/C, Movement V/C Ratio
 0.20
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Movement, Approach, & Intersection Results Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

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	3
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SR 12-121										
	2.00 2.00 1.14 1.14 0 0 16 0									
1		++++	++++							
-121	1.14									
۲. ا										
+	+									
	+		+++							
Driveway	0		$\vdash\vdash$							
+	0	0 0	0 0 0	0 0 0 0	0 0 0 0					
Avenue	0	0 0	0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0 0 0 0 15				
Los Carneros Avenue	0	0 0	0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 -				
Los (0	0 0	0 0 0					 		
Name National Part East (1997)	Site-Generated Trips [veh/h]	Site-Generated Trips [veh/h] Diverted Trips [veh/h]	Site-Generated Trips [veh/h] Diverted Trips [veh/h] Pass-by Trips [veh/h]	Site-Generated Trips (vethh) Diverted Trips (vethh) Pass-by Trips (vethh) Existing Site Adjustment Volume (vethh)	Site-Generated Trips (verhi) Diverted Trips (verhi) Pass-by Trips (verhi) Existing Site Adjustment Volume (verhi) Other Volume (verhi)	Site-Generated Trips (verhi) Diverted Trips (verhi) Pass-by Trips (verhi) Existing Site Adjustment Volume (verhi) Other Volume (verhi) Tdatl Hourly Volume (verhi)	Site-Generated Trips (verhi) Divenda Trips (verhi) Pass-by Trips (verhi) Existing Site Adjusment Volume (verhi) Trial Hourly Volume (verhi) Peak Hourl Volume (verhi)	Site-Generated Trips (verbr) Diverted Trips (verbr) Pass-by Trips (verbr) Existing Site Adjusment Volume (verbr) Trial Hourly Volume (verbr) Trial Hourly Volume (verbr) Peak Hour Factor Other Adjusment Factor	Sile-Generated Trips (verhr) Diverted Trips (verhr) Pass-by Trips (verhr) Existing Ste Adjusment Volume (verhr) Other Volume (verhr) Total Hourly Volume (verhr) Peak Hour Factor Other Adjusment Factor Total 15-Minute Volume (verhr)	Site-Generated Trips (verhit) Diverted Trips (verhit) Pass-by Trips (verhit) Existing Ste Adjustment Volume (verhit) Other Volume (verhit) Total Hourly Volume (verhit) Peak Hour Factor Other Adjustment Factor Total 15-Minute Volume (verhit) Total Analysis Volume (verhit)
%] 2.00 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.00		0 0 0				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 3 1 15 11 0 16 5 - 0 0 0 0 0 0 0 0 0	0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0



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W-Trans 9/11/2018



Intersection Level Of Service Report
Two-way stop Delay (sec / veh):
HOM 2010 Level Of Service:
15 minutes Control Type: Analysis Method: Analysis Period:

530.0 F 1.134

Stop

Generated with PTV VISTRO

Intersection Settings Version 5.00-05

2

Priority Scheme
Flared Lane
Storage Area [veh]
Two-Stage Gap Acceptance
Number of Storage Spaces in Median

Intersection Setup

	-121	SK 12-121 Westbound	pun		Thru	12.00	0	100:00	00	00	9
	SR 12		F	Left	12.00	-	170.00	00'99	00:00	Ž	
	SR 12-121	Eastbound	L	Right	12.00	-	100.00	55.00	00:00	No	
	SR 12	Eastb	Ξ	Thru	12.00	0	100.00	22	0.0	Z	
	harf Road	ponoc	L	Right	12.00	0	100.00	55.00	00:00	No	
	Cuttings Wharf Road	punoquuoN	Ŧ	Left	12.00	0	100:00	99	0	z	
-	Name	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Pocket	Pocket Length [ft]	Speed [mph]	Grade [%]	Crosswalk	

0.00 0.00

0.16 13.68 B 0.57 14.32

0.00 0.00

0.00 0.00

0.50 42.84 E 2.48 61.95

1.13 530.03 F 3.04 75.99

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio
d_M, Delay for Movement [s/veh]
Movement LOS

0.86

A 6.01 0.00

136.86

95th-Percentile Queue Length (vervin)
95th-Percentile Queue Length (titn)
d_A, Approach Deley (sveh)
Approach LOS

d_l, Intersection Delay [s/veh]

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2-121	1006	1.0000	2.00	1.14	0	16	0	0	0	0	1163	0.9700	1.0000	300	1199	
SR 12-121	89	1.0000	2.00	1.14	0	0	0	0	0	0	78	0.9700	1.0000	20	80	
-121	28	1.0000	2:00	1.14	0	0	0	0	0	0	32	0.9700	1.0000	8	33	
SR 12-121	1158	1.0000	2.00	1.14	0	0	0	6-	0	0	1311	0.9700	1.0000	338	1352	0
harf Road	78	1.0000	2.00	1.14	0	0	0	0	0	0	89	0.9700	1.0000	23	92	
Cuttings Wharf Road	18	1.0000	2.00	1.14	0	0	0	0	0	0	21	0.9700	1.0000	2	22	0
Name	Base Volume Input [veh/h]	Base Volume Adjustment Factor	Heavy Vehicles Percentage [%]	Growth Rate	In-Process Volume [veh/h]	Site-Generated Trips [veh/h]	Diverted Trips [veh/h]	Pass-by Trips [veh/h]	Existing Site Adjustment Volume [veh/h]	Other Volume [veh/h]	Total Hourly Volume [veh/h]	Peak Hour Factor	Other Adjustment Factor	Total 15-Minute Volume [veh/h]	Total Analysis Volume [veh/h]	Pedestrian Volume [ped/h]



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Hyde Winery TIS MD Future + 90-P Event Only



Appendix D

Trip Generation Spreadsheets



Winery Traffic Information / Trip Gener	ation	Sheet	
Project Name: Larry Hyde & Sons Winery Project Scenario	:	Existing	
Traffic during a Typical Weekday			
Number of FT employees: 2 x 3.05 one-way trips per employee	=	6	daily trips
Number of PT employees: 2 x 1.90 one-way trips per employee	=	4	daily trips
Average number of weekday visitors:/ 2.6 visitors per vehicle x 2 one-way trips	=	15	daily trips
Gallons of production: $30000 / 1,000 \times .009$ truck trips daily ³ x 2 one-way trips	=	1	daily trips
Total	=	26	daily trips
Number of total weekday trips x .3	8 =	10	PM peak trips
Traffic during a Typical Saturday			
Number of FT employees (on Saturdays): x 3.05 one-way trips per employe	e =	6	daily trips
Number of PT employees (on Saturdays): 2 x 1.90 one-way trips per employe	e =	4	daily trips
Average number of weekend visitors: 20 / 2.8 visitors per vehicle x 2 one-way trips	=	14	daily trips
Total	=	24	daily trips
Number of total Saturday trips x .5	7 =	14	PM peak trips
Traffic during a Crush Saturday			
Number of FT employees (during crush): x 3.05 one-way trips per employee	=	6	daily trips
Number of PT employees (during crush):x 1.90 one-way trips per employee	= =	4	daily trips
Average number of weekend visitors:	=	14	daily trips
Gallons of production:	=	1	daily trips
Avg. annual tons of grape on-haul: $\underline{\hspace{1cm}}$ x .11 truck trips daily 4 x 2 one-way trips	=	0	daily trips
Total	=	25	daily trips
Number of total Saturday trips x .5	7 =	14	PM peak trips
Largest Marketing Event- Additional Traffic			
Number of event staff (largest event): x 2 one-way trips per staff person	=	10	trips.
Number of visitors (largest event):/ 2.8 visitors per vehicle x 2 one-way trips	=	21	trips.
Number of special event truck trips (largest event): x 2 one-way trips	=	4	trips.

³ Assumes 1.47 materials & supplies trips + 0.8 case goods trips per 1,000 gallons of production / 250 days per year (see Traffic Information Sheet Addendum for reference).

4 Assumes 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).

Project Name: Larry Hyde & Sons Winery Project Scenario: Traffic during a Typical Weekday		oposed	
Number of FT employees: 5 × 3.05 one-way trips per employee	= _	15	daily trips.
Number of PT employees: 4 x 1.90 one-way trips per employee	= _	8	daily trips.
Average number of weekday visitors:/ 2.6 visitors per vehicle x 2 one-way trips	= _	96	daily trips.
Gallons of production: 30000 / 1,000 x .009 truck trips daily 3 x 2 one-way trips	= _	1	daily trips.
Total	= _	120	daily trips.
Number of total weekday trips x .38	= _	46	PM peak trips.
Traffic during a Typical Saturday			
Number of FT employees (on Saturdays): 5 x 3.05 one-way trips per employee	= _	15	daily trips.
Number of PT employees (on Saturdays): x 1.90 one-way trips per employee	= _	8	daily trips.
Average number of weekend visitors: 125 / 2.8 visitors per vehicle x 2 one-way trips	= _	89	daily trips.
Total	= _	112	daily trips.
Number of total Saturday trips x .57		64	PM peak trips.
Traffic during a Crush Saturday			
Number of FT employees (during crush): 5 x 3.05 one-way trips per employee	= _	15	daily trips.
Number of PT employees (during crush): x 1.90 one-way trips per employee	= _	8	daily trips.
Average number of weekend visitors: 125 / 2.8 visitors per vehicle x 2 one-way trips	= _	89	daily trips.
Gallons of production: 30000 / 1,000 x .009 truck trips daily x 2 one-way trips	= _	1	daily trips.
Avg. annual tons of grape on-haul: $\underline{\hspace{1cm}}$ x .11 truck trips daily 4 x 2 one-way trips	= _	0	daily trips.
Total	= _	113	daily trips.
Number of total Saturday trips x .57	= _	64	PM peak trips.
Largest Marketing Event- Additional Traffic			
Number of event staff (largest event): x 2 one-way trips per staff person	=	20	trips.
Number of visitors (largest event):/ 2.8 visitors per vehicle x 2 one-way trips	=	107	trips.
Number of special event truck trips (largest event): x 2 one-way trips	=	4	trips.

³ Assumes 1.47 materials & supplies trips + 0.8 case goods trips per 1,000 gallons of production / 250 days per year (see Traffic Information Sheet Addendum for reference).

4 Assumes 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).

Appendix E

Warrant Analyses



SR 12-121 & Los Carneros Avenue

Napa County

Project Name: Hyde Winery TIS

Intersection: 2

	Major Street	Minor Street
Street Name	SR 12-121	Los Carneros Avenue
Direction	E-W	N-S
Number of Lanes	2	2
Approach Speed	55	55

Population less than 10,000? No

Date of Count:Thursday, April 05, 2018Scenario:PM Existing plus Project

Warrant 3 Met?: Met when either Condition A or B is met

Condition A: Met when conditions A1, A2, and A3 are met

Condition A1

Not Met Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay:

5.01 vehicle-hours

Condition A2

Not Met

The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume:

65 vph

Condition A3

Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more appraches or 650 vph for intersections with three approaches

Total Entering Volume:

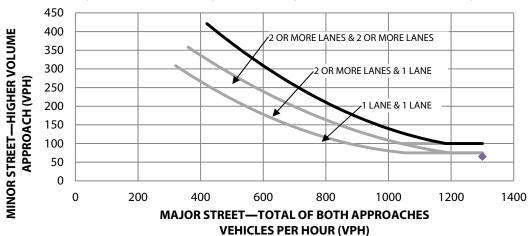
2310 vph

Condition B

Not Met

The plotted point falls above the curve

Warrant 3, Peak Hour (70% Factor)





SR 12-121 & Los Carneros Avenue

Napa County

Project Name: Hyde Winery TIS

Intersection: 2

	Major Street	Minor Street
Street Name	SR 12-121	Los Carneros Avenue
Direction	E-W	N-S
Number of Lanes	2	2
Approach Speed	55	55

Population less than 10,000? No

Date of Count:Saturday, April 14, 2018Scenario:MD Existing plus Project

Warrant 3 Met?: Met when either Condition A or B is met

Condition A: Met when conditions A1, A2, and A3 are met

Condition A1

Not Met Not Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay:

1.71 vehicle-hours

Condition A2

__Not Met

The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume:

42 vph

Condition A3

Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more appraches or 650 vph for intersections with three approaches

Total Entering Volume:

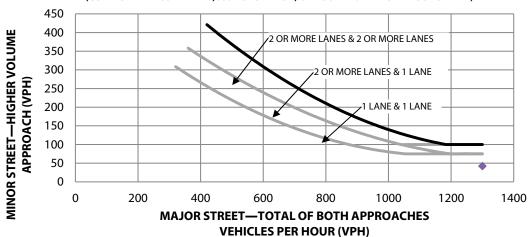
2276 vph

Condition B

Not Met

The plotted point falls above the curve

Warrant 3, Peak Hour (70% Factor)





SR 12-121 & Los Carneros Avenue

Napa County

Project Name: Hyde Winery TIS

Intersection: 2

	Major Street	Minor Street
Street Name	SR 12-121	Los Carneros Avenue
Direction	E-W	N-S
Number of Lanes	2	2
Approach Speed	55	55

Population less than 10,000? No

Date of Count: Thursday, April 05, 2018 **Scenario:** PM Baseline plus Project

Warrant 3 Met?: Met when either Condition A or B is met

Condition A: Met when conditions A1, A2, and A3 are met

Condition A1

Not Met Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay:

5.59 vehicle-hours

Condition A2

Not Met The volume on the same minor street approach (one direction only) equals or exceeds

100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume:

65 vph

Condition A3

Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more appraches or 650 vph for intersections with three approaches

Total Entering Volume:

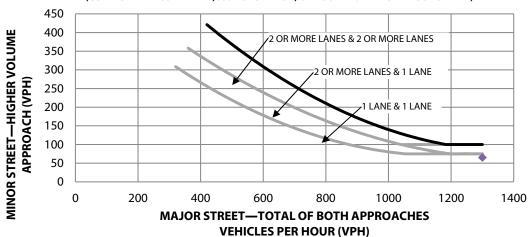
2344 vph

Condition B

Not Met

The plotted point falls above the curve

Warrant 3, Peak Hour (70% Factor)





SR 12-121 & Los Carneros Avenue

Napa County

Project Name: Hyde Winery TIS

Intersection: 2

	Major Street	Minor Street
Street Name	SR 12-121	Los Carneros Avenue
Direction	E-W	N-S
Number of Lanes	2	2
Approach Speed	55	55

Population less than 10,000? No

Date of Count:Saturday, April 14, 2018Scenario:MD Baseline plus Project

Warrant 3 Met?: Met when either Condition A or B is met

Condition A: Met when conditions A1, A2, and A3 are met

Condition A1

Not Met Not Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay:

1.88 vehicle-hours

Condition A2

Not Met

The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume:

42 vph

Condition A3

Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more appraches or 650 vph for intersections with three approaches

Total Entering Volume:

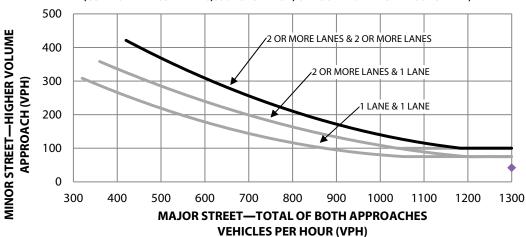
2307 vph

Condition B

Not Met

The plotted point falls above the curve

Warrant 3, Peak Hour (70% Factor)





SR 12-121 & Los Carneros Avenue

Napa County

Project Name: Hyde Winery TIS

Intersection: 2

	Major Street	Minor Street
Street Name	SR 12-121	Los Carneros Avenue
Direction	E-W	N-S
Number of Lanes	2	2
Approach Speed	55	55

Population less than 10,000?

Date of Count:

Scenario: PM Future plus Project

Warrant 3 Met?: Met when either Condition A or B is met

Condition A: Met when conditions A1, A2, and A3 are met

Condition A1

Not Met Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay:

No

15.07 vehicle-hours

Condition A2

Not Met

The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume:

70 vph

Condition A3

Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more appraches or 650 vph for intersections with three approaches

Total Entering Volume:

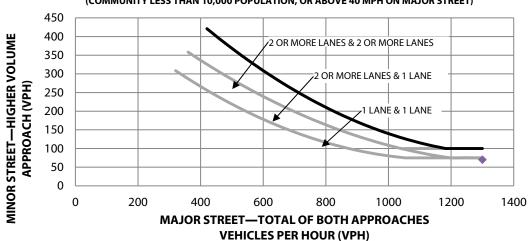
2629 vph

Condition B

Not Met

The plotted point falls above the curve

Warrant 3, Peak Hour (70% Factor)





SR 12-121 & Los Carneros Avenue

Napa County

Project Name: Hyde Winery TIS

Intersection: 2

	Major Street	Minor Street					
Street Name	SR 12-121	Los Carneros Avenue					
Direction	E-W	N-S					
Number of Lanes	2	2					
Approach Speed	55	55					

Population less than 10,000?

Date of Count:

Scenario: MD Future plus Project

Warrant 3 Met?: Met when either Condition A or B is met

Condition A: Met when conditions A1, A2, and A3 are met

Condition A1

Not Met Not Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay:

No

4.75 vehicle-hours

Condition A2

Not Met

The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume:

44 vph

Condition A3

Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more appraches or 650 vph for intersections with three approaches

Total Entering Volume:

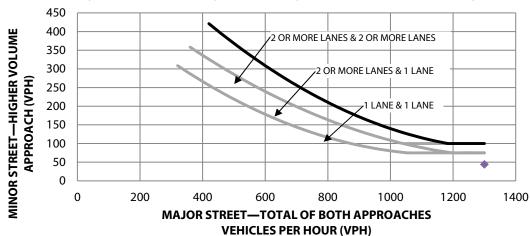
2590 vph

Condition B

Not Met

The plotted point falls above the curve

Warrant 3, Peak Hour (70% Factor)





SR 12-121 & Los Carneros Avenue

Napa County

Project Name: Hyde Winery TIS

Intersection: 2

	Major Street	Minor Street
Street Name	SR 12-121	Los Carneros Avenue
Direction	E-W	N-S
Number of Lanes	2	2
Approach Speed	55	55

Population less than 10,000?

Date of Count:

Scenario: PM Future plus 90-Person Event Only

No

Warrant 3 Met?: Met when either Condition A or B is met

Condition A: Met when conditions A1, A2, and A3 are met

Condition A1

Not Met
Not Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay:

3.95 vehicle-hours

Condition A2

__Not Met

The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume:

46 vph

Condition A3

Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more appraches or 650 vph for intersections with three approaches

Total Entering Volume:

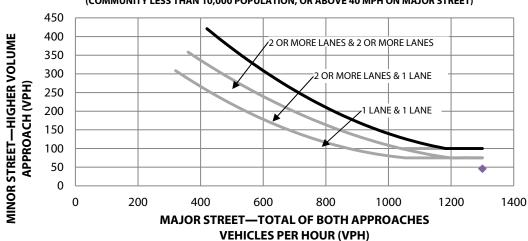
2622 vph

Condition B

Not Met

The plotted point falls above the curve

Warrant 3, Peak Hour (70% Factor)





SR 12-121 & Los Carneros Avenue

Napa County

Project Name: Hyde Winery TIS

Intersection: 2

	Major Street	Minor Street					
Street Name	SR 12-121	Los Carneros Avenue					
Direction	E-W	N-S					
Number of Lanes	2	2					
Approach Speed	55	55					

Population less than 10,000?

Date of Count:

Scenario: MD Future plus 90-Person Event Only

No

Warrant 3 Met?: Met when either Condition A or B is met

Condition A: Met when conditions A1, A2, and A3 are met

Condition A1

Not Met Not Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay:

2.18 vehicle-hours

Condition A2

Not Met

The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume:

27 vph

Condition A3

Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more appraches or 650 vph for intersections with three approaches

Total Entering Volume:

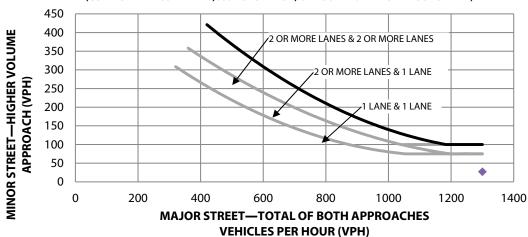
2572 vph

Condition B

Not Met

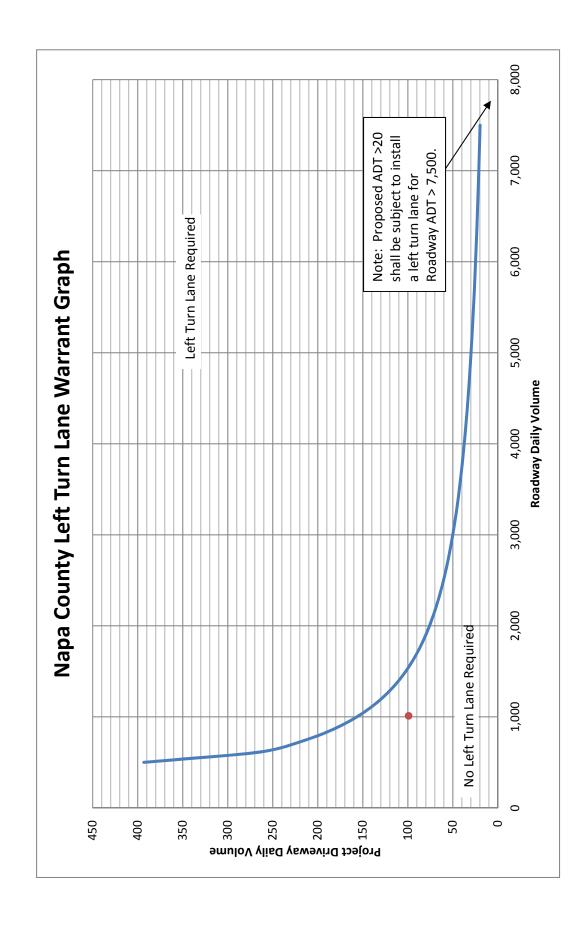
The plotted point falls above the curve

Warrant 3, Peak Hour (70% Factor)





Hyde Winery TIS



Appendix F

Napa County Significance Criteria



										Cou	inty o	f Nap	a Significan	ce Cr	iteria										
										S	IGNALI	ZED IN	TERSECTION	CRITE	RIA										
РМ Е	XISTIN	G											MD E	KISTING	9										
Int	NBL		NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1				51		370	313	1092			1005	17	1				69		248	230	1114			917	18
РМ Е	XISTIN	G PLUS I	PROJEC	Τ									MD EX	KISTING	G PLUS	PROJEC	Т								
Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1				51		370	313	1098			1013	17	1				69		248	230	1127			922	18
		Projec	t Volum	e Cont	ribution	0.	49%								Projec	t Volum	ne Cont	ribution		69%					
	One	-			ceeded?	_	NO.							One	-			eeded?		NO					
								UNSIG	NALIZ	ZED TW	O-WA	Y STOP	-CONTROLLE	D INT	ERSEC	TION C	RITERI	Α							
PM F	XISTIN	G											MD F	KISTING	,										
Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2	9	0	32	9	1	9	4	1121	9	26	1041	21	2	3	1	13	10	0	14	4	1156	13	17	999	13
3	5		135					1127	12	81	1106		3	18		78					1158	28	68	1006	
PM E	XISTIN	G PLUS I	PROJEC	Τ									MD EX	KISTING	G PLUS	PROJEC	Т								
Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2	21	0	44	9	1	9	4	1117	15	32	1037	21	2	16	1	25	10	0	14	4	1147	26	29	991	13
3	5		135					1135	12	81	1112		3	18		78					1161	28	68	1018	
							Mino	or Stree	t Annr	naches										Min	or Stree	t Annr	naches		
						Int	2-NB		2-SB		3-NB								Int	2-NB		2-SB		3-NB	
		Projec	t Volum	e Cont	ribution	3	7%		1%	(0%				Projec	t Volum	ne Cont	ribution	6	0%)%	(0%	
	Ten	Percent	t Thresh	old Exc	ceeded?	Y	'ES	N	10	ı	ON			Ten	Percent	Thresh	old Exc	eeded?)	'ES	N	10	ı	ON	
													IDE CDITEDIA												
												FUIL	JRE CRITERIA												
PM F	UTURE												MD FU	JTURE											
Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1				58		422	357	1245			1146	19	1				79		283	262	1270			1045	21
2	10	0	36	10	1	10	5	1278	10	30	1187	24	2	3	1	15	11	0	16	5	1318	15	19	1139	15
3	6 	PLUS P	154					1285	14	92	1261		3 MD 5	21	0 PLUS P	89 BOJECT	0	0	0	0	1320	32	78	1147	0
PIVI F Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Int	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	INDL	INDI	NDK	58L	301	422	363	1245	LDI	WDL	1154	19	1	NDL	INDI	NDK	3BL 79	301	283	262	1283	LDI	WDL	1050	21
2	22	0	48	10	1	10	5	1274	16	36	1183	24	2	16	1	27	11	0	16	5	1309	28	31	1131	15
3	6		154					1293	14	92	1267		3	21		89					1323	32	78	1159	
							1													1	,			2	
		Droice	+ \/ol	o Cort	ributio-		nt 1		t 2		nt 3				Droice	+ \/ol	o Cort	ributic-		nt 1		t 2		nt 3	
	Fivo	-			ribution ceeded?		51% NO		76% ES		06% NO			Five	-			ribution eeded?		95% NO		51% ES		55% NO	
	rive	i ercelli	111111111111111111111111111111111111111	ioiu LXC	Lecueu!		10		LJ					rive	i ercelli		ioiu LXC	.eeueu!		10	T	LJ		10	