Traffic and Parking Study for the DeTurk Winery Village Project

Prepared for the City of Santa Rosa

Submitted by
W-Trans

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Executive Summary

The DeTurk Winery Village project is proposed to provide 185 apartments together with a 20,000 square foot fitness facility and child care center and a 5,000 square foot leasing office. The proposed housing units are expected to generate 72 trips during the evening peak hour, though compared to full use of the existing 75,000 square foot buildings, the net change is a 45-trip reduction in p.m. peak hour trips. Trips associated with any current uses on the project site were excluded from consideration, and under these conditions, with project-generated trips added to the study intersection of Wilson Street-Cleveland Avenue/West 9th Street the impact is still expected to be less-than-significant. Furthermore, because the project has a net negative trip generation, there is no proportional share payment toward the planned future signalization of this intersection.

Access to alternative modes from the project site is generally very good. The SMART bike path is immediately east of the site and the network of sidewalks will be complete upon the construction of sidewalks along the project's frontage on Donahue Street as part of the project. The project should provide adequate bicycle parking and/or storage as required by the City's code.

The project proposes two driveways, with one each on West 9th Street and Donahue Street. Both driveways have adequate sight lines and are expected to operate acceptably.

The proposed parking supply for the project at 174 spaces is adequate to meet requirements as set forth in Assembly Bill (AB) 744. This legislation enacts reduced parking standards for housing projects that provide for low or very-low income residents when the site has adequate access to transit. Due to the proximity to the SMART rail station, this project qualifies for the density bonus provisions of AB 744 and the parking supply as proposed is adequate to meet the applicable requirements.

However, because the supply is less than the projected demand based on standard industry rates, consideration was given to the potential impact any excess parking would have on the adjacent neighborhood. Parking occupancy surveys were performed on five dates, three of which were chosen to coincide with events at the DeTurk Round Barn event center. On the basis of the data obtained, it is anticipated that the available supply of parking near the project site is not adequate to accommodate all the excess demand that may be generated. There are approximately 41 available spaces in the public supply that would be available during peak parking occupancy and the project would generate a demand of 86 vehicles that would need to park in the public supply. The site's excess parking demand could be addressed through application of parking demand strategies such that even on event days there would be adequate parking supply in the neighborhood to meet the anticipated demand.

Introduction

This report presents an analysis of the potential traffic impacts that would be associated with development of the proposed DeTurk Winery Village Project to be located on Donahue Street between West 8th and 9th Streets in the City of Santa Rosa. The traffic study was completed in accordance with the criteria established by the City of Santa Rosa, and is consistent with standard traffic engineering techniques.

Prelude

The purpose of a traffic impact study is to provide City staff and policy makers with data that they can use to make an informed decision regarding the potential traffic impacts of a proposed project, and any associated improvements that would be required in order to mitigate these impacts to a level of insignificance as defined by the City's General Plan or other policies. Vehicular traffic impacts are typically evaluated by determining the number of new trips that the proposed use would be expected to generate, distributing these trips to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the proposed project, then analyzing the impact the new traffic would be expected to have on critical intersections or roadway segments. Impacts relative to access for pedestrians, bicyclists, and to transit are also addressed.

Project Profile

The proposed project is a new 185-unit mid-rise apartment complex including 15 affordable units. The existing site currently hosts 75,000 square feet of specialty retail and general light industrial space. The proposed project plans to retain 20,000 square feet of existing commercial space for a 12,500 square foot gym and 7,500 square feet of commercial space. The project site is located on Donahue Street between West 8th and 9th Streets. Two new driveways would provide access to the proposed apartment complex, including one each on Donahue Street and one on West 9th Street. The project site is located on Donahue Street between West 8th and 9th Streets, as shown in Figure 1.

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Traffic and Parking Study for the DeTurk Winery Village Project

Figure 1 – Study Area, Lane Configuration, and Traffic Volumes

Transportation Setting

Operational Analysis

Study Area and Periods

The study area consists of the intersection of Wilson Street/West 9th Street as well as the project frontages on Donahue Street, West 8th Street, and West 9th Street.

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

Study Intersection

Wilson Street-Cleveland Avenue/West 9th Street is a four-legged, all-way stop-controlled intersection located just east of the SMART railroad tracks. Drivers southbound on Cleveland Avenue have the option of using Ripley Street as a shorter route to get to westbound West 9th Street. This intersection is planned to be signalized in the future.

The location of the study intersection and the existing lane configuration and control are shown in Figure 1.

Study Roadways

Donahue Street has a posted speed limit of 25 miles per hour (mph), one lane in each direction, and on-street parking on both sides.

West 9th Street has a posted speed limit of 30 mph, one travel lane in each direction, and a two-way left-turn lane (TWLTL) in the vicinity of Donahue Street. Parking is currently allowed on the south side of the street east of the SMART tracks.

West 8th Street has a posted speed limit of 25 mph, one travel lane in each direction, and on-street parking on both sides of the street.

Alternative Modes

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the proposed project site; however, sidewalk gaps, obstacles, and barriers can be found along some of the roadways connecting to the project site. Existing gaps and obstacles along the connecting roadways impact convenient and continuous access for pedestrians and present safety concerns in those locations where appropriate pedestrian infrastructure would address potential conflict points.

Continuous sidewalk coverage is provided along the proposed project frontages on West 9th Street, bordering the northern portion of the site, and West 8th Street, bordering the southern end. Sidewalk gaps exist along Donahue Street, bordering the west side of the site, with only a small segment of sidewalk near the northern end. There are curb ramps on the southeast and southwest corners of West 9th Street/Donahue Street and on the northwest and northeast corners of West 8th Street/Donahue Street. There are no marked crosswalks at either of these intersections. There are crosswalks on both West 9th Street and West 8th Street which connect to the SMART multi-use path, east of the project site.

Bicycle Facilities

The *Highway Design Manual*, California Department of Transportation (Caltrans), 2012, classifies bikeways into three categories:

- **Class I Multi-Use Path** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane** – a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.

Guidance for Class IV Bikeways is provided in *Design Information Bulletin Number 89: Class IV Bikeway Guidance (Separated Bikeways/Cycle Tracks)*, Caltrans, 2015.

- **Class IV Bikeway** – also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation (or, "buffer") may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

In the project area, Class II bicycle lanes exist on West 9th Street in both directions between Donahue Street and Stony Point Road. The SMART Class I multi-use path is located east of the project site, bordering the railroad tracks, and extends from West 8th Street to College Avenue. The City of Santa Rosa *2010 Bicycle and Pedestrian Master Plan* identifies an additional Class III bicycle route planned for Wilson Street, just east of the project site, between 9th Street and 3rd Street. As part of the proposed project a Class II bike lane is proposed on West 9th Street between Donahue Street and the SMART tracks in the eastbound direction; parking will be eliminated to make way for the new bike lane. There are also plans to extend the SMART multi-use path so that it runs from the City of Larkspur to the City of Cloverdale.

Table 1 – Bicycle Facility Summary

Status Facility	Class	Length (miles)	Begin Point	End Point
Existing				
West 9th Street	II	1.10	Stony Point Road	Railroad Tracks
SMART Multi-Use Path	I	0.48	West 8th Street	College Avenue
Planned				
Wilson Street	III	0.44	3rd Street	9th Street
West 9th Street (eastbound)*	II	0.35	Donahue Street	Railroad Tracks
West 9th Street	III	0.25	Railroad Tracks	A Street
SMART Multi-Use Path	I	6.64	River Road	Bellevue Avenue

Note: *Westbound Class II bike lane currently exists
Source: *Santa Rosa Bicycle and Pedestrian Master Plan*, City of Santa Rosa, 2010

Transit Facilities

Santa Rosa CityBus provides fixed route bus service in the City of Santa Rosa. CityBus Local Routes 3 and 17 provide loop service to destinations throughout the City and stops within walking distance to the project site. Route 3 operates Monday through Friday with approximately one-half hour headways between 6:30 a.m. and 8:00 p.m. Saturday service operates with approximately one-hour headways between 8:00 a.m. and 7:30 p.m. Sunday service operates with approximately one-hour headways between 11:00 a.m. and 5:00 p.m. Route 17 operates Monday through Friday with approximately one-hour headways between 6:00 a.m. and 8:00 p.m. Saturday service operates with approximately one-hour headways between 7:00 a.m. and 8:00 p.m. Sunday service operates with approximately one-hour headways between 9:30 a.m. and 4:30 p.m.

Two bicycles can be carried on most CityBus buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on CityBus buses at the discretion of the driver.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. Santa Rosa's paratransit is designed to serve the needs of individuals with disabilities within Santa Rosa and the greater Santa Rosa area.

Sonoma–Marin Area Rail Transit (SMART) is set to provide fixed loop rail service throughout Sonoma and Marin Counties. A SMART stop will be located in Railroad Square, approximately one-third of a mile south of the project site. Service is planned to begin by the end of 2016, although routes and schedules are not currently available.

Reimagining CityBus

The City of Santa Rosa is currently going through the development of a redesign of the CityBus system through its "Reimagining CityBus" project. A draft report and new transit map have been reviewed by City Council and are undergoing revisions for the final redesign. Draft plans indicate that service through the project area will change. Routes 3, 10, 11, and 15 would travel near the proposed project site. These routes would provide access to the Northside Transfer Center, the Downtown Transit Mall, and the Coddingtown Mall. It is anticipated that the transit routes serving the site will provide adequately for site residents.

Capacity Analysis

Intersection Level of Service Methodologies

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

Since the study intersection will be signalized in the future, it was analyzed using the signalized methodology published in the *Highway Capacity Manual* (HCM), Transportation Research Board, 2000. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle. The signalized methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. For purposes of this study, delays were calculated using optimized signal timing. The criteria for signalized intersection service levels are summarized in Table 2.

Table 2 – Signalized Intersection Level of Service Criteria	
LOS A	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
LOS B	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
LOS C	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
LOS D	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
LOS E	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
LOS F	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Reference: *Highway Capacity Manual*, Transportation Research Board, 2000

Traffic Operation Standards

The City of Santa Rosa's adopted Level of Service (LOS) Standard is contained in *Santa Rosa General Plan 2035*. Standard TD-1 states that the City will try to maintain a Level of Service (LOS) D or better along all major corridors. Exceptions to meeting this standard are allowed where attainment would result in significant environmental degradation; where topography or environmental impacts make the improvement impossible; or where attainment would ensure loss of an area's unique character.

While a corridor level of service is applied by the City in its analysis of the entire City as part of the environmental documentation supporting the General Plan, this type of analysis only provides relevant data when performed on a much longer segment than the one included as the study area for the project. Therefore, although the City's standard does not specify criteria for intersections, for the purposes of this study a minimum operation of LOS D for the overall operation of signalized intersections was applied.

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the p.m. peak period. This condition does not include project-generated traffic volumes. Volume data was collected August 18, 2015.

Under existing conditions, the intersection is operating acceptably at LOS B during the p.m. peak hour, with an average delay of 13.1 seconds per vehicle. Existing traffic volumes are shown in Figure 1, and a copy of the Level of Service calculation is provided in Appendix A.

Project Description

The proposed project is a new 185-unit mid-rise apartment complex including 15 affordable units that would replace 75,000 square feet of specialty retail and general light industrial space. As part of the project 25,000 square feet of commercial space would be retained for a 20,000 square foot gym and a 5,000 square foot leasing office. The project site is located on Donahue Street between West 8th and 9th Streets. Two new driveways would provide access to the proposed apartment complex, including one each on Donahue Street and on West 9th Street. The proposed project site plan is shown in Figure 2.

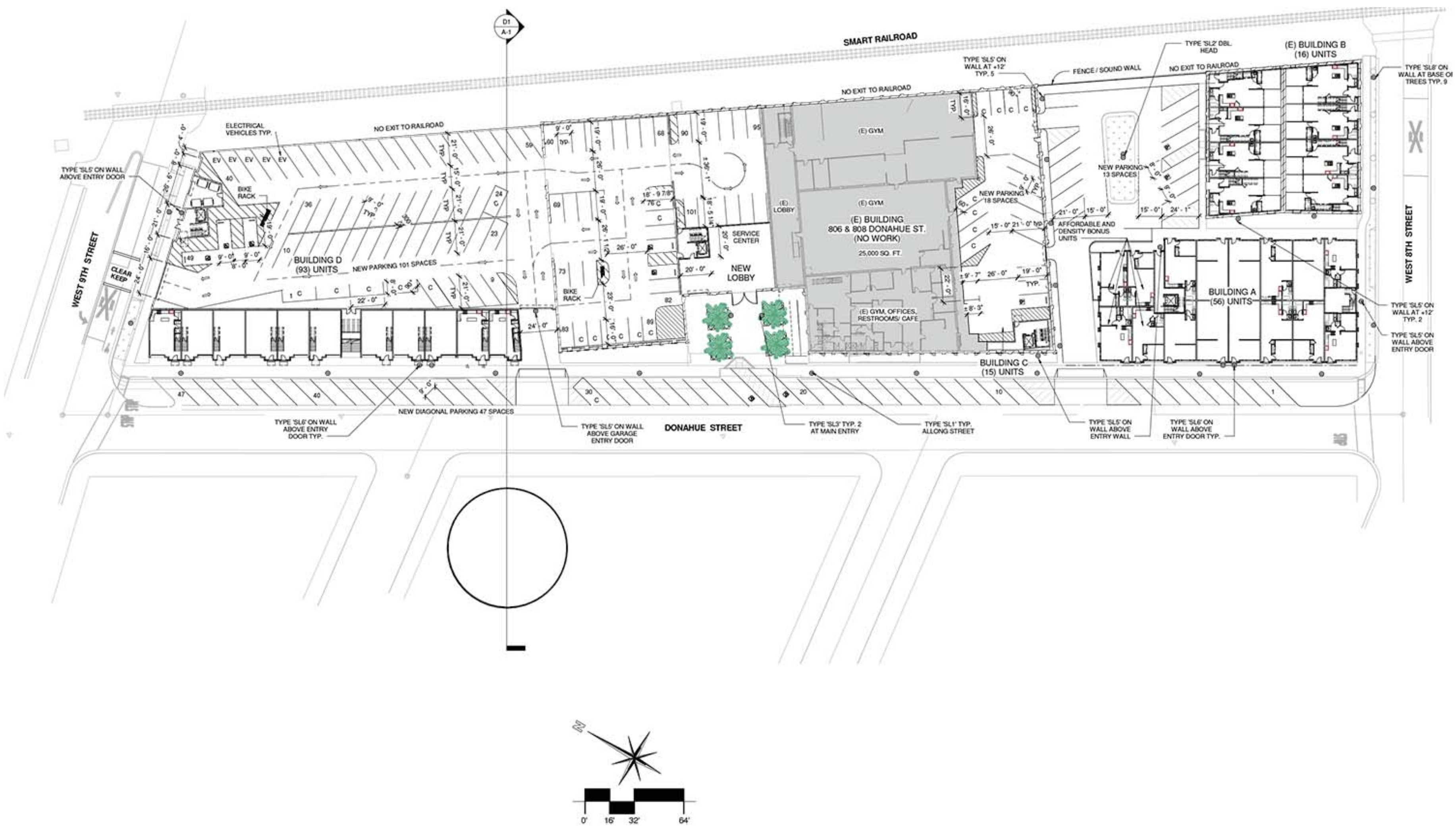
Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 9th Edition, 2012 for "Mid-Rise Apartment" (ITE LU #223) as the development will be four stories and any residential building with three to 10 stories is considered "Mid-Rise". Since the existing turning movement counts reflect trips generated by the existing 24,000 square foot gym, the trips that would be associated with the proposed 20,000 square foot gym have already been captured, and no further trips were included in the analysis. Additionally, because the site is currently occupied by a building with 25,000 square feet of commercial space and 50,000 square feet of light industrial space, the trip generation of existing uses to be eliminated was considered. Standard rates for "Specialty Retail Center" (ITE LU #826) and "General Light Industrial" (ITE LU #110) were applied to the existing land uses.

Table 3 – Trip Generation Summary

Land Use	Units	PM Peak Hour			
		Rate	Trips	In	Out
Existing					
General Light Industrial	50 ksf	0.97	-49	-6	-43
Specialty Retail Center	25 ksf	2.71	-68	-30	-38
Total			117	36	81
Proposed					
Mid-Rise Apartment	185 du	0.39	72	42	30
Total			**-45**	**6**	**-51**

Notes: ksf = 1,000 square feet ; du = dwelling unit



Source: O'Malley Wilson Westphal 8/16

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Figure 2 – Site Plan

Trip Distribution

The pattern used to allocate the net change in project trips to the street network was based on previous work done for projects in the area and is shown in Table 4. Consideration was given to future plans to signalize West 9th Street/Wilson Street and install all-way stop controls at West 8th Street/Wilson Street and the potential impact these improvements would have on the routes drivers would choose for trips to and from the project site. Given the limited delays that would be experienced along the assumed routes as well as the use of routes that result in the greatest impact due to project traffic, thereby providing a conservative analysis, no adjustments were made to reflect these planned future improvements.

Table 4 – Trip Distribution Assumptions		
Route	**Percent**	**PM Trips**
W 9th St (east of Donahue St)	25%	-11
W 9th St (west of Wilson St)	25%	-11
Cleveland Ave (north of W 9th St)	30%	-14
Wilson St (south of W 8th St)	20%	-9
TOTAL	**100%**	**-45**

Intersection Operation

Existing plus Project Conditions

Because the existing space may not have been fully occupied when the counts were obtained, all 72 peak hour project trips were added to the existing volumes and deductions for existing land uses were not applied in evaluating "plus Project" conditions. The study intersection is expected to operate at LOS B under existing p.m. peak hour conditions and is expected to continue operating at LOS B, with only a slight increase in delay, with the addition of project-generated trips. These results are summarized in Table 5. Project traffic volumes are shown in Figure 1.

Table 5 – Existing and Existing plus Project Peak Hour Intersection Levels of Service				
Study Intersection	**Existing Conditions**		**Existing plus Project**	
	Delay	**LOS**	**Delay**	**LOS**
1. Wilson St-Cleveland Ave/West 9th St	13.1	B	13.8	B

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

Finding – The study intersection is expected to continue operating acceptably at the same level of service upon the addition of project-generated traffic.

Equitable Share

The City of Santa Rosa has identified long-term improvement plans to signalize the intersection of Wilson Street-Cleveland Avenue/West 9th Street. As part of funding for these improvements, the City has developed an equitable share program where it collects fees from developers proportionate to the traffic generated by the development. This calculation was applied to determine the project's equitable share of the cost of these improvements.

During the p.m. peak hour, the proposed project is expected to generate a net negative 45 trips. Because the project results in a net negative trip generation, new trips would be added to the intersection during the p.m. peak hour, so the proportional share of the costs to construct a traffic signal at Wilson Street-Cleveland Avenue/West 9th Street attributable to this development is zero percent. However, contribution to the planned signalization of this intersection is at the discretion of the City and additional project impacts, other than trip generation, may require the proposed project to contribute funds.

Alternative Modes

Pedestrian Facilities

Given the proximity to downtown Santa Rosa to the east and SMART train station to the south, to the proposed site, it is reasonable to assume that some project residents will want to walk, bicycle, and/or use transit to reach the project site.

Project Site – Sidewalks exist along the project frontages of West 9th Street and West 8th Street. There are gaps in the sidewalk network along the project frontage on Donahue Street. The proposed project plans include continuous sidewalk coverage along Donahue Street. There are four intersections in the vicinity of the proposed project site: West 9th Street/Donahue Street, Decker Street/Donahue Street, Boyce Street/Donahue Street, West 8th Street/Donahue Street. There are currently no marked pedestrian crosswalks along Donahue Street or at the intersections within the project vicinity. However, the current site plan indicates new marked crosswalks on Donahue Street at the intersections with West 9th Street and West 8th Street.

Finding – With the planned improvements, pedestrian facilities serving the project site will be adequate.

Bicycle Facilities

Existing bicycle facilities, including bike lanes on West 9th Street and the SMART multi-use path, together with shared use of minor streets provide adequate access for bicyclists.

Bicycle Storage

The City of Santa Rosa's Municipal Code, Chapter 20-36, requires one bicycle parking space be four units if there is no private garage or private storage space for bike storage. The current site plan includes two bike racks but does not indicate the number of spaces provided or if private storage is available.

Finding – Bicycle facilities serving the project site are expected to be adequate. However, the current site plan does not indicate the number of bicycle spaces being provided.

Recommendation – The proposed project site plan should include adequate bicycle storage and clearly indicate the number of spaces being provided and provide additional spaces should there be a shortage.

Transit

Existing transit routes are adequate to accommodate project-generated transit trips. Existing stops are within acceptable walking distance of the site.

Finding – Transit facilities serving the project site are expected to be adequate.

Access and Circulation

Site Access

The project would be accessed via three driveways; two on Donahue Street and one on West 9th Street. Movements at the West 9th driveway will be restricted to right-turns only through installation of a median. Additionally, the project plans include "keep clear" pavement markings at the entrance of this driveway to ensure that the driveway is still accessible if the gate arms at the railroad crossing are down and cars waiting to cross develop a queue that would otherwise block drivers from accessing this entrance.

Sight Distance

Sight distances at the proposed driveways were field measured. Although sight distance requirements are not technically applicable to urban driveways, the criterion for public road major approach stopping distance was applied for evaluation purposes. Based on a design speed of 30 mph, the minimum stopping sight distance needed on West 9th Street is 200 feet. The minimum stopping sight distance needed on Donahue Street is 150 feet for a posted speed limit of 25 mph. Based on field measurements, sight distance is more than adequate in both directions at both project driveways.

Circulation

To provide a conservative evaluation of impacts on the intersection of West 9th Street/Wilson Street, it was assumed that the majority of project trips would use West 9th Street for trips to and from the site. However, the existing circulation network within the neighborhood is a grid system that provides multiple paths drivers could use traveling to and fro the site. As a result, it is anticipated that trips would be more dispersed, resulting in a more even distribution of traffic and reduced impacts on any one street.

Parking

The project was analyzed to determine whether the proposed parking supply would be sufficient for the anticipated parking demand generated by the planned 185-unit apartment complex and 20,000 square foot commercial space, including an existing 12,500 square foot gym and 7,500 square feet of additional retail space.. The project site as proposed would provide a total of 174 standard parking spaces for the apartment complex, including 132 off-street spaces and 42 spaces on the street. The 42 on-street spaces would be provided on Donahue Street, bordering the west side of the project site, and be limited to two–hour parking Monday through Friday between 8:00 a.m. and 6:00 p.m.; parking would be unrestricted on nights and weekends.

City Requirements

City of Santa Rosa parking supply requirements are based on the Santa Rosa Municipal Code, Chapter 20-36; Parking and Loading Standards. The proposed project site also falls within the Downtown Station Area Plan (DSAP) planning area and the Railroad Corridor subarea. The Municipal Code identifies specific parking requirements for development that falls within the DSAP plan area and its subsequent subareas. The City code requires 1.5 parking spaces per unit for apartments within the Railroad Corridor subarea and 1.0 space per unit for affordable housing within the DSAP. The project includes 170 market-rate units and 15 affordable housing units. Based on these requirements, the proposed project would be required to provide 270 parking spaces for the housing component. The 20,000 square feet of commercial space would require 34 spaces based on a standard of one space per 300 square feet, with the 50 percent mixed-used deduction applied. The total required supply under the City's Code is therefore 304. With a planned supply of 174 spaces, parking would not meet the City's requirements and experience a deficit of130 spaces.

Assembly Bill 744

Assembly Bill (AB) 744 sets a maximum parking ratio for housing developments that provide for low or very low-income individuals of 0.5 spaces per bedroom units. In order to attain the density bonus for affordable housing, there must be a transit stop within one-half mile and there must be unobstructed access to that transit stop. The proposed project is within one-half mile of the planned SMART Train Station located in Downtown Santa Rosa's Railroad Square.

The proposed project includes 185 units with 115 one-bedroom units and 70 two-bedroom units. Using the 0.5 parking spaces per bedroom for the proposed 185 units, the proposed project would be required to provide 128 parking spaces. The proposed 7,500 square feet of commercial space would require one space per 300 square feet, or 25 spaces, under AB 744 guidelines. The 12,500 square foot gym would require 17 spaces based on previously approved parking requirements for the existing gym. The total required parking supply of 170 spaces is less than the planned supply of 174 parking spaces; the project is therefore proving four more parking spaces than required under applicable law as determined by AB 744.

Table 6 provides a summary of parking spaces required under the City's code and AB 744.

Table 6 – Parking Requirements Summary			
Source	**Units**	**Rate**	**Spaces Required**
City Code			
Multi-family Residential	185 du	1.5 per market-rate unit, 1.0 per affordable housing unit	270
Commercial	20 ksf	1.0 per 300 sf, with a 50% reduction for mixed use	34
Total per City Code			**304**
AB 744			
Multi-family residential	115 one-bdrm, 70 two-bdrm	0.5 per bedroom	128
Gym	12.5 ksf	N/A*	17
Commercial	7.5 ksf	1.0 per 300 sf	25
Total per AB 744			**170**
Parking Proposed	**Location**		**Spaces Proposed**
	Off-Street		132
	On-Street		42
Total Parking Proposed			**174**

Notes: du = dwelling unit; ksf = 1,000 square feet; bdrm = bedroom
*Previously approved parking reduction applied

ITE Parking Generation

Parking demand was also estimated using standard rates published by ITE in *Parking Generation*, 4th Edition, 2010. The parking demand of the residential component of the project was estimated using the published standard rates for Low/Mid-Rise Apartments (ITE LU#221). The expected parking demand for the proposed apartments is 228 spaces on weekdays and 209 spaces on weekends. Based on ITE rates, and assuming that the commercial space would need 34 spaces as indicated in City Code, the project has a projected total demand for 262 parking spaces. With a planned supply of 174 spaces, there would be a parking deficit of 88 spaces.

Parking Occupancy

Since the project as proposed would provide less parking than estimated based on application of standard parking generation rates, and to address concerns expressed by neighbors, parking occupancy counts were taken within the surrounding neighborhood streets to determine there is available supply within existing public on-street spaces to accommodate any additional parking demand from the project. Part of the reason for the residents' concern is that the project site is located across from the DeTurk Round Barn, which is a popular event venue in the City that can generate high parking demand on days when events occur, especially on weekends.

Dates and time for data collection were coordinated with City staff, and were subsequently conducted on July 9, 14, 20, and 27, and August 6, 2016 from 2:00 p.m. to 8:00 p.m. Events at the DeTurk Round Barn were held during three of the counts, as follows:

- Saturday July 9th – 150 guests
- Thursday, July 14th – 100 guests
- Saturday, August 6th – 130 guests

In order to determine the supply of on-street spaces, the length of available curb space for parking was measured and the resulting number of parking spaces estimated. There are approximately 185 public on-street spaces available within the area inventoried, not including spaces on the east side of Donahue Street that will become part of the project's proposed supply. Parking count locations are shown in Figure 3 and a copy of the occupancy counts is provided in Appendix B.

The peak parking occupancy for each block inventoried was determined for weekdays with no events and for weekends/event days. During an average weekday, without an event, parking occupancy was about 55 to 60 percent overall, though some blocks were fully occupied or nearly so. While total occupancy was higher, at 67 to 78 percent, on days when events were occurring, there were still a substantial number of empty spaces during all 30 hours over which data was collected. The peak parking demands for each block occurred after 4:00 p.m. on each day counted. Table 7 summarizes the peak parking occupancy for each parking area, though the maximum parking demand for the entire study area is not the sum of the peak demand for each area as the peak varied from area to area.

Table 7 – Parking Occupancy Summary

Street/Lot Block	Parking Supply	Peak Parking Occupancy			
		Weekday (No Events)		Weekend/Events	
		#	%	#	%
Donahue St (west side only)					
8th St – Boyce	11	11	**100%**	8	73%
Boyce St – Decker St	15	12	80%	15	**100%**
Decker St – 9th St	6	3	50%	6	**100%**
Decker St	38	25	66%	36	**95%**
Boyce St					
Coulter St – Donahue St	20	18	**95%**	20	**100%**
Prince St – Donahue St	17	13	76%	17	**100%**
West 8th St					
Coulter St – Prince St	19	14	74%	19	**100%**
Prince St – Donahue St	22	19	**86%**	16	73%
Donahue St – Railroad tracks	6	4	67%	6	**100%**
Prince St					
Boyce St – Decker	15	11	73%	15	**100%**
West 8th St – Boyce St	16	5	31%	15	**94%**
Total	**185**				

The times of day during the six-hour surveys when the peak occurred for the entire study area are indicated in Table 8.

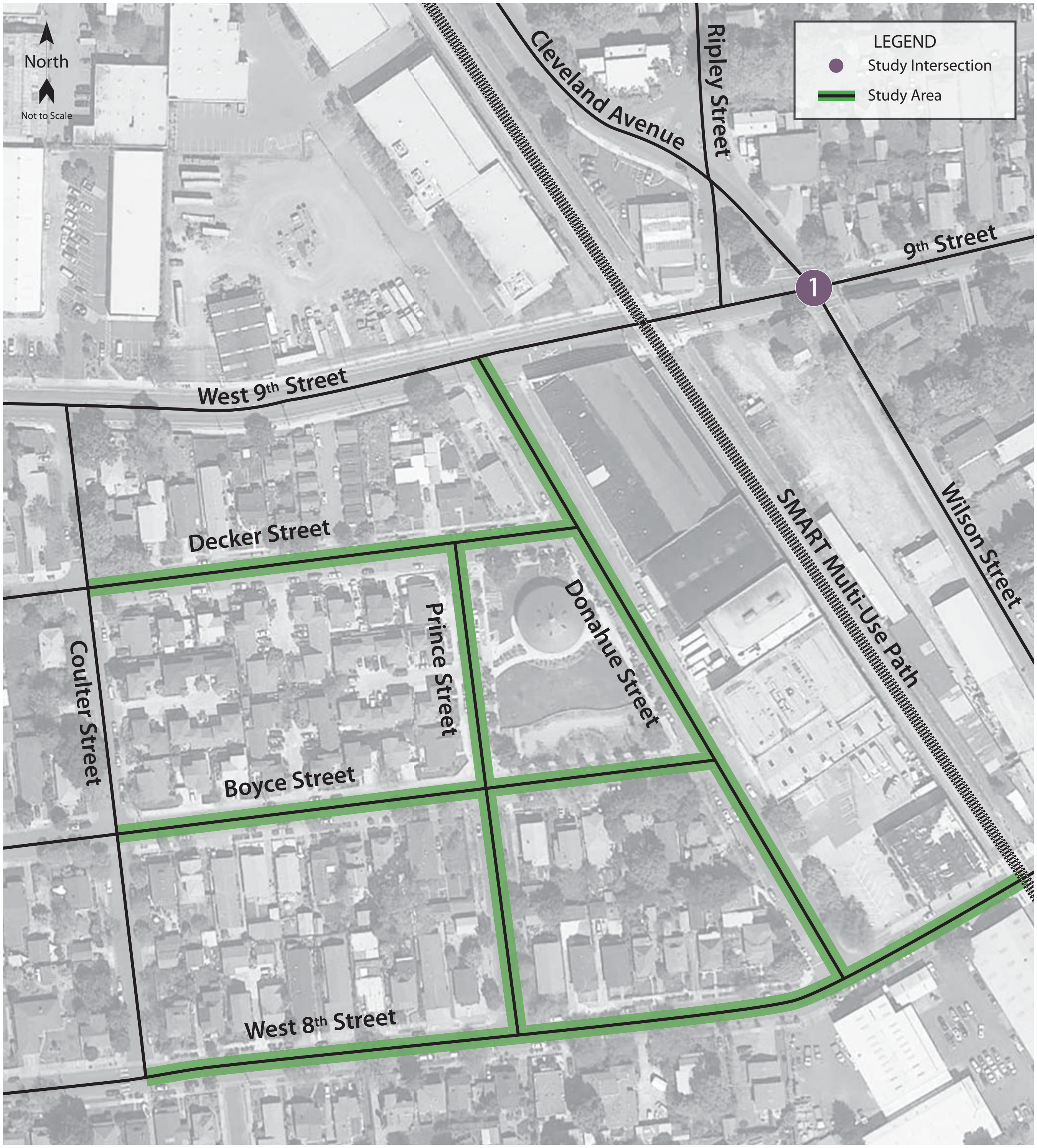

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Figure 3 – Parking Count Locations

Table 8 – Time of Day for Peak Parking Demand					
Date	**Day**	**Time of Peak Demand**	**Occupied Spaces**	**Occupancy Rate**	**Notes**
July 9	Saturday	3:45 p.m.	138	75%	150-person event
July 14	Thursday	6:30 p.m.	144	78%	100-person event
July 20	Wednesday	6:15 p.m.	110	59%	
July 27	Wednesday	5:00 p.m.	100	54%	
August 6	Saturday	7:00 p.m.	125	67%	130-person event

The highest peak parking demand experienced was on Thursday, July 14, with 144 spaces occupied; this equates to a 78 percent occupancy rate for the entire neighborhood. With a total supply of approximately 185 parking spaces, there would be about 41 spaces still open at this time. The proposed project is planning to provide 174 parking spaces on-site and has a projected peak demand of 260 spaces which occurs on weekdays. The project would need access to an additional 86 spaces to accommodate these additional vehicles anticipated based on the peak theoretical parking demand. Since only 41 spaces are expected to be available when peak parking demand occurs within the neighborhood's public parking supply, there would not be sufficient public on-street parking to accommodate additional parking demand that may be experienced by the project and an additional 45 spaces would be required to meet peak demand.

Parking Demand Management

Unbundled Parking

In order to decrease parking demand and provide cost savings to tenants, the proposed project includes plans to provide unbundled parking. This makes parking a separate option in tenants' lease agreements and allows residents to choose if they want to lease a parking space or not. Typically residential parking spaces are bundled into the lease amounts, so residents may not realize the high cost of building, operating, and maintaining parking. Further, adding parking as a separate line item will help tenants understand the cost savings associated with reducing their parking needs. This parking demand strategy is estimated to reduce parking demand by 10 to 15 percent based on the Metropolitan Transportation Commission (MTC)'s *Reforming Parking Policies to Support Smart Growth*. Applied to the 228 space demand projected for the residential component, application of this technique would be expected to reduce by demand by up to 34 spaces, leaving only 11 of the 45-space shortfall to be addressed.

Car-Share

Car-sharing can reduce the need for automobile ownership by allowing residents to have on-demand access to shared vehicles on an as-needed basis. The proposed project includes plans to provide five vehicles on-site to be shared by residents. According to MTC, car-sharing is estimated to reduce parking demand by 3 to 5 percent. Assuming a reduction on the low end of this scale, the car-share would result in a 7-space reduction in the parking demand or up to 11 spaces on the high end. If car-sharing meets the high-end of the projected reductions, the remaining shortfall may be addressed.

Finding – The planned and existing parking supply is adequate to meet parking requirements as established under state law. However, using standard rates in ITE's *Parking Generation* rates and occupancy counts it is projected that there would be a deficiency of up to 45 spaces. Parking demand could be reduced through application of parking demand management techniques such as using unbundled parking and providing vehicles for a car-share program. With these programs the projected parking demand could be adequately met.

Recommendation – The project should include parking demand management techniques such as unbundled parking and a car-share program to reduce parking demand.

Conclusions and Recommendations

Conclusions

- The proposed project would be expected to result in a decrease in trip generating potential compared to existing uses, with a net negative of 45 trips during the p.m. peak hour.
- The project's impact on existing operation of Wilson Street-Cleveland Avenue/West 9th Street is less-than-significant, with LOS B operation projected upon adding trips associated with the proposed 185-unit apartment project.
- Bicycle facilities serving the project site are adequate. The proposed project includes plans to provide an eastbound bike lane on West 9th Street between Donahue Street and the railroad tracks.
- Pedestrian facilities will be adequate upon the completion of sidewalks along the proposed project frontages and installation of marked crosswalks across the stop-controlled Donahue Street approaches to West 9th Street and West 8th Street.
- Access to the site will be provided by two driveways on Donahue Street and one driveway on West 9th Street. The West 9th Street driveway will be restricted to right-turns only by a center median. A "keep clear" pavement marking will be provided at this driveway to ensure that the driveway is still accessible if the gate arms at the railroad crossing are down and cars waiting to cross develop a queue that would otherwise block drivers from accessing this entrance.
- The proposed driveways on West 9th Street and Donahue Street have adequate sight distance for the posted speed limits.
- Based on the equitable share calculation, the project developer would not be required to contribute to the cost of signalizing the Wilson Street-Cleveland Avenue/West 9th Street intersection due to the project having a net negative trip generation. However, contribution to this signal is at the discretion of the City, and other project impacts may result in the project developer being allocated a fee payment.
- The planned and existing parking supply is sufficient to meet the parking as required under state law, but is expected to be inadequate to meet projected peak parking demand. A shortfall of up to 45 spaces during peak demand conditions is projected.

Recommendations

- The proposed project site plan should include adequate bicycle storage and clearly indicate the number of spaces being provided and provide additional spaces should there be a shortfall.
- Parking Demand Management techniques should be applied as necessary to reduce parking demand by up to 45 spaces.

Study Participants and References

Study Participants

Principal in Charge	Dalene J. Whitlock, PE, PTOE
Assistant Planner	Shannon Baker
Editing/Formatting/Graphics	Angela McCoy
Report Review	Dalene J. Whitlock, PE, PTOE

References

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SRO377

Appendix A

Level of Service Calculations

```
--------------------------------------------------------------------------------
                    PM Peak Hour - Existing Conditions
         Focused Traffic Analysis for the DeTurk Winery Village Project
                           City of Santa Rosa
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Cleveland Ave/W 9th St
********************************************************************************
Cycle (sec):         100             Critical Vol./Cap.(X):        0.521
Loss Time (sec):       0             Average Delay (sec/veh):       13.1
Optimal Cycle:         0             Level Of Service:                 B
********************************************************************************
Street Name:          Cleveland Ave                        W 9th St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 18 Aug 2015 << 4:30 - 5:30 pm
Base Vol:      34  148    18    42  242     1    43  166    41    37  147    61
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   34  148    18    42  242     1    43  166    41    37  147    61
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:    36  158    19    45  259     1    46  178    44    40  157    65
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   36  158    19    45  259     1    46  178    44    40  157    65
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   36  158    19    45  259     1    46  178    44    40  157    65
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.17 0.74  0.09  0.14 0.85  0.01  0.17 0.67  0.16  0.15 0.60  0.25
Final Sat.:    95  412    50    86  497     2   100  385    95    88  350   145
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.38 0.38  0.38  0.52 0.52  0.52  0.46 0.46  0.46  0.45 0.45  0.45
Crit Moves:       ****                   ****  ****              ****
Delay/Veh:   12.0 12.0  12.0  14.2 14.2  14.2  13.0 13.0  13.0  12.7 12.7  12.7
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  12.0 12.0  12.0  14.2 14.2  14.2  13.0 13.0  13.0  12.7 12.7  12.7
LOS by Move:    B    B     B     B    B     B     B    B     B     B    B     B
ApproachDel:      12.0             14.2             13.0             12.7
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       12.0             14.2             13.0             12.7
LOS by Appr:        B                B                B                B
AllWayAvgQ:   0.5  0.5   0.5   0.9  0.9   0.9   0.7  0.7   0.7   0.6  0.6   0.6
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```



```
--------------------------------------------------------------------------------
               PM Peak Hour - Existing plus Project Conditions
         Focused Traffic Analysis for the DeTurk Winery Village Project
                           City of Santa Rosa
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
         2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Cleveland Ave/W 9th St
********************************************************************************
Cycle (sec):         100             Critical Vol./Cap.(X):        0.555
Loss Time (sec):       0             Average Delay (sec/veh):       13.8
Optimal Cycle:         0             Level Of Service:                 B
********************************************************************************
Street Name:          Cleveland Ave                        W 9th St
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 18 Aug 2015 << 4:30 - 5:30 pm
Base Vol:      34  148    18    42  242     1    43  166    41    37  147    61
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   34  148    18    42  242     1    43  166    41    37  147    61
Added Vol:      0    0     0     0    0    13     9    8     0     0   11     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   34  148    18    42  242    14    52  174    41    37  158    61
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:    36  158    19    45  259    15    56  186    44    40  169    65
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   36  158    19    45  259    15    56  186    44    40  169    65
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   36  158    19    45  259    15    56  186    44    40  169    65
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.17 0.74  0.09  0.14 0.81  0.05  0.19 0.66  0.15  0.14 0.62  0.24
Final Sat.:    92  399    49    81  467    27   111  371    87    82  352   136
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.40 0.40  0.40  0.55 0.55  0.55  0.50 0.50  0.50  0.48 0.48  0.48
Crit Moves:       ****             ****             ****                    ****
Delay/Veh:   12.4 12.4  12.4  15.1 15.1  15.1  13.9 13.9  13.9  13.4 13.4  13.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  12.4 12.4  12.4  15.1 15.1  15.1  13.9 13.9  13.9  13.4 13.4  13.4
LOS by Move:    B    B     B     C    C     C     B    B     B     B    B     B
ApproachDel:      12.4             15.1             13.9             13.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       12.4             15.1             13.9             13.4
LOS by Appr:        B                C                B                B
AllWayAvgQ:   0.5  0.5   0.5   1.0  1.0   1.0   0.8  0.8   0.8   0.7  0.7   0.7
********************************************************************************
```

Appendix B

Parking Occupancy Counts

Date: July 9, 2016 Saturday

	Donahue St	Occup.	Donahue St	Occup.	Donahue St	Occup.	Decker St	Occup.	Boyce St	Occup.	Boyce St	Occup.	W 8th St	Occup.	W 8th St	Occup.	W 8th St	Occup.	Prince St	Occup.	Prince St	Occup.		
	8th-Boyce	%	Boyce-Decker	%	Decker-9th	%	Coulter-Donahue	%	Coulter-Prince	%	Prince-Donahue	%	Coulter-Prince	%	Prince-Donahue	%	Donahue-RR	%	Boyce-Decker	%	8th-Boyce	%	Total	%
Supply	**22**		**30**		**13**		**38**		**19**		**17**		**19**		**22**		**6**		**15**		**16**		185	
2:00 PM	6	27%	15	50%	5	38%	20	53%	12	63%	8	47%	15	79%	15	68%	5	83%	12	80%	7	44%	107	58%
2:15 PM	6	27%	13	43%	6	46%	21	55%	15	79%	6	35%	16	84%	15	68%	5	83%	8	53%	4	25%	103	56%
2:30 PM	7	32%	8	27%	5	38%	21	55%	13	68%	8	47%	18	95%	15	68%	5	83%	8	53%	6	38%	104	56%
2:45 PM	5	23%	10	33%	6	46%	25	66%	14	74%	10	59%	15	79%	14	64%	5	83%	6	40%	6	38%	106	57%
3:00 PM	4	18%	12	40%	7	54%	27	71%	14	74%	10	59%	15	79%	13	59%	5	83%	5	33%	10	63%	111	60%
3:15 PM	5	23%	13	43%	7	54%	25	66%	14	74%	13	76%	14	74%	12	55%	5	83%	6	40%	11	69%	113	61%
3:30 PM	7	32%	12	40%	7	54%	27	71%	15	79%	14	82%	15	79%	12	55%	6	100%	11	73%	8	50%	121	66%
3:45 PM	9	41%	11	37%	7	54%	28	74%	13	68%	16	94%	18	95%	13	59%	6	100%	11	73%	11	69%	130	70%
4:00 PM	10	45%	11	37%	7	54%	29	76%	13	68%	15	88%	17	89%	15	68%	6	100%	12	80%	9	56%	130	70%
4:15 PM	10	45%	11	37%	8	62%	29	76%	16	84%	17	100%	18	95%	14	64%	4	67%	11	73%	9	56%	133	72%
4:30 PM	10	45%	11	37%	8	62%	29	76%	16	84%	16	94%	15	79%	14	64%	3	50%	11	73%	8	50%	127	69%
4:45 PM	10	45%	12	40%	8	62%	33	87%	17	89%	15	88%	16	84%	16	73%	3	50%	12	80%	9	56%	136	74%
5:00 PM	10	45%	12	40%	8	62%	33	87%	18	95%	16	94%	16	84%	16	73%	3	50%	11	73%	9	56%	137	74%
5:15 PM	8	36%	12	40%	8	62%	36	95%	19	100%	15	88%	16	84%	15	68%	3	50%	11	73%	9	56%	138	75%
5:30 PM	8	36%	12	40%	8	62%	33	87%	17	89%	16	94%	15	79%	15	68%	2	33%	11	73%	9	56%	132	72%
5:45 PM	7	32%	12	40%	8	62%	34	89%	16	84%	16	94%	15	79%	14	64%	1	17%	13	87%	8	50%	131	71%
6:00 PM	7	32%	12	40%	8	62%	34	89%	15	79%	16	94%	15	79%	15	68%	0	0%	13	87%	10	63%	132	71%
6:15 PM	6	27%	12	40%	8	62%	34	89%	16	84%	15	88%	15	79%	15	68%	0	0%	15	100%	9	56%	132	72%
6:30 PM	7	32%	11	37%	8	62%	34	89%	13	68%	15	88%	15	79%	15	68%	0	0%	14	93%	10	63%	129	70%
6:45 PM	7	32%	10	33%	8	62%	34	89%	14	74%	15	88%	15	79%	15	68%	0	0%	13	87%	9	56%	128	69%
7:00 PM	6	27%	9	30%	8	62%	34	89%	13	68%	16	94%	17	89%	15	68%	1	17%	13	87%	9	56%	130	70%
7:15 PM	6	27%	9	30%	8	62%	32	84%	13	68%	14	82%	18	95%	14	64%	0	0%	13	87%	9	56%	125	67%
7:30 PM	6	27%	10	33%	8	62%	32	84%	12	63%	13	76%	18	95%	14	64%	0	0%	12	80%	10	63%	123	67%
7:45 PM	6	27%	11	37%	8	62%	33	87%	12	63%	13	76%	18	95%	14	64%	0	0%	12	80%	10	63%	125	67%
Max	10	45%	15	50%	8	62%	36	95%	19	100%	17	100%	18	95%	16	73%	6	100%	15	100%	11	69%	138	75%

Date: July 14, 2016 Thursday

	Donahue St	Occup.	Donahue St	Occup.	Donahue St	Occup.	Decker St	Occup.	Boyce St	Occup.	Boyce St	Occup.	W 8th St	Occup.	W 8th St	Occup.	W 8th St	Occup.	Prince St	Occup.	Prince St	Occup.		
	8th-Boyce	%	Boyce-Decker	%	Decker-9th	%	Coulter-Donahue	%	Coulter-Prince	%	Prince-Donahue	%	Coulter-Prince	%	Prince-Donahue	%	Donahue-RR	%	Boyce-Decker	%	8th-Boyce	%	Total	%
Supply	22		30		13		38		19		17		19		22		6		15		16		185	
2:00 PM	9	41%	16	53%	4	31%	19	50%	7	37%	4	24%	14	74%	10	45%	4	67%	8	53%	3	19%	84	45%
2:15 PM	8	36%	13	43%	4	31%	18	47%	5	26%	4	24%	12	63%	9	41%	4	67%	9	60%	3	19%	77	41%
2:30 PM	7	32%	15	50%	4	31%	16	42%	6	32%	4	24%	13	68%	10	45%	4	67%	10	67%	2	13%	78	42%
2:45 PM	7	32%	16	53%	4	31%	16	42%	6	32%	6	35%	12	63%	9	41%	4	67%	11	73%	2	13%	80	43%
3:00 PM	8	36%	16	53%	4	31%	16	42%	6	32%	5	29%	12	63%	10	45%	4	67%	10	67%	2	13%	79	43%
3:15 PM	6	27%	11	37%	3	23%	17	45%	6	32%	6	35%	11	58%	10	45%	4	67%	10	67%	2	13%	76	41%
3:30 PM	7	32%	14	47%	2	15%	19	50%	6	32%	6	35%	11	58%	9	41%	4	67%	10	67%	2	13%	79	43%
3:45 PM	8	36%	14	47%	4	31%	22	58%	7	37%	5	29%	12	63%	10	45%	3	50%	9	60%	2	13%	83	45%
4:00 PM	8	36%	14	47%	4	31%	24	63%	6	32%	5	29%	12	63%	10	45%	2	33%	10	67%	2	13%	84	46%
4:15 PM	6	27%	14	47%	3	23%	27	71%	7	37%	6	35%	11	58%	10	45%	1	17%	10	67%	2	13%	86	46%
4:30 PM	8	36%	15	50%	3	23%	24	63%	7	37%	7	41%	13	68%	10	45%	1	17%	10	67%	2	13%	87	47%
4:45 PM	9	41%	18	60%	2	15%	24	63%	6	32%	9	53%	13	68%	11	50%	1	17%	12	80%	2	13%	93	50%
5:00 PM	9	41%	22	73%	2	15%	27	71%	7	37%	10	59%	14	74%	12	55%	1	17%	13	87%	2	13%	103	56%
5:15 PM	7	32%	17	57%	2	15%	25	66%	8	42%	14	82%	13	68%	12	55%	1	17%	13	87%	2	13%	101	55%
5:30 PM	13	59%	23	77%	4	31%	27	71%	11	58%	14	82%	13	68%	12	55%	0	0%	13	87%	3	19%	113	61%
5:45 PM	14	64%	26	87%	10	77%	32	84%	11	58%	17	100%	13	68%	13	59%	0	0%	13	87%	8	50%	132	72%
6:00 PM	14	64%	25	83%	10	77%	29	76%	15	79%	17	100%	11	58%	15	68%	0	0%	13	87%	10	63%	135	73%
6:15 PM	14	64%	29	97%	11	85%	30	79%	16	84%	17	100%	10	53%	14	64%	0	0%	13	87%	14	88%	141	76%
6:30 PM	14	64%	30	100%	13	100%	31	82%	13	68%	17	100%	10	53%	14	64%	0	0%	15	100%	15	94%	144	78%
6:45 PM	16	73%	21	70%	12	92%	30	79%	13	68%	14	82%	10	53%	14	64%	0	0%	12	80%	15	94%	133	72%
7:00 PM	14	64%	19	63%	12	92%	31	82%	15	79%	15	88%	10	53%	13	59%	0	0%	11	73%	15	94%	133	72%
7:15 PM	14	64%	19	63%	12	92%	31	82%	16	84%	13	76%	10	53%	13	59%	0	0%	13	87%	13	81%	132	71%
7:30 PM	14	64%	15	50%	11	85%	29	76%	15	79%	12	71%	11	58%	12	55%	0	0%	13	87%	10	63%	122	66%
7:45 PM	8	36%	16	53%	9	69%	31	82%	12	63%	9	53%	11	58%	10	45%	0	0%	13	87%	9	56%	112	60%
Max	16	73%	30	100%	13	100%	32	84%	16	84%	17	100%	14	74%	15	68%	4	67%	15	100%	15	94%	143.5	78%

Date: July 20, 2016 Wednesday **Name:**

	Donahue St	Occup.	Donahue St	Occup.	Donahue St	Occup.	Decker St	Occup.	Boyce St	Occup.	Boyce St	Occup.	W 8th St	Occup.	W 8th St	Occup.	W 8th St	Occup.	Prince St	Occup.	Prince St	Occup.		
	8th-Boyce	%	Boyce-Decker	%	Decker-9th	%	Coulter-Donahue	%	Coulter-Prince	%	Prince-Donahue	%	Coulter-Prince	%	Prince-Donahue	%	Donahue-RR	%	Boyce-Decker	%	8th-Boyce	%	Total	%
Supply	22		30		13		38		19		17		19		22		6		15		16		185	
2:00 PM	6	27%	16	53%	4	31%	17	45%	10	53%	6	35%	13	68%	11	50%	3	50%	8	53%	2	13%	83	45%
2:15 PM	5	23%	15	50%	4	31%	16	42%	9	47%	5	29%	14	74%	12	55%	3	50%	7	47%	2	13%	80	43%
2:30 PM	5	23%	13	43%	3	23%	16	42%	11	58%	6	35%	12	63%	15	68%	3	50%	9	60%	2	13%	85	46%
2:45 PM	5	23%	15	50%	3	23%	15	39%	11	58%	5	29%	11	58%	13	59%	3	50%	10	67%	2	13%	82	44%
3:00 PM	6	27%	13	43%	3	23%	15	39%	10	53%	5	29%	11	58%	13	59%	3	50%	9	60%	2	13%	79	43%
3:15 PM	6	27%	14	47%	3	23%	14	37%	10	53%	6	35%	11	58%	12	55%	3	50%	9	60%	2	13%	79	43%
3:30 PM	8	36%	15	50%	3	23%	15	39%	11	58%	7	41%	11	58%	12	55%	3	50%	10	67%	2	13%	84	46%
3:45 PM	9	41%	13	43%	3	23%	17	45%	11	58%	6	35%	11	58%	14	64%	3	50%	10	67%	2	13%	87	47%
4:00 PM	10	45%	16	53%	3	23%	16	42%	13	68%	5	29%	11	58%	14	64%	2	33%	10	67%	2	13%	88	47%
4:15 PM	10	45%	16	53%	3	23%	17	45%	11	58%	6	35%	11	58%	14	64%	2	33%	8	53%	2	13%	86	46%
4:30 PM	10	45%	17	57%	3	23%	18	47%	12	63%	7	41%	11	58%	14	64%	2	33%	8	53%	3	19%	90	49%
4:45 PM	12	55%	17	57%	3	23%	19	50%	13	68%	6	35%	12	63%	14	64%	2	33%	8	53%	3	19%	93	50%
5:00 PM	14	64%	15	50%	2	15%	19	50%	13	68%	7	41%	12	63%	15	68%	2	33%	7	47%	3	19%	94	51%
5:15 PM	16	73%	18	60%	2	15%	19	50%	14	74%	9	53%	11	58%	17	77%	3	50%	8	53%	3	19%	102	55%
5:30 PM	17	77%	20	67%	2	15%	19	50%	13	68%	12	71%	12	63%	19	86%	1	17%	6	40%	3	19%	105	57%
5:45 PM	14	64%	21	70%	2	15%	18	47%	14	74%	12	71%	10	53%	17	77%	0	0%	8	53%	2	13%	100	54%
6:00 PM	13	59%	23	77%	2	15%	19	50%	15	79%	12	71%	9	47%	17	77%	0	0%	9	60%	3	19%	103	56%
6:15 PM	15	68%	24	80%	2	15%	20	53%	16	84%	13	76%	10	53%	18	82%	0	0%	9	60%	3	19%	110	59%
6:30 PM	11	50%	19	63%	2	15%	22	58%	18	95%	9	53%	9	47%	18	82%	0	0%	9	60%	4	25%	105	57%
6:45 PM	10	45%	20	67%	2	15%	25	66%	17	89%	8	47%	9	47%	19	86%	0	0%	7	47%	4	25%	105	57%
7:00 PM	12	55%	18	60%	1	8%	24	63%	15	79%	8	47%	10	53%	15	68%	0	0%	10	67%	3	19%	101	54%
7:15 PM	11	50%	16	53%	1	8%	24	63%	17	89%	8	47%	11	58%	18	82%	0	0%	8	53%	3	19%	103	56%
7:30 PM	11	50%	16	53%	1	8%	24	63%	17	89%	8	47%	9	47%	18	82%	0	0%	9	60%	3	19%	102	55%
7:45 PM	10	45%	14	47%	1	8%	25	66%	18	95%	8	47%	10	53%	18	82%	0	0%	9	60%	4	25%	105	57%
Max	17	77%	24	80%	4	31%	25	66%	18	95%	13	76%	14	74%	19	86%	3	50%	10	67%	4	25%	109.5	59%

Date: July 27, 2016 Wednesday

	Donahue St	Occup.	Donahue St	Occup.	Donahue St	Occup.	Decker St	Occup.	Boyce St	Occup.	Boyce St	Occup.	W 8th St	Occup.	W 8th St	Occup.	W 8th St	Occup.	Prince St	Occup.	Prince St	Occup.	Total	%
	8th-Boyce	%	Boyce-Decker	%	Decker-9th	%	Coulter-Donahue	%	Coulter-Prince	%	Prince-Donahue	%	Coulter-Prince	%	Prince-Donahue	%	Donahue-RR	%	Boyce-Decker	%	8th-Boyce	%		
Supply	22		30		13		38		19		17		19		22		6		15		16		185	
2:00 PM	8	36%	14	47%	5	38%	15	39%	5	26%	6	35%	10	53%	12	55%	3	50%	7	47%	2	13%	74	40%
2:15 PM	8	36%	14	47%	5	38%	13	34%	5	26%	5	29%	10	53%	10	45%	4	67%	8	53%	2	13%	71	38%
2:30 PM	7	32%	13	43%	5	38%	15	39%	5	26%	8	47%	10	53%	10	45%	4	67%	8	53%	2	13%	75	40%
2:45 PM	8	36%	12	40%	5	38%	15	39%	5	26%	9	53%	8	42%	10	45%	4	67%	9	60%	2	13%	75	40%
3:00 PM	9	41%	14	47%	5	38%	15	39%	5	26%	8	47%	9	47%	11	50%	4	67%	9	60%	2	13%	77	42%
3:15 PM	7	32%	15	50%	5	38%	17	45%	5	26%	8	47%	9	47%	10	45%	4	67%	9	60%	2	13%	78	42%
3:30 PM	5	23%	16	53%	5	38%	18	47%	5	26%	8	47%	9	47%	11	50%	4	67%	10	67%	2	13%	80	43%
3:45 PM	6	27%	15	50%	5	38%	17	45%	6	32%	8	47%	9	47%	9	41%	4	67%	11	73%	2	13%	79	43%
4:00 PM	7	32%	16	53%	5	38%	16	42%	8	42%	8	47%	9	47%	11	50%	3	50%	11	73%	3	19%	83	45%
4:15 PM	11	50%	19	63%	5	38%	16	42%	7	37%	7	41%	10	53%	11	50%	2	33%	10	67%	3	19%	84	45%
4:30 PM	16	73%	19	63%	4	31%	15	39%	8	42%	8	47%	10	53%	11	50%	1	17%	10	67%	3	19%	86	46%
4:45 PM	19	86%	19	63%	4	31%	18	47%	10	53%	9	53%	9	47%	10	45%	2	33%	9	60%	3	19%	91	49%
5:00 PM	22	100%	21	70%	3	23%	19	50%	13	68%	8	47%	9	47%	13	59%	2	33%	10	67%	3	19%	100	54%
5:15 PM	21	95%	19	63%	2	15%	18	47%	15	79%	8	47%	9	47%	14	64%	2	33%	9	60%	3	19%	99	54%
5:30 PM	20	91%	19	63%	2	15%	19	50%	14	74%	8	47%	9	47%	13	59%	2	33%	10	67%	3	19%	99	53%
5:45 PM	15	68%	22	73%	2	15%	18	47%	17	89%	6	35%	12	63%	14	64%	0	0%	9	60%	2	13%	98	53%
6:00 PM	15	68%	18	60%	2	15%	19	50%	18	95%	6	35%	9	47%	13	59%	0	0%	10	67%	2	13%	95	51%
6:15 PM	14	64%	23	77%	2	15%	19	50%	18	95%	8	47%	9	47%	12	55%	0	0%	10	67%	2	13%	98	53%
6:30 PM	15	68%	18	60%	2	15%	19	50%	17	89%	10	59%	10	53%	13	59%	0	0%	9	60%	3	19%	99	53%
6:45 PM	12	55%	12	40%	2	15%	20	53%	17	89%	8	47%	11	58%	15	68%	0	0%	9	60%	3	19%	96	52%
7:00 PM	9	41%	15	50%	2	15%	23	61%	17	89%	6	35%	10	53%	13	59%	0	0%	9	60%	3	19%	94	51%
7:15 PM	7	32%	16	53%	1	8%	22	58%	16	84%	6	35%	10	53%	13	59%	0	0%	9	60%	4	25%	92	50%
7:30 PM	5	23%	15	50%	1	8%	21	55%	16	84%	6	35%	12	63%	12	55%	0	0%	9	60%	5	31%	92	50%
7:45 PM	4	18%	15	50%	1	8%	22	58%	15	79%	5	29%	11	58%	12	55%	0	0%	9	60%	4	25%	88	48%
Max	22	100%	23	77%	5	38%	23	61%	18	95%	10	59%	12	63%	15	68%	4	67%	11	73%	5	31%	100	54%

Date: August 6, 2016 Saturday **Name:**

	Parking Lot	Occup.	Parking Lot	Occup.	Donahue St	Occup.	Donahue St	Occup.	Donahue St	Occup.	Decker St	Occup.	Boyce St	Occup.	Boyce St	Occup.	W 8th St	Occup.	W 8th St	Occup.	W 8th St	Occup.	Prince St	Occup.	Prince St	Occup.		
	A	%	B	%	8th-Boyce	%	Boyce-Decker	%	Decker-9th	%	Coulter-Donahue	%	Coulter-Prince	%	Prince-Donahue	%	Coulter-Prince	%	Prince-Donahue	%	Donahue-RR	%	Boyce-Decker	%	8th-Boyce	%	Total	%
Supply	26		13		22		30		13		38		20		17		19		22		6		15		16		186	
2:00 PM	1	4%	2	15%	6	27%	12	40%	3	23%	20	53%	12	60%	11	65%	14	74%	10	45%	3	50%	7	47%	3	19%	91	49%
2:15 PM	1	4%	1	8%	6	27%	10	33%	3	23%	19	50%	11	55%	9	53%	16	84%	11	50%	4	67%	7	47%	6	38%	93	50%
2:30 PM	1	4%	1	8%	6	27%	11	37%	3	23%	21	55%	13	65%	9	53%	16	84%	11	50%	4	67%	8	53%	5	31%	97	52%
2:45 PM	1	4%	1	8%	7	32%	11	37%	3	23%	19	50%	12	60%	9	53%	18	95%	11	50%	3	50%	8	53%	6	38%	97	52%
3:00 PM	1	4%	1	8%	7	32%	12	40%	3	23%	21	55%	12	60%	9	53%	19	100%	12	55%	4	67%	9	60%	6	38%	103	56%
3:15 PM	1	4%	1	8%	5	23%	10	33%	3	23%	21	55%	12	60%	10	59%	18	95%	10	45%	4	67%	9	60%	6	38%	99	53%
3:30 PM	1	4%	1	8%	7	32%	7	23%	3	23%	22	58%	12	60%	10	59%	19	100%	10	45%	4	67%	10	67%	6	38%	102	55%
3:45 PM	1	4%	1	8%	8	36%	9	30%	3	23%	23	61%	13	65%	10	59%	19	100%	10	45%	4	67%	10	67%	6	38%	105	57%
4:00 PM	1	4%	1	8%	8	36%	9	30%	3	23%	27	71%	13	65%	10	59%	16	84%	9	41%	4	67%	10	67%	6	38%	105	57%
4:15 PM	1	4%	1	8%	8	36%	10	33%	3	23%	27	71%	15	75%	10	59%	17	89%	8	36%	3	50%	11	73%	6	38%	108	58%
4:30 PM	1	4%	1	8%	7	32%	11	37%	7	54%	26	68%	13	65%	9	53%	16	84%	7	32%	3	50%	11	73%	7	44%	105	56%
4:45 PM	1	4%	1	8%	3	14%	14	47%	8	62%	28	74%	13	65%	12	71%	17	89%	6	27%	3	50%	11	73%	8	50%	111	60%
5:00 PM	1	4%	1	8%	2	9%	16	53%	9	69%	29	76%	17	85%	13	76%	17	89%	6	27%	2	33%	11	73%	9	56%	118	63%
5:15 PM	1	4%	1	8%	2	9%	14	47%	9	69%	28	74%	16	80%	12	71%	17	89%	7	32%	2	33%	11	73%	10	63%	116	62%
5:30 PM	1	4%	1	8%	2	9%	14	47%	9	69%	27	71%	17	85%	11	65%	17	89%	7	32%	2	33%	11	73%	9	56%	114	61%
5:45 PM	1	4%	1	8%	2	9%	14	47%	9	69%	27	71%	16	80%	11	65%	17	89%	7	32%	2	33%	11	73%	9	56%	113	61%
6:00 PM	1	4%	2	15%	2	9%	14	47%	9	69%	30	79%	18	90%	12	71%	16	84%	6	27%	0	0%	13	87%	9	56%	117	63%
6:15 PM	1	4%	2	15%	2	9%	14	47%	8	62%	31	82%	17	85%	14	82%	16	84%	5	23%	0	0%	12	80%	10	63%	117	63%
6:30 PM	1	4%	2	15%	2	9%	14	47%	9	69%	30	79%	17	85%	13	76%	15	79%	7	32%	0	0%	12	80%	10	63%	117	63%
6:45 PM	1	4%	2	15%	4	18%	14	47%	8	62%	31	82%	17	85%	13	76%	15	79%	6	27%	0	0%	12	80%	10	63%	117	63%
7:00 PM	1	4%	2	15%	5	23%	13	43%	8	62%	31	82%	20	100%	13	76%	19	100%	7	32%	0	0%	12	80%	10	63%	125	67%
7:15 PM	1	4%	1	8%	4	18%	13	43%	8	62%	31	82%	19	95%	13	76%	19	100%	7	32%	0	0%	12	80%	9	56%	123	66%
7:30 PM	1	4%	1	8%	4	18%	13	43%	9	69%	31	82%	18	90%	13	76%	19	100%	7	32%	0	0%	12	80%	9	56%	122	66%
7:45 PM	1	4%	1	8%	2	9%	14	47%	9	69%	31	82%	18	90%	13	76%	18	95%	6	27%	0	0%	12	80%	9	56%	120	64%
	Lot A was closed until 5																											
Hours:					**Miles:**																							
Max	1	4%	2	15%	8	36%	16	53%	9	69%	31	82%	20	100%	14	82%	19	100%	12	55%	4	67%	13	87%	10	63%	125	67%