Vacaville Downtown Specific Plan

Connectivity and Streetscape Design Plan

Existing Conditions

Final | September 2019

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Final | September 2019

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01 EXISTING CONDITIONS

The focus for the City of Vacaville Downtown Connectivity and Streetscape Design Plan (Streetscape Plan) is to better connect Downtown Vacaville with surrounding neighborhoods and to improve the pedestrian environment for Downtown residents and business patrons. The 237-acre Plan Area encompasses Vacaville's Downtown and is centered on historic Main Street and extends north to East Monte Vista (and slightly beyond), west to West Street, east to Depot Street, and south to Interstate (I-) 80. The goal of the existing conditions is to set a baseline for the opportunities and constraints, as well as connectivity & streetscape design recommendations that follow in Chapters 2 and 3.

The Streetscape Plan is being funded, in part, through a Caltrans Sustainable Communities grant. Caltrans awards Sustainable Communities grants to improve multi-modal access, mobility and accessibility for all people, to support economic vitality, to improve public safety, and to foster conditions of livability in communities.

1.1 Introduction

The existing conditions document provides an overview of the physical conditions related to potential changes to the public right-of-way that would expand the walkability, bike access, and vitality of the streetscape. This document is primarily visual in nature, illustrating important urban design and streetscape conditions that will influence the alternatives which may be considered to address existing opportunities and constraints. Opportunities and constraints will be addressed in chapter 2.

The Streetscape Plan will also take into account technical analyses of the transportation network. Technical analyses of the Plan Area's transportation network was prepared by DKS and is included in Appendix A. The graphics described below, along with the transportation analysis

provided in Appendix A, describe the existing physical conditions that could be addressed as part of the planning effort.

The Streetscape Plan will be used to inform the mobility section of the City of Vacaville's Downtown Specific Plan. A separate document, *Vacaville Downtown Specific Plan Priority Development Area Profile*, addresses the legal and regulatory framework for the Plan Area.

1.2 Existing Urban Conditions

Figure 1-1 shows the PDA boundary, surface parking infill opportunities, existing gathering places and bicycle circulation. These physical attributes in the Plan Area help inform the potential location of new gathering places and urban design improvements such as parking structures, parks, plazas, and bikeways. Figure 1-2 shows an aesthetics analysis of the streetscape. This analysis is based on site observations conducted by Jacobs staff. Each street within the study area was scored with high (green), medium (yellow) or low (red) based on the overall aesthetic value and condition. The scoring is qualitative in nature focusing on the attributes most important to the creation of a walkable network of streets within the Downtown area. Considerations include sidewalks, street trees, lighting, pedestrian amenities, building frontages, scale of right of way relative to the pedestrian and on-street parking. This analysis will be used to identify gaps in the quality of the streetscapes and help to prioritize which streets could provide the greatest return on investment in terms of walkability, connectivity and circulation.

In general, the Downtown area has a very good network of interconnected streets and alleys that create an outstanding framework to build upon. The right-of-way widths in the historic core are particularly well suited to support walkable streets and several blocks along Main Street have already achieved a high degree of success.

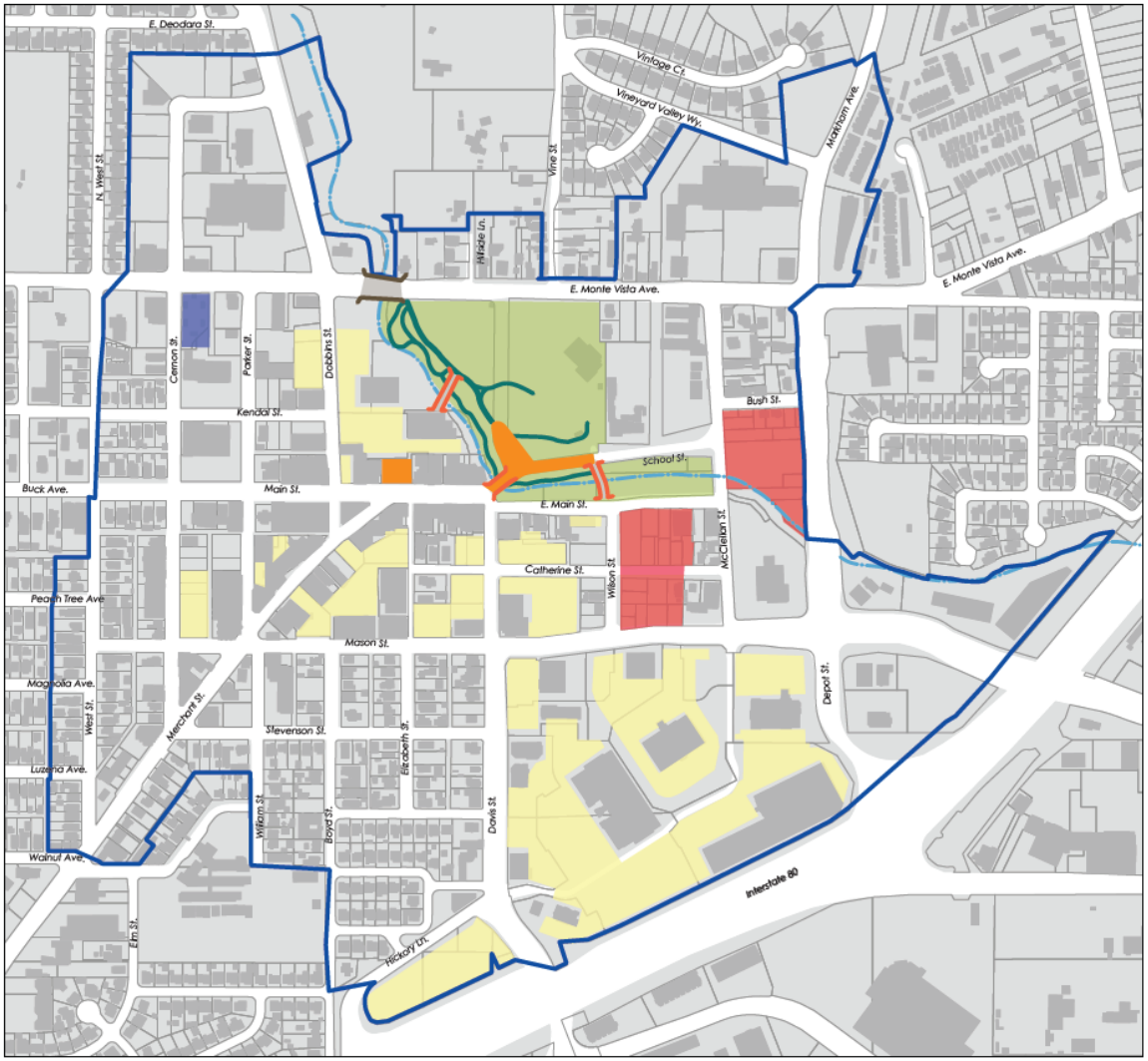
The primary purpose of this analysis and exhibit is to focus the planning and design recommendations on those streets that are underperforming for pedestrians. The medium (yellow) and low (red) designated streets that are closely linked with high (green) streets provide the greatest opportunity to make a significant impact on the connectivity of the Downtown area. From a walkability and aesthetics perspective, these will be the high priority streets for consideration in the alternatives analysis. This information will be cross-referenced with safety and level of service inventories during the analysis of potential alternatives.

1.3 Intersection Incidents

Figure 1-3 shows data related to vehicular and pedestrian accidents at intersections within the Plan Area. This inventory is based on data obtained from the City and includes police department and Statewide Integrated Traffic Records System (SWITRS) sources. It shows both vehicular and pedestrian incidents within the Plan Area. When this data is correlated against trips per day and roadway sizes (lane widths) there is a close correlation between wide roads with heavy traffic loads and incidents. This data will be used to determine the high priority areas for recommendations for roadway improvements for traffic calming, pedestrian refuges, lane modifications, and cross walks.

1.4 Bicycle Circulation

Figure 1-4 shows the current and proposed bike facilities adopted by the City. It includes Class 1 (off-road), Class 2 (designated lanes on roadway) and Class 3 (mingled with vehicle lanes) facilities. The primary purpose of this exhibit is to focus the planning and design recommendations on those streets that are underperforming for bicycles. The gaps in the bicycle network provide the greatest opportunity to make a significant impact on the connectivity of the Downtown area. From a bicycling perspective these will be the higher priority streets of the alternatives analysis.



Existing Urban Conditions

Legend:
- Existing Parcel
- Existing Buildings
- Existing Parking Lots
- Pedestrian Plaza
- Parks
- Redevelopment Site
- Transit Center
- Downtown Boundary

Figure 1-1 Existing Urban Conditions

Source: Jacobs

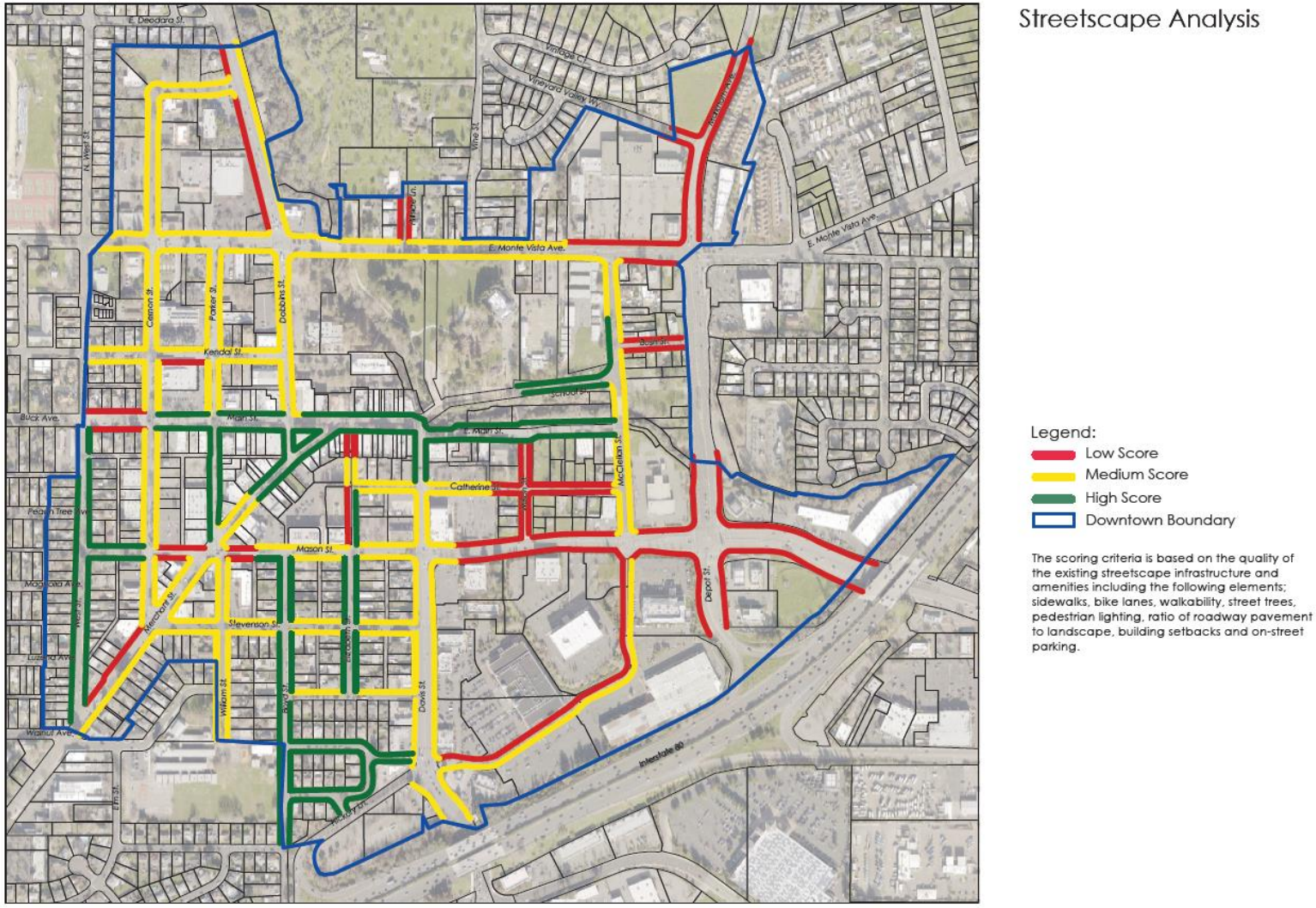


Figure 1-2 Streetscape Analysis Source: **Jacobs**

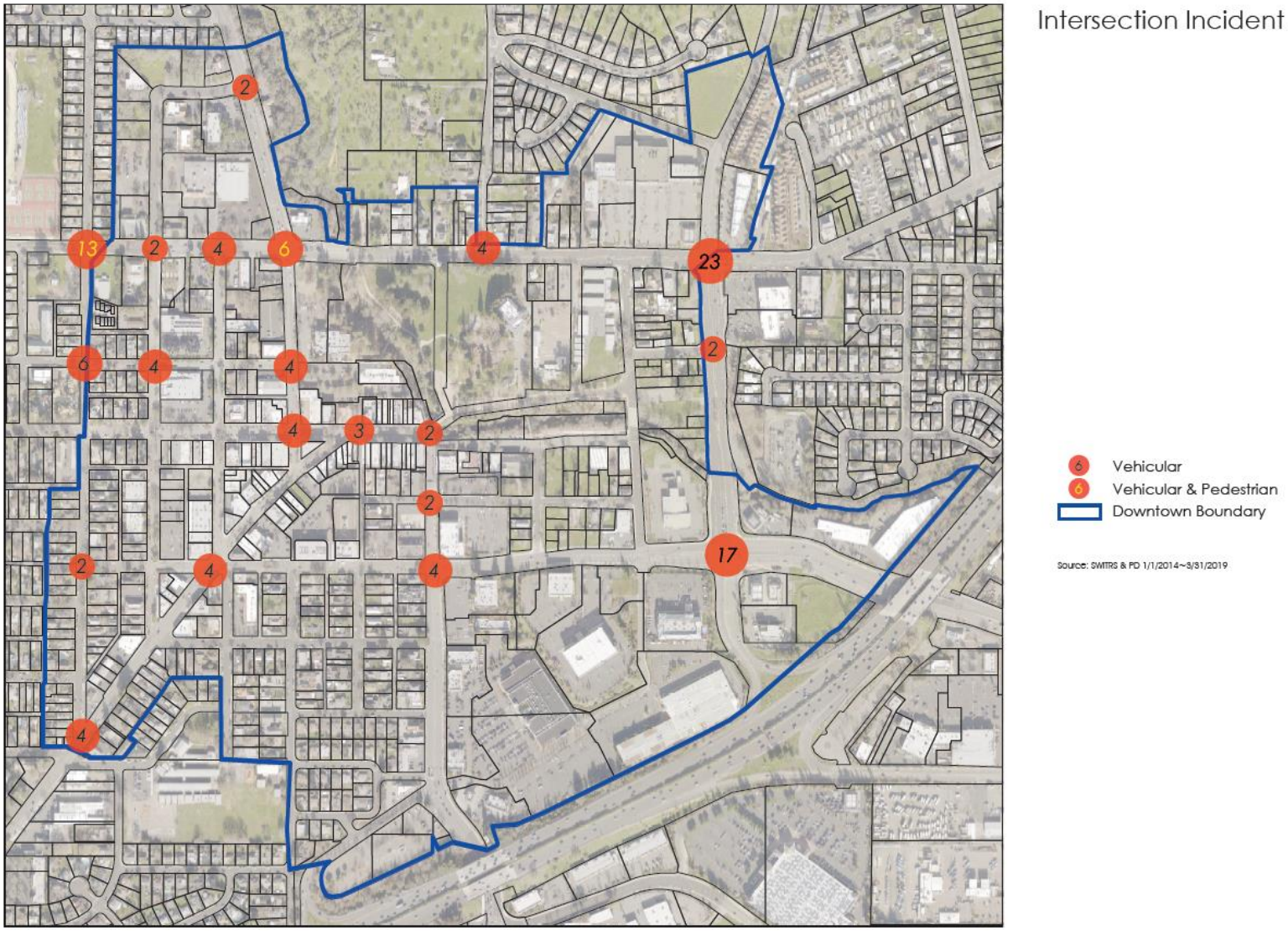
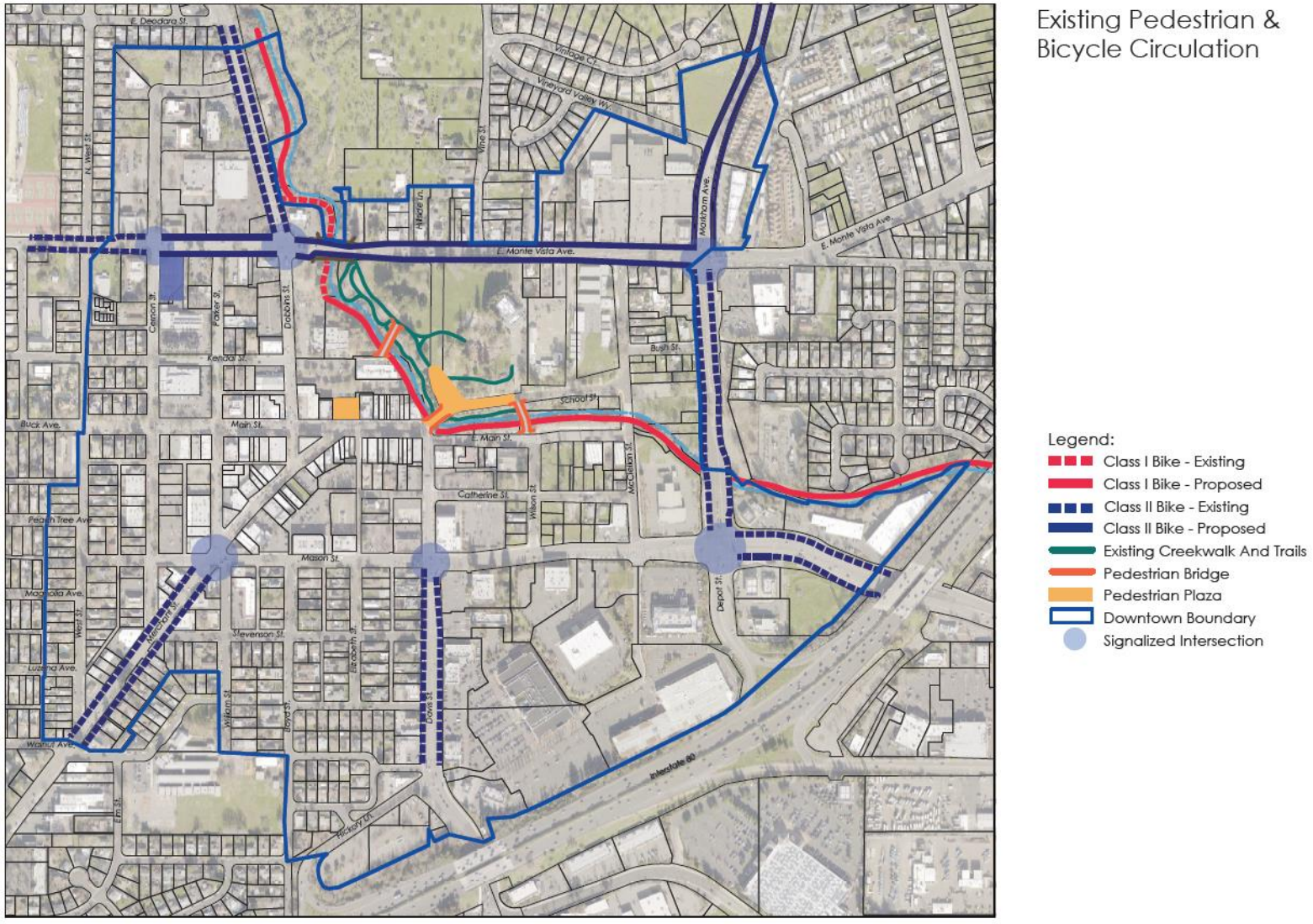


Figure 1-3 Intersection Incident Map

Source: **Jacobs**



Existing Pedestrian & Bicycle Circulation

Legend:
- Class I Bike - Existing
- Class I Bike - Proposed
- Class II Bike - Existing
- Class II Bike - Proposed
- Existing Creekwalk And Trails
- Pedestrian Bridge
- Pedestrian Plaza
- Downtown Boundary
- Signalized Intersection

Figure 1-4 Existing Circulation

Source: **Jacobs**

Appendix

Appendix A

Transportation and Circulation Existing Conditions

EXISTING CONDITIONS
TRANSPORTATION AND CIRCULATION

CITY OF VACAVILLE
DOWNTOWN PRIORITY DEVELOPMENT AREA SPECIFIC PLAN

SEPTEMBER 2019

PREPARED FOR:

CITY OF VACAVILLE AND ESA

DKS

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INTRODUCTION

In 2013, Downtown Vacaville was established as a priority development area (PDA) in the Bay Area Metropolitan Transportation Commission's Plan Bay Area SB 375 Sustainable Communities Strategy and 2040 Regional Transportation Plan (Plan Bay Area). PDAs are designated where there is the most potential for walkable, transit-oriented, mixed-use residential and retail projects. This wider recognition of the Downtown's potential mirror's the City's own desires for the Downtown. Within the City's 2015 General Plan, the City recognizes the importance of revitalizing and expanding the Downtown, achieving economic vibrancy, providing design elements that mark points of entry, and protecting the creeks and associated riparian corridors as a valuable visual asset.

The Streetscape Plan and the Specific Plan will identify opportunities to coordinate active transportation and transit improvements with infill and revitalization efforts in order to create a vibrant Downtown that is transit-oriented, bicycle and pedestrian friendly with a broad range of public and private uses.

The purpose of this report is to document existing transportation and circulation facilities and amenities within the PDA. To that effect, this report focuses on describing the existing environment including the following facilities within (and adjacent to) the PDA:

- Roadway Facilities and Usage
- Parking Facilities and Usage
- Pedestrian Facilities and Usage
- Bicycle Facilities and Usage
- Transit Routes and Ridership

SUMMARY OF FINDINGS

The following findings and recommendations summarize the results of analysis conducted in the spring and summer of 2019.

The level of service analysis shows all study intersections within the PDA operate acceptably in both the AM and PM peak hours, with the exception of Bella Vista Road/Davis Street and Hume Way/Davis Court intersection, which operates unacceptably with LOS F in both peak hours. This level of service is caused mainly by the "split phasing" of the north-south vehicles, where left turning vehicles cannot make their movements at the same time, due to shared through and turn lanes. Removal of the split phasing would likely improve the level of service at this intersection, but could require some level of redesign of the intersection itself.

Volumes on roadways peak at approximately 8:00 in the morning and approximately 3:00 in the afternoon, although a number of roadways in the downtown core have their AM peak hour during

the early lunch period at 11:00 in the morning. This helps show that this area is not a traditional residential or employment center and has significant volume peaks during the lunch hour.

While some parking lots and roadways with on-street parking are full or near full at mid-day in general, the parking stock in the PDA appears to be adequate for the observed existing demand. Some (but not most) of the parking facilities (on-street or off-street) are at or near capacity during more than one of the three time periods surveyed, however very few facilities are at or near capacity all three counted time periods. Installing 2-hour meters along portions of select roadways to exclusively operate at mid-day may encourage better distribution of parking occupancy throughout the PDA during that time.

Pedestrian facilities in Downtown Vacaville are plentiful and well connected, but bicycle facilities are severely lacking. The area of the PDA bounded by East Monte Vista, Dobbins, Mason, and Depot is completely lacking in on-street bicycle facilities. Connectivity through the central part of the PDA would be well served by additional bicycle facilities, both on-street and off-street. Pedestrian and bicycle volumes tend to be higher during the AM peak hours in the northwest portion of the PDA near the high school and higher the other parts of the day in other portions of the PDA due to jobs and housing.

Comparing bicycle and pedestrian counts in the PDA shows that there is nearly five times the number of pedestrians to cyclists. To improve walkability the City has been improving sidewalks and curb-ramps at crosswalks. The same cannot be said for bicycle facilities where the only currently planned improvement is to connect the bicycle path from Andrews Park to the existing Ulatis Creek bike path east of I-80. Bicycle utilization could improve with the implementation of properly signed bicycle routes on select Downtown Vacaville roadways. Any future road diet or roadway redesign projects in the PDA will need to address bicycle connectivity deficiencies in the immediate area.

Transit needs in the PDA area appear to be served well by City Coach Routes 2, 5 and 6. The routes connect the PDA with areas to the north of I-80, however there may be room for improvement for access to areas south of the interstate. As one might expect, buses are at their highest occupancy after stopping at the Transit Plaza at the corner of East Monte Vista Avenue and Cernon Street, however a more vibrant and active Transit Plaza could help promote transit within the PDA.

EXISTING PDA ROADWAY SYSTEM

STUDY ROADWAYS

The Downtown Vacaville PDA contains a number of major roadways (arterials and major collectors) shown in **Figure 1** that serve as connections between the Downtown and other parts of the City, as well as local streets that serve smaller numbers of homes and/ or businesses within the PDA.

The following arterial and collector streets form the backbone of the transportation system downtown and provide access both within and through the PDA.

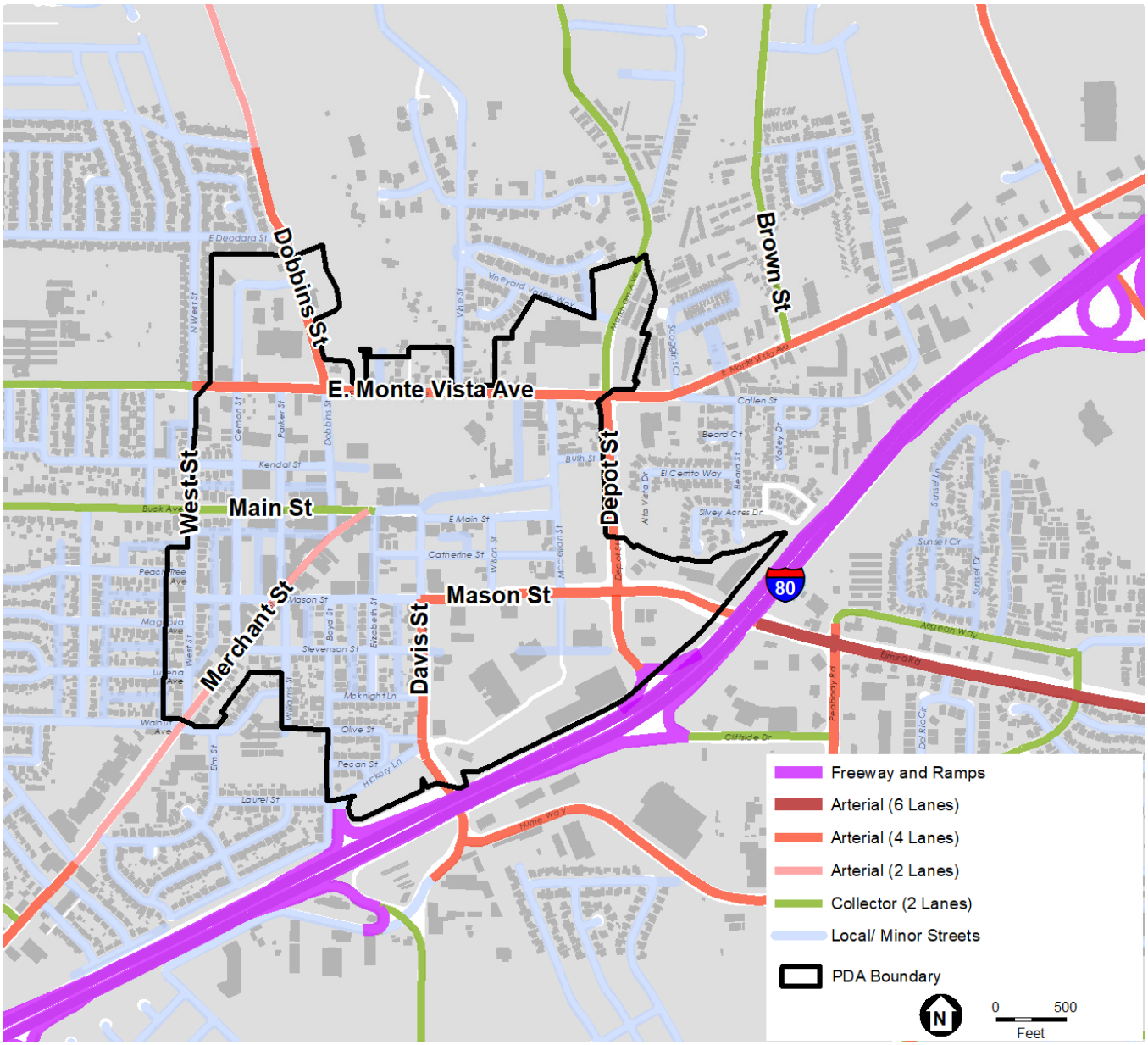

FIGURE 1: PDA BOUNDARY AND STUDY ROADWAYS

East Monte Vista Avenue

East Monte Vista Avenue is a major east-west roadway that provides access between the PDA and areas both to the east and west of the plan area. Within the PDA, East Monte Vista Avenue is a four-lane major arterial roadway with a mix of residential and non-residential uses. East Monte Vista Avenue currently has signalized intersections at Cernon Street, Dobbins Street, and Depot

Street, and has two-way stop control (no stopping on East Monte Vista) at West Street, Parker Street, Hillside Lane, Vine Street, and McClellan Street within the PDA.

Within the PDA, sidewalks are present on both sides are the road. Furthermore, bike lanes are present west of Cernon Street and are proposed for the remainder of the corridor. Also, City Coach Routes 2, 5 and 6 utilize East Monte Vista Avenue to access the Transit Plaza at the corner of East Monte Vista Avenue and Cernon Street.

West of West Street (the western boundary of the PDA) West Monte Vista Avenue is a two lane collector roadway with Vacaville High School on the north side and residential properties on the south side. Between West Street and Cernon Street, East Monte Vista Avenue widens out to two lanes eastbound and has one lane westbound. There are left turn pockets in each direction at West Street and Cernon Street.

Main Street

Main Street is a major east-west roadway that provides access between the PDA and the neighborhood west of the plan area as Buck Avenue. This roadway primarily serves commercial land uses and features exclusively all-way stop controlled intersections at West Street, Cernon Street, Parker Street, Dobbins Street, Merchant Street and Davis Street. East of Davis Street, but still within the PDA, Main Street becomes East Main Street where the intersections at Wilson Street and McClellan Street are all-way stop controlled.

Sidewalks and side-street parking are present on both sides of the street, but there are no bike facilities. Also, there are no City Coach bus routes that use Main Street.

West of the PDA, Main Street becomes Buck Avenue, a two-lane local street with parking on both sides of the street. Intersecting roadways are primarily side-street stop controlled.

Mason Street

Mason Street is a major east-west roadway that provides access between the PDA and the area to the east of the plan area. Mason Street begins on the western boundary of the PDA as a two-lane roadway that serves a mix of residential and non-residential uses. East of Merchant Street, Mason street is typically used to access commercial uses are to north of the street and mixed residential and non-residential uses are to the south. Between Merchant Street and Davis Street, Mason Street widens to gain a second westbound travel lane. The roadway gains an additional eastbound lane after Davis Street, becoming a four-lane roadway with commercial uses on both sides.

Intersections at Merchant Street, Williams Street, Davis Street, McClellan Street, and Depot Street are controlled by signals while Cernon Street is all-way stop controlled and West Street, Boyd Street, Elizabeth Street, and Wison Street are side-street stop controlled.

Mason Street is very walkable within the PDA. It is lined with sidewalks and nearly all intersections have crosswalks. There are no bike facilities on Mason Street, though bike lanes that are on Merchant Street and Davis Street end at Mason Street. City Coach Route 2 serves the corridor including stops on either side of the street.

Beyond the eastern PDA boundary, Mason Street becomes a six-lane roadway controlled mainly by signals and side street stops. Sidewalks and bike lanes continue to line the roadway on each side.

Davis Street

Davis Street is a major north-south roadway that provides access between the PDA and the area to the south of the plan area. Davis Street begins at Main Street as a two-lane roadway that serves non-residential land uses and is controlled by all-way stops at Main Street and Catherine Street and a signal at Mason Street. South of Mason Street, Davis Street is a four-lane roadway with a two-way left turn lane controlled by a signal at Hickory Lane/Porter Way and side-street stops at Stevenson Street and McKnight Lane.

The extent of Davis Street within the PDA is lined with sidewalks and all intersections have crosswalks. There are bike lanes in both directions along Davis Street between Hickory Lane and Mason Street. Davis Street also has Route 2 bus station on both sides of the roadway and directly accesses the City Coach park-and-ride Hickory Lot at the Route 2 end of line.

South of the PDA, Davis Street continues as a four-lane roadway with signals and side street stop controls at intersections and pedestrian facilities throughout.

Depot Street

Depot Street is a major north-south roadway that provides access between the PDA and the area to the north (as Markham Avenue) and access to I-80 south of the plan area. Within the PDA, Depot Street is a four-lane roadway that serves residential and non-residential uses. Intersections at E Monte Vista Avenue and Mason Street are signalized while Bush Street is side-street stop controlled.

Sidewalks line the length of the Depot Street and crosswalks are found in most, if not all directions at each intersection. Bike lanes are also present on both sides of Depot Street within the PDA. City Coach Route 6 uses Depot Street and Routes 2 and 6 serve and stop along Markham Avenue north of East Monte Vista Avenue. Markham Avenue is a two-lane roadway which accesses a residential area.

Merchant Street

Merchant Street is a major roadway that provides access between the PDA and the area to the southwest of the plan area. Merchant Street begins at Main Street as a two-lane roadway and adds a two-way left turn lane and side street parking on both sides of the street south of Mason Street

until Lover's Lane outside of the PDA. Intersections at Mason Street and Walnut Avenue are signalized while Main Street, Dobbins Street, and Stevenson Street are all-way stop controlled.

The entirety of Merchant Street is lined with sidewalks on both sides of the street and all intersections are fully equipped with crosswalks. South of Mason Street, the roadway includes a bike lane in the northeast bound direction. City Coach Route 5 also serves Merchant Street, including stops on both sides of the roadway, and service to the Mc Bride Senior Center.

South Lover's Lane, Merchant Street (also identified as Lincoln Highway) is a four-lane roadway with a two-way left turn lane. Sidewalks continue on both sides of the road while bicycles are permitted to use the outermost lanes.

Other Roadways

There are several additional minor collector and local roadways within the PDA, including the following:

- North-South Roadways
  - West Street
  - Cernon Street
  - Parker Street/William Street
  - Dobbins Street
  - Boyd Street
  - Elizabeth Street
  - Wilson Street
  - McClellan Street
- East-West Roadways
  - Kendal Street
  - Catherine Street
  - Stevenson Street
  - McKnight Lane
  - Olive Street
  - Pecan Street

EXISTING TRAFFIC VOLUMES ON PDA ROADWAY SEGMENTS

Daily (24 hour) traffic counts on study roadways were conducted by a reputable data collection firm during May 2019. All counts were conducted on a typical weekday (Tuesday-Thursday) with school in session. Volumes were recorded by 15 minute period and summarized by hour.

Table 1 shows a summary of daily traffic volumes by location as well as the highest hourly volume between midnight and noon (AM) and the highest hourly volume between noon and midnight (PM).

The table shows that daily volumes range from a high of just over 22,400 daily vehicles on East Monte Vista Avenue west of Depot Street to a low of just over 1,100 daily vehicles on Mason Street east of West Street.

The table shows that of the 11 roadway segments, 7 have their highest AM hourly volume between 8:00am and 9:00am (during the typical AM peak commute hours), while 4 others have their highest AM hourly volume between 11:00am and noon (during the typical lunch hours). The table also shows that of the 11 roadway segments, 9 have their highest PM hourly volumes between 3:00pm and 4:00pm (slightly earlier than the typical PM peak commute hours) and 2 have their highest PM hourly volume between 4:00pm and 5:00pm (during the typical PM peak commute hours). The counts show that, at least for the roadways counted, a number of roadways have their highest AM volumes midday as opposed to during the typical peak commute hours and most roadways have their highest PM volumes somewhat earlier than the typical PM peak commute hours. These numbers show that Downtown Vacaville does not necessarily follow "typical" patterns for AM and PM peak travel.

The traffic count data also shows that in general, PM peak hour volumes are slightly higher than AM peak hour volumes, as well as the fact that the 12 AM hours (midnight to noon) make up approximately 35% of daily volume while the 12 PM hours (noon to midnight) make up approximately 65% of daily volume for the study roadway segments. **Figure 2** shows the daily distribution of observed traffic volumes at each study segment location.

TABLE 1: EXISTING TRAFFIC VOLUMES AND PEAK HOURS

MAP ID	LOCATION	DAILY VOLUME	AM PEAK HOUR	AM PEAK VOLUME	PM PEAK HOUR[B]	PM PEAK VOLUME
1	E. MONTE VISTA AVENUE WEST OF DEPOT STREET	22,412	8:00am	1,943	4:00pm	1,829
2	E. MONTE VISTA AVENUE WEST OF WEST STREET	8,963	8:00am	1,032	3:00pm	919
3	MAIN STREET EAST OF WEST STREET	3,422	8:00am	360	3:00pm	407
4	MAIN STREET WEST OF MCCLELLAN STREET	1,544	11:00am	137	4:00pm	142

MAP ID	LOCATION	DAILY VOLUME	AM PEAK HOUR	AM PEAK VOLUME	PM PEAK HOUR[B]	PM PEAK VOLUME
5	MASON STREET WEST OF DEPOT STREET	12,907	11:00am	1,013	3:00pm	1,190
6	MASON STREET EAST OF DAVIS STREET	12,438	11:00am	958	3:00pm	1,150
7	MASON STREET EAST OF WEST STREET	1,127	8:00am	86	3:00pm	121
8	DAVIS STREET SOUTH OF MASON STREET	10,333	8:00am	768	3:00pm	936
9	DAVIS STREET SOUTH OF HICKORY LANE	19,589	8:00am	1,365	3:00pm	1,624
10	MERCHANT STREET NORTH OF WEST STREEET	9,853	11:00am	727	3:00pm	911
11	DOBBINS STREET NORTH OF E. MONTE VISTA AVENUE	13,064	8:00am	1,145	3:00pm	1,181

Note: AM Peak Hour is highest hourly volume between midnight and noon, PM Peak Hour is highest hourly volume between noon and midnight

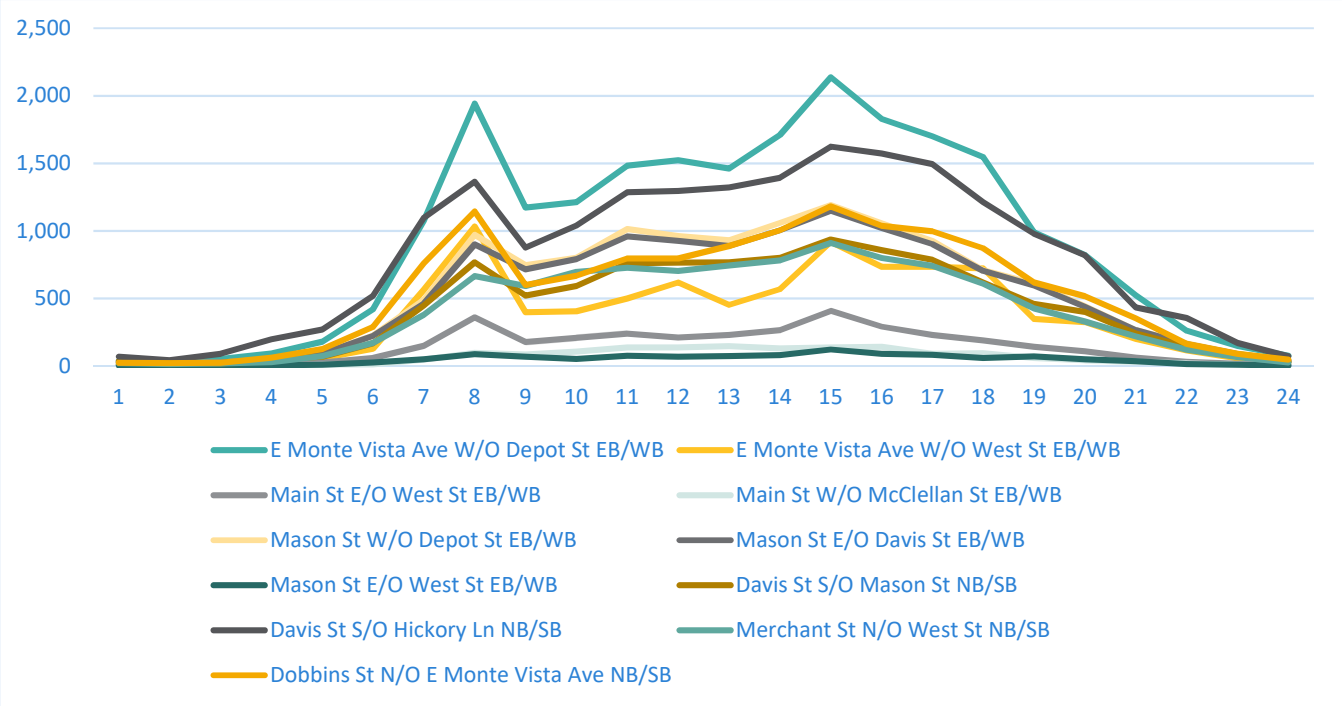

FIGURE 2: DAILY DISTRIBUTION OF SEGMENT TRAFFIC VOLUMES

Figure 3 shows existing daily volumes and count locations selected throughout the PDA.

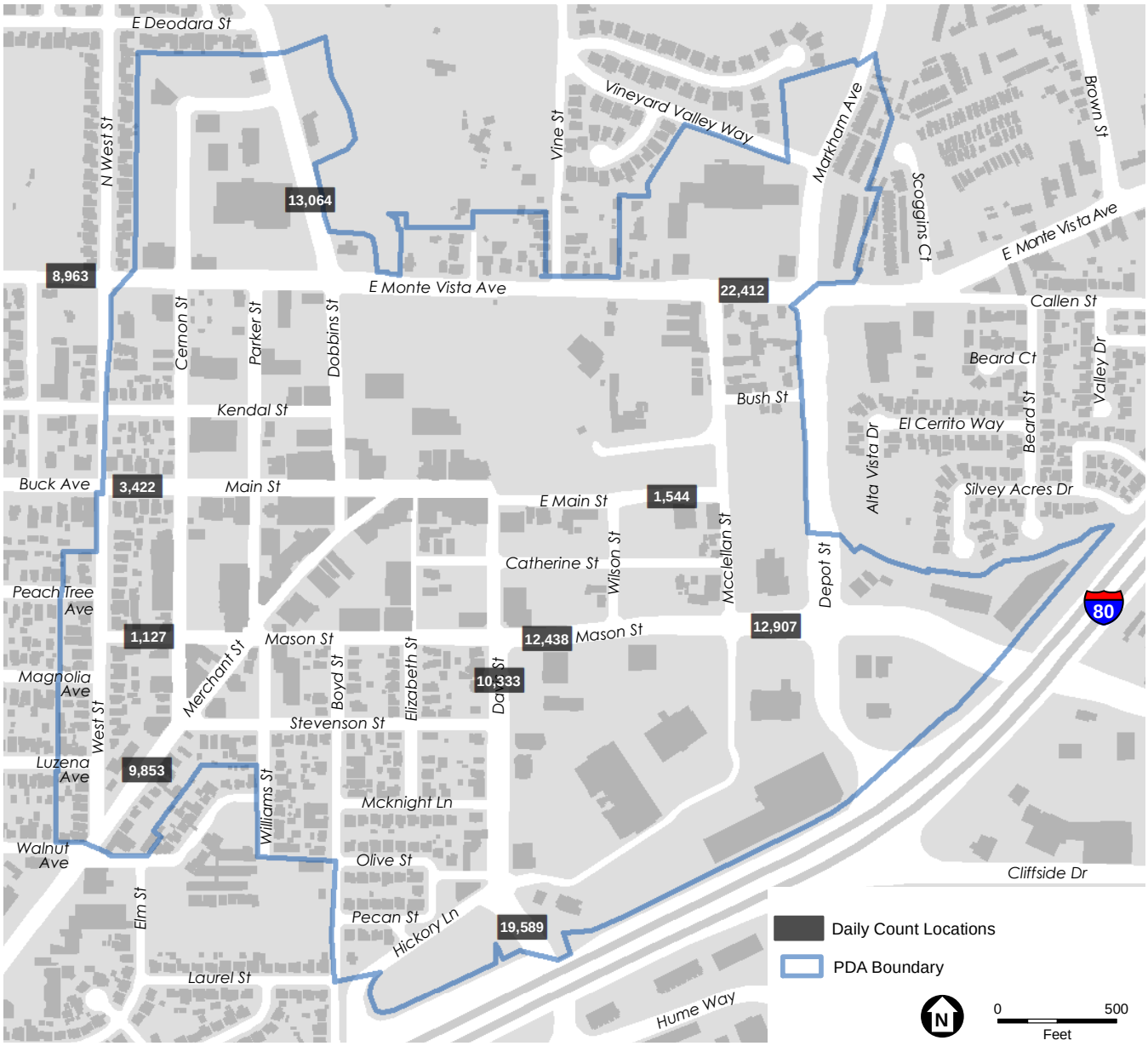

FIGURE 3: EXISTING DAILY VOLUMES

EXISTING TRAVEL SPEEDS ON PDA ROADWAY SEGMENTS

Daily (24 hour) speed surveys on study roadways were conducted simultaneously with the volume data during May 2019. All surveys were conducted on a typical weekday (Tuesday-Thursday) with school in session. Directional speeds were recorded by 15 minute period and summarized by hour. **Table 2** shows a summary of 85th percentile daily traffic speeds by location and also shows the average hourly speed for the AM and PM peak hours as described in the preceding section.

The table also shows posted speed limits (where available) for each roadway segment. Where there are no speed limit signs at the specific roadway segment, the closest speed limit sign on the same street is assumed. For lower capacity streets with residential frontage and no speed limit sign, a speed limit of 25 mph is assumed.

The table shows that 85th percentile daily speeds equal or exceed posted (or assumed) speed limits at 8 of the 100 study roadway segments and are lower at three locations. Some of the locations exceed the speed limit by 5 mph or more. Peak hour average speeds (for at least one direction of travel) equal or exceed speed limits at 3 locations during the AM peak and 5 locations during the PM peak.

The speed survey results show that, while existing travel speeds are not excessively high compared to posted speed limits, a number of locations have 85th percentile daily speeds and/ or peak hour average speeds that exceed posted speed limits and thus may pose safety issues for pedestrians and cyclists in the PDA.

TABLE 2: EXISTING TRAVEL SPEEDS ON PDA ROADWAY SEGMENTS

MAP ID	LOCATION	POSTED SPEED LIMIT	85TH PERCENTILE DAILY SPEED	AVERAGE AM PEAK HOUR SPEED	AVERAGE PM PEAK HOUR SPEED
1	E. MONTE VISTA AVENUE WEST OF DEPOT STREET	35 mph	**35 mph (EB)** **37 mph (WB)**	27 mph (EB) 32 mph (WB)	27 mph (EB) 32 mph (WB)
2	E. MONTE VISTA AVENUE WEST OF WEST STREET	25 mph	**33 mph (EB)** **32 mph (WB)**	**26 mph (EB)** 24 mph (WB)	**26 mph (EB)** 23 mph (WB)
3	MAIN STREET EAST OF WEST STREET	25 mph*	**25 mph (EB)** 24 mph (WB)	22 mph (EB) 21 mph (WB)	21 mph (EB) 21 mph (WB)
4	MAIN STREET WEST OF MCCLELLAN STREET	25 mph*	22 mph (EB) 19 mph (WB)	15 mph (EB) 14 mph (WB)	18 mph (EB) 14 mph (WB)
5	MASON STREET WEST OF DEPOT STREET	30 mph	**35 mph (EB)** **37 mph (WB)**	29 mph (EB) **31 mph (WB)**	29 mph (EB) **31 mph (WB)**
6	MASON STREET EAST OF DAVIS STREET	30 mph	**38 mph (EB)** **35 mph (WB)**	**33 mph (EB)** 29 mph (WB)	**33 mph (EB)** **30 mph (WB)**

MAP ID	LOCATION	POSTED SPEED LIMIT	85TH PERCENTILE DAILY SPEED	AVERAGE AM PEAK HOUR SPEED	AVERAGE PM PEAK HOUR SPEED
7	MASON STREET EAST OF WEST STREET	25 mph	19 mph (EB) 19 mph (WB)	16 mph (EB) 15 mph (WB)	14 mph (EB) 13 mph (WB)
8	DAVIS STREET SOUTH OF MASON STREET	30 mph	**40 mph (NB)** **33 mph (SB)**	35 mph (NB) 28 mph (SB)	**35 mph (NB)** 28 mph (SB)
9	DAVIS STREET SOUTH OF HICKORY LANE	30 mph	**30 mph (NB)** **32 mph (SB)**	26 mph (NB) 27 mph (SB)	26 mph (NB) 27 mph (SB)
10	MERCHANT STREET NORTH OF WEST STREEET	30 mph	**34 mph (NB)** **37 mph (SB)**	28 mph (NB) 30 mph (SB)	28 mph (NB) **31 mph (SB)**
11	DOBBINS STREET NORTH OF E. MONTE VISTA AVENUE	35 mph	**39 mph (NB)** **40 mph (SB)**	34 mph (NB) 35 mph (SB)	34 mph (NB) 34 mph (SB)

Notes: Peak Hours based on times listed in Table 1
Bold represents speed equal to or higher than posted speed limit
* Prima facia speed

EXISTING TRAFFIC VOLUMES AND LEVEL OF SERVICE AT STUDY INTERSECTIONS

14 study intersections in and around Downtown Vacaville were selected based on preliminary model runs and discussion between DKS Associates and City of Vacaville staff. Turning movement traffic counts at study intersections were conducted during May 2019 between 7 and 9 AM and 4 and 6 PM. All counts were conducted on a typical weekday (Tuesday-Thursday) with school in session. Like the 24-hour segment counts, these volumes were recorded in 15-minute periods and summarized by hour. **Figure 4** displays the study intersection, segment, bike and pedestrian count locations and **Figure 5** and **Figure 6** show intersection geometrics and turning movement counts. The detailed count data sheets are provided in Appendix A.

These intersections were then evaluated utilizing the Level of Service (LOS) methodology outlined in the Highway Capacity Manual, Sixth Edition (HCM 6) as applied through the Synchro/SimTraffic 10 software suite. This methodology estimates the average delay experienced by drivers going through the intersection and assigns one of six letter grades, ranging from A to F. These letter grades are based on driver perspective of the facility where LOS A represents the best operating condition and LOS F represents conditions that are near or over the capacity of the roadway.

Table 3 summarizes the delay thresholds, in seconds, for each LOS at signalized and unsignalized locations.

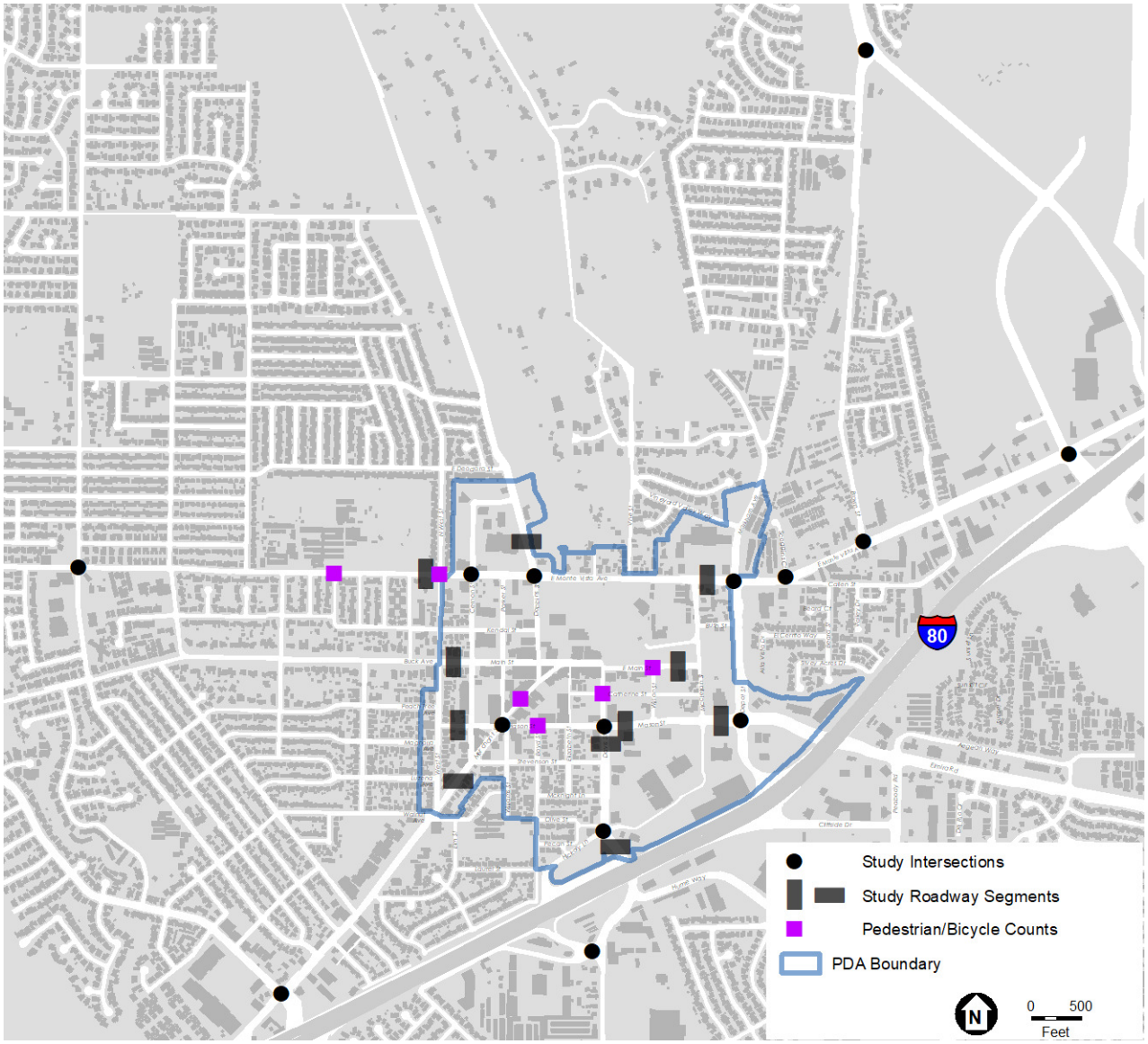

FIGURE 4. LOCATIONS OF STUDY ROADWAYS AND INTERSECTIONS

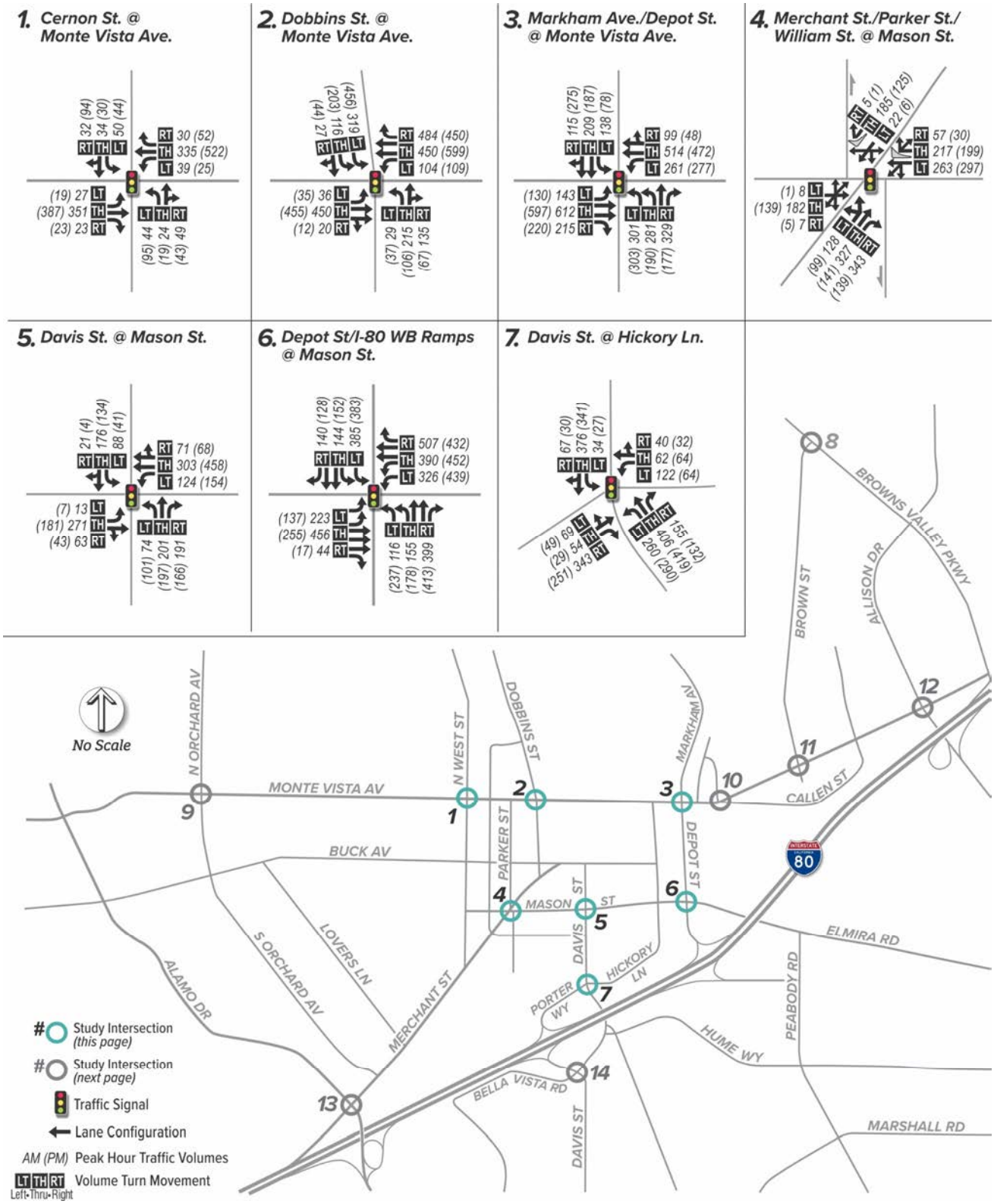

FIGURE 5. STUDY INTERSECTION CONFIGURATION AND COUNT WITHIN THE PDA

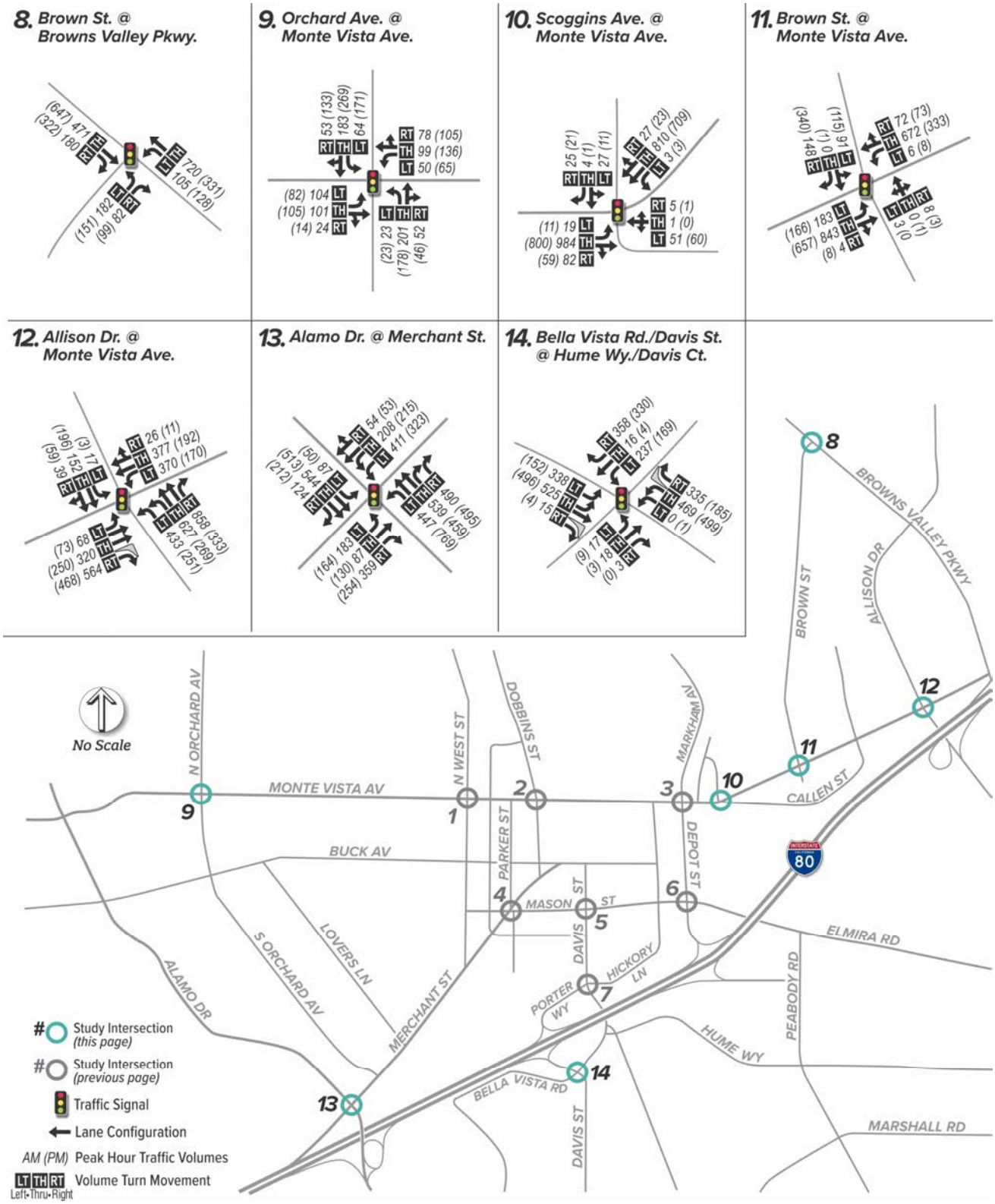

FIGURE 6. STUDY INTERSECTION CONFIGURATION AND COUNT OUTSIDE OF THE PDA

TABLE 3: LEVEL OF SERVICE THRESHOLDS FOR INTERSECTIONS

LEVEL OF SERVICE (LOS)	TOTAL DELAY PER VEHICLE	
	SIGNALIZED INTERSECTIONS	UNSIGNALIZED INTERSECTIONS
A	<10	<10
B	≥10 and <20	≥10 and <15
C	≥20 and <35	≥15 and <25
D	≥35 and <55	≥25 and <35 (*Mid D = 30*)*
E	≥55 and <80	≥35 and <50
F	≥80	≥50

Source: Highway Capacity Manual, Sixth Edition
Note: *Mid D based on City of Vacaville Policy TR-P3.2

CITY LEVEL OF SERVICE POLICY

The City of Vacaville General Plan has the following policies relating to level of service and traffic congestion:

- **Policy TR-P3.1** - Endeavor to maintain LOS C as the LOS goal at all intersections and interchanges to facilitate the safe and efficient movement of people, goods, and services. Strive to design improvements to provide a LOS goal of C, based on the City's most recent 20+ year traffic forecast including signalized and unsignalized intersections.
- **Policy TR-P3.2** - At signalized and all-way stop control intersections, LOS mid-D shall be the LOS significance threshold. At two-way stop control intersections, LOS D shall be the LOS significance threshold.
- **Policy TR-P3.3** - To allow for infill development and higher density development at transit centers, the LOS significance threshold shall be LOS D at signalized and all-way stop control intersections in the Downtown Urban High Density Residential Overlay District or other Priority Development Areas (PDA) designated by the City. At two-way stop controlled intersections in these areas, the overall LOS significance threshold shall be LOS mid-E.
- **Policy TR-P3.4** - The City may allow LOS above the established LOS significance thresholds for a particular location as an interim level of service where improvements are programmed by the City that will improve the service to an acceptable level.
- **Policy TR-P3.5** - The City may allow LOS above the established LOS significance thresholds for a particular location on the basis of specific findings described in Chapter 14.13 of the Vacaville Land Use and Development Code, Traffic Impact Mitigation Ordinance.

Several of the intersections analyzed fall in the city Priority Development Area in Downtown Vacaville and, the thresholds set forth in Policy TR-P3.2 apply to only those locations.

Table 4 provides a summary of the existing operating conditions and City thresholds of significance by the study location. The detailed Synchro analysis sheets are provided in Appendix B.

TABLE 4: EXISTING LEVEL OF SERVICE AT STUDY INTERSECTIONS

LOCATION	POLICY THRESHOLD			AM		PM	
	IN PDA	DELAY	LOS	DELAY	LOS	DELAY	LOS
CERNON ST & MONTE VISTA AVE	Yes	55	D	27.9	C	21.9	C
DOBBINS ST & MONTE VISTA AVE	Yes	55	D	25.4	C	30.0	C
MARKHAM AVE/DEPOT ST & MONTE VISTA AVE	Yes	55	D	32.2	C	36.8	D
MERCHANT ST/PARKER ST/ WILLIAM ST & MASON ST	Yes	55	D	46.2	D	54.5	D
DAVIS ST & MASON ST	Yes	55	D	26.2	C	25.5	C
DEPOT ST/I-80 WB RAMPS & MASON ST	Yes	55	D	29.1	C	31.7	C
DAVIS ST & HICKORY LN	Yes	55	D	32.0	C	44.0	D
BROWN ST & BROWNS VALLEY PKWY	No	45	Mid-D	12.5	B	7.9	A
ORCHARD AVE & MONTE VISTA AVE	No	45	Mid-D	25.0	C	16.6	B
SCOGGINS AVE & MONTE VISTA AVE	No	45	Mid-D	29.2	C	39.9	D
BROWN ST & MONTE VISTA AVE	No	45	Mid-D	21.2	C	41.0	D
ALLISON DR & MONTE VISTA	No	45	Mid-D	22.4	C	22.1	C
ALAMO DR & MERCHANT ST	No	45	Mid-D	33.4	C	30.4	C
BELLA VISTA RD/DAVIS ST & HUME WAY/DAVIS ST	No	45	Mid-D	**105.2**	**F**	**110.2**	**F**

Note: **Bold** denotes locations that do not meet LOS Policy

The table above shows that all intersections within the PDA operate acceptably. Only Bella Vista Road/Davis Street & Hume Way/Davis Court operates unacceptably as a result of high volumes headed onto and off of the I-80 ramps combined with split phasing.

Figure 7 graphically summarizes the results from Table 4. All intersections in Downtown Vacaville operate at LOS D or better, with the exception of Bella Vista Road/Davis Street & Hume Way/Davis Court not meeting the city LOS standard due to the volume of vehicles accessing I-80 and the split phase operation of the signal.

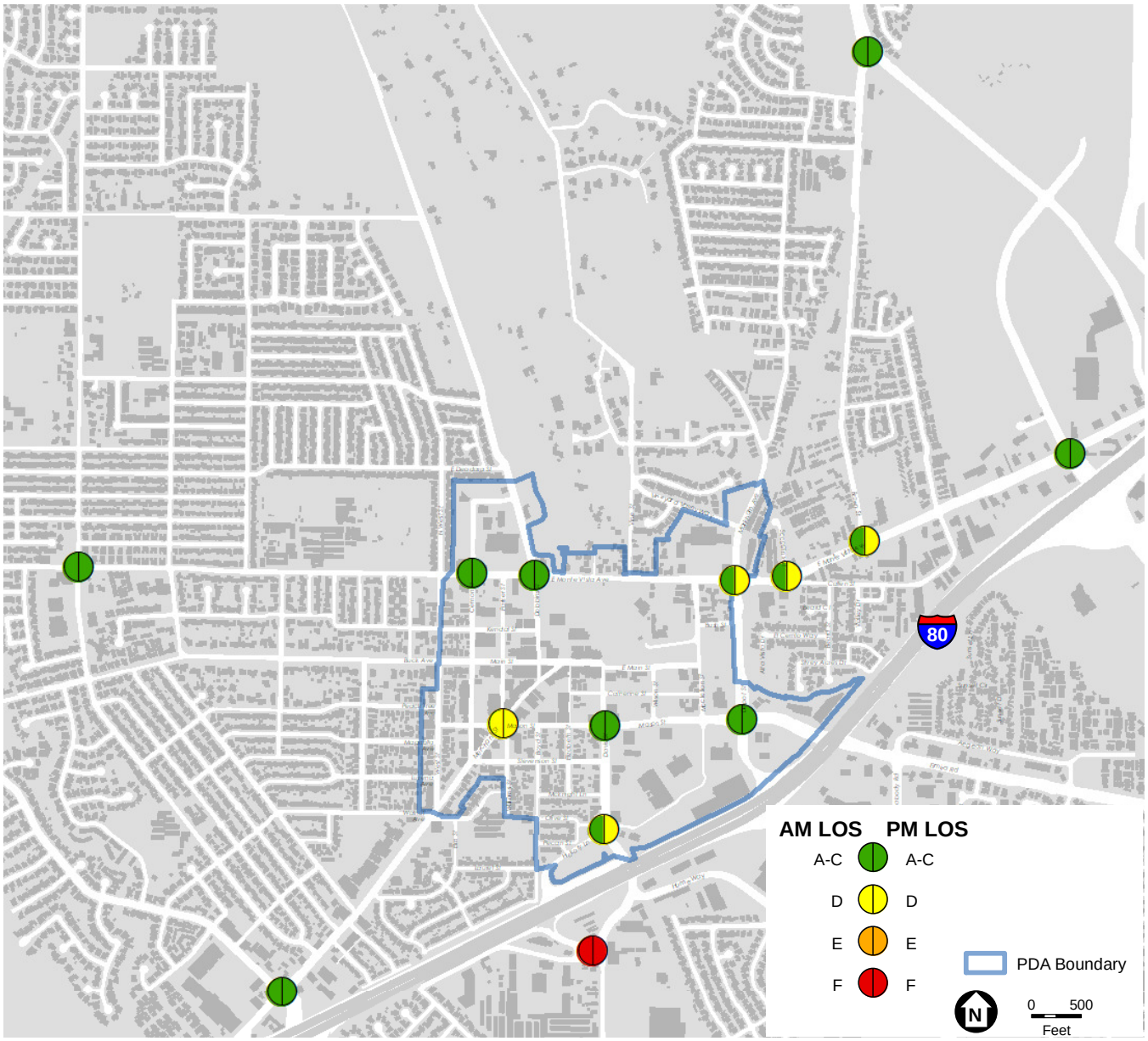

FIGURE 7: EXISTING INTERSECTION LEVEL OF SERVICE (LOS)

PLANNED AND COMPLETED ROADWAY IMPROVEMENTS

Merchant Street ADA Sidewalk Improvements

This road diet project, originally initiated by the City's ADA Committee, provides accessible sidewalk and ramp improvements along the southeast side of Merchant Street between Lover's Lane and Elm Street. Narrowing Merchant Street from four through lanes to two through lanes allows for a striped center turning lane, bike lanes and on-street parking on both sides of the

roadway. This road diet environmental review was approved in 2015, construction was completed in 2017.

Vacaville General Plan Transportation Element

The Vacaville General Plan Transportation Element defines the long-term vision for citywide mobility by setting goals and policies that respond to existing conditions and future changes. Caltrans has three projects in its planning phase that will affect traffic flow into the PDA. Davis Street/Hickory Street Westbound On-Ramp project will extend the westbound on-ramp to provide an acceleration/merge lane. Davis Street Eastbound On-Ramp project will widen the bridge over Mason Street and extend eastbound on-ramp to provide an acceleration/merge lane. Mason Street Westbound On-Ramp Project will extend westbound on-ramp to provide an accelerating/merge lane.

PARKING FACILITIES

As a commercial center, Downtown Vacaville provides parking for residents, workers and visitors in off-street and on-street parking facilities. There are 14 available parking lots and a large number of streets to park along. **Figure 8** displays parking lots and roadways with available on-street parking within the PDA. The detailed parking inventory and occupancy data are provided in Appendix C.

OFF-STREET PARKING FACILITIES

There are currently 14 available off-street parking lots in Downtown Vacaville. These lots range in size from just over 20 to over 250 total spaces. **Table 5** shows that several lots restrict some spaces to be used by following specific rules. While all lots have spaces without restrictions and American Disabilities Act (ADA) spaces for people with disabilities (there are 58 disabled spaces altogether demarcated in parentheses) some lots reserve spaces to be used for a limited amount of maximum time. There are 178 ten-hour spaces, 67 four-hour spaces, and 98 two-hour spaces. One lot offers two parking spaces to be exclusively used for loading and unloading purposes. Interestingly, Lot 4 and Lot 7 do not have "no limit" parking spaces. In total, there are 1,115 total spaces available in off-street parking lots.

ON-STREET PARKING FACILITIES

In addition to off-street parking facilities, many roadways in the PDA have on-street parking facilities for a total of 1,201 parking spaces. **Table 6** shows the total number of parking spaces on each roadway and breaks them out in categories defined by restrictions. Most notably from the table, Cernon Street and Main Street offer more than 100 total spaces each, followed closely by East Main Street with over 90 spaces. Similar to off-street lots, some roadways have parking spaces with restrictions to the amount of time that vehicles may be parked. There are nine four-hour spaces, 438 two-hour spaces, and seven 20-30 minute spaces.

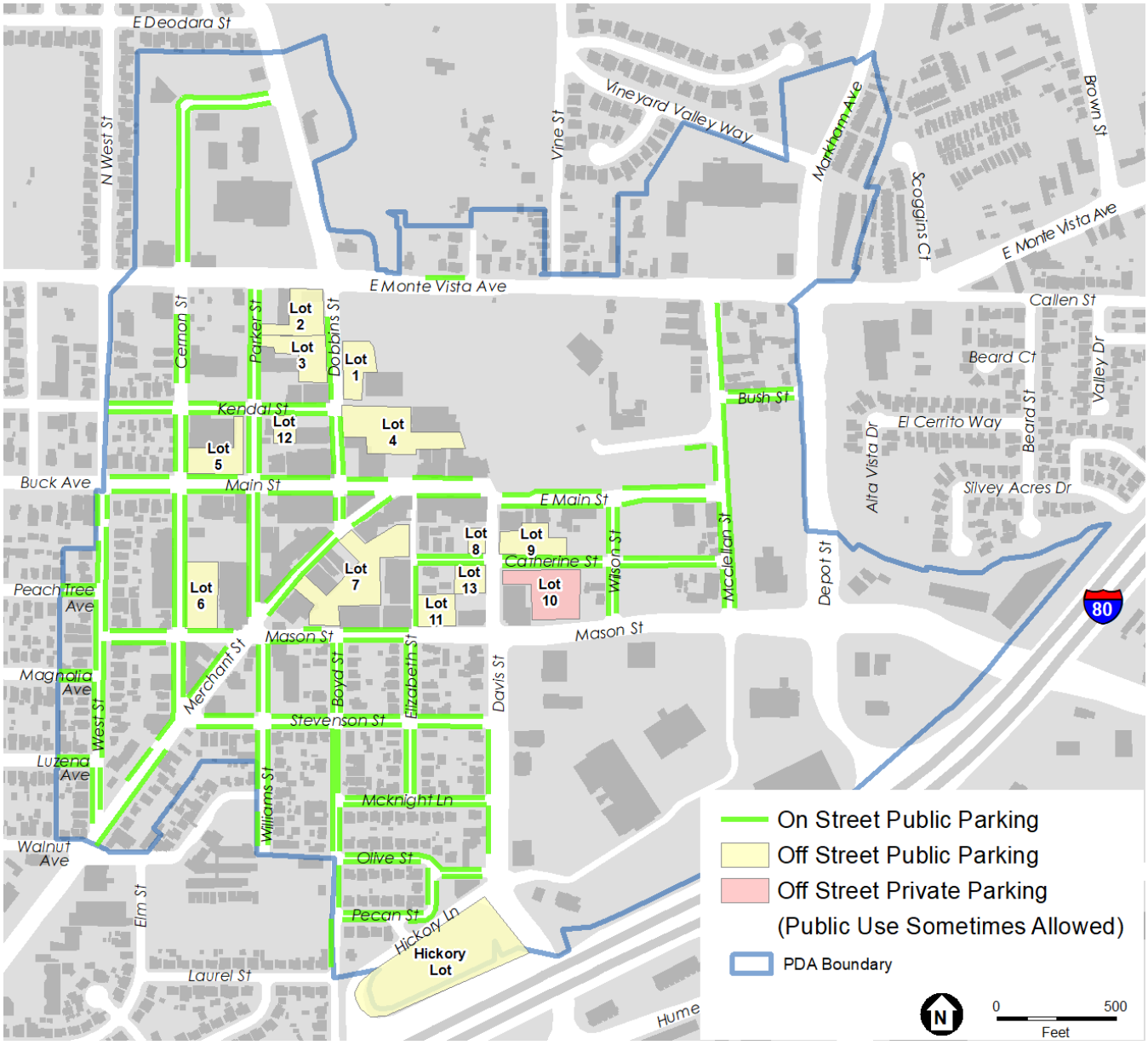

FIGURE 8: EXISTING PARKING FACILITIES IN PDA

TABLE 5: OFF-STREET PARKING INVENTORY

LOT	NUMBER OF SPACES					
	NO LIMIT	10 HOUR LIMIT	4 HOUR LIMIT	2 HOUR LIMIT	LOADING	TOTAL SPACES
1	47 (5)	-	-	-	-	52
2&3	28 (7)	96	-	-	-	131
4	- (7)	72	-	75	-	154
5	86 (4)	-	-	-	-	90
6	30 (5)	-	-	60	2	97
7	- (7)	10	63	63	-	143
8	21 (1)	-	-	-	-	22
9	61 (4)	-	-	-	-	65
11	40 (2)	-	4	-	-	46
12	19 (2)	-	-	-	-	21
13	41 (2)	-	-	-	-	43
HICKORY LOT	244 (7)	-	-	-	-	251
TOTAL ALL LOTS	617 (53)	178	67	198	2	1,115

Note: (Disabled Spaces)

TABLE 6: ON-STREET PARKING INVENTORY

STREET	NUMBER OF SPACES				
	NO LIMIT	4 HOUR LIMIT	2 HOUR LIMIT	20/30 MINUTE LIMIT	TOTAL SPACES
BOYD ST	42 (1)	-	19	-	62
BUSH ST	25	-	-	-	25
CATHERINE ST	53	9	-	-	62
CERNON ST	62	-	50	2	114
DAVIS ST	14	-	-	-	14
DOBBINS ST	-	-	24	-	24
ELIZABETH ST	35	-	15	-	50

STREET	NUMBER OF SPACES				
	NO LIMIT	4 HOUR LIMIT	2 HOUR LIMIT	20/30 MINUTE LIMIT	TOTAL SPACES
KENDAL ST	36	-	15	-	51
LINCOLN HWY	10	-	-	-	10
LUZENA AVE	9	-	-	-	9
MAGNOLIA AVE	10	-	-	-	10
MAIN ST	16	-	122 (5)	4	147
EAST MAIN ST	49 (3)	-	37 (2)	-	91
MARKHAM AVE	14	-	-	-	14
MASON ST	21	-	28	-	49
MCCLELLAN ST	36	-	-	-	36
MCKNIGHT LN	32	-	-	-	32
MERCHANT ST	-	-	61	-	61
MONTE VISTA AVE	5	-	-	-	5
OLIVE ST	31	-	-	-	31
PARKER ST	-	-	62	1	63
PEACH TREE AVE	9	-	-	-	9
PECAN ST	17	-	-	-	17
SCHOOL ST	7 (1)	-	-	-	8
STEVENSON ST	68	-	5	-	73
WEST ST	73	-	-	-	73
WILLIAM ST	35	-	-	-	35
WILSON ST	26	-	-	-	26
TOTAL ALL STREETS	735 (5)	9	438 (7)	7	1,201

Note: (Disabled Spaces)

PARKING UTILIZATION

While there are 1,115 available spaces in 14 off-street parking lots and 1,201 on-street parking spaces, not all spaces are filled at any given time. Parking utilization is a metric which describes the percent of occupied parking spaces at different times of the day over the total available spaces in a lot or along a roadway.

OFF-STREET PARKING UTILIZATION

Three "sweeps" of all off-street and on-street parking occupancy were conducted in May 2019. While each sweep may have taken more than an hour to complete, sweeps were conducted during the morning (9:00AM), midday (noon), and afternoon (4pm).

Table 7 describes the utilization of off-street parking facilities by restriction and time of day. On average, more parking spaces are occupied between noon and 1:00 PM than in the morning or in the afternoon. Spaces with 4-hour limits see the most drastic change in occupancy during different times of the day: In the morning, only 52% of spaces are occupied. By mid-day, 81% of those same spaces are filled. By late afternoon, the number of vehicles in those spaces decreases to 69%. Similarly, 2-hour spaces are 72% occupied in the morning, almost completely full (at 99%) at mid-day, and 79% in the afternoon. Of the 1,115 off-street parking spaces half are occupied in the morning. At this time, most workers have arrived, but tourist activity is just beginning to pick up. At mid-day, 61% of all spaces are filled. By this time, activity in the PDA is at its peak for the day and workers from outside of the PDA are drawn downtown for lunch. In the afternoon, occupancy falls back down to 53% as workers begin to leave for the day and evening activities downtown have not yet ramped up.

TABLE 7: OFF-STREET PARKING OCCUPANCY BY SPACE TYPE

SPACE TYPE	INVENTORY	9:00 TO 10:00 AM		NOON TO 1:00PM		4:00 TO 5:00PM	
		OCC	%	OCC	%	OCC	%
NO LIMIT	617	319	52%	306	50%	287	47%
DISABLED	53	8	15%	23	43%	11	21%
10 HOUR LIMIT	178	77	43%	121	68%	101	57%
4 HOUR LIMIT	198	104	52%	161	**81%**	138	70%
2 HOUR LIMIT	67	48	72%	66	**99%**	53	79%
LOADING	2	-	0%	-	0%	-	0%
TOTAL SPACES	1,115	556	50%	677	61%	590	53%

Note: **Bold** text indicates an occupancy of 80% or greater

Table 8 describes off-street parking occupancy by parking lot and time of day. Lots 4, 5, 7, 8 and 12 all experience average weekday occupancies over 80% at some point during the day. Each of these lots are located within the central four-block core of the PDA bound by East Monte Vista Avenue to the north, Davis Street to the east, Stevenson Street to the south and Cernon Street to the west. Lot 5 is adjacent to Main Street between Cernon Street and Parker Street and has a capacity of 84 parking spaces. On an average weekday morning, this lot is 88% occupied. Lots 4 and 12 are located one block north of Main Street. Lot 4 has 154 available parking spaces and on average is 90% occupied at mid-day. Lot 12, with only 12 total spaces, is nearly full for most of the day; it is 95% occupied at mid-day and 84% in the afternoon. Lot 7 is accessed directly by Merchant Street between Mason Street and Main Street and has 144 spaces. This lot also remains around capacity for most of the day, where at mid-day the lot is 94% occupied and 83% occupied in the afternoon. Lot 8 is a smaller lot with 22 spaces and is located adjacent to the northwest corner of Davis Street and Catherine Street; it is 82% full at mid-day.

TABLE 8: OFF-STREET PARKING OCCUPANCY BY PARKING LOT

PARKING LOT	INVENTORY	9:00 TO 10:00 AM		NOON TO 1:00PM		4:00 TO 5:00PM	
		OCC	%	OCC	%	OCC	%
1	52	30	58%	40	77%	25	48%
2&3	131	40	31%	48	37%	41	31%
4	154	71	46%	138	**90%**	112	73%
5	90	74	**88%**	60	71%	59	70%
6	97	43	44%	64	66%	47	48%
7	143	97	67%	136	**94%**	120	**83%**
8	22	12	55%	18	**82%**	15	68%
9	65	26	41%	27	43%	25	40%
11	46	37	76%	29	59%	32	65%
12	21	12	63%	18	**95%**	16	**84%**
13	43	7	17%	7	17%	11	26%
HICKORY LOT	251	107	43%	92	37%	87	35%
TOTAL ALL LOTS	1,115	556	50%	677	60%	590	52%

Note: **Bold** text indicates an occupancy of 80% or greater

FIGURE 9: ON-STREET PARKING ON MASON STREET

ON-STREET PARKING UTILIZATION

Table 9 shows on-street parking occupancy by space type and time of day. Overall, on-street parking facilities have lower occupancy than off-street parking lots. This is in part due to the shorter time restrictions than off-street parking lots but may also be attributed to the discomfort of parking next on an active roadway rather than a lot with less activity than a street. The most occupied parking spaces by restriction are 2-hour and 20-30 minute spaces. Of the 438 2-hour limited parking spaces, 51% are occupied in the morning, 64% at mid-day, and 54% in the afternoon. Similarly, of the seven 20-30 minute restricted spaces, 3 are occupied in the morning, while 5 are full at mid-day and in the afternoon.

TABLE 9: ON-STREET PARKING OCCUPANCY BY SPACE TYPE

SPACE TYPE	INVENTORY	9:00 TO 10:00 AM		NOON TO 1:00PM		4:00 TO 5:00PM	
		OCC	%	OCC	%	OCC	%
NO LIMIT	735	231	31%	202	27%	223	30%
DISABLED	5	1	20%	-	0%	-	0%
4 HOUR LIMIT	9	1	11%	1	11%	1	11%
2 HOUR LIMIT	438	223	51%	281	64%	237	54%
DISABLED	7	1	14%	3	43%	2	29%
20-30 MINUTE LIMIT	7	3	43%	5	71%	5	71%
TOTAL SPACES	1,201	460	38%	492	41%	468	39%

Due to the sheer number of roadways with on-street parking, **Table 10** summarizes on-street parking by blocks with 80% occupancy or more during at least one time period during the day. 13 of these roadways are nearly full for two or more periods, representing a majority of the day. Similar to parking lots, these roadways are generally located within the four-block core. Most notably, Dobbins Street from Kendal Street to Main Street is completely full at mid-day and over-capacity in the afternoon. This is only possible if vehicles are parked too close to one another.

To prevent oversaturation of parking supply in the core, the City may consider implementing parking meters along portions of select roadways with an option to only operate at mid-day. This could encourage better distribution in parking utilization throughout the PDA.

TABLE 10: ON-STREET BLOCKS WITH 80% OCCUPANCY OR GREATER

STREET	FROM	TO	SIDE	INVEN-TORY	9:00 TO 10:00 AM		NOON TO 1:00PM		4:00 TO 5:00PM	
					OCC	%	OCC	%	OCC	%
CERNON	MASON	STEVENSON	WEST	10	7	70%	10	**100%**	7	70%
DOBBINS	KENDAL	MAIN	EAST	6	5	**83%**	6	**100%**	7	**117%**
DOBBINS	KENDAL	MAIN	WEST	9	4	44%	9	**100%**	7	78%
DOBBINS	MAIN	MERCHANT	EAST	3	3	**100%**	1	33%	2	67%
DOBBINS	MAIN	MERCHANT	WEST	3	2	67%	1	33%	3	**100%**
ELIZABETH	CATHERINE	MASON	EAST	6	4	67%	5	**83%**	5	**83%**
ELIZABETH	STEVENSON	MCKNIGHT	WEST	10	7	70%	8	**80%**	8	**80%**
KENDAL	CERNON	PARKER	SOUTH	10	9	**90%**	1	10%	2	20%

STREET	FROM	TO	SIDE	INVEN-TORY	9:00 TO 10:00 AM		NOON TO 1:00PM		4:00 TO 5:00PM	
					OCC	%	OCC	%	OCC	%
KENDAL	PARKER	DOBBINS	NORTH	8	5	63%	8	**100%**	5	63%
KENDAL	PARKER	DOBBINS	SOUTH	7	7	**100%**	6	**86%**	4	57%
LUZENA	KENTUCKY	WEST	NORTH	5	3	60%	1	20%	5	**100%**
MAIN	CERNON	PARKER	NORTH	15	13	**87%**	7	47%	6	40%
MAIN	DOBBINS	MERCHANT	NORTH	9	3	33%	8	**89%**	8	**89%**
MAIN	DOBBINS	MERCHANT	SOUTH	8	6	75%	8	**100%**	7	**88%**
MAIN	ELIZABETH	DAVIS	NORTH	22	7	32%	20	**91%**	19	**86%**
MAIN	ELIZABETH	DAVIS	SOUTH	22	13	59%	20	**91%**	14	64%
MAIN	PARKER	DOBBINS	NORTH	21	17	**81%**	17	**81%**	17	**81%**
MAIN	PARKER	DOBBINS	SOUTH	21	17	**81%**	13	62%	18	**86%**
MASON	BOYD	ELIZABETH	NORTH	10	9	**90%**	8	**80%**	6	60%
MASON	BOYD	ELIZABETH	SOUTH	6	1	17%	6	**100%**	3	50%
MASON	CERNON	PARKER	NORTH	3	2	67%	3	**100%**	3	**100%**
MASON	WILLIAM	BOYD	NORTH	4	2	50%	4	**100%**	2	50%
MERCHANT	PARKER	DOBBINS	NORTH	13	7	54%	13	**100%**	9	69%
MERCHANT	PARKER	DOBBINS	SOUTH	26	15	58%	21	**81%**	22	**85%**
MERCHANT	WEST	CERNON	NORTH	5	1	20%	5	**100%**	2	40%
PARKER	KENDAL	E MONTE VISTA	EAST	10	8	80%	8	**80%**	-	0%
PARKER	KENDAL	MAIN	EAST	5	3	60%	5	**100%**	3	60%
PARKER	KENDAL	MAIN	WEST	6	7	**117%**	2	33%	4	67%
STEVENSON	BOYD	ELIZABETH	NORTH	8	7	**88%**	5	63%	5	63%
WILLIAM	STEVENSON	END OF ST	WEST	10	6	60%	8	**80%**	5	50%
WILLIAM	MASON	STEVENSON	WEST	6	7	**117%**	3	50%	2	33%

Note: **Bold** text indicates an occupancy of 80% or greater

Figure 10 depicts all off-street and on-street parking facilities with 80% or more occupancy for at least one period of the day as shown in Table 8 and Table 10. Almost all of these highly utilized facilities fall within the four-block core of downtown.

KNOWN PROJECTS THAT WILL IMPACT PARKING SUPPLY

Design Review- Brendan Premium Theater

The Design Review of Brendan Premium Theater consists of the construction of a theater building which will also include a restaurant, bar and an outdoor patio. The site of the project is currently designated as parking, however due to the retrofit of the existing theatre and the low number of seats in the new theatre there overall fewer seats in the theater. Even with the number of reduced parking spaces after the project completion, the parking stock will be adequate to serve the site. Construction on this project has not yet begun.

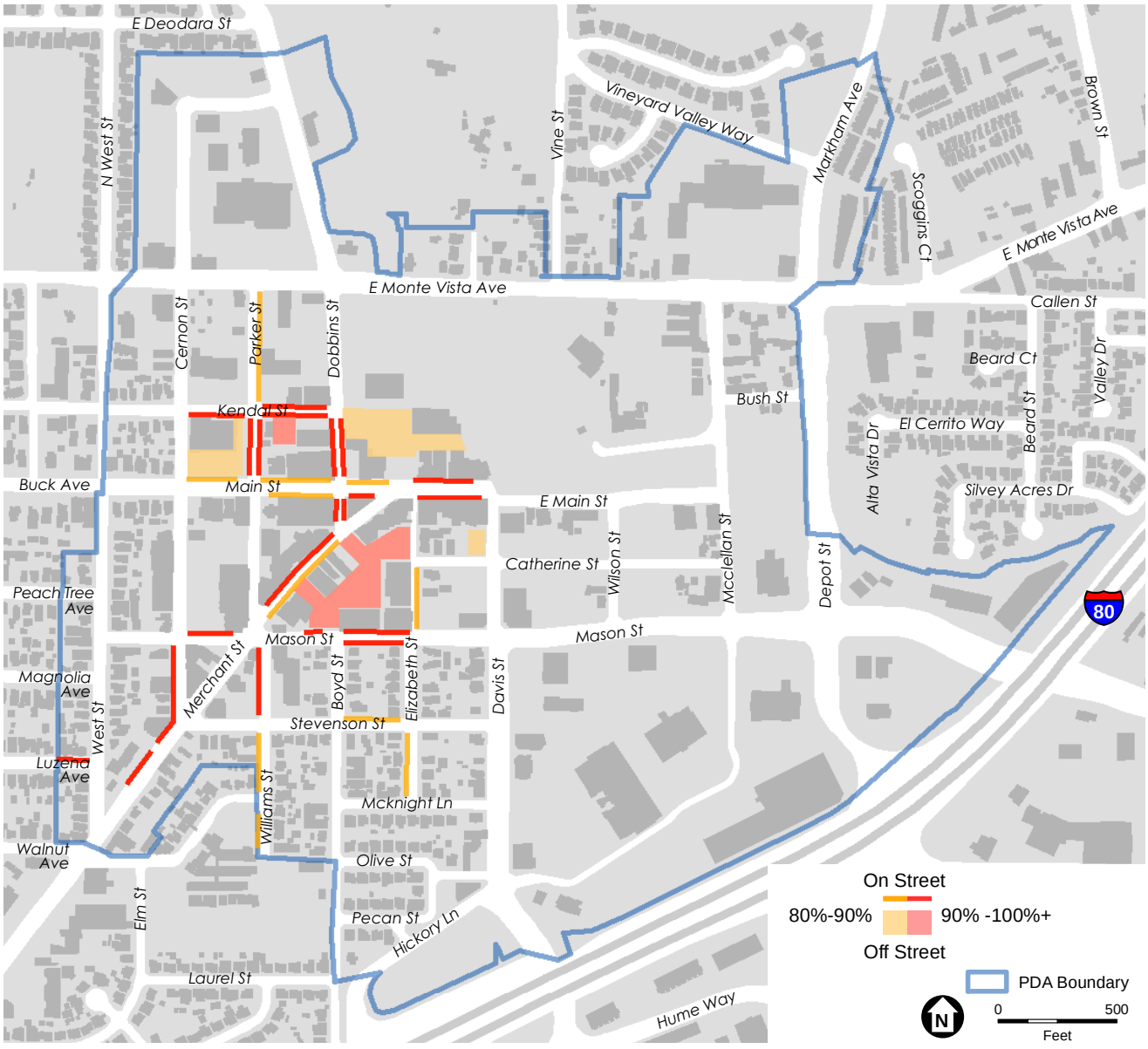

FIGURE 10: PARKING FACILITIES WITH 80% OR HIGHER PEAK OCCUPANCY

PEDESTRIAN AND BICYCLE FACILITIES

Downtown Vacaville is highly walkable; this can be seen in the amount of pedestrian facilities in the PDA. Sidewalks line nearly every roadway with crosswalks at almost every intersection involving a major roadway. Unfortunately, the same cannot be said for bicycle facilities where there is not a clear route for cyclists to ride from one side of the PDA to the other.

EXISTING PEDESTRIAN FACILITIES

There is a reasonably high level of pedestrian connectivity in the PDA. Nearly all roadways include sidewalks on both sides of the street which are nearly always connected by sidewalks. There are no pedestrian "gaps" in the PDA that would cause a pedestrian to vastly alter their route.

FIGURE 11: HIGH VISIBILITY CURB CUTS & CROSSWALKS AT DAVIS STREET & CATHERINE STREET

FIGURE 12: CROSSWALKS ALONG MERCHANT STREET AT MASON STREET AND PARKER STREET

EXISTING SIDEWALKS

Most roadways in the PDA feature sidewalks on both sides of the street. Only the alleyways between West Street and Dobbins Street and the westbound I-80 ramps as they approach Mason Street completely lack obvious pedestrian facilities. Furthermore, Elm Street, Hickory Lane and Porter Way are roadways that offer sidewalks for the full length of the segment on one side of the street, but for only a portion of their extent on the other.

EXISTING CROSSWALKS

Similar to sidewalks, nearly all intersections in the PDA feature at least one crosswalk. Every location where a minor street intersects a major collector or arterial roadway includes at least one crosswalk. There are some stretches of roadway where nearly every approach has a crosswalk, including portions of Merchant Street and Main Street. Three intersections along Davis Street (at

Mason Street, Catherine Street and Main Street) are painted red, making them highly visible to drivers. Similarly, many curb cuts in Downtown Vacaville were built using concrete with a red pigment. The red paint and curb cuts help drivers recognize their approach to a crosswalk as they drive through the city and improves safety for pedestrians.

EXISTING PATHS AND WALKWAYS

As a primarily built out and developed commercial center, there are few pedestrian paths and walkways outside of sidewalks that line roadways in the PDA. The exception is Andrews Park and along Ulatis Creek where there are several pedestrian only paths and walkways.

Figure 13 depicts all pedestrian facilities in Downtown Vacaville. The figure shows that most of the PDA area is served well by pedestrian facilities, including sidewalks, crosswalks, and walking paths. Crosswalks designated as "High Visibility" in the figure are the red painted crosswalks along Davis Street between Mason Street and Main Street. Where pedestrian connectivity suffers is where the PDA meets the freeway (Interstate 80) and providing access to areas south to the interstate.

EXISTING PEDESTRIAN FLOWS AT SELECT LOCATIONS

Pedestrian foot traffic was counted at several crosswalk locations during the same timeframe as the segment and intersection counts. **Table 11** shows pedestrian counts at the 14 study intersections from the intersection analysis in addition to six more locations in Downtown Vacaville. Of note, over 100 pedestrians cross at the following locations during either the AM or PM two-hour peak period, or both: Cernon Street and Monte Vista Avenue, West Street and Monte Vista Avenue, and Myrtle Street and West Monte Vista Avenue. Nearly 280 pedestrians cross at West Street and Monte Vista Avenue in the AM peak period due to its proximity to Vacaville High School.

TABLE 11: TWO-HOUR PEAK PERIOD PEDESTRIAN FLOWS

LOCATION	PEAK PERIOD	NORTH	SOUTH	EAST	WEST	5TH LEG	TOTAL
CERNON ST & MONTE VISTA AVE	AM	46	90	15	9		**160**
	PM	41	44	12	21		**118**
DOBBINS ST & MONTE VISTA AVE	AM	34	13	0	8		55
	PM	39	35	1	18		93
MARKHAM AVE/DEPOT ST & MONTE VISTA AVE	AM	10	10	9	2	18	49
	PM	24	18	10	11	24	87
MERCHANT ST/PARKER ST/ WILLIAM ST & MASON ST	AM	0	0	0	0		0
	PM	0	0	0	0		0
DAVIS ST & MASON ST	AM	3	4	9	5		21
	PM	6	5	25	10		46

LOCATION	PEAK PERIOD	NORTH	SOUTH	EAST	WEST	5TH LEG	TOTAL
DEPOT ST/I-80 WB RAMPS & MASON ST	AM	2	2	6	1		11
	PM	15	6	9	6		36
DAVIS ST & HICKORY LN	AM	0	3	5	7		15
	PM	0	5	8	2		15
BROWN ST & BROWNS VALLEY PKWY	AM	0	4	8	0		12
	PM	0	3	5	0		8
ORCHARD AVE & MONTE VISTA AVE	AM	4	5	36	16		61
	PM	14	11	14	7		46
SCOGGINS AVE & MONTE VISTA AVE	AM	9	4	0	8		21
	PM	11	18	0	12		41
BROWN ST & MONTE VISTA AVE	AM	10	13	0	21		44
	PM	15	25	0	19		59
ALLISON DR & MONTE VISTA	AM	9	11	5	1	12	38
	PM	6	9	5	3	10	33
ALAMO DR & MERCHANT ST	AM	4	0	3	2		9
	PM	8	0	5	0		13
BELLA VISTA RD/DAVIS ST & HUME WAY/DAVIS CT	AM	3	0	15	8	12	38
	PM	5	0	29	4	30	68
BOYD ST & MASON ST	AM	6	2	4	0		12
	PM	7	9	11	1		28
MERCHANT ST & BET. MASON ST & DOBBINS ST	AM	1	4	6	1		12
	PM	30	1	19	0		50
DAVIS ST & CATHERINE ST	AM	0	1	6	9		16
	PM	3	2	38	3		46
WILSON ST & MAIN ST	AM	0	2	0	1		3
	PM	0	1	14	8		23
WEST ST & E MONTE VISTA AVE.	AM	**167**	17	73	22		**279**
	PM	77	28	7	16		**128**
MYRTLE ST & W MONTE VISTA AVE	AM	0	0	**153**	0		**153**
	PM	0	0	11	0		11

Note: **Bold** text represents pedestrian volumes of 100 or higher

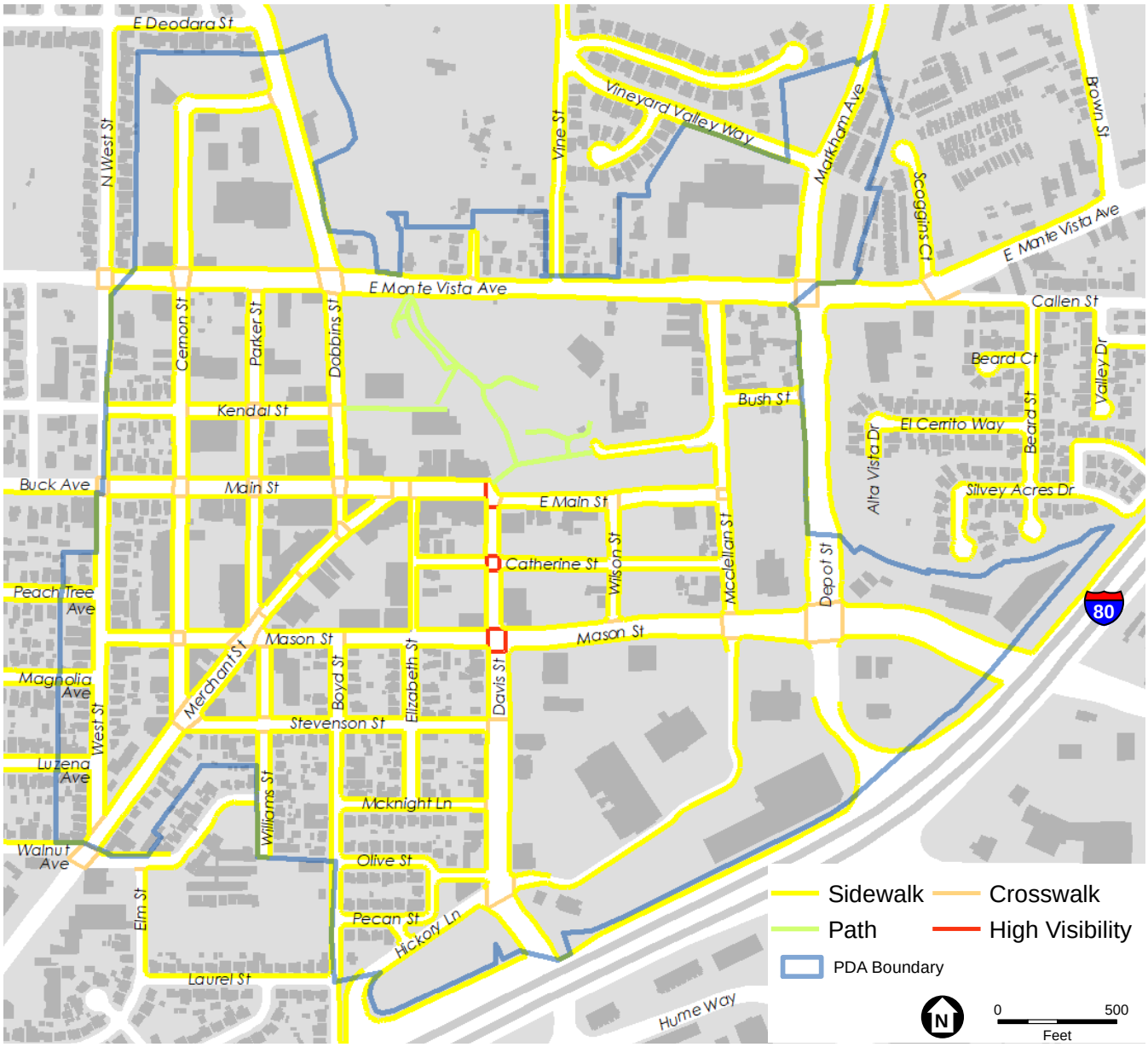

FIGURE 13: EXISTING PEDESTRIAN FACILITIES

Figure 14 shows the AM and PM peak flows of pedestrian activity at each of the study intersections. There are high pedestrian volumes in the AM, but not the PM peak period, northeast of the PDA. These locations are close to Vacaville High School which starts class during the AM peak period, but releases prior to the PM peak. The four-block core of Downtown Vacaville is approximately the opposite where there is more pedestrian activity later in the day. This makes sense as most businesses are closing for the day during the PM peak period. Due to good pedestrian connectivity those workers and tourists visiting downtown can easily access the heavily utilized parking lots, shops and restaurants.

VACAVILLE GENERAL PLAN TRANSPORTATION ELEMENT

The planned roadway improvements section in the Vacaville General Plan states the intent to install audible pedestrian push buttons for signals in the vicinity of transit facilities. Also, to further improve pedestrian facilities countdown pedestrian signals have been at all City-controlled traffic signals. The installation of each of these improvements is currently underway.

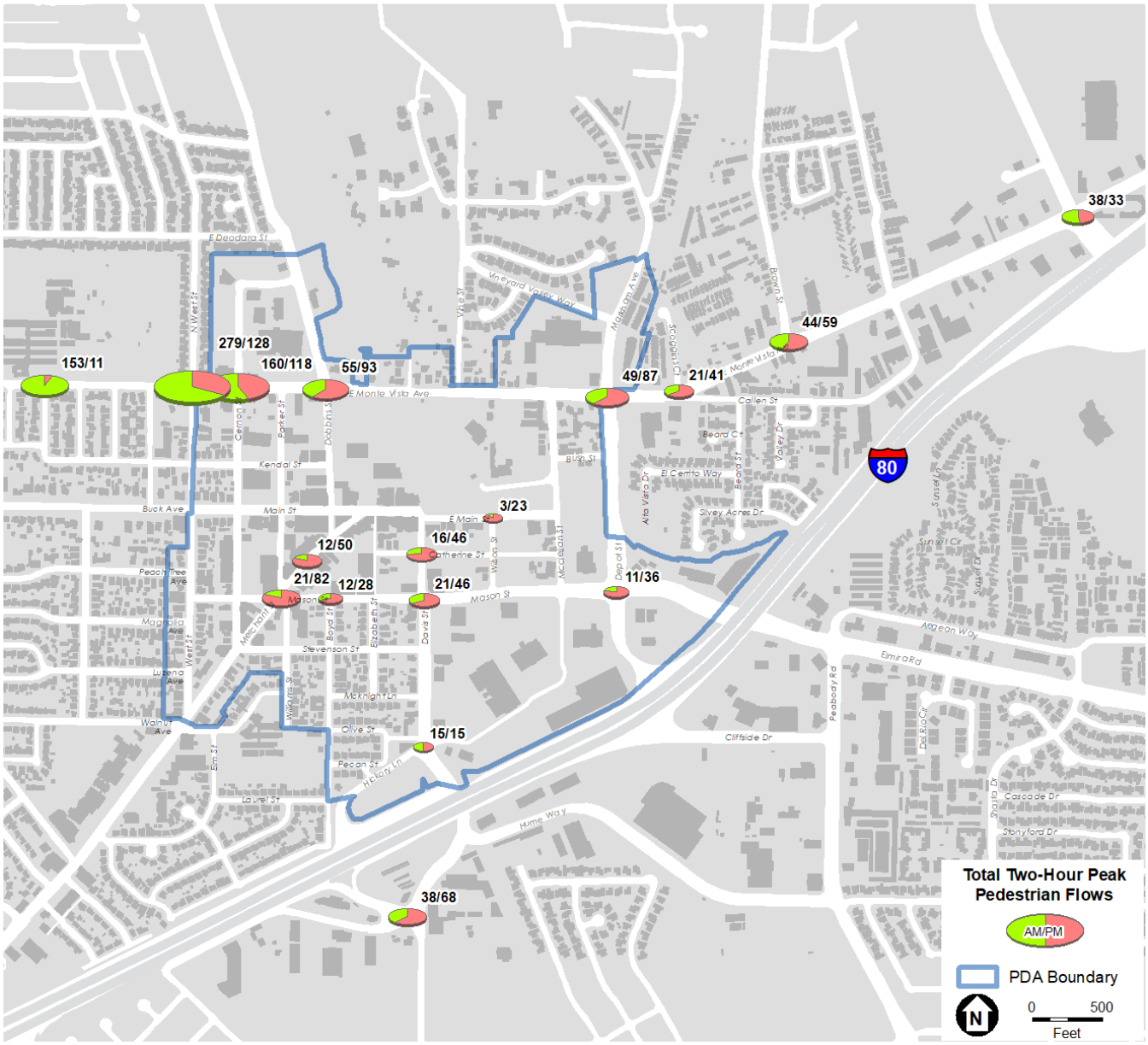

FIGURE 14: EXISTING PEDESTRIAN FLOWS

EXISTING BICYCLE FACILITIES

Downtown Vacaville is a relatively flat area with few obstacles preventing bicycle connectivity. However, the bicycle network in the PDA has several gaps between facilities, does not adequately connect to facilities outside of Downtown Vacaville and does not effectively encourage more users. With the exception of the facilities on the eastern boarder of the PDA, the largest limitations to cyclists is that there is currently no way for cyclists to travel east-west or north-south through Downtown Vacaville.

The Vacaville General Plan Transportation Element classifies bicycle facilities into categories that are consistent with the California Streets and Highways Code (Section 8904), the California Manual on Uniform Traffic Control Devices for Streets and Highways, and the Caltrans Highway Design manual. Different types of bikeways are divided three class categories: bike paths, bike lanes and bike routes.

FIGURE 15: BIKE PATH THROUGH ANDREWS PARK

BICYCLE PATHS

There is only one bicycle path in the PDA along the Ulatis Creek beginning just to the north of East Monte Vista Avenue and extending through Andrews Park. The purpose of the northern most portion of the path is to allow cyclists a way across East Monte Vista Avenue without having to physically cross the street by connecting to Dobbins Street. The portion of the bike path south of this connection, through Andrews Park, currently ends at McClellan Street. Furthermore, signage at pedestrian and utility vehicle entry points to Andrews Park prohibits bicycle use on sidewalks.

FIGURE 16: BIKE LANE ALONG DEPOT STREET

BICYCLE LANES

A few roadways in the PDA include bike lanes. Most notably, there is a fully connected path that allows cyclists to ride through the PDA entirely along bicycle facilities between the eastern boundary on Mason Street and the northern boundary on Depot Street. Cyclists can also enter the PDA using bike lanes on Dobbins Street from the north, East Monte Vista Street from the west, and Merchant Street or Davis Street from the south. However, there are no bicycle facilities within the most central four block square bound by Parker Street, Mason Street, Depot Street and East Monte Vista Avenue. This gap in service discourages the use of bicycles within the core of Downtown Vacaville.

BICYCLE ROUTES

In reviewing the City of Vacaville General Plan Transportation Element, there are no shared roadway facilities in the PDA.

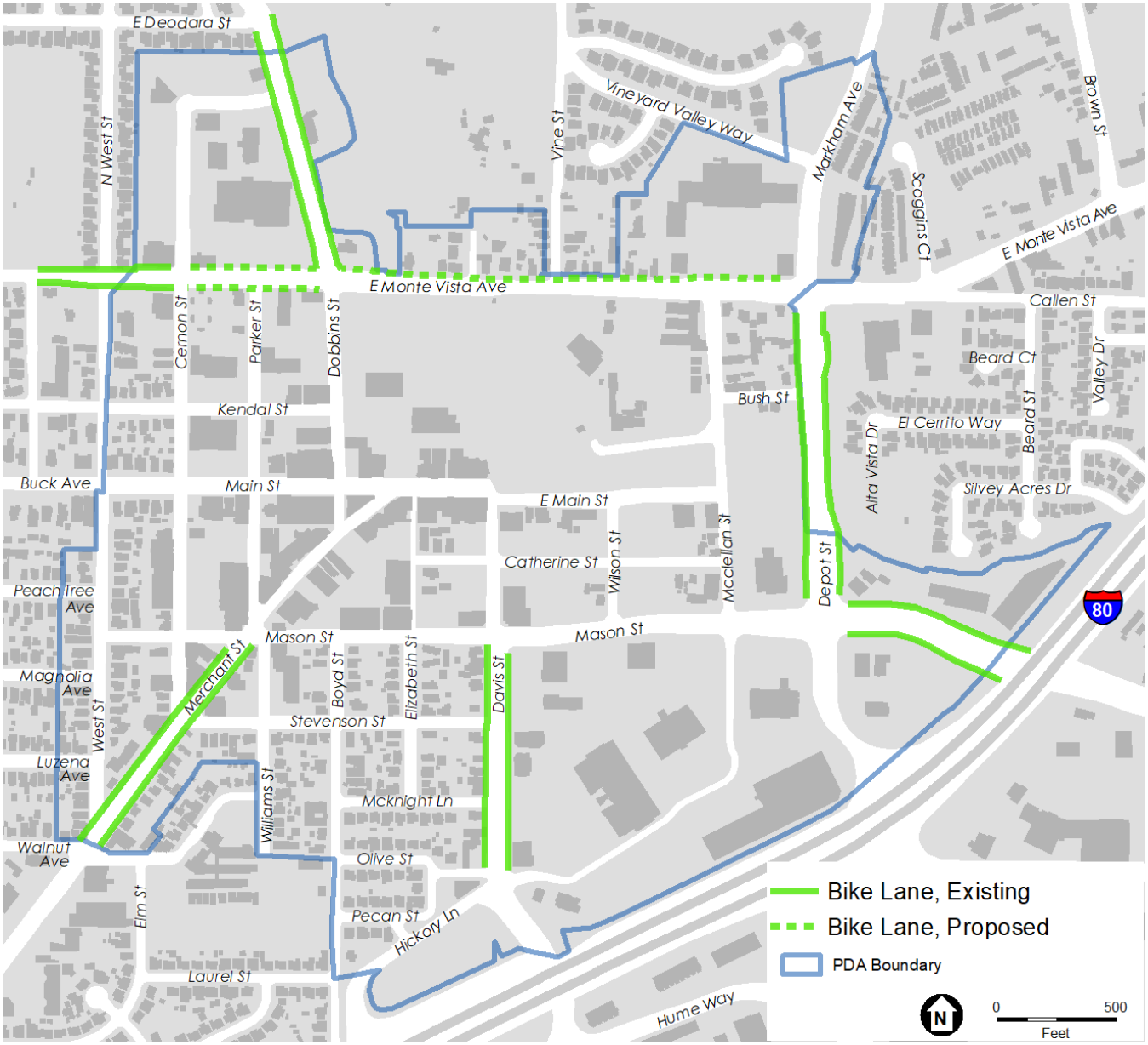

FIGURE 17: EXISTING BICYCLE FACILITIES

EXISTING BICYCLE FLOWS AT SELECT LOCATIONS

Bicycle counts were collected at the same locations and at the same time as pedestrian counts. **Table 12** indicates two-hour peak AM and PM bicycle flows in and around Downtown Vacaville. What is clear is that the bicycle volumes in the PDA are low, especially when compared to pedestrian activity. Only two locations (Scoggins Avenue/East Monte Vista and Brown Street/ East Monte Vista) have total bicycle volumes equal to or greater than 20 during the AM or PM peak.

TABLE 12: TWO-HOUR PEAK PERIOD BICYCLE FLOWS

LOCATION	PEAK PERIOD	NORTH	SOUTH	EAST	WEST	5TH LEG	TOTAL
CERNON ST & MONTE VISTA AVE	AM	0	0	1	4		5
	PM	0	0	3	1		4
DOBBINS ST & MONTE VISTA AVE	AM	5	2	1	3		11
	PM	2	0	4	2		8
MARKHAM AVE/DEPOT ST & MONTE VISTA AVE	AM	1	1	2	2		6
	PM	0	2	4	3		9
MERCHANT ST/PARKER ST/ WILLIAM ST & MASON ST	AM	0	0	0	0	0	0
	PM	0	0	0	0	1	1
DAVIS ST & MASON ST	AM	3	1	1	1		6
	PM	2	3	0	2		7
DEPOT ST/I-80 WB RAMPS & MASON ST	AM	0	0	1	5		6
	PM	0	5	3	7		15
DAVIS ST & HICKORY LN	AM	2	2	0	0		4
	PM	4	7	0	2		13
BROWN ST & BROWNS VALLEY PKWY	AM	1	0	0	3		4
	PM	0	0	1	0		1
ORCHARD AVE & MONTE VISTA AVE	AM	3	6	1	0		10
	PM	4	4	0	2		10
SCOGGINS AVE & MONTE VISTA AVE	AM	1	0	7	4		12
	PM	6	0	14	8		**28**
BROWN ST & MONTE VISTA AVE	AM	0	1	3	2		6
	PM	0	6	8	6		**20**
ALLISON DR & MONTE VISTA	AM	1	2	1	0		4
	PM	3	0	6	4		13
ALAMO DR & MERCHANT ST	AM	1	3	0	0		4
	PM	3	1	0	1		5
BELLA VISTA RD/DAVIS ST & HUME WAY/DAVIS CT	AM	1	4	1	1		7
	PM	4	9	0	3		16
	AM	0	0	1	1		2

LOCATION	PEAK PERIOD	NORTH	SOUTH	EAST	WEST	5TH LEG	TOTAL
BOYD ST & MASON ST	PM	0	0	1	3		4
MERCHANT ST & BET. MASON ST & DOBBINS ST	AM	3	0	0	1		4
	PM	1	0	0	1		2
DAVIS ST & CATHERINE ST	AM	3	2	0	0		5
	PM	2	4	0	1		7
WILSON ST & MAIN ST	AM	0	0	1	3		4
	PM	1	0	2	1		4
WEST ST & E MONTE VISTA AVE.	AM	0	0	2	5		7
	PM	2	1	2	1		6
MYRTLE ST & W MONTE VISTA AVE	AM	1	0	2	4		7
	PM	0	0	2	1		3

Note: **Bold** text represents bicycle volumes of 20 or higher

As shown in **Figure 18**, there are only two locations with 20 or more cyclists in a in either the AM or PM two-hour peak period, neither of which are in the PDA; Scoggins Avenue and Monte Vista Avenue and Brown Street and Monte Vista Avenue. An average of 15 cyclists uses Depot Street/I-80 WB Ramps and Mason Street, the only location in the PDA where more than one approach has bicycle facilities.

Most notably, no intersection in the four-block core mentioned above see more than 7 bicyclists in a peak period. Given the number of pedestrians in the same area, there is a lot of potential for increased bicycle use Downtown. The current state is undoubtedly a consequence of the complete lack of connected designated bicycle facilities in the area.

City of Vacaville General Plan Policy TR-P7.6, described below, prioritizes bicycle improvements in the PDA. To fully connect bicycle facilities in the PDA, it is recommended that the City implement bicycle routes throughout Downtown Vacaville. To remove all gaps in the system, facilities will need to be designated to both north-south and east-west roadways.

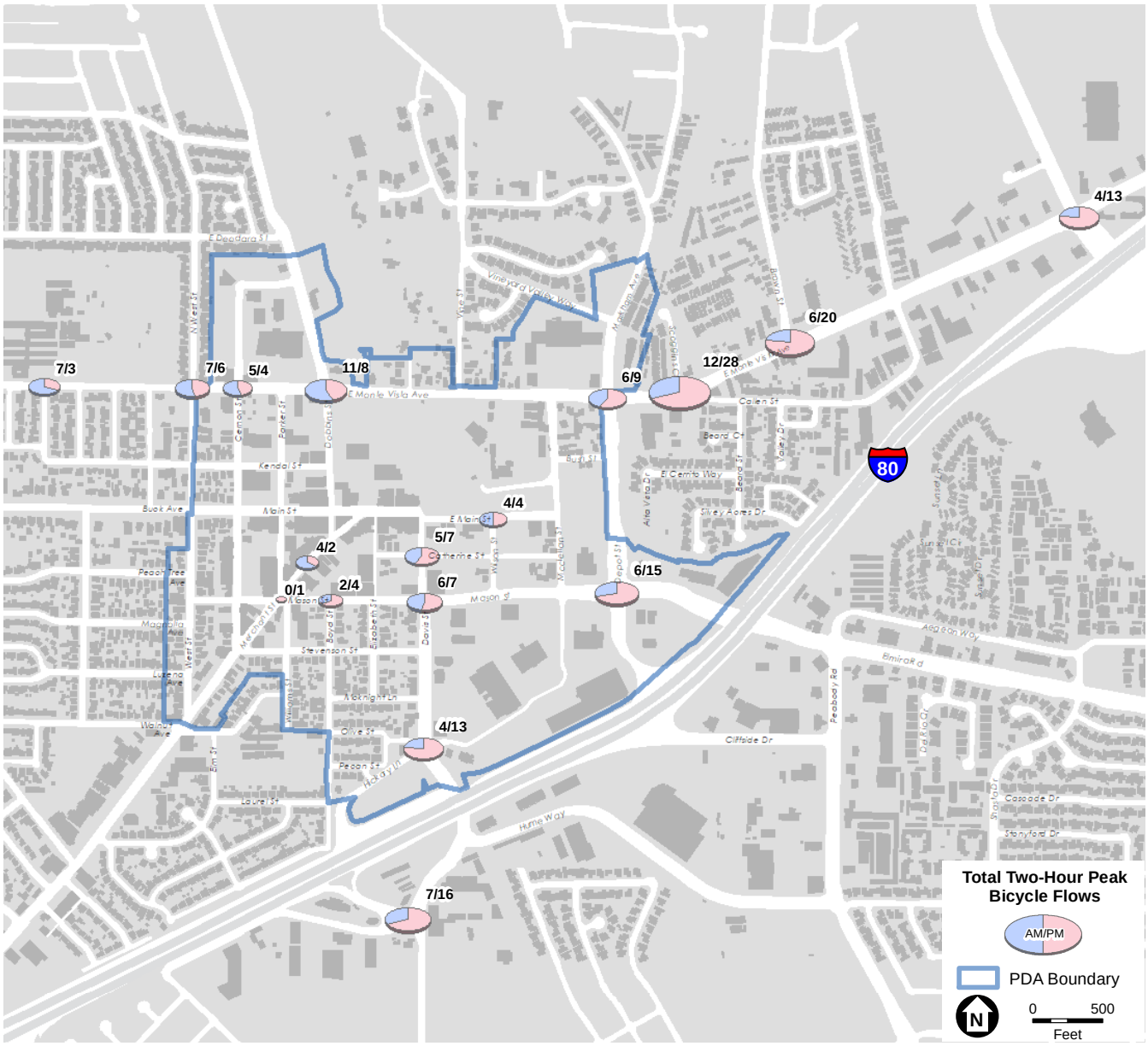

FIGURE 18: EXISTING BICYCLE FLOWS

PLANNED BICYCLE FACILITIES

Several bicycle improvements are planned for the PDA. The following summaries describe sources of bicycle network improvements that are planned to be made in Downtown Vacaville.

Vacaville General Plan Transportation Element

The Vacaville General Plan Transportation Element defines the long-term vision for citywide mobility by setting goals and policies that respond to existing conditions and future changes.

General Plan Figure TR-2, which has recently been updated, shows the latest proposed bicycle facilities citywide. In Downtown Vacaville, a bicycle path is proposed which will connect the existing path under East Monte Vista Avenue through Andrews Park, under I-80 and to the existing Ulatis Creek bike path. Bike lanes are also proposed, but require funding to implement, along East Monte Vista Avenue from the western PDA boundary until the intersection of the existing Ulatis Creek bike path, starting up again and continuing east after Depot Street. This pathway will also include wayfinding signage to encourage bike traffic.

In the section that describes planned non-motorized transportation improvements, there is guidance to construct future bikeway improvements shown in Figure TR-2. The Transportation Element also proposes policy which may impact bicycle use in the PDA:

Policy TR-P7.5 Where existing street widths or traffic volumes do not support creation or maintenance of striped bicycle lanes or shoulders, but where cyclists can be safely accommodated and other conditions permit, consider use of mechanisms such as "sharrows" (i.e. markings painted on roadways indicating that auto traffic is expected to share the lane with cyclists), pavement markings, or "share the road" signage to indicate to both drivers and bicyclists that bicycle use is permitted and should be expected.

Policy TR-P7.6 Require that new development applications design roadway networks to accommodate on-street bicycle lanes, and only allow bicycle routes with sharrows when on-street bicycle lanes are impractical or infeasible.

Policy TR-P7.6 Prioritize transportation improvements that support and enhance travel by transit, bicycle, and pedestrian modes to and from designated Priority Development Areas (PDA).

Solano Countywide Bicycle Transportation Plan

The 2012 Solano Countywide Bicycle Transportation Plan is the primary planning tool used to encourage the development of a unified bicycle system throughout Solano County. While it discusses plans for the development of a bicycle path along Ulatis Creek between Leisure Town Road and I-80, there are no plans to expand the path further west to the PDA.

East Main District Mixed-Use Development Project

The document description and location can be found in Planned Roadway Improvements. This project will extend the existing Creek Trail from McClellan Street to Depot Street, which will be accessible to bicyclist.

City of Vacaville Traffic Impact Fee (TIF)

The City of Vacaville Traffic Impact Fee is used to assure financing for projects listed in the General Plan. While it is currently being updated, once adopted it will document the extension of the Ulatis Creek Bike Trail within the PDA. This extension will connect the existing trail through Andrews Park to the existing trails both north and southeast of Downtown Vacaville. To the north, the trail will be extended along Ulatis Creek to the existing trail near the corner of Juniper Street and North West Street. To the southeast, the trail will continue to follow Ulatis Creek under I-80 to the existing path west of Alison Drive.

TRANSIT

There are four City Coach bus routes that operate in Downtown Vacaville. Ridership for each of these routes varies but all similarly experience a spike in ridership at the Transit Plaza. This plaza is located at the corner of East Monte Vista Avenue and Cernon Street and is well connected to Downtown Vacaville through the large number of sidewalks and crosswalks. It should be noted that STA has considered the possibility the future addition of an express bus service which serves the park and ride lot in the PDA.

EXISTING TRANSIT ROUTES

The 2017 Vacaville Transit Service Evaluation Study describes the routes that run through the PDA in the following manner:

- **Route 2** starts at the Transportation Plaza in the PDA, then serves City Hall before it heads west towards the Transit Plaza along Elmira Road. On weekdays, Route 2 begins service at 6:00 AM and ends at 6:22 PM. On Saturdays, Route 2 begins service at 7:52 AM and ends service at 5:52 PM. Two buses provide 30-minute service frequencies. On weekdays, the route operates for just over 25 vehicle service-hours and 333 vehicle service-miles. On Saturdays, the route operates 20 vehicle service hours and just over 260 vehicle service miles.

- **Route 5** predominantly serves the neighborhoods in the south of Vacaville. In the PDA, the route uses Merchant Street to serve the Transit Plaza before returning the way that it came. On weekdays, Route 5 runs from 6:15 AM to 6:45 PM, and from 8:15 AM to 6:15 on Saturdays, with two buses providing 30-minute service frequencies. On average weekdays, service-miles are almost 390, and just over 300 on Saturday. City Coach also adds one tripper run to this route, which also serves as a tripper run for Route 8. As with Route 2, this tripper only operates during the school year.

- **Route 6** serves the more central areas of Vacaville, stopping along the Markham neighborhood to the north of the PDA before stopping at the Transit Plaza. The bus then returns to the Transportation Center, following the same route. Operating hours are from

6:00 AM to 6:24 PM on weekdays and 7:54 AM to 5:54 PM on Saturdays, with two buses providing 30-minute frequencies. Route 6 provides 25 vehicle service-hours on an average weekday, and 20 service hours on Saturday, and approximately 300 weekday service-miles and 240 average Saturday service miles.

Transit route times changes, sometimes yearly based upon need. Prior to June 8, 2018, Route 8 served the Brenden Theatres and the Transit Plaza in the PDA. Since that date, the route has been revised as the new Route 3 and no longer serves Downtown Vacaville. **Figure 19** shows each of the Vacaville City Coach bus routes that operate in and around Downtown Vacaville.

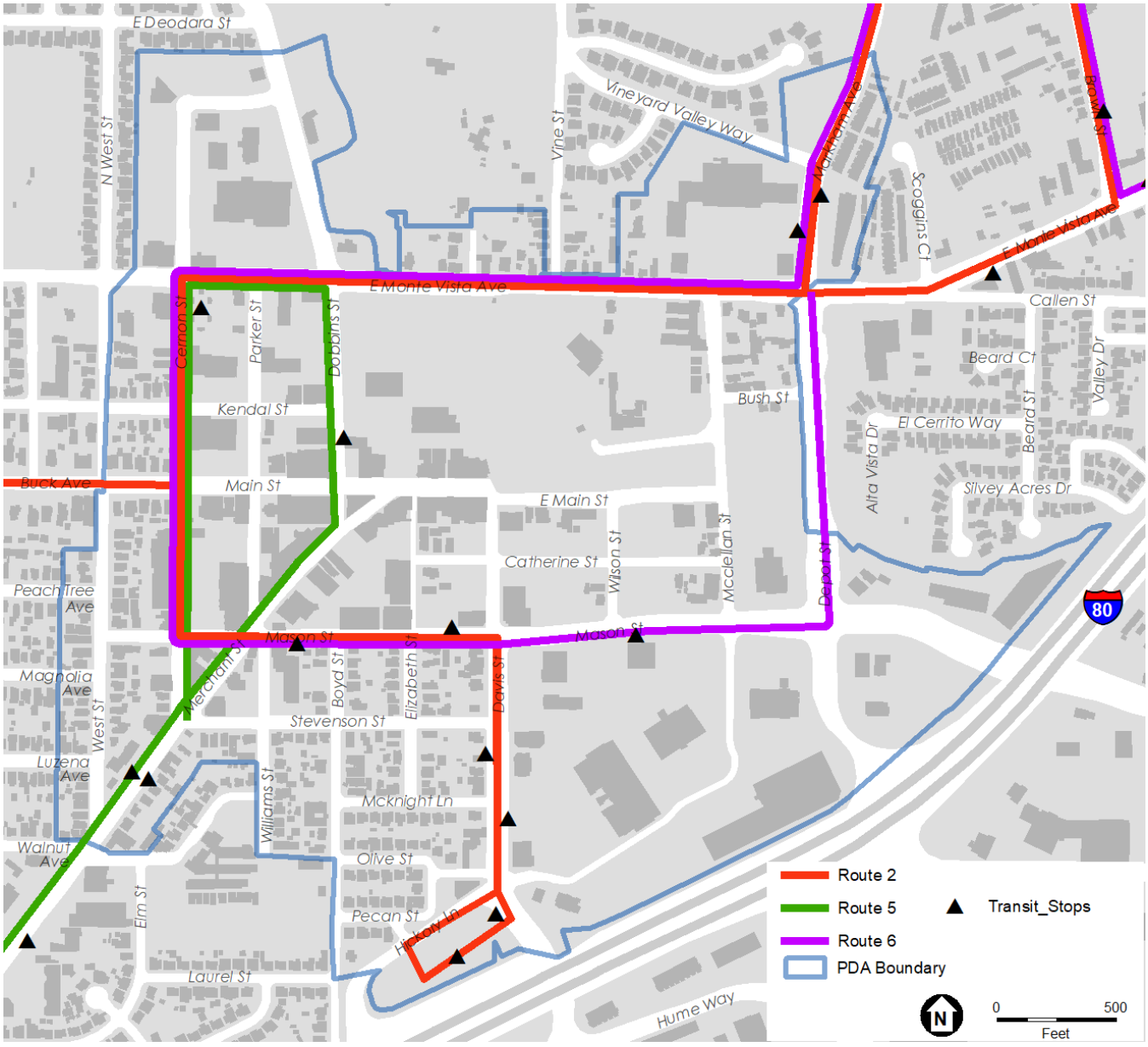

FIGURE 19: EXISTING TRANSIT ROUTES AND STOPS IN PDA

EXISTING TRANSIT RIDERSHIP

Table 13 shows average daily by boardings and alightings by bus stop within and near Downtown Vacaville using data presented in 2017 Vacaville Transit Service Evaluation Study. As one might expect, the Transit Plaza draws the most ridership in the PDA. Beyond being a full service transit facility rather than a stop on the side of a road, its easily accessible location downtown and covered waiting areas are ideal. The table also shows the average and maximum load on a bus, or how full a bus might be, after each stop.

TABLE 13: AVERAGE DAILY RIDERSHIP NEAR PDA

STOP	AVERAGE DAILY PASSENGERS			LOAD AFTER STOP	
	ON	OFF	TOTAL	AVERAGE	MAXIMUM
Route 2					
LES SCHWAB / MASON & DEPOT	0.6	3.5	4.1	1.8	15
MASON & ELIZABETH	1.2	4.6	5.8	1.7	15
TRANSIT PLAZA	49.5	31.1	80.6	2.2	19
MERCHANT ST & CERNON	0	4.0	4.0	2.1	19
CITY HALL / MERCHANT ST.	5.8	1.2	6.9	2.3	19
VALERO / MERCHANT & ORCHARD	4	2.9	6.9	2.3	20
VACAVILLE MUSEUM / BUCK AVE	1.2	2.9	4.1	2.8	30
TRANSIT PLAZA	57.6	25.9	83.5	3.4	46
PRIME TIME NUTRITION / MONTE VISTA	8.6	7.5	16.1	3.4	47
JUANITA MARKET / BROWN ST.	6.9	4.6	11.5	3.5	47
NUGGET MARKET / BROWN VALLEY	4.0	6.3	10.4	1.6	13
Route 5					
TONY'S / MERCHANT & ALAMO	2.1	10.7	12.8	4.5	21
ACE HARDWARE / MERCHANT & ELM	1.6	6.9	8.5	4.2	19
MERCHANT & STEVENSON	0	3.2	3.2	4.0	19
MC BRIDE SENIOR CENTER / DOBBINS ST	4.8	12.8	17.6	3.9	19
TRANSIT PLAZA	68.7	45.3	114	3.7	19
MERCHANT & CERNON	0.5	0.5	1.1	4.3	19
CITY HALL / MERCHANT	7.5	1.1	8.5	4.3	19
VALERO / MERCHANT & ORCHARD	8.5	1.1	9.6	4.4	19
TONY'S / MERCHANT & ALAMO	2.1	10.7	12.8	4.5	21

STOP	AVERAGE DAILY PASSENGERS			LOAD AFTER STOP	
	ON	OFF	TOTAL	AVERAGE	MAXIMUM
	Route 6				
TROWER PARK / MARKHAM AV	7.0	5.4	12.4	4.2	41
MARKHAM & WESLEY	7.5	4.1	11.6	4.2	42
LUCKY'S / MARKHAM	5.8	14.9	20.7	3.9	44
TRANSIT PLAZA	67.1	106.9	174	2.7	36
MASON & WILLIAMS	1.7	2.1	3.7	2.6	36
SUTTER / MASON ST	9.9	5	14.9	2.8	34
LILLTE CEASAR'S / MARKHAM	15.3	8.7	24	3.1	33
MARKHAM & ROCKY HILL RD	5.0	4.6	9.5	3.1	32

Table 13 shows that in the PDA, Route 5 maintains a higher number of people on the bus after each stop than Routes 2 and 6. This makes sense because on Route 5, Downtown Vacaville is the end of the line where the other two routes serve a lot more of the surrounding neighborhoods. That said, Route 6 has the most activity at the Transit Plaza with an average of 174 daily boardings and alightings. This also makes sense because Routes 2 and 5 loop around and stop at the Transit Plaza twice every loop, where Route 6 only stops there once.

APPENDIX A:

COUNT DATA

DKS

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ANAHEIM, CA • AUSTIN, TX • PASADENA, CA • PORTLAND, OR • OAKLAND, CA • SACRAMENTO, CA • SALEM, OR • SEATTLE, WA

Prepared by National Data & Surveying Services

Alamo Dr & Merchant St

Peak Hour Turning Movement Count

ID: 19-08210-005
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

Alamo Dr — SOUTHBOUND

AM	212	513	50	0	676	AM
NOON	0	0	0	0	0	NOON
PM	124	544	87	0	776	PM

Merchant St — EASTBOUND

AM	NOON	PM	
1196	0	779	⇦
0	0	0	↶ 0
164	0	183	↱ 0
130	0	87	→ 0
254	0	359	↴ 0
AM	NOON	PM	

Merchant St — WESTBOUND

PM	NOON	AM	
54	0	53	0 ↰
208	0	215	0 ←
411	0	323	0 ↰
5	0	6	0 ↰
669	0	681	⇨
PM	NOON	AM	

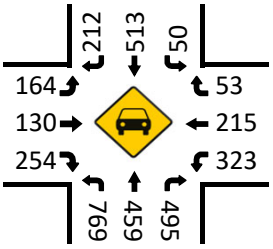
CONTROL: 0

TEV	3643	0	3538
	AM	NOON	PM
PHF	0.92		0.96

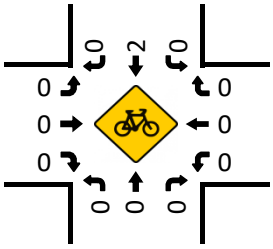
Alamo Dr — NORTHBOUND

PM	1314	0	447	539	490	PM
NOON	0	0	0	0	0	NOON
AM	1090	0	769	459	495	AM

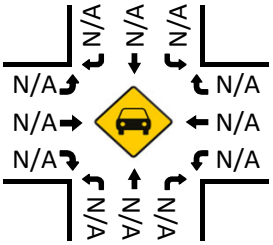
Total Vehicles (AM)



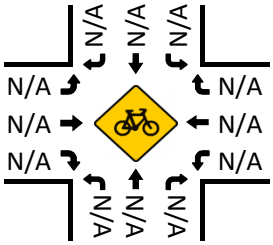
Bikes (AM)



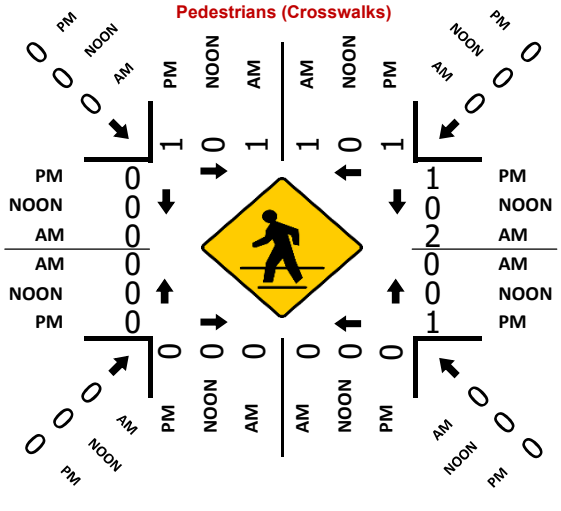
Total Vehicles (Noon)



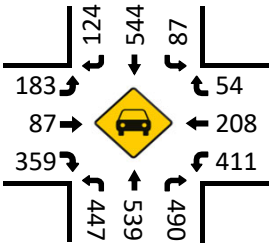
Bikes (NOON)



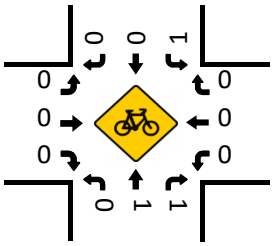
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Brown St & Browns Valley Pkwy

Peak Hour Turning Movement Count

ID: 19-08210-012
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	
AM	07:45 AM - 08:45 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Brown St — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

Browns Valley Pkwy — EASTBOUND

AM	NOON	PM	
482	0	902	⇦
0	0	0	↶ 0
0	0	0	↱ 0
647	0	471	→ 0
322	0	180	↴ 0
AM	NOON	PM	

CONTROL

0

TEV	1678 AM	0 NOON	1740 PM
PHF	0.89		0.98

Browns Valley Pkwy — WESTBOUND

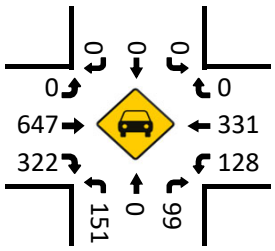
PM	NOON	AM	
0	0	0	↰ 0
720	0	331	← 0
105	0	128	↰ 0
0	0	0	↰ 0
553	0	746	⇨
PM	NOON	AM	

Brown St — NORTHBOUND

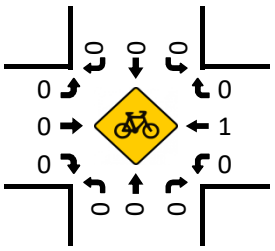
PM	285	0	182	0	82	PM
NOON	0	0	0	0	0	NOON
AM	450	0	151	0	99	AM

Brown St

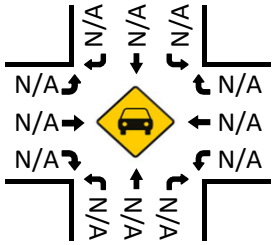
Total Vehicles (AM)



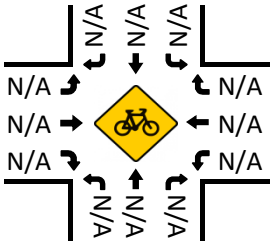
Bikes (AM)



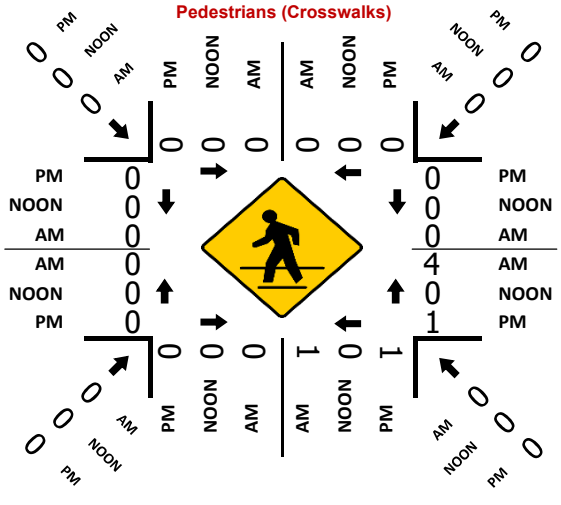
Total Vehicles (Noon)



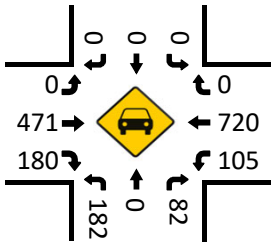
Bikes (NOON)



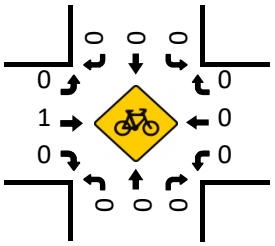
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Davis St & Hickory Ln

Peak Hour Turning Movement Count

ID: 19-08210-023
City: Vacaville

Day: Tuesday
Date: 04/16/2019

	PEAK HOURS	COUNT PERIODS
AM	07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

Davis St — SOUTHBOUND

	↲	↓	↳	U	⇧
AM	30	341	27	0	500
NOON	0	0	0	0	0
PM	67	376	34	1	516
	0	0	0	0	

Hickory Ln — EASTBOUND

	AM	NOON	PM	
⇦	384	0	389	
U	0	0	0	0
Left	49	0	69	0
Thru	29	0	54	0
Right	251	0	343	0

Hickory Ln — WESTBOUND

		PM	NOON	AM
Right	0	40	0	32
Thru	0	62	0	64
Left	0	122	0	64
U	0	0	0	0
⇨		243	0	188

Davis St — NORTHBOUND

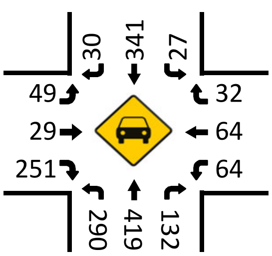
	⇩	U	Left	Thru	Right
		0	0	0	0
PM	841	0	260	406	155
NOON	0	0	0	0	0
AM	656	0	290	419	132

CONTROL

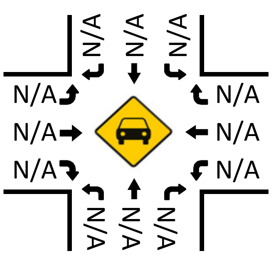
0

	AM	NOON	PM
TEV	1728	0	1989
PHF	0.89		0.97

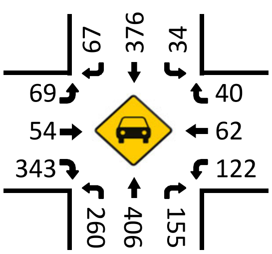
Total Vehicles (AM)



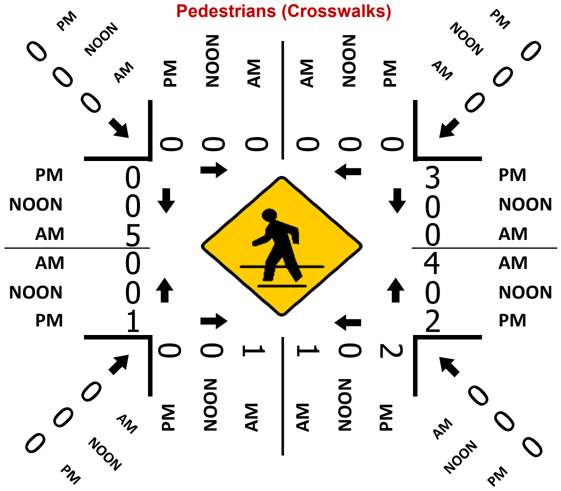
Total Vehicles (Noon)



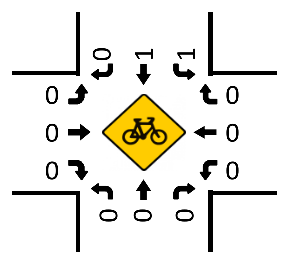
Total Vehicles (PM)



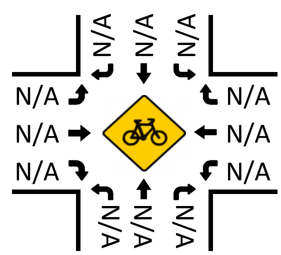
Pedestrians (Crosswalks)



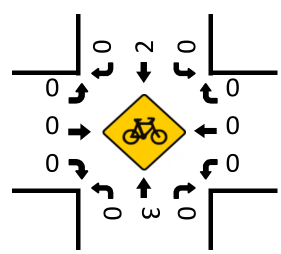
Bikes (AM)



Bikes (NOON)



Bikes (PM)



Prepared by National Data & Surveying Services

Bella Vista Rd/Davis St & Hume Way/Davis Ct

Peak Hour Turning Movement Count

ID: 19-08210-024
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

Bella Vista Rd/Davis St — SOUTHBOUND

AM	4	496	152	0	838	AM
NOON	0	0	0	0	0	NOON
PM	15	525	338	0	844	PM

Hume Way/Davis Ct — EASTBOUND

AM	NOON	PM	
9	0	31	⇦
0	0	0	↰ 0
9	0	17	↱ 0
3	0	18	→ 0
0	0	3	↳ 0
AM	NOON	PM	

Hume Way/Davis Ct — WESTBOUND

PM	NOON	AM	
358	0	330	0 ↱
16	0	4	0 ←
237	0	169	0 ↰
0	0	0	0 ↳
691	0	340	⇨
PM	NOON	AM	

CONTROL

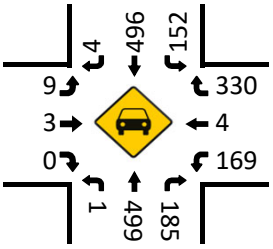
0

TEV	1853 AM	0 NOON	2343 PM
PHF	0.82		0.93

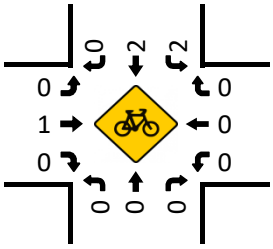
Bella Vista Rd/Davis St — NORTHBOUND

PM	777	12	0	469	335	PM
NOON	0	0	0	0	0	NOON
AM	666	1	1	499	185	AM

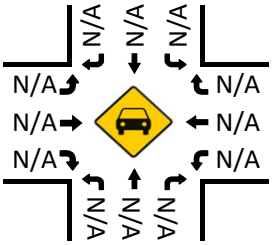
Total Vehicles (AM)



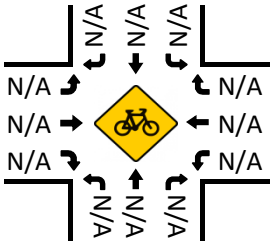
Bikes (AM)



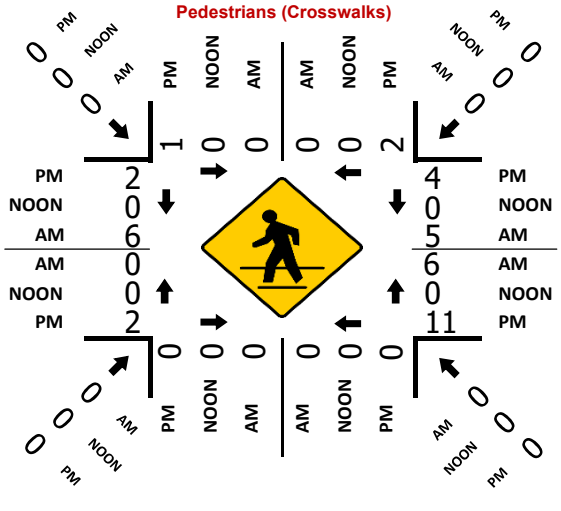
Total Vehicles (Noon)



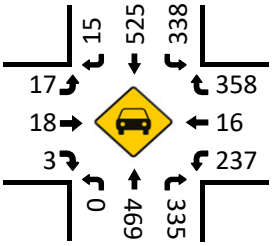
Bikes (NOON)



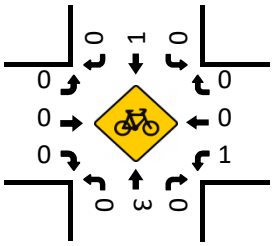
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Scoggins Ave & Monte Vista Ave

Peak Hour Turning Movement Count

ID: 19-08210-042
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Scoggins Ave

	L	T	R	U	Total	
AM	21	1	11	0	34	AM
NOON	0	0	0	0	0	NOON
PM	25	4	27	0	47	PM

EASTBOUND — Monte Vista Ave

	L	T	R	U	
AM	0	11	800	59	AM
NOON	0	0	0	0	NOON
PM	0	19	984	82	PM

WESTBOUND — Monte Vista Ave

	L	T	R	U	
PM	27	810	3	0	PM
NOON	0	0	0	0	NOON
AM	23	709	3	0	AM

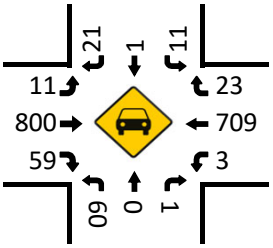
NORTHBOUND — Scoggins Ave

	L	T	R	U	Total	
PM	89	0	51	1	5	PM
NOON	0	0	0	0	0	NOON
AM	63	0	60	0	1	AM

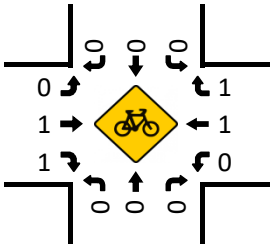
CONTROL			
0			
TEV	1699 AM	0 NOON	2038 PM
PHF	0.89		0.88

	AM	NOON	PM
EASTBOUND	886	0	790
WESTBOUND	1016	0	812
NORTHBOUND	63	0	89

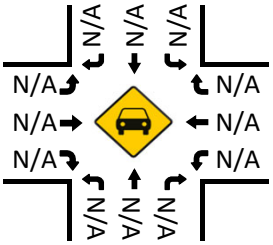
Total Vehicles (AM)



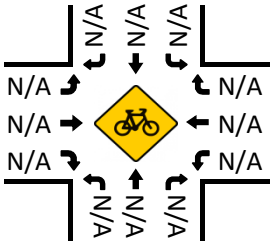
Bikes (AM)



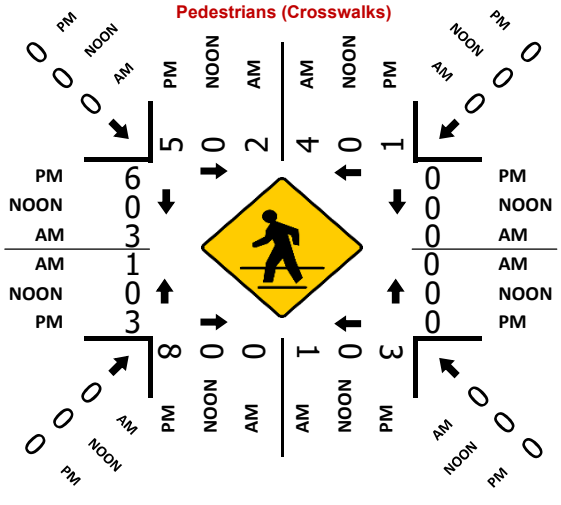
Total Vehicles (NOON)



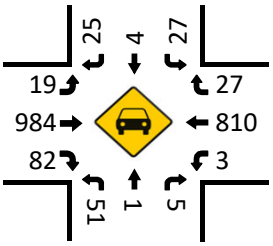
Bikes (NOON)



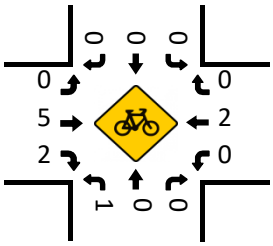
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Davis St & Mason St

Peak Hour Turning Movement Count

ID: 19-08210-047
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	
AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND (Davis St)

AM	4	134	41	0	272	AM
NOON	0	0	0	0	0	NOON
PM	21	176	88	0	285	PM

EASTBOUND (Mason St)

AM	NOON	PM	
563	0	398	⇦
0	0	0	↶ 0
7	0	13	↱ 0
181	0	271	→ 0
43	0	63	↳ 0

WESTBOUND (Mason St)

PM	NOON	AM	
71	0	68	0 ↰
303	0	458	0 ←
124	0	154	0 ↙
0	0	0	0 ↲
550	0	388	⇨

NORTHBOUND (Davis St)

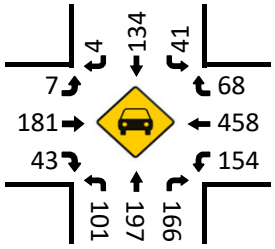
PM	363	0	74	201	191	PM
NOON	0	0	0	0	0	NOON
AM	331	0	101	197	166	AM

CONTROL

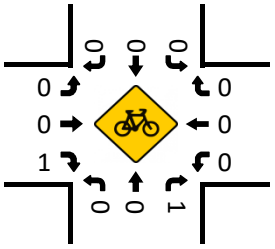
0

TEV	1554	0	1596
	AM	NOON	PM
PHF	0.89		0.89

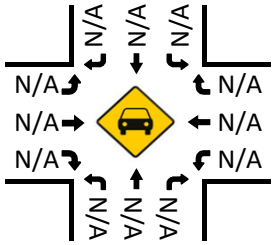
Total Vehicles (AM)



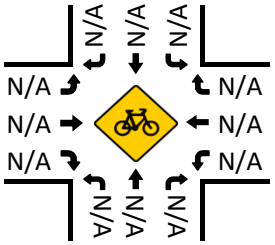
Bikes (AM)



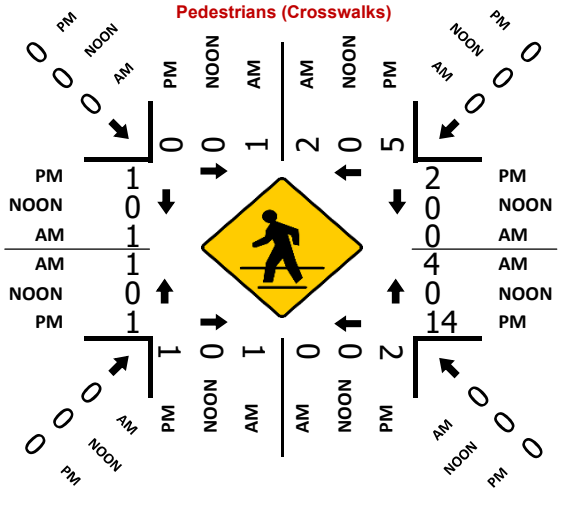
Total Vehicles (Noon)



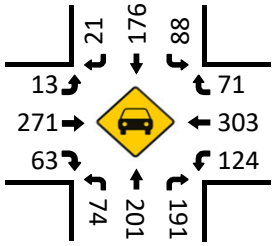
Bikes (NOON)



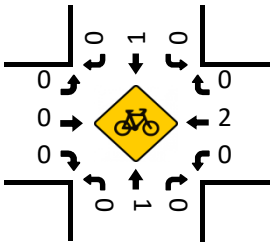
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Depot St/I-80 WB Ramps & Mason St

Peak Hour Turning Movement Count

ID: 19-08210-048
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Depot St/I-80 WB Ramps — SOUTHBOUND

AM	128	152	383	0	747	AM
NOON	0	0	0	0	0	NOON
PM	140	144	385	0	885	PM

Mason St — EASTBOUND

AM	NOON	PM		
818	0	647	⇦	
1	0	1	↶	0
137	0	223	↱	0
255	0	456	→	0
17	0	44	↴	0
AM	NOON	PM		

CONTROL

0

	AM	NOON	PM
TEV	3243	0	3311
PHF	0.92		0.92

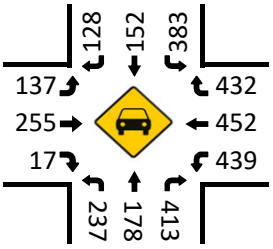
WESTBOUND — Mason St

PM	NOON	AM		
507	0	432	↷	0
390	0	452	←	0
326	0	439	↰	0
23	0	19	↰	0
1263	0	1070	⇨	
PM	NOON	AM		

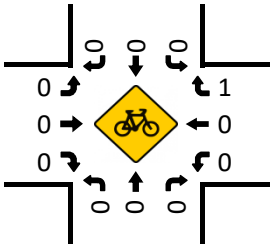
Depot St/I-80 WB Ramps — NORTHBOUND

PM	516	2	116	155	399	PM
NOON	0	0	0	0	0	NOON
AM	608	0	237	178	413	AM

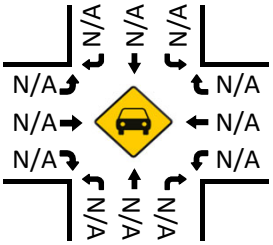
Total Vehicles (AM)



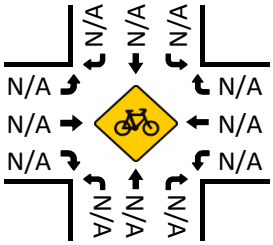
Bikes (AM)



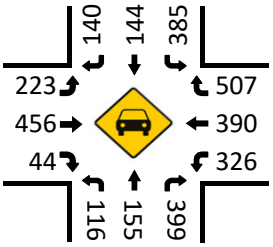
Total Vehicles (Noon)



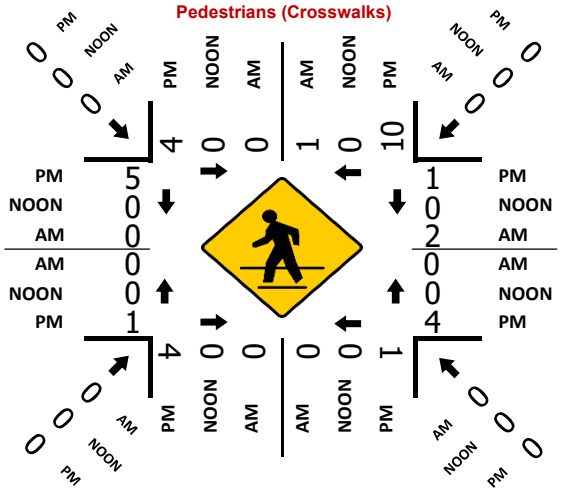
Bikes (NOON)



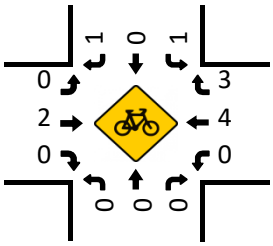
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Merchant St/Parker St/ William St & Mason St

Peak Hour Turning Movement Count

ID: 19-08210-049
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND — Merchant St/Parker St/ William St

AM	1	79	2	0	114	AM
NOON	0	0	0	0	0	NOON
PM	5	98	11	0	212	PM

EASTBOUND — Mason St

AM	NOON	PM	
207	0	184	⇦
0	0	0	↶ 0
1	0	5	↱ 0
100	0	85	→ 0
2	0	5	↴ 0
AM	NOON	PM	

WESTBOUND — Mason St

PM	NOON	AM	
25	0	28	0 ↰
109	0	149	0 ←
139	0	225	0 ↰
0	0	0	0 ↰
277	0	202	⇨
PM	NOON	AM	

CONTROL

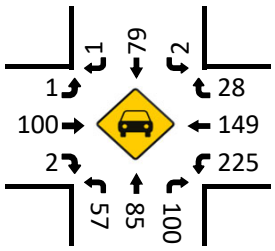
0

TEV	829 AM	0 NOON	915 PM
PHF	0.89		0.88

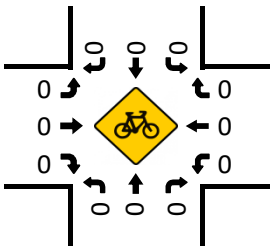
NORTHBOUND — Merchant St/Parker St/ William St

PM	242	0	70	182	181	PM
NOON	0	0	0	0	0	NOON
AM	306	0	57	85	100	AM

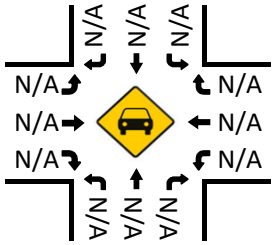
Total Vehicles (AM)



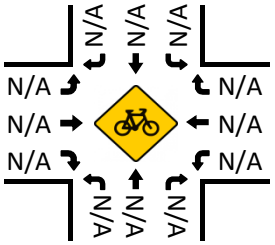
Bikes (AM)



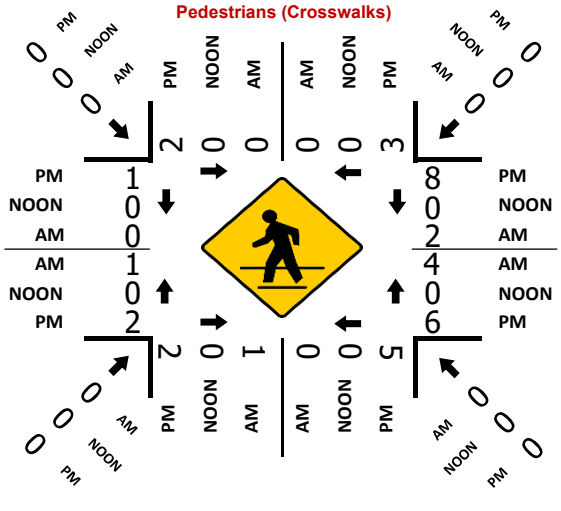
Total Vehicles (Noon)



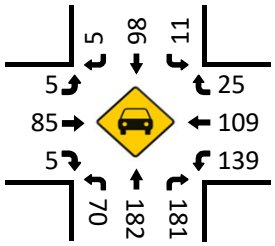
Bikes (NOON)



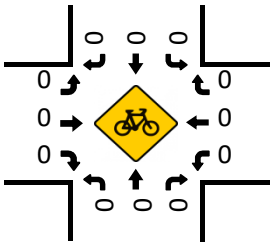
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Allison Dr & Monte Vista Ave

Peak Hour Turning Movement Count

ID: 19-08210-057
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
07:00 AM - 08:00 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Allison Dr

	L	T	R	U	Total	
AM	59	196	3	0	353	AM
NOON	0	0	0	0	0	NOON
PM	39	152	17	0	721	PM

EASTBOUND — Monte Vista Ave

	L	T	R	U	
AM	73	250	468	0	AM
NOON	0	0	0	0	NOON
PM	68	320	564	0	PM

WESTBOUND — Monte Vista Ave

	L	T	R	U	
PM	26	377	370	0	PM
NOON	0	0	0	0	NOON
AM	11	192	170	0	AM

NORTHBOUND — Allison Dr

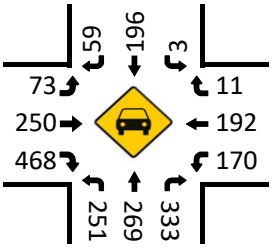
	L	T	R	U	Total	
PM	858	627	433	0	1086	PM
NOON	0	0	0	0	0	NOON
AM	333	269	251	0	834	AM

CONTROL

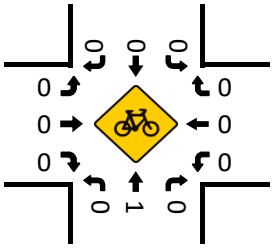
0

	Total	AM	NOON	PM
TEV	2275	0	0	3851
PHF		0.95		0.98

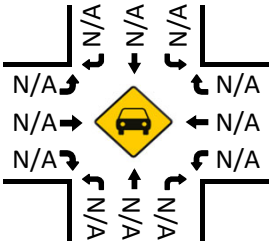
Total Vehicles (AM)



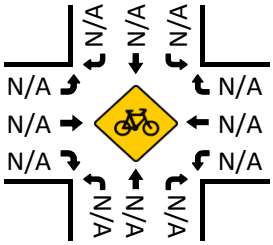
Bikes (AM)



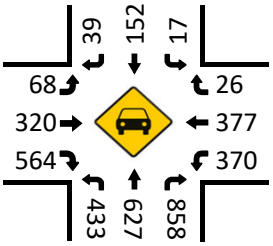
Total Vehicles (Noon)



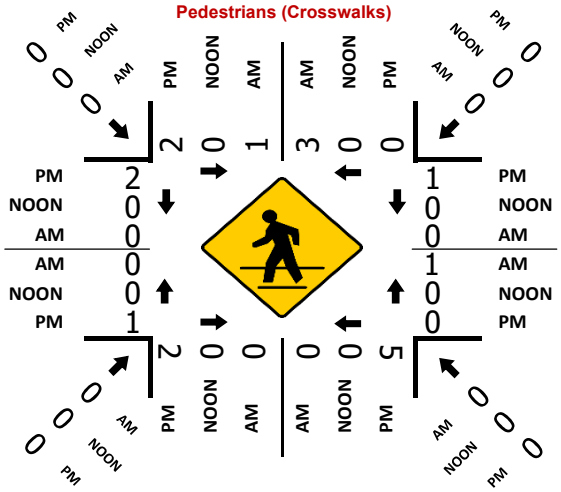
Bikes (NOON)



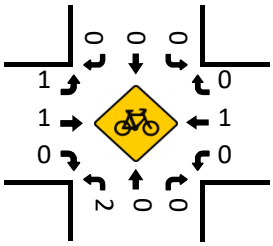
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Brown St & Monte Vista Ave

Peak Hour Turning Movement Count

ID: 19-08210-058
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS		COUNT PERIODS
AM	08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Brown St — SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing
AM	340	1	115	0	240
NOON	0	0	0	0	0
PM	148	0	91	0	255
	0	0	0	0	

Monte Vista Ave — EASTBOUND

	AM	NOON	PM	
Departing	678	0	830	
U-Turn	5	0	7	0
Left	166	0	183	0
Thru	657	0	843	0
Right	8	0	4	0

Monte Vista Ave — WESTBOUND

		PM	NOON	AM
Left	0	72	0	73
Thru	0	672	0	333
Right	0	6	0	8
U-Turn	0	0	0	0
Departing		942	0	775

Brown St — NORTHBOUND

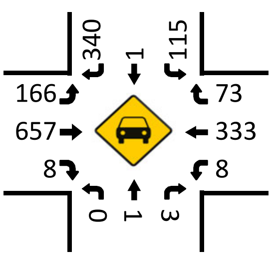
	Departing	U-Turn	Left	Thru	Right
		0	0	0	0
PM	10	0	3	0	8
NOON	0	0	0	0	0
AM	17	0	0	1	3

CONTROL

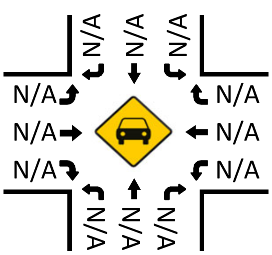
0

	AM	NOON	PM
TEV	1710	0	2037
PHF	0.91		0.93

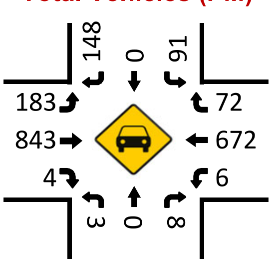
Total Vehicles (AM)



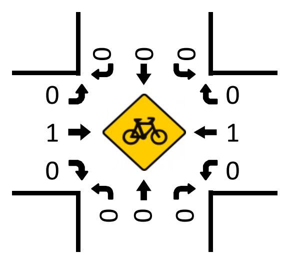
Total Vehicles (Noon)



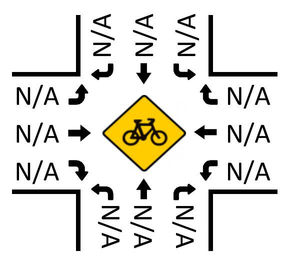
Total Vehicles (PM)



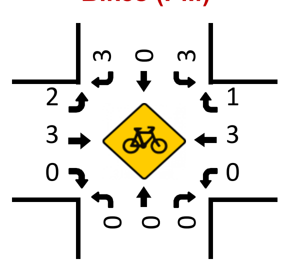
Bikes (AM)



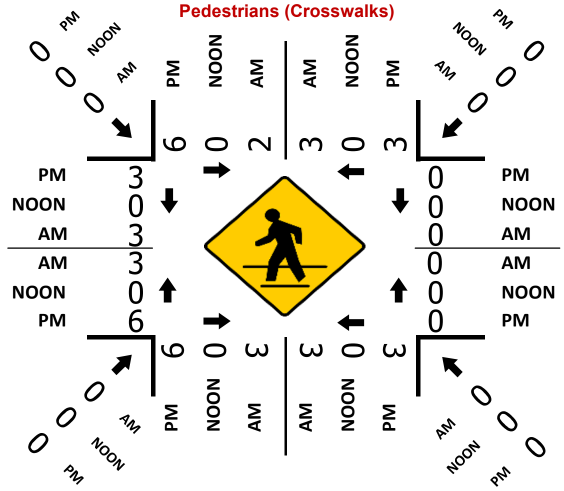
Bikes (NOON)



Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

Cernon St & Monte Vista Ave

Peak Hour Turning Movement Count

ID: 19-08210-060
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

CONTROL: 0

	1325	0	1038
TEV	AM	NOON	PM
PHF	0.86		0.82

Cernon St — SOUTHBOUND

AM	94	30	44	0	62	AM
NOON	0	0	0	0	0	NOON
PM	32	34	50	0	81	PM

Monte Vista Ave — EASTBOUND

AM	NOON	PM	
711	0	411	
0	0	0	0
19	0	27	0
387	0	351	0
23	0	23	0
AM	NOON	PM	

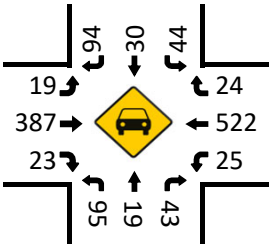
Monte Vista Ave — WESTBOUND

PM	NOON	AM	
30	0	24	0
335	0	522	0
39	0	25	0
0	0	0	0
450	0	474	
PM	NOON	AM	

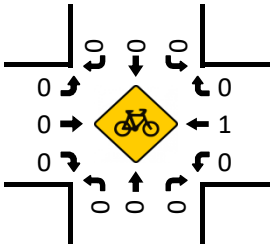
Cernon St — NORTHBOUND

PM	96	0	44	24	49	PM
NOON	0	0	0	0	0	NOON
AM	78	0	95	19	43	AM

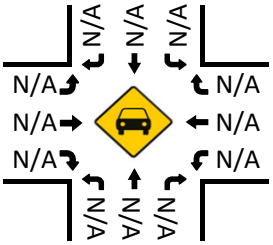
Total Vehicles (AM)



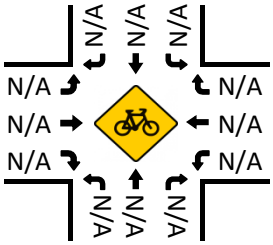
Bikes (AM)



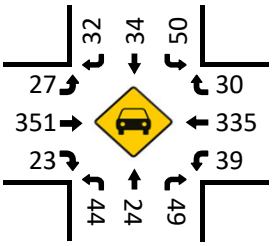
Total Vehicles (Noon)



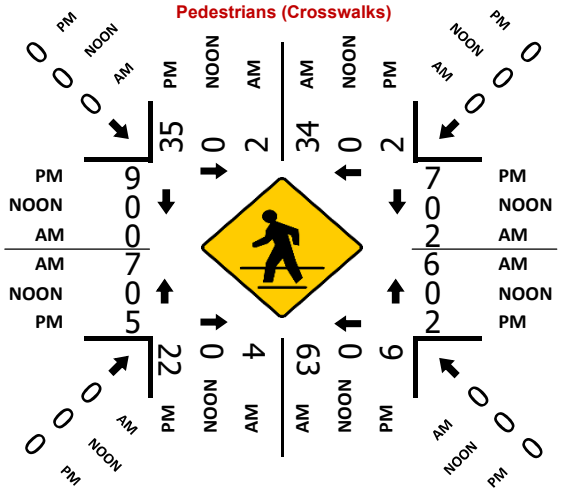
Bikes (NOON)



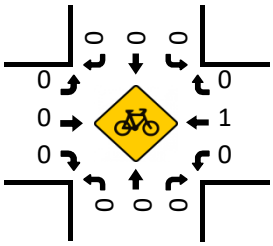
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Markham Ave/Depot St & Monte Vista Ave

Peak Hour Turning Movement Count

ID: 19-08210-061
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
AM: 08:00 AM - 09:00 AM	AM: 07:00 AM - 09:00 AM
NOON: NONE	NOON: NONE
PM: 04:00 PM - 05:00 PM	PM: 04:00 PM - 06:00 PM

Markham Ave/Depot St — SOUTHBOUND

AM	275	187	78	0	368	AM
NOON	0	0	0	0	0	NOON
PM	115	209	138	0	523	PM

Monte Vista Ave — EASTBOUND

AM	NOON	PM	
1051	0	934	
1	0	4	0
130	0	143	0
597	0	612	0
220	0	215	0

CONTROL

0

TEV	2957 AM	0 NOON	3224 PM
PHF	0.89		0.92

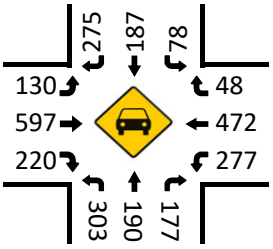
Monte Vista Ave — WESTBOUND

PM	NOON	AM	
99	0	48	0
514	0	472	0
261	0	277	0
3	0	2	0
1082	0	854	

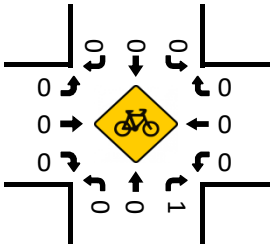
Markham Ave/Depot St — NORTHBOUND

PM	685	0	301	281	329	PM
NOON	0	0	0	0	0	NOON
AM	684	0	303	190	177	AM

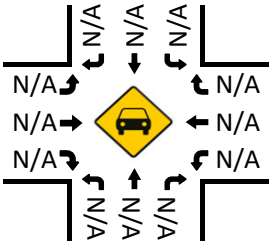
Total Vehicles (AM)



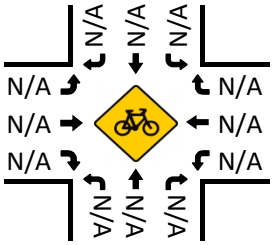
Bikes (AM)



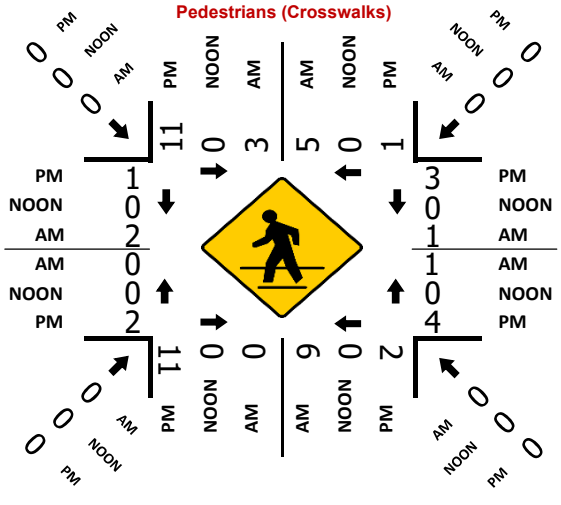
Total Vehicles (Noon)



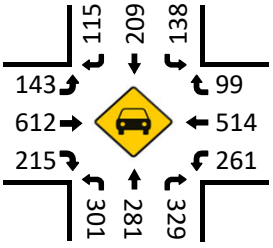
Bikes (NOON)



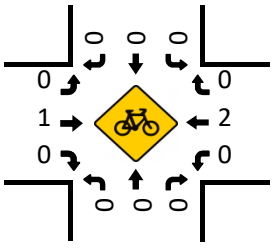
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Dobbins St & Monte Vista Ave

Peak Hour Turning Movement Count

ID: 19-08210-062
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Dobbins St

AM	44	203	456	0	591	AM
NOON	0	0	0	0	0	NOON
PM	27	116	319	0	735	PM

EASTBOUND — Monte Vista Ave

AM	NOON	PM	
680	0	506	
0	0	0	0
35	0	36	0
455	0	450	0
12	0	20	0

WESTBOUND — Monte Vista Ave

PM	NOON	AM	
484	0	450	0
450	0	599	0
104	0	109	0
0	0	0	0
904	0	978	

NORTHBOUND — Dobbins St

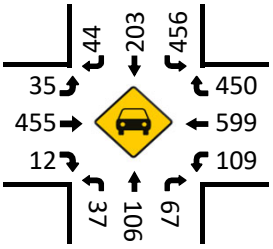
PM	240	0	29	215	135	PM
NOON	0	0	0	0	0	NOON
AM	324	0	37	106	67	AM

CONTROL

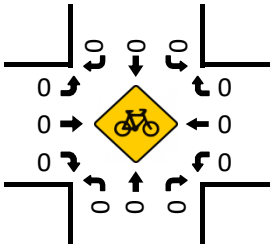
0

TEV	2573 AM	0 NOON	2385 PM
PHF	0.89		0.94

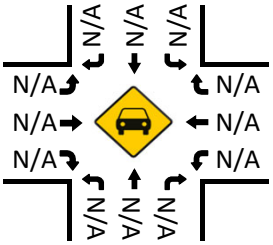
Total Vehicles (AM)



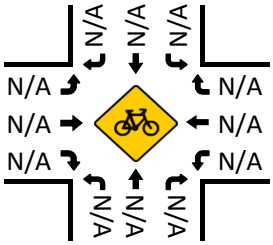
Bikes (AM)



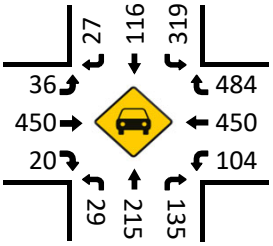
Total Vehicles (Noon)



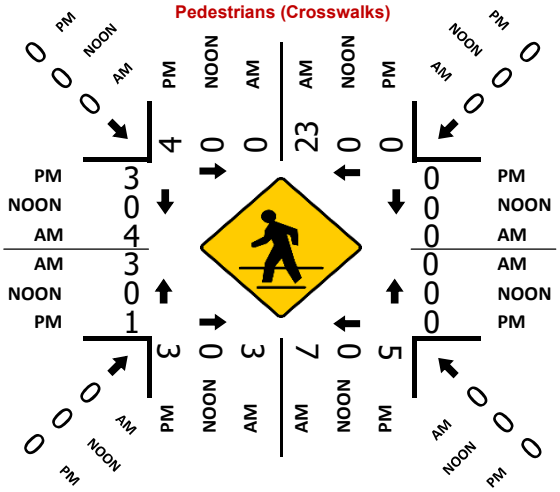
Bikes (NOON)



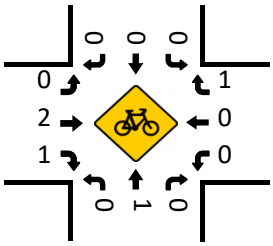
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Orchard Ave & Monte Vista Ave

Peak Hour Turning Movement Count

ID: 19-08210-065
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND (Orchard Ave)

	L	T	R	U	Total	
AM	133	269	171	0	365	AM
NOON	0	0	0	0	0	NOON
PM	53	183	64	0	383	PM

EASTBOUND (Monte Vista Ave)

	L	T	R	U	
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM
AM	82	0	104	0	AM
NOON	105	0	101	0	NOON
PM	14	0	24	0	PM

WESTBOUND (Monte Vista Ave)

	L	T	R	U	
PM	78	0	105	0	PM
NOON	99	0	136	0	NOON
AM	50	0	65	0	AM
PM	0	0	0	0	PM
NOON	217	0	322	0	NOON
AM	292	0	175	0	AM

NORTHBOUND (Orchard Ave)

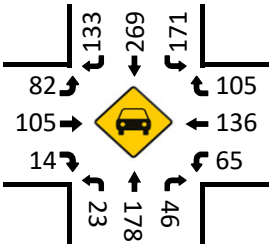
	L	T	R	U	Total	
PM	257	0	23	201	52	PM
NOON	0	0	0	0	0	NOON
AM	348	0	23	178	46	AM

CONTROL

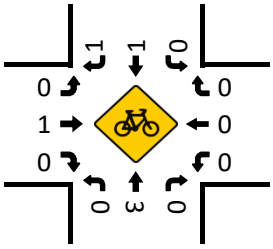
0

TEV	1327 AM	0 NOON	1032 PM
PHF	0.89		0.91

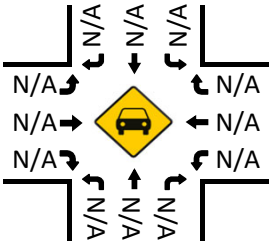
Total Vehicles (AM)



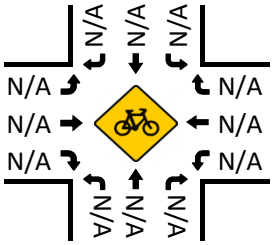
Bikes (AM)



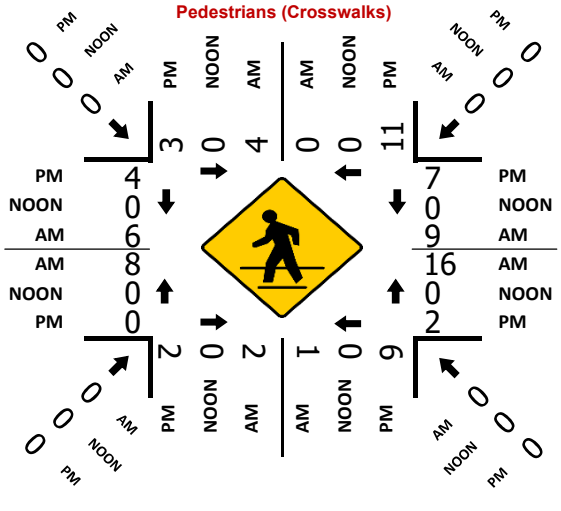
Total Vehicles (Noon)



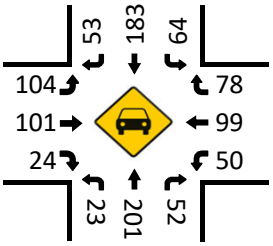
Bikes (NOON)



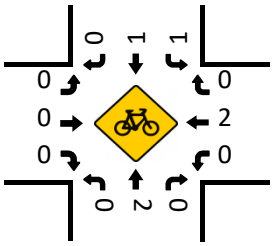
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Boyd St & Mason St

Peak Hour Turning Movement Count

ID: 19-08209-001
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	
AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND (Boyd St)

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	1	PM

EASTBOUND (Mason St)

AM	NOON	PM	
1	0	2	⇦
0	0	0	↰ 0
0	0	1	↱ 0
0	0	0	→ 1
0	0	0	↳ 0
AM	NOON	PM	

WESTBOUND (Mason St)

PM	NOON	AM	
0	0	0	↰ 0
2	0	1	← 2
0	0	0	↰ 0
0	0	0	↰ 0
0	0	0	⇨
PM	NOON	AM	

NORTHBOUND (Boyd St)

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

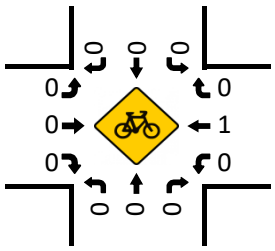
↰ 0	↰ 0	↑ 1	↱ 0

CONTROL

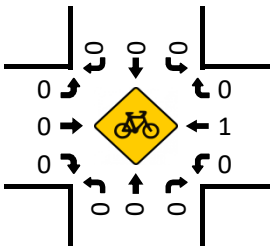
1-Way Stop (NB)

TEV	1 AM	0 NOON	3 PM
PHF	0.25		0.38

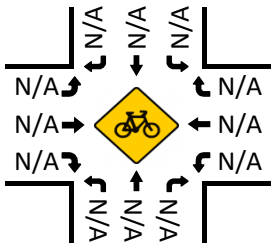
Bikes (AM)



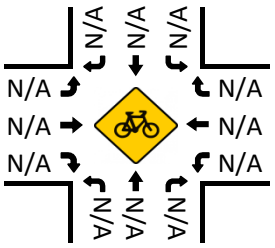
Bikes (AM)



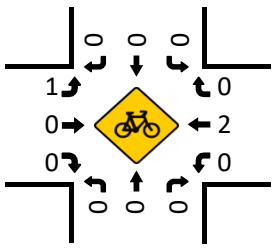
Bikes (NOON)



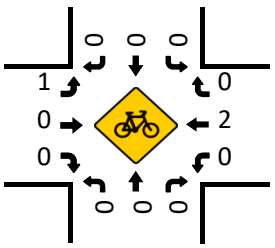
Bikes (NOON)



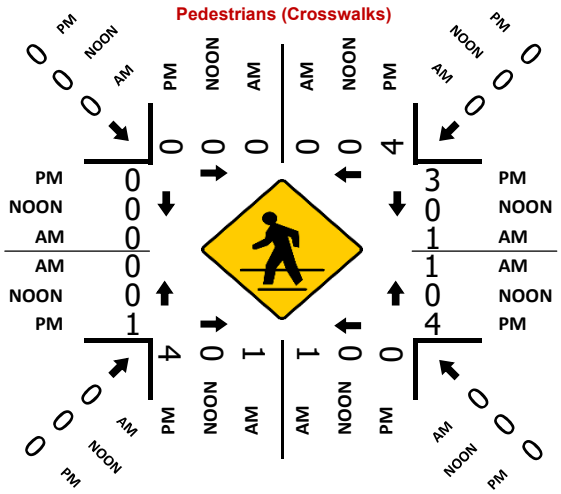
Bikes (PM)



Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

Merchant St & Bet. Mason St & Dobbins St

Peak Hour Turning Movement Count

ID: 19-08209-002
City: Vacaville

Day: Tuesday
Date: 04/16/2019

	PEAK HOURS	COUNT PERIODS
AM	07:00 AM - 08:00 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

Merchant St — SOUTHBOUND

	↲	↓	↳	U-turn	⇧
AM	0	0	0	0	3
NOON	0	0	0	0	0
PM	0	0	0	0	2
	0	1	0	0	

Bet. Mason St & Dobbins St — EASTBOUND

	AM	NOON	PM	
⇦	0	0	0	
U-turn	0	0	0	0
↱	0	0	0	0
→	0	0	0	0
↴	0	0	0	0

Bet. Mason St & Dobbins St — WESTBOUND

		PM	NOON	AM
↰	0	1	0	1
←	1	0	0	0
↙	0	0	0	0
U-turn	0	0	0	0
⇨		0	0	0

Merchant St — NORTHBOUND

	⇩	U-turn	↰	↑	↱
		0	0	1	0
PM	0	0	0	1	0
NOON	0	0	0	0	0
AM	0	0	0	2	0

CONTROL

No Control

	AM	NOON	PM
TEV	3	0	2
PHF	0.38		0.50

Bikes (AM)

Approach	Right	Thru	Left
Southbound	0	0	0
Westbound	1	0	0
Northbound	0	2	0
Eastbound	0	0	0

Bikes (NOON)

Approach	Right	Thru	Left
Southbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A

Bikes (PM)

Approach	Right	Thru	Left
Southbound	0	0	0
Westbound	1	0	0
Northbound	0	1	0
Eastbound	0	0	0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North leg (west half)	0	0	7
North leg (east half)	0	0	8
West leg (north half)	0	0	0
West leg (south half)	0	0	0
East leg (north half)	1	0	6
East leg (south half)	0	0	4
South leg (west half)	0	0	0
South leg (east half)	0	0	0
NW diagonal	0	0	0
NE diagonal	0	0	0
SW diagonal	0	0	0
SE diagonal	0	0	0

Prepared by National Data & Surveying Services

Davis St & Catherine St

Peak Hour Turning Movement Count

ID: 19-08209-003
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND (Davis St)

AM	0	2	0	0	3	AM
NOON	0	0	0	0	0	NOON
PM	0	2	0	0	2	PM

EASTBOUND (Catherine St)

AM	NOON	PM	
0	0	1	⇦
0	0	0	↶ 0
0	0	0	↱ 0
0	0	0	→ 1
0	0	0	↷ 0

WESTBOUND (Catherine St)

PM	NOON	AM	
0	0	0	↶ 0
1	0	0	← 1
0	0	0	↰ 0
0	0	0	↷ 0
0	0	0	⇨

NORTHBOUND (Davis St)

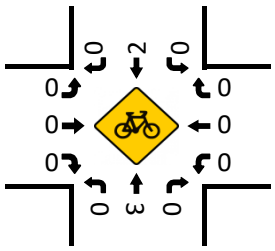
PM	2	0	0	2	0	PM
NOON	0	0	0	0	0	NOON
AM	2	0	0	3	0	AM

CONTROL

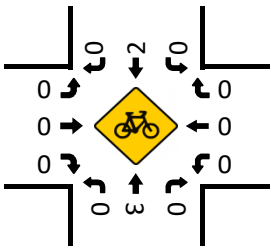
2-Way Stop (EB/WB)

TEV	5	0	5
	AM	NOON	PM
PHF	0.63		0.63

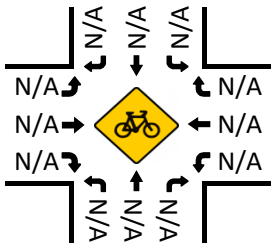
Bikes (AM)



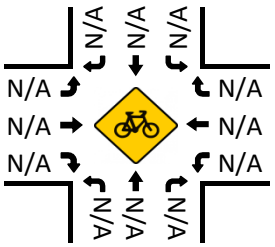
Bikes (AM)



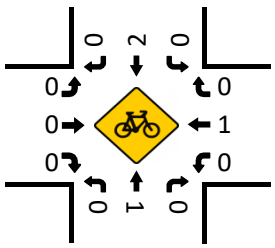
Bikes (NOON)



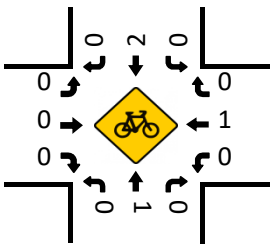
Bikes (NOON)



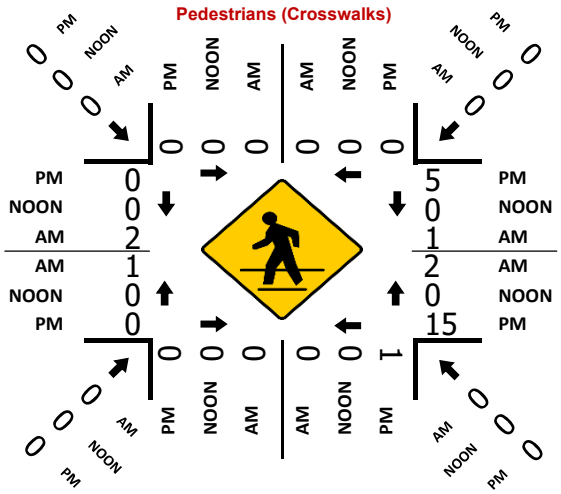
Bikes (PM)



Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

Wilson St & Main St

Peak Hour Turning Movement Count

ID: 19-08209-004
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	
AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

CONTROL: 1-Way Stop (NB)

	AM	NOON	PM
TEV	4	0	3
PHF	0.50		0.38

Wilson St — SOUTHBOUND

	Left	Thru	Right	Peds	
AM	0	0	0	0	0 AM
NOON	0	0	0	0	0 NOON
PM	0	0	0	0	0 PM

EASTBOUND — Main St

	Left	Thru	Right	Peds	
AM	3	0	0	0	0 AM
NOON	0	0	0	0	0 NOON
PM	0	0	0	0	0 PM

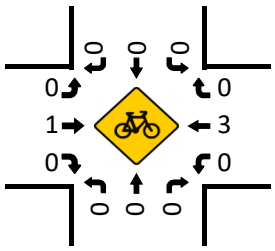
WESTBOUND — Main St

	Left	Thru	Right	Peds	
PM	0	0	0	0	0 PM
NOON	0	0	0	0	1 NOON
AM	0	0	3	0	0 AM

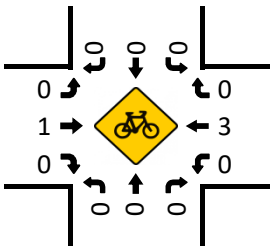
NORTHBOUND — Wilson St

	Left	Thru	Right	Peds	
PM	0	0	0	1	0 PM
NOON	0	0	0	0	0 NOON
AM	0	0	0	0	0 AM

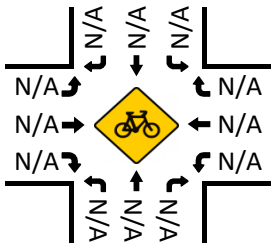
Bikes (AM)



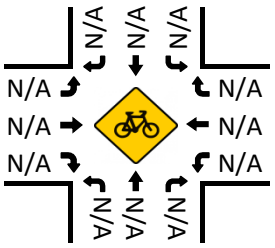
Bikes (AM)



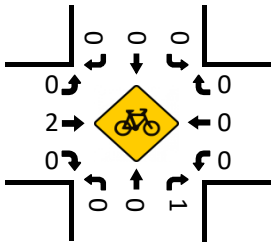
Bikes (NOON)



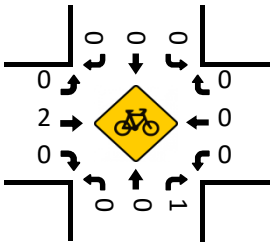
Bikes (NOON)



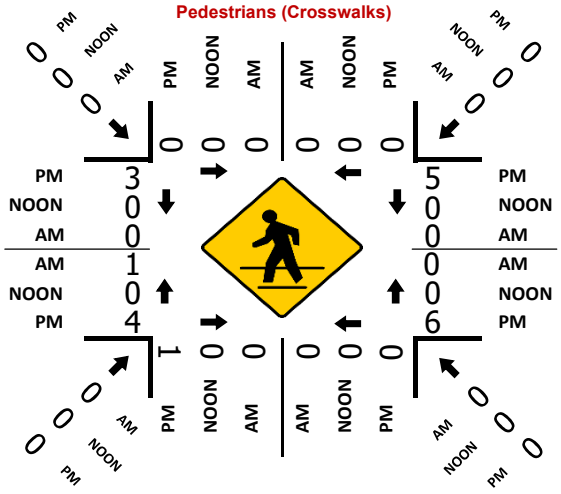
Bikes (PM)



Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

West St & E Monte Vista Ave

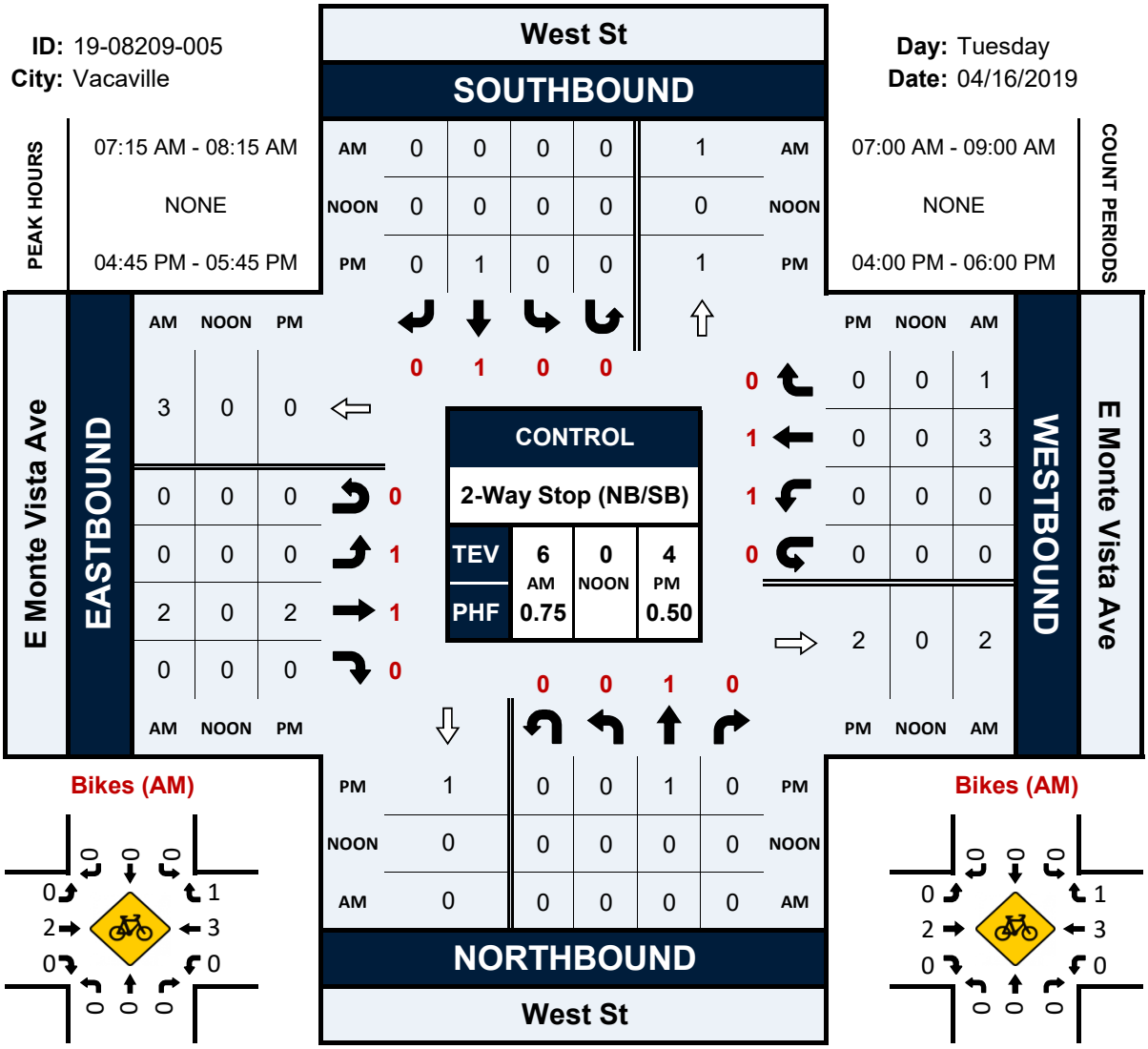
Peak Hour Turning Movement Count

ID: 19-08209-005
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

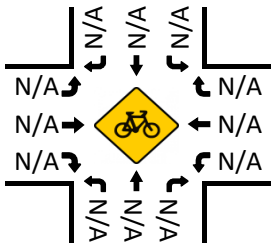
COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM



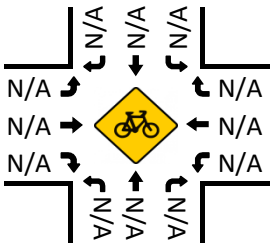
Bikes (AM)

Bikes (AM)

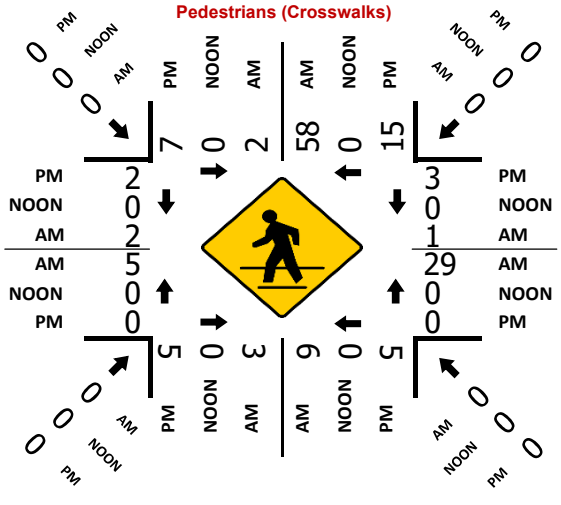
Bikes (NOON)



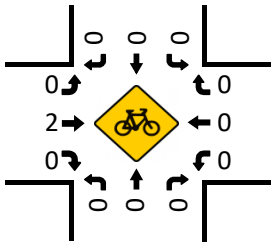
Bikes (NOON)



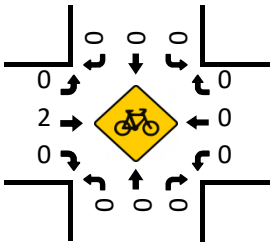
Pedestrians (Crosswalks)



Bikes (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Myrtle St & W Monte Vista Ave

Peak Hour Turning Movement Count

ID: 19-08209-006
City: Vacaville

Day: Tuesday
Date: 04/16/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	04:00 PM - 06:00 PM

Myrtle St — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

W Monte Vista Ave — EASTBOUND

AM	NOON	PM		
5	0	0	⇦	
0	0	0	↰	0
0	0	0	↑	0
2	0	2	→	1
0	0	0	↱	0
AM	NOON	PM		

W Monte Vista Ave — WESTBOUND

PM	NOON	AM		
0	0	0	↱	0
0	0	4	←	1
0	0	0	↰	0
0	0	0	↑	0
2	0	2	⇨	
PM	NOON	AM		

Myrtle St — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	1	0	0	AM

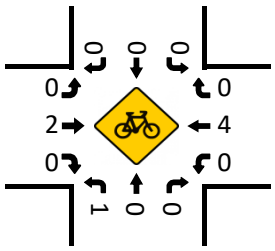
	↰	↑	↱	
	0	0	1	0

CONTROL

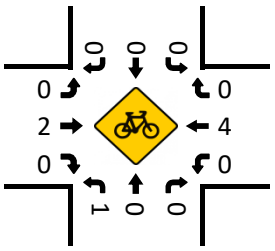
1-Way Stop (NB)

TEV	7	0	2
	AM	NOON	PM
PHF	0.88		0.25

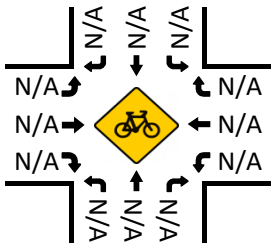
Bikes (AM)



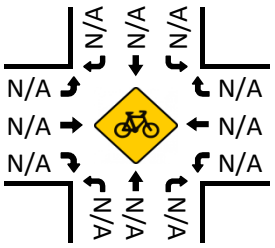
Bikes (AM)



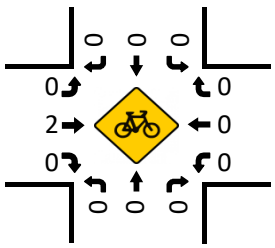
Bikes (NOON)



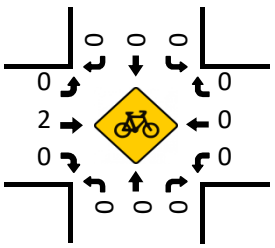
Bikes (NOON)



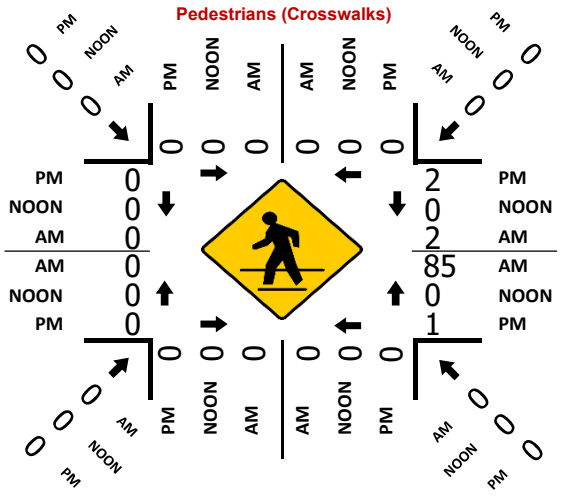
Bikes (PM)



Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

SPEED

E Monte Vista Ave W/O Depot St

Day: Thursday
Date: 5/9/2019

City: Vacaville
Project #: CA19_8258_001

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	1	1	2	5	40	18	5	0	3	0	0	0	0	**75**
01:00	0	0	2	7	17	8	1	0	2	0	0	0	0	**37**
02:00	1	0	1	3	8	5	3	1	0	0	0	0	0	**22**
03:00	0	2	1	11	10	16	7	4	0	0	0	0	0	**51**
04:00	2	2	0	10	33	34	8	3	0	0	0	0	0	**92**
05:00	1	4	3	31	68	53	15	5	0	0	0	0	0	**180**
06:00	2	8	17	60	182	111	27	7	4	0	0	0	0	**418**
07:00	10	32	56	189	473	259	50	6	1	0	0	0	0	**1076**
08:00	55	127	190	466	760	300	41	3	1	0	0	0	0	**1943**
09:00	21	45	89	269	487	226	32	4	0	0	0	0	0	**1173**
10:00	17	74	101	306	454	212	43	5	0	0	0	0	0	**1212**
11:00	49	118	172	366	497	233	42	3	3	0	0	0	0	**1483**
12:00 PM	34	102	150	381	540	259	52	4	0	0	0	0	0	**1522**
13:00	36	104	170	336	557	210	44	4	1	0	0	0	0	**1462**
14:00	60	135	211	446	566	236	50	6	0	0	0	0	0	**1710**
15:00	111	219	272	500	739	252	41	2	2	0	0	0	0	**2138**
16:00	80	143	208	418	643	287	44	5	1	0	0	0	0	**1829**
17:00	59	149	164	367	645	272	40	3	2	0	0	0	0	**1701**
18:00	37	102	162	348	583	264	43	5	2	0	0	0	0	**1546**
19:00	22	45	56	189	389	243	41	5	0	0	0	0	0	**990**
20:00	7	20	48	195	385	141	17	9	0	0	0	0	0	**822**
21:00	4	16	15	104	262	104	15	3	1	0	0	0	0	**524**
22:00	2	7	6	33	137	53	17	5	0	0	0	0	0	**260**
23:00	0	4	2	20	69	40	9	2	0	0	0	0	0	**146**
Totals	**611**	**1459**	**2098**	**5060**	**8544**	**3836**	**687**	**94**	**23**					**22412**
% of Totals	3%	7%	9%	23%	38%	17%	3%	0%	0%					100%

AM Volumes	159	413	634	1723	3029	1475	274	41	14	0	0	0	0	7762
% AM	1%	2%	3%	8%	14%	7%	1%	0%	0%					35%
AM Peak Hour	08:00	08:00	08:00	08:00	08:00	08:00	07:00	06:00	06:00					08:00
Volume	55	127	190	466	760	300	50	7	4					1943
PM Volumes	452	1046	1464	3337	5515	2361	413	53	9	0	0	0	0	14650
% PM	2%	5%	7%	15%	25%	11%	2%	0%	0%					65%
PM Peak Hour	15:00	15:00	15:00	15:00	15:00	16:00	12:00	20:00	15:00					15:00
Volume	111	219	272	500	739	287	52	9	2					2138

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	3019		13%	2984		13%	3530		16%	12879		57%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
E Monte Vista Ave	Summary	23	31	30	37	40	22412

Prepared by National Data & Surveying Services

SPEED

E Monte Vista Ave W/O West St

Day: Thursday
Date: 5/9/2019

City: Vacaville
Project #: CA19_8258_002

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	1	2	9	10	3	3	0	0	0	0	0	0	**28**
01:00	0	0	3	4	4	0	0	0	0	0	0	0	0	**11**
02:00	0	0	2	0	2	0	0	0	0	0	0	0	0	**4**
03:00	0	2	1	6	3	4	3	1	0	0	0	0	0	**20**
04:00	0	0	4	7	13	7	2	0	0	0	0	0	0	**33**
05:00	0	1	10	16	20	9	1	0	0	0	0	0	0	**57**
06:00	1	0	12	53	44	15	3	0	0	0	0	0	0	**128**
07:00	0	8	91	284	162	16	2	1	0	0	0	0	0	**564**
08:00	8	85	443	386	105	5	0	0	0	0	0	0	0	**1032**
09:00	0	8	83	205	83	18	0	0	0	0	0	0	0	**397**
10:00	1	11	71	199	101	18	3	0	0	0	0	0	0	**404**
11:00	1	8	67	290	114	19	1	0	0	0	0	0	0	**500**
12:00 PM	5	9	121	295	160	24	3	1	0	0	0	0	0	**618**
13:00	0	7	82	233	112	16	1	0	0	0	0	0	0	**451**
14:00	1	9	106	282	142	25	2	0	0	0	0	0	0	**567**
15:00	40	133	291	341	100	13	1	0	0	0	0	0	0	**919**
16:00	2	25	178	349	156	21	1	1	0	0	0	0	0	**733**
17:00	4	3	104	359	227	36	2	0	0	0	0	0	0	**735**
18:00	2	8	77	346	241	42	6	0	0	0	0	0	0	**722**
19:00	0	1	26	118	161	37	4	0	0	0	0	0	0	**347**
20:00	1	1	20	172	106	21	2	0	0	0	0	0	0	**323**
21:00	2	5	18	93	61	16	3	0	0	0	0	0	0	**198**
22:00	0	1	8	42	50	11	3	0	0	0	0	0	0	**115**
23:00	0	1	6	28	19	3	0	0	0	0	0	0	0	**57**
Totals	**68**	**327**	**1826**	**4117**	**2196**	**379**	**46**	**4**						**8963**
% of Totals	1%	4%	20%	46%	25%	4%	1%	0%						100%

AM Volumes	11	124	789	1459	661	114	18	2	0	0	0	0	0	3178
% AM	0%	1%	9%	16%	7%	1%	0%	0%						35%
AM Peak Hour	08:00	08:00	08:00	08:00	07:00	11:00		03:00						08:00
Volume	8	85	443	386	162	19	3	1						1032
PM Volumes	57	203	1037	2658	1535	265	28	2	0	0	0	0	0	5785
% PM	1%	2%	12%	30%	17%	3%	0%	0%						65%
PM Peak Hour	15:00	15:00	15:00	17:00	18:00	18:00	18:00	12:00						15:00
Volume	40	133	291	359	241	42	6	1						919

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1596		18%	1069		12%	1468		16%	4830		54%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
E Monte Vista Ave	Summary	23	28	28	33	35	8963

Prepared by National Data & Surveying Services

SPEED

Main St E/O West St

Day: Thursday
Date: 5/16/2019

City: Vacaville
Project #: CA19_8258_003

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	1	6	1	0	0	0	0	0	0	0	0	0	8
01:00	0	1	2	1	0	0	0	0	0	0	0	0	0	4
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	3	0	0	0	0	0	0	0	0	0	0	4
04:00	0	4	8	1	0	0	0	0	0	0	0	0	0	13
05:00	1	5	17	2	0	0	0	0	0	0	0	0	0	25
06:00	2	21	30	6	0	0	0	0	0	0	0	0	0	59
07:00	2	39	90	17	1	0	0	0	0	0	0	0	0	149
08:00	4	97	222	37	0	0	0	0	0	0	0	0	0	360
09:00	4	46	109	19	0	0	0	0	0	0	0	0	0	178
10:00	1	61	128	17	0	0	0	0	0	0	0	0	0	207
11:00	7	76	134	21	0	0	0	0	0	0	0	0	0	238
12:00 PM	6	57	127	20	0	0	0	0	0	0	0	0	0	210
13:00	10	65	141	14	0	0	0	0	0	0	0	0	0	230
14:00	7	73	167	18	0	0	0	0	0	0	0	0	0	265
15:00	8	145	225	28	1	0	0	0	0	0	0	0	0	407
16:00	0	72	197	21	0	0	0	0	0	0	0	0	0	290
17:00	7	64	134	25	0	0	0	0	0	0	0	0	0	230
18:00	5	53	114	16	0	0	0	0	0	0	0	0	0	188
19:00	2	40	83	15	1	0	0	0	0	0	0	0	0	141
20:00	5	45	53	6	0	0	0	0	0	0	0	0	0	109
21:00	1	21	36	2	0	0	0	0	0	0	0	0	0	60
22:00	4	9	15	2	0	0	0	0	0	0	0	0	0	30
23:00	1	7	8	1	0	0	0	0	0	0	0	0	0	17
Totals	77	1003	2049	290	3									3422
% of Totals	2%	29%	60%	8%	0%									100%

AM Volumes	21	352	749	122	1	0	0	0	0	0	0	0	0	1245
% AM	1%	10%	22%	4%	0%									36%
AM Peak Hour	11:00	08:00	08:00	08:00	07:00									08:00
Volume	7	97	222	37	1									360
PM Volumes	56	651	1300	168	2	0	0	0	0	0	0	0	0	2177
% PM	2%	19%	38%	5%	0%									64%
PM Peak Hour	13:00	15:00	15:00	15:00	15:00									15:00
Volume	10	145	225	28	1									407

Directional Peak Periods All Speeds	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	509	↔	15%	440	↔	13%	520	↔	15%	1953	↔	57%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Main St	Summary	17	22	21	24	27	3422

Prepared by National Data & Surveying Services

SPEED

Main St W/O McClellan St

Day: Thursday
Date: 5/9/2019

City: Vacaville
Project #: CA19_8258_004

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	2	3	1	0	0	0	0	0	0	0	0	0	0	6
01:00	2	0	1	0	0	0	0	0	0	0	0	0	0	3
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	1	0	0	0	1	0	0	0	0	0	0	0	0	2
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
05:00	1	3	4	0	0	0	0	0	0	0	0	0	0	8
06:00	6	4	1	0	0	0	0	0	0	0	0	0	0	11
07:00	14	21	9	3	0	0	0	0	0	0	0	0	0	47
08:00	22	54	20	1	0	0	0	0	0	0	0	0	0	97
09:00	23	46	16	0	0	0	0	0	0	0	0	0	0	85
10:00	48	41	15	1	2	0	0	0	0	0	0	0	0	107
11:00	62	59	15	1	0	0	0	0	0	0	0	0	0	137
12:00 PM	90	37	9	0	0	0	0	0	0	0	0	0	0	136
13:00	69	68	8	1	1	0	0	0	0	0	0	0	0	147
14:00	53	53	23	1	0	0	0	0	0	0	0	0	0	130
15:00	50	64	23	1	0	0	0	0	0	0	0	0	0	138
16:00	49	61	29	3	0	0	0	0	0	0	0	0	0	142
17:00	36	43	11	0	0	0	0	0	0	0	0	0	0	90
18:00	51	38	5	0	0	0	0	0	0	0	0	0	0	94
19:00	25	27	6	1	0	0	0	0	0	0	0	0	0	59
20:00	21	14	6	0	0	0	0	0	0	0	0	0	0	41
21:00	12	14	4	1	0	0	0	0	0	0	0	0	0	31
22:00	6	9	3	0	0	0	0	0	0	0	0	0	0	18
23:00	4	3	3	0	0	0	0	0	0	0	0	0	0	10
Totals	647	666	213	14	4									1544
% of Totals	42%	43%	14%	1%	0%									100%

AM Volumes	181	235	83	6	3	0	0	0	0	0	0	0	0	508
% AM	12%	15%	5%	0%	0%									33%
AM Peak Hour	11:00	11:00	08:00	07:00	10:00									11:00
Volume	62	59	20	3	2									137
PM Volumes	466	431	130	8	1	0	0	0	0	0	0	0	0	1036
% PM	30%	28%	8%	1%	0%									67%
PM Peak Hour	12:00	13:00	16:00	16:00	13:00									13:00
Volume	90	68	29	3	1									147

Directional Peak Periods All Speeds	AM 7-9 Volume	↔	%	NOON 12-2 Volume	↔	%	PM 4-6 Volume	↔	%	Off Peak Volumes Volume	↔	%
	144	↔	9%	283	↔	18%	232	↔	15%	885	↔	57%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Main St	Summary	9	16	15	20	24	1544

Prepared by National Data & Surveying Services

SPEED

Mason St W/O Depot St

Day: Thursday
Date: 5/9/2019

City: Vacaville
Project #: CA19_8258_005

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	1	0	2	7	20	8	5	0	0	0	0	0	0	**43**
01:00	0	0	1	5	12	5	5	0	0	0	0	0	0	**28**
02:00	0	0	3	3	5	5	3	2	0	0	0	0	0	**21**
03:00	0	0	2	8	8	7	1	0	0	0	0	0	0	**26**
04:00	0	0	3	10	24	8	1	2	0	0	0	0	0	**48**
05:00	1	0	4	15	46	17	7	2	0	0	0	0	0	**92**
06:00	8	3	10	26	97	66	13	1	0	0	0	0	0	**224**
07:00	29	13	16	103	222	87	18	3	0	0	0	0	0	**491**
08:00	31	8	45	259	447	157	22	1	0	0	0	0	0	**970**
09:00	32	17	28	200	342	111	14	2	0	0	0	0	0	**746**
10:00	30	10	45	206	376	117	17	0	0	0	0	0	0	**801**
11:00	36	24	55	316	434	137	10	1	0	0	0	0	0	**1013**
12:00 PM	29	14	46	274	419	162	14	4	0	0	0	0	0	**962**
13:00	34	15	47	308	399	114	12	2	0	0	0	0	0	**931**
14:00	28	24	72	343	426	148	16	2	0	0	0	0	0	**1059**
15:00	28	26	83	386	497	144	24	2	0	0	0	0	0	**1190**
16:00	15	20	67	321	464	146	22	1	0	0	0	0	0	**1056**
17:00	6	13	43	249	434	161	20	1	0	0	0	0	0	**927**
18:00	5	1	16	179	341	137	26	3	0	0	0	0	0	**708**
19:00	3	5	18	143	313	115	11	1	0	0	0	0	0	**609**
20:00	4	1	12	129	191	87	14	4	0	0	0	0	0	**442**
21:00	4	0	11	72	117	53	7	1	0	0	0	0	0	**265**
22:00	1	1	4	35	73	42	9	1	0	0	0	0	0	**166**
23:00	0	0	3	15	40	22	7	2	0	0	0	0	0	**89**
Totals	**325**	**195**	**636**	**3612**	**5747**	**2056**	**298**	**38**						**12907**
% of Totals	3%	2%	5%	28%	45%	16%	2%	0%						100%

AM Volumes	168	75	214	1158	2033	725	116	14	0	0	0	0	0	4503
% AM	1%	1%	2%	9%	16%	6%	1%	0%						35%
AM Peak Hour	11:00	11:00	11:00	11:00	08:00	08:00	08:00	07:00						11:00
Volume	36	24	55	316	447	157	22	3						1013
PM Volumes	157	120	422	2454	3714	1331	182	24	0	0	0	0	0	8404
% PM	1%	1%	3%	19%	29%	10%	1%	0%						65%
PM Peak Hour	13:00	15:00	15:00	15:00	15:00	12:00	18:00	12:00						15:00
Volume	34	26	83	386	497	162	26	4						1190

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1461		11%	1893		15%	1983		15%	7570		59%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Mason St	Summary	26	31	31	36	39	12907

Prepared by National Data & Surveying Services

SPEED

Mason St E/O Davis St

Day: Thursday
Date: 5/9/2019

City: Vacaville
Project #: CA19_8258_006

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	1	5	19	12	2	0	0	0	0	0	0	**39**
01:00	0	0	0	6	11	4	5	1	0	0	0	0	0	**27**
02:00	0	0	3	5	4	5	1	3	1	0	0	0	0	**22**
03:00	0	0	2	7	10	6	1	0	0	0	0	0	0	**26**
04:00	0	2	4	10	22	8	3	0	0	0	0	0	0	**49**
05:00	0	1	7	18	39	21	5	0	0	0	0	0	0	**91**
06:00	0	2	8	43	97	58	10	2	1	0	0	0	0	**221**
07:00	3	7	27	106	207	95	13	4	0	0	0	0	0	**462**
08:00	9	7	68	245	378	171	20	3	0	0	0	0	0	**901**
09:00	0	9	53	212	317	110	11	2	0	0	0	0	0	**714**
10:00	1	11	72	216	340	129	21	0	0	0	0	0	0	**790**
11:00	6	12	88	239	426	162	23	2	0	0	0	0	0	**958**
12:00 PM	3	11	75	225	397	190	19	4	1	0	0	0	0	**925**
13:00	3	18	88	251	355	155	18	1	0	0	0	0	0	**889**
14:00	10	33	116	234	409	179	22	1	1	0	0	0	0	**1005**
15:00	5	22	87	258	532	206	34	5	1	0	0	0	0	**1150**
16:00	2	17	89	236	412	221	38	6	0	0	0	0	0	**1021**
17:00	1	6	49	223	356	233	30	3	1	0	0	0	0	**902**
18:00	0	0	39	147	328	159	26	3	0	0	0	0	0	**702**
19:00	0	2	37	118	293	120	23	1	0	0	0	0	0	**594**
20:00	1	2	42	119	187	75	11	0	1	0	0	0	0	**438**
21:00	0	0	16	82	116	41	7	2	0	0	0	0	0	**264**
22:00	0	1	12	35	58	41	11	3	0	0	0	0	0	**161**
23:00	0	0	5	13	40	23	5	0	1	0	0	0	0	**87**
Totals	**44**	**163**	**988**	**3053**	**5353**	**2424**	**359**	**46**	**8**					**12438**
% of Totals	0%	1%	8%	25%	43%	19%	3%	0%	0%					100%

AM Volumes	19	51	333	1112	1870	781	115	17	2	0	0	0	0	4300
% AM	0%	0%	3%	9%	15%	6%	1%	0%	0%					35%
AM Peak Hour	08:00	11:00	11:00	08:00	11:00	08:00	11:00	07:00	02:00					11:00
Volume	9	12	88	245	426	171	23	4	1					958
PM Volumes	25	112	655	1941	3483	1643	244	29	6	0	0	0	0	8138
% PM	0%	1%	5%	16%	28%	13%	2%	0%	0%					65%
PM Peak Hour	14:00	14:00	14:00	15:00	15:00	17:00	16:00	16:00	12:00					15:00
Volume	10	33	116	258	532	233	38	6	1					1150

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1363		11%	1814		15%	1923		15%	7338		59%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Mason St	Summary	26	32	32	37	40	12438

Prepared by National Data & Surveying Services

SPEED

Mason St E/O West St

Day: Thursday
Date: 5/9/2019

City: Vacaville
Project #: CA19_8258_007

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	2
01:00	1	3	1	0	0	0	0	0	0	0	0	0	0	5
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	2	2	0	0	0	0	0	0	0	0	0	0	0	4
05:00	3	4	1	0	0	0	0	0	0	0	0	0	0	8
06:00	6	19	0	0	0	0	0	0	0	0	0	0	0	25
07:00	18	30	1	0	0	0	0	0	0	0	0	0	0	49
08:00	26	57	3	0	0	0	0	0	0	0	0	0	0	86
09:00	22	39	7	1	0	0	0	0	0	0	0	0	0	69
10:00	26	24	2	0	0	0	0	0	0	0	0	0	0	52
11:00	26	48	1	1	0	0	0	0	0	0	0	0	0	76
12:00 PM	21	42	4	0	0	0	0	0	0	0	0	0	0	67
13:00	39	31	3	0	0	0	0	0	0	0	0	0	0	73
14:00	42	36	2	1	0	0	0	0	0	0	0	0	0	81
15:00	50	66	5	0	0	0	0	0	0	0	0	0	0	121
16:00	38	50	1	0	0	0	0	0	0	0	0	0	0	89
17:00	32	46	5	0	0	0	0	0	0	0	0	0	0	83
18:00	31	28	0	0	0	0	0	0	0	0	0	0	0	59
19:00	23	48	0	0	0	0	0	0	0	0	0	0	0	71
20:00	24	21	2	1	0	0	0	0	0	0	0	0	0	48
21:00	18	14	2	0	0	0	0	0	0	0	0	0	0	34
22:00	4	8	1	0	0	0	0	0	0	0	0	0	0	13
23:00	2	7	0	0	0	0	0	0	0	0	0	0	0	9
Totals	457	625	41	4										1127
% of Totals	41%	55%	4%	0%										100%

AM Volumes	133	228	16	2	0	0	0	0	0	0	0	0	0	379
% AM	12%	20%	1%	0%										34%
AM Peak Hour	08:00	08:00	09:00	09:00										08:00
Volume	26	57	7	1										86
PM Volumes	324	397	25	2	0	0	0	0	0	0	0	0	0	748
% PM	29%	35%	2%	0%										66%
PM Peak Hour	15:00	15:00	15:00	14:00										15:00
Volume	50	66	5	1										121

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	135		12%	140		12%	172		15%	680		60%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Mason St	Summary	9	16	15	19	20	1127

Prepared by National Data & Surveying Services

SPEED

Davis St S/O Mason St

Day: Thursday
Date: 5/9/2019

City: Vacaville
Project #: CA19_8258_008

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	6	7	8	7	1	1	0	0	0	0	0	30
01:00	0	0	0	7	14	8	5	0	0	0	0	0	0	34
02:00	0	0	0	8	8	6	1	0	1	0	0	0	0	24
03:00	0	0	2	9	4	2	1	0	0	0	0	0	0	18
04:00	1	0	3	24	9	6	4	0	1	0	0	0	0	48
05:00	1	3	4	23	21	6	10	0	0	0	0	0	0	68
06:00	1	0	14	52	54	28	17	1	0	0	0	0	0	167
07:00	0	6	30	125	138	95	42	9	3	0	0	0	0	448
08:00	0	7	58	203	253	183	53	10	1	0	0	0	0	768
09:00	1	5	52	131	176	113	33	9	0	0	0	0	0	520
10:00	0	5	48	186	193	117	39	2	2	0	0	0	0	592
11:00	0	8	65	244	240	148	45	9	1	1	0	0	0	761
12:00 PM	0	3	61	242	249	142	57	9	1	1	0	0	0	765
13:00	0	9	71	239	229	159	49	10	1	0	0	0	0	767
14:00	0	12	64	257	250	156	52	9	1	0	0	0	0	801
15:00	0	9	76	290	322	174	54	11	0	0	0	0	0	936
16:00	0	1	87	227	291	182	53	15	1	0	0	0	0	857
17:00	0	1	47	218	278	173	57	11	1	1	0	0	0	787
18:00	0	1	41	192	168	154	54	7	0	2	0	0	0	619
19:00	1	0	19	127	151	109	42	9	1	0	0	0	0	459
20:00	0	7	44	117	132	81	16	2	0	0	0	0	0	399
21:00	0	2	23	84	73	40	13	7	0	0	0	0	0	242
22:00	0	1	8	41	52	29	10	0	0	0	0	0	0	141
23:00	1	2	3	24	29	17	3	2	1	0	0	0	0	82
Totals	6	82	826	3077	3342	2135	711	133	16	5				10333
% of Totals	0%	1%	8%	30%	32%	21%	7%	1%	0%	0%				100%

AM Volumes	4	34	282	1019	1118	719	251	41	9	1	0	0	0	3478
% AM	0%	0%	3%	10%	11%	7%	2%	0%	0%	0%				34%
AM Peak Hour	04:00	11:00	11:00	11:00	08:00	08:00	08:00	08:00	07:00	11:00				08:00
Volume	1	8	65	244	253	183	53	10	3	1				768
PM Volumes	2	48	544	2058	2224	1416	460	92	7	4	0	0	0	6855
% PM	0%	0%	5%	20%	22%	14%	4%	1%	0%	0%				66%
PM Peak Hour	19:00	14:00	16:00	15:00	15:00	16:00	12:00	16:00	12:00	18:00				15:00
Volume	1	12	87	290	322	182	57	15	1	2				936

Directional Peak Periods All Speeds	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1216		12%	1532		15%	1644		16%	5941		57%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Davis St	Summary	26	32	32	38	42	10333

Prepared by National Data & Surveying Services

SPEED

Davis St S/O Hickory Ln

Day: Thursday
Date: 5/9/2019

City: Vacaville
Project #: CA19_8258_009

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	1	2	13	38	12	5	0	0	0	0	0	0	0	71
01:00	1	2	9	35	19	2	0	0	0	0	0	0	0	68
02:00	0	1	5	18	17	1	1	0	0	0	0	0	0	43
03:00	2	1	20	38	25	3	1	0	0	0	0	0	0	90
04:00	4	10	44	83	40	14	1	0	0	0	0	0	0	196
05:00	1	9	71	119	58	11	1	0	0	0	0	0	0	270
06:00	1	13	107	281	102	14	1	0	0	0	0	0	0	519
07:00	1	17	244	598	204	33	0	0	0	0	0	0	0	1097
08:00	7	30	350	785	175	16	2	0	0	0	0	0	0	1365
09:00	4	17	170	499	171	13	1	0	0	0	0	0	0	875
10:00	2	9	260	575	178	15	1	0	0	0	0	0	0	1040
11:00	2	17	367	702	180	15	2	0	0	0	0	0	0	1285
12:00 PM	0	18	317	734	206	17	3	0	0	0	0	0	0	1295
13:00	2	22	333	731	216	17	0	0	0	0	0	0	0	1321
14:00	2	15	382	782	198	14	0	0	0	0	0	0	0	1393
15:00	17	44	458	864	223	16	2	0	0	0	0	0	0	1624
16:00	0	22	400	882	258	12	0	0	0	0	0	0	0	1574
17:00	2	18	383	863	208	19	2	0	0	0	0	0	0	1495
18:00	3	14	326	701	154	10	4	0	0	0	0	0	0	1212
19:00	1	16	257	565	128	12	0	0	0	0	0	0	0	979
20:00	0	14	229	425	138	8	5	0	0	0	0	0	0	819
21:00	1	5	102	239	80	6	0	0	0	0	0	0	0	433
22:00	1	11	77	182	75	8	0	0	0	0	0	0	0	354
23:00	0	6	40	87	28	9	1	0	0	0	0	0	0	171
Totals	55	333	4964	10826	3093	290	28							19589
% of Totals	0%	2%	25%	55%	16%	1%	0%							100%

AM Volumes	26	128	1660	3771	1181	142	11	0	0	0	0	0	0	6919
% AM	0%	1%	8%	19%	6%	1%	0%							35%
AM Peak Hour	08:00	08:00	11:00	08:00	07:00	07:00	08:00							08:00
Volume	7	30	367	785	204	33	2							1365
PM Volumes	29	205	3304	7055	1912	148	17	0	0	0	0	0	0	12670
% PM	0%	1%	17%	36%	10%	1%	0%							65%
PM Peak Hour	15:00	15:00	15:00	16:00	16:00	17:00	20:00							15:00
Volume	17	44	458	882	258	19	5							1624

Directional Peak Periods All Speeds	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	2462 ⟷	13%	2616 ⟷	13%	3069 ⟷	16%	11442 ⟷	58%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Davis St	Summary	23	27	27	31	34	19589

Prepared by National Data & Surveying Services

SPEED

Merchant St N/O West St

Day: Thursday
Date: 5/9/2019

City: Vacaville
Project #: CA19_8258_010

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	5	7	9	3	2	0	0	0	0	0	26
01:00	0	0	0	4	6	6	2	2	1	0	0	0	0	21
02:00	0	0	0	2	4	1	4	2	1	0	0	0	0	14
03:00	0	0	2	4	6	5	0	0	1	0	0	0	0	18
04:00	0	0	1	4	12	8	3	0	0	0	0	0	0	28
05:00	0	0	2	17	34	13	7	0	0	0	0	0	0	73
06:00	0	1	10	39	66	46	6	3	0	0	0	0	0	171
07:00	0	1	15	114	164	74	9	0	1	0	0	0	0	378
08:00	1	1	41	239	283	88	10	2	0	0	0	0	0	665
09:00	0	5	38	183	276	77	12	1	0	0	0	0	0	592
10:00	1	18	92	293	241	47	4	1	0	0	0	0	0	697
11:00	1	7	91	309	259	50	10	0	0	0	0	0	0	727
12:00 PM	4	29	89	250	256	68	6	0	0	0	0	0	0	702
13:00	4	25	96	293	265	52	9	0	0	0	0	0	0	744
14:00	4	14	72	301	309	75	6	1	0	0	0	0	0	782
15:00	3	9	90	384	342	79	4	0	0	0	0	0	0	911
16:00	4	19	100	276	309	72	15	4	0	0	0	0	0	799
17:00	2	9	51	197	347	117	15	1	1	0	0	0	0	740
18:00	0	6	34	171	270	105	20	2	0	0	0	0	0	608
19:00	0	1	24	112	196	74	17	1	0	0	0	0	0	425
20:00	0	2	25	116	123	52	7	2	1	0	0	0	0	328
21:00	0	0	16	71	88	34	6	2	0	0	0	0	0	217
22:00	0	0	9	35	52	20	5	0	0	0	0	0	0	121
23:00	0	0	0	22	24	18	1	1	0	0	0	0	0	66
Totals	24	147	898	3441	3939	1190	181	27	6					9853
% of Totals	0%	1%	9%	35%	40%	12%	2%	0%	0%					100%

AM Volumes	3	33	292	1213	1358	424	70	13	4	0	0	0	0	3410
% AM	0%	0%	3%	12%	14%	4%	1%	0%	0%					35%
AM Peak Hour	08:00	10:00	10:00	11:00	08:00	08:00	09:00	06:00	01:00					11:00
Volume	1	18	92	309	283	88	12	3	1					727
PM Volumes	21	114	606	2228	2581	766	111	14	2	0	0	0	0	6443
% PM	0%	1%	6%	23%	26%	8%	1%	0%	0%					65%
PM Peak Hour	12:00	12:00	16:00	15:00	17:00	17:00	18:00	16:00	17:00					15:00
Volume	4	29	100	384	347	117	20	4	1					911

Directional Peak Periods All Speeds	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	1043 ⟷	11%	1446 ⟷	15%	1539 ⟷	16%	5825 ⟷	59%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Merchant St	Summary	26	31	30	35	39	9853

Prepared by National Data & Surveying Services

SPEED

Dobbins St N/O E Monte Vista Ave

Day: Thursday
Date: 5/9/2019

City: Vacaville
Project #: CA19_8258_011n

North Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	1	5	14	12	4	1	1	0	0	0	0	38
01:00	0	0	0	3	9	3	2	0	0	0	0	0	0	17
02:00	0	0	0	2	0	3	2	0	0	0	0	0	0	7
03:00	0	0	0	1	0	2	0	0	0	0	0	0	0	3
04:00	0	0	0	0	4	4	1	0	0	0	0	0	0	9
05:00	0	0	0	0	8	9	3	0	1	0	0	0	0	21
06:00	0	0	2	9	29	23	8	2	0	0	0	0	0	73
07:00	0	1	4	34	159	86	13	0	0	0	0	0	0	297
08:00	0	1	7	72	260	152	23	2	0	0	0	0	0	517
09:00	0	2	3	27	110	76	16	1	0	0	0	0	0	235
10:00	1	0	3	33	138	98	16	1	0	0	0	0	0	290
11:00	0	0	4	44	146	143	27	1	0	0	0	0	0	365
12:00 PM	1	0	0	43	190	146	18	1	0	0	0	0	0	399
13:00	0	4	12	60	222	128	18	2	0	0	0	0	0	446
14:00	1	3	16	51	242	189	27	1	1	0	0	0	0	531
15:00	1	5	5	75	305	187	29	3	0	0	0	0	0	610
16:00	0	3	3	43	264	235	33	3	1	0	0	0	0	585
17:00	0	2	3	24	255	263	40	5	0	0	0	0	0	592
18:00	0	0	1	24	212	232	33	1	0	0	0	0	0	503
19:00	0	0	1	40	189	147	22	2	0	0	0	0	0	401
20:00	0	0	1	40	181	109	11	2	0	0	0	0	0	344
21:00	0	0	10	26	113	77	14	1	1	0	0	0	0	242
22:00	0	0	1	13	44	34	9	0	0	0	0	0	0	101
23:00	0	0	1	4	24	20	3	0	1	0	0	0	0	53
Totals	4	21	78	673	3118	2378	372	29	6					6679
% of Totals	0%	0%	1%	10%	47%	36%	6%	0%	0%					100%

AM Volumes	1	4	24	230	877	611	115	8	2	0	0	0	0	1872
% AM	0%	0%	0%	3%	13%	9%	2%	0%	0%					28%
AM Peak Hour	10:00	09:00	08:00	08:00	08:00	08:00	11:00	06:00						08:00
Volume	1	2	7	72	260	152	27	2	1					517
PM Volumes	3	17	54	443	2241	1767	257	21	4	0	0	0	0	4807
% PM	0%	0%	1%	7%	34%	26%	4%	0%	0%					72%
PM Peak Hour	12:00	15:00	14:00	15:00	15:00	17:00	17:00	17:00	14:00					15:00
Volume	1	5	16	75	305	263	40	5	1					610

Directional Peak Periods All Speeds	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	814	12%	845	13%	1177	18%	3843	58%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Dobbins St	North Bound	30	34	34	39	41	6679
Dobbins St	South Bound	31	36	35	40	44	6385

APPENDIX B:

Synchro Analysis Reports

DKS

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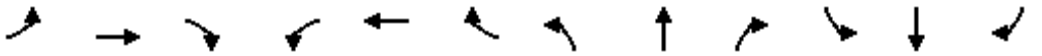
HCM 6th Signalized Intersection Summary
1: Cernon & Monte Vista Ave

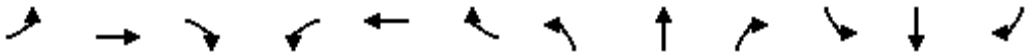
06/10/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	387	23	25	522	24	95	19	43	44	30	94
Future Volume (veh/h)	19	387	23	25	522	24	95	19	43	44	30	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	421	25	27	567	26	103	21	47	48	33	102
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	1071	63	463	1011	857	104	21	48	105	72	154
Arrive On Green	0.03	0.31	0.31	0.26	0.54	0.54	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1781	3409	202	1781	1870	1585	1044	213	476	1076	740	1585
Grp Volume(v), veh/h	21	219	227	27	567	26	171	0	0	81	0	102
Grp Sat Flow(s),veh/h/ln	1781	1777	1834	1781	1870	1585	1732	0	0	1817	0	1585
Q Serve(g_s), s	0.8	6.7	6.8	0.8	14.0	0.5	6.9	0.0	0.0	2.9	0.0	4.3
Cycle Q Clear(g_c), s	0.8	6.7	6.8	0.8	14.0	0.5	6.9	0.0	0.0	2.9	0.0	4.3
Prop In Lane	1.00		0.11	1.00		1.00	0.60		0.27	0.59		1.00
Lane Grp Cap(c), veh/h	60	558	576	463	1011	857	173	0	0	176	0	154
V/C Ratio(X)	0.35	0.39	0.39	0.06	0.56	0.03	0.99	0.00	0.00	0.46	0.00	0.66
Avail Cap(c_a), veh/h	178	558	576	463	1011	857	173	0	0	467	0	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.80	0.80	0.80	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.1	18.8	18.8	19.5	10.6	7.5	31.5	0.0	0.0	29.9	0.0	30.5
Incr Delay (d2), s/veh	3.0	1.8	1.7	0.0	1.8	0.1	64.4	0.0	0.0	1.9	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.9	3.0	0.3	5.4	0.2	5.9	0.0	0.0	1.3	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	20.5	20.5	19.5	12.4	7.6	95.8	0.0	0.0	31.7	0.0	35.3
LnGrp LOS	D	C	C	B	B	A	F	A	A	C	A	D
Approach Vol, veh/h		467			620			171			183	
Approach Delay, s/veh		21.2			12.5			95.8			33.7	
Approach LOS		C			B			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	41.9		10.8	22.2	26.0		11.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	22.0		18.0	7.0	22.0		7.0				
Max Q Clear Time (g_c+I1), s	2.8	16.0		6.3	2.8	8.8		8.9				
Green Ext Time (p_c), s	0.0	1.4		0.5	0.0	1.5		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			27.9									
HCM 6th LOS			C									



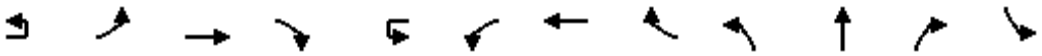
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	455	12	109	599	450	37	106	67	456	203	44
Future Volume (veh/h)	35	455	12	109	599	450	37	106	67	456	203	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.96	1.00		0.98
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	495	13	118	651	489	40	115	73	496	221	48
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	698	18	320	1247	544	167	175	143	694	298	65
Arrive On Green	0.03	0.20	0.20	0.18	0.35	0.35	0.09	0.09	0.09	0.20	0.20	0.20
Sat Flow, veh/h	1781	3536	93	1781	3554	1551	1781	1870	1529	3456	1483	322
Grp Volume(v), veh/h	38	248	260	118	651	489	40	115	73	496	0	269
Grp Sat Flow(s),veh/h/ln	1781	1777	1852	1781	1777	1551	1781	1870	1529	1728	0	1805
Q Serve(g_s), s	1.4	8.5	8.5	3.8	9.4	19.4	1.3	3.8	2.9	8.7	0.0	9.1
Cycle Q Clear(g_c), s	1.4	8.5	8.5	3.8	9.4	19.4	1.3	3.8	2.9	8.7	0.0	9.1
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	54	351	366	320	1247	544	167	175	143	694	0	363
V/C Ratio(X)	0.70	0.71	0.71	0.37	0.52	0.90	0.24	0.66	0.51	0.71	0.00	0.74
Avail Cap(c_a), veh/h	275	677	706	320	1349	589	553	580	474	1067	0	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	24.3	24.3	23.4	16.7	19.9	27.2	28.4	28.0	24.2	0.0	24.3
Incr Delay (d2), s/veh	5.8	1.2	1.2	0.3	0.2	15.2	0.3	1.6	1.0	0.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	3.6	1.5	3.5	8.6	0.6	1.7	1.1	3.4	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.0	25.5	25.5	23.6	16.9	35.2	27.5	29.9	29.0	24.7	0.0	25.4
LnGrp LOS	D	C	C	C	B	D	C	C	C	C	A	C
Approach Vol, veh/h		546			1258			228			765	
Approach Delay, s/veh		26.3			24.6			29.2			24.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.0	18.1		18.4	7.0	28.1		11.3				
Change Period (Y+Rc), s	* 5.4	* 5.3		* 5.4	5.0	* 5.4		5.2				
Max Green Setting (Gmax), s	* 10	* 25		* 20	10.0	* 25		20.1				
Max Q Clear Time (g_c+I1), s	5.8	10.5		11.1	3.4	21.4		5.8				
Green Ext Time (p_c), s	0.1	1.1		1.3	0.0	1.4		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		25.4	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

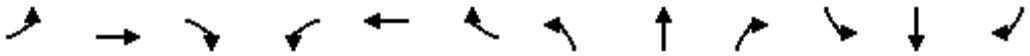


Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	130	597	220	2	277	472	48	303	190	177	78
Future Volume (vph)	1	130	597	220	2	277	472	48	303	190	177	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.6	5.0		5.0	5.5		5.0	5.8	5.8	5.0
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.97	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00		1.00	1.00	0.98	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	0.99		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (prot)		1770	3539	1566		1770	3483		3433	1863	1550	1770
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)		1770	3539	1566		1770	3483		3433	1863	1550	1770
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	141	649	239	2	301	513	52	329	207	192	85
RTOR Reduction (vph)	0	0	0	106	0	0	6	0	0	0	152	0
Lane Group Flow (vph)	0	142	649	133	0	303	559	0	329	207	40	85
Confl. Peds. (#/hr)				6				11			10	
Turn Type	Prot	Prot	NA	pm+ov	Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	5	5	2	7	1	1	6		7	4		3
Permitted Phases				2							4	
Actuated Green, G (s)		11.7	21.2	33.9		19.7	29.3		12.7	18.6	18.6	7.3
Effective Green, g (s)		11.7	21.2	33.9		19.7	29.3		12.7	18.6	18.6	7.3
Actuated g/C Ratio		0.13	0.24	0.38		0.22	0.33		0.14	0.21	0.21	0.08
Clearance Time (s)		5.0	5.6	5.0		5.0	5.5		5.0	5.8	5.8	5.0
Vehicle Extension (s)		1.6	2.1	1.6		1.6	2.1		1.6	1.6	1.6	1.6
Lane Grp Cap (vph)		234	850	601		395	1157		494	392	326	146
v/s Ratio Prot		0.08	c0.18	0.03		c0.17	0.16		c0.10	c0.11		0.05
v/s Ratio Perm				0.05							0.03	
v/c Ratio		0.61	0.76	0.22		0.77	0.48		0.67	0.53	0.12	0.58
Uniform Delay, d1		36.1	31.2	18.3		32.1	23.4		35.7	30.9	28.2	39.0
Progression Factor		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		3.0	3.7	0.1		7.8	0.1		2.6	0.6	0.1	3.8
Delay (s)		39.1	34.9	18.3		39.9	23.6		38.4	31.5	28.3	42.8
Level of Service		D	C	B		D	C		D	C	C	D
Approach Delay (s)			31.6				29.3			33.7		
Approach LOS			C				C			C		

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	21.4
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	187	275
Future Volume (vph)	187	275
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.2	
Lane Util. Factor	0.95	
Frpb, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.91	
Flt Protected	1.00	
Satd. Flow (prot)	3182	
Flt Permitted	1.00	
Satd. Flow (perm)	3182	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	203	299
RTOR Reduction (vph)	246	0
Lane Group Flow (vph)	256	0
Confl. Peds. (#/hr)		10
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	13.8	
Effective Green, g (s)	13.8	
Actuated g/C Ratio	0.16	
Clearance Time (s)	5.2	
Vehicle Extension (s)	1.6	
Lane Grp Cap (vph)	497	
v/s Ratio Prot	0.08	
v/s Ratio Perm		
v/c Ratio	0.51	
Uniform Delay, d1	34.1	
Progression Factor	1.00	
Incremental Delay, d2	0.4	
Delay (s)	34.5	
Level of Service	C	
Approach Delay (s)	35.7	
Approach LOS	D	

Intersection Summary



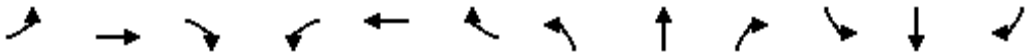
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	139	5	297	199	30	99	141	139	6	125	1
Future Volume (veh/h)	1	139	5	297	199	30	99	141	139	6	125	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	0.99		0.98
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	151	5	323	216	33	108	153	151	7	136	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1	221	7	298	200	431	139	573	482	77	237	2
Arrive On Green	0.12	0.12	0.12	0.27	0.27	0.27	0.08	0.31	0.31	0.13	0.13	0.13
Sat Flow, veh/h	12	1787	59	1088	728	1571	1781	1870	1572	41	1782	13
Grp Volume(v), veh/h	157	0	0	539	0	33	108	153	151	144	0	0
Grp Sat Flow(s),veh/h/ln	1858	0	0	1816	0	1571	1781	1870	1572	1836	0	0
Q Serve(g_s), s	4.2	0.0	0.0	14.4	0.0	0.8	3.1	3.2	3.9	0.1	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	14.4	0.0	0.8	3.1	3.2	3.9	3.8	0.0	0.0
Prop In Lane	0.01		0.03	0.60		1.00	1.00		1.00	0.05		0.01
Lane Grp Cap(c), veh/h	230	0	0	498	0	431	139	573	482	316	0	0
V/C Ratio(X)	0.68	0.00	0.00	1.08	0.00	0.08	0.77	0.27	0.31	0.46	0.00	0.00
Avail Cap(c_a), veh/h	849	0	0	498	0	431	339	1247	1048	934	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.0	0.0	0.0	19.1	0.0	14.1	23.7	13.7	14.0	21.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	64.4	0.0	0.0	3.4	0.1	0.1	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	14.1	0.0	0.3	1.3	1.2	1.2	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	0.0	83.4	0.0	14.2	27.2	13.8	14.1	21.8	0.0	0.0
LnGrp LOS	C	A	A	F	A	B	C	B	B	C	A	A
Approach Vol, veh/h		157			572			412			144	
Approach Delay, s/veh		23.3			79.4			17.4			21.8	
Approach LOS		C			E			B			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.1	12.3		20.0		21.4		11.1				
Change Period (Y+Rc), s	5.0	* 5.3		5.6		* 5.3		4.6				
Max Green Setting (Gmax), s	10.0	* 25		14.4		* 35		24.0				
Max Q Clear Time (g_c+I1), s	5.1	5.8		16.4		5.9		6.2				
Green Ext Time (p_c), s	0.1	0.3		0.0		0.7		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		46.2
HCM 6th LOS		D

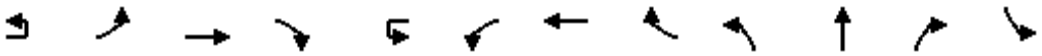
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	181	43	154	458	68	101	197	166	41	134	4
Future Volume (vph)	7	181	43	154	458	68	101	197	166	41	134	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.6		4.2	4.6	4.6	4.0	4.6	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1803		1770	3456		1770	1863	1557	1770	1854	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1803		1770	3456		1770	1863	1557	1770	1854	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	197	47	167	498	74	110	214	180	45	146	4
RTOR Reduction (vph)	0	13	0	0	16	0	0	0	131	0	2	0
Lane Group Flow (vph)	8	231	0	167	556	0	110	214	49	45	148	0
Confl. Bikes (#/hr)			5			13			6			5
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	0.7	14.5		5.4	18.8		3.6	14.3	14.3	1.6	12.1	
Effective Green, g (s)	0.7	14.5		5.4	18.8		3.6	14.3	14.3	1.6	12.1	
Actuated g/C Ratio	0.01	0.28		0.10	0.36		0.07	0.27	0.27	0.03	0.23	
Clearance Time (s)	4.0	4.2		4.0	4.6		4.2	4.6	4.6	4.0	4.6	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	23	497		181	1235		121	506	423	53	426	
v/s Ratio Prot	0.00	0.13		c0.09	c0.16		c0.06	c0.11		0.03	0.08	
v/s Ratio Perm									0.03			
v/c Ratio	0.35	0.46		0.92	0.45		0.91	0.42	0.12	0.85	0.35	
Uniform Delay, d1	25.7	15.8		23.4	12.9		24.3	15.8	14.4	25.4	17.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.3	0.3		44.5	0.1		53.1	0.2	0.0	68.0	0.2	
Delay (s)	29.0	16.1		67.9	13.0		77.4	16.0	14.4	93.4	17.1	
Level of Service	C	B		E	B		E	B	B	F	B	
Approach Delay (s)		16.5			25.4			28.8			34.7	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	52.6	Sum of lost time (s)	17.4
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



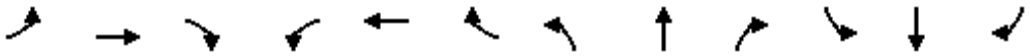
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	137	255	17	19	439	452	432	237	178	413	383
Future Volume (vph)	1	137	255	17	19	439	452	432	237	178	413	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1982	1873	1873	1900	1900	1900	1928
Lane Width	12	12	12	16	12	12	13	16	12	12	14	12
Total Lost time (s)		5.0	5.6	5.6		5.0	5.9	5.9	5.0	5.9	5.9	5.0
Lane Util. Factor		0.97	0.91	1.00		0.97	0.95	1.00	0.97	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.98		1.00	1.00	0.98	1.00	1.00	0.98	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	5085	1767		3581	3605	1737	3433	3539	1663	3484
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	5085	1767		3581	3605	1737	3433	3539	1663	3484
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	149	277	18	21	477	491	470	258	193	449	416
RTOR Reduction (vph)	0	0	0	15	0	0	0	347	0	0	290	0
Lane Group Flow (vph)	0	150	277	3	0	498	491	123	258	193	159	416
Confl. Peds. (#/hr)				5				10			5	
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	5	5	2		1	1	6		7	4		3
Permitted Phases				2				6			4	
Actuated Green, G (s)		8.7	12.9	12.9		17.2	21.1	21.1	17.2	14.0	14.0	15.1
Effective Green, g (s)		8.7	12.9	12.9		17.2	21.1	21.1	17.2	14.0	14.0	15.1
Actuated g/C Ratio		0.11	0.16	0.16		0.21	0.26	0.26	0.21	0.17	0.17	0.19
Clearance Time (s)		5.0	5.6	5.6		5.0	5.9	5.9	5.0	5.9	5.9	5.0
Vehicle Extension (s)		1.6	2.1	2.1		1.6	2.1	2.1	1.6	1.6	1.6	1.6
Lane Grp Cap (vph)		370	812	282		763	942	454	731	613	288	651
v/s Ratio Prot		0.04	0.05			c0.14	c0.14		0.08	0.05		c0.12
v/s Ratio Perm				0.00				0.07			c0.10	
v/c Ratio		0.41	0.34	0.01		0.65	0.52	0.27	0.35	0.31	0.55	0.64
Uniform Delay, d1		33.6	30.1	28.5		29.0	25.5	23.7	27.0	29.2	30.5	30.3
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.3	0.1	0.0		1.5	0.3	0.1	0.1	0.1	1.3	1.5
Delay (s)		33.9	30.2	28.5		30.6	25.8	23.8	27.1	29.3	31.8	31.8
Level of Service		C	C	C		C	C	C	C	C	C	C
Approach Delay (s)			31.4				26.8			29.9		
Approach LOS			C				C			C		

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.7	Sum of lost time (s)	21.8
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	152	128
Future Volume (vph)	152	128
Ideal Flow (vphpl)	1928	1928
Lane Width	11	16
Total Lost time (s)	5.9	5.9
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3472	1793
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3472	1793
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	165	139
RTOR Reduction (vph)	0	119
Lane Group Flow (vph)	165	20
Confl. Peds. (#/hr)		5
Turn Type	NA	Perm
Protected Phases	8	
Permitted Phases		8
Actuated Green, G (s)	11.9	11.9
Effective Green, g (s)	11.9	11.9
Actuated g/C Ratio	0.15	0.15
Clearance Time (s)	5.9	5.9
Vehicle Extension (s)	1.6	1.6
Lane Grp Cap (vph)	511	264
v/s Ratio Prot	0.05	
v/s Ratio Perm		0.01
v/c Ratio	0.32	0.08
Uniform Delay, d1	30.8	29.7
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.0
Delay (s)	30.9	29.7
Level of Service	C	C
Approach Delay (s)	31.2	
Approach LOS	C	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	29	251	64	64	32	290	419	132	27	341	30
Future Volume (vph)	49	29	251	64	64	32	290	419	132	27	341	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.87		1.00	0.95		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1613		1770	1770		1770	3412		1770	3496	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1613		1770	1770		1770	3412		1770	3496	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	32	273	70	70	35	315	455	143	29	371	33
RTOR Reduction (vph)	0	235	0	0	16	0	0	23	0	0	5	0
Lane Group Flow (vph)	53	70	0	70	89	0	315	575	0	29	399	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	15.2	15.2		10.1	10.1		23.1	64.3		4.4	45.6	
Effective Green, g (s)	15.2	15.2		10.1	10.1		23.1	64.3		4.4	45.6	
Actuated g/C Ratio	0.14	0.14		0.09	0.09		0.21	0.58		0.04	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	244	222		162	162		371	1994		70	1449	
v/s Ratio Prot	0.03	c0.04		0.04	c0.05		c0.18	c0.17		0.02	0.11	
v/s Ratio Perm												
v/c Ratio	0.22	0.31		0.43	0.55		0.85	0.29		0.41	0.28	
Uniform Delay, d1	42.1	42.7		47.2	47.8		41.8	11.4		51.5	21.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.8		1.8	3.7		16.4	0.4		3.9	0.5	
Delay (s)	42.6	43.5		49.1	51.5		58.1	11.8		55.5	21.7	
Level of Service	D	D		D	D		E	B		E	C	
Approach Delay (s)		43.4			50.5			27.8			24.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

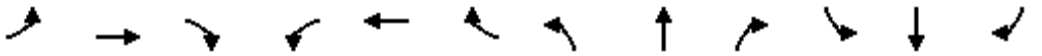
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	647	322	128	331	151	99
Future Volume (veh/h)	647	322	128	331	151	99
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	703	350	139	360	164	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	820	695	179	1191	238	212
Arrive On Green	0.44	0.44	0.10	0.64	0.13	0.13
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	703	350	139	360	164	108
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	15.9	7.5	3.6	4.1	4.1	3.0
Cycle Q Clear(g_c), s	15.9	7.5	3.6	4.1	4.1	3.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	820	695	179	1191	238	212
V/C Ratio(X)	0.86	0.50	0.78	0.30	0.69	0.51
Avail Cap(c_a), veh/h	1493	1266	393	1974	590	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.9	9.5	20.7	3.8	19.5	19.0
Incr Delay (d2), s/veh	1.3	0.3	2.7	0.1	1.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	1.9	1.4	0.7	1.6	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.2	9.8	23.4	3.9	20.8	19.7
LnGrp LOS	B	A	C	A	C	B
Approach Vol, veh/h	1053			499	272	
Approach Delay, s/veh	12.0			9.3	20.3	
Approach LOS	B			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.3	26.1		11.7		35.4
Change Period (Y+Rc), s	* 4.6	* 5.4		* 5.4		* 5.4
Max Green Setting (Gmax), s	* 10	* 38		* 16		* 50
Max Q Clear Time (g_c+I1), s	5.6	17.9		6.1		6.1
Green Ext Time (p_c), s	0.1	2.7		0.3		0.8

Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



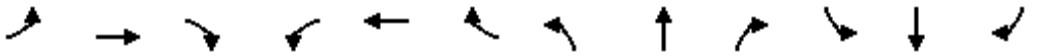
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	105	14	65	136	105	23	178	46	171	269	133
Future Volume (veh/h)	82	105	14	65	136	105	23	178	46	171	269	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	114	15	71	148	114	25	193	50	186	292	145
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	358	47	118	207	159	53	307	79	203	351	174
Arrive On Green	0.08	0.22	0.22	0.07	0.21	0.21	0.03	0.21	0.21	0.11	0.30	0.30
Sat Flow, veh/h	1781	1614	212	1781	974	750	1781	1432	371	1781	1176	584
Grp Volume(v), veh/h	89	0	129	71	0	262	25	0	243	186	0	437
Grp Sat Flow(s),veh/h/ln	1781	0	1826	1781	0	1725	1781	0	1804	1781	0	1759
Q Serve(g_s), s	2.1	0.0	2.6	1.7	0.0	6.2	0.6	0.0	5.4	4.5	0.0	10.2
Cycle Q Clear(g_c), s	2.1	0.0	2.6	1.7	0.0	6.2	0.6	0.0	5.4	4.5	0.0	10.2
Prop In Lane	1.00		0.12	1.00		0.44	1.00		0.21	1.00		0.33
Lane Grp Cap(c), veh/h	135	0	405	118	0	366	53	0	386	203	0	525
V/C Ratio(X)	0.66	0.00	0.32	0.60	0.00	0.71	0.47	0.00	0.63	0.91	0.00	0.83
Avail Cap(c_a), veh/h	244	0	684	203	0	607	203	0	692	203	0	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	14.3	19.9	0.0	16.0	20.9	0.0	15.6	19.2	0.0	14.3
Incr Delay (d2), s/veh	5.5	0.0	0.4	4.9	0.0	2.6	6.3	0.0	1.7	40.1	0.0	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.0	0.8	0.0	2.3	0.3	0.0	2.1	3.9	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	0.0	14.7	24.8	0.0	18.6	27.2	0.0	17.3	59.3	0.0	21.3
LnGrp LOS	C	A	B	C	A	B	C	A	B	E	A	C
Approach Vol, veh/h		218			333			268			623	
Approach Delay, s/veh		19.0			19.9			18.2			32.6	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	13.9	5.3	17.7	7.3	13.5	9.0	14.0
Change Period (Y+Rc), s	4.0	* 4.2	4.0	4.6	4.0	* 4.2	4.0	4.6
Max Green Setting (Gmax), s	5.0	* 16	5.0	16.8	6.0	* 15	5.0	16.8
Max Q Clear Time (g_c+I1), s	3.7	4.6	2.6	12.2	4.1	8.2	6.5	7.4
Green Ext Time (p_c), s	0.0	0.3	0.0	0.9	0.0	0.6	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



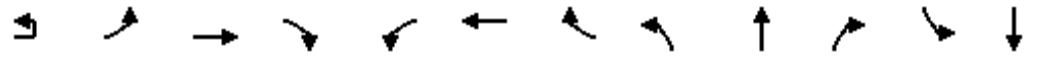
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	800	59	3	709	23	60	0	1	11	1	21
Future Volume (veh/h)	11	800	59	3	709	23	60	0	1	11	1	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.92
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	870	64	3	771	25	65	0	1	12	1	23
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	26	1006	74	68	1159	38	84	0	1	194	16	170
Arrive On Green	0.01	0.30	0.30	0.08	0.66	0.66	0.05	0.00	0.05	0.12	0.12	0.12
Sat Flow, veh/h	1781	3349	246	1781	3512	114	1751	0	27	1650	138	1451
Grp Volume(v), veh/h	12	462	472	3	390	406	66	0	0	13	0	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1819	1781	1777	1849	1778	0	0	1788	0	1451
Q Serve(g_s), s	0.5	19.6	19.6	0.1	10.6	10.6	2.9	0.0	0.0	0.5	0.0	1.1
Cycle Q Clear(g_c), s	0.5	19.6	19.6	0.1	10.6	10.6	2.9	0.0	0.0	0.5	0.0	1.1
Prop In Lane	1.00		0.14	1.00		0.06	0.98		0.02	0.92		1.00
Lane Grp Cap(c), veh/h	26	534	546	68	586	610	85	0	0	210	0	170
V/C Ratio(X)	0.46	0.86	0.86	0.04	0.67	0.67	0.77	0.00	0.00	0.06	0.00	0.14
Avail Cap(c_a), veh/h	111	586	600	111	586	610	133	0	0	536	0	435
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.1	26.4	26.4	35.6	10.9	10.9	37.6	0.0	0.0	31.4	0.0	31.7
Incr Delay (d2), s/veh	12.1	12.0	11.7	0.2	5.3	5.1	13.6	0.0	0.0	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	9.7	9.9	0.1	3.5	3.6	1.6	0.0	0.0	0.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	38.4	38.2	35.9	16.2	16.0	51.2	0.0	0.0	31.5	0.0	32.0
LnGrp LOS	D	D	D	D	B	B	D	A	A	C	A	C
Approach Vol, veh/h		946			799			66			36	
Approach Delay, s/veh		38.5			16.2			51.2			31.8	
Approach LOS		D			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	29.1		13.8	6.2	31.0		8.4				
Change Period (Y+Rc), s	5.0	* 5.1		4.4	5.0	4.6		4.6				
Max Green Setting (Gmax), s	5.0	* 26		24.0	5.0	26.4		6.0				
Max Q Clear Time (g_c+I1), s	2.1	21.6		3.1	2.5	12.6		4.9				
Green Ext Time (p_c), s	0.0	1.9		0.1	0.0	2.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		29.2
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

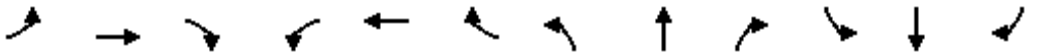


Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	5	166	657	8	8	333	73	0	1	3	115	1
Future Volume (vph)	5	166	657	8	8	333	73	0	1	3	115	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.6		4.0	4.6			4.1			4.6
Lane Util. Factor		1.00	0.95		1.00	0.95			1.00			1.00
Frpb, ped/bikes		1.00	1.00		1.00	0.99			1.00			1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00			1.00
Frt		1.00	1.00		1.00	0.97			0.90			1.00
Flt Protected		0.95	1.00		0.95	1.00			1.00			0.95
Satd. Flow (prot)		1770	3531		1770	3409			1674			1775
Flt Permitted		0.95	1.00		0.95	1.00			1.00			0.95
Satd. Flow (perm)		1770	3531		1770	3409			1674			1775
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	180	714	9	9	362	79	0	1	3	125	1
RTOR Reduction (vph)	0	0	1	0	0	17	0	0	3	0	0	0
Lane Group Flow (vph)	0	185	722	0	9	424	0	0	1	0	0	126
Confl. Peds. (#/hr)				27			20					
Turn Type	Prot	Prot	NA		Prot	NA			NA		Split	NA
Protected Phases	5	5	2		1	6		8	8		4	4
Permitted Phases												
Actuated Green, G (s)		12.5	48.2		1.0	36.6			1.0			12.5
Effective Green, g (s)		12.5	48.2		1.0	36.6			1.0			12.5
Actuated g/C Ratio		0.16	0.60		0.01	0.46			0.01			0.16
Clearance Time (s)		4.1	4.6		4.0	4.6			4.1			4.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		276	2127		22	1559			20			277
v/s Ratio Prot		c0.10	c0.20		0.01	c0.12			c0.00			c0.07
v/s Ratio Perm												
v/c Ratio		0.67	0.34		0.41	0.27			0.05			0.45
Uniform Delay, d1		31.8	7.9		39.2	13.4			39.0			30.7
Progression Factor		0.98	1.80		1.00	1.00			1.00			1.00
Incremental Delay, d2		5.8	0.4		11.9	0.4			1.1			1.2
Delay (s)		37.1	14.7		51.1	13.9			40.1			31.8
Level of Service		D	B		D	B			D			C
Approach Delay (s)			19.3			14.6			40.1			30.6
Approach LOS			B			B			D			C

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	340
Future Volume (vph)	340
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.6
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1537
Flt Permitted	1.00
Satd. Flow (perm)	1537
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	370
RTOR Reduction (vph)	312
Lane Group Flow (vph)	58
Confl. Peds. (#/hr)	17
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	12.5
Effective Green, g (s)	12.5
Actuated g/C Ratio	0.16
Clearance Time (s)	4.6
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	240
v/s Ratio Prot	
v/s Ratio Perm	0.04
v/c Ratio	0.24
Uniform Delay, d1	29.6
Progression Factor	1.00
Incremental Delay, d2	0.5
Delay (s)	30.1
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	250	468	170	192	11	251	269	333	3	196	59
Future Volume (veh/h)	73	250	468	170	192	11	251	269	333	3	196	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	79	272	0	185	209	12	273	292	362	3	213	64
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	468		235	694	40	406	1020	450	147	682	200
Arrive On Green	0.06	0.13	0.00	0.13	0.20	0.20	0.12	0.29	0.29	0.08	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3416	195	3456	3554	1568	1781	2707	792
Grp Volume(v), veh/h	79	272	0	185	108	113	273	292	362	3	138	139
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1834	1728	1777	1568	1781	1777	1722
Q Serve(g_s), s	2.6	4.4	0.0	6.1	3.1	3.2	4.6	3.9	13.0	0.1	3.8	4.0
Cycle Q Clear(g_c), s	2.6	4.4	0.0	6.1	3.1	3.2	4.6	3.9	13.0	0.1	3.8	4.0
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	108	468		235	361	373	406	1020	450	147	448	434
V/C Ratio(X)	0.73	0.58		0.79	0.30	0.30	0.67	0.29	0.80	0.02	0.31	0.32
Avail Cap(c_a), veh/h	441	2170		1029	1672	1725	1882	2792	1232	294	733	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	24.7	0.0	25.5	20.5	20.5	25.6	16.8	20.0	25.5	18.4	18.4
Incr Delay (d2), s/veh	3.5	0.4	0.0	2.2	0.2	0.2	0.7	0.1	1.3	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.8	0.0	2.6	1.2	1.3	1.8	1.4	4.3	0.0	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.5	25.2	0.0	27.7	20.6	20.7	26.3	16.8	21.3	25.6	18.5	18.6
LnGrp LOS	C	C		C	C	C	C	B	C	C	B	B
Approach Vol, veh/h		351	A		406			927			280	
Approach Delay, s/veh		26.6			23.8			21.4			18.6	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	13.9	12.1	21.6	8.7	18.2	10.0	23.7
Change Period (Y+Rc), s	5.0	5.9	5.0	* 6.3	5.0	5.9	5.0	6.3
Max Green Setting (Gmax), s	35.0	37.0	33.0	* 25	15.0	57.0	10.0	47.6
Max Q Clear Time (g_c+I1), s	8.1	6.4	6.6	6.0	4.6	5.2	2.1	15.0
Green Ext Time (p_c), s	0.3	0.4	0.5	0.4	0.1	0.2	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	164	130	254	6	323	215	53	769	459	495	50	513
Future Volume (vph)	164	130	254	6	323	215	53	769	459	495	50	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		5.0	5.6		5.0	5.9	5.9	5.0	5.9
Lane Util. Factor	1.00	1.00	1.00		0.97	0.95		0.97	0.95	0.88	1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.97		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1583		3433	3418		3433	3539	2680	1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1583		3433	3418		3433	3539	2680	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	178	141	276	7	351	234	58	836	499	538	54	558
RTOR Reduction (vph)	0	0	240	0	0	21	0	0	0	256	0	0
Lane Group Flow (vph)	178	141	36	0	358	271	0	836	499	282	54	558
Confl. Peds. (#/hr)							10			10		
Turn Type	Prot	NA	Perm	Prot	Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases			2							8		
Actuated Green, G (s)	13.0	12.2	12.2		14.1	13.3		27.7	40.4	40.4	5.8	18.5
Effective Green, g (s)	13.0	12.2	12.2		14.1	13.3		27.7	40.4	40.4	5.8	18.5
Actuated g/C Ratio	0.14	0.13	0.13		0.15	0.14		0.29	0.43	0.43	0.06	0.20
Clearance Time (s)	5.0	5.6	5.6		5.0	5.6		5.0	5.9	5.9	5.0	5.9
Vehicle Extension (s)	1.6	1.6	1.6		1.6	1.6		1.6	1.1	1.1	1.6	1.6
Lane Grp Cap (vph)	244	241	205		514	483		1011	1521	1151	109	696
v/s Ratio Prot	0.10	0.08			c0.10	c0.08		c0.24	0.14		0.03	c0.16
v/s Ratio Perm			0.02							0.11		
v/c Ratio	0.73	0.59	0.17		0.70	0.56		0.83	0.33	0.24	0.50	0.80
Uniform Delay, d1	38.8	38.5	36.4		37.9	37.6		30.9	17.8	17.1	42.7	36.0
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	2.3	0.1		3.3	0.9		5.4	0.0	0.0	1.3	6.3
Delay (s)	47.7	40.8	36.6		41.2	38.5		36.3	17.8	17.1	44.0	42.3
Level of Service	D	D	D		D	D		D	B	B	D	D
Approach Delay (s)		40.9				40.0			25.9			39.7
Approach LOS		D				D			C			D

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	212
Future Volume (vph)	212
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.9
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1547
Flt Permitted	1.00
Satd. Flow (perm)	1547
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	230
RTOR Reduction (vph)	139
Lane Group Flow (vph)	91
Confl. Peds. (#/hr)	10
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	18.5
Effective Green, g (s)	18.5
Actuated g/C Ratio	0.20
Clearance Time (s)	5.9
Vehicle Extension (s)	1.6
Lane Grp Cap (vph)	304
v/s Ratio Prot	
v/s Ratio Perm	0.06
v/c Ratio	0.30
Uniform Delay, d1	32.2
Progression Factor	1.00
Incremental Delay, d2	0.2
Delay (s)	32.4
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	3	0	169	4	330	1	1	499	0	152	496
Future Volume (vph)	9	3	0	169	4	330	1	1	499	0	152	496
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		0.97	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00	1.00		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863		1770	1863	1583		1770	1863		3433	1861
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863		1770	1863	1583		1770	1863		3433	1861
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	3	0	184	4	359	1	1	542	0	165	539
RTOR Reduction (vph)	0	0	0	0	0	251	0	0	0	0	0	0
Lane Group Flow (vph)	10	3	0	184	4	108	0	2	542	0	165	543
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	Split	NA		Split	NA
Protected Phases	5	2		1	6		3	3	3		4	4
Permitted Phases			2			6						
Actuated Green, G (s)	1.2	10.2		13.2	22.2	22.2		17.7	17.7		16.7	16.7
Effective Green, g (s)	1.2	10.2		13.2	22.2	22.2		17.7	17.7		16.7	16.7
Actuated g/C Ratio	0.02	0.14		0.18	0.30	0.30		0.24	0.24		0.23	0.23
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	28	257		316	560	476		424	446		776	421
v/s Ratio Prot	0.01	0.00		c0.10	0.00			0.00	c0.29		0.05	c0.29
v/s Ratio Perm						c0.07						
v/c Ratio	0.36	0.01		0.58	0.01	0.23		0.00	1.22		0.21	1.29
Uniform Delay, d1	35.9	27.4		27.8	18.1	19.4		21.3	28.0		23.2	28.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	7.7	0.0		2.7	0.0	0.2		0.0	115.9		0.1	147.3
Delay (s)	43.6	27.5		30.5	18.1	19.6		21.4	144.0		23.3	175.8
Level of Service	D	C		C	B	B		C	F		C	F
Approach Delay (s)		39.9			23.3				143.5			140.3
Approach LOS		D			C				F			F

Intersection Summary			
HCM 2000 Control Delay	105.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

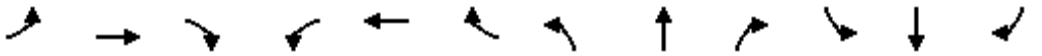
c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	4
Future Volume (vph)	4
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	4
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM 6th Signalized Intersection Summary
1: Cernon & Monte Vista Ave

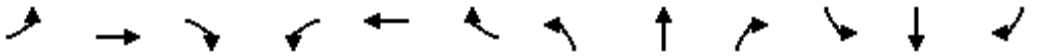
06/10/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	351	23	39	335	30	44	24	49	50	34	32
Future Volume (veh/h)	27	351	23	39	335	30	44	24	49	50	34	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	382	25	42	364	33	48	26	53	54	37	35
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1064	69	486	1018	863	60	32	66	98	67	145
Arrive On Green	0.04	0.31	0.31	0.27	0.54	0.54	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1781	3387	221	1781	1870	1585	646	350	713	1078	739	1585
Grp Volume(v), veh/h	29	200	207	42	364	33	127	0	0	91	0	35
Grp Sat Flow(s),veh/h/ln	1781	1777	1831	1781	1870	1585	1710	0	0	1816	0	1585
Q Serve(g_s), s	1.1	6.1	6.1	1.2	7.7	0.7	5.1	0.0	0.0	3.4	0.0	1.4
Cycle Q Clear(g_c), s	1.1	6.1	6.1	1.2	7.7	0.7	5.1	0.0	0.0	3.4	0.0	1.4
Prop In Lane	1.00		0.12	1.00		1.00	0.38		0.42	0.59		1.00
Lane Grp Cap(c), veh/h	77	558	575	486	1018	863	159	0	0	166	0	145
V/C Ratio(X)	0.38	0.36	0.36	0.09	0.36	0.04	0.80	0.00	0.00	0.55	0.00	0.24
Avail Cap(c_a), veh/h	178	558	575	486	1018	863	171	0	0	467	0	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.88	0.88	0.88	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	18.5	18.6	18.9	9.0	7.4	31.1	0.0	0.0	30.4	0.0	29.5
Incr Delay (d2), s/veh	3.0	1.7	1.7	0.1	0.9	0.1	21.9	0.0	0.0	2.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.6	2.7	0.5	3.0	0.2	3.0	0.0	0.0	1.5	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	20.3	20.3	19.0	9.9	7.5	53.0	0.0	0.0	33.2	0.0	30.4
LnGrp LOS	D	C	C	B	A	A	D	A	A	C	A	C
Approach Vol, veh/h		436			439			127			126	
Approach Delay, s/veh		21.3			10.6			53.0			32.4	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	42.1		10.4	23.1	26.0		10.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	22.0		18.0	7.0	22.0		7.0				
Max Q Clear Time (g_c+I1), s	3.1	9.7		5.4	3.2	8.1		7.1				
Green Ext Time (p_c), s	0.0	1.3		0.3	0.0	1.3		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		21.9	
HCM 6th LOS		C	



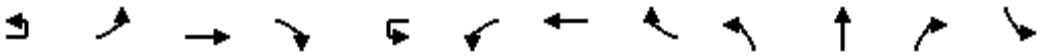
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	450	20	104	450	484	29	215	135	319	116	27
Future Volume (veh/h)	36	450	20	104	450	484	29	215	135	319	116	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	489	22	113	489	526	32	234	147	347	126	29
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	673	30	335	1266	553	281	295	244	523	222	51
Arrive On Green	0.03	0.19	0.19	0.19	0.36	0.36	0.16	0.16	0.16	0.15	0.15	0.15
Sat Flow, veh/h	1781	3461	155	1781	3554	1552	1781	1870	1552	3456	1463	337
Grp Volume(v), veh/h	39	251	260	113	489	526	32	234	147	347	0	155
Grp Sat Flow(s),veh/h/ln	1781	1777	1840	1781	1777	1552	1781	1870	1552	1728	0	1800
Q Serve(g_s), s	1.5	9.1	9.2	3.8	7.1	22.8	1.1	8.3	6.1	6.5	0.0	5.5
Cycle Q Clear(g_c), s	1.5	9.1	9.2	3.8	7.1	22.8	1.1	8.3	6.1	6.5	0.0	5.5
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	54	346	358	335	1266	553	281	295	244	523	0	273
V/C Ratio(X)	0.72	0.72	0.73	0.34	0.39	0.95	0.11	0.79	0.60	0.66	0.00	0.57
Avail Cap(c_a), veh/h	258	636	658	335	1266	553	519	545	452	1001	0	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.2	26.1	26.1	24.3	16.6	21.6	24.9	28.0	27.1	27.6	0.0	27.2
Incr Delay (d2), s/veh	6.4	1.3	1.3	0.2	0.1	26.4	0.1	1.8	0.9	0.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.8	3.9	1.5	2.7	11.6	0.4	3.7	2.2	2.6	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	27.4	27.4	24.5	16.7	48.0	25.0	29.8	27.9	28.2	0.0	27.9
LnGrp LOS	D	C	C	C	B	D	C	C	C	C	A	C
Approach Vol, veh/h		550			1128			413			502	
Approach Delay, s/veh		28.3			32.1			28.8			28.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.4	18.7		15.9	7.1	30.0		16.1				
Change Period (Y+Rc), s	* 5.4	* 5.3		* 5.4	5.0	* 5.4		5.2				
Max Green Setting (Gmax), s	* 10	* 25		* 20	10.0	* 25		20.1				
Max Q Clear Time (g_c+I1), s	5.8	11.2		8.5	3.5	24.8		10.3				
Green Ext Time (p_c), s	0.1	1.1		0.9	0.0	0.0		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		30.0	
HCM 6th LOS		C	

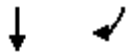
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



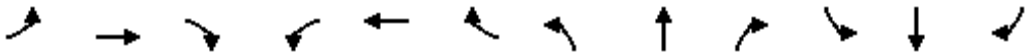
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	4	143	612	215	3	261	514	99	301	281	329	138
Future Volume (vph)	4	143	612	215	3	261	514	99	301	281	329	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.6	5.0		5.0	5.5		5.0	5.8	5.8	5.0
Lane Util. Factor		1.00	0.95	1.00		1.00	0.95		0.97	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00		1.00	1.00	0.98	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	0.98		1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (prot)		1770	3539	1565		1770	3440		3433	1863	1548	1770
Flt Permitted		0.95	1.00	1.00		0.95	1.00		0.95	1.00	1.00	0.95
Satd. Flow (perm)		1770	3539	1565		1770	3440		3433	1863	1548	1770
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	155	665	234	3	284	559	108	327	305	358	150
RTOR Reduction (vph)	0	0	0	102	0	0	13	0	0	0	283	0
Lane Group Flow (vph)	0	159	665	132	0	287	654	0	327	305	75	150
Confl. Peds. (#/hr)				6				11			10	
Turn Type	Prot	Prot	NA	pm+ov	Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	5	5	2	7	1	1	6		7	4		3
Permitted Phases				2							4	
Actuated Green, G (s)		13.2	23.1	36.2		19.8	29.8		13.1	20.2	20.2	12.0
Effective Green, g (s)		13.2	23.1	36.2		19.8	29.8		13.1	20.2	20.2	12.0
Actuated g/C Ratio		0.14	0.24	0.38		0.21	0.31		0.14	0.21	0.21	0.12
Clearance Time (s)		5.0	5.6	5.0		5.0	5.5		5.0	5.8	5.8	5.0
Vehicle Extension (s)		1.6	2.1	1.6		1.6	2.1		1.6	1.6	1.6	1.6
Lane Grp Cap (vph)		242	847	587		363	1062		466	389	324	220
v/s Ratio Prot		0.09	c0.19	0.03		c0.16	0.19		c0.10	c0.16		0.08
v/s Ratio Perm				0.05							0.05	
v/c Ratio		0.66	0.79	0.22		0.79	0.62		0.70	0.78	0.23	0.68
Uniform Delay, d1		39.5	34.4	20.6		36.4	28.5		39.8	36.1	31.7	40.4
Progression Factor		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		4.8	4.5	0.1		10.5	0.8		3.9	9.2	0.1	6.8
Delay (s)		44.3	38.9	20.6		46.8	29.2		43.7	45.3	31.8	47.2
Level of Service		D	D	C		D	C		D	D	C	D
Approach Delay (s)			35.7				34.5			39.9		
Approach LOS			D				C			D		

Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	96.5	Sum of lost time (s)	21.4
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	209	115
Future Volume (vph)	209	115
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.2	
Lane Util. Factor	0.95	
Frpb, ped/bikes	0.99	
Flpb, ped/bikes	1.00	
Frt	0.95	
Flt Protected	1.00	
Satd. Flow (prot)	3324	
Flt Permitted	1.00	
Satd. Flow (perm)	3324	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	227	125
RTOR Reduction (vph)	64	0
Lane Group Flow (vph)	288	0
Confl. Peds. (#/hr)		10
Turn Type	NA	
Protected Phases	8	
Permitted Phases		
Actuated Green, G (s)	19.7	
Effective Green, g (s)	19.7	
Actuated g/C Ratio	0.20	
Clearance Time (s)	5.2	
Vehicle Extension (s)	1.6	
Lane Grp Cap (vph)	678	
v/s Ratio Prot	0.09	
v/s Ratio Perm		
v/c Ratio	0.42	
Uniform Delay, d1	33.5	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	33.6	
Level of Service	C	
Approach Delay (s)	37.7	
Approach LOS	D	

Intersection Summary



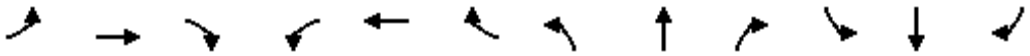
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	182	7	263	217	57	128	327	343	22	185	5
Future Volume (veh/h)	8	182	7	263	217	57	128	327	343	22	185	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	0.99		0.99
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	198	8	286	236	62	139	355	373	24	201	5
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	12	266	11	234	193	368	177	668	562	82	278	7
Arrive On Green	0.16	0.16	0.16	0.23	0.23	0.23	0.10	0.36	0.36	0.18	0.18	0.18
Sat Flow, veh/h	78	1706	69	997	823	1568	1781	1870	1574	95	1579	37
Grp Volume(v), veh/h	215	0	0	522	0	62	139	355	373	230	0	0
Grp Sat Flow(s),veh/h/ln	1853	0	0	1820	0	1568	1781	1870	1574	1712	0	0
Q Serve(g_s), s	6.8	0.0	0.0	14.4	0.0	1.9	4.7	9.2	12.3	3.0	0.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.0	14.4	0.0	1.9	4.7	9.2	12.3	7.6	0.0	0.0
Prop In Lane	0.04		0.04	0.55		1.00	1.00		1.00	0.10		0.02
Lane Grp Cap(c), veh/h	289	0	0	427	0	368	177	668	562	367	0	0
V/C Ratio(X)	0.74	0.00	0.00	1.22	0.00	0.17	0.78	0.53	0.66	0.63	0.00	0.00
Avail Cap(c_a), veh/h	724	0	0	427	0	368	290	1066	897	735	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.8	0.0	0.0	23.5	0.0	18.7	27.0	15.7	16.6	23.8	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	119.8	0.0	0.1	2.9	0.2	0.5	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	19.7	0.0	0.7	2.0	3.6	4.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	0.0	0.0	143.3	0.0	18.8	29.9	15.9	17.1	24.5	0.0	0.0
LnGrp LOS	C	A	A	F	A	B	C	B	B	C	A	A
Approach Vol, veh/h		215			584			867			230	
Approach Delay, s/veh		26.2			130.1			18.7			24.5	
Approach LOS		C			F			B			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.1	16.1		20.0		27.2		14.2				
Change Period (Y+Rc), s	5.0	* 5.3		5.6		* 5.3		4.6				
Max Green Setting (Gmax), s	10.0	* 25		14.4		* 35		24.0				
Max Q Clear Time (g_c+I1), s	6.7	9.6		16.4		14.3		8.8				
Green Ext Time (p_c), s	0.1	0.5		0.0		1.8		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		54.5	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	271	63	124	303	71	74	201	191	88	176	21
Future Volume (vph)	13	271	63	124	303	71	74	201	191	88	176	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.6		4.2	4.6	4.6	4.0	4.6	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1805		1770	3417		1770	1863	1555	1770	1829	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1805		1770	3417		1770	1863	1555	1770	1829	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	295	68	135	329	77	80	218	208	96	191	23
RTOR Reduction (vph)	0	12	0	0	26	0	0	0	162	0	8	0
Lane Group Flow (vph)	14	351	0	135	380	0	80	218	46	96	206	0
Confl. Bikes (#/hr)			5			13			6			5
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	0.7	17.2		5.3	21.4		2.6	12.2	12.2	3.8	13.2	
Effective Green, g (s)	0.7	17.2		5.3	21.4		2.6	12.2	12.2	3.8	13.2	
Actuated g/C Ratio	0.01	0.31		0.10	0.39		0.05	0.22	0.22	0.07	0.24	
Clearance Time (s)	4.0	4.2		4.0	4.6		4.2	4.6	4.6	4.0	4.6	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	22	561		169	1322		83	411	343	121	436	
v/s Ratio Prot	0.01	c0.19		c0.08	0.11		0.05	c0.12		c0.05	0.11	
v/s Ratio Perm									0.03			
v/c Ratio	0.64	0.62		0.80	0.29		0.96	0.53	0.13	0.79	0.47	
Uniform Delay, d1	27.2	16.3		24.5	11.7		26.3	19.0	17.3	25.4	18.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	36.7	1.6		21.2	0.0		85.7	0.7	0.1	27.4	0.3	
Delay (s)	63.9	17.9		45.7	11.7		112.0	19.7	17.4	52.7	18.4	
Level of Service	E	B		D	B		F	B	B	D	B	
Approach Delay (s)		19.6			20.2			33.3			29.0	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	17.4
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

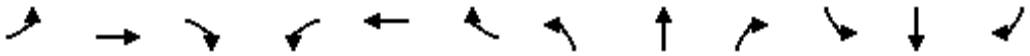
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	1	223	456	44	23	326	390	507	2	116	155	399
Future Volume (vph)	1	223	456	44	23	326	390	507	2	116	155	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1982	1873	1873	1900	1900	1900	1900
Lane Width	12	12	12	16	12	12	13	16	12	12	12	14
Total Lost time (s)		5.0	5.6	5.6		5.0	5.9	5.9		5.0	5.9	5.9
Lane Util. Factor		0.97	0.91	1.00		0.97	0.95	1.00		0.97	0.95	1.00
Frpb, ped/bikes		1.00	1.00	0.98		1.00	1.00	0.98		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00
Satd. Flow (prot)		3433	5085	1767		3581	3605	1736		3433	3539	1663
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00
Satd. Flow (perm)		3433	5085	1767		3581	3605	1736		3433	3539	1663
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	242	496	48	25	354	424	551	2	126	168	434
RTOR Reduction (vph)	0	0	0	39	0	0	0	421	0	0	0	206
Lane Group Flow (vph)	0	243	496	9	0	379	424	130	0	128	168	228
Confl. Peds. (#/hr)				5				10				5
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm
Protected Phases	5	5	2		1	1	6		7	7	4	
Permitted Phases				2				6				4
Actuated Green, G (s)		11.0	17.0	17.0		14.6	20.3	20.3		20.7	17.2	17.2
Effective Green, g (s)		11.0	17.0	17.0		14.6	20.3	20.3		20.7	17.2	17.2
Actuated g/C Ratio		0.13	0.20	0.20		0.17	0.24	0.24		0.24	0.20	0.20
Clearance Time (s)		5.0	5.6	5.6		5.0	5.9	5.9		5.0	5.9	5.9
Vehicle Extension (s)		1.6	2.1	2.1		1.6	2.1	2.1		1.6	1.6	1.6
Lane Grp Cap (vph)		439	1006	349		608	851	410		827	708	332
v/s Ratio Prot		0.07	0.10			c0.11	c0.12			c0.04	0.05	
v/s Ratio Perm				0.01				0.08				c0.14
v/c Ratio		0.55	0.49	0.03		0.62	0.50	0.32		0.15	0.24	0.69
Uniform Delay, d1		35.1	30.6	27.8		33.1	28.4	27.1		25.7	28.8	31.9
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.9	0.2	0.0		1.4	0.2	0.2		0.0	0.1	4.7
Delay (s)		36.0	30.8	27.8		34.5	28.6	27.3		25.7	28.9	36.5
Level of Service		D	C	C		C	C	C		C	C	D
Approach Delay (s)			32.2				29.7				32.9	
Approach LOS			C				C				C	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	85.9	Sum of lost time (s)	21.8
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	385	144	140
Future Volume (vph)	385	144	140
Ideal Flow (vphpl)	1928	1928	1928
Lane Width	12	11	16
Total Lost time (s)	5.0	5.9	5.9
Lane Util. Factor	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	3484	3472	1793
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	3484	3472	1793
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	418	157	152
RTOR Reduction (vph)	0	0	131
Lane Group Flow (vph)	418	157	21
Confl. Peds. (#/hr)			5
Turn Type	Prot	NA	Perm
Protected Phases	3	8	
Permitted Phases			8
Actuated Green, G (s)	15.6	12.1	12.1
Effective Green, g (s)	15.6	12.1	12.1
Actuated g/C Ratio	0.18	0.14	0.14
Clearance Time (s)	5.0	5.9	5.9
Vehicle Extension (s)	1.6	1.6	1.6
Lane Grp Cap (vph)	632	489	252
v/s Ratio Prot	c0.12	0.05	
v/s Ratio Perm			0.01
v/c Ratio	0.66	0.32	0.08
Uniform Delay, d1	32.7	33.2	32.1
Progression Factor	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.1	0.1
Delay (s)	34.7	33.3	32.1
Level of Service	C	C	C
Approach Delay (s)		33.9	
Approach LOS		C	

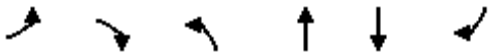
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	76	320	87	56	39	200	457	115	40	344	80
Future Volume (vph)	68	76	320	87	56	39	200	457	115	40	344	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.88		1.00	0.94		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1637		1770	1749		1770	3433		1770	3439	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1637		1770	1749		1770	3433		1770	3439	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	83	348	95	61	42	217	497	125	43	374	87
RTOR Reduction (vph)	0	135	0	0	23	0	0	19	0	0	16	0
Lane Group Flow (vph)	74	296	0	95	80	0	217	603	0	43	445	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	19.7	19.7		10.3	10.3		18.6	59.8		4.2	45.4	
Effective Green, g (s)	19.7	19.7		10.3	10.3		18.6	59.8		4.2	45.4	
Actuated g/C Ratio	0.18	0.18		0.09	0.09		0.17	0.54		0.04	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	316	293		165	163		299	1866		67	1419	
v/s Ratio Prot	0.04	c0.18		c0.05	0.05		c0.12	c0.18		0.02	0.13	
v/s Ratio Perm												
v/c Ratio	0.23	1.01		0.58	0.49		0.73	0.32		0.64	0.31	
Uniform Delay, d1	38.7	45.1		47.8	47.4		43.3	13.9		52.2	21.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	55.5		4.8	2.3		8.5	0.5		19.1	0.6	
Delay (s)	39.1	100.7		52.6	49.7		51.8	14.4		71.3	22.4	
Level of Service	D	F		D	D		D	B		E	C	
Approach Delay (s)		91.7			51.1			24.0			26.5	
Approach LOS		F			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	44.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



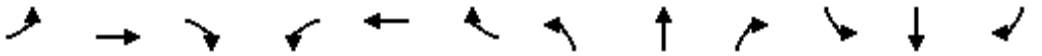
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	180	182	0	0	0
Future Volume (veh/h)	0	180	182	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	196	198	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	270	240	271	180	13	11
Arrive On Green	0.00	0.15	0.15	0.00	0.00	0.00
Sat Flow, veh/h	1781	1585	1781	1870	-100999	1585
Grp Volume(v), veh/h	0	196	198	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	0.0	1.7	1.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.7	1.5	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	270	240	271	180	13	11
V/C Ratio(X)	0.00	0.82	0.73	0.00	0.00	0.00
Avail Cap(c_a), veh/h	1936	1722	1290	6475	4899	4151
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	5.9	5.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.6	1.4	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	8.5	7.2	0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	196			198	0	
Approach Delay, s/veh	8.5			7.2	0.0	
Approach LOS	A			A		

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.8	0.0		7.6		6.8
Change Period (Y+Rc), s	* 4.6	* 5.4		* 5.4		* 5.4
Max Green Setting (Gmax), s	* 10	* 38		* 16		* 50
Max Q Clear Time (g_c+I1), s	3.5	0.0		3.7		0.0
Green Ext Time (p_c), s	0.2	0.0		0.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



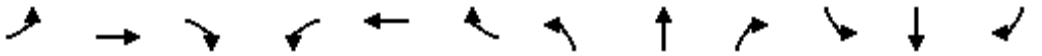
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	101	24	50	99	78	23	201	52	64	183	53
Future Volume (veh/h)	104	101	24	50	99	78	23	201	52	64	183	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	110	26	54	108	85	25	218	57	70	199	58
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	316	75	102	176	139	54	310	81	122	354	103
Arrive On Green	0.09	0.22	0.22	0.06	0.18	0.18	0.03	0.22	0.22	0.07	0.25	0.25
Sat Flow, veh/h	1781	1455	344	1781	963	758	1781	1429	374	1781	1388	405
Grp Volume(v), veh/h	113	0	136	54	0	193	25	0	275	70	0	257
Grp Sat Flow(s),veh/h/ln	1781	0	1799	1781	0	1721	1781	0	1803	1781	0	1793
Q Serve(g_s), s	2.3	0.0	2.4	1.1	0.0	3.9	0.5	0.0	5.4	1.5	0.0	4.8
Cycle Q Clear(g_c), s	2.3	0.0	2.4	1.1	0.0	3.9	0.5	0.0	5.4	1.5	0.0	4.8
Prop In Lane	1.00		0.19	1.00		0.44	1.00		0.21	1.00		0.23
Lane Grp Cap(c), veh/h	163	0	391	102	0	315	54	0	391	122	0	457
V/C Ratio(X)	0.69	0.00	0.35	0.53	0.00	0.61	0.46	0.00	0.70	0.57	0.00	0.56
Avail Cap(c_a), veh/h	280	0	773	233	0	695	233	0	794	233	0	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.8	0.0	12.6	17.5	0.0	14.3	18.2	0.0	13.8	17.2	0.0	12.4
Incr Delay (d2), s/veh	5.2	0.0	0.5	4.2	0.0	1.9	6.0	0.0	2.3	4.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	0.5	0.0	1.4	0.3	0.0	2.0	0.7	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.0	0.0	13.2	21.7	0.0	16.3	24.1	0.0	16.1	21.4	0.0	13.5
LnGrp LOS	C	A	B	C	A	B	C	A	B	C	A	B
Approach Vol, veh/h		249			247			300			327	
Approach Delay, s/veh		17.2			17.5			16.8			15.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	12.5	5.2	14.3	7.5	11.2	6.6	12.9
Change Period (Y+Rc), s	4.0	* 4.2	4.0	4.6	4.0	* 4.2	4.0	4.6
Max Green Setting (Gmax), s	5.0	* 16	5.0	16.8	6.0	* 15	5.0	16.8
Max Q Clear Time (g_c+I1), s	3.1	4.4	2.5	6.8	4.3	5.9	3.5	7.4
Green Ext Time (p_c), s	0.0	0.3	0.0	0.7	0.0	0.5	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	984	82	3	810	27	51	1	5	27	4	25
Future Volume (veh/h)	19	984	82	3	810	27	51	1	5	27	4	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.92
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	1070	89	3	880	29	55	1	5	29	4	27
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	1094	91	30	1158	38	74	1	7	197	27	183
Arrive On Green	0.02	0.33	0.33	0.03	0.66	0.66	0.05	0.05	0.05	0.13	0.13	0.13
Sat Flow, veh/h	1781	3315	276	1781	3510	116	1591	29	145	1574	217	1460
Grp Volume(v), veh/h	21	573	586	3	446	463	61	0	0	33	0	27
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	1777	1848	1765	0	0	1792	0	1460
Q Serve(g_s), s	0.9	25.5	25.6	0.1	13.7	13.7	2.7	0.0	0.0	1.3	0.0	1.3
Cycle Q Clear(g_c), s	0.9	25.5	25.6	0.1	13.7	13.7	2.7	0.0	0.0	1.3	0.0	1.3
Prop In Lane	1.00		0.15	1.00		0.06	0.90		0.08	0.88		1.00
Lane Grp Cap(c), veh/h	42	586	598	30	586	610	82	0	0	224	0	183
V/C Ratio(X)	0.51	0.98	0.98	0.10	0.76	0.76	0.75	0.00	0.00	0.15	0.00	0.15
Avail Cap(c_a), veh/h	111	586	598	111	586	610	132	0	0	537	0	438
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.6	26.5	26.5	38.0	11.4	11.4	37.7	0.0	0.0	31.2	0.0	31.2
Incr Delay (d2), s/veh	9.2	31.4	31.3	1.2	8.0	7.8	12.5	0.0	0.0	0.3	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	15.3	15.6	0.1	4.4	4.5	1.4	0.0	0.0	0.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	58.0	57.9	39.3	19.5	19.2	50.2	0.0	0.0	31.5	0.0	31.6
LnGrp LOS	D	E	E	D	B	B	D	A	A	C	A	C
Approach Vol, veh/h		1180			912			61			60	
Approach Delay, s/veh		57.7			19.4			50.2			31.5	
Approach LOS		E			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	31.5		14.4	6.9	31.0		8.3				
Change Period (Y+Rc), s	5.0	* 5.1		4.4	5.0	4.6		4.6				
Max Green Setting (Gmax), s	5.0	* 26		24.0	5.0	26.4		6.0				
Max Q Clear Time (g_c+I1), s	2.1	27.6		3.3	2.9	15.7		4.7				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	3.1		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		41.0	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	7	183	843	4	6	672	72	3	0	8	91	0
Future Volume (vph)	7	183	843	4	6	672	72	3	0	8	91	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.6		4.0	4.6			4.1			4.6
Lane Util. Factor		1.00	0.95		1.00	0.95			1.00			1.00
Frpb, ped/bikes		1.00	1.00		1.00	0.99			1.00			1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00			1.00
Frt		1.00	1.00		1.00	0.99			0.90			1.00
Flt Protected		0.95	1.00		0.95	1.00			0.99			0.95
Satd. Flow (prot)		1770	3536		1770	3469			1653			1770
Flt Permitted		0.95	1.00		0.95	1.00			0.99			0.95
Satd. Flow (perm)		1770	3536		1770	3469			1653			1770
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	199	916	4	7	730	78	3	0	9	99	0
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	12	0	0	0
Lane Group Flow (vph)	0	207	920	0	7	800	0	0	0	0	0	99
Confl. Peds. (#/hr)				27			20					
Turn Type	Prot	Prot	NA		Prot	NA		Split	NA		Split	NA
Protected Phases	5	5	2		1	6		8	8		4	4
Permitted Phases												
Actuated Green, G (s)		13.5	49.0		1.0	36.4			1.0			11.7
Effective Green, g (s)		13.5	49.0		1.0	36.4			1.0			11.7
Actuated g/C Ratio		0.17	0.61		0.01	0.45			0.01			0.15
Clearance Time (s)		4.1	4.6		4.0	4.6			4.1			4.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		298	2165		22	1578			20			258
v/s Ratio Prot		c0.12	0.26		0.00	c0.23			c0.00			c0.06
v/s Ratio Perm												
v/c Ratio		0.69	0.42		0.32	0.51			0.01			0.38
Uniform Delay, d1		31.3	8.1		39.2	15.4			39.0			30.9
Progression Factor		0.86	2.04		1.00	1.00			1.00			1.00
Incremental Delay, d2		5.9	0.5		8.2	1.2			0.1			1.0
Delay (s)		32.8	17.1		47.3	16.6			39.2			31.8
Level of Service		C	B		D	B			D			C
Approach Delay (s)			20.0			16.9			39.2			30.6
Approach LOS			C			B			D			C

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.4
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	148
Future Volume (vph)	148
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.6
Lane Util. Factor	1.00
Frpb, ped/bikes	0.97
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1537
Flt Permitted	1.00
Satd. Flow (perm)	1537
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	161
RTOR Reduction (vph)	137
Lane Group Flow (vph)	24
Confl. Peds. (#/hr)	17
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	11.7
Effective Green, g (s)	11.7
Actuated g/C Ratio	0.15
Clearance Time (s)	4.6
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	224
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.11
Uniform Delay, d1	29.6
Progression Factor	1.00
Incremental Delay, d2	0.2
Delay (s)	29.8
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (veh/h)	0	68	564	433	627	858	17	152	39	0	0
Future Volume (veh/h)	0	68	564	433	627	858	17	152	39	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	471	682	933	18	165	42	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	2		595	2178	967	125	1440	357	2	0
Arrive On Green	0.00	0.00	0.00	0.17	0.61	0.61	0.07	0.51	0.51	0.00	0.00
Sat Flow, veh/h	1781	1781	1585	3456	3554	1577	1781	2820	699	1781	0
Grp Volume(v), veh/h	0	0	0	471	682	933	18	102	105	0	0
Grp Sat Flow(s),veh/h/ln	1781	1781	1585	1728	1777	1577	1781	1777	1742	1781	0
Q Serve(g_s), s	0.0	0.0	0.0	9.3	6.6	40.1	0.7	2.1	2.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	9.3	6.6	40.1	0.7	2.1	2.2	0.0	0.0
Prop In Lane	1.00	1.00	1.00	1.00		1.00	1.00		0.40	1.00	0.00
Lane Grp Cap(c), veh/h	2	2		595	2178	967	125	907	890	2	0
V/C Ratio(X)	0.00	0.00		0.79	0.31	0.97	0.14	0.11	0.12	0.00	0.00
Avail Cap(c_a), veh/h	374	374		1595	2366	1050	249	907	890	872	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	28.4	6.6	13.1	31.2	9.1	9.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	18.7	0.2	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	3.7	1.9	15.5	0.3	0.7	0.7	0.0	0.0
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	0.0	0.0	0.0	29.3	6.7	31.8	31.4	9.1	9.1	0.0	0.0
LnGrp LOS	A	A		C	A	C	C	A	A	A	A
Approach Vol, veh/h	74	74	A		2086			225		0	
Approach Delay, s/veh	31.3	31.3			23.0			10.9		0.0	
Approach LOS	C	C			C			B			

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	11.4	17.3	42.8	0.0	11.4	10.0	50.1
Change Period (Y+Rc), s	5.0	5.9	5.0	* 6.3	5.0	5.9	5.0	6.3
Max Green Setting (Gmax), s	35.0	37.0	33.0	* 25	15.0	57.0	10.0	47.6
Max Q Clear Time (g_c+I1), s	0.0	3.4	11.3	4.2	0.0	0.0	2.7	42.1
Green Ext Time (p_c), s	0.0	0.1	1.0	0.3	0.0	0.0	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	183	87	359	5	411	208	54	447	539	490	87	544
Future Volume (vph)	183	87	359	5	411	208	54	447	539	490	87	544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		5.0	5.6		5.0	5.9	5.9	5.0	5.9
Lane Util. Factor	1.00	1.00	1.00		0.97	0.95		0.97	0.95	0.88	1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	0.99		1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.97		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1583		3433	3404		3433	3539	2685	1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1583		3433	3404		3433	3539	2685	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	199	95	390	5	447	226	59	486	586	533	95	591
RTOR Reduction (vph)	0	0	342	0	0	22	0	0	0	246	0	0
Lane Group Flow (vph)	199	95	48	0	452	263	0	486	586	287	95	591
Confl. Peds. (#/hr)							10			10		
Turn Type	Prot	NA	Perm	Prot	Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases			2							8		
Actuated Green, G (s)	13.9	10.5	10.5		15.9	12.5		18.3	29.9	29.9	6.8	18.4
Effective Green, g (s)	13.9	10.5	10.5		15.9	12.5		18.3	29.9	29.9	6.8	18.4
Actuated g/C Ratio	0.16	0.12	0.12		0.19	0.15		0.22	0.35	0.35	0.08	0.22
Clearance Time (s)	5.0	5.6	5.6		5.0	5.6		5.0	5.9	5.9	5.0	5.9
Vehicle Extension (s)	1.6	1.6	1.6		1.6	1.6		1.6	1.1	1.1	1.6	1.6
Lane Grp Cap (vph)	290	231	196		645	502		742	1250	948	142	769
v/s Ratio Prot	0.11	0.05			c0.13	c0.08		c0.14	0.17		0.05	c0.17
v/s Ratio Perm			0.03							0.11		
v/c Ratio	0.69	0.41	0.25		0.70	0.52		0.65	0.47	0.30	0.67	0.77
Uniform Delay, d1	33.3	34.2	33.5		32.1	33.3		30.3	21.2	19.8	37.8	31.1
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.3	0.4	0.2		2.8	0.5		1.6	0.1	0.1	8.9	4.2
Delay (s)	38.6	34.6	33.7		34.9	33.8		31.9	21.3	19.9	46.7	35.3
Level of Service	D	C	C		C	C		C	C	B	D	D
Approach Delay (s)		35.3				34.5			24.0			35.2
Approach LOS		D				C			C			D

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	84.6	Sum of lost time (s)	21.5
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	124
Future Volume (vph)	124
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.9
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1549
Flt Permitted	1.00
Satd. Flow (perm)	1549
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	135
RTOR Reduction (vph)	106
Lane Group Flow (vph)	29
Confl. Peds. (#/hr)	10
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	18.4
Effective Green, g (s)	18.4
Actuated g/C Ratio	0.22
Clearance Time (s)	5.9
Vehicle Extension (s)	1.6
Lane Grp Cap (vph)	336
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.09
Uniform Delay, d1	26.4
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	26.4
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	17	18	3	237	16	358	12	0	469	0	338	525
Future Volume (vph)	17	18	3	237	16	358	12	0	469	0	338	525
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		0.97	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583		1770	1863		3433	1855
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.23	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583		421	1863		3433	1855
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	20	3	258	17	389	13	0	510	0	367	571
RTOR Reduction (vph)	0	0	3	0	0	268	0	0	0	0	0	1
Lane Group Flow (vph)	18	20	0	258	17	121	0	13	510	0	367	586
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	Split	NA		Split	NA
Protected Phases	5	2		1	6			3	3		4	4
Permitted Phases			2			6	3					
Actuated Green, G (s)	2.4	9.6	9.6	16.5	23.7	23.7		17.7	17.7		16.7	16.7
Effective Green, g (s)	2.4	9.6	9.6	16.5	23.7	23.7		17.7	17.7		16.7	16.7
Actuated g/C Ratio	0.03	0.13	0.13	0.22	0.31	0.31		0.23	0.23		0.22	0.22
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	55	233	198	381	577	490		97	431		749	404
v/s Ratio Prot	0.01	0.01		c0.15	0.01				c0.27		0.11	c0.32
v/s Ratio Perm			0.00			c0.08		0.03				
v/c Ratio	0.33	0.09	0.00	0.68	0.03	0.25		0.13	1.18		0.49	1.45
Uniform Delay, d1	36.3	29.6	29.3	27.6	18.4	19.7		23.3	29.4		26.2	29.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	3.5	0.2	0.0	4.7	0.0	0.3		0.6	103.9		0.5	216.4
Delay (s)	39.7	29.7	29.3	32.3	18.4	20.0		24.0	133.3		26.7	246.3
Level of Service	D	C	C	C	B	B		C	F		C	F
Approach Delay (s)		34.1			24.7				130.6			161.8
Approach LOS		C			C				F			F

Intersection Summary			
HCM 2000 Control Delay	110.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	76.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	15
Future Volume (vph)	15
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	16
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

APPENDIX C:

Parking Data

DKS

8950 CAL CENTER DRIVE, SUITE 340, SACRAMENTO, CA 95826 • 916.368.2000 • DKSASSOCIATES.COM

ANAHEIM, CA • AUSTIN, TX • PASADENA, CA • PORTLAND, OR • OAKLAND, CA • SACRAMENTO, CA • SALEM, OR • SEATTLE, WA

Prepared by National Data & Surveying Services

Parking Study

Location: Downtown Parking
City: Vacaville, CA

Date: 04/16/2019
Day: Tuesday

Segment	Street	From	To	Inventory	Restriction	9:00 AM	12:00 PM	4:00 PM
East	Boyd St	Mason St	Stevenson St	8	2 Hour	0	0	2
West	Boyd St	Mason St	Stevenson St	11	2 Hour	5	6	4
East	Boyd St	Mcknight Ln	Olive St	8	No Limit	1	1	2
West	Boyd St	Olive St	Laurel St	8	No Limit	1	1	3
East	Boyd St	Olive St	Pecan St	6	No Limit	0	2	1
East	Boyd St	Stevenson St	Mcknight Ln	8	No Limit	4	3	3
West	Boyd St	Stevenson St	Olive St	12	No Limit	4	1	3
West	Boyd St	Stevenson St	Olive St	1	HC - No Limit	0	0	0
North	Bush St	Lincoln Hwy	Depot St	11	No Limit	0	1	1
South	Bush St	Lincoln Hwy	Depot St	14	No Limit	1	2	2
North	Catherine St	Davis St	Wilson St	10	No Limit	2	2	3
South	Catherine St	Davis St	Wilson St	9	4 Hour	1	1	1
North	Catherine St	Elizabeth St	Davis St	9	No Limit	4	3	2
South	Catherine St	Elizabeth St	Davis St	8	No Limit	2	5	3
North	Catherine St	Wilson St	McClellan St	13	No Limit	2	3	5
South	Catherine St	Wilson St	McClellan St	13	No Limit	4	2	1
North	Cernon St	Dobbins St	Cernon St	6	No Limit	0	0	0
South	Cernon St	Dobbins St	Cernon St	8	No Limit	0	0	0
East	Cernon St	Kendal St	E Monte Vista Ave	4	No Limit	3	1	1
West	Cernon St	Kendal St	E Monte Vista Ave	5	No Limit	2	0	2
East	Cernon St	Kendal St	Main St	7	No Limit	2	2	0
West	Cernon St	Kendal St	Main St	6	No Limit	1	1	1
East	Cernon St	Main St	Mason St	12	2 Hour	3	7	5
West	Cernon St	Main St	Mason St	17	2 Hour	10	9	7
West	Cernon St	Main St	Mason St	2	20/30 Minute	0	2	0
West	Cernon St	Main St	Mason St	4	No Limit	0	1	1
East	Cernon St	Mason St	Stevenson St	11	2 Hour	2	8	8
West	Cernon St	Mason St	Stevenson St	10	2 Hour	7	10	7
East	Cernon St	Monte Vista Ave	Cernon St	10	No Limit	0	0	0
West	Cernon St	Monte Vista Ave	Cernon St	12	No Limit	0	1	1
West	Davis St	Mcknight Ln	Olive St	4	No Limit	2	1	3
West	Davis St	Stevenson St	Mcknight Ln	10	No Limit	3	2	5
West	Dobbins St	Kendal St	E Monte Vista Ave	3	2 Hour	0	1	1
East	Dobbins St	Kendal St	Main St	6	2 Hour	5	6	7
West	Dobbins St	Kendal St	Main St	9	2 Hour	4	9	7
East	Dobbins St	Main St	Mercant St	3	2 Hour	3	1	2
West	Dobbins St	Main St	Mercant St	3	2 Hour	2	1	3
East	Elizabeth St	Catherine St	Mason St	6	No Limit	4	5	5
East	Elizabeth St	Mason St	Stevenson St	6	2 Hour	6	0	0
East	Elizabeth St	Mason St	Stevenson St	6	No Limit	2	0	0
West	Elizabeth St	Mason St	Stevenson St	9	2 Hour	7	7	0
West	Elizabeth St	Mason St	Stevenson St	3	No Limit	1	1	1
East	Elizabeth St	Stevenson St	Mcknight Ln	10	No Limit	2	2	3
West	Elizabeth St	Stevenson St	Mcknight Ln	10	No Limit	7	8	8
North	Kendal St	Cernon St	Parker St	8	No Limit	0	0	1
South	Kendal St	Cernon St	Parker St	10	No Limit	9	1	2
North	Kendal St	Parker St	Dobbins St	8	2 Hour	5	8	5
South	Kendal St	Parker St	Dobbins St	7	2 Hour	7	6	4

North	Kendal St	West St	Cernon St	**9**	No Limit	5	5	7
South	Kendal St	West St	Cernon St	**9**	No Limit	2	4	4
East	Lincoln Hwy	Bush St	Monte Vista Ave	**10**	No Limit	4	4	4
North	Luzena Ave	kentucky St	West St	**5**	No Limit	3	1	5
South	Luzena Ave	kentucky St	West St	**4**	No Limit	2	3	3
North	Magnolia Ave	Mason St	Magnolia Ave	**6**	No Limit	3	3	2
South	Magnolia Ave	Mason St	Magnolia Ave	**4**	No Limit	3	1	1
North	Main St	Cernon St	Parker St	**15**	2 Hour	13	7	6
South	Main St	Cernon St	Parker St	**11**	2 Hour	4	1	5
South	Main St	Cernon St	Parker St	**2**	20/30 Minute	2	1	2
North	East Main St	Davis St	Wilson St	**23**	2 Hour	2	4	5
North	East Main St	Davis St	Wilson St	**6**	No Limit	0	0	0
North	East Main St	Davis St	Wilson St	**1**	HC - 2 Hour	0	0	0
South	East Main St	Davis St	Wilson St	**11**	2 Hour	3	1	3
South	East Main St	Davis St	Wilson St	**8**	No Limit	0	3	1
South	East Main St	Davis St	Wilson St	**1**	HC - 2 Hour	0	0	0
North	Main St	Dobbins St	Merchant St	**8**	2 Hour	3	7	7
North	Main St	Dobbins St	Merchant St	**1**	HC - 2 Hour	0	1	1
South	Main St	Dobbins St	Merchant St	**8**	2 Hour	6	8	7
North	Main St	Elizabeth St	Davis St	**22**	2 Hour	7	20	19
South	Main St	Elizabeth St	Davis St	**18**	2 Hour	11	18	12
South	Main St	Elizabeth St	Davis St	**2**	20/30 Minute	1	1	2
South	Main St	Elizabeth St	Davis St	**2**	HC - 2 Hour	1	1	0
North	Main St	Parker St	Dobbins St	**20**	2 Hour	17	17	17
North	Main St	Parker St	Dobbins St	**1**	HC - 2 Hour	0	0	0
South	Main St	Parker St	Dobbins St	**20**	2 Hour	17	12	17
South	Main St	Parker St	Dobbins St	**1**	HC - 2 Hour	0	1	1
North	Main St	West St	Cernon St	**8**	No Limit	1	3	4
South	Main St	West St	Cernon St	**8**	No Limit	5	2	5
North	East Main St	Wilson St	McClellan St	**28**	No Limit	7	6	5
North	East Main St	Wilson St	McClellan St	**2**	HC - No Limit	0	0	0
South	East Main St	Wilson St	McClellan St	**3**	2 Hour	1	3	0
South	East Main St	Wilson St	McClellan St	**7**	No Limit	2	0	1
South	East Main St	Wilson St	McClellan St	**1**	HC - No Limit	1	0	0
East	Markham Ave	Vineyard Valley Way	Rocky Hill Rd	**14**	No Limit	7	6	7
North	Mason St	Boyd St	Elizabeth St	**10**	2 Hour	9	8	6
South	Mason St	Boyd St	Elizabeth St	**6**	2 Hour	1	6	3
North	Mason St	Cernon St	Parker St	**3**	No Limit	2	3	3
North	Mason St	West St	Cernon St	**9**	No Limit	7	7	7
South	Mason St	West St	Cernon St	**9**	No Limit	4	7	6
North	Mason St	William St	Boyd St	**4**	2 Hour	2	4	2
South	Mason St	William St	Boyd St	**8**	2 Hour	4	4	3
East	McClellan St	Catherine St	Main St	**8**	No Limit	4	3	4
West	McClellan St	Catherine St	Main St	**7**	No Limit	2	1	0
East	McClellan St	Catherine St	Mason St	**6**	No Limit	4	3	3
West	McClellan St	Catherine St	Mason St	**6**	No Limit	2	2	3
East	McClellan St	Main St	School St	**3**	No Limit	0	2	1
West	McClellan St	Main St	School St	**3**	No Limit	2	2	2
East	McClellan St	School St	Bush St	**3**	No Limit	0	0	0
North	Mcknight Ln	Boyd St	Elizabeth St	**8**	No Limit	2	1	3
South	Mcknight Ln	Boyd St	Elizabeth St	**9**	No Limit	3	2	2
North	Mcknight Ln	Elizabeth St	Davis St	**7**	No Limit	1	1	1
South	Mcknight Ln	Elizabeth St	Davis St	**8**	No Limit	3	1	2
North	Merchant St	Cernon St	Mason St	**4**	2 Hour	2	3	2
North	Merchant St	Parker St	Dobbins St	**13**	2 Hour	7	13	9

South	Merchant St	Parker St	Dobbins St	**26**	2 Hour	15	21	22
North	Merchant St	West St	Cernon St	**5**	2 Hour	1	5	2
South	Merchant St	West St	Cernon St	**13**	2 Hour	2	1	2
North	Monte Vista Ave	Hillside Ln	Dobbins St	**5**	No Limit	2	1	2
North	Olive St	Boyd St	Davis St	**13**	No Limit	2	2	9
South	Olive St	Boyd St	Davis St	**14**	No Limit	5	3	2
West	Olive St	Pecan St	Olive St	**4**	No Limit	1	1	1
East	Parker St	Kendal St	E Monte Vista Ave	**10**	2 Hour	8	8	0
West	Parker St	Kendal St	E Monte Vista Ave	**11**	2 Hour	1	3	0
East	Parker St	Kendal St	Main St	**5**	2 Hour	3	5	3
West	Parker St	Kendal St	Main St	**6**	2 Hour	7	2	4
East	Parker St	Main St	Mason St	**13**	2 Hour	7	10	8
East	Parker St	Main St	Mason St	**1**	20/30 Minute	0	1	1
West	Parker St	Main St	Mason St	**17**	2 Hour	3	10	9
North	Peach Tree Ave	kentucky St	West St	**4**	No Limit	1	2	1
South	Peach Tree Ave	kentucky St	West St	**5**	No Limit	0	1	0
North	Pecan St	Boyd St	Olive St	**12**	No Limit	5	4	3
South	Pecan St	Boyd St	Olive St	**5**	No Limit	2	1	2
South	School St	McClellan St	School St End	**7**	No Limit	0	0	0
South	School St	McClellan St	School St End	**1**	HC - No Limit	0	0	0
North	Stevenson St	Boyd St	Elizabeth St	**8**	No Limit	7	5	5
South	Stevenson St	Boyd St	Elizabeth St	**9**	No Limit	6	6	2
North	Stevenson St	Elizabeth St	Davis St	**11**	No Limit	6	5	5
South	Stevenson St	Elizabeth St	Davis St	**10**	No Limit	4	6	4
North	Stevenson St	Merchant St	William St	**10**	No Limit	1	1	1
South	Stevenson St	Merchant St	William St	**8**	No Limit	4	1	2
North	Stevenson St	William St	Boyd St	**5**	2 Hour	1	1	2
North	Stevenson St	William St	Boyd St	**4**	No Limit	2	2	1
South	Stevenson St	William St	Boyd St	**8**	No Limit	0	0	1
East	West St	Alley	Mason St	**14**	No Limit	4	5	7
West	West St	Church Dvwy	Peach Tree Ave	**6**	No Limit	1	1	0
East	West St	Luzena Ave	Walnut Ave	**4**	No Limit	1	2	2
West	West St	Luzena Ave	Walnut Ave	**7**	No Limit	2	0	1
West	West St	Magnolia Ave	Luzena Ave	**10**	No Limit	3	3	5
East	West St	Main St	Alley	**4**	No Limit	0	0	1
West	West St	Main St	Church Dvwy	**4**	No Limit	0	0	1
East	West St	Mason St	Luzena Ave	**14**	No Limit	2	2	2
West	West St	Peach Tree Ave	Magnolia Ave	**10**	No Limit	4	1	1
West	William St	Stevenson St	William St End	**10**	No Limit	6	8	5
East	William St	Mason St	Stevenson St	**6**	No Limit	4	3	4
West	William St	Mason St	Stevenson St	**6**	No Limit	7	3	2
East	William St	Stevenson St	William St End	**13**	No Limit	6	5	2
East	Wilson St	Catherine St	Mason St	**6**	No Limit	0	0	0
West	Wilson St	Catherine St	Mason St	**6**	No Limit	0	0	0
East	Wilson St	Main St	Catherine St	**7**	No Limit	0	0	0
West	Wilson St	Main St	Catherine St	**7**	No Limit	0	0	0

Prepared by National Data & Surveying Services

Parking Study

Location: Downtown Parking
City: Vacaville, CA

Date: 4/16/2019
Day: Tuesday

Lot	Restriction	Inventory	9:00 AM	12:00 PM	4:00 PM
1	No Limit	47	29	35	22
	HC	5	1	5	3
2 & 3	10 Hours	96	31	37	33
	No Limit	28	8	8	8
	HC	7	1	3	0
4	10 Hours	72	36	76	61
	2 Hours	75	33	58	48
	HC	7	2	4	3
5	No Limit	86	71	57	59
	HC	4	3	3	0
6	No Limit	30	14	22	14
	2 Hours	60	29	41	31
	Loading	2	0	0	0
	HC	5	0	1	2
7	2 Hours	63	42	62	59
	4 Hours	63	45	63	51
	10 Hours	10	10	8	7
	HC	7	0	3	3
8	No Limit	21	12	17	15
	HC	1	0	1	0
9	No Limit	61	26	26	25
	HC	4	0	1	0
11	No Limit	40	34	26	30
	4 Hours	4	3	3	2
	HC	2	0	0	0
12	No Limit	19	11	16	16
	HC	2	1	2	0
13	No Limit	41	7	7	11
	HC	2	0	0	0
Hickory Lot	No Limit	244	107	92	87
	HC	7	0	0	0