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ENGINEERING SOLUTIONS

December 12, 2014 (Revised)

Bell Wine Cellars
c/o
Mr. Scott Greenwood-Meinert
Dickenson, Peatman & Fogarty
1455 First Street, Suite 301
Napa, CA 94559

Subject: ***Focused Traffic Analysis for the Proposed Bell Wine Cellars Use Modification Project - Located at 6200 Washington Street in Yountville (Napa County)***

Dear Mr. Greenwood-Meinert:

This report provides a focused traffic analysis for proposed use permit modifications associated with the Bell Wine Cellars project located at 6200 Washington Street in Yountville (Napa County). As part of the overall use modification proposal, the existing winery would increase production from 40,000 to 60,000 gallons and modernize visitation and marketing events using currently approved visitation limits established by the County. This study reflects our discussions with County Planning and Engineering staff regarding the project analysis approach and other adjacent approved/pending projects in the study area.[1] Some of the key issues evaluated in this study include the following:

- Existing and future weekday PM and weekend mid-day peak hour operations on Washington Street at the Bell Wine Cellars Project Driveway and State Route 29 intersection at Washington Street-Hoffman Lane;
- Near-term (Year 2016) traffic conditions reflecting other approved/pending projects in the study area;
- Project trip generation relative to any increases related to winery production, employment, and/or visitors associated with permitted, existing, and proposed use modifications;
- Project site circulation and vehicle access at State Route 29 and project driveway on Washington Street;
- Cumulative year 2030 (no project) conditions along State Route 29 based on the Napa County General Plan Update EIR;

The following sections outline existing and future traffic conditions with and without the proposed Bell Wine Cellars project. Where necessary, measures have been recommended to ensure acceptable traffic flow, circulation, and/or fair share contribution to regional cumulative traffic improvements along State Route 29. I trust that this report responds to your needs. Please review this information and call me with any questions or comments.

[1] *Ms. Wyntress Balcher, Associate Planner, County of Napa, Initial review of transportation scope-of-work (Bell Wine Cellars, Personal communication on September 22, 2014.*

Sincerely,

Peter J. Galloway, Transportation Planner
OMNI-MEANS, Ltd. Engineers & Planners

Cc: Mark Phillips, Dickenson, Peatman & Fogarty
George W. Nickelson, P.E., Omni-Means, Ltd

Attachments: Appendices
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1. Existing Traffic Conditions

Roadways

The proposed Bell Wine Cellars project site is located at 6200 Washington Street south of downtown Yountville in Napa County (see Figure 1—Project Vicinity Map). The project driveway extends east from Washington Street for approximately 2,000 feet with the winery grounds located at the far end of the driveway. The project driveway also serves other single-family residences and the Hopper Creek Winery on its north side. Washington Street intersects State Route 29 (St. Helena Highway) approximately 600 feet south of the project driveway at Hoffman Lane. State Route 29 is the primary north-south facility through the Napa Valley. A brief description of each roadway follows:

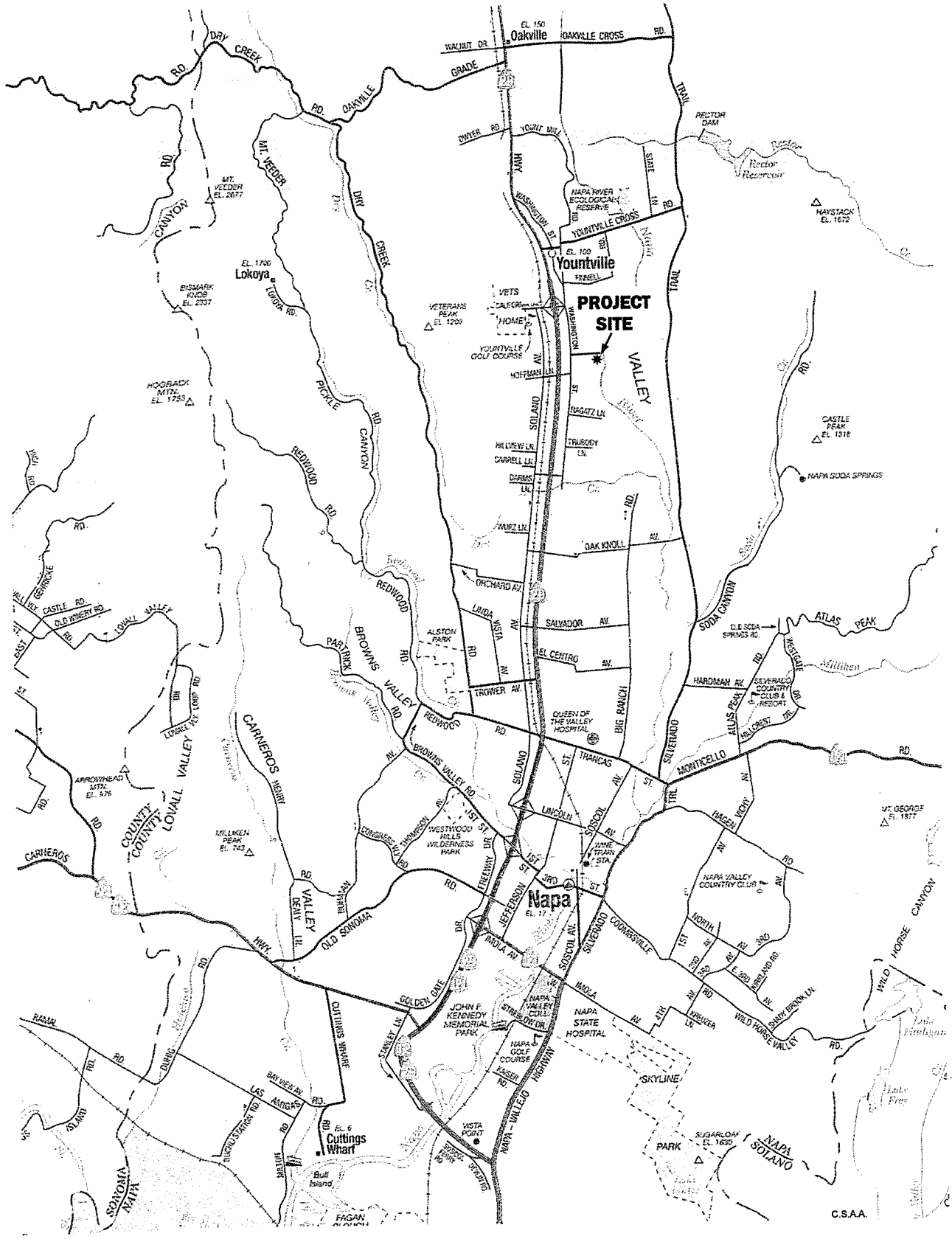
Washington Street extends north-south from Vineyard Lane through the Town Yountville and parallels SR-29 on its east side. Classified as a rural two-lane collector street in the project study area, Washington Street has minimal shoulder areas and has an approximate 21-foot travel width. In this area, the roadway provides access to limited single-family residences and/or winery facilities located both north and south of the project site. North of its intersection with Hoffman Lane, Washington Street is striped for a northbound passing lane past the project driveway. This passing lane area extends for northbound vehicles (only) for approximately 700-800 feet before both directions of travel are allowed to pass (striped yellow line divider).

Hoffman Lane is located approximately 600 feet south of the existing project driveway and intersects SR-29 in an east-west direction extending across the highway to Washington Street. Like Washington Street, Hoffman Lane provides access to single-family residences, wineries, and agricultural/vineyard. A two-lane rural collector street, the roadway extends west from SR-29 for approximately 2,700 feet.

Solano Avenue extends from California Drive in Yountville south all the way into the City of Napa. Paralleling SR-29 on the west side, Solano Avenue is a rural two-lane collector street that provides access to recreational, residential, winery, and agricultural/vineyard uses in the immediate project study area. Solano Avenue intersects Hoffman Lane immediately west of SR-29.

California Drive is located north of the project site in the Town of Yountville. A two-lane roadway extending east-west between Solano Avenue and Washington Street, California Drive provides a full-access interchange with SR-29 as it passes under the north-south facility. California Drive can provide alternative access to motorists wishing to access locations off of either Washington Street and/or Solano Avenue that would prefer not to use the cross street intersections at SR-29 situated further south at Hoffman Lane and other east-west crossings.

State Route 29 extends in a north-south direction between City of Napa and Town of Yountville in the project study area. In this area, SR-29 is classified as a four-lane rural throughway (arterial) based on the Napa County General Plan. SR-29 provides access north to Yountville, Oakville, Rutherford, and St. Helena and beyond. To the south, the highway provides access to Napa, American Canyon and Vallejo. In the immediate project site area SR-29 has two travel lanes in each direction separated by wide grass median. The speed limit on SR-29 is 60 mph in the project area.



Project Vicinity Map

North

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figure 1

Existing Roadway/Intersection Volumes

SR-29 acts as the primary north-south regional route through the Napa Valley and provides direct access to the project site via Hoffman Lane at Washington Street. Based on the most recent Caltrans daily traffic counts conducted along SR-29 (between Oak Knoll Avenue and California Drive), SR-29 has a current annual average daily traffic volume of 28,000 vehicles.[2] During the peak month, the roadway carries 30,500 ADT. Based on Napa County roadway segment level-of-service (LOS) thresholds, these volumes are well within the carrying capacity of a four-lane rural throughway-arterial and represents LOS B conditions based on the annual average daily traffic volume of 28,000 vehicles.[3] Field observations made during peak weekday/weekend data collection periods at the Hoffman Lane-Washington Street/SR-29 intersection indicate very stable-flow conditions in both directions with no vehicle congestion and motorists on SR-29 are driving at the speed limit.

As a part of this study, intersection turning movement counts were conducted at the Washington Street/Bell Wine Cellars Driveway intersection and the Washington Street-Hoffman Lane/SR-29 intersection during a weekday PM peak commute period (4-6 PM) and the Saturday afternoon peak period (1-3 PM).[4] Proposed winery visitor activity is expected to be highest during a Saturday afternoon. In addition, vehicle traffic on the project's driveway was also observed during the same time periods. From these peak period counts, the "peak hour" of traffic flow was derived to calculate existing vehicle delay. For SR-29, these counts indicate a weekday PM peak hour two-way flow of 2,425 vehicles and 2,395 vehicles on a peak hour Saturday afternoon. The counted peak hour volumes are consistent with expected typical day peak hour flow based on Caltrans data. In fact, these volumes were collected during the peak harvest/crush period for the Napa Valley (September/October, 2014) and reflect "peak month" volumes. Overall peak hour LOS operations on SR-29 are acceptable and reflect Level of Service (LOS) "B" conditions.

Average daily traffic (ADT) volumes were collected on Washington Street to determine its current carrying capacity and operations.[5] ADT counts on Washington Street were conducted between the project driveway and Hoffman Lane to gauge actual residential and/or winery traffic related to the roadway's use. The County classifies Washington Street as a rural two-lane collector street with a carrying capacity of 1,067 ADT (for LOS A operations).[6] Based on collected ADT data, Washington Street is currently operating at LOS A with 675 daily vehicle trips.

Existing weekday PM peak hour and weekend mid-day peak hour intersection volumes have been shown in Figure 2.

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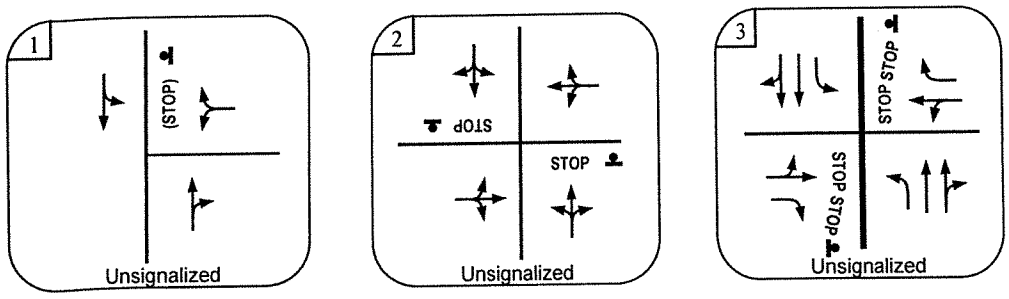
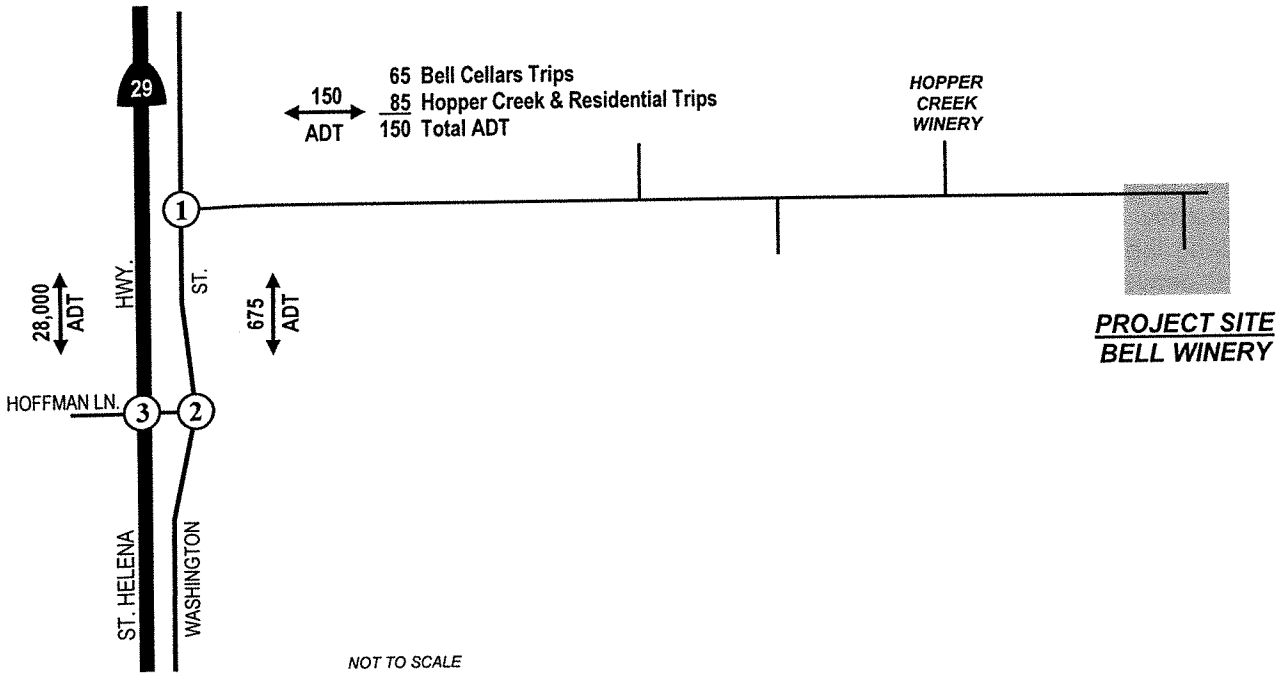
[2] *Caltrans, 2013 Traffic Volumes Book, State Route 29 average annual daily traffic (AADT) and peak month average daily traffic (ADT between Oak Knoll Lane and California Drive).*
[3] *Napa County Baseline Data Report, Table 11-1; Napa County Roadway Segment Daily LOS Volume Thresholds, Transportation and Circulation, November 2005.*
[4] *Omni-Means Engineers & Planners, Weekday PM peak period (4:00-6:00 p.m.) and weekend mid-day peak period (1:00-3:00 p.m.) intersection turning movement counts, Washington Street/Bell Wine Cellars Project Driveway, September 11 & 13, 2014.*
[5] *Baymetrics Traffic Resources. Average daily traffic (ADT) counts on Washington Street and Bell Cellars Winery Driveway, October 1-4, 2014. Peak weekday and weekend intersection turning movement counts at the Hoffman Lane/Washington Street and Hoffman Lane/SR-29 intersections, October 1 and 4, 2014.*
[6] *Napa County Baseline Data Report, Table 11-1, Napa County Roadway Segment Daily LOS Volume Thresholds, November, 2005.*

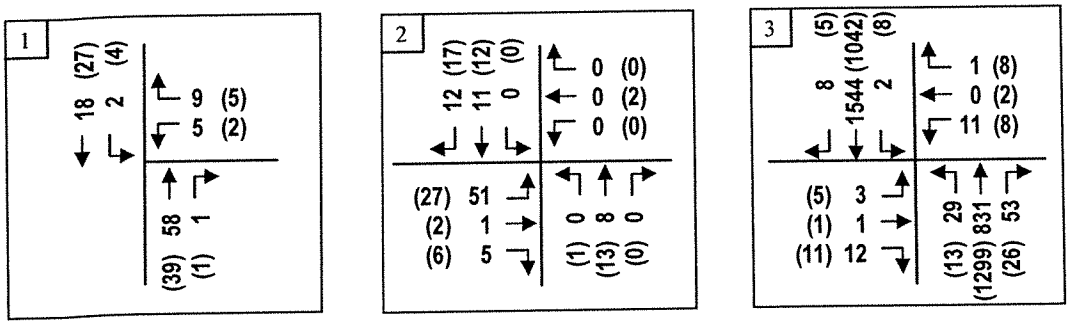
GEOMETRIES / CONTROLS:



Existing Geometries Assumed For All Future Scenarios



PEAK HOUR VOLUMES:



Existing Weekday P.M. and (Weekend Mid-day)
Peak Hour Volumes

North

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figure 2

Existing Project Driveway/Access Operations

Where Washington Street intersects SR-29 at Hoffman Lane, the highway has two travel lanes in each direction, left-turn lanes at major crossroads, and wide paved shoulder areas that allow right-turn vehicles to decelerate at these crossroads. As noted, the Bell Cellars Winery site is located at the far eastern end of the driveway access from Washington Street (approximately 2,000 feet) with the driveway serving other single-family residences and winery activity (Hopper Creek). Existing residential and winery traffic activity is very low. During this study's peak period counts, 17 vehicle trips in/out of the project driveway occurred during the weekday PM peak hour and 12 vehicle trips in/out of the driveway occurred during the weekend mid-day peak hour. ADT volumes on the driveway currently average 150 vehicles.

Existing Intersection Operation

Intersection operation is one of the primary factors in evaluating the carrying capacity of a roadway network. Traffic conditions are measured by Level of Service (LOS), which applies a letter ranking to successive levels of intersection performance. LOS 'A' represents optimum conditions with free-flow travel and no congestion. LOS 'F' represents severe congestion with long delays at the approaches. For intersections with minor street stop control, the LOS reflects the delays experienced by the minor street approach. (LOS definitions and calculation worksheets are provided in the Appendix).

The three project study intersections evaluated for this analysis are as follows:

1. Bell Cellars Winery Driveway/Washington Street
2. Hoffman Lane/Washington Street
3. Hoffman Lane/SR-29

All project study intersections are unsignalized, minor-street stop-sign controlled intersections (two-way-stop-control). Based on the Highway Capacity Manual (*HCM 2010*) operations methodology for unsignalized intersections, existing weekday PM peak and weekend mid-day peak hour existing (no project) level-of-service has been shown in Table 1. As calculated, the Bell Cellars Winery Driveway/Washington Street intersection is operating at LOS A during both the weekday PM peak hour and during the weekend (Saturday) mid-day peak hour. The Hoffman Lane/Washington Street intersection is also operating at LOS A during the same time periods. Finally, the Hoffman Lane/SR-29 intersection is operating at LOS F during both the weekday PM peak and weekend mid-day peak hours. It is noted that stated intersection LOS at this intersection refers to the stop-sign controlled westbound (outbound movements) from Washington Street onto SR-29.

Based on the California Manual on Uniform Traffic Control Devices (CAMUTCD) peak hour signal warrant criteria, all three unsignalized intersections were evaluated for signalization.[7] The peak hour warrants are one of several standards to help determine if installation of a traffic signal is appropriate. Qualifying for signalization using the peak hour warrants does not necessarily mean a signal should be installed. In rural areas, the minimum minor street stop-sign controlled volume that would qualify for signalization requires 50 peak hour vehicles (approach volume). At this time, none of the three intersections would qualify for peak hour signal warrants based CAMUTCD standards (the warrant graphs are provided in the Appendix).

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[7] *California Manual on Uniform Traffic Control Devices (CAMUTCD), Chapter 4C, Peak hour signal warrant (#3), 2012.*

TABLE 1
EXISTING AND NEAR-TERM (NO PROJECT) CONDITIONS: INTERSECTION LEVELS-OF-SERVICE
WEEKDAY PM PEAK AND WEEKEND MID-DAY PEAK HOUR

			Wkdy. PM LOS/Delay		Wknd. Mid-Day LOS/Delay	
#	Intersection	Control Type	Existing (No Project)	Near-Term (No Project)	Existing (No Project)	Near-Term (No Project)
1	Bell Cellars Driveway/Washington St.	Stop	A 8.8	A 8.8	A 8.7	A 8.7
2.	Hoffman Ln./Washington St.	Stop	A 9.2	A 9.8	A 9.5	A 9.5
3.	Hoffman Ln./SR-29.	Stop	F 113.4	F 198.4	F 114.9	F 179.0

Based on Highway Capacity Manual (HCM) 2010, Operations methodology for stop-sign controlled (unsignalized) intersections using Synchro-Simtraffic 8.0 software. Intersection calculation yields an LOS and vehicle delay in seconds. Stated LOS refers to the minor street (stop-sign) controlled movement.

Existing Vehicle Speeds/Sight Distance

The primary issues for access design are the vehicle visibility and operation relative to vehicles traveling on Washington Street and vehicles turning in/out of the winery driveway access. The required vehicle visibility or "corner sight distance" is a function of the travel speeds on Washington Street. Caltrans design standards indicate that for appropriate corner sight distance, "a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the cross road and the driver of an approaching vehicle in the right lane of the main highway."[8] Based on radar surveys conducted as a part of this study, the "critical" vehicle speeds (85% of all surveyed vehicles travel at or below the critical speed) along Washington Street at the existing project driveway was recorded at 50 miles per hour (mph) or less during the weekday PM peak period and the Saturday afternoon peak period. Based on Caltrans design standards, these vehicle speeds require a sight distance of approximately 430 feet, measured along the travel lanes on Washington Street.[9] As measured, existing vehicle sight distance from the project driveway looking south on Washington Street exceeds 430 feet (460-500 feet) and is adequate. Vehicle sight distance to the north is restricted due to an existing shrub/bush located in the front yard of a residential home on the northeast quadrant of the intersection. Trimming/pruning this bush would provide 800 feet of vehicle sight distance to the north on Washington Street.

2. Near-Term (No Project) Conditions

Near-Term (Approved/Pending Projects)

Near-term (no project) conditions represent a reasonable period of time in which approved and/or pending projects in the study area could be constructed. Based on discussions with County Planning staff, a two-year period to the year 2016 has been established for near-term (no project) conditions representing all approved/pending projects within the study area. In addition, the Town of Yountville Planning staff was contacted for any approved/pending projects that could affect traffic flows on Washington Street south of the Town. Based on these discussions with Yountville staff, there are no approved/pending projects in Yountville that would affect traffic flows in near the

[8] *Caltrans, Highway Design Manual, Chapter 200, Topic 201—Sight Distance, March 7, 2014.*
[9] *Omni-Means Engineers & Planners, Field observations on Inglewood Avenue 275 feet east of cul-de-sac (proposed project driveway), July 13 & 17, 2013.*

project site.[10] To generate near-term (no project) conditions, approved and pending projects provided by Napa County Planning staff in the area have been used. These approved/pending projects are either new wineries or existing wineries applying for use permit modifications to increase production, employees, visitors, and/or marketing events. These projects are located both north and south of the project site off of State Route 29, and are described as follows:

Napa County:	**Proposed Use Modification(s):**	
Chateau Chevre Winery	Production:	5,000 gallons per year
2030 Hoffman Lane	Visitors:	50 visitors/week
Napa, CA 94558	Employees:	1 full-time
Chateau De Napa	Production:	20,000 gallons per year
5253 Solano Ave.	Visitors:	0 visitors/week
Napa, CA 94558	Employees:	0 full-time
Coombs Brothers Cellars	Production:	10,000 gallons per year
6075A St. Helena Hwy.	Visitors:	20 visitors/week
St. Helena, CA 94575	Employees:	0 full-time
Elyse Winery	Production:	60,000 gallons per year
2100 Hoffman Ln.	Visitors:	24 visitors/week
St. Helena, CA 94575	Employees:	10.5 full-time
Hartwell Winery	Production:	36,000 gallons
5765 Silverado Trail	Visitors:	168 visitors/week
St. Helena, CA 94575	Employees:	10 full-time
Hopper Creek Winery	Production:	20,000 gallons per year
6204 Washington St.	Visitors:	0 visitors/week
St. Helena, CA 04575	Employees:	2.5 full-time
Keever Winery	Production:	10,000 gallons per year
26 Vineyard View Dr.	Visitors:	32 visitors/week
St. Helena, CA 94575	Employees:	2 full-time

Near-Term (No Project) Trip Generation

For all approved/pending winery projects, daily and peak hour trip generation was calculated using employee peaking factors, auto occupancy rates for visitors, and production ratios based on recent winery research conducted by the Napa County Conservation, Development, and Planning Department. Near-term projects would generate 56 weekday PM peak hour trips and 42 mid-day weekend peak hour trips. On a daily basis, near-term projects would generate 115 ADT and 82 ADT on a weekday and weekend, respectively.

In addition to local projects (listed above), there would also be background traffic growth on SR-29 reflecting near-term and cumulative development. The following section describes this expected traffic growth.

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[10] *Ms. Sandra Smith, Planning Director, Town of Yountville, Approved/Pending development in the Town of Yountville, Personal communication on October 2, 2014.*

Near-Term (No Project) Traffic Growth on SR-29

Both near-term (no project) and cumulative (year 2030) volume projections for SR-29 were derived from the Napa County Transportation and Planning Agency's traffic volume forecasts found in the Napa County General Plan Update EIR.[11] The forecast increase in volume-to-capacity (v/c) ratio from Year 2003 to Year 2030 on SR-29 between Oak Knoll Avenue and California Drive was applied to the Year 2003 peak hour two-way volumes (2,469 vehicles). This yielded a future volume of 4,604 weekday PM peak hour vehicles on SR-29 in the Year 2030. This would equate to an increase in traffic volumes of 3.7% per year to the Year 2030 on the highway.

With regard to near-term (no project) conditions, the project applicant indicates a two-year window to the Year 2016 would allow for proposed project completion (production, staffing, marketing plan). Based on this time period, weekday PM peak hour vehicle traffic would increase by 7.4% on SR-29 between Oak Knoll Road and California Drive. It is noted that no future volume projections are provided for the weekend (Saturday) mid-day peak hour. Therefore, weekend mid-day peak hour volumes on SR-29 were increased uniformly by the same annual growth rate.

Near-term (no project) local/regional daily and peak hour volumes for the weekday and weekend have been added to existing intersection volumes on State Route 29 based on existing traffic flows and previous transportation analyses conducted in the area. Near-term (no project) volumes for weekday PM peak hour and weekend mid-day peak hour have been shown in Figure 3.

Near-Term (No Project) Intersection/Roadway Operation

With near-term (no project) volumes, study intersection LOS has been calculated and is shown in Table 1. As calculated, the Bell Cellars Winery Driveway/Washington Street intersection would continue to operate at LOS A during both the weekday PM peak hour and during the weekend (Saturday) mid-day peak hour. The Hoffman Lane/Washington Street intersection would also operate at LOS A during these same time periods. Finally, the Hoffman Lane/SR-29 intersection would continue to operate at LOS F during both the weekday PM peak and weekend mid-day peak hours with increase vehicle delays for minor street stop-controlled traffic.

Based on CAMUTCD peak hour signal warrant criteria (Warrant #3), none of the three study intersections would qualify for signalization with near-term (no project) volumes.

AADT volumes on SR-29 would increase from 28,000 to 30,072 vehicles under near-term (no project) conditions. Based on Napa County roadway thresholds, this would continue to represent LOS B conditions. ADT volumes on Washington Street would increase from 675 vehicles to 685 vehicles and the roadway would continue to operate at LOS A. The Bell Cellars Winery driveway would increase from 150 ADT to 160 ADT with near-term (no project) traffic volumes.

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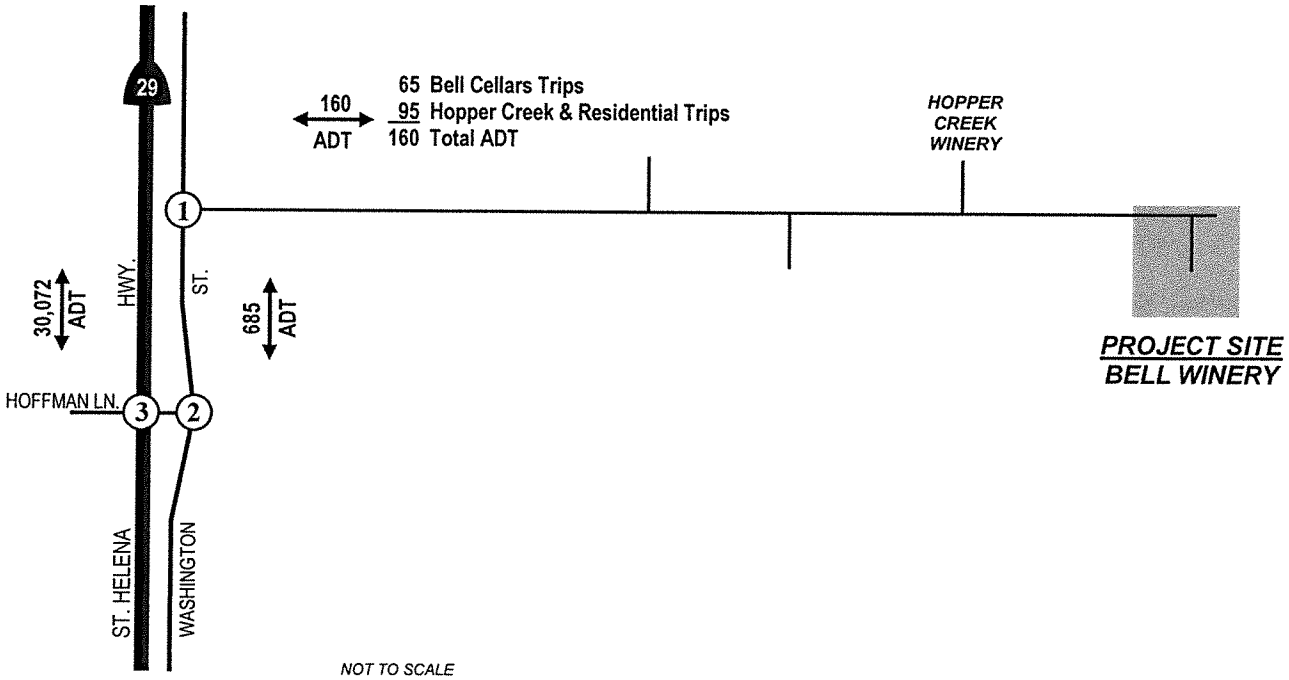
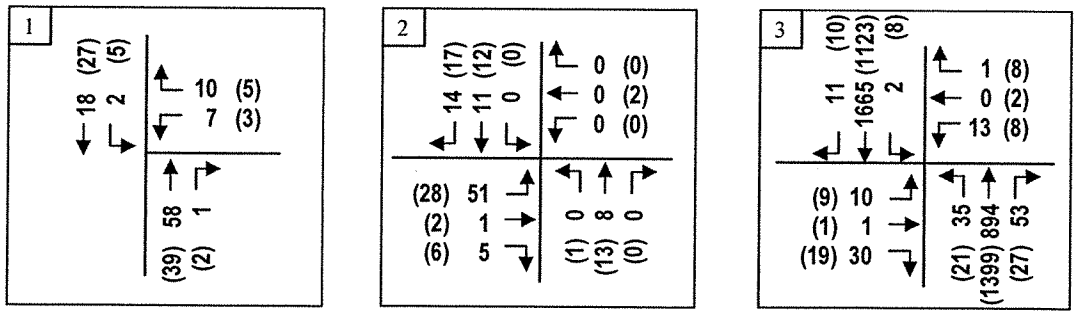
[11] *Dowling Associates, Napa County General Plan Update, Technical Memorandum for Traffic and Circulation Supporting the Findings and Recommendations, February 9, 2007.*



PEAK HOUR VOLUMES:



Near Term Weekday P.M. and (Weekend Mid-day)
Peak Hour Volumes

North

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figure 3

3. Napa County Significance Criteria

The County of Napa's significance criteria has been based on a review of the Napa County Transportation and Planning Agency and Napa County General Plan documentation on roadway and intersection operations. Specifically, the Circulation Element of the County's General Plan outlines the following significance criteria specific to intersection operation:

Intersections

- The County shall seek to maintain a Level of Service D or better at all intersections, except where the level of service already exceeds this standard (i.e. Level of Service E or F) and where increased intersection capacity is not feasible without substantial additional right-of-way.

- No single level of service standard is appropriate for un-signalized intersections, which shall be evaluated on a case-by-case basis to determine if signal warrants are met.

Further significance criteria are based on County and CEQA guidelines and apply mainly to intersection operation and access. A significant impact occurs if project traffic would result in the following:

- Cause an increase in traffic which is substantial in relation to existing traffic load and capacity of the street system (i.e. result in a substantial increase in either the number of vehicle trips, the volume capacity ratio on roads, or congestion at intersections);

- Exceed either individually or cumulatively, an LOS standard established by the county congestion management agency for designated roads or highways;

- Result in a change of traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

- Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment);

- Result in inadequate emergency vehicle access;

- Project site or internal circulation on the site is not adequate to accommodate pedestrians and bicycles;

4. Proposed Project Impacts

Current Entitlements/Site Trip Generation

Existing activities at the Bell Cellars Winery related to employment and visitation have increased over the years to levels that are occurring today. To determine the total increases in project trip generation and net increase in roadway trips, overall trip generation has been estimated for the following three scenarios:

- Permitted Uses
- Existing Uses
- Proposed Uses

The winery's original use-permit (1991) allowed one (1) full-time and two (1) part-time employee(s). Visitation was authorized at 12 visitors per day and an average of 30 visitors per week. Winery production was limited to 40,000 gallons. Marketing events have remained consistent with previously authorized levels (six events w/ eight guests, four events with 40 guests, two events with 60 guests, and one wine auction up to 200 guests).

Based on new weekly visitation and employment supplied by the project applicant and ADT counts conducted on the Bell Cellars Winery driveway, overall activity at the winery has increased beyond the permit levels.[12] These levels represent existing uses. The winery currently averages approximately 45 visitors per day and 225 visitors per week (see appendices---employment/guest count data). In addition, employment at the winery has increased to an average of eleven weekday employees (7 full-time, 4 part-time) and seven weekend employees (4 full-time, 3 part-time). Employment reflects a combination of cellar, administrative, and tasting room employees.

Both daily and peak hour traffic counts conducted for this study reflect these increases in "existing" employment and visitation levels occurring today. Therefore, increases in daily and peak hour traffic volumes as a result of proposed use modifications would represent the differences between these existing levels and ultimate use modifications being proposed.

Project Components

Permitted, existing, and proposed use levels have been summarized (below). The proposed use modifications to the Bell Cellars Winery project would consist of modifications to wine production, employment, visitation tours/tasting, and small marketing events throughout the year. Project components can be described as follows: [13]

		Permitted	*Existing*	*Proposed*
Production	Annual:	40,000 gallons	40,000 gallons	60,000 gallons
Employees:	Weekday:	1 F-T, 2 P-T	7 F-T, 4 P-T	8 F-T, 7 P-T
	Weekend:	1 F-T, 2 P-T	4 F-T, 3 P-T	4 F-T, 4 F-T
Visitors:	Weekday:	12 visitors	45 visitors	100 visitors
	Weekend:	12 visitors	75 visitors	140 visitors
Trucks:	Weekday:	1 truck/day	2 trucks/day	2 trucks per day
	Weekend:	1 truck/day	2 trucks/day	2 trucks per day

Daily operations for the proposed Bell Cellars Winery project would involve an all on-site winery operation with a maximum annual production of 60,000 gallons (about 24,300 cases). All fruit (60,000 gallons of production) would be processed on-site during the year with the majority occurring during the harvest/crush season. Visitors (by appointment only) are expected; an average of 100 daily visitors on a typical weekday and 140 daily visitors on a Saturday. At the County's request, daily visitation levels for proposed uses include the 40 visitors associated with marketing events that could occur four (4) times per week with up to 40 visitors. (These events

[12] *Anthony Bell, Project Applicant, Bell Cellars Winery, Daily employee and visitation data, October 6-11, 2014.*
[13] *Project Statement; Bell Wine Cellars,6200 Washington Street, Yountville (Napa County), CA, Modification of Use Permit, October, 2014.*

were deemed to occur too frequently on a weekly basis to be left out of normal daily visitor traffic levels).[14] Employment is expected to be eight full-time employees and seven part-time employees on a weekday with four full-time and four part-time employees on a weekend. Winery operations for staff would occur between 8:00 a.m. – 9:00 p.m. Actual tours and tastings would occur between 10:00 a.m. and 4:00 p.m.

The proposed project's marketing plan can be described as follows:

Winery Marketing Plan

- Daily visitation by prior appointment will be limited to an average of 420 guests per week with a maximum of 100 on the busiest day;
- 208 small events per year (four per week) with no more than 40 guests (included in daily and peak hour trip generation);
- Four events per year with no more than 200 guests and participation in the Auction Napa Valley.

Special event activity would be scheduled to minimize the arrival of guests between the weekday PM peak period (4:00-6:00 p.m.) and all event activity would be concluded by 10:00 p.m.

Project Trip Generation/Distribution

The proposed project's weekday and weekend peak hour and daily traffic volumes have been calculated and are shown in Table 2 (please see Appendices for winery trip generation sheets). It is noted that permitted levels are shown for informational purposes only.

TABLE 2
PROJECT TRIP GENERATION COMPARISON
DAILY AND PEAK HOUR

	Weekday Trips		Weekend Trips	
Scenario	**Daily**	**PM Peak**	**Daily**	**PM Peak**
Permitted Uses	17	6	16	4
Existing Uses	65	23	72	20
Proposed Uses	115	42	120	31

Daily and peak hour calculations based on County of Napa, Conservation, Development, and Planning Department, "Use Permit Application Package," Napa County Winery Traffic Generation Characteristics, 2012.

Overall trip generation calculations have been based on employee peaking factors and auto occupancy rates for event visitors based on recent winery research conducted by the Napa County Conservation, Development, and Planning Department and existing driveway volumes.[15] Overall trip generation calculations represent the increase in production, employment, and visitor activities beyond permitted uses to ultimate use modification levels. The proposed project would be expected to generate 115 daily weekday trips with 42 PM peak hour trips. During a typical weekend, the project would be expected to generate an additional 120 daily trips with 31 mid-day peak hour trips.

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[14] *Mr. Paul Wilkinson, Napa County Public Works, Bell Wine Cellars P13-00055, Comment letter to Ms.Wyntress Balcher, Napa County Planning, October 30, 2014.*
[15] *County of Napa, Conservation, Development, and Planning Department, "Use Permit Application Package," Napa County Winery Traffic Generation Characteristics, 2012.*

During the six-week harvest crush season, the proposed project is expected to generate an average of 109 daily trips. This daily trip total would represent 100 visitors, 8 full-time and 4 part-time employees on-site during weekend periods, 60,000 gallons of wine production, and 340 tons of grapes (on-haul). Based on the largest marketing event attendance of 200 persons (four times per year), there would total generation of 154 event trips.

With the deduction of permitted project trips, the proposed project would result in an increase of 98 daily trips with 36 trips during the weekday PM peak hour. On a weekend, the project would generate 104 daily trips with 27 trips during the mid-day peak hour. These trips totals represent the differences between permitted levels and proposed levels as shown in Table 3. With regard to the total increase in traffic volumes on the roadway network, the proposed project is expected to generate 50 daily trips with 19 trips during the weekday PM peak hour. On a weekend, the project would add 48 daily trips with 11 mid-day peak hour trips.

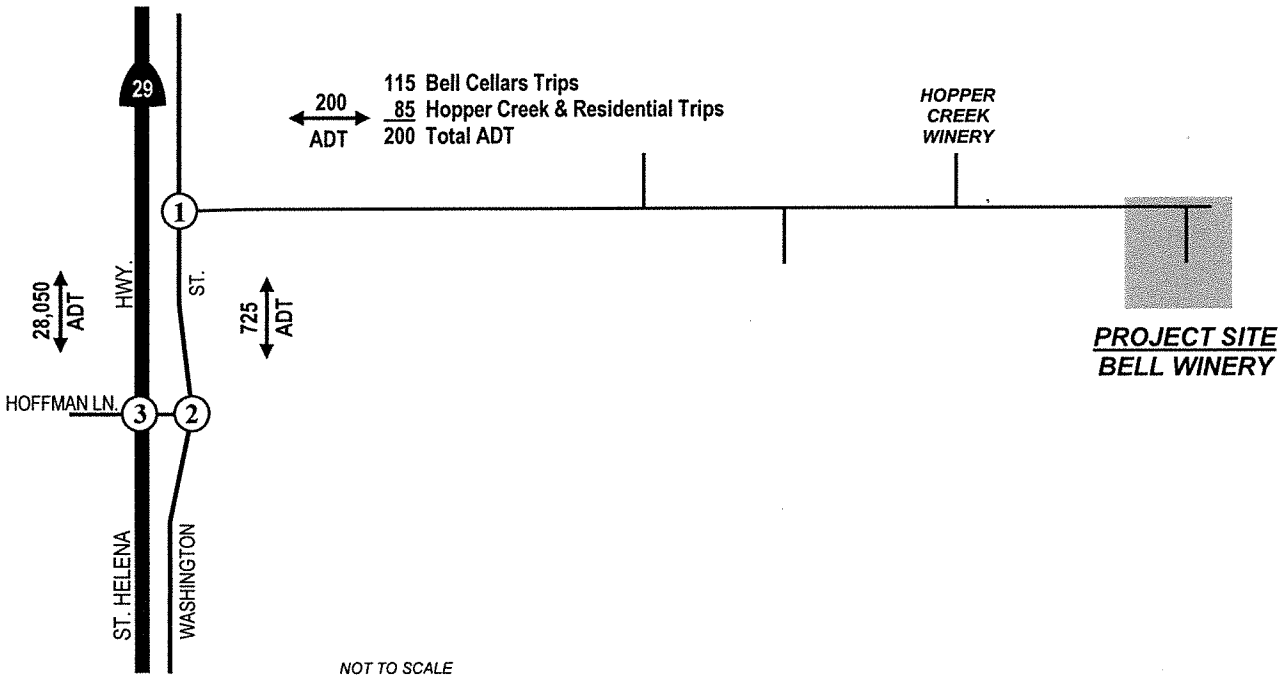
TABLE 3
PROJECT TRIP GENERATION COMPARISON
DAILY AND PEAK HOUR

	Daily Trips		Weekday PM Trips		Weekend Trips	
Scenario	**Wkdy.**	**Wknd**	**Trips**	**In/Out**	**Trips**	**In/Out**
Net Increase on Roadways						
Existing Use	(65)	(72)	(23)	(7 / 16)	(20)	(10 / 10)
Proposed Use	115	120	42	15 / 27	31	16 / 15
Total Net New Roadway Trips	**50**	**48**	**19**	**8 / 11**	**11**	**6 / 5**
Project Trips						
Permitted Use	-17	-16	-6	-2 / -4	-4	-2 / -2
Proposed Use	115	120	42	15 / 27	31	16 / 15
Total Net New Project Trips	**98**	**104**	**36**	**13 / 23**	**27**	**14 / 13**

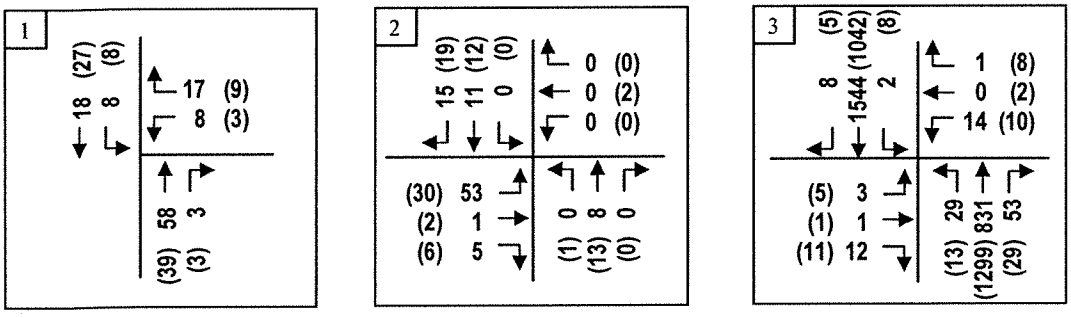
Daily and peak hour calculations based on County of Napa, Conservation, Development, and Planning Department, "Use Permit Application Package," Napa County Winery Traffic Generation Characteristics, 2012. Please see Appendices for Permitted, Existing, and Proposed winery trip generation sheets. Existing Use trips (shown parenthetically) represent vehicle trips already on the street network.

To determine traffic conditions with the proposed project, total net new roadway trips were added to existing volumes. Based on observed turning percentages, the project trips were distributed 70% to/from the north on Washington Street and 30% to/from the south on Washington Street. Existing plus project and near-term plus project volumes have been shown in Figure 4 and 5.

It is noted that surveys of existing daily and peak hour trip generation at the existing Bell Cellars Winery indicate significant use of transit services. Specifically, of the 225 surveyed weekly visitors to the winery, 105 visitors (or 47%) used The Wine Trolley and/or Hire Car (limousines, Escalades, etc.) to access the winery. The average auto occupancy was four persons/vehicle. The relatively high use of trolley and hire car to/from the winery has helped to reduce vehicle trip generation (even with higher visitation levels). Based on discussions with the applicant, the use of transit will continue and expand with proposed use modification levels and is being directly marketed to reduce vehicle trip generation and improved guest demographics.



PEAK HOUR VOLUMES:

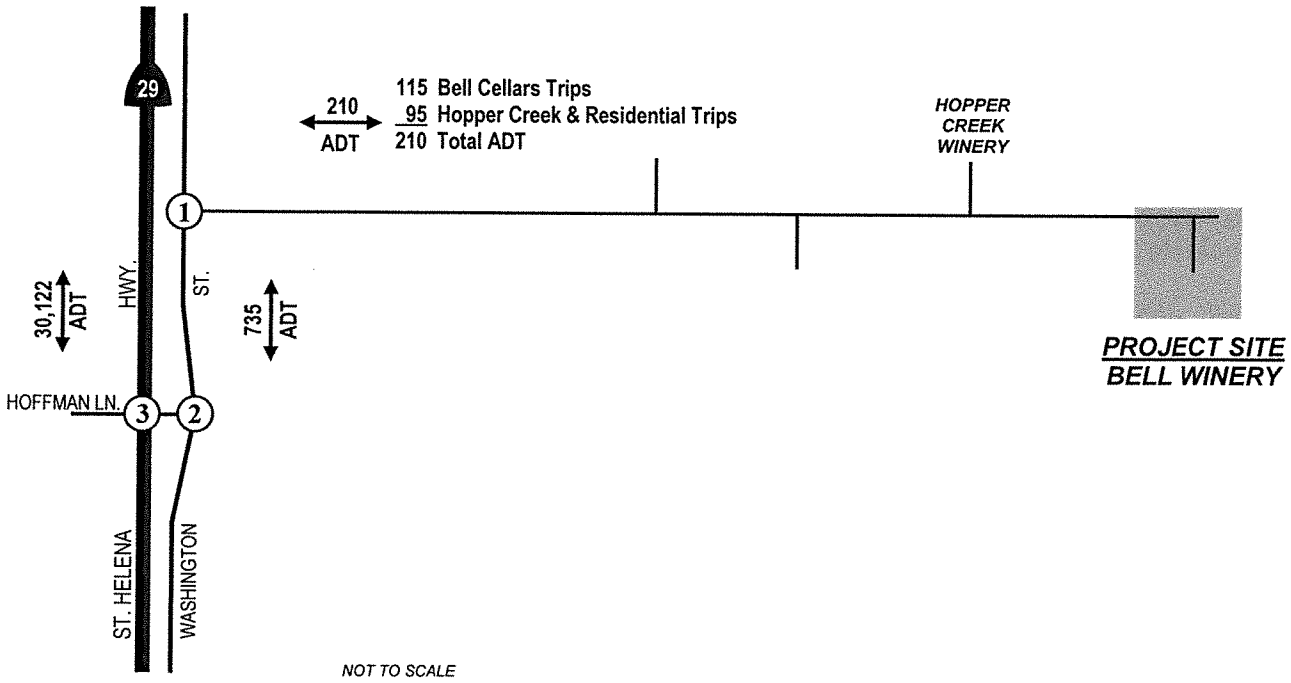


Existing + Project Weekday P.M. and (Weekend Mid-day) Peak Hour Volumes

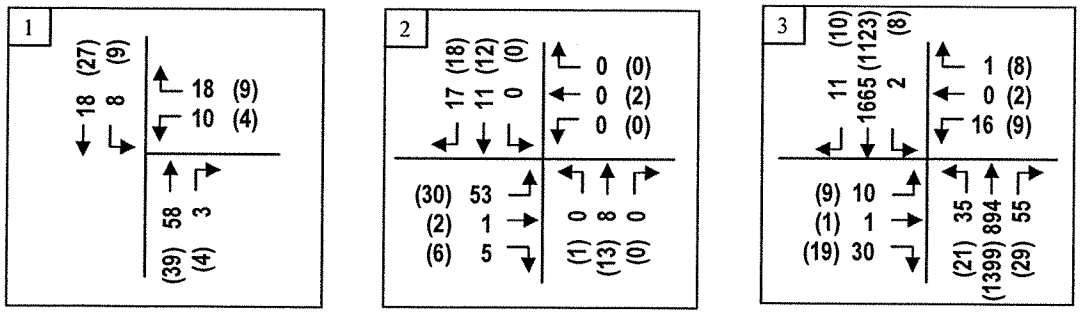
North

omni-means

figure 4



PEAK HOUR VOLUMES:



Near Term + Project Weekday P.M. and (Weekend Mid-day) Peak Hour Volumes

North

omni-means

figure 5

Project Effects on Roadway/Intersection Operation

A. Existing Plus Project Conditions

The project would be expected to add approximately 50 daily trips to the project driveway, Washington Street, and State Route 29. This would represent an addition of less than 1 percent (0.002) to the daily volumes on the highway. The combined existing plus project volume of 28,050 daily trips would remain at LOS B operating conditions for a four-lane rural arterial highway based on established County thresholds. ADT on Washington Street would increase to 725 vehicles with proposed project activity and would continue to operate at LOS A conditions. ADT on the Bell Cellars driveway would increase from 150 to 200 vehicles.

During the peak winery activity periods, the project would generate an additional 19 weekday PM peak hour and 11 Saturday mid-day peak hour trips. Weekday PM peak hour and weekend mid-day peak hour intersection levels of service were evaluated with proposed project traffic and are shown in Table 4.

With existing plus project traffic volumes, the Bell Cellars Driveway/Washington Street and Hoffman Lane/Washington Street intersections would continue to operate at acceptable levels (LOS A) during both the weekday PM peak hour and weekend mid-day peak hour periods. At shown in Table 4, intersection LOS would remain unchanged from existing conditions with proportional increases in overall vehicle delay. The Hoffman Lane/SR-29 intersection would continue to operate at LOS F during both weekday PM and weekend mid-day peak hour conditions (with or without project).

B. Near-Term Plus Project Conditions

With near-term plus project conditions, daily traffic volumes on State Route 29 would increase to 30,122 ADT. Again, this would represent LOS B conditions for a two-lane, rural arterial highway based on County thresholds. ADT on Washington Street would increase from 685 to 735 vehicles with proposed project traffic. This would be well within the LOS A carrying capacity of 1,067 ADT based on County thresholds. ADT on the Bell Cellars driveway would increase from 160 to 210 vehicles.

TABLE 4
EXISTING PLUS TERM PLUS PROJECT CONDITIONS:
WEE -OF-SERVICE
ND MID-DAY PEAK HOUR

#	Intersection	PM LOS/Delay		Wknd. Mid-Day LOS/Delay	
		ng oject	Near-Term + Project	Existing + Project	Near-Term + Project
1	Bell Cellars Drwy./V	8.9	A 8.9	A 8.7	A 8.7
2.	Hoffman Ln./Wash	9.9	A 9.5	A 9.5	A 9.5
3.	Hoffman Ln./SR-29.	F 125.0	F 225.0	F 127.4	F 190.6

Based on Highway Capacity Ma... perations methodology for stop-sign controlled (unsignalized) intersections using Synchro-Simtraffic... tersection calculation yields an LOS and vehicle delay in seconds. Stated LOS refers to the minor street (stop... controlled movement.

Both Washington Street intersections (Bell Cellars Driveway and Hoffman Lane) would operate at acceptable levels (LOS A) during both the weekday PM peak hour and weekend mid-day peak hour under near-term with project conditions. The Hoffman Lane/SR-29 intersection would continue to operate at LOS F during both weekday PM and weekend mid-day peak hour conditions (with or without project).

With the Hoffman Lane/SR-29 intersection operating at LOS F for minor street stop-sign controlled movements under existing and near-term conditions (with or without proposed project), the winery has adopted measures to reduce impacts for vehicle travel to/from the winery. Specifically, inbound motorists from the south can safely exit SR-29 at Hoffman Lane by turning right and accessing Washington Street. When making an appointment or invitations are sent out for events, inbound motorists from the north are instructed to exit SR-29 at California Drive and turn left to access Washington Street. However, visitors can still access the winery from SR-29 at Hoffman Lane using the existing southbound left-turn lane if they desire. Most importantly, all outbound visitors and guests are instructed to exit the winery north on Washington Street and access California Drive (0.87 miles to the north) to travel southbound on SR-29. This allows visitors to readily access SR-29 southbound and avoid significant delays at the Hoffman Lane/SR-29 intersection.

Based on CAMUTCD peak hour signal warrant criteria (Warrant #3), none of the three study intersections would qualify for signalization with existing with project or near-term with project volumes.

5. Site Access/Design Parameters

Sight Distance

As noted in the discussion of existing conditions, radar surveys conducted as a part of this study indicate the "critical" vehicle speeds (85% of all surveyed vehicles travel at or below the critical speed) along Washington Street at the existing project driveway are 50 miles per hour (mph) or less during the weekday PM peak period and the Saturday afternoon peak period. [16] Based on Caltrans design standards, these vehicle speeds require a sight distance of approximately 430 feet, measured along the travel lanes on Washington Street. As measured, existing vehicle sight distance from the project driveway looking south on Washington Street exceeds 430 feet (460-500 feet) and is adequate. Vehicle sight distance to the north is restricted due to an existing shrub/bush located in the front yard of a residential home on the northeast quadrant of the intersection. The following measure is recommended to improve vehicle sight distance to/from the north on Washington Street at the project driveway

- Trimming/pruning the existing bush on the northeast corner of the intersection (residential home yard) would provide 800 feet of vehicle sight distance to the north on Washington Street.

Project Access and Circulation

Based on the project site plan, the winery grounds would be improved to include 14 new parking spaces on the north side of the site. These parking spaces would be in addition to the 11 existing parking spaces located in the southeast sector of the grounds. As shown in Figure 6 (Project Site

[16] *Caltrans, Highway Design Manual, Chapter 200, Topic 201—Sight Distance, March 7, 2014.*

Plan), visitors would travel east from Washington Street down the long, shared driveway (approximately 1,750-2,000 feet) to the winery grounds. There would be a vehicle turnaround area created in front of the existing residential building for visitors to exit out the same driveway access. This turnaround area would also accommodate Napa County standards for emergency/fire trucks (civil engineer to confirm design). Visitors could also turn south past the winery facility to access existing parking areas.

The project driveway accessing the winery is shared with existing residences and the Hopper Creek Winery located west of the project site. The driveway width varies from 17-18 feet and is paved with wide dirt shoulders. The County standard for driveway widths is 18 feet (minimum). Any improvements to the Bell Cellars Winery driveway and turnaround areas would meet minimum County standards.

Left-Turn Lane/Right-Turn Lane Warrants

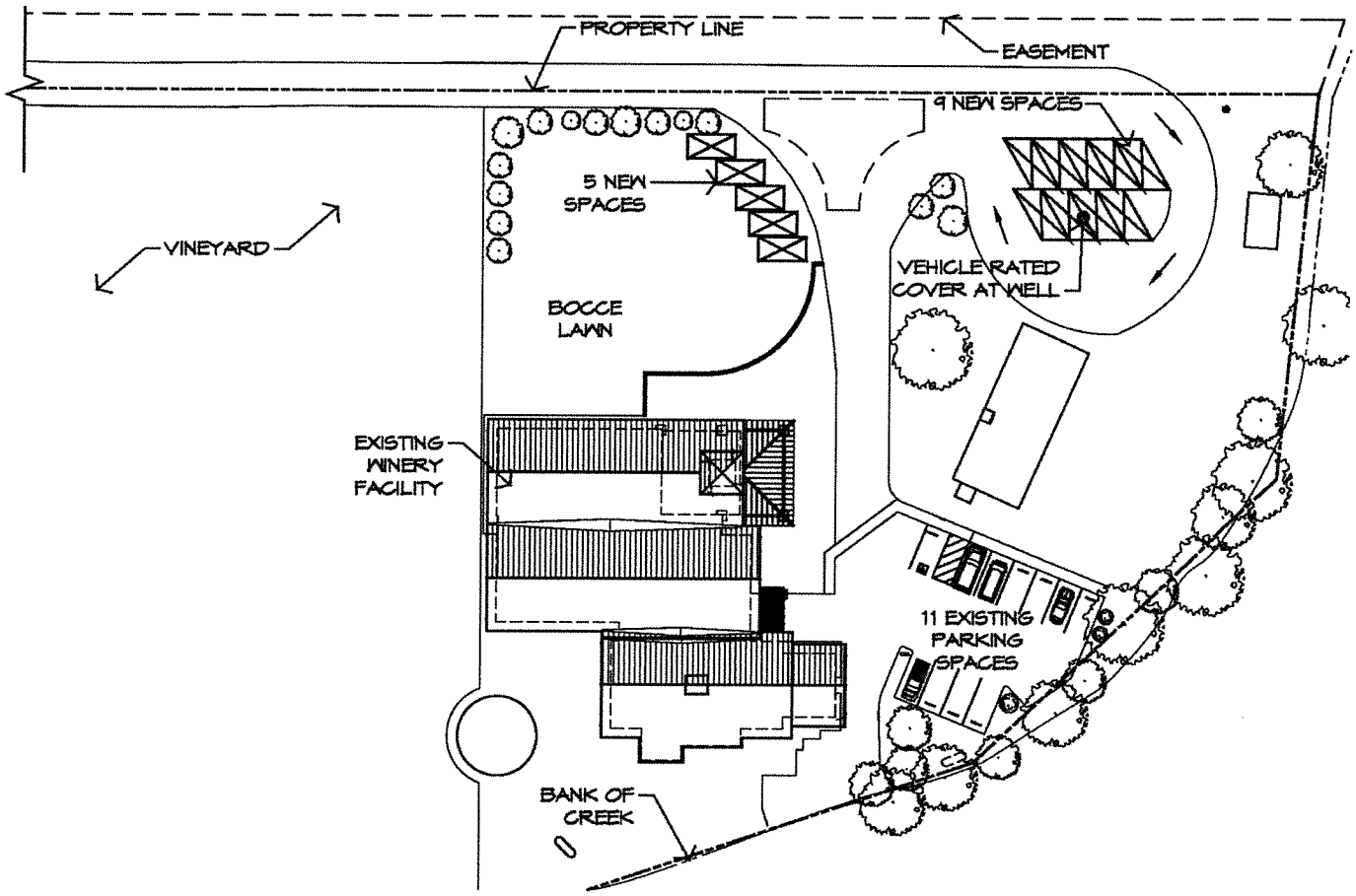
The existing plus project and near-term plus project volumes were compared with the Napa County guidelines for installing a southbound left-turn lane on Washington Street at the Bell Cellars Winery driveway.[17] (The warrant graphs for weekday and Saturday conditions are provided in the Appendix). Napa County left-turn lane warrants are based on the combination of existing/proposed daily trips at the Bell Cellars Winery driveway and overall ADT on Washington Street. With 210 daily weekday/weekend trips at the proposed project driveway and 735 daily trips on Washington Street under near-term plus project conditions (worst case), a southbound left-turn lane ***would not be warranted*** on Washington Street.

Marketing Events

With regard to larger special event traffic, these events would only occur four times annually. The largest event (200 visitors) would be an all day event typically on a weekend. This event would involve visitors arriving and departing throughout the entire day. The event would be scheduled to ensure that the majority of visitor arrivals and/or departures would not coincide with the Saturday afternoon peak hour background traffic flows on SR-29.

Based on standard auto occupancy rates, the largest special event (200 people) would generate up to 154 trips (77 in, 77 out). As noted, these events are typically of sufficient duration in length that the inbound and outbound trips occur in separate hours, thus the number of trips on the street network at one time are half of the total volume. These events are usually held outside of typical peak traffic periods (throughout the entire day or later than 6:00 p.m.) and therefore generally do not impact peak hour operations during the weekday/weekend peak periods.

[17] *Napa County, Adopted Road and Street Standards, revised November 21, 2006.*



Project Site Plan

North

omni-means

figure 6

6. Cumulative Conditions

Cumulative Year 2030 Projections

Model Forecast

As outlined in near-term (no project) conditions, cumulative (Year 2030) volume projections on St. Helena Highway (SR-29) were derived from the Napa County Transportation & Planning Agency's traffic volume forecasts in the Napa County General Plan Update EIR. The forecast increase in volume-to-capacity (v/c) ratio from Year 2003 to Year 2030 on SR-29 between Oak Knoll Avenue and California Drive was applied to the Year 2003 peak hour two-way volumes (2,469 vehicles). This yielded a future volume of 4,604 weekday PM peak hour vehicles on SR-29 in the Year 2030. This would equate to an increase in traffic volumes of 3.7% per year to the Year 2030 on the highway.

Since future volume traffic forecasts are only available for the weekday PM peak hour and not for a Saturday mid-day peak hour, northbound and southbound volumes on Conn Creek Road were uniformly increased by the same percentage as listed above.

Cumulative Operating Conditions

Although cumulative volumes are conservative, the forecast volumes would yield acceptable LOS 'B' conditions (3,855 two-way peak hour) on SR-29. Applying the same weekday PM peak hour increase to daily traffic volumes (as a conservative measure), existing ADT on SR-29 would increase from 28,000 trips to 44,520 daily trips (LOS C). Cumulative projections are not available for Washington Street. However, assuming the same conservative increases in traffic growth, existing ADT on Washington Street would increase from 675 trips to 1,073 daily trips (LOS B).

With regard to weekday PM peak hour and weekend mid-day peak hour intersection operation under cumulative year 2030 (no project) conditions, the existing Bell Cellars Winery Driveway/Washington Street and Hoffman Lane/Washington Street intersections would operate at acceptable conditions (LOS A-B or better) using County volume projections. With proposed project traffic, the intersections would continue to operate at LOS A-B during the weekday PM peak hour and weekend mid-day peak hour.

The Hoffman Lane/SR-29 intersection would be operating at LOS F during both the weekday PM and weekend mid-day peak hour under cumulative year 2030 (no project) conditions. These operations would remain unchanged with proposed project traffic.

Additional improvements to the street network are anticipated and have been included in the General Plan's Improved 2030 Network model. As noted, the County has also adopted several measures identified in the General Plan to reduce vehicle trips through public transit and Transportation Demand Management (TDM) strategies: "The project should support programs to reduce single occupant vehicle use and encourage alternative travel modes."

- In keeping with the policy, the winery project provides bicycle racks for visitors who may arrive by bike. The project should also promote the use of public transportation and carpooling of employees (by adjusting work schedules, etc.) to facilitate the use of other transportation modes.

7. Summary and Conclusions

Daily and Peak Hour Operations

The proposed Bell Cellars Winery use modification project would generate 98-104 net new daily trips during the weekday and weekend periods (respectively). Specific to net new roadway trips, the project is expected to generate 50-48 daily trips during the same time periods. This increase in daily net new roadway trips represents the difference between existing traffic operations (that currently reflect winery activities over permitted use levels) with ultimate use modification requests. Currently, the winery is averaging approximately 45-50 visitors a day and 225 visitors per week. The proposed use modification would increase these levels to 100-140 visitors per day (weekday/weekend) and 420 visitors per week. It is noted that the daily visitation levels reflect the addition of 40 visitors associated with marketing events that could occur four (4) times per week with up to 40 visitors. (These events were deemed to occur too frequently on a weekly basis to be left out of normal daily visitor traffic levels).[18] Employment levels would increase slightly from an average of 11 per day to 15 per day during weekday periods (less on the weekend). Overall production would increase from 40,000 gallons to 60,000 gallons (annually).

With the proposed project expected to add approximately 48-50 daily trips to State Route 29, this would represent an addition of less than 1 percent (0.002) to the daily volumes on the highway. The combined existing plus project volume of 28,050 daily trips would remain at LOS B operating conditions for a four-lane rural arterial highway based on established County thresholds. ADT on Washington Street would increase to 725 vehicles with proposed project activity and would continue to operate at LOS A conditions.

With near-term plus project conditions, daily traffic volumes on State Route 29 would increase to 30,122 ADT. Again, this would represent LOS B conditions for a two-lane, rural arterial highway based on County thresholds. ADT on Washington Street would increase from 685 to 735 vehicles with proposed project traffic. This would be well within the LOS A carrying capacity of 1,067 ADT based on County thresholds.

Both the Washington Street intersections (Bell Cellars Driveway and Hoffman Lane) would operate at acceptable levels (LOS A) during both the weekday PM peak hour and weekend mid-day peak hour under both existing and near-term "with project" conditions. The Hoffman Lane/SR-29 intersection would continue to operate at LOS F during both weekday PM and weekend mid-day peak hour conditions (with or without project).

With regard to the Hoffman Lane/SR-29 intersection operating at LOS F during the weekday PM and weekend (Saturday) mid-day peak hours, the following measure is recommended to reduce overall project impacts:

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[18] *Mr. Paul Wilkinson, Napa County Public Works, Bell Wine Cellars P13-00055, Comment letter to Ms.Wyntress Balcher, Napa County Planning, October 30, 2014.*

- With the Hoffman Lane/SR-29 intersection operating at LOS F for minor street stop-sign controlled movements under existing and near-term conditions (with or without proposed project), the winery has adopted measures to reduce impacts for vehicle travel to/from the winery. Specifically, inbound motorists from the south can readily exit SR-29 at Hoffman Lane by turning right and accessing Washington Street. When making an appointment or invitations are sent out for events, inbound motorists from the north are instructed to exit SR-29 at California Drive and turn left to access Washington Street. However, visitors can still access the winery from SR-29 at Hoffman Lane using the existing southbound left-turn lane if they desire. Most importantly, all outbound visitors and guests are instructed to exit the winery north on Washington Street and access California Drive (0.87 miles to the north) to travel southbound on SR-29. This allows visitors to readily access SR-29 southbound and avoid significant delays at the Hoffman Lane/SR-29 intersection. The winery could install a sign for visitors and guests (Southbound SR-29---Please Use Washington Street North to California Drive Interchange To Avoid Delays). This would reduce overall project impacts at the Hoffman Lane/SR-29 to less-than-significant levels.

Based on the CAMUTCD peak hour signal warrant criteria (peak hour #3), all three project study intersections would not qualify for signalization under existing plus project or near-term plus project conditions.

Warrant and Vehicle Sight Distance

The existing plus project and near-term plus project volumes were compared with the Napa County guidelines for installing a southbound left-turn lane on Washington Street at the Bell Cellars Winery driveway.[19] (The warrant graphs for weekday and Saturday conditions are provided in the Appendix). Napa County left-turn lane warrants are based on the combination of existing/proposed daily trips at the Bell Cellars Winery driveway and overall ADT on Washington Street. With 210 daily weekday/weekend trips on the proposed project driveway and 735 daily trips on Washington Street under near-term plus project conditions, a southbound left-turn lane ***would not be warranted*** on Washington Street.

The projected right turn volumes at the site driveway are well below minimum thresholds at which right turn lane would be required (right turn lane warrant graphs are included in the Appendix).[20]

As noted in the discussion of existing conditions, radar surveys conducted as a part of this study indicate the "critical" vehicle speeds (85% of all surveyed vehicles travel at or below the critical speed) along Washington Street at the existing project driveway are 50 miles per hour (mph) or less during the weekday PM peak period and the Saturday afternoon peak period. [21] Based on Caltrans design standards, these vehicle speeds require a sight distance of approximately 430 feet, measured along the travel lanes on Washington Street. As measured, existing vehicle sight distance from the project driveway looking south on Washington Street exceeds 430 feet (460-500 feet) and is adequate. Vehicle sight distance to the north is restricted due to an existing shrub/bush located in the front yard of a residential home on the northeast quadrant of the

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[19] *Napa County, Adopted Road and Street Standards, revised November 21, 2006.*
[20] *Transportation Research Board, National Cooperative Highway Research Program Report 279, "Intersection Channelization Design Guide," November, 1985.*
[21] *Caltrans, Highway Design Manual, Chapter 200, Topic 201—Sight Distance, March 7, 2014.*

intersection. The following measure is recommended to improve vehicle sight distance to/from the north on Washington Street at the project driveway

- Trimming/pruning the existing bush on the northeast corner of the intersection (residential home yard) would provide 800 feet of vehicle sight distance to the north on Washington Street.

Vehicle Circulation/Access

Based on the project site plan, the winery grounds would be improved to include 14 new parking spaces on the north side of the site. These parking spaces would be in addition to the 11 existing parking spaces located in the southeast sector of the grounds. As shown in Figure 6 (Project Site Plan), visitors would travel east from Washington Street down the long, shared driveway (approximately 1,750-2,000 feet) to the winery grounds. There would be a vehicle turnaround area created in front of the existing residential building for visitors to exit out the same driveway access. This turnaround area would also accommodate Napa County standards for emergency/fire trucks (civil engineer to confirm design). Visitors could also turn south past the winery facility to access existing parking areas. The project driveway accessing the winery is shared with existing residences and the Hopper Creek Winery located west of the project site. The driveway width varies from 17-18 feet and is paved with wide dirt shoulders. The County standard for driveway widths is 18 feet (minimum). (Any improvements to the Bell Cellars Winery driveway and turnaround areas would meet minimum County standards).

Marketing Events

With regard to larger special event traffic, these events would only occur four times annually. The largest event (200 visitors) would be an all day event typically on a weekend. This event would involve visitors arriving and departing throughout the entire day. The event would be scheduled to ensure that the majority of visitor arrivals and/or departures would not coincide with the Saturday afternoon peak hour background traffic flows on SR-29.

Based on standard auto occupancy rates, the largest special event (200 people) would generate up to 154 trips (77 in, 77 out). As noted, these events are typically of sufficient duration in length that the inbound and outbound trips occur in separate hours, thus the number of trips on the street network at one time are half of the total volume. These events are usually held outside of typical peak traffic periods (throughout the entire day or later than 6:00 p.m.) and therefore generally do not impact peak hour operations during the weekday/weekend peak periods.

As previously stated, the surveys of existing daily and peak hour trip generation at the existing Bell Cellars Winery indicate significant use of transit services. Specifically, of the 225 surveyed weekly visitors to the winery, 105 visitors (or 47%) used The Wine Trolley and/or Hire Car (limousines, Escalades, etc.) to access the winery. The average auto occupancy was 4.0 persons/vehicle. The relatively high use of trolley and hire car to/from the winery has helped to reduce vehicle trip generation (even with higher visitation levels). Based on discussions with the applicant, the use of transit will continue and expand with proposed use modification levels and is being directly marketed to reduce vehicle trip generation and improved guest demographics. Transit use will be encouraged for large events to reduce traffic levels to the extent possible.

Cumulative Year 2030 Conditions

Although cumulative volumes are conservative, the forecast volumes would yield acceptable LOS 'B' conditions (3,855 two-way peak hour) on SR-29. Applying the same weekday PM peak hour increase to daily traffic volumes (as a conservative measure), existing ADT on SR-29 would increase from 28,000 trips to 44,520 daily trips (LOS C). Cumulative projections are not available for Washington Street. However, assuming the same conservative increases in traffic growth, existing ADT on Washington Street would increase from 675 trips to 1,073 daily trips (LOS B). The addition of proposed project daily trips would not change overall LOS conditions on SR-29 or Washington Street.

With regard to weekday PM peak hour and weekend mid-day peak hour intersection operation under cumulative year 2030 (no project) conditions, the existing Bell Cellars Winery Driveway/Washington Street and Hoffman Lane/Washington Street intersections would operate at acceptable conditions (LOS A-B or better) using County volume projections. With proposed project traffic, the intersections would continue to operate at LOS A-B during the weekday PM peak hour and weekend mid-day peak hour.

The Hoffman Lane/SR-29 intersection would be operating at LOS F during both the weekday PM and weekend mid-day peak hour under cumulative year 2030 (no project) conditions. These operations would remain unchanged with proposed project traffic (see Daily and Peak Hour Operations Summary section for recommended mitigation).

APPENDIX

Level of Service Definitions

Level of Service Calculations

Signal Warrant Sheets

Radar Speed Surveys (Washington St. @ Bell Cellars Winery Driveway)

Right-Turn Lane Warrant Sheet

Napa County Left-Turn Lane Warrant Graph

Bell Cellars Winery; Employment & Visitation

Winery Traffic Information/Trip Generation Sheet

ADT Count Sheets; Washington St. & Project Driveway

LEVEL-OF-SERVICE CRITERIA FOR INTERSECTIONS

Level of Service	Type of Flow	Delay	Maneuverability	Control Delay (seconds/vehicle)		
				Signalized	Unsignalized	All-Way Stop
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10.0 secs.	≤ 10.0	≤ 10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10 and ≤ 20.0 secs.	>10 and ≤ 15.0	>10 and ≤ 15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20 and ≤ 35.0 secs.	>15 and ≤ 25.0	>15 and ≤ 25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles of stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35 and ≤ 55.0 secs.	>25 and ≤ 35.0	>25 and ≤ 35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	>55 and ≤ 80.0 secs.	>35 and ≤ 50.0	>35 and ≤ 50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	> 80.0 secs.	> 50.0	> 50.0

References: 1. Highway Capacity Manual, Fourth Edition, Transportation Research Board, 2000,

Intersection	
Intersection Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	5	9	58	1	2	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	10	63	1	2	20
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	88	64	0	0	64	0
Stage 1	64	-	-	-	-	-
Stage 2	24	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	913	1000	-	-	1538	-
Stage 1	959	-	-	-	-	-
Stage 2	999	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	912	1000	-	-	1538	-
Mov Capacity-2 Maneuver	912	-	-	-	-	-
Stage 1	959	-	-	-	-	-
Stage 2	998	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.7
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	967	1538	-
HCM Control Delay, s	-	-	8.8	7.344	0
HCM Lane V/C Ratio	-	-	0.02	0.00	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.0	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	51	1	5	0	0	0	0	8	0	0	11	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	1	5	0	0	0	0	9	0	0	12	13
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	0	0	0	1	0	0	125	112	1	116	112	0
Stage 1	-	-	-	-	-	-	112	112	-	0	0	-
Stage 2	-	-	-	-	-	-	13	0	-	116	112	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	-	-	-	1622	-	-	849	778	1084	861	778	-
Stage 1	-	-	-	-	-	-	893	803	-	-	-	-
Stage 2	-	-	-	-	-	-	1007	-	-	889	803	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	-	-	-	1622	-	-	-	778	1084	854	778	-
Mov Capacity-2 Maneuver	-	-	-	-	-	-	-	778	-	854	778	-
Stage 1	-	-	-	-	-	-	893	803	-	-	-	-
Stage 2	-	-	-	-	-	-	1007	-	-	879	803	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	-	-
HCM LOS	-	-	-	-

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	-	-	-	-	1622	-	-	-
HCM Control Delay, s	-	-	-	-	0	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	A	-	-	-
HCM 95th-tile Q, veh	-	-	-	-	0.0	-	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	1	12	11	0	1	29	831	53	2	1544	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	13	12	0	1	32	903	58	2	1678	9
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	2198	2649	839	1810	2649	452	1678	0	0	903	0	0
Stage 1	1683	1683	-	966	966	-	-	-	-	-	-	-
Stage 2	515	966	-	844	1683	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	25	23	309	49	23	555	378	-	-	749	-	-
Stage 1	98	149	-	273	331	-	-	-	-	-	-	-
Stage 2	511	331	-	324	149	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	23	21	309	42	21	555	378	-	-	749	-	-
Mov Capacity-2 Maneuver	23	21	-	42	21	-	-	-	-	-	-	-
Stage 1	90	149	-	250	303	-	-	-	-	-	-	-
Stage 2	467	303	-	307	149	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	64.4	113.4	0.5	0
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	378	-	-	42	309	43	555	749	-	-
HCM Control Delay, s	15.388	-	-	111.8	17	119.4	11.5	9.82	-	-
HCM Lane V/C Ratio	0.08	-	-	0.21	0.03	0.29	0.00	0.00	-	-
HCM Lane LOS	C	-	-	F	C	F	B	A	-	-
HCM 95th-tile Q, veh	0.3	-	-	0.7	0.1	1.0	0.0	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	2	5	39	1	4	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	5	42	1	4	29
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	81	43	0	0	43	0
Stage 1	43	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	921	1027	-	-	1566	-
Stage 1	979	-	-	-	-	-
Stage 2	984	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	918	1027	-	-	1566	-
Mov Capacity-2 Maneuver	918	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	981	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.9
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	993	1566	-
HCM Control Delay, s	-	-	8.7	7.305	0
HCM Lane V/C Ratio	-	-	0.01	0.00	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.0	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	27	2	6	0	2	0	1	13	0	0	12	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	2	7	0	2	0	1	14	0	0	13	18
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	2	0	0	2	0	0	79	63	2	70	63	2
Stage 1	-	-	-	-	-	-	61	61	-	2	2	-
Stage 2	-	-	-	-	-	-	18	2	-	68	61	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1620	-	-	1620	-	-	910	828	1082	922	828	1082
Stage 1	-	-	-	-	-	-	950	844	-	1021	894	-
Stage 2	-	-	-	-	-	-	1001	894	-	942	844	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1620	-	-	1620	-	-	871	813	1082	897	813	1082
Mov Capacity-2 Maneuver	-	-	-	-	-	-	871	813	-	897	813	-
Stage 1	-	-	-	-	-	-	933	829	-	1003	894	-
Stage 2	-	-	-	-	-	-	970	894	-	909	829	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.6	0	9.5	8.9
HCM LOS	-	-	A	A

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	817	1620	-	-	1620	-	-	952
HCM Control Delay, s	9.5	7.263	0	-	0	-	-	8.9
HCM Lane V/C Ratio	0.02	0.02	-	-	-	-	-	0.03
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th-tile Q, veh	0.1	0.1	-	-	0.0	-	-	0.1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	1	11	8	2	8	13	1299	26	8	1042	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	12	9	2	9	14	1412	28	9	1133	5
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	1885	2590	566	2024	2590	706	1133	0	0	1412	0	0
Stage 1	1150	1150	-	1440	1440	-	-	-	-	-	-	-
Stage 2	735	1440	-	584	1150	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	43	25	467	34	25	378	612	-	-	479	-	-
Stage 1	211	271	-	139	196	-	-	-	-	-	-	-
Stage 2	377	196	-	465	271	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	38	24	467	31	24	378	612	-	-	479	-	-
Mov Capacity-2 Maneuver	38	24	-	31	24	-	-	-	-	-	-	-
Stage 1	206	266	-	136	192	-	-	-	-	-	-	-
Stage 2	356	192	-	443	266	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	56.1	114.9	0.1	0.1
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	612	-	-	53	467	36	378	479	-	-
HCM Control Delay, s	11.021	-	-	89	12.8	157.1	14.7	12.655	-	-
HCM Lane V/C Ratio	0.02	-	-	0.20	0.02	0.38	0.01	0.02	-	-
HCM Lane LOS	B	-	-	F	B	F	B	B	-	-
HCM 95th-tile Q, veh	0.1	-	-	0.7	0.1	1.3	0.0	0.1	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	7	10	58	1	2	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	11	63	1	2	20
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	88	64	0	0	64	0
Stage 1	64	-	-	-	-	-
Stage 2	24	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	913	1000	-	-	1538	-
Stage 1	959	-	-	-	-	-
Stage 2	999	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	912	1000	-	-	1538	-
Mov Capacity-2 Maneuver	912	-	-	-	-	-
Stage 1	959	-	-	-	-	-
Stage 2	998	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.7
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	962	1538	-
HCM Control Delay, s	-	-	8.8	7.344	0
HCM Lane V/C Ratio	-	-	0.02	0.00	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.1	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	51	1	5	0	0	0	0	8	0	0	11	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	1	5	0	0	0	0	9	0	0	12	15
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	0	0	0	1	0	0	126	112	1	116	112	0
Stage 1	-	-	-	-	-	-	112	112	-	0	0	-
Stage 2	-	-	-	-	-	-	14	0	-	116	112	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	-	-	-	1622	-	-	848	778	1084	861	778	-
Stage 1	-	-	-	-	-	-	893	803	-	-	-	-
Stage 2	-	-	-	-	-	-	1006	-	-	889	803	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	-	-	-	1622	-	-	-	778	1084	854	778	-
Mov Capacity-2 Maneuver	-	-	-	-	-	-	-	778	-	854	778	-
Stage 1	-	-	-	-	-	-	893	803	-	-	-	-
Stage 2	-	-	-	-	-	-	1006	-	-	879	803	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	-	-
HCM LOS	-	-	-	-

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	-	-	-	-	1622	-	-	-
HCM Control Delay, s	-	-	-	-	0	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	A	-	-	-
HCM 95th-tile Q, veh	-	-	-	-	0.0	-	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	1	30	13	0	1	35	894	53	2	1665	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	33	14	0	1	38	972	58	2	1810	12
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	2376	2862	905	1958	2862	486	1810	0	0	972	0	0
Stage 1	1814	1814	-	1048	1048	-	-	-	-	-	-	-
Stage 2	562	1048	-	910	1814	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	18	16	279	38	16	527	336	-	-	705	-	-
Stage 1	81	128	-	244	303	-	-	-	-	-	-	-
Stage 2	479	303	-	296	128	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	16	14	279	29	14	527	336	-	-	705	-	-
Mov Capacity-2 Maneuver	16	14	-	29	14	-	-	-	-	-	-	-
Stage 1	72	128	-	216	269	-	-	-	-	-	-	-
Stage 2	424	269	-	258	128	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	161	198.4	0.6	0
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	336	-	-	29	279	30	527	705	-	-
HCM Control Delay, s	17.078	-	-	296.3	19	207.7	11.8	10.122	-	-
HCM Lane V/C Ratio	0.11	-	-	0.79	0.08	0.48	0.00	0.00	-	-
HCM Lane LOS	C	-	-	F	C	F	B	B	-	-
HCM 95th-tile Q, veh	0.4	-	-	2.6	0.3	1.6	0.0	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	3	5	39	2	5	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	5	42	2	5	29
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	83	43	0	0	45	0
Stage 1	43	-	-	-	-	-
Stage 2	40	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	919	1027	-	-	1563	-
Stage 1	979	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	916	1027	-	-	1563	-
Mov Capacity-2 Maneuver	916	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.1
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	982	1563	-
HCM Control Delay, s	-	-	8.7	7.311	0
HCM Lane V/C Ratio	-	-	0.01	0.00	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.0	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	28	2	6	0	2	0	1	13	0	0	12	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	2	7	0	2	0	1	14	0	0	13	18
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	2	0	0	2	0	0	81	65	2	72	65	2
Stage 1	-	-	-	-	-	-	63	63	-	2	2	-
Stage 2	-	-	-	-	-	-	18	2	-	70	63	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1620	-	-	1620	-	-	907	826	1082	919	826	1082
Stage 1	-	-	-	-	-	-	948	842	-	1021	894	-
Stage 2	-	-	-	-	-	-	1001	894	-	940	842	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1620	-	-	1620	-	-	868	810	1082	894	810	1082
Mov Capacity-2 Maneuver	-	-	-	-	-	-	868	810	-	894	810	-
Stage 1	-	-	-	-	-	-	930	826	-	1002	894	-
Stage 2	-	-	-	-	-	-	970	894	-	906	826	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.7	0	9.5	8.9
HCM LOS	-	-	A	A

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	814	1620	-	-	1620	-	-	950
HCM Control Delay, s	9.5	7.265	0	-	0	-	-	8.9
HCM Lane V/C Ratio	0.02	0.02	-	-	-	-	-	0.03
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th-tile Q, veh	0.1	0.1	-	-	0.0	-	-	0.1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	9	1	19	8	2	8	21	1399	27	8	1123	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	1	21	9	2	9	23	1521	29	9	1221	11
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	2045	2804	610	2194	2804	760	1221	0	0	1521	0	0
Stage 1	1238	1238	-	1566	1566	-	-	-	-	-	-	-
Stage 2	807	1566	-	628	1238	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	33	18	437	25	18	349	567	-	-	435	-	-
Stage 1	186	246	-	116	170	-	-	-	-	-	-	-
Stage 2	341	170	-	437	246	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	28	17	437	22	17	349	567	-	-	435	-	-
Mov Capacity-2 Maneuver	28	17	-	22	17	-	-	-	-	-	-	-
Stage 1	178	241	-	111	163	-	-	-	-	-	-	-
Stage 2	315	163	-	406	241	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	89.2	179	0.2	0.1
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	567	-	-	41	437	26	349	435	-	-
HCM Control Delay, s	11.615	-	-	147.9	13.5	247.8	15.5	13.445	-	-
HCM Lane V/C Ratio	0.04	-	-	0.43	0.03	0.53	0.02	0.02	-	-
HCM Lane LOS	B	-	-	F	B	F	C	B	-	-
HCM 95th-tile Q, veh	0.1	-	-	1.5	0.1	1.6	0.1	0.1	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	7	10	58	1	2	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	11	63	1	2	20
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	88	64	0	0	64	0
Stage 1	64	-	-	-	-	-
Stage 2	24	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	913	1000	-	-	1538	-
Stage 1	959	-	-	-	-	-
Stage 2	999	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	912	1000	-	-	1538	-
Mov Capacity-2 Maneuver	912	-	-	-	-	-
Stage 1	959	-	-	-	-	-
Stage 2	998	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.7
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	962	1538	-
HCM Control Delay, s	-	-	8.8	7.344	0
HCM Lane V/C Ratio	-	-	0.02	0.00	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.1	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	51	1	5	0	0	0	0	8	0	0	11	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	1	5	0	0	0	0	9	0	0	12	15
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	0	0	0	1	0	0	126	112	1	116	112	0
Stage 1	-	-	-	-	-	-	112	112	-	0	0	-
Stage 2	-	-	-	-	-	-	14	0	-	116	112	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	-	-	-	1622	-	-	848	778	1084	861	778	-
Stage 1	-	-	-	-	-	-	893	803	-	-	-	-
Stage 2	-	-	-	-	-	-	1006	-	-	889	803	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	-	-	-	1622	-	-	-	778	1084	854	778	-
Mov Capacity-2 Maneuver	-	-	-	-	-	-	-	778	-	854	778	-
Stage 1	-	-	-	-	-	-	893	803	-	-	-	-
Stage 2	-	-	-	-	-	-	1006	-	-	879	803	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	-	-
HCM LOS	-	-	-	-

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	-	-	-	-	1622	-	-	-
HCM Control Delay, s	-	-	-	-	0	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	A	-	-	-
HCM 95th-tile Q, veh	-	-	-	-	0.0	-	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	1	30	13	0	1	35	894	53	2	1665	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	33	14	0	1	38	972	58	2	1810	12
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	2376	2862	905	1958	2862	486	1810	0	0	972	0	0
Stage 1	1814	1814	-	1048	1048	-	-	-	-	-	-	-
Stage 2	562	1048	-	910	1814	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	18	16	279	38	16	527	336	-	-	705	-	-
Stage 1	81	128	-	244	303	-	-	-	-	-	-	-
Stage 2	479	303	-	296	128	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	16	14	279	29	14	527	336	-	-	705	-	-
Mov Capacity-2 Maneuver	16	14	-	29	14	-	-	-	-	-	-	-
Stage 1	72	128	-	216	269	-	-	-	-	-	-	-
Stage 2	424	269	-	258	128	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	161	198.4	0.6	0
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	336	-	-	29	279	30	527	705	-	-
HCM Control Delay, s	17.078	-	-	296.3	19	207.7	11.8	10.122	-	-
HCM Lane V/C Ratio	0.11	-	-	0.79	0.08	0.48	0.00	0.00	-	-
HCM Lane LOS	C	-	-	F	C	F	B	B	-	-
HCM 95th-tile Q, veh	0.4	-	-	2.6	0.3	1.6	0.0	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	8	17	58	3	8	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	18	63	3	9	20
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	102	65	0	0	66	0
Stage 1	65	-	-	-	-	-
Stage 2	37	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	896	999	-	-	1536	-
Stage 1	958	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	891	999	-	-	1536	-
Mov Capacity-2 Maneuver	891	-	-	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	2.3
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	962	1536	-
HCM Control Delay, s	-	-	8.9	7.357	0
HCM Lane V/C Ratio	-	-	0.03	0.01	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.1	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	53	1	5	0	0	0	0	8	0	0	11	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	1	5	0	0	0	0	9	0	0	12	16
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	0	0	0	1	0	0	130	116	1	121	116	0
Stage 1	-	-	-	-	-	-	116	116	-	0	0	-
Stage 2	-	-	-	-	-	-	14	0	-	121	116	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	-	-	-	1622	-	-	843	774	1084	854	774	-
Stage 1	-	-	-	-	-	-	889	800	-	-	-	-
Stage 2	-	-	-	-	-	-	1006	-	-	883	800	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	-	-	-	1622	-	-	-	774	1084	847	774	-
Mov Capacity-2 Maneuver	-	-	-	-	-	-	-	774	-	847	774	-
Stage 1	-	-	-	-	-	-	889	800	-	-	-	-
Stage 2	-	-	-	-	-	-	1006	-	-	873	800	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	-	-
HCM LOS	-	-	-	-

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	-	-	-	-	1622	-	-	-
HCM Control Delay, s	-	-	-	-	0	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	A	-	-	-
HCM 95th-tile Q, veh	-	-	-	-	0.0	-	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	1	12	14	0	1	29	831	55	2	1544	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	13	15	0	1	32	903	60	2	1678	9
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	2198	2649	839	1810	2649	452	1678	0	0	903	0	0
Stage 1	1683	1683	-	966	966	-	-	-	-	-	-	-
Stage 2	515	966	-	844	1683	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	25	23	309	49	23	555	378	-	-	749	-	-
Stage 1	98	149	-	273	331	-	-	-	-	-	-	-
Stage 2	511	331	-	324	149	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	23	21	309	42	21	555	378	-	-	749	-	-
Mov Capacity-2 Maneuver	23	21	-	42	21	-	-	-	-	-	-	-
Stage 1	90	149	-	250	303	-	-	-	-	-	-	-
Stage 2	467	303	-	307	149	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	64.4	125	0.5	0
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	378	-	-	42	309	43	555	749	-	-
HCM Control Delay, s	15.388	-	-	111.8	17	130.3	11.5	9.82	-	-
HCM Lane V/C Ratio	0.08	-	-	0.21	0.03	0.36	0.00	0.00	-	-
HCM Lane LOS	C	-	-	F	C	F	B	A	-	-
HCM 95th-tile Q, veh	0.3	-	-	0.7	0.1	1.2	0.0	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	3	9	39	3	8	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	10	42	3	9	29
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	91	44	0	0	46	0
Stage 1	44	-	-	-	-	-
Stage 2	47	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	909	1026	-	-	1562	-
Stage 1	978	-	-	-	-	-
Stage 2	975	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	904	1026	-	-	1562	-
Mov Capacity-2 Maneuver	904	-	-	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	969	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.7
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	993	1562	-
HCM Control Delay, s	-	-	8.7	7.318	0
HCM Lane V/C Ratio	-	-	0.01	0.01	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.0	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	30	2	6	0	2	0	1	13	0	0	12	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	2	7	0	2	0	1	14	0	0	13	21
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	2	0	0	2	0	0	86	69	2	76	69	2
Stage 1	-	-	-	-	-	-	67	67	-	2	2	-
Stage 2	-	-	-	-	-	-	19	2	-	74	67	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1620	-	-	1620	-	-	900	822	1082	914	822	1082
Stage 1	-	-	-	-	-	-	943	839	-	1021	894	-
Stage 2	-	-	-	-	-	-	1000	894	-	935	839	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1620	-	-	1620	-	-	859	806	1082	888	806	1082
Mov Capacity-2 Maneuver	-	-	-	-	-	-	859	806	-	888	806	-
Stage 1	-	-	-	-	-	-	924	822	-	1001	894	-
Stage 2	-	-	-	-	-	-	967	894	-	901	822	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.7	0	9.5	8.9
HCM LOS	-	-	A	A

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	810	1620	-	-	1620	-	-	955
HCM Control Delay, s	9.5	7.268	0	-	0	-	-	8.9
HCM Lane V/C Ratio	0.02	0.02	-	-	-	-	-	0.04
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th-tile Q, veh	0.1	0.1	-	-	0.0	-	-	0.1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	1	11	10	2	8	13	1299	29	8	1042	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	12	11	2	9	14	1412	32	9	1133	5
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	1885	2590	566	2024	2590	706	1133	0	0	1412	0	0
Stage 1	1150	1150	-	1440	1440	-	-	-	-	-	-	-
Stage 2	735	1440	-	584	1150	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	43	25	467	34	25	378	612	-	-	479	-	-
Stage 1	211	271	-	139	196	-	-	-	-	-	-	-
Stage 2	377	196	-	465	271	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	38	24	467	31	24	378	612	-	-	479	-	-
Mov Capacity-2 Maneuver	38	24	-	31	24	-	-	-	-	-	-	-
Stage 1	206	266	-	136	192	-	-	-	-	-	-	-
Stage 2	356	192	-	443	266	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	56.1	127.4	0.1	0.1
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	612	-	-	53	467	36	378	479	-	-
HCM Control Delay, s	11.021	-	-	89	12.8	168.4	14.7	12.655	-	-
HCM Lane V/C Ratio	0.02	-	-	0.20	0.02	0.44	0.01	0.02	-	-
HCM Lane LOS	B	-	-	F	B	F	B	B	-	-
HCM 95th-tile Q, veh	0.1	-	-	0.7	0.1	1.5	0.0	0.1	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	18	58	3	8	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	20	63	3	9	20
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	102	65	0	0	66	0
Stage 1	65	-	-	-	-	-
Stage 2	37	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	896	999	-	-	1536	-
Stage 1	958	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	891	999	-	-	1536	-
Mov Capacity-2 Maneuver	891	-	-	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	2.3
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	958	1536	-
HCM Control Delay, s	-	-	8.9	7.357	0
HCM Lane V/C Ratio	-	-	0.03	0.01	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.1	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	53	1	5	0	0	0	0	8	0	0	11	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	1	5	0	0	0	0	9	0	0	12	18
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	0	0	0	1	0	0	131	116	1	121	116	0
Stage 1	-	-	-	-	-	-	116	116	-	0	0	-
Stage 2	-	-	-	-	-	-	15	0	-	121	116	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	-	-	-	1622	-	-	841	774	1084	854	774	-
Stage 1	-	-	-	-	-	-	889	800	-	-	-	-
Stage 2	-	-	-	-	-	-	1005	-	-	883	800	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	-	-	-	1622	-	-	-	774	1084	847	774	-
Mov Capacity-2 Maneuver	-	-	-	-	-	-	-	774	-	847	774	-
Stage 1	-	-	-	-	-	-	889	800	-	-	-	-
Stage 2	-	-	-	-	-	-	1005	-	-	873	800	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	-	-
HCM LOS	-	-	-	-

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	-	-	-	-	1622	-	-	-
HCM Control Delay, s	-	-	-	-	0	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	A	-	-	-
HCM 95th-tile Q, veh	-	-	-	-	0.0	-	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	1	30	16	0	1	35	894	55	2	1665	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	33	17	0	1	38	972	60	2	1810	12
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	2376	2862	905	1958	2862	486	1810	0	0	972	0	0
Stage 1	1814	1814	-	1048	1048	-	-	-	-	-	-	-
Stage 2	562	1048	-	910	1814	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	18	16	279	38	16	527	336	-	-	705	-	-
Stage 1	81	128	-	244	303	-	-	-	-	-	-	-
Stage 2	479	303	-	296	128	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	16	14	279	29	14	527	336	-	-	705	-	-
Mov Capacity-2 Maneuver	16	14	-	29	14	-	-	-	-	-	-	-
Stage 1	72	128	-	216	269	-	-	-	-	-	-	-
Stage 2	424	269	-	258	128	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	161	225.4	0.6	0
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	336	-	-	29	279	30	527	705	-	-
HCM Control Delay, s	17.078	-	-	296.3	19	234.1	11.8	10.122	-	-
HCM Lane V/C Ratio	0.11	-	-	0.79	0.08	0.59	0.00	0.00	-	-
HCM Lane LOS	C	-	-	F	C	F	B	B	-	-
HCM 95th-tile Q, veh	0.4	-	-	2.6	0.3	1.9	0.0	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	4	9	39	4	9	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	10	42	4	10	29
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	94	45	0	0	47	0
Stage 1	45	-	-	-	-	-
Stage 2	49	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	906	1025	-	-	1560	-
Stage 1	977	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	900	1025	-	-	1560	-
Mov Capacity-2 Maneuver	900	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	966	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.8
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	983	1560	-
HCM Control Delay, s	-	-	8.7	7.322	0
HCM Lane V/C Ratio	-	-	0.01	0.01	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.0	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	30	2	6	0	2	0	1	13	0	0	12	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0			0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	2	7	0	2	0	1	14	0	0	13	20
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	2	0	0	2	0	0	85	69	2	76	69	2
Stage 1	-	-	-	-	-	-	67	67	-	2	2	-
Stage 2	-	-	-	-	-	-	18	2	-	74	67	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1620	-	-	1620	-	-	901	822	1082	914	822	1082
Stage 1	-	-	-	-	-	-	943	839	-	1021	894	-
Stage 2	-	-	-	-	-	-	1001	894	-	935	839	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1620	-	-	1620	-	-	860	806	1082	888	806	1082
Mov Capacity-2 Maneuver	-	-	-	-	-	-	860	806	-	888	806	-
Stage 1	-	-	-	-	-	-	924	822	-	1001	894	-
Stage 2	-	-	-	-	-	-	969	894	-	901	822	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.7	0	9.5	8.9
HCM LOS	-	-	A	A

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	810	1620	-	-	1620	-	-	952
HCM Control Delay, s	9.5	7.268	0	-	0	-	-	8.9
HCM Lane V/C Ratio	0.02	0.02	-	-	-	-	-	0.03
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th-tile Q, veh	0.1	0.1	-	-	0.0	-	-	0.1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	9	1	19	9	2	8	21	1399	29	8	1123	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	1	21	10	2	9	23	1521	32	9	1221	11
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	2045	2804	610	2194	2804	760	1221	0	0	1521	0	0
Stage 1	1238	1238	-	1566	1566	-	-	-	-	-	-	-
Stage 2	807	1566	-	628	1238	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	33	18	437	25	18	349	567	-	-	435	-	-
Stage 1	186	246	-	116	170	-	-	-	-	-	-	-
Stage 2	341	170	-	437	246	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	28	17	437	22	17	349	567	-	-	435	-	-
Mov Capacity-2 Maneuver	28	17	-	22	17	-	-	-	-	-	-	-
Stage 1	178	241	-	111	163	-	-	-	-	-	-	-
Stage 2	315	163	-	406	241	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	89.2	190.6	0.2	0.1
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	567	-	-	41	437	26	349	435	-	-
HCM Control Delay, s	11.615	-	-	147.9	13.5	258.9	15.5	13.445	-	-
HCM Lane V/C Ratio	0.04	-	-	0.43	0.03	0.57	0.02	0.02	-	-
HCM Lane LOS	B	-	-	F	B	F	C	B	-	-
HCM 95th-tile Q, veh	0.1	-	-	1.5	0.1	1.8	0.1	0.1	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	5	9	92	1	2	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	10	100	1	2	32
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	137	101	0	0	101	0
Stage 1	101	-	-	-	-	-
Stage 2	36	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	856	954	-	-	1491	-
Stage 1	923	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	855	954	-	-	1491	-
Mov Capacity-2 Maneuver	855	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	985	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.5
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	916	1491	-
HCM Control Delay, s	-	-	9	7.418	0
HCM Lane V/C Ratio	-	-	0.02	0.00	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.1	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	81	1	5	0	0	0	0	13	0	0	17	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	1	5	0	0	0	0	14	0	0	18	21
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	0	0	0	1	0	0	197	177	1	184	177	0
Stage 1	-	-	-	-	-	-	177	177	-	0	0	-
Stage 2	-	-	-	-	-	-	20	0	-	184	177	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	-	-	-	1622	-	-	762	717	1084	777	717	-
Stage 1	-	-	-	-	-	-	825	753	-	-	-	-
Stage 2	-	-	-	-	-	-	999	-	-	818	753	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	-	-	-	1622	-	-	-	717	1084	765	717	-
Mov Capacity-2 Maneuver	-	-	-	-	-	-	-	717	-	765	717	-
Stage 1	-	-	-	-	-	-	825	753	-	-	-	-
Stage 2	-	-	-	-	-	-	999	-	-	803	753	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	-	-
HCM LOS	-	-	-	-

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	-	-	-	-	1622	-	-	-
HCM Control Delay, s	-	-	-	-	0	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	A	-	-	-
HCM 95th-tile Q, veh	-	-	-	-	0.0	-	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	1	12	11	0	1	29	1321	53	2	2455	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	13	12	0	1	32	1436	58	2	2668	9
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	3454	4172	1334	2838	4172	718	2668	0	0	1436	0	0
Stage 1	2673	2673	-	1499	1499	-	-	-	-	-	-	-
Stage 2	781	1499	-	1339	2673	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	# 3	2	144	# 8	2	371	154	-	-	469	-	-
Stage 1	22	46	-	128	184	-	-	-	-	-	-	-
Stage 2	354	184	-	161	46	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	# 3	2	144	# 4	2	371	154	-	-	469	-	-
Mov Capacity-2 Maneuver	# 3	2	-	# 4	2	-	-	-	-	-	-	-
Stage 1	17	46	-	101	146	-	-	-	-	-	-	-
Stage 2	280	146	-	142	46	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 845.9	$ 2441.1	0.7	0
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	154	-	-	5	144	4	371	469	-	-
HCM Control Delay, s	34.295	-	-	$ 2583.8	31.6	$ 2583.8	14.7	12.712	-	-
HCM Lane V/C Ratio	0.21	-	-	1.74	0.06	3.08	0.00	0.01	-	-
HCM Lane LOS	D	-	-	F	D	F	B	B	-	-
HCM 95th-tile Q, veh	0.7	-	-	2.1	0.2	2.7	0.0	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	2	5	62	1	4	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	5	67	1	4	47
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	123	68	0	0	68	0
Stage 1	68	-	-	-	-	-
Stage 2	55	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	872	995	-	-	1533	-
Stage 1	955	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	869	995	-	-	1533	-
Mov Capacity-2 Maneuver	869	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.6
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	955	1533	-
HCM Control Delay, s	-	-	8.8	7.355	0
HCM Lane V/C Ratio	-	-	0.01	0.00	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.0	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	43	2	6	0	2	0	1	21	0	0	19	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	2	7	0	2	0	1	23	0	0	21	29
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	2	0	0	2	0	0	123	98	2	109	98	2
Stage 1	-	-	-	-	-	-	96	96	-	2	2	-
Stage 2	-	-	-	-	-	-	27	2	-	107	96	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1620	-	-	1620	-	-	852	792	1082	870	792	1082
Stage 1	-	-	-	-	-	-	911	815	-	1021	894	-
Stage 2	-	-	-	-	-	-	990	894	-	898	815	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1620	-	-	1620	-	-	794	769	1082	832	769	1082
Mov Capacity-2 Maneuver	-	-	-	-	-	-	794	769	-	832	769	-
Stage 1	-	-	-	-	-	-	885	791	-	991	894	-
Stage 2	-	-	-	-	-	-	941	894	-	847	791	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.1	0	9.8	9.1
HCM LOS	-	-	A	A

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	770	1620	-	-	1620	-	-	926
HCM Control Delay, s	9.8	7.288	0	-	0	-	-	9.1
HCM Lane V/C Ratio	0.03	0.03	-	-	-	-	-	0.05
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th-tile Q, veh	0.1	0.1	-	-	0.0	-	-	0.2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	1	11	8	2	8	13	2065	26	8	1657	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	12	9	2	9	14	2245	28	9	1801	5
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	2970	4091	901	3191	4091	1122	1801	0	0	2245	0	0
Stage 1	1818	1818	-	2273	2273	-	-	-	-	-	-	-
Stage 2	1152	2273	-	918	1818	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	6	2	281	#4	#2	200	338	-	-	227	-	-
Stage 1	80	128	-	41	75	-	-	-	-	-	-	-
Stage 2	210	75	-	292	128	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	-	2	281	#2	#2	200	338	-	-	227	-	-
Mov Capacity-2 Maneuver	-	2	-	#2	#2	-	-	-	-	-	-	-
Stage 1	77	123	-	39	72	-	-	-	-	-	-	-
Stage 2	187	72	-	266	123	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	-	$ 2668.3	0.1	0.1
HCM LOS	-	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	338	-	-	-	281	3	200	227	-	-
HCM Control Delay, s	16.115	-	-	-	18.2	$ 3781.9	23.5	21.49	-	-
HCM Lane V/C Ratio	0.04	-	-	-	0.03	4.59	0.03	0.04	-	-
HCM Lane LOS	C	-	-	-	C	F	C	C	-	-
HCM 95th-tile Q, veh	0.1	-	-	-	0.1	3.0	0.1	0.1	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	8	17	92	3	8	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	18	100	3	9	32
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	151	102	0	0	103	0
Stage 1	102	-	-	-	-	-
Stage 2	49	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	841	953	-	-	1489	-
Stage 1	922	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	836	953	-	-	1489	-
Mov Capacity-2 Maneuver	836	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	967	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.6
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	912	1489	-
HCM Control Delay, s	-	-	9.1	7.432	0
HCM Lane V/C Ratio	-	-	0.03	0.01	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.1	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	83	1	5	0	0	0	0	13	0	0	18	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	1	5	0	0	0	0	14	0	0	20	26
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	0	0	0	1	0	0	205	182	1	189	182	0
Stage 1	-	-	-	-	-	-	182	182	-	0	0	-
Stage 2	-	-	-	-	-	-	23	0	-	189	182	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	-	-	-	1622	-	-	753	712	1084	771	712	-
Stage 1	-	-	-	-	-	-	820	749	-	-	-	-
Stage 2	-	-	-	-	-	-	995	-	-	813	749	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	-	-	-	1622	-	-	-	712	1084	759	712	-
Mov Capacity-2 Maneuver	-	-	-	-	-	-	-	712	-	759	712	-
Stage 1	-	-	-	-	-	-	820	749	-	-	-	-
Stage 2	-	-	-	-	-	-	995	-	-	798	749	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	-	-
HCM LOS	-	-	-	-

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	-	-	-	-	1622	-	-	-
HCM Control Delay, s	-	-	-	-	0	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Lane LOS	-	-	-	-	A	-	-	-
HCM 95th-tile Q, veh	-	-	-	-	0.0	-	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	15.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	1	12	15	0	1	29	1321	55	2	2455	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	13	16	0	1	32	1436	60	2	2668	9
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	3454	4172	1334	2838	4172	718	2668	0	0	1436	0	0
Stage 1	2673	2673	-	1499	1499	-	-	-	-	-	-	-
Stage 2	781	1499	-	1339	2673	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	# 3	2	144	# 8	2	371	154	-	-	469	-	-
Stage 1	22	46	-	128	184	-	-	-	-	-	-	-
Stage 2	354	184	-	161	46	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	# 3	2	144	# 4	2	371	154	-	-	469	-	-
Mov Capacity-2 Maneuver	# 3	2	-	# 4	2	-	-	-	-	-	-	-
Stage 1	17	46	-	101	146	-	-	-	-	-	-	-
Stage 2	280	146	-	142	46	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 845.9	$ 2970.6	0.7	0
HCM LOS	F	F	-	-

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	154	-	-	5	144	4	371	469	-	-
HCM Control Delay, s	34.295	-	-	$ 3099.1	31.6	$ 3099.1	14.7	12.712	-	-
HCM Lane V/C Ratio	0.21	-	-	1.74	0.06	4.17	0.00	0.01	-	-
HCM Lane LOS	D	-	-	F	D	F	B	B	-	-
HCM 95th-tile Q, veh	0.7	-	-	2.1	0.2	3.4	0.0	0.0	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	3	9	62	3	8	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade, %	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	10	67	3	9	47
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow All	133	69	0	0	71	0
Stage 1	69	-	-	-	-	-
Stage 2	64	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	861	994	-	-	1529	-
Stage 1	954	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Time blocked-Platoon, %	0	0	-	-	0	-
Mov Capacity-1 Maneuver	856	994	-	-	1529	-
Mov Capacity-2 Maneuver	856	-	-	-	-	-
Stage 1	954	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	1.2
HCM LOS	A	-	-

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Cap, veh/h	-	-	955	1529	-
HCM Control Delay, s	-	-	8.8	7.368	0
HCM Lane V/C Ratio	-	-	0.01	0.01	-
HCM Lane LOS	-	-	A	A	A
HCM 95th-tile Q, veh	-	-	0.0	0.0	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	47	2	6	0	2	0	1	21	0	0	19	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	2	7	0	2	0	1	23	0	0	21	33
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	2	0	0	2	0	0	133	106	2	118	106	2
Stage 1	-	-	-	-	-	-	104	104	-	2	2	-
Stage 2	-	-	-	-	-	-	29	2	-	116	104	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1620	-	-	1620	-	-	839	784	1082	858	784	1082
Stage 1	-	-	-	-	-	-	902	809	-	1021	894	-
Stage 2	-	-	-	-	-	-	988	894	-	889	809	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1620	-	-	1620	-	-	777	759	1082	818	759	1082
Mov Capacity-2 Maneuver	-	-	-	-	-	-	777	759	-	818	759	-
Stage 1	-	-	-	-	-	-	873	783	-	988	894	-
Stage 2	-	-	-	-	-	-	936	894	-	835	783	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.2	0	9.9	9.1
HCM LOS	-	-	A	A

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	760	1620	-	-	1620	-	-	929
HCM Control Delay, s	9.9	7.295	0	-	0	-	-	9.1
HCM Lane V/C Ratio	0.03	0.03	-	-	-	-	-	0.06
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th-tile Q, veh	0.1	0.1	-	-	0.0	-	-	0.2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	24.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	1	11	10	2	8	13	2065	29	8	1657	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		25	0		50	150		250	200		250
Median Width		0			0			12			12	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	12	11	2	9	14	2245	32	9	1801	5
Number of Lanes	0	1	1	0	1	1	1	2	1	1	2	1

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow All	2970	4091	901	3191	4091	1122	1801	0	0	2245	0	0
Stage 1	1818	1818	-	2273	2273	-	-	-	-	-	-	-
Stage 2	1152	2273	-	918	1818	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	6	2	281	#4	#2	200	338	-	-	227	-	-
Stage 1	80	128	-	41	75	-	-	-	-	-	-	-
Stage 2	210	75	-	292	128	-	-	-	-	-	-	-
Time blocked-Platoon, %	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	-	2	281	#2	#2	200	338	-	-	227	-	-
Mov Capacity-2 Maneuver	-	2	-	#2	#2	-	-	-	-	-	-	-
Stage 1	77	123	-	39	72	-	-	-	-	-	-	-
Stage 2	187	72	-	266	123	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	-	$ 4670	0.1	0.1
HCM LOS	-	F	-	-

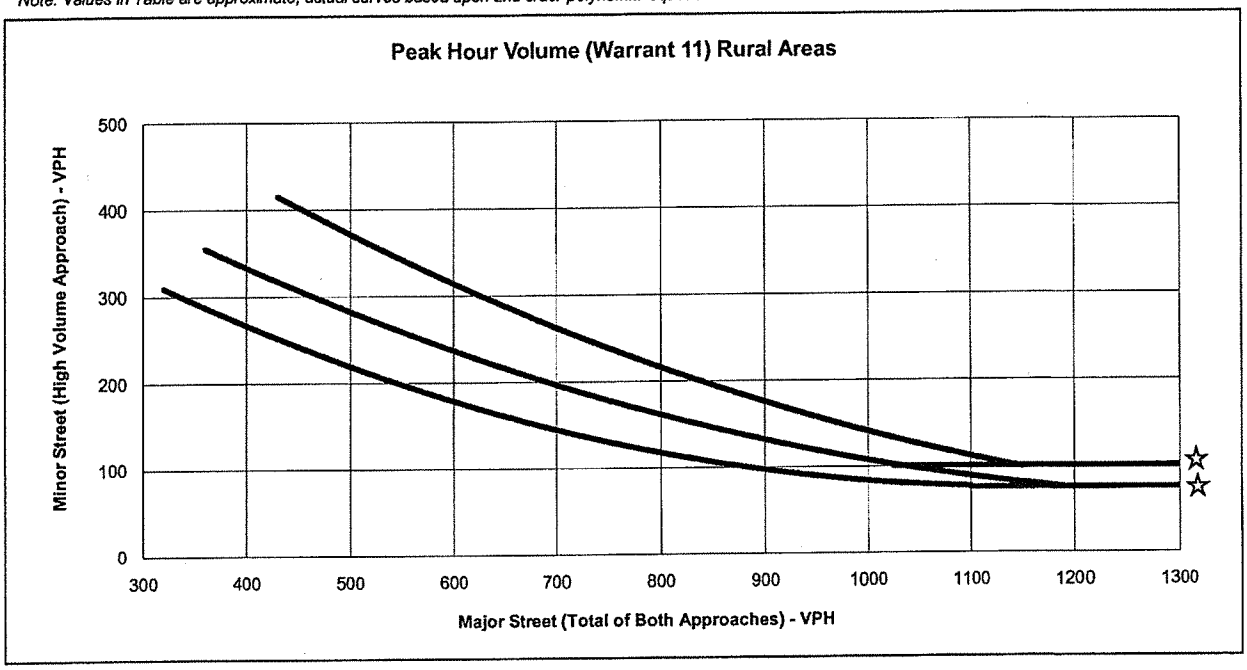
Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Cap, veh/h	338	-	-	-	281	2	200	227	-	-
HCM Control Delay, s	16.115	-	-	-	18.2	$ 6359.6	23.5	21.49	-	-
HCM Lane V/C Ratio	0.04	-	-	-	0.03	7.97	0.03	0.04	-	-
HCM Lane LOS	C	-	-	-	C	F	C	C	-	-
HCM 95th-tile Q, veh	0.1	-	-	-	0.1	3.5	0.1	0.1	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
370	280				
400	270	460	297	430	410
500	215	500	290	500	380
600	185	600	230	600	310
700	140	700	198	700	265
800	115	800	170	800	210
900	99	900	125	900	180
1000	85	1000	105	1000	140
1100	75	1100	90	1100	110
1200	75	1200	75	1150	100
1300	75	1300	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

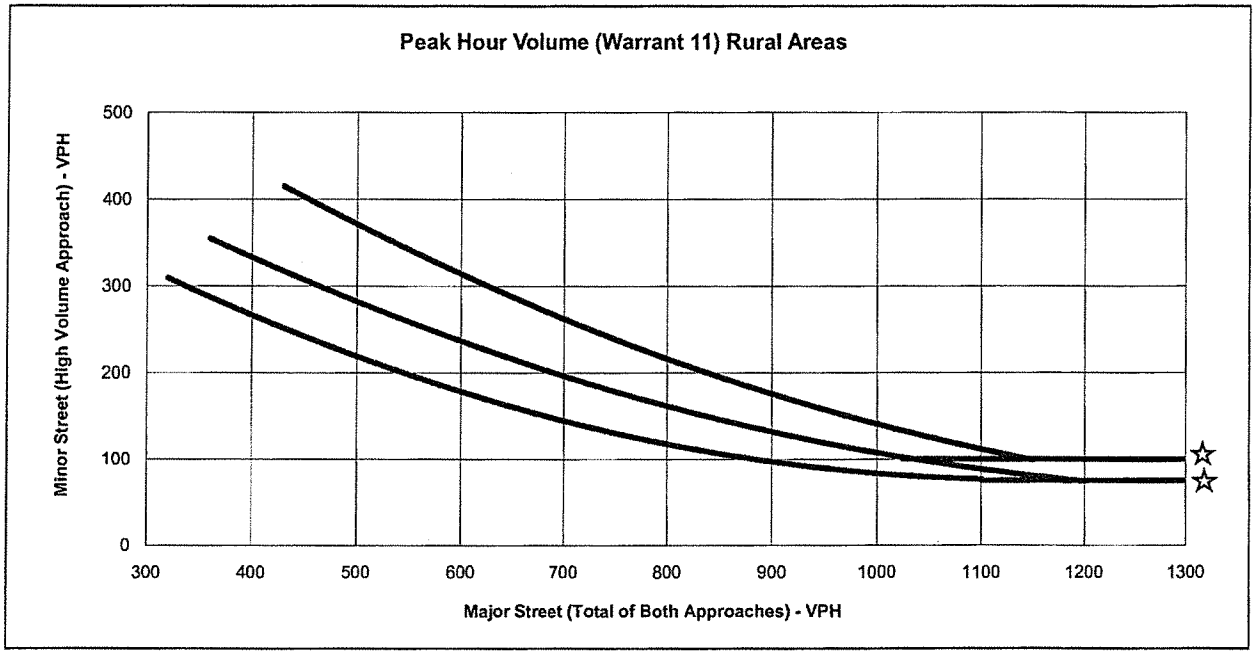


☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	Bell Cellars Winery Driveway / Washington Street
Scenario:	Exist + Project PM Weekday Peak
Minor St. Volume:	25
Major St. Volume:	87
Warrant Met?:	NO

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
370	280				
400	270	460	297	430	410
500	215	500	290	500	380
600	185	600	230	600	310
700	140	700	198	700	265
800	115	800	170	800	210
900	99	900	125	900	180
1000	85	1000	105	1000	140
1100	75	1100	90	1100	110
1200	75	1200	75	1150	100
1300	75	1300	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

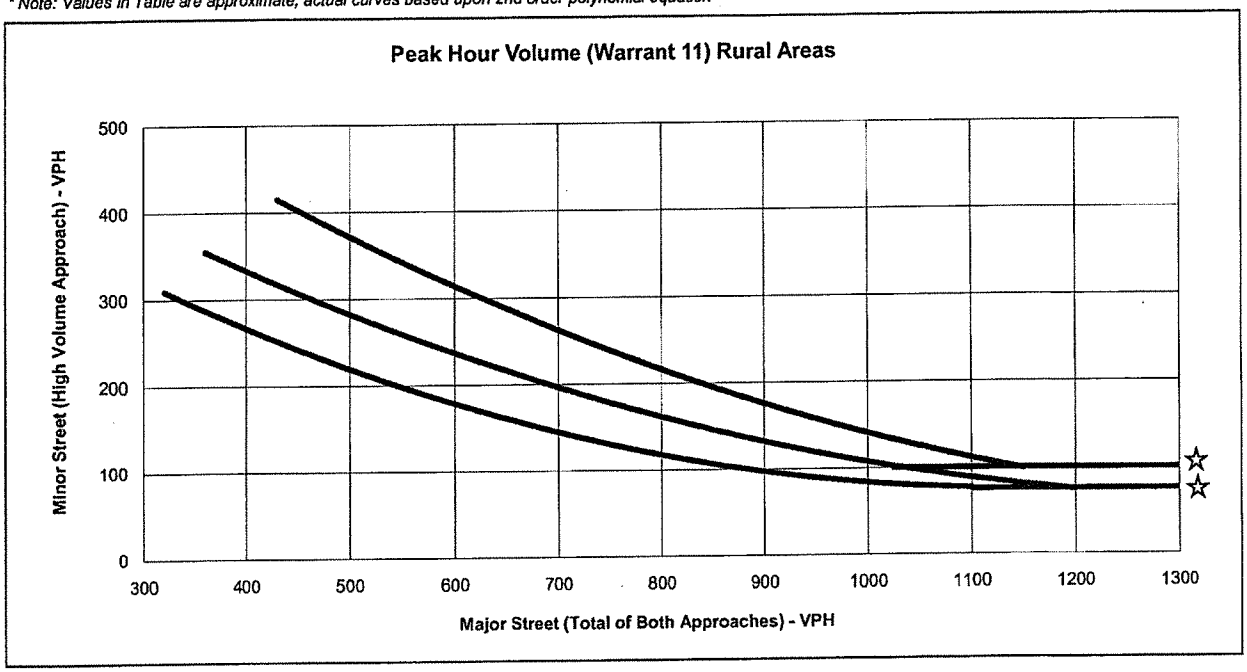


☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	Bell Cellars Winery Driveway / Washington Street
Scenario:	Existing + Project Weekend Mid-Day Peak
Minor St. Volume:	12
Major St. Volume:	77
Warrant Met?:	**NO**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
370	280				
400	270	460	297	430	410
500	215	500	290	500	380
600	185	600	230	600	310
700	140	700	198	700	265
800	115	800	170	800	210
900	99	900	125	900	180
1000	85	1000	105	1000	140
1100	75	1100	90	1100	110
1200	75	1200	75	1150	100
1300	75	1300	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

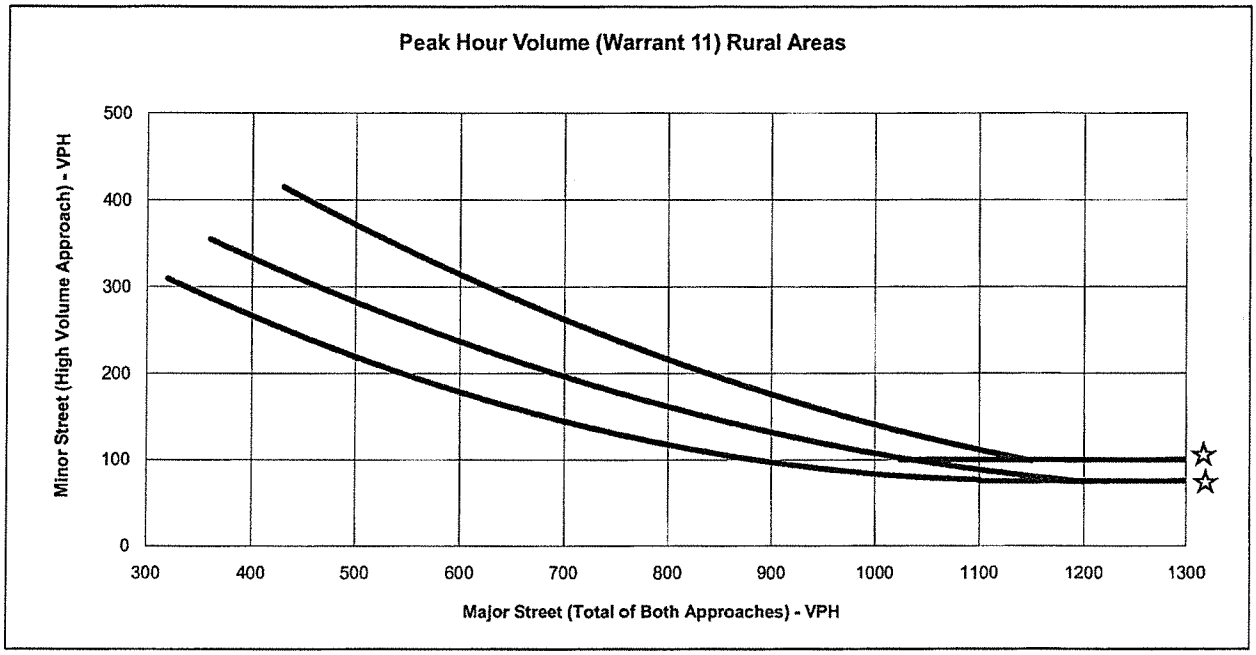


☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	Hoffman Lane / Washington Street
Scenario:	Exist + Project PM Weekday Peak
Minor St. Volume:	34
Major St. Volume:	59
Warrant Met?:	**NO**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
370	280				
400	270	460	297	430	410
500	215	500	290	500	380
600	185	600	230	600	310
700	140	700	198	700	265
800	115	800	170	800	210
900	99	900	125	900	180
1000	85	1000	105	1000	140
1100	75	1100	90	1100	110
1200	75	1200	75	1150	100
1300	75	1300	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

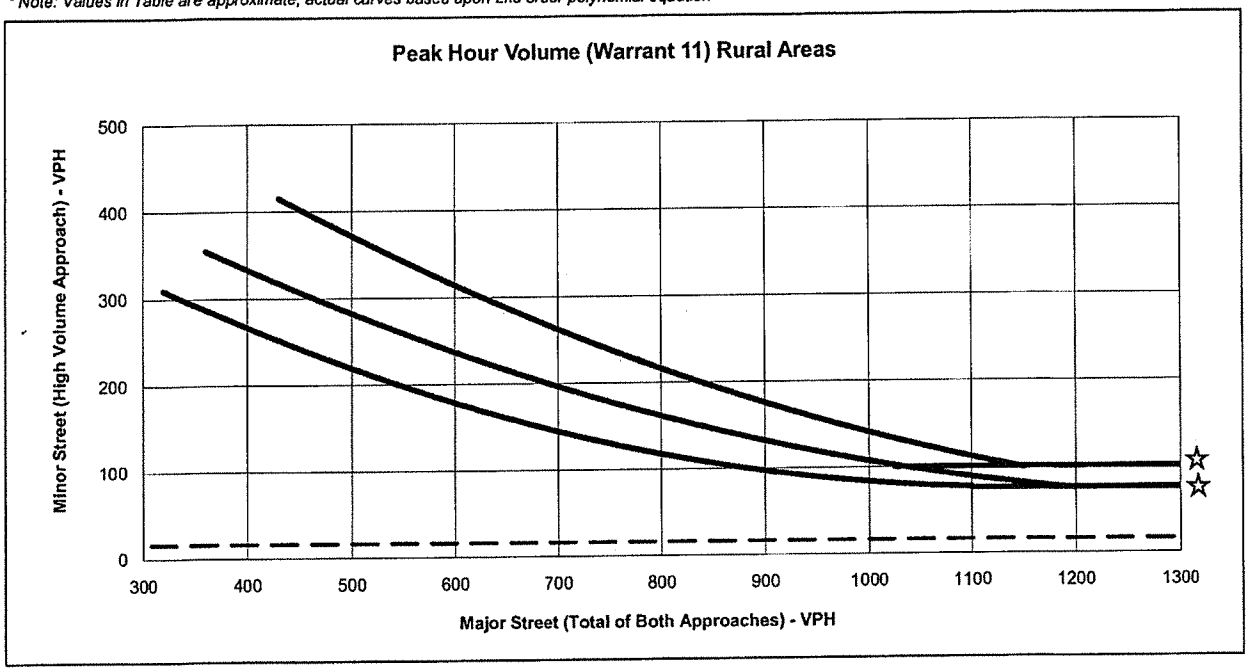


☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	Hoffman Lane / Washington Street
Scenario:	Existing + Project M-D Weekend Peak
Minor St. Volume:	45
Major St. Volume:	38
Warrant Met?:	**NO**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
370	280				
400	270	460	297	430	410
500	215	500	290	500	380
600	185	600	230	600	310
700	140	700	198	700	265
800	115	800	170	800	210
900	99	900	125	900	180
1000	85	1000	105	1000	140
1100	75	1100	90	1100	110
1200	75	1200	75	1150	100
1300	75	1300	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

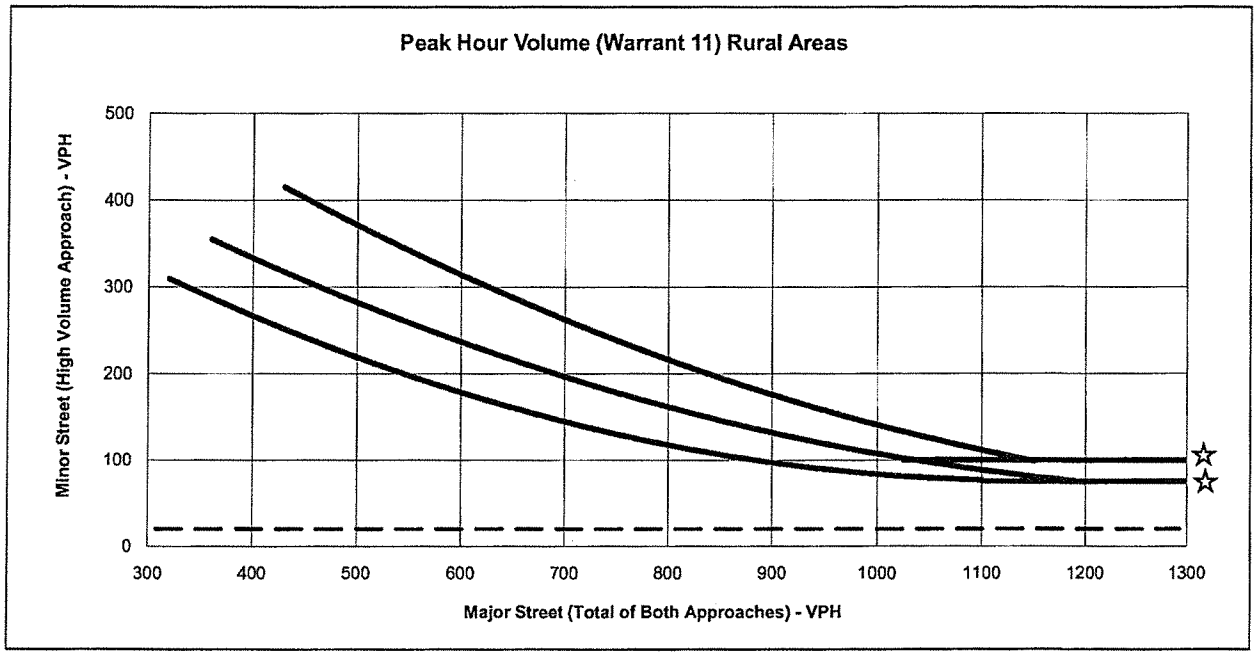


☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Hoffman Lane / SR-29
Scenario: Exist + Project PM Weekday Peak
Minor St. Volume: 16
Major St. Volume: 2467
Warrant Met?: **NO**

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
370	280				
400	270	460	297	430	410
500	215	500	290	500	380
600	185	600	230	600	310
700	140	700	198	700	265
800	115	800	170	800	210
900	99	900	125	900	180
1000	85	1000	105	1000	140
1100	75	1100	90	1100	110
1200	75	1200	75	1150	100
1300	75	1300	75	1300	100

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Hoffman Lane / SR-29
Scenario: Existing + Project M-D Weekend Peak
Minor St. Volume: 20
Major St. Volume: 2396
Warrant Met?: **NO**

RADAR SPEED SURVEY

OMNI-MEANS LTD.

Washington Street approaching Bell Winery access road

DATE: 9/12&13/14 TIME START: Various TIME END: Various WEATHER: Clear ROAD TYPE: 2 lanes

DIRECTION: Both SPEED LIMIT: Not Posted OBSERVER: OM CALIBRATION TEST: Yes

SPEED	FREQUENCY	ACUM %	PERCENTAGE BREAKDOWN
27	1	2.3	!**
28	1	4.5	!****
29	0	4.5	!****
30	1	6.8	!****5*
31	2	11.4	!****5****1*
32	1	13.6	!****5****1***
33	1	15.9	!****5****1****5
34	3	22.7	!****5****1****5****2**
35	1	25.0	!****5****1****5****2****5
36	3	31.8	!****5****1****5****2****5****3*
37	1	34.1	!****5****1****5****2****5****3****
38	4	43.2	!****5****1****5****2****5****3****5****4***
39	2	47.7	!****5****1****5****2****5****3****5****4****5**
40	2	52.3	!****5****1****5****2****5****3****5****4****5****5**
41	2	56.8	!****5****1****5****2****5****3****5****4****5****5****5*
42	3	63.6	!****5****1****5****2****5****3****5****4****5****5****5****6***
43	4	72.7	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7**
44	2	77.3	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5**
45	2	81.8	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8*
46	0	81.8	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8*
47	0	81.8	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8*
48	2	86.4	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5*
49	0	86.4	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5*
50	2	90.9	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9
51	1	93.2	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9***
52	1	95.5	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9****5
53	0	95.5	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9****5
54	0	95.5	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9****5
55	1	97.7	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9****5**
56	0	97.7	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9****5**
57	0	97.7	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9****5**
58	0	97.7	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9****5**
59	0	97.7	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9****5**
60	1	100.0	!****5****1****5****2****5****3****5****4****5****5****5****6****5****7****5****8****5****9****5****0

44

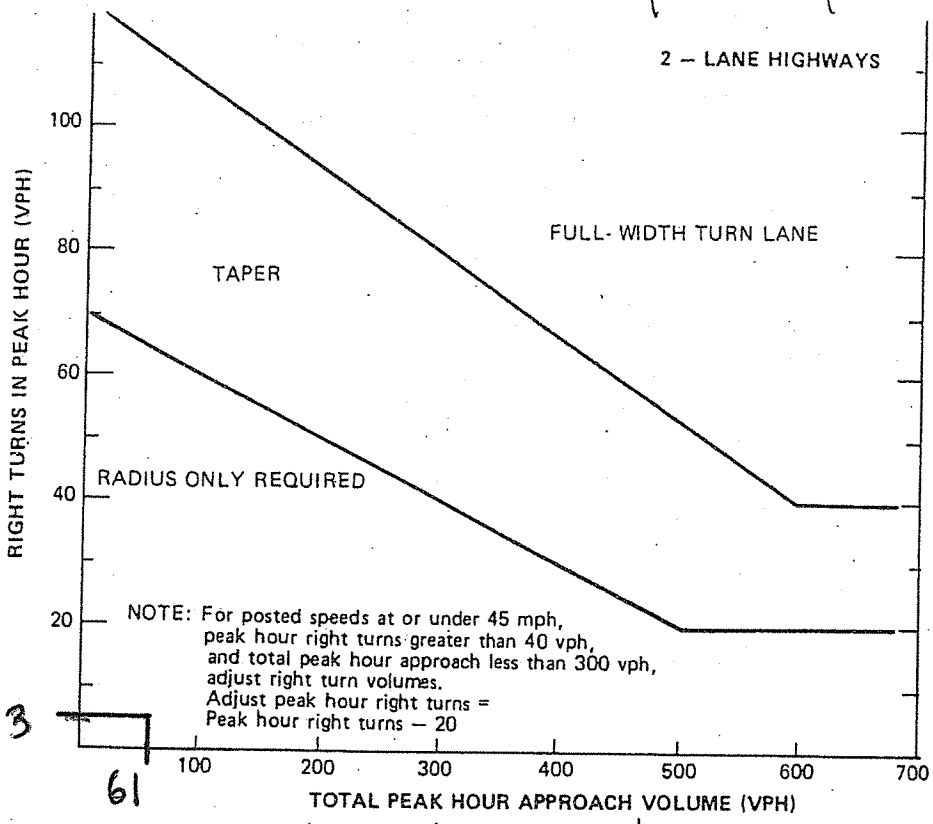
AVERAGE SPEED = 40.3
50th PERCENTILE = 39.5
85th PERCENTILE = 47.7
90th PERCENTILE = 49.8
95th PERCENTILE = 51.8

PACE = 34 - 43
% IN PACE = 56.8
VEHICLES IN PACE = 25

SAMPLE VARIANCE = 52.0972
STANDARD DEVIATION = 7.217839
RANGE 1*S = 65.9091
RANGE 2*S = 95.45454
RANGE 3*S = 100

Bell Cellers Driveway / Washington St.

BELL CELLARS NB RIGHT-TURN



WASHINGTON ST. NB Volume

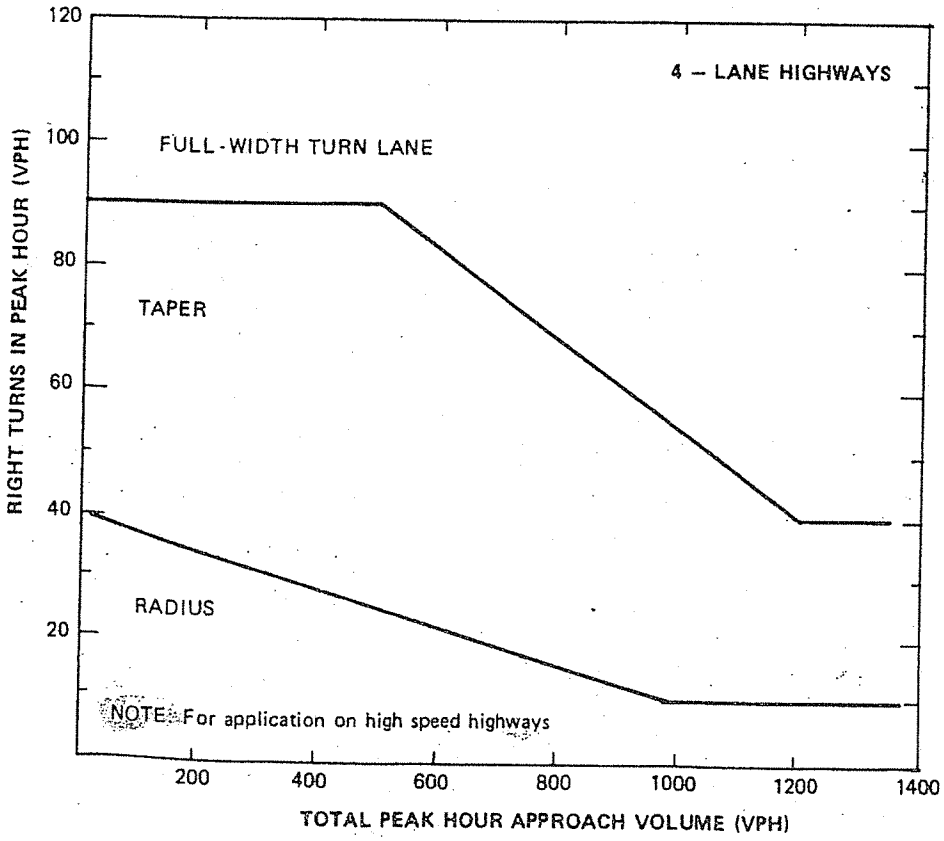
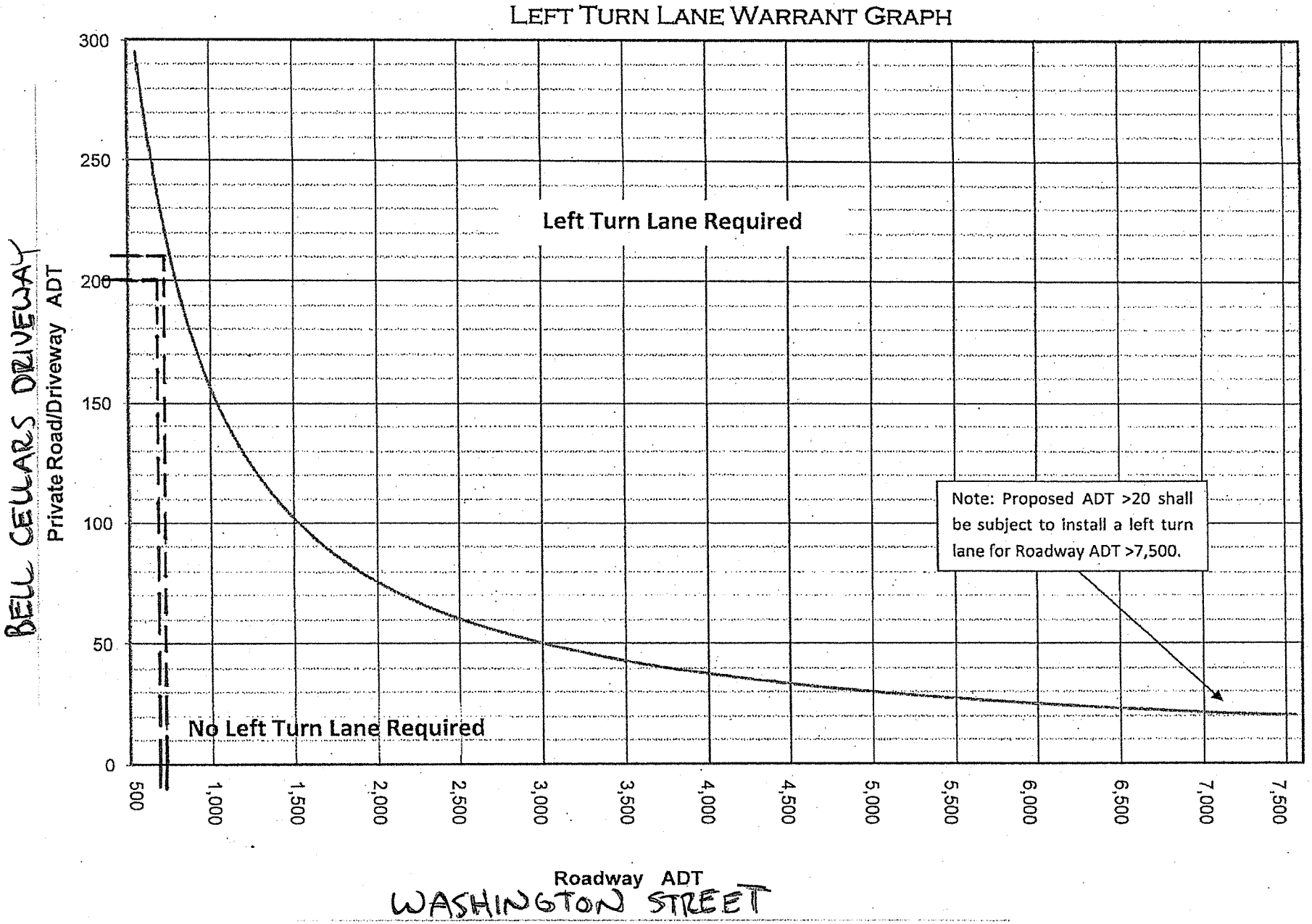


Figure 4-23. Traffic volume guidelines for design of right-turn lanes. (Source: Ref. *4-11*)

BELL CELLARS DRIVEWAY / WASHINGTON STREET



B A Y M E T R I C S

ADT COUNTS IN BELL CELLARS WINERY IN NAPA VALLEY

Date	30-Sep-14 Tuesday				1-Oct-14 Wednesday				2-Oct-14 Thursday				3-Oct-14 Friday				4-Oct-14 Saturday				5-Oct-14 Sunday				6-Oct-14 Monday			
	2. WASHINGTON STREET, BETWEEN BELL WINE CELLARS WINERY DRIVEWAY & HOFFMAN LANE																											
	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	0	2	0	0	0	1	0	0	0	0	0
1230	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0
1245	0	0	0	0	0	0	0	1	0	3	1	4	0	1	0	0	2	4	1	3	0	3	0	1	1	3	0	0
100	1	1	0	0	1	1	0	1	0	2	1	2	0	1	0	0	0	4	0	3	0	1	0	1	0	3	0	0
115	0	1	0	0	0	1	0	0	0	2	0	2	0	0	0	0	0	2	1	2	0	1	1	1	0	3	1	1
130	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	2	0	0	0	1	0	1	0	1
145	1	2	1	1	0	1	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	1	0	0	1	2
200	0	1	0	1	0	0	1	1	1	2	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	2
215	0	1	0	1	0	0	0	1	1	3	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1
230	0	1	0	1	1	1	0	1	0	3	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
245	1	1	0	0	0	1	0	1	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0
300	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
315	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0
330	0	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
345	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	1	2	1	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
415	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0
430	0	0	0	0	1	1	0	0	1	2	0	2	0	0	0	0	1	2	0	0	0	1	0	0	0	0	0	0
445	0	0	0	0	1	2	1	1	1	3	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
500	0	0	0	0	0	2	0	1	0	2	0	1	3	3	0	0	0	1	0	0	0	1	0	0	0	0	0	0
515	0	0	0	0	2	4	0	1	0	2	0	0	1	4	0	0	1	2	0	0	0	0	0	0	2	2	0	0
530	2	2	0	0	3	6	0	1	1	2	1	1	5	9	0	0	0	1	0	0	1	1	0	0	0	2	0	0
545	4	6	2	2	5	10	1	1	3	4	1	2	3	12	1	1	4	5	1	1	0	1	0	0	3	5	1	1
600	6	12	0	2	1	11	2	3	7	11	2	4	3	12	0	1	3	8	0	1	1	2	0	0	6	11	2	3
615	4	16	0	2	3	12	2	5	1	12	0	4	1	12	1	2	6	13	0	1	0	2	0	0	2	11	0	3
630	4	18	0	2	0	9	0	5	1	12	0	3	3	10	1	3	4	17	0	1	0	1	0	0	3	14	0	3
645	3	17	1	1	2	6	1	5	7	16	1	3	6	13	0	2	2	15	1	1	1	2	0	0	5	16	1	3
700	1	12	1	2	3	8	0	3	4	13	3	4	3	13	0	2	4	16	0	1	0	1	0	0	10	20	0	1
715	2	10	1	3	1	6	2	3	2	14	1	5	8	20	0	1	2	12	2	3	2	3	2	2	3	21	4	5
730	11	17	0	3	3	9	0	3	6	19	3	8	3	20	0	0	1	9	1	4	2	5	0	2	7	25	1	6
745	1	15	2	4	6	13	2	4	8	20	2	9	6	20	0	0	2	9	0	3	4	8	2	4	1	21	2	7
800	8	22	1	4	3	13	1	5	6	22	0	6	7	24	3	3	0	5	0	3	9	17	1	5	6	17	0	7
815	6	26	3	6	8	20	0	3	7	27	2	7	14	30	1	4	4	7	2	3	6	21	6	9	6	20	2	5
830	13	28	1	7	10	27	2	5	7	28	0	4	8	35	5	9	7	13	0	2	11	30	14	23	10	23	0	4
845	7	34	0	5	9	30	3	6	10	30	2	4	15	44	4	13	7	18	3	5	13	39	20	41	11	33	3	5
900	6	32	1	5	10	37	2	7	8	32	1	5	3	40	0	10	4	22	2	7	8	38	5	45	13	40	1	6
915	9	35	1	3	9	38	1	8	10	35	1	4	6	32	2	11	10	28	4	9	8	40	7	46	4	38	3	7
930	6	28	5	7	13	41	2	8	12	40	3	7	5	29	6	12	2	23	2	11	11	40	3	35	14	42	3	10
945	6	27	6	13	7	39	0	5	13	43	4	9	14	28	3	11	11	27	3	11	19	46	6	21	6	37	2	9
1000	4	25	6	18	6	35	2	5	1	36	9	17	6	31	9	20	5	28	4	13	11	49	8	24	2	26	3	11
1015	9	25	1	18	7	33	3	7	7	33	2	18	6	31	3	21	9	27	4	13	14	55	7	24	0	22	3	11
1030	11	30	1	14	14	34	2	7	7	28	7	22	9	35	5	20	11	36	3	14	10	54	12	33	8	16	4	12
1045	8	32	0	8	6	33	5	12	14	29	10	28	6	27	2	19	12	37	7	18	8	43	6	33	4	14	5	15
1100	10	38	6	8	8	35	7	17	10	38	8	27	11	32	3	13	9	41	2	16	10	42	7	32	10	22	5	17
1115	4	33	4	11	3	31	1	15	6	37	2	27	7	33	8	18	9	41	5	17	9	37	11	36	10	32	5	19
1130	4	26	5	15	2	19	1	14	5	35	1	21	4	28	6	19	11	41	5	19	6	33	6	30	7	31	3	18
1145	11	29	3	18	15	28	9	18	10	31	4	15	8	30	6	23	9	38	5	17	13	38	4	28	5	32	6	19
1200	4	23	2	14	16	36	7	18	4	25	5	12	7	26	4	24	14	43	6	21	2	30	6	27	7	29	5	19
1215	9	28	1	11	2	35	6	23	14	33	5	15	9	28	3	19	10	44	6	22	4	25	4	20	7	26	1	15
1230	7	31	5	11	3	36	7	29	5	33	10	24	8	32	11	24	8	41	3	20	10	29	3	17	11	30	4	16
1245	7	27	6	14	5	26	9	29	11	34	4	24	5	29	3	21	15	47	6	21	24	40	3	16	8	33	10	20
1300	6	29	4	16	13	23	2	24	3	33	8	27	6	28	8	25	14	47	12	27	48	86	7	17	8	34	4	19
1315	8	28	2	17	8	29	4	22	7	26	5	27	9	28	4	26	9	46	10	31	39	121	7	20	4	31	2	20
1330	4	25	10	22	7	33	2	17	5	26	9	26	4	24	3	18	17	55	6	34	6	117	1	18	8	28	7	23
1345	4	22	5	21	8	36	9	17	5	20	2	24	8	27	5	20	12	52	7	35	7	100	8	23	1	21	7	20
1400	8	24	4	21	10	33	2	17	6	23	7	23	7	28	2	14	11	49	7	30	4	56	5	21	5	18	1	17
1415	6	22	4	23	10	35	4	17	11	27	5	23	13	32	6	16	4	44	6	26	11	28	7	21	8	22	5	20
1430	11	29	5	18	2	30	6	21	11	33	12	26	13	41	7	20	5	32	10	30	6	28	18	38	3	17	5	18
1445	9	34	6	19	5	27	4	16	8	36	2	26	4	37	3	18	14	34	9	32	3	24	11	41	12	28	7	18
1500	9	35	2	17	6	23	2	16	5	35	6	25	7	37	7	23	12	35	8	33	3	23	5	41	2	25	5	22
1515	11	40	9	22	6	19	3	15	4	28	7	27	9	33	11	28	7	38	8	35	3	15	6	40	6	23	7	24
1530	7	36	5	22	6	23	6	15	7	24	10	25	9	29	7	28	9	42	8	33	5	14	3	25	2	22	3	22
1545	4	31	2	18	11	29	6	17	5	21	4	27	2	27	7	32	9	37	15	39	5	16	2	16	10	20	3	18
1600	4	26	3	19	4	27	4	19	10	26	10	31	13	33	1	26	5	30	12	43	3	16	5	16	9	27	8	21
1615	5	20	2	12	6	27	5	21	8	30	6	30	9	33	5	20	6	29	7	42	8	21	5	15	9	30	7	21
1630	11	24	5	12	5	26	3	18	2	25	2	22	13	37	1	14	11	31	15	49	3	19	6	18	3	31	6	24
1645	2	22	3	13	5	20	8	20	7	27	5	23	14	49	5	12	10	32	16	50	9	23	1	17	5	26	2	23
1700	5	23	3	13	6	22	3	19	6	23	4	17	4	40	8	19	14	41	13	51	8	28	3	15	8	25	5	20
1715	5	23	5	16	2	18	4	18	2	17	6	17	5	36	4	18	10	45	10	54	4	24	4	14	0	16	4	17
1730	6	18	7	18	4	17	8	23	12	27	4	19	7	30	8	25	6	40	4	43	2	23	6	14	5	18	5	16
1745	2	18	4	19	3	15	1	16	3	23	2	16	9	25	6	26	4	34	4	31	7	21	2	15	9	22	7	21
1800	10	23	3	19	2	11	3	16	1	18	4	16	38	59	9	27	4	24	12	30	5	18	2	14	1	15	2	18
1815	10	28	2	16	5	14	1	13	2	18	5	15	31	85	6	29	5	19	10	30	1	15	5	15	7	22	0	14
1830	5	27	2	11	3	13	1	6	6	12	3	14	7	85	6	27	4	17	4	30	1	14	5	14	7	24	6	15
1845	5	30	1	8	4	14	4	9	2	11	6	18	5	81	4	25	4	17	7	33	5	12	3	15	6	21	4	12
1900	1	21	0	5	5	17	2	8	2	12	4	18	8	51	8	24	3	16	9	30	2	9	5	18	0	20	1	11
1915	1	12	6	9	5	17	2	9	1	11	6	19	4	24	8	26	3	14	4	24	2	10	2	15	4	17	4	15
1930	1	8	2	9	1	15	2	10	9	14	2	18	11	28	1	21	4	14	4	24	2	11	5	15	1	11	4	13
1945	0	3	2	10	3	14	2	8	2	14	0	12	7	30	13	30	2	12	3	20	2	8	2	14	1	6	1	10
2000	3	5	3	13	2	11	2	8	1	13	6	14	3	25	1	23	1	10	3	14	1	7	1	10	3	9	7	16
2015	3	7	2	9	2	8	2	8	3	15	4	12	0	21	2	17	1	8	3	13	3	8	3	11	1	6	4	16
2030	0	6	3	10	1	8	0	6	0	6	1	11	7	17	6	22	0	4	2	11	1	7	1	7	5	10	4	16
2045	2	8	3	11	1	6	4	8	1	5	1	12	3	13	6	15	1	3	0	8	1	6	3	8	0	9	2	17
2100	2	7	0	8	2	6	1	7	2	6	1	7	0	10	1	15	1	3	6	11	1	6	2	9	2	8	0	10
2115	0	4	0	6	1	5	1	6	2	5	0	3	7	17	4	17	0	2	3	11	1	4	1	7	0	7	3	9
2130	1	5	1	4	4	8	1	7	3	8	4	6	2	12	3	14	0	2	2	11	1	4	1	7	2	4	0	5
2145	1	4	1	2	0	7	0	3	1	8	1	6	1	10	3	11	1	2	3	14	0	3	2	6	0	4	0	3
2200	1	3	3	5	2	7	1	3	2	8	0	5	1	11	1	11	2	3	1	9	5	7	2	6	0	2	1	4
2215	2	5	1	6	4	10	1	3	1	7	1	6	2	6	1	8	4	7	3	9	0	6	0	5	1	3	2	3
2230	0	4	2	7	0	6	1	3	2	6	0	2	2	6	2	7	0	7	0	7	1	6	1	5	0	1	2	5
2245	2	5	0	6	0	6	0	3	2	7	0	1	3	8	0	4	1	7	1	5	0	6	0	3	2	3	0	5
2300	2	6	0	3	2	6	0	2	0	5	0	1	0	7	1	4	2	7	2	6	0	1	0	1	0	3	0	4
2315	1	5	0	2	0	2	1	2	0	4	2	2	1	6	0	3	1	4	2	5	0	1	0	1	0	2	0	2
2330	1	6	1	1	2	4	0	1	1	3	0	2	2	6	0	1	2	6	1	6	1	1	2	2	1	3	1	1
2345	0	4	1	2	0	4	0	1	0	1	0	2	2	5	3	4	1	6	0	5	1	2	1	3	1	2	1	2
TOTAL	371	N/A	195	N/A	367	N/A	201	N/A	390	N/A	270	N/A	516	N/A	288	N/A	440	N/A	353	N/A	442	N/A	306	N/A	357	N/A	230	N/A
AM		35		13		41		8		43		9		44		13		28		11		46		46		42		10
NOON		38		23		36		29		38		28		41		26		55		35		121		41		34		23
PM		40		22		29		23		35		31		85		32		45		54		28		41		31		24
EVEN		8		13		11		8		15		14		25		23		10		14		8		11		10		17

Telephone: (510) 232-1271 *Fax: (510) 232-1272*

B A Y M E T R I C S

ADT COUNTS IN BELL CELLARS WINERY IN NAPA VALLEY

Date	30-Sep-14 Tuesday				1-Oct-14 Wednesday				2-Oct-14 Thursday				3-Oct-14 Friday				4-Oct-14 Saturday				5-Oct-14 Sunday				6-Oct-14 Monday			
	1. MID-WAY OF THE BELL WINE CELLARS WINERY DRIVEWAY																											
	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
1230	0	0	0	0	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	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
100	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
145	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
200	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
215	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
230	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
345	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
415	0	0	0	0	1	1	0	0	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	0	0	0	0	1	2	0	0	0	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
445	0	0	0	0	0	2	0	0	0	1	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	0	0	0	0	2	4	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0
515	0	0	0	0	1	4	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
530	0	0	0	0	2	5	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1
545	0	0	0	0	0	5	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
600	0	0	0	0	0	3	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
615	0	0	0	0	0	2	0	1	0	0	1	1	1	2	1	1	1	1	0	0	0	0	0	0	1	1	0	1
630	0	0	1	1	0	0	1	2	1	1	1	2	1	3	0	1	1	2	0	0	0	0	0	0	3	4	1	2
645	1	1	0	1	1	1	2	4	1	2	2	4	1	3	0	1	1	3	0	0	0	0	0	0	0	4	1	2
700	1	2	0	1	0	1	0	3	0	2	0	4	1	4	0	1	0	3	0	0	0	0	0	0	2	6	0	2
715	1	3	0	1	1	2	0	3	1	3	0	3	0	3	0	0	0	2	1	1	1	1	1	1	3	8	1	3
730	0	3	0	0	1	3	0	2	2	4	2	4	1	3	1	1	1	2	0	1	0	1	0	1	0	5	0	2
745	0	2	0	0	0	2	0	0	1	4	0	2	0	2	0	1	0	1	0	1	1	2	1	2	0	5	1	2
800	1	2	0	0	1	3	1	1	1	5	0	2	0	1	1	2	0	1	3	4	1	3	1	3	0	3	0	2
815	1	2	2	2	0	2	2	3	0	4	0	2	1	2	1	3	1	2	0	3	0	2	0	2	0	0	0	1
830	0	2	0	2	1	2	0	3	2	4	0	0	4	5	0	2	0	1	0	3	0	2	0	2	2	2	0	1
845	0	2	3	5	3	5	2	5	3	6	1	1	2	7	0	2	8	9	3	6	1	2	0	1	6	8	3	3
900	3	4	1	6	2	6	0	4	8	13	4	5	2	9	2	3	2	11	3	6	2	3	1	1	0	8	2	5
915	1	4	1	5	0	6	1	3	1	14	5	10	1	9	1	3	1	11	2	8	1	4	0	1	2	10	0	5
930	0	4	0	5	2	7	2	5	3	15	0	10	1	6	3	6	0	11	1	9	1	5	2	3	4	12	2	7
945	0	4	0	2	0	4	1	4	1	13	1	10	1	5	1	7	0	3	0	6	0	4	3	6	0	6	0	4
1000	1	2	0	1	0	2	2	6	3	8	0	6	4	7	0	5	3	4	1	4	0	2	3	8	0	6	1	3
1015	1	2	2	2	6	8	7	12	1	8	2	3	2	8	5	9	6	9	5	7	0	1	0	8	1	5	0	3
1030	0	2	5	7	3	9	3	13	4	9	4	7	5	12	2	8	4	13	1	7	0	0	1	7	3	4	3	4
1045	1	3	0	7	2	11	2	14	3	11	2	8	1	12	1	8	4	17	4	11	3	3	2	6	0	4	4	8
1100	1	3	2	9	1	12	0	12	1	9	2	10	2	10	0	8	10	24	4	14	2	5	0	3	2	6	1	8
1115	1	3	5	12	2	8	1	6	0	8	2	10	1	9	2	5	5	23	3	12	1	6	2	5	1	6	1	9
1130	2	5	1	8	2	7	3	6	2	6	0	6	2	6	3	6	1	20	3	14	0	6	0	4	3	6	1	7
1145	0	4	2	10	6	11	7	11	2	5	3	7	0	5	2	7	4	20	5	15	2	5	3	5	0	6	0	3
1200	2	5	1	9	0	10	1	12	4	8	3	8	1	4	4	11	3	13	3	14	1	4	3	8	1	5	2	4
1215	4	8	5	9	2	10	1	12	2	10	0	6	2	5	2	11	2	10	2	13	2	5	2	8	4	8	2	5
1230	0	6	1	9	4	12	8	17	0	8	0	6	3	6	2	10	16	25	6	16	1	6	3	11	2	7	4	8
1245	1	7	2	9	1	7	0	10	3	9	1	4	1	7	3	11	4	25	2	13	4	8	1	9	2	9	0	8
1300	0	5	0	8	1	8	4	13	3	8	2	3	2	8	0	7	6	28	3	13	0	7	1	7	1	9	4	10
1315	2	3	0	3	1	7	1	13	0	6	1	4	1	7	0	5	1	27	1	12	2	7	0	5	0	5	1	9
1330	2	5	3	5	4	7	4	9	0	6	1	5	2	6	2	5	2	13	1	7	1	7	2	4	1	4	1	6
1345	0	4	0	3	0	6	0	9	3	6	1	5	6	11	6	8	2	11	1	6	1	4	1	4	2	4	2	8
1400	2	6	1	4	2	7	1	6	0	3	3	6	2	11	3	11	0	5	3	6	0	4	1	4	1	4	1	5
1415	0	4	2	6	0	6	2	7	0	3	4	9	2	12	3	14	2	6	1	6	0	2	2	6	1	5	1	5
1430	1	3	2	5	0	2	1	4	1	4	1	9	1	11	2	14	1	5	2	7	1	2	0	4	4	8	3	7
1445	0	3	0	5	2	4	0	4	2	3	1	9	3	8	1	9	1	4	1	7	0	1	4	7	0	6	3	8
1500	3	4	2	6	3	5	2	5	2	5	3	9	3	9	0	6	2	6	1	5	2	3	0	6	1	6	2	9
1515	0	4	1	5	4	9	2	5	2	7	5	10	0	7	1	4	1	5	3	7	3	6	0	4	2	7	1	9
1530	2	5	0	3	2	11	5	9	1	7	3	12	0	6	1	3	1	5	6	11	1	6	4	8	0	3	0	6
1545	0	5	1	4	2	11	4	13	0	5	2	13	3	6	2	4	4	8	6	16	1	7	0	4	1	4	2	5
1600	2	4	0	2	2	10	1	12	2	5	0	10	0	3	0	4	3	9	5	20	1	6	2	6	1	4	1	4
1615	1	5	4	5	1	7	0	10	0	3	1	6	1	4	2	5	1	9	8	25	0	3	2	8	2	4	1	4
1630	0	3	2	7	0	5	2	7	0	2	0	3	1	5	1	5	1	9	8	27	0	2	3	7	1	5	1	5
1645	0	3	2	8	1	4	1	4	0	2	1	2	1	3	3	6	3	8	5	26	1	2	0	7	1	5	2	5
1700	0	1	1	9	1	3	0	3	1	1	2	4	2	5	2	8	1	6	1	22	1	2	1	6	0	4	0	4
1715	0	0	2	7	0	2	1	4	1	2	5	8	1	5	3	9	0	5	1	15	0	2	0	4	1	3	3	6
1730	1	1	3	8	0	2	5	7	0	2	2	10	0	4	5	13	1	5	0	7	2	4	1	2	1	3	1	6
1745	1	2	1	7	1	2	1	7	0	2	1	10	1	4	5	15	2	4	2	4	0	3	2	4	1	3	2	6
1800	0	2	1	7	1	2	2	9	1	2	1	9	0	2	1	14	0	3	3	6	0	2	4	7	0	3	2	8
1815	1	3	0	5	0	2	0	8	0	1	1	5	1	2	2	13	1	4	2	7	2	4	0	7	1	3	6	11
1830	0	2	1	3	0	2	1	4	0	1	2	5	0	2	1	9	0	3	3	10	2	4	0	6	3	5	1	11
1845	0	1	0	2	2	3	0	3	0	1	1	5	2	3	1	5	0	1	1	9	1	5	0	4	0	4	1	10
1900	1	2	1	2	0	2	1	2	1	1	1	5	0	3	0	4	1	2	3	9	2	7	2	2	1	5	1	9
1915	0	1	2	4	0	2	0	2	1	2	1	5	0	2	1	3	0	1	3	10	0	5	0	2	1	5	1	4
1930	0	1	0	3	0	2	0	1	1	3	1	4	0	2	0	2	0	1	0	7	2	5	2	4	0	2	0	3
1945	0	1	1	4	0	0	0	1	0	3	2	5	1	1	3	4	0	1	1	7	0	4	0	4	1	3	2	4
2000	2	2	0	3	0	0	1	1	1	3	0	4	0	1	0	4	0	0	0	4	1	3	0	2	0	2	0	3
2015	0	2	0	1	0	0	0	1	0	2	0	3	0	1	0	3	0	0	0	1	0	3	1	3	0	1	1	3
2030	0	2	0	1	0	0	0	1	0	1	0	2	0	1	2	5	0	0	0	1	0	1	0	1	0	1	0	3
2045	0	2	0	0	0	0	0	1	0	1	0	0	1	1	1	3	0	0	1	1	0	1	2	3	0	0	0	1
2100	0	0	0	0	1	1	0	0	1	1	0	0	0	1	1	4	0	0	0	1	0	0	0	3	0	0	0	1
2115	0	0	0	0	0	1	1	1	0	1	0	0	1	2	1	5	0	0	0	1	0	0	0	2	0	0	0	0
2130	0	0	0	0	0	1	0	1	0	1	0	0	0	2	0	3	0	0	1	2	0	0	0	2	0	0	0	0
2145	1	1	0	0	0	1	0	1	0	1	0	0	0	1	1	3	0	0	0	1	0	0	0	0	0	0	0	0
2200	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	2	0	0	0	1	0	0	0	0	0	0	1	1
2215	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	0	0	0	0	0	1
2230	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	1	2
2245	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
2300	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	1	1	2	0	0	0	0	0	0	0	1
2315	0	0	1	1	0	0	2	2	0	0	0	1	3	3	0	0	0	1	0	2	0	0	0	0	0	0	0	1
2330	0	0	0	1	0	0	1	3	0	0	0	1	3	6	1	1	0	1	0	1	0	0	0	0	0	0	0	0
2345	0	0	0	1	1	1	1	4	0	0	0	0	0	6	0	1	1	2	1	2	0	0	0	0	0	0	0	0
TOTAL	45	N/A	68	N/A	81	N/A	95	N/A	80	N/A	90	N/A	87	N/A	96	N/A	117	N/A	132	N/A	51	N/A	66	N/A	72	N/A	83	N/A
AM		4		6		7		5		15		10		9		7		11		9		5		6		12		7
NOON		8		12		12		17		11		10		12		14		28		16		8		11		9		10
PM		5		9		11		13		7		13		9		15		9		27		7		8		7		11
EVEN		2		3		1		4		3		4		6		5		2		4		3		3		2		3

Telephone: (510) 232-1271 *Fax: (510) 232-1272*

BELL CELLARS WINERY: EMPLOYMENT & VISITATION

	Days of the Week						
	Monday 6-Oct	Tuesday 7-Oct	Wednesday 8-Oct	Thursday 9-Oct	Friday 10-Oct	Saturday 11-Oct	
Employees @ work							
Cellar	2	4	4	4	4	3	
Administration	3	3	3	3	3	0	
Tasting Room	4	3	4	5	5	5	
Total Employees	**9**	**10**	**11**	**12**	**12**	**8**	
Guests							
Trolley	2	11		9	7		29
Hire Car	20	4	4	16	21	11	76
Appointment	11	15	15	14	24	35	114
Group	0						0
Trade	3	1		2			6
Total Guests	**36**	**31**	**19**	**41**	**52**	**46**	**225**

PERMITTED BELL CELLARS

Winery Traffic Information / Trip Generation Sheet

Traffic during a Typical Weekday

Number of FT employees: 1 x 3.05 one-way trips per employee = 3 daily trips.

Number of PT employees: 2 x 1.90 one-way trips per employee = 4 daily trips.

Average number of weekday visitors: 12 / 2.6 visitors per vehicle x 2 one-way trips = 9 daily trips.

Gallons of production: 40,000 / 1,000 x .009 truck trips daily[3] x 2 one-way trips = 1 daily trips.

Total = 17 daily trips.

1 1 4

(№ of FT employees) + (№ of PT employees/2) + (sum of visitor and truck trips x .38) = 6(2,4) PM peak trips.

Traffic during a Typical Saturday

Number of FT employees (on Saturdays): 1 x 3.05 one-way trips per employee = 3 daily trips.

Number of PT employees (on Saturdays): 2 x 1.90 one-way trips per employee = 4 daily trips.

Average number of Saturday visitors: 12 / 2. 8 visitors per vehicle x 2 one-way trips = 9 daily trips.

Total = 16 daily trips.

1 1 2 25%

(№ of FT employees) + (№ of PT employees/2) + (visitor trips x .50) = 4 (2,2) PM peak trips.

Traffic during a Crush Saturday

Number of FT employees (during crush): 1 x 3.05 one-way trips per employee = 3 daily trips.

Number of PT employees (during crush): 2 x 1.90 one-way trips per employee = 4 daily trips.

Average number of Saturday visitors: 12 / 2. 8 visitors per vehicle x 2 one-way trips = 9 daily trips.

Gallons of production: 40,000 / 1,000 x .009 truck trips daily x 2 one-way trips = 1 daily trips.

Avg. annual tons of grape on-haul: 340 / 144 truck trips daily[4] x 2 one-way trips = 5 daily trips.

Total = 22 daily trips.

Largest Marketing Event- Additional Traffic

Number of event staff (largest event): 4 x 2 one-way trips per staff person = 8 trips.

Number of visitors (largest event): 200 / 2.8 visitors per vehicle x 2 one-way trips = 143 trips.

Number of special event truck trips (largest event): 2 x 2 one-way trips = 4 trips.

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[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).

EXISTING BELL CELLARS

Winery Traffic Information / Trip Generation Sheet

Traffic during a Typical Weekday

Number of FT employees: 7 x 3.05 one-way trips per employee = 21 daily trips.

Number of PT employees: 4 x 1.90 one-way trips per employee = 8 daily trips.

Average number of weekday visitors: 45 / 2.6 visitors per vehicle x 2 one-way trips = 35 daily trips.

Gallons of production: 40,000 / 1,000 x .009 truck trips daily[3] x 2 one-way trips = 1 daily trips.

Total = 65 daily trips.

7 2 14

(№ of FT employees) + (№ of PT employees/2) + (sum of visitor and truck trips x .38) = 23 (7, 16) PM peak trips.

Traffic during a Typical Saturday

Number of FT employees (on Saturdays): 4 x 3.05 one-way trips per employee = 12 daily trips.

Number of PT employees (on Saturdays): 3 x 1.90 one-way trips per employee = 6 daily trips.

Average number of Saturday visitors: 75 / 2. 8 visitors per vehicle x 2 one-way trips = 54 daily trips.

Total = 72 daily trips.

4 1.5 14 25%

(№ of FT employees) + (№ of PT employees/2) + (visitor trips x .5X) = 20 (10, 10) PM peak trips.

Traffic during a Crush Saturday

Number of FT employees (during crush): 4 x 3.05 one-way trips per employee = 12 daily trips.

Number of PT employees (during crush): 3 x 1.90 one-way trips per employee = 6 daily trips.

Average number of Saturday visitors: 75 / 2. 8 visitors per vehicle x 2 one-way trips = 54 daily trips.

Gallons of production: 40,000 / 1,000 x .009 truck trips daily x 2 one-way trips = 1 daily trips.

Avg. annual tons of grape on-haul: 340 / 144 truck trips daily[4] x 2 one-way trips = 5 daily trips.

Total = 78 daily trips.

Largest Marketing Event- Additional Traffic

Number of event staff (largest event): 4 x 2 one-way trips per staff person = 8 trips.

Number of visitors (largest event): 200 / 2.8 visitors per vehicle x 2 one-way trips = 143 trips.

Number of special event truck trips (largest event): 2 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).

(w/ 40 Event) PROPOSED BELL CELLARS

Winery Traffic Information / Trip Generation Sheet

Traffic during a Typical Weekday

Number of FT employees: 8 x 3.05 one-way trips per employee = 24 daily trips.

Number of PT employees: 7 x 1.90 one-way trips per employee = 13 daily trips.

Average number of weekday visitors: 100 / 2.6 visitors per vehicle x 2 one-way trips = 77 daily trips.

Gallons of production: 60,000 / 1,000 x .009 truck trips daily[3] x 2 one-way trips = 1 daily trips.

Total = 115 daily trips.

8 4 30

(№ of FT employees) + (№ of PT employees/2) + (sum of visitor and truck trips x .38) = 42 (15, 27) PM peak trips.

Traffic during a Typical Saturday

Number of FT employees (on Saturdays): 4 x 3.05 one-way trips per employee = 12 daily trips.

Number of PT employees (on Saturdays): 4 x 1.90 one-way trips per employee = 8 daily trips.

Average number of Saturday visitors: 140 / 2. 8 visitors per vehicle x 2 one-way trips = 100 daily trips.

Total = 120 (60, 60) daily trips.

4 2 25 25%

(№ of FT employees) + (№ of PT employees/2) + (visitor trips x .~~50~~) = 31 (16, 15) PM peak trips.

Traffic during a Crush Saturday

Number of FT employees (during crush): 8 x 3.05 one-way trips per employee = 24 daily trips.

Number of PT employees (during crush): 4 x 1.90 one-way trips per employee = 8 daily trips.

Average number of Saturday visitors: 140 / 2. 8 visitors per vehicle x 2 one-way trips = 100 daily trips.

Gallons of production: 60,000 / 1,000 x .009 truck trips daily x 2 one-way trips = 1 daily trips.

Avg. annual tons of grape on-haul: 340 / 144 truck trips daily[4] x 2 one-way trips = 5 daily trips.

Total = 138 daily trips.

Largest Marketing Event- Additional Traffic

Number of event staff (largest event): 4 x 2 one-way trips per staff person = 8 trips.

Number of visitors (largest event): 200 / 2.8 visitors per vehicle x 2 one-way trips = 143 trips.

Number of special event truck trips (largest event): 2 x 2 one-way trips = 4 trips.

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[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).