

190 W. CLIFF DRIVE MIXED USE PROJECT
- City of Santa Cruz, California -

“TRAFFIC IMPACT ANALYSIS”

Prepared for:
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EXECUTIVE SUMMARY

Project Description and Trip Generation

The Traffic Impact Analysis (TIA) presents an evaluation of the potential impacts associated with the proposed mixed-use development at 190 W. Cliff Drive in the City of Santa Cruz, California. The project site is currently occupied by a private surface parking lot, which is used exclusively by the existing Dream Inn and Aquarius Restaurant (east side of W. Cliff Drive). The project will remove the existing parking lot and develop the following residential and commercial uses with a subterranean parking structure:

- 89 Residential Condominiums (10 Affordable Units)
- 8,265 Square Foot (SF) of General Retail Space
- 7,525 SF of Restaurant / Food & Beverage
- 1,646 SF of Office Space
- 421 Parking Stalls on 3 Levels

It is estimated that the project uses will generate approximately 1,500 new weekday trips and 1,304 new daily trips on a typical Saturday (131 trips during the weekday PM peak hour and 137 new trips during the Saturday mid-day peak hour). Project access will be provided via driveways on W. Cliff Drive and Bay Street. The project driveway on W. Cliff Drive will be restricted to right-turns only (in and out). The project will construct frontage improvements to improve pedestrian and bicycle mobility and safety.

TIA Scope and Data, and Existing Conditions

The TIA scope includes an evaluation of the potential project impacts on local intersections during an average weekday PM peak hour and a Saturday mid-day (MD). To document existing conditions at the study intersections new traffic count data was collected in April 2017 (local schools and UCSC in session), August 2017 (local summer conditions), and November 2018. The evaluation of existing conditions indicates that average delays at a majority of the study intersections are currently within acceptable limits, as defined by the City of Santa Cruz (Level of Service D or better). However, average delays at the W. Cliff Drive and Bay Street intersection are currently within the “Level of Service” (LOS) E range during weekday PM peak hour. In addition, the existing peak hour traffic volumes at this intersection currently exceed the minimum signal warrant criteria (2014 Manual on Uniform Traffic Control Devices).

Project Improvements and Existing Plus Project Conditions

In coordination with City staff, the project applicant is also proposing to design and construct certain improvements at the W. Cliff Drive and Bay Street intersection as part of the project to improve traffic flows and pedestrian and bicycle safety. The project improvements at the W. Cliff Drive and Bay Street would be constructed and operational prior to occupancy of the project site. Two (2) improvement variants were identified and evaluated in order to understand the “pros” and “cons” associated with each variant. Variant No. 1 would include the installation of traffic signal control and Variant No. 2 would include the construction of a mini-roundabout. The evaluation of existing plus project traffic conditions

indicates that with the implementation of either variant the W. Cliff Drive and Bay Street intersection would operate in the LOS A (Variant No. 2, mini-roundabout) or LOS B (Variant No. 1, signal control) range during the weekday PM and Saturday MD peak hours. The analysis of existing plus project conditions also concluded that the project traffic will not significantly impact peak hour operations at the other study intersections.

Cumulative (General Plan 2030) Conditions

The TIA includes an evaluation of cumulative conditions, which reflect forecast growth documented in the General Plan 2030 EIR. The General Plan 2030 buildout scenario includes the long-range growth anticipated for the University of California Santa Cruz (UCSC). The City has identified the improvements to address existing and future deficiencies and accommodate long range growth. These improvements are generally funded through the City's Traffic Impact Fee (TIF) Program (which provides mitigation for the General Plan), gas tax funds and transportation grants, and are commonly programmed as part of the City's Capital Investment Program (CIP). The cumulative analysis was conducted assuming the installation of the TIF / CIP improvements at the study intersections.

The cumulative analysis indicates that average vehicle delays at the study intersections will be within acceptable limits during the weekday PM peak hour, except at the Mission Street (SR 1) and Bay Street intersection. The General Plan 2030 EIR acknowledges that future LOS at this intersection will remain at unacceptable levels. It's stated that the General Plan 2030 accepts lower LOS at major regional intersections. The project traffic will comprise less than 1% of the total cumulative peak hour traffic demands at the Mission Street (SR 1) and Bay Street. The implementation of either improvement variant at the W. Cliff Drive and Bay Street intersection would provide operations in the LOS A (Variant No. 2, mini-roundabout) or LOS B (Variant No. 1, signal control) range during the weekday PM peak hour. Payment of the City's TIF serves as the project's "fair-share" contribution towards the funding of future intersection improvements necessary to maintain and/or achieve acceptable traffic operations at the traffic impact fee intersections.

Comparison of Variant Improvement Alternatives

The TIA also includes an overview comparison (pros and cons) of traffic signal control verses a mini-roundabout at the W. Cliff Drive and Bay Street intersection. The mini-roundabout concept was developed and analyzed by MSA Professional Services (Ourston Roundabout Team). The MSA (Ourston) findings suggest that each alternative carries costs and benefits. The traffic signal alternative (Variant No. 1) would provide better intersection performance, longer waits for pedestrians and bikes, and slightly longer delays for vehicles during peak periods. The mini-roundabout alternative (Variant No. 2) would provide improved corridor performance during non-peak periods and less delay during peak periods as compared with traffic signal control (Variant No. 1). Variant No. 2 also provides less delay for bikes and pedestrians and slower vehicle speeds through the intersection. Microsimulation models were also prepared to supplement the LOS analysis and provide a qualitative comparison of the traffic control alternatives with greater consideration for bicycle and pedestrian demands and conflicts. The results of MSA (Ourston) microsimulation modeling and a summary of their findings is provided in Section 6.0 (Conclusions and Recommendations).

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1.0 INTRODUCTION

The Traffic Impact Analysis (TIA) presents an evaluation of the potential impacts associated with the proposed mixed-use development at 190 W. Cliff Drive in the City of Santa Cruz, California. The project site is located on the northwest corner of the Bay Street and W. Cliff Drive intersection. A private surface parking lot is currently located on the project site, which is used exclusively by the Dream Inn and Aquarius Restaurant (east side of W. Cliff Drive opposite the project site). The proposed project includes various residential and commercial uses. The general location of the project site is shown on Figure 1.

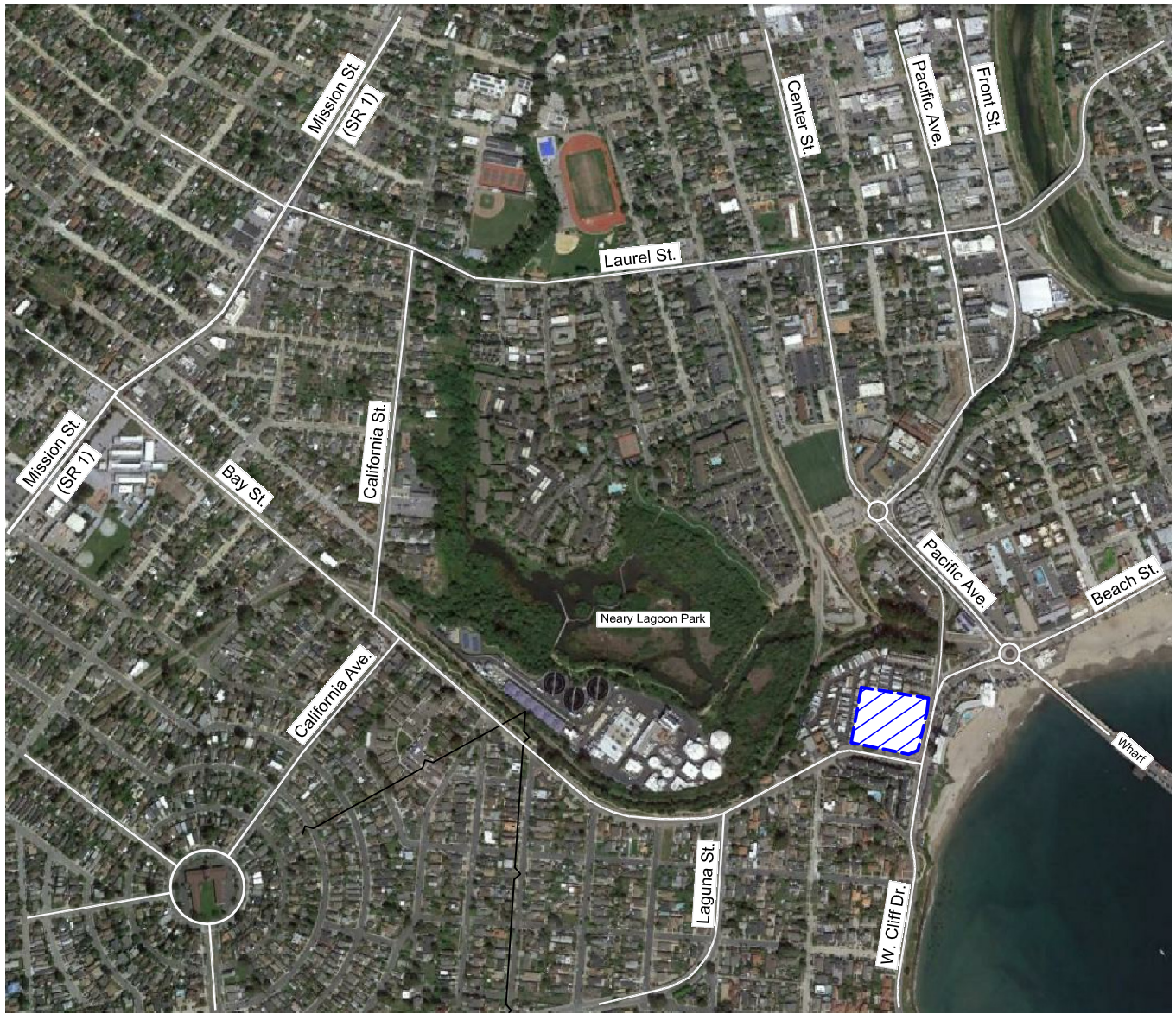
The TIA scope was developed in consultation with City staff. The initial phase of the TIA included the preparation of a preliminary trip generation and parking analysis. The trip generation analysis provided a preliminary estimate of the new vehicle trips associated with the proposed uses and quantified the number of project trips at local intersections. The parking analysis was conducted to verify that the proposed parking would be adequate to accommodate existing and future parking demands associated with “post” project conditions. The TIA presents an evaluation of the potential project impacts at the following seven (7) study intersections:

- Mission Street (SR 1) / Bay Street (#2923)
- Bay Street / California Avenue (#2943)
- W. Cliff Drive / Beach Street (#2967)
- Pacific Avenue / Center Street (#2964)
- Bay Street / California Street (#2944)
- W. Cliff Drive / Bay Street (#2965)
- Pacific Avenue / Beach Street (#2966)


At the request of City staff, an overview comparison of traffic signal control versus a mini-roundabout at the W. Cliff Drive / Bay Street intersection is also included in the TIA. The analysis focuses on operations during an average weekday afternoon (PM) peak hour and mid-day (MD) peak hour on a Saturday. New traffic count data was collected at the study intersections to document existing condition. New 24-hour traffic count data was also collected to determine the average daily traffic (ADT) on the following roadway segments:

- Bay Street, west of W. Cliff Drive
- W. Cliff Drive, south of Bay Street
- W. Cliff Drive, north of Bay Street

The initial traffic count data was collected in April 2017, which reflects average conditions when local schools and the University of California Santa Cruz (UCSC) were in session. At the request of the project applicant, additional traffic count data was collected in August 2017 to document summer conditions during the last of the summer tourism season. The TIA provides a comparison of the April and August traffic count data collected in April and August 2017. Additional peak hour traffic count data was also collected at the W. Cliff Drive / Bay Street intersection in November 2018 to document current conditions adjacent to the project site. The project parking analysis is presented in a separate report.



LEGEND

 = Project Site



2.0 REGULATORY SETTINGS

This section summarizes the federal state, regional, and local programs and plans that apply to the project.

Federal Regulations

Americans With Disabilities Act of 1990

The Americans with Disabilities Act of 1990 (ADA) (revised 2010) prohibits discrimination based on disability. In particular, Title III of the ADA prohibits discrimination on the basis of disability in “places of public accommodation” (businesses and non-profit agencies that serve the public) and “commercial facilities” (other businesses).

Appendix 3.3-A to Part 36 (Standards for Accessible Design) of the ADA establishes minimum standards for ensuring accessibility for the disabled in the design and construction of a new facility or alteration of an existing facility, including roadways, parking lots, and sidewalks. Examples of key guidelines include detectable warnings for pedestrians when entering traffic where there is no curb, a clear zone of 48 inches for the pedestrian travel way, and a vibration-free zone for pedestrians.

State Regulations

Senate Bill 375

The Sustainable Communities and Climate Protection Act (SB 375) requires California Metropolitan Planning Agencies (MPOs) to create a Sustainable Communities Strategy (SCS) that identifies the locations and types of development necessary to lower vehicle miles traveled and meet greenhouse gas emission reduction targets. The law has four major components: (i) requires regional greenhouse gas emissions targets for cars and light trucks; (ii) MPOs are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets; (iii) regional housing elements and transportation plans must be synchronized on 8-year schedules, and Regional Housing Needs Assessment (RHNA) allocation numbers must conform to the SCS; and (iv) MPOs must use transportation and air emissions modeling techniques that are consistent with the guidelines prepared by the CTC (Regional Transportation Planning Agencies, cities, and counties are encouraged, but not required, to use travel demand models that are consistent with California Transportation Commission guidelines).

Complete Streets (AB 1358)

The California Complete Streets Act of 2008 (AB 1358) requires cities and counties to include “complete street” policies in their general plans, which address the safe accommodation of all users, including bicyclists, pedestrians, motorists, public transit vehicles and riders, children, the elderly, and the disabled. These policies can apply to new streets as well as the redesign of corridors.

SB 743

SB 743 requires the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts. The law is designed to eliminate auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. The intent of SB 743 is to change current practice in order to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.

The Governor's Office of Planning and Research (OPR) has issued draft guidance and recommends use of automobile Vehicle Miles Traveled, or VMT, as the preferred CEQA transportation metric, along with the elimination of auto delay for CEQA purposes. Accordingly, each jurisdiction will need to set new thresholds for transportation impacts based on VMT. Further, parking impacts will not be considered significant impacts on the environment for select development projects with nearby frequent transit service.

Local and Regional Regulations

A number of local, regional and state agencies are involved with transportation planning and implementation of transportation programs and improvements within the City. For example, while the City maintains local roadways and transportation facilities, the California Department of Transportation (Caltrans) has jurisdiction over State highway segments, including portions of Routes 1, 9, and 17.

Other local and regional agencies responsible for transportation services and/or transportation planning are summarized below:

Association of Monterey Bay Area Governments

The Association of Monterey Bay Area Governments (AMBAG) is the federally designated MPO for the tri-county Monterey Bay region (Santa Cruz, Monterey and San Benito counties). AMBAG is responsible for developing and administering plans and programs to maintain eligibility and receive federal funds for the transportation systems in the region, including the Metropolitan Transportation Plan (MTP), the Metropolitan Transportation Improvement Program (MTIP), maintenance of a regional travel demand model and demographic forecasts. Further, AMBAG works with regional transportation planning agencies, transit providers, the Monterey Bay Unified Air Pollution Control District (MBUAPCD), state and federal governments, and organizations having interest in or responsibility for transportation planning and programming.

Santa Cruz County Regional Transportation Commission (SCCRTC)

The Santa Cruz County Regional Transportation Commission (SCCRTC) is the State designated Regional Transportation Planning Authority (RTPA) for transportation planning activities in Santa

Cruz County. SCCRTC oversees planning and funding programs for local and countywide projects within Santa Cruz County using state and federal transportation funds. The City of Santa Cruz has one City representative on the 12-member SCCRTC board and some City transportation projects are funded through grant programs administered by the SCCRTC.

Santa Cruz Metropolitan Transit District

The Santa Cruz Metropolitan Transit District (SCMTD) provides transit services throughout Santa Cruz County.

Santa Cruz General Plan 2030

Chapter 5 of the City's General Plan sets forth the City's circulation policies. The Chapter provides the existing conditions, the challenges and problems facing the City's road system, and the goals, policies, and actions that guide decisions related to the City's transportation and road systems. Relevant goals and policies are listed below.

Goals:

- Goal M1 - Land use patterns, street design, parking, and access solutions that facilitate multiple transportation alternatives (Cf. LU4 LU4.1.1, LU4.2, ED1.9.2, and M2.2, 2.3.2, and 3.1.9)
- Goal M2 - A safe, sustainable, efficient, adaptive, and accessible transportation system
- Goal M3 - A safe, efficient, and adaptive road system
- Goal M4 - A citywide interconnected system of safe, inviting, and accessible pedestrian ways and bikeways

Policies:

- M1.1 Reduce automobile dependence by encouraging appropriate neighborhood and activity center development. Cf. ED5.1, LU4.2; and M1.5.1, M2.4.2, 3.1.2, and 4.3.
- M1.3 Create pedestrian-friendly frontage and streetscapes and attractive pedestrian-oriented areas. Cf. CD4.2, 4.2.1, 4.3.1, 5.2.
- M3.1 Acknowledge and manage congestion.
- M3.2 Ensure road safety for all users.
- M4.1 Enable and encourage walking in Santa Cruz. Cf. CD5.1, CC8.4, PR4.1.2.
- M4.5 Support pedestrian and bicycle safety improvements.

3.0 EXISTING CONDITIONS

The local roadway network serving the project site includes Mission Street (Cabrillo Highway - State Route 1), Bay Street, W. Cliff Drive, Beach Street, Pacific Avenue, Center Street, and various collector streets (e.g. California Street, California Avenue, Laguna Street, Front Street, etc). The following is a brief description of the local network and an evaluation of existing traffic operations.

Network Description

Mission Street (State Route 1) provides coastal access between Northern and Southern California. Through Santa Cruz County, State Route 1 (SR 1) has a freeway section south of SR 17 and grade separated interchanges at Morrissey Boulevard, Soquel Drive, 41 Street, etc. North of SR 17, SR 1 continues as Cabrillo Highway and follows Mission Street west of Chestnut Street. Mission Street (SR 1) through this portion of the City has two (2) travel lanes in each direction, with a posted speed limit of 25 miles-per-hour (mph). Mission Street (SR 1) is signalized at Bay Street and has exclusive left turn lanes at local intersections (Walnut Avenue, Laurel Street, Bay Street, Almar Avenue, etc). There are pedestrian crosswalks on Mission Street (SR 1) at various locations north and south of Bay Street (Van Ness Avenue, Olive Street, etc). On-street parking is prohibited along the majority of Mission Street (SR 1).

Bay Street extends south from the UCSC campus entrance at High Street to W. Cliff Drive. Between Mission Street (SR 1) and W. Cliff Drive, Bay Street has a single travel lane in each direction and posted speed limit of 30-mph. The Bay View Elementary School is located on the corner of the Mission Street (SR 1) / Bay Street intersection. The California Street approach at Bay Street is stop sign controlled. The Bay Street / California Avenue intersection is “all-way” stop controlled. There are Class II bike lanes between Mission Street (SR 1) and W. Cliff Drive. There are pedestrian crosswalks on Bay Street at various locations (Seaside Street, California Street, California Avenue, and between California Avenue and Continental Street). There is also a recreational path along the north / east side of Bay Street, between California Street and Laguna Street. On-street parking is permitted along various sections of Bay Street. The existing project site driveway on Bay Street is currently closed (gated) with no access to the surface parking lot.

W. Cliff Drive extends south of the Pacific Avenue / Center Street intersection with a single southbound lane (one-way). There is a short northbound left turn lane at Beach Street for access to the West Cliff Inn Hotel and residential neighborhood on the west side of W. Cliff Drive. W. Cliff Drive continues south of Beach Street along the coastline with a single lane in each direction and posted limit of 25-mph. The Dream Inn has an inbound only driveway on W. Cliff Drive just north of Bay Street. The Dream Inn driveway north of the mid-block crosswalk is outbound only. There are bike facilities on the section between Beach Street and Bay Street (Class II on west side and Class 4 Cycle Tracks on east side). Pedestrian crosswalks are located at the Bay Street and Beach Street intersections, and south of the Dream Inn driveway. There is a shared bicycle-pedestrian path on the east side of W. Cliff Drive, south of Bay Street. On-street parking is prohibited on W. Cliff Drive north of Bay Street.

Beach Street east of W. Cliff Drive provides access to the Santa Cruz Wharf and Beach Boardwalk. Between W. Cliff Drive and Pacific Avenue, Beach Street has bike facilities (Class II on north side and Class 4 Cycle Tracks on south side) and on-street parking (both sides of the westbound lane). A roundabout provides traffic control at the Beach Street / Pacific Avenue intersection (Wharf entrance / exit). East of Pacific Avenue, traffic is restricted to one-way (eastbound) towards the Beach Boardwalk. Pedestrian crosswalks are located at the W. Cliff Drive and Pacific Avenue intersections. On-street parking is provided on the north side of Beach Street, east of Pacific Avenue.

Pacific Avenue extends northwest of Beach Street (opposite the Wharf entrance / exit) with a single lane in each direction. Pacific Avenue then continues on a northeast alignment from Center Street (opposite the Depot Park entrance). Between Front Street and Center Street, Pacific Avenue has Class II bike lanes and on-street parking. A roundabout provides traffic control at the Pacific Avenue / Center Street intersection. Pedestrian crosswalks are located at the Beach Street, Front Street, 2nd Street, and Center Street intersections.

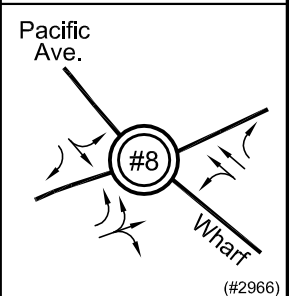
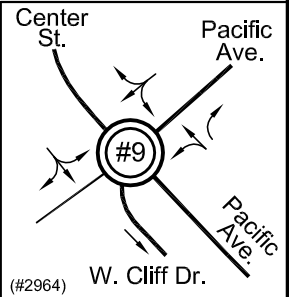
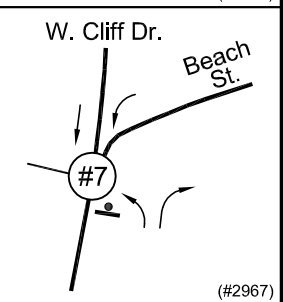
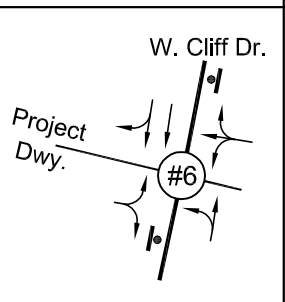
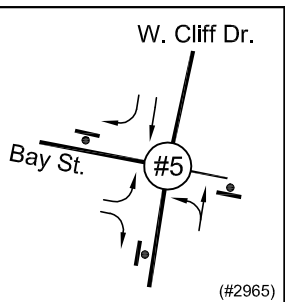
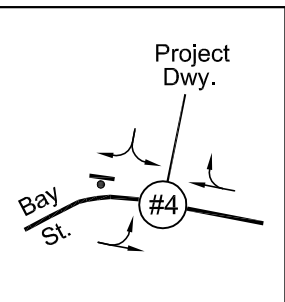
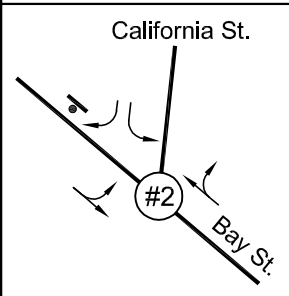
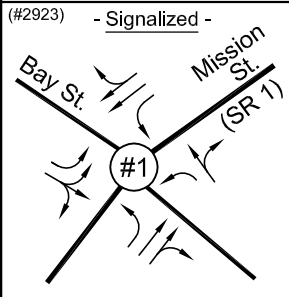
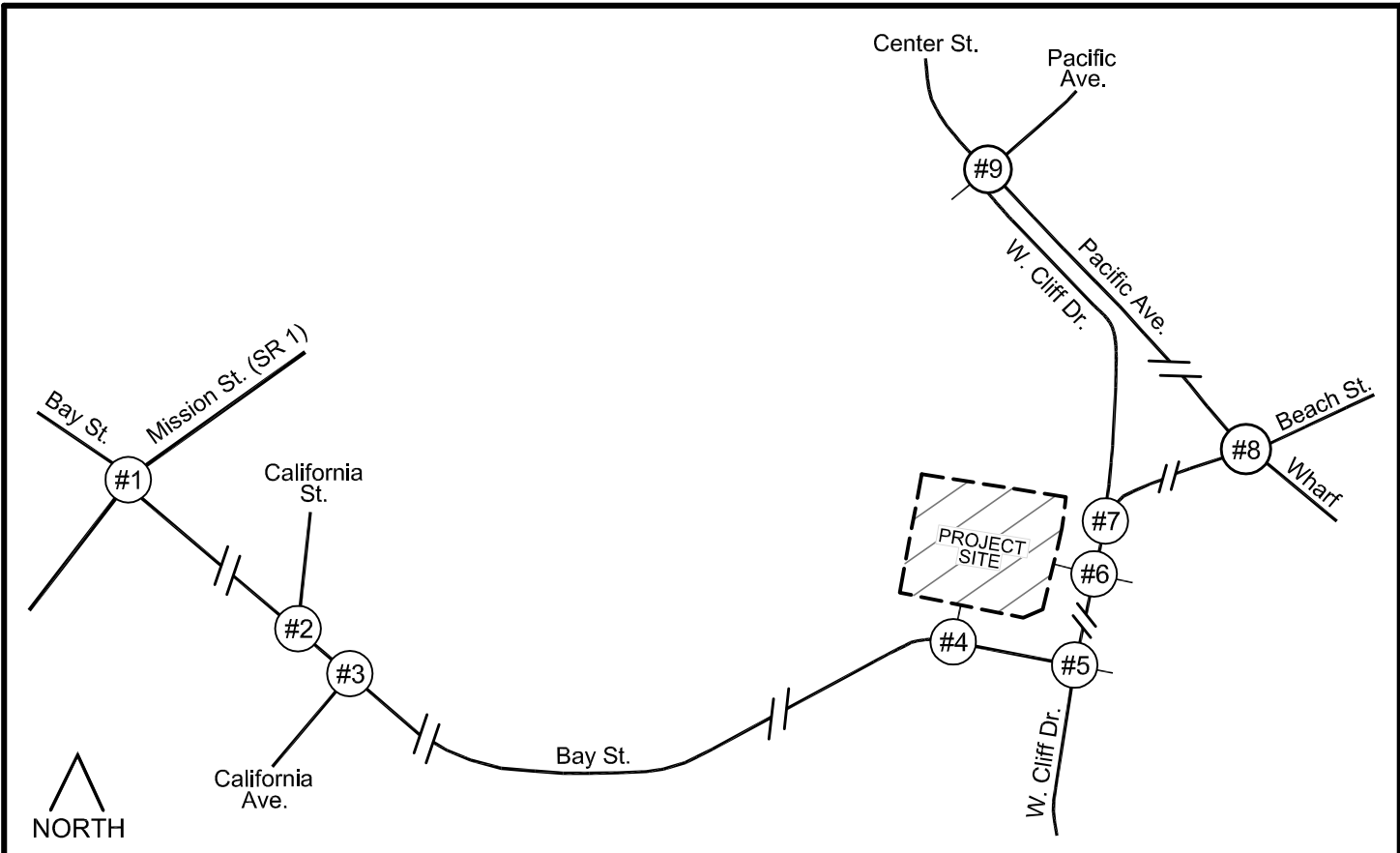
The existing traffic control and approach lane geometrics at the study intersections are graphically illustrated on Figure 2A.

Transit and Rail Facilities

The Santa Cruz Metropolitan Transit District (SCMTD) has bus route service along Mission Street (SR 1), Bay Street, W. Cliff Drive, Beach Street and Pacific Avenue. Local SCMTD bus stops are located on Bay Street, just west of W. Cliff Drive (Routes 3, 19 and 20). Amtrak transit service is available at the Santa Cruz Metro Center on Pacific Street. The Santa Cruz Big Trees & Pacific Railway Company also provides scenic trips through the Santa Cruz Mountains and along the coast. There are gated railroad track crossings at the Pacific Avenue / Beach Street intersection.

Traffic Volumes (April 2017)

As previously discussed, new traffic count data was collected to document existing conditions. The data collection includes vehicular, bicycle and pedestrian traffic counts. As previously stated, the initial traffic count data was collected in April 2017. The data was collected on average weekdays (April 13th & 18th) during the afternoon commuter peak period (4:00-6:00 PM) and on the Saturday before Easter Sunday (April 15th) during the mid-day peak period (1:00-3:00 PM). The pedestrian and bicycle counts were also conducted on Saturday (April 15th) between 10:00 AM and 6:00 PM. The 24-hour roadway segment data was collected for a 10-day period (April 14th - 23rd). Though additional data was collected in August, it was deemed appropriate to analyze the project impacts using the April base-line data since local schools and UCSC were in session. The City's General Plan 2030 traffic model projections used for the cumulative analysis also include traffic associated with UCSC. The existing weekday traffic volumes are illustrated on Figure 2B, with the existing Saturday traffic volumes shown on Figure 2C. Copies of the study intersection and roadway segment traffic count data are included in Appendix A. A summary roadway segment count data is also included in Appendix A.



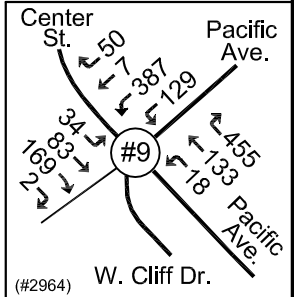
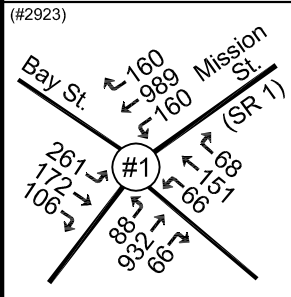
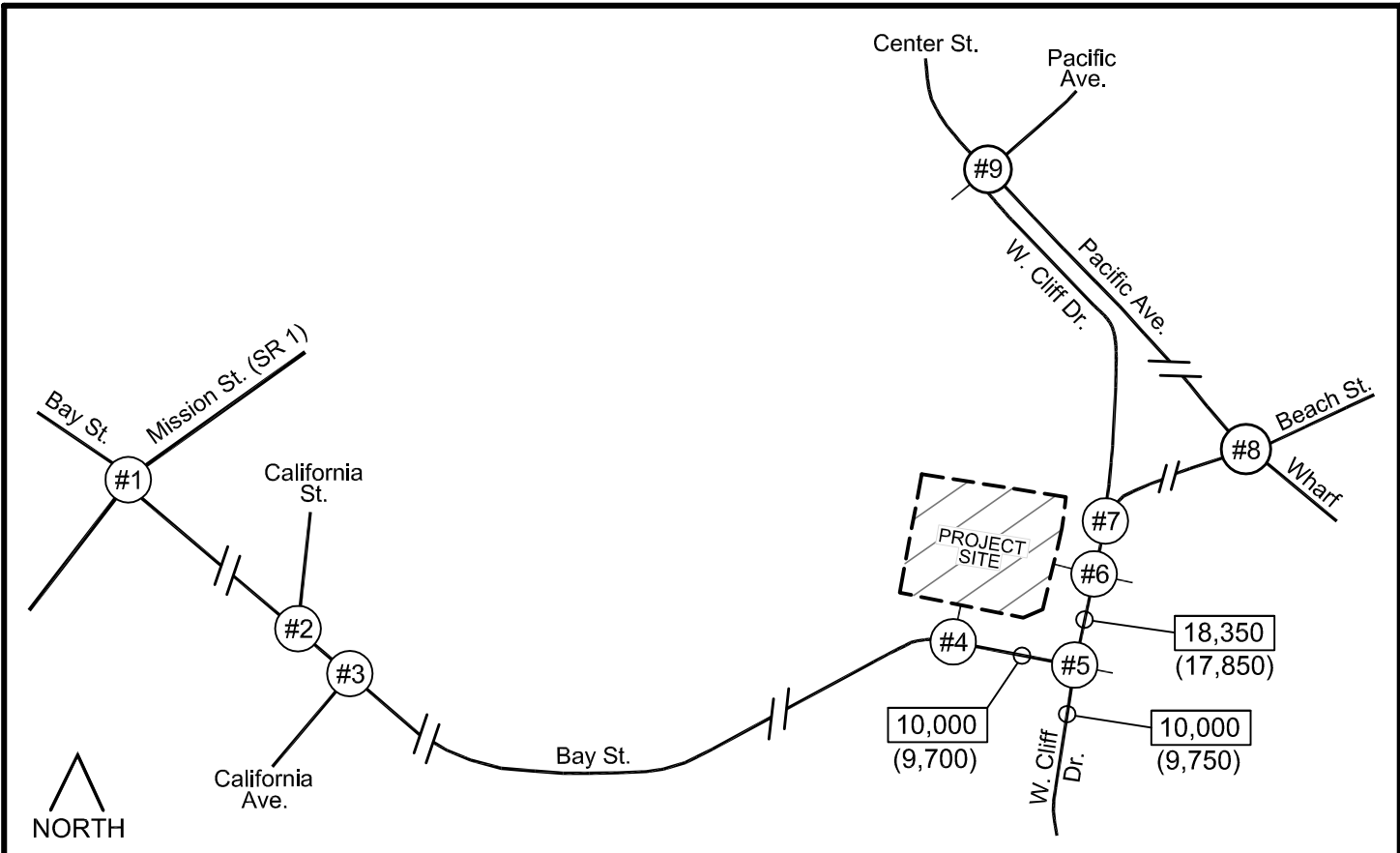
LEGEND

- ← = Through Lane
- ↔ = Shared Lane
- ↪ = Exclusive Turn Lane
- ⬮ = Stop Sign Control (R1-1)
- = Roundabout

**INNACLE
TRAFFIC
ENGINEERING**

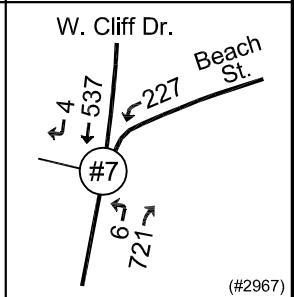
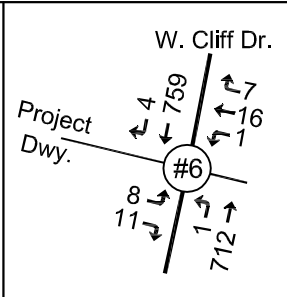
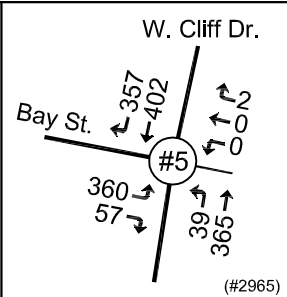
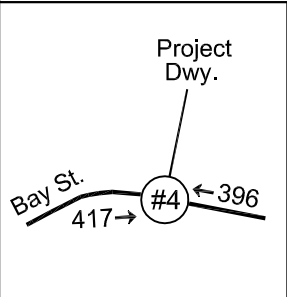
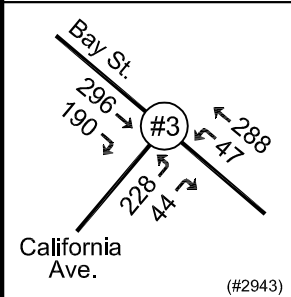
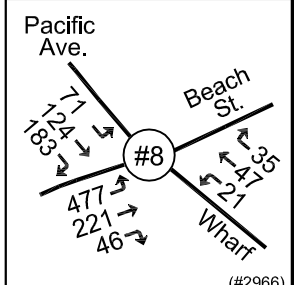
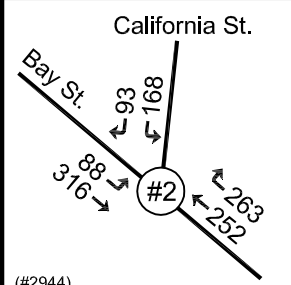
**190 W. Cliff Dr. Mixed Use
- Traffic Impact Analysis -**

**FIGURE 2A
EXISTING
GEOMETRICS**



LEGEND

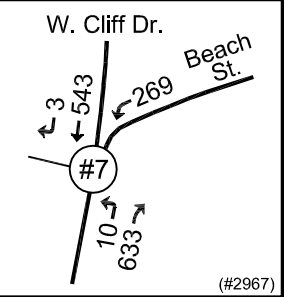
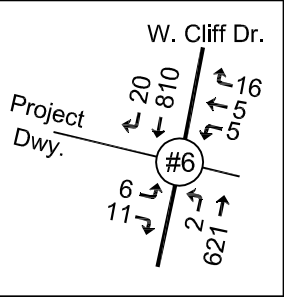
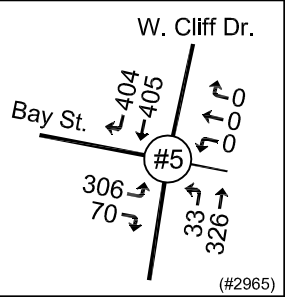
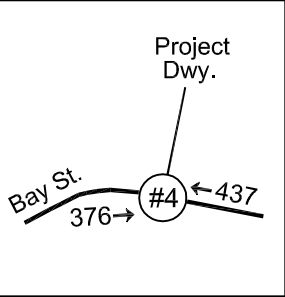
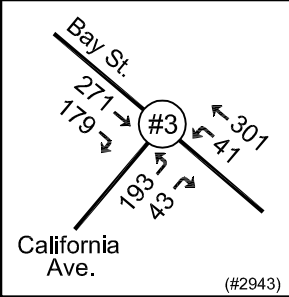
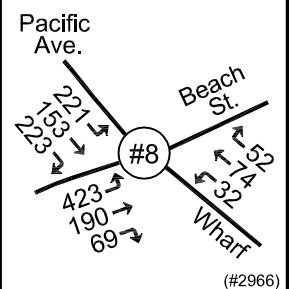
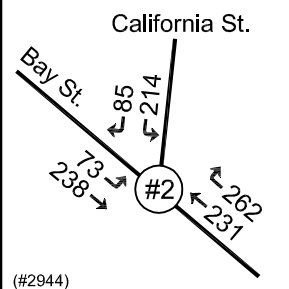
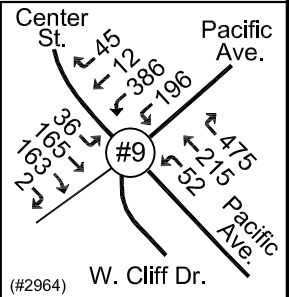
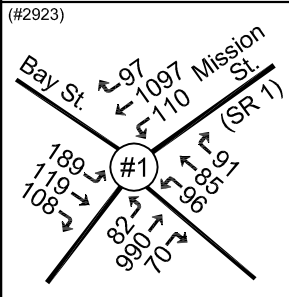
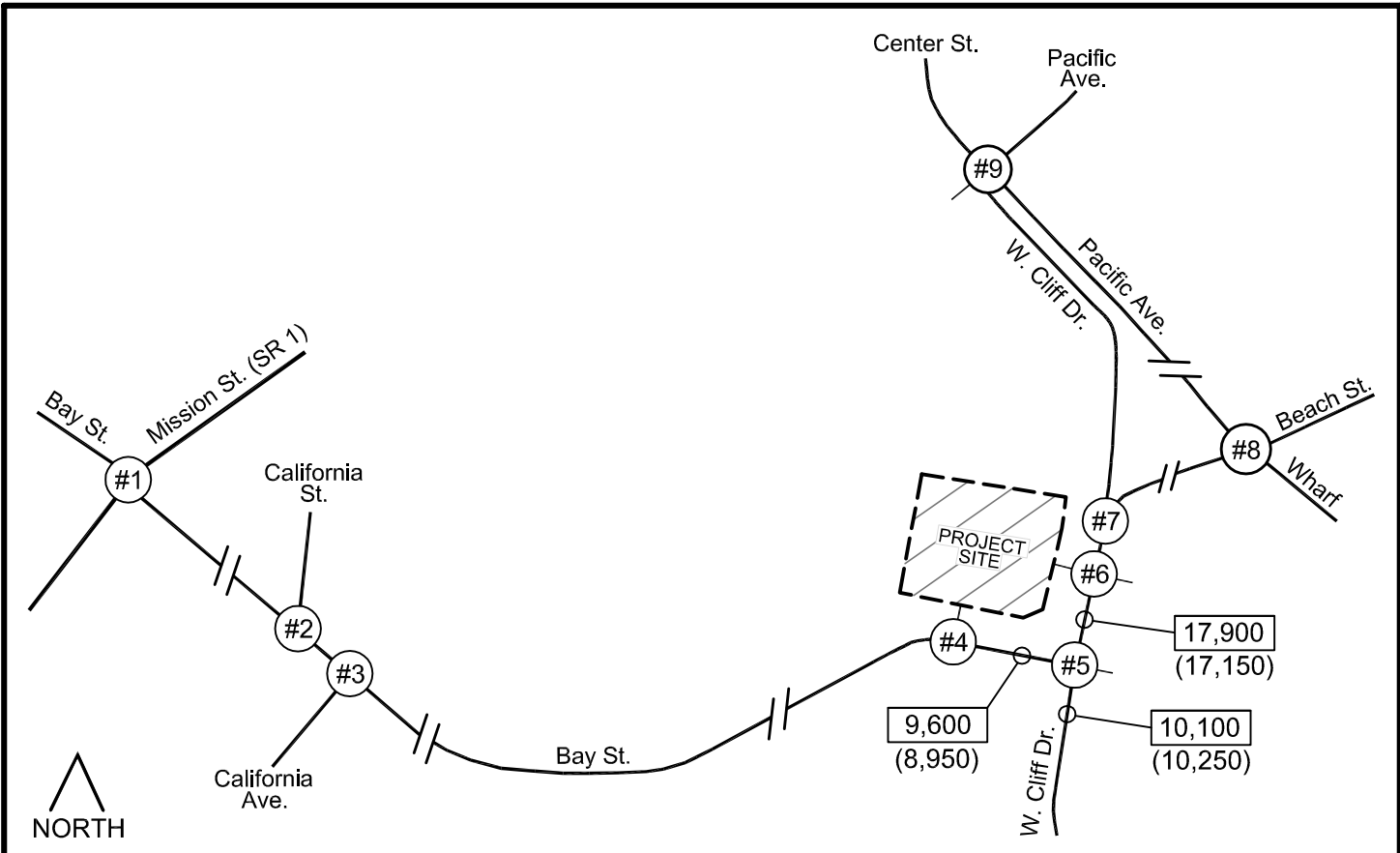
- ← 00 = PM Peak Hour Volume
- 0,000 = 3-Day Average Weekday Traffic
- (0,000) = 7-Day Average Weekday Traffic



**PINNACLE
TRAFFIC
ENGINEERING**

**190 W. Cliff Dr. Mixed Use
- Traffic Impact Analysis -**

**FIGURE 2B
EXISTING
TRAFFIC VOLUMES
(WEEKDAY)**



LEGEND

- ← 00 = MD Peak Hour Volume
- 0,000 = Saturday Daily Traffic
- (0,000) = Sunday Daily Traffic

(April 2017)

Intersection Level of Service Analysis (April 2017)

Various “level of service” (LOS) methodologies are used to evaluate traffic operations. Operating conditions range from LOS “A” (free-flowing) to LOS “F” (forced-flow). The City of Santa Cruz has adopted the LOS D standard as the lower limit for acceptable operations. Caltrans endeavors to maintain a target LOS at the transition between LOS C and D on State highway facilities (Guide for the Preparation of Traffic Impact Studies, 2002). Therefore, the LOS D threshold standard is used to evaluate operating conditions at the study intersections. A brief description of the LOS values is included in Appendix B.

The evaluation of “peak hour” traffic operations at intersections is based on various methodologies outlined in the 2010 Highway Capacity Manual (HCM). The methodologies analyze operations based on vehicle “control” delay. Control delay is the principal service measure for evaluating LOS at intersections. Control delay includes the delay associated with vehicles slowing in advance of an intersection, time spent stopped on an intersection, time spent as vehicles move up in the queue, and time needed for vehicles to accelerate to their desired speed. Delays for signalized intersections are evaluated for the overall peak hour as an “average.” The methodologies for un-signalized intersections also evaluates the delays for the each “critical” movement (e.g. stop sign controlled approaches on the minor street and main line left turn). Table 1 presents the LOS and vehicle delay criteria for signalized and un-signalized intersections.

Table 1 - LOS and Vehicle Delay Criteria

LOS Value	Intersection Control Type	
	Signalized Control	Two-Way & All-Way Stop Sign Control
	Control Delay per Vehicle (seconds / vehicle)	
A	< or = 10	0 - 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55 - 80	> 35 - 50
F	> 80	> 50

The Synchro 9 software was used to perform the LOS analysis at the study intersections. The HCM software (HCS7) was used to evaluate the LOS at the roundabout study intersections. The results of the existing intersection LOS analysis are presented in Table 2. It’s again noted that the evaluation of existing conditions was conducted using the April 2017 base-line data since local schools and UCSC were in session. As stated previously, the existing project driveway on Bay Street is currently closed, and therefore, no traffic count data was collected. The Bay Street / Project Driveway intersection is non-operational under existing conditions. Copies of the Synchro and HCS7 worksheets are included in Appendix B.

Table 2 - Existing Intersection LOS Analysis (April 2017)

Study Intersection	Average Delay - LOS Value (a)	
	Weekday PM Peak Hour	Saturday MD Peak Hour
Mission St. (SR 1) / Bay St. (Signalized)	36.7 - D	29.6 - C
Bay St. / California St. (SB Stop Sign)	8.7 - A (36.6 - E)	9.9 - A (34.2 - D)
Bay St. / California Ave. (All-Way Stop)	15.5 - C	14.7 - B
W. Cliff Dr. / Bay St. (All-Way Stop)	38.0 - E (b)	24.2 - C
W. Cliff Dr. / Beach St. (NBLT Stop Sign)	0.3 - A (9.8 - A)	0.4 - A (10.1 - B)
Pacific Ave. / Beach St. (Roundabout)	5.5 - A	6.3 - A
Pacific Ave. / Center St. (Roundabout)	7.9 - A	10.8 - B

(a) Highest stop sign controlled approach delay reported in parenthesis

(b) Existing LOS based on November 2018 traffic count data

The data in Table 2 indicates average delays at a majority of the study intersections are currently within acceptable limits during both existing conditions scenarios (weekday PM and Saturday MD peak hour periods), as defined by the City of Santa Cruz (LOS D or better). However, average delays at the W. Cliff Drive / Bay Street intersection are currently within the LOS E range during weekday PM peak hour. The Mission Street (SR 1) / Bay Street intersection operates within the Caltrans LOS C/D target transition (LOS C to mid-level LOS D). The analysis also estimates delays in the LOS E range for the stop sign controlled approach on California Street at Bay Street (Weekday PM Peak Hour). However, it's noted that the LOS analysis software can over-estimate delays, and therefore, may over estimate delays on California Street and not accurately reflect the gaps in east-west traffic on Bay Street created by the "all-way" stop control at California Avenue.

Traffic Signal Warrants (April 2017)

A signal warrant analysis was conducted for the existing conditions at the three (3) stop sign controlled intersections (Bay Street at California Street, California Avenue and W. Cliff Drive). Criteria in the 2014 California Manual on Uniform Traffic Control Devices (MUTCD) was used for the signal warrant analysis. Existing peak hour traffic volumes at the Bay Street / California Street and Bay Street / California Avenue intersections do not exceed the minimum "peak hour volume" warrant criteria (Warrant #3). However, existing volumes at the W. Cliff Drive / Bay Street intersection (weekday PM and Saturday MD peak hour periods) do exceed the minimum MUTCD warrant criteria (Warrants #1, #2 and #3). Copies of the traffic signal warrant analysis volume data and MUTCD graphs are provided in Appendix C.

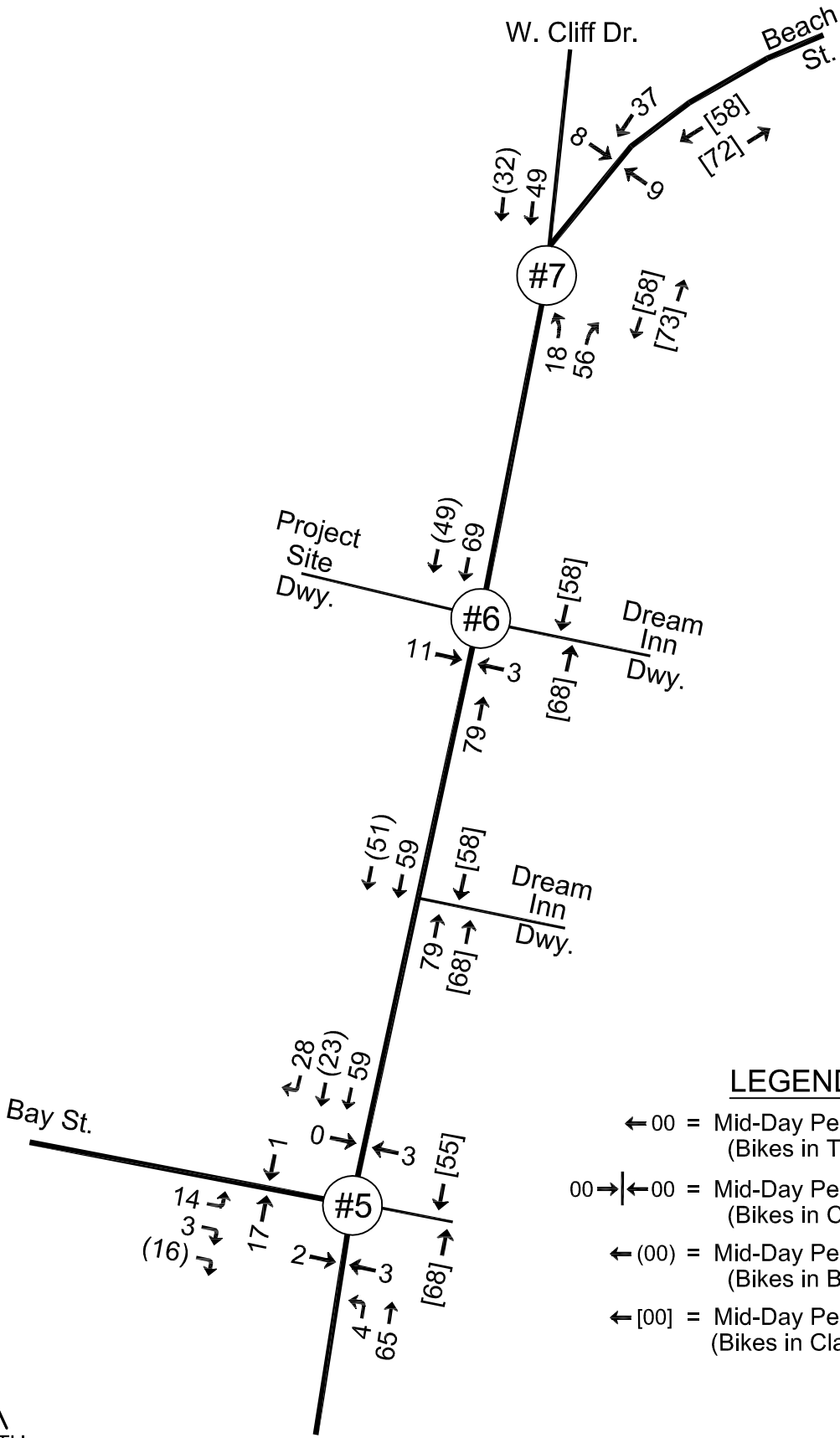
Bicycle and Pedestrian Volumes (April 2017)

As previously stated, bicycle and pedestrian traffic count data was collected on a Saturday in April and August at the study intersections along W. Cliff Drive (10:00 AM - 6:00 PM). The bicycle data included the bike traffic in the designated bike facilities, crosswalks, and vehicular lanes. The bicycle traffic volumes are illustrated on Figure 2D. During the field observations bikes were observed transitioning between the designated bike facilities and vehicular travel lanes. Copies of the bicycle and pedestrian count data are included in Appendix A.

The TIA scope did not include an analysis of local bike facilities. The 2010 HCM does include methodologies for evaluating bike facilities (Bicycle LOS Score Model), which use physical parameters that need to be measured (e.g. lane widths, bike flow rates, bike speeds, delays at intersections, etc). The bicycle LOS score can be evaluated for roadway segments and intersections. The 2010 HCM suggest that the saturation flow rate (LOS E) for a 5-foot bike lane at a signalized intersection is approximately 2,000 bicycles per hour. The data on Figure 2D shows that the highest hourly flow in a Class II bike lane is 51 bicycles during the Saturday MD peak hour (southbound on W. Cliff Drive approaching Bay Street). The majority of bicycle traffic on the east side of W. Cliff Drive was recorded in the Class 4 Cycle Tracks. The hourly bike volumes currently using the Class II bike lanes on W. Cliff Drive and Bay Street are well below the capacity of a 5-foot bike lane.

The pedestrian volumes are displayed on Figure 2E. The data on Figure 2E indicates there was a significant amount of pedestrian activity near the project site, along the east side of W. Cliff Drive, and at the W. Cliff Drive / Bay Street intersection. The existing pedestrian volumes at the mid-block crosswalk (south of the Dream Inn driveway) exceed the minimum MUTCD “peak hour volume” signal warrant criteria (Warrant #4); >107 pedestrians per hour, pph). A review of the data also indicates pedestrian crossings also exceed the minimum “four-hour volumes” criteria. Based on information provided by City staff, alternatives to installing traffic signal control at the mid-block crosswalk (e.g. Rectangular Rapid Flashing Beacons, RRFB) will be implemented while the City monitors future conditions. Traffic signal control at the mid-block crosswalk could adversely impact operations at adjacent intersections, bike lanes and other crosswalks.

The TIA scope did not include an analysis of pedestrian facilities. The 2010 HCM does include methodologies for evaluating pedestrian facilities (Pedestrian LOS Score Model), which use physical parameters that need to be measured (e.g. facility characteristics, pedestrian spacing, pedestrian flow rate, walking speed, etc).

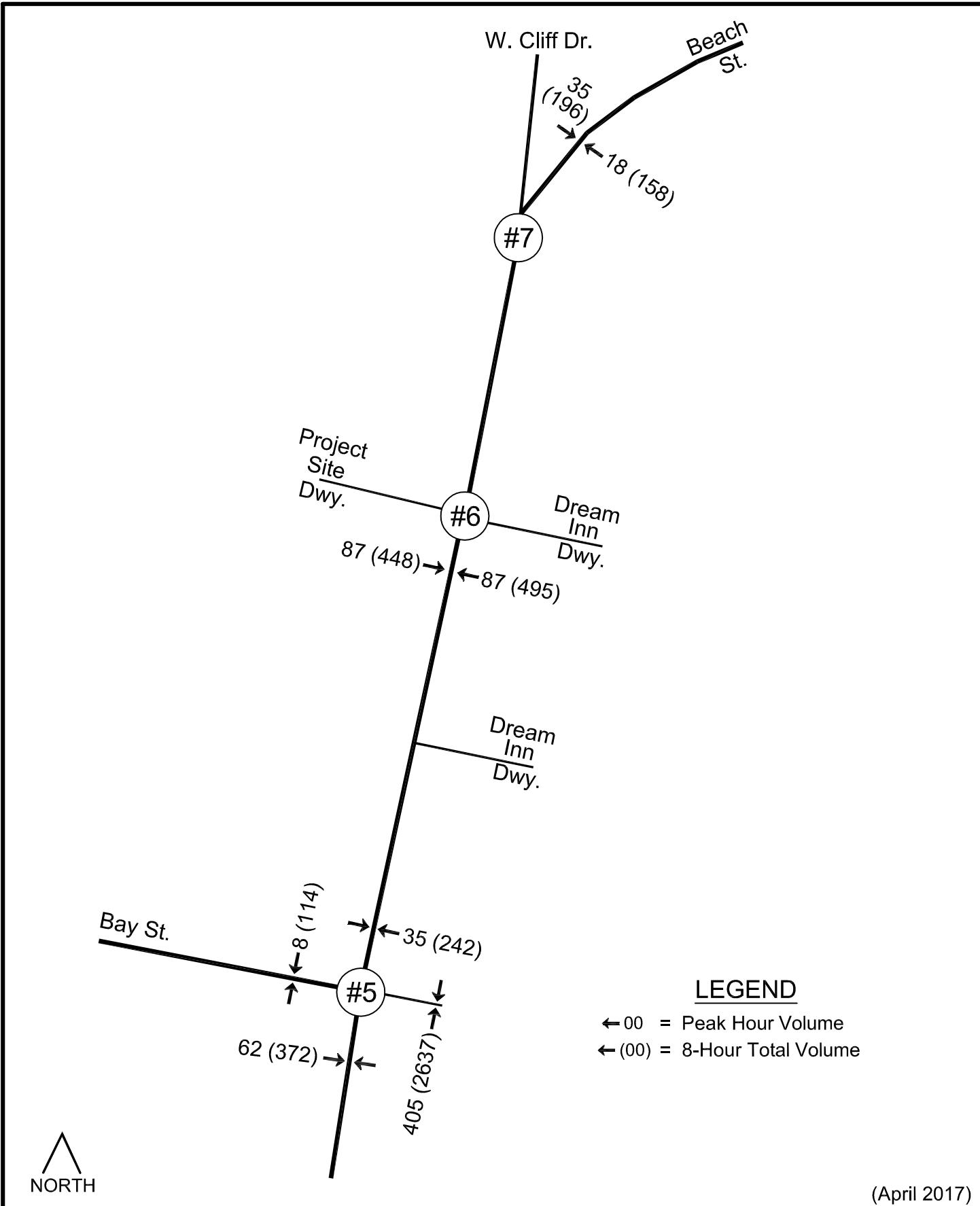


LEGEND

- ← 00 = Mid-Day Peak Hour Volume (Bikes in Travel Lane)
- 00 → ← 00 = Mid-Day Peak Hour Volume (Bikes in Crosswalk)
- ← (00) = Mid-Day Peak Hour Volume (Bikes in Bike Lane)
- ← [00] = Mid-Day Peak Hour Volume (Bikes in Class 4 Cycle Tracks)



(April 2017)



(April 2017)

Observations of Peak Period Operations (April 2017)

Traffic operations were observed during the weekday afternoon and Saturday mid-day peak periods to document existing traffic conditions. Saturday during the Easter weekend holiday was considered an ideal time to measure and observe traffic near the project site and typically represents a “design day” in the beach area.

During “peak” demand periods congestion was observed along Mission Street (SR 1). The congestion is related to the existing roadway segment capacity west of Chestnut Street and signal operations at the intersections. Vehicle queues along Mission Street (SR 1) were longer during the Saturday MD peak hour as compared to the weekday PM peak hour. During the weekday PM peak hour, large vehicle queues were observed on the eastbound approach of Bay Street at Mission Street (SR 1). During the “peak” demand period eastbound queues extended west of King Street. The data on Figures 2B and 2C shows that eastbound volumes on Bay Street at Mission Street (SR 1) were about 30% higher during the weekday PM peak hour than the Saturday MD peak hour.

Long vehicle queues were observed at the W. Cliff Drive / Bay Street intersection during peak demand periods (weekday PM and Saturday MD). Long southbound queues were also observed on Pacific Avenue at the Center Street roundabout during the Saturday MD peak hour. The eastbound queues on Bay Street at W. Cliff Drive and southbound queues on Pacific Street at Center Street are primarily related to traffic headed towards the boardwalk, Wharf and beach on a nice weather weekend day. During a short-period eastbound traffic on Beach Street (east of Pacific Avenue) was also backed up along the beach boardwalk. Observations during “non-peak” periods did not identify any significant operational issues at the study intersections.

August 2017 Traffic Volumes and Intersection Level of Service

As discussed in the Introduction (Section 1.0), additional traffic count data was collected in August 2017 to represent summer traffic conditions during the summer tourism season. A comparison of the April 2017 and August 2017 roadway segment count data is provided in Table 3A. A summary of the comparison data and copies of the August 2017 roadway segment count data are included in Appendix A.

Table 3A - Existing Roadway Segment Traffic Volume Data Comparison

Roadway Segment	Period	April 2017	August 2017	Percent Change
W. Cliff Drive (north of Bay St.)	3-Day Avg.	18,363 ADT	17,779 ADT	-3.18%
	Saturday	17,614 ADT	17,329 ADT	-1.62%
W. Cliff Drive (south of Bay St.)	3-Day Avg.	9,998 ADT	9,115 ADT	-8.83%
	Saturday	9,937 ADT	9,683 ADT	-2.56%
Bay Street (west of W. Cliff Dr.)	3-Day Avg.	9,986 ADT	10,098 ADT	+1.12%
	Saturday	9,414 ADT	9,444 ADT	+0.32%

The data in Table 3A demonstrates that average daily traffic (ADT) on W. Cliff Drive (north and south of Bay Street) was slightly less in August, as compared to the April count data. However, ADT on Bay Street (west of W. Cliff Drive) was slightly higher in August.

A comparison of the April and August peak hour traffic count data at the study intersections is summarized in Table 3B. The total peak hour intersection volumes are used for the comparison. A summary of the comparison data and copies of the August 2017 intersection traffic count data are included in Appendix A.

Table 3B - Existing Intersection Traffic Volume Data Comparison

Study Intersection	Period	April 2017	August 2017	Percent Change
Mission St. (SR 1) / Bay St.	Weekday PM Pk. Hr.	3,219	2,929	-9.01%
	Saturday MD Pk. Hr.	3,134	3,001	-4.24%
Bay St. / California St.	Weekday PM Pk. Hr.	1,180	961	-18.63%
	Saturday MD Pk. Hr.	1,103	964	-12.60%
Bay St. / California Ave.	Weekday PM Pk. Hr.	1,093	957	-12.44%
	Saturday MD Pk. Hr.	1,028	962	-6.42%
W. Cliff Dr. / Bay St.	Weekday PM Pk. Hr.	1,582	1,641	+3.73%
	Saturday MD Pk. Hr.	1,545	1,566	+1.36%
W. Cliff Dr. / Beach St.	Weekday PM Pk. Hr.	1,497	1,609	+7.48%
	Saturday MD Pk. Hr.	1,450	1,485	+2.41%
Pacific Ave. / Beach St.	Weekday PM Pk. Hr.	1,233	1,340	+8.68%
	Saturday MD Pk. Hr.	1,457	1,342	-7.89%
Pacific Ave. / Center St.	Weekday PM Pk. Hr.	1,467	1,506	+2.66%
	Saturday MD Pk. Hr.	1,747	1,636	-6.35%

The data in Table 3B demonstrates that total peak hour intersection volumes at the Mission Street (SR 1) / Bay Street, Bay Street / California Street, and Bay Street / California Avenue intersections were lower in August, as compared to the April count data. However, total peak hour intersection volumes at the remaining study intersections in the beach area were slightly higher in August during one or both study peak hour periods.

To evaluate the change in LOS associated with the higher August (summer) peak hour volumes at the W. Cliff Drive and Pacific Avenue study intersections, the LOS were re-evaluated using the higher weekday PM peak hour traffic demands. A summary of the comparison LOS data is provided in Table 4, with copies of the LOS worksheets included in the Appendix B.

Table 4 - Existing Intersection LOS Analysis Comparison

Study Intersection	Average Delay - LOS Value (a)	
	<u>April 2017</u> Weekday PM Pk. Hr.	<u>August 2017</u> Weekday PM Pk. Hr.
W. Cliff Dr. / Bay St. (All-Way Stop)	38.0 - E (b)	40.0 - E
W. Cliff Dr. / Beach St. (NBLT Stop Sign)	0.3 - A (9.8 - A)	0.4 - A (9.7 - A)
Pacific Ave. / Beach St. (Roundabout)	5.5 - A	6.3 - A
Pacific Ave. / Center St. (Roundabout)	7.9 - A	8.5 - A

(a) Highest stop sign controlled approach vehicle delay reported in parenthesis

(b) Existing LOS based on November 2018 traffic count data

The data in Table 4 demonstrates that the higher August (summer) weekday peak hour volumes at the W. Cliff Drive / Bay Street intersection also result in average delays within the LOS E range. The August PM peak hour volumes at the W. Cliff Drive / Bay Street intersection also exceed the minimum MUTCD signal warrant criteria. Delays at the remaining intersections are within the LOS A range, as documented under the LOS analysis using the April count data.

August 2017 Bicycle and Pedestrian Traffic Volumes

The data collected on August 19th (Saturday) included bicycle and pedestrian traffic counts (10:00 AM - 6:00 PM). A review of the August bicycle count data indicates that volumes and patterns were fairly similar to those documented in April. However, the data shows that between 2:30 and 3:30 PM there were high directional bike volumes that made the eastbound left turn from Bay Street to northbound on W. Cliff Drive (328; 2:30-2:45 PM) and southbound through movement on W. Cliff Drive at Bay Street (282; 3:15-3:30 PM). During these 15-minute periods, the high bike volumes were also documented on Beach Street (eastbound). It is noted that there are several large annual athletic events in the City of Santa Cruz (e.g. Tri Santa Cruz held on August 12-13). In addition, there are local cycling clubs that frequently use the same routes as these annual events. Pedestrian traffic volumes and patterns were similar to the data collected in April. Copies of the August bicycle and pedestrian count data are included in Appendix A.

4.0 PROJECT CONDITIONS AND IMPACT ANALYSIS

The following is a description of the proposed project, an estimate of the project trip generation quantities, an assignment of the project trips to the local street system, and an evaluation of the potential project impacts on existing operations.

Description

As previously stated, a private surface parking lot is currently located on the project site. The existing parking lot is used exclusively by the existing Dream Inn Hotel and Aquarius Restaurant located on east side of W. Cliff Drive. The proposed project will remove the existing parking lot and develop various residential and commercial uses with a subterranean parking structure. The proposed project includes:

- 89 Residential Condominiums (10 Affordable Units)
- 8,265 Square Foot (SF) of General Retail Space
- 7,525 SF of Restaurant / Food & Beverage
- 1,646 SF of Office Space
- 421 Parking Stalls on 3 Levels

The proposed office space will be used to accommodate administrative staff associated with the existing Dream Inn operations (east of W. Cliff Drive). It's anticipated that a portion of the general retail space could be used as a small "spa" for guests of the Dream Inn. Though the proposed office and spa area could be considered ancillary uses for the existing Dream Inn, the evaluation of potential project impacts considers these uses part of the proposed project to present a worst-case scenario.

The project driveway on W. Cliff Drive is proposed opposite the existing exit only driveway for the Dream Inn and Aquarius Restaurant. The project driveway on Bay Street will be located about 310' west of W. Cliff Drive. On-site parking will be provided for 421 vehicles. An evaluation of the proposed parking is provided in the Final Project Parking Analysis (Jan. 28, 2018).

Project Trip Generation Estimates

The initial phase of the TIA included the preparation of a trip generation and parking analysis. The project trip generation estimates derived in the initial analysis were based on the data in the ITE Trip Generation Manual (9th Edition) and Handbook, and the City's General Plan (Appendix C - General Plan Traffic Analysis Methodologies). The City's "Townhome" trip rates were used to estimate the number of weekday (daily) and PM peak hour trips associated with the proposed residential component, as requested by the project applicant. The applicable ITE and City trip generation rates are presented in Table 5.

Table 5 - Applicable Trip Generation Rates

Land Use Category	Weekday Trip Generation Rates				
	AM Peak Hour		PM Peak Hour		Daily
	In	Out	In	Out	
ITE #230 - Residential Condo / TH (a)	0.07	0.37	0.55	0.27	8.11
ITE #710 - General Office (b)	1.37	0.19	0.25	1.24	11.03
ITE #826 - Specialty Retail (b)	0.00	0.00	1.19	1.52	44.32
ITE #931 - Quality Restaurant (b)	0.41	0.40	5.02	2.47	89.95
Land Use Category	Saturday Trip Generation Rates				
	Peak Hour of Generator				Daily
	In	Out			
ITE #230 - Residential Condo / TH	0.25	0.22			5.67
ITE #710 - General Office (b)	0.23	0.20			2.46
ITE #826 - Specialty Retail (b & c)	2.81	2.21			42.04
ITE #931 - Quality Restaurant (b)	6.38	4.44			94.36

(a) Number of vehicle trips per unit (PM peak hour and daily based on City rates)

(b) Number of vehicle trips per 1,000 SF

(c) Weekday PM peak hour of generate rates

The total trips associated with a project are derived using the appropriate trip generation rates. A portion of the total trips associated with a mixed use development are trips between the uses, referred to as internal “captured” trips (trips that do not exit and re-enter the project site). The external project site trips are the total trips minus the internal captured trips. Therefore, the external trips are the trips that actually enter and exit the project site driveways. The external trips include “pass-by” and “diverted link” trips, and the single purpose “primary” trips. The pass-by and diverted link trips are the trips that come from the existing traffic already on the local street system and are expected to stop and use the commercial retail and restaurant uses. The single purpose primary trips are the actual number of new trips generated by the proposed project uses. Therefore, the evaluation of the potential project impacts is based on the number of new single purpose primary trips.

The ITE mixed-use development spreadsheet (NCHRP 684 Internal Trip Capture Estimating Tool) was used to estimate the amount of internal captured trips associated with the proposed project and existing uses (trips that do not exit and re-enter the site). Though the Dream Inn and Aquarius Restaurant are located on the east side of W. Cliff Drive, the parking associated with these existing uses will continue to be provided on the project site. The ITE mixed-use development spreadsheet indicates that during an average weekday PM peak hour approximately 10% of the non-residential trips (retail, restaurant and office) would be internal captured trips (e.g. portion of trips generated by a mixed-use development that both begin and end with the development, as in the case of a resident or hotel guest shopping at the retail facilities or eating at a restaurant). The spreadsheet also demonstrates that if the residential component trips are included in the calculations about 17%

of the total trips would be internal captured trips. Copies of the ITE mixed-use development spreadsheets is included in Appendix D. Based on consultation with City staff, a 10% internal captured trip reduction was applied to the total project trip generation estimates. Therefore, 90% of the total project trips will be external trips.

Data in the ITE Trip Generation Manual indicates that a significant portion (70-75%) of retail related trips will be pass-by and/or diverted-link type trips coming from traffic already on the local street system. Based on consultation with City staff, a 10% pass-by trip reduction was only applied to the project retail and restaurant trips. The new single purpose primary trips are the external trips (90% of the total trips) minus the pass-by trips associated with the retail and restaurant uses. The weekday trip generation estimates associated with the proposed uses are presented in Table 6A.

Table 6A - Project Trip Generation Estimates (Weekday)

Project Component	Number of Weekday Vehicle Trips				
	AM Peak Hour		PM Peak Hour		Daily
	In	Out	In	Out	
Residential Condos / Townhomes - 89 Units	6	33	49	24	722
Commercial Retail - 8,265 SF	0	0	10	13	366
Dining - 7,525 SF	3	3	38	19	676
Office - 1,646 SF	2	0	0	2	18
Total Project Trips:	11	36	97	58	1,782
Internal Captured Trips (10%):	-1	-4	-10	-6	-178
Project External Trips (90%):	10	32	87	52	1,604
Pass-By Trips (10%):	0	0	-5	-3	-104
Project New "Primary" Trips:	10	32	82	49	1,500

The proposed project uses will generate a total of approximately 1,782 weekday trips (two-way trip ends); with 1,500 new primary daily trips. The proposed uses will also generate approximately 42 new primary trips during the AM peak hour (10 inbound & 32 outbound) and 131 new primary trips during the PM peak hour (82 inbound & 49 outbound).

The Saturday trip generation estimates associated with the proposed project uses are presented in Table 6B. The proposed uses will generate a total of approximately 1,566 trips on a Saturday (two-way trip ends); with 1,304 new primary daily trips. The proposed uses will also generate approximately 137 new primary trips during the MD peak hour on a typical Saturday (78 inbound & 59 outbound).

Table 6B - Project Trip Generation Estimates (Saturday)

Project Component	Number of Vehicle Trips		
	Peak Hour of Generator		Daily
	In	Out	
Residential Condos / Townhomes - 89 Units	22	20	504
Commercial Retail - 8,265 SF	23	18	348
Dining - 7,525 SF	48	33	710
Office - 1,646 SF	1	0	4
Total Project Trips:	94	71	1,566
Internal Captured Trips (10%):	-9	-7	-156
Project External Trips (90%):	85	64	1,410
Pass-By Trips (10%):	-7	-5	-106
Project New "Primary" Trips:	78	59	1,304

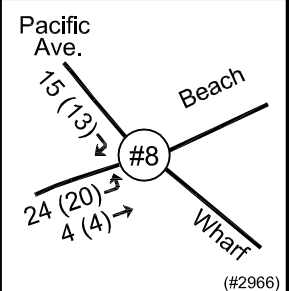
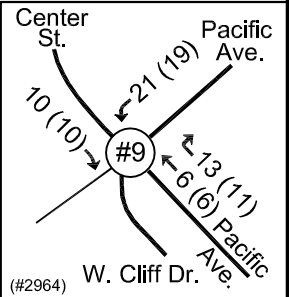
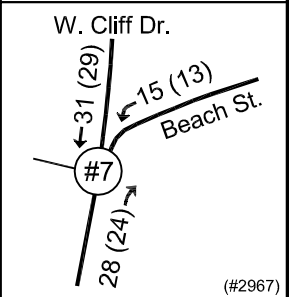
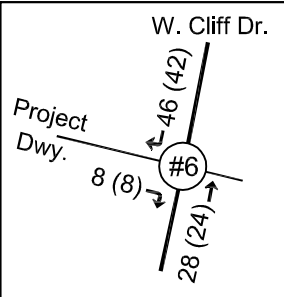
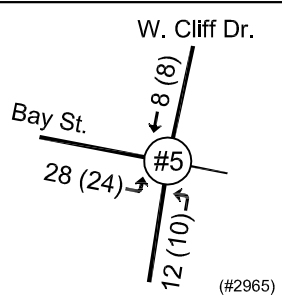
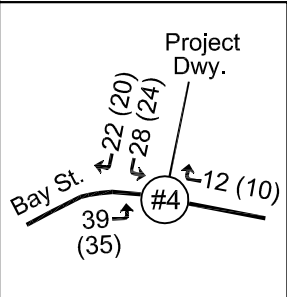
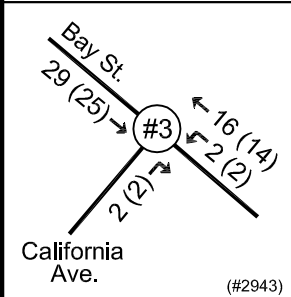
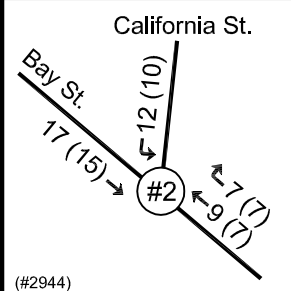
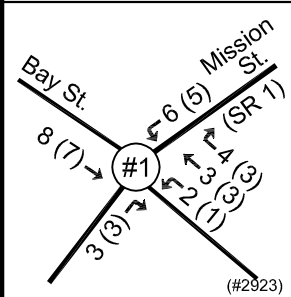
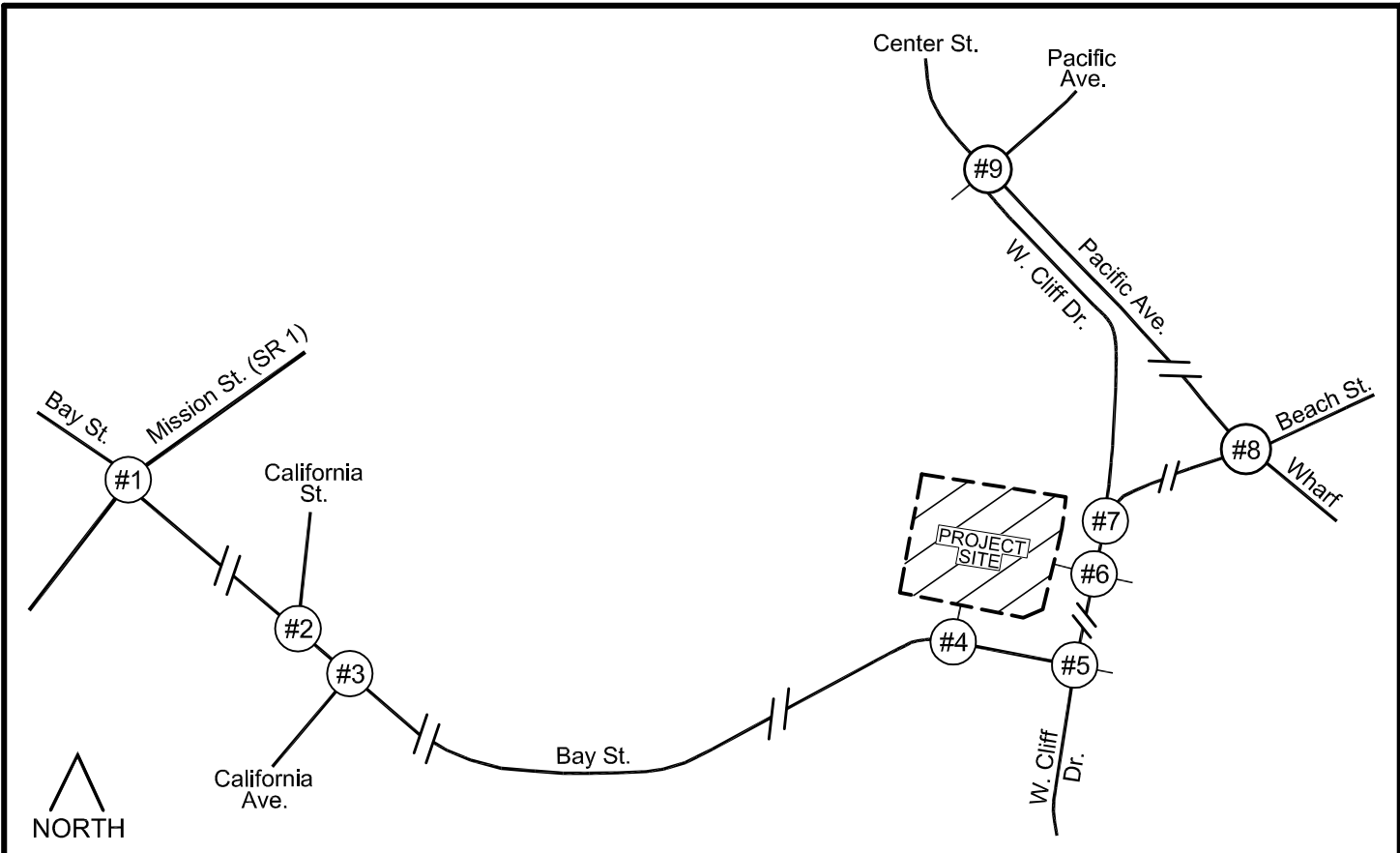
Project Access and Traffic Assignment

Project access will be provided via driveways on W. Cliff Drive and Bay Street. The W. Cliff Drive driveway (opposite the existing Dream Inn driveway) will provide right-turn only ingress and egress to the project site. The Bay Street driveway will provide full (left and right turns) ingress and egress for the residences and commercial uses.

The assignment of project trips to the local street system was based on a review of local travel patterns and data in the City's General Plan (Appendix F-5). The area wide project trip distribution percentages were developed in consultation with City staff. Exhibits illustrating the area wide trip distribution percentages for the residential, office, retail and restaurant uses are included in Appendix D (Exhibits 1A and 1B). The total and external project trips (previous uses) for the weekday PM peak hour are illustrated on Figure 3A, and the primary (new single purpose) and pass-by trips are shown on Figure 3B. The Saturday MD peak hour project trips are illustrated on Figures 4A (total and external) and 4B (primary and pass-by).

The existing valet service for the Dream Inn and Aquarius Restaurant use the existing driveways on W. Cliff Drive (1 inbound only and 1 outbound only). When a hotel or restaurant customer enters the southerly driveway on the east side of W. Cliff Drive (entrance only), the valet staff takes the vehicle across W. Cliff Drive and parks it in the designated valet parking area (on the project site). The valet staff walks back across W. Cliff Drive to the valet desk. Currently when a customer wishes to pick up their vehicle, the valet staff walks across W. Cliff Drive and gets the vehicle and exits the W. Cliff Drive driveway. The valet staff turns right and goes south on W. Cliff Drive and turn left across northbound traffic to enter the southerly entrance only driveway.

Parking for the valet service will be provided on Level P2. All Dream Inn and Aquarius Restaurant guest vehicles will be valet parked upon development of the project (24 hours a day, 7 days a



LEGEND

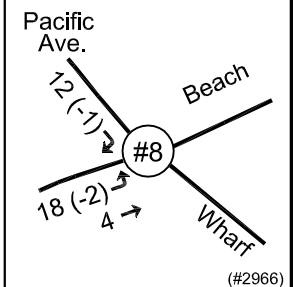
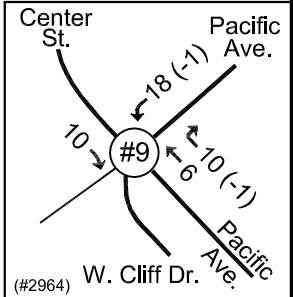
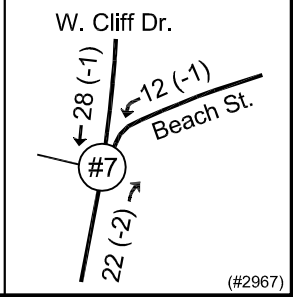
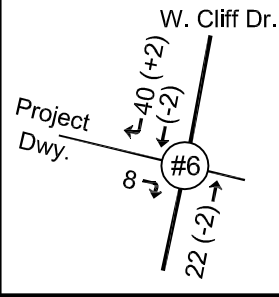
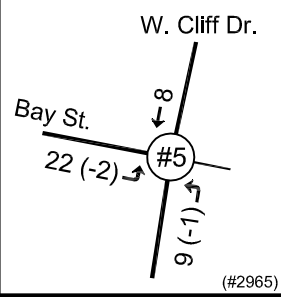
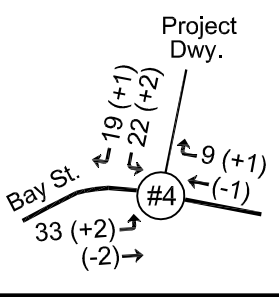
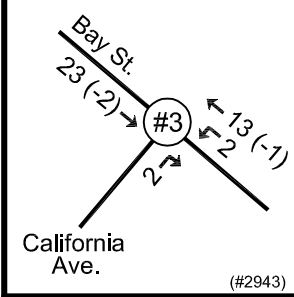
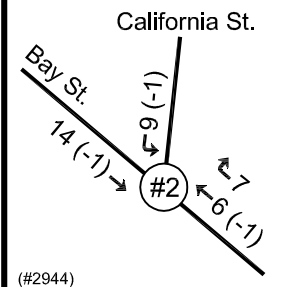
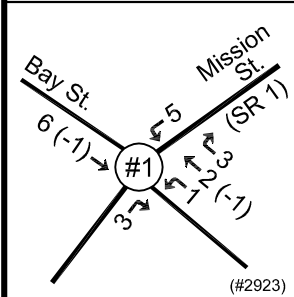
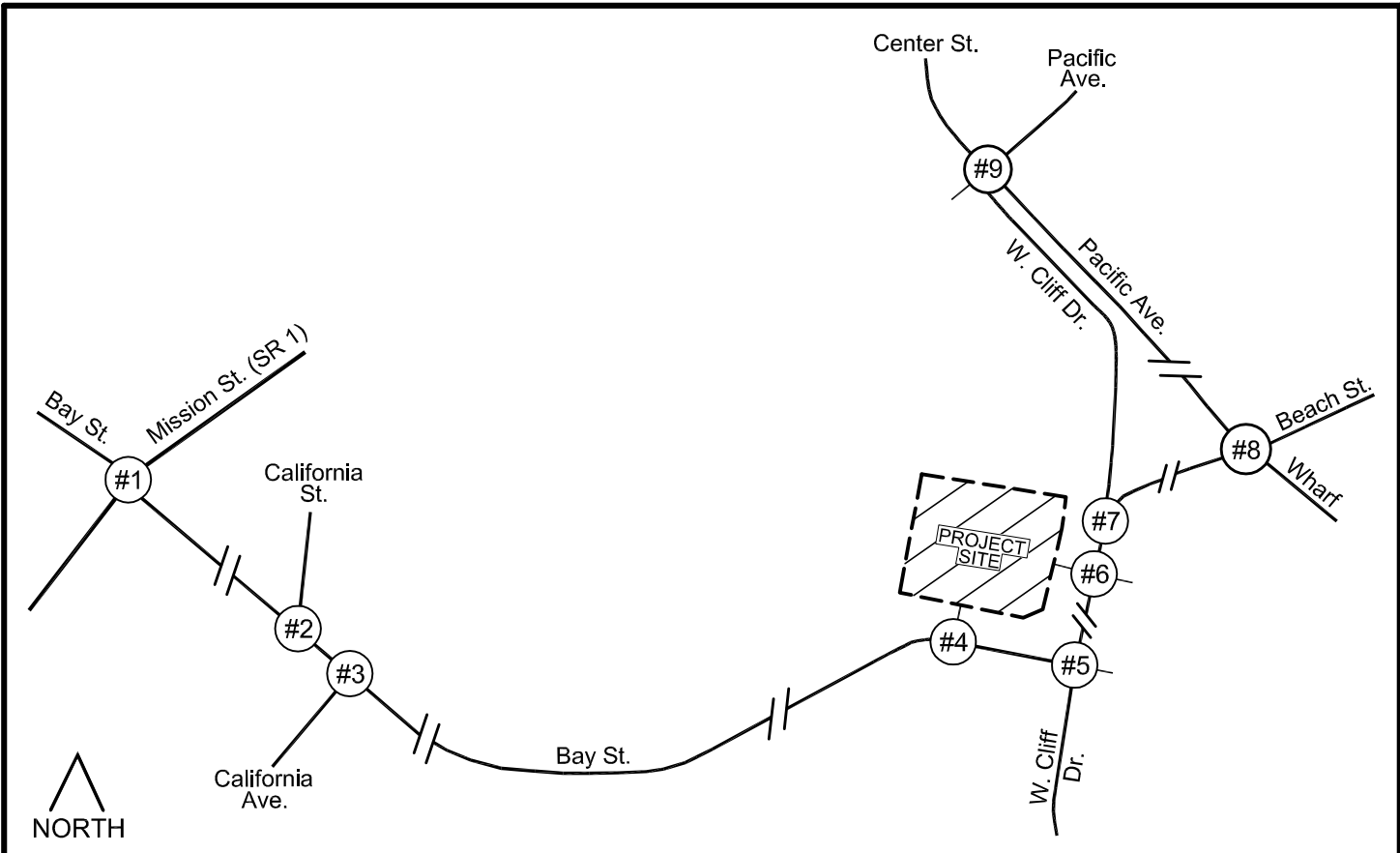
- ← 00 = Total PM Peak Hour Volume
- ← (00) = External PM Peak Hour Volume

- Weekday Trips -

PINNACLE
TRAFFIC
ENGINEERING

190 W. Cliff Dr. Mixed Use
- Traffic Impact Analysis -

FIGURE 3A
TOTAL & EXTERNAL
PROJECT TRIPS



LEGEND

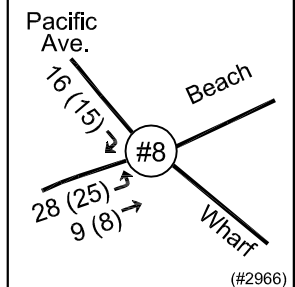
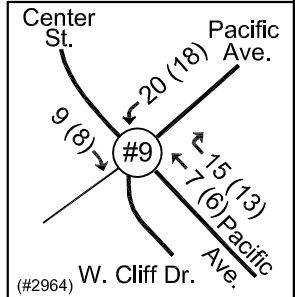
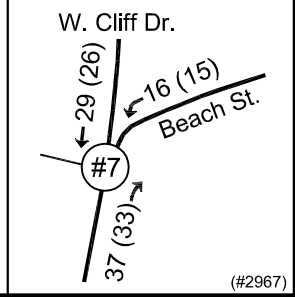
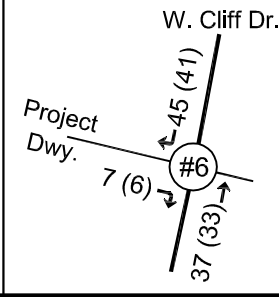
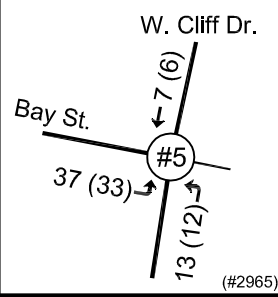
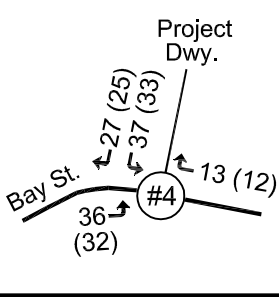
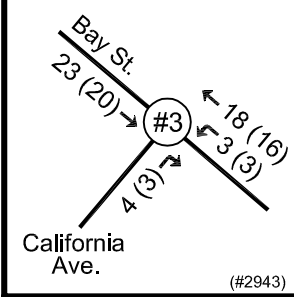
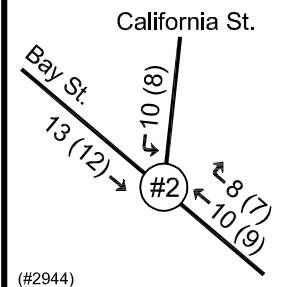
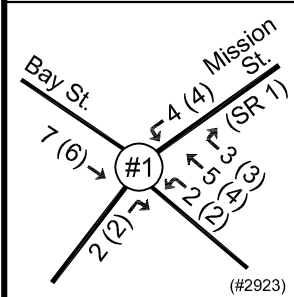
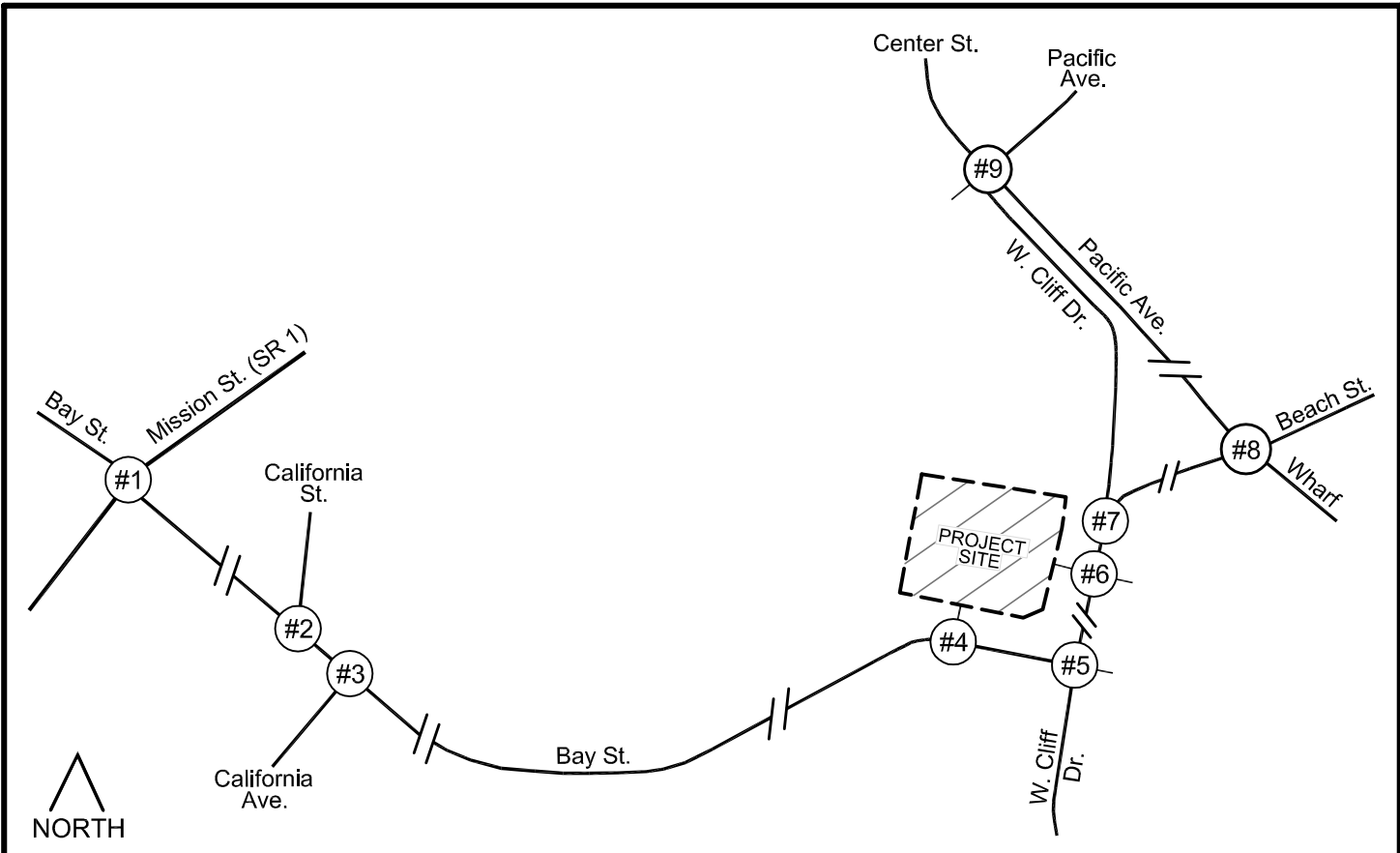
← 00 = "Primary" PM Peak Hour Volume
 (00) = "Pass-By" PM Peak Hour Volume

- Weekday Trips -

**PINNACLE
 TRAFFIC
 ENGINEERING**

**190 W. Cliff Dr. Mixed Use
 - Traffic Impact Analysis -**

**FIGURE 3B
 PRIMARY & PASS-BY
 PROJECT TRIPS**



LEGEND

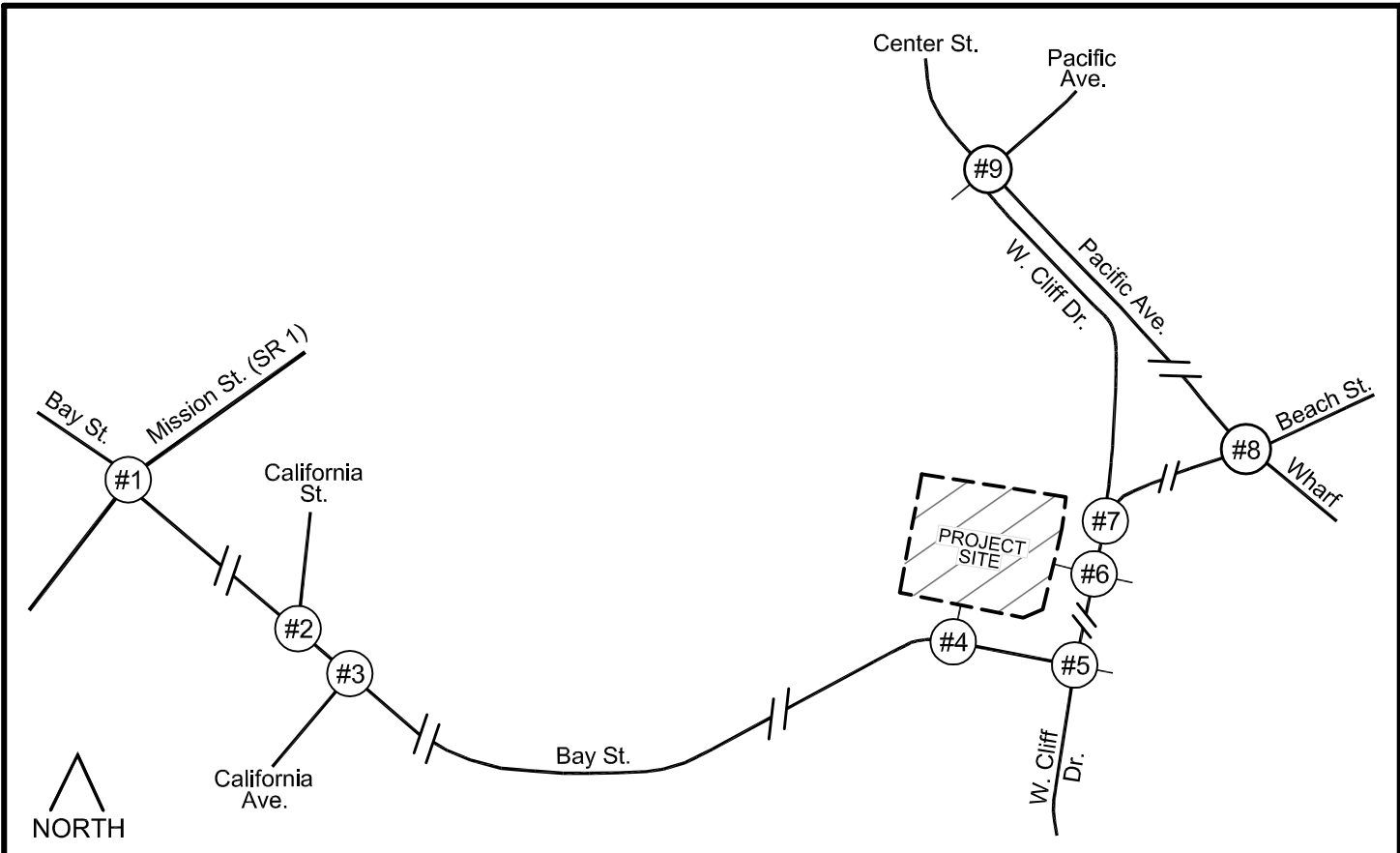
- ← 00 = Total MD Peak Hour Volume
- ← (00) = External MD Peak Hour Volume

- Saturday Trips -

**PINNACLE
TRAFFIC
ENGINEERING**

**190 W. Cliff Dr. Mixed Use
- Traffic Impact Analysis -**

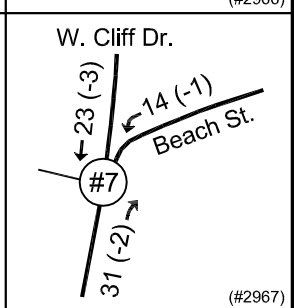
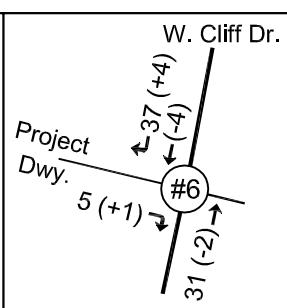
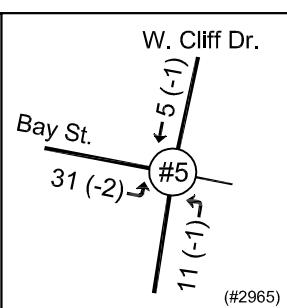
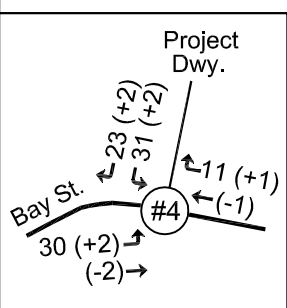
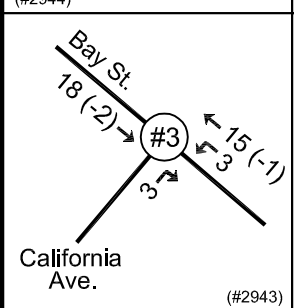
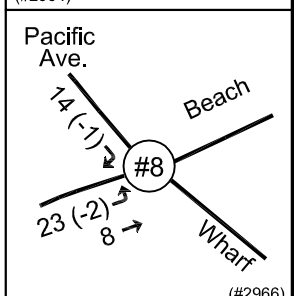
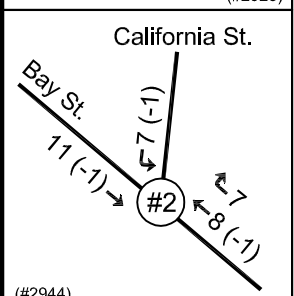
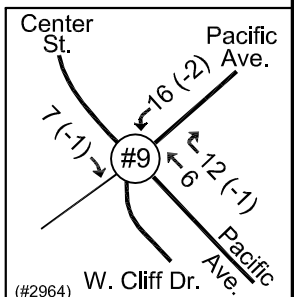
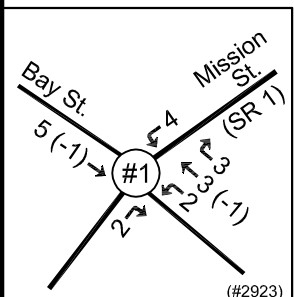
**FIGURE 4A
TOTAL & EXTERNAL
PROJECT TRIPS**



LEGEND

- ← 00 = "Primary" MD Peak Hour Volume
- ← (00) = "Pass-By" MD Peak Hour Volume

- Saturday Trips -



**PINNACLE
TRAFFIC
ENGINEERING**

**190 W. Cliff Dr. Mixed Use
- Traffic Impact Analysis -**

**FIGURE 4B
PRIMARY & PASS-BY
PROJECT TRIPS**

week). When a guest/customer drops off a vehicle at the valet desk in front of the Dream Inn the valet staff will exit the driveway on W. Cliff Drive (turn right) and proceed north to the Pacific Avenue / Beach Street (roundabout) intersection. The vehicle will then be driven around the roundabout and proceed back south on Beach Street and W. Cliff Drive and turn right in the project driveway. The vehicle will be parked on Level P2. The valet staff will walk back across W. Cliff Drive to the valet desk. When a guest/customer wishes to pick up their vehicle, valet staff will walk across W. Cliff Drive and go to Level P2 to retrieve get the vehicle. The vehicle will then be driven up ramp and go left around the back side of the project structure and then turn left exiting the Bay Street driveway and proceed east to the W. Cliff Drive / Bay Street intersection. The vehicle will then turn left and proceed north on W. Cliff Drive and make a right turn in the southerly Dream Inn driveway. This will eliminate the valet service “return” traffic from using the W. Cliff Drive driveway and needing to turn left across northbound traffic to enter the southerly Dream Inn entrance only driveway. This will also reduce the potential vehicular-pedestrian conflicts at the mid-block crosswalk on W. Cliff Drive (south of the driveway). The existing valet service trips were modified using the new circulation patterns.

City of Santa Cruz Planned Improvements

The City’s adopted Capital Investment Program (CIP) is a multi-year schedule of projects with their associated costs and proposed funding sources. The CIP represents the best efforts to allocate available and projected resources toward projects that provide the most benefit for the people of Santa Cruz.

In 2018, the City of Santa Cruz approved a new CIP for fiscal years 2019-2021 (CIP), which identified needed improvements at the W. Cliff Drive / Bay Street intersection (either as a potential traffic signal or roundabout) along with a funding mechanism for their implementation, consistent with the City’s General Plan 2030. The CIP indicates this intersection would be primarily funded through the City’s Transportation Impact Fee (TIF) program and future transportation grants.

The RRFB to be installed at the mid-block crosswalk on W. Cliff Drive (south of the Dream Inn driveway) is funded by an HSIP Cycle 8 Grant in the City’s adopted CIP and construction is anticipated in 2019.

Project Improvement Variants

As requested by City staff, the project applicant has agreed to incorporate new improvements at the W. Cliff Drive / Bay Street intersection. The new improvements would be constructed as part of the project to be completed prior to occupancy. Therefore, the following analysis assumes a “baseline” that would include either a new traffic signal or a mini-roundabout at W. Cliff Drive / Bay Street intersection (e.g. a baseline that more accurately reflects conditions as they will exist on the date the project opens).

The existing conditions traffic signal warrant analysis documented that traffic volumes during the weekday PM and Saturday MD peak hours at the W. Cliff Drive / Bay Street intersection currently

exceed the minimum MUTCD criteria. As previously indicated, the City's TIF Program and CIP include the installation of traffic signal control or a roundabout at this intersection. Therefore, the project applicant has included two (2) project variants for the City's consideration as part of the overall project. The traffic analysis includes a comparative evaluation of signal control versus a mini-roundabout at the W. Cliff Drive / Bay Street intersection. Each project improvement variant, as well as its potential impacts on key intersections is discussed and evaluated.

City of Santa Cruz Level of Significance Criteria

The evaluation of potential project impacts is based on applicable "level of significance" criteria defined in City Plans, policies, and/or guidelines; and in accordance with CEQA. As previously discussed, the City's LOS "D" standard is used to evaluate conditions at the study intersections and the Caltrans LOS "C/D" transition target is also referenced for the Mission Street (SR 1) / Bay Street intersection. A potentially significant impact would occur when:

- Project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system
- Project would substantially increase hazards due to a design feature
- Project traffic would cause intersection operations to degrade from an acceptable LOS to an unacceptable level (LOS E or F)
- Project traffic would result in LOS below the LOS "D" or where a project would contribute traffic of more than 3% at an intersection currently operating at an unacceptable level (applicable only to the existing plus project scenario). The City's General Plan policies consider accepting a LOS below the LOS "D" at major regional intersections where improvements would be prohibitively costly or results in significant, unacceptable environmental impacts (e.g. at the Mission Street (SR 1) / Bay Street intersection).
- City intersections that already operate at an unacceptable level (LOS E or F), the City considers project impacts to be significant if congestion will measurably worsen with the addition of project traffic (increase of 3%)

Intersection Level of Service Analysis (April 2017)

The following LOS analysis evaluates the potential project impacts associated with the two (2) project improvement variants against existing conditions based on the City's Level of Significance Criteria.

Variant No. 1: Existing Plus Project Conditions (Signal Variant Plus RRFB)

The first project improvement variant includes the components listed below which were based on a review of the existing traffic data (vehicular, bicycle and pedestrian) and the existing conditions analysis, and the references in the City's CIP regarding the option of installing a signal control at the W. Cliff Drive / Bay Street intersection.

- Install a Traffic Signal at W. Cliff Drive / Bay Street Intersection
- Maintain Stop Sign Control for the Project Site Driveway on W. Cliff Drive (Right Turns Only, In & Out)
- Maintain Stop Sign Control for the Dream Inn Driveway on W. Cliff Drive (Right Turns Only, In & Out)
- Widen the Existing Mid-Block Crosswalk Pedestrian Refuge Island and Maintain RRFB
- Widen the Sidewalk on East Side of W. Cliff Drive (north of Project Driveway)
- Install “GREEN” Bike Lane Treatment Striping
- Install Left Turn Lane on Bay Street at the Project Driveway

The median refuge area will be a minimum width of 6 feet to meet United States Access Board’s accessibility requirements. The median refuge island would create a 2 stage pedestrian crossing on W. Cliff Drive, if feasible (pedestrians could cross one direction of travel at a time). This could also create a small deflection in the crosswalk alignment and provide a perpendicular crosswalk on both sides of W. Cliff Drive. The analysis of project improvement Variant No. 1 has been conducted for the following scenarios:

- Existing Plus Project Weekday PM Peak Hour
- Existing Plus Project Saturday MD Peak Hour
- Total Cumulative (General Plan) Weekday PM Peak Hour (includes project traffic)

The improvement modifications associated with Variant No. 1 will mainly affect the analysis of the study intersections along W. Cliff Drive. An analysis of the project driveway on Bay Street includes an exclusive left turn lane on the eastbound approach.

The existing traffic volumes (Figures 2B and 2C) were adjusted to reflect the left turn restrictions (right turns only, in and out) at the driveways on W. Cliff Drive (Dream Inn and project site) and the modified valet service circulation. The adjusted existing volumes also reflect a left turn restriction on W. Cliff Drive for the Dream Inn driveway just north of Bay Street (ingress only). Copies of the existing plus project traffic volumes for Variant No. 1 are included in Appendix D (Exhibit 2A - Weekday PM peak hour and Exhibit 3A - Saturday MD peak hour).

The existing plus project volumes associated with Variant No. 1 were again evaluated using the Synchro 9 and HCS7 software. The results of the existing plus project intersection LOS analysis are presented in Table 7A. Copies of the LOS worksheets are included in Appendix B.

Table 7A - Existing Plus Project Intersection LOS Analysis (Variant No. 1)

Study Intersection	Peak Hour	Vehicle Delay - LOS Value (a)	
		Existing	Existing Plus Project
Mission St. (SR 1) / Bay St.	Weekday PM	36.7 - D	37.8 - D
	Saturday MD	29.6 - C	30.6 - C
Bay St. / California St.	Weekday PM	8.7 - A (36.6 - E)	11.0 - B (45.9 - E)
	Saturday MD	9.9 - A (34.2 - D)	14.2 - A (48.3 - E)
Bay St. / California Ave.	Weekday PM	15.5 - C	16.6 - C
	Saturday MD	14.7 - B	16.0 - C
W. Cliff Dr. / Bay St. (b)	Weekday PM	38.0 - E	16.1 - B
	Saturday MD	24.2 - C	13.1 - B
W. Cliff Dr. / Beach St.	Weekday PM	0.3 - A (9.8 - A)	0.3 - A (10.0 - A)
	Saturday MD	0.4 - A (10.1 - B)	0.3 - A (10.4 - B)
Pacific Ave. / Beach St.	Weekday PM	5.5 - A	5.7 - A
	Saturday MD	6.3 - A	6.7 - A
Pacific Ave. / Center St.	Weekday PM	7.9 - A	8.2 - A
	Saturday MD	10.8 - B	10.9 - B

(a) Highest stop sign controlled approach delay reported in parenthesis

(b) Existing plus project conditions analyzed with project improvements

The data in Table 7A indicates that average vehicle delays at the study intersections will remain within acceptable limits (LOS D or better). Therefore, it's concluded that the project will not significantly impact existing peak hour operations based on the City's level of significance criteria. It's noted that the project traffic will comprise less than 3% of the existing plus project weekday PM peak hour traffic volumes at the W. Cliff Drive / Bay Street intersection. A copy of the project percent contribution spreadsheet is included in Appendix D. The installation of signal control at the W. Cliff Drive / Bay Street intersection will reduce average delays as compared to the existing "all-way" stop control by approximately 58% (weekday PM peak hour) and 46% (Saturday MD peak hour). The 95th percentile queues will not exceed 1-2 vehicles on the southbound approach of the Bay Street driveway or in the eastbound left turn lane on Bay Street.

Delays on California Street (southbound left turn) at Bay Street will continue in the LOS E range (during one or both peak hours). The installation of "all-way" stop sign control at Bay Street / California Street intersection would provide average delays in the LOS C-D range. However, as discussed under existing conditions the LOS analysis software may over-estimates the delays on the California Street and not accurately reflect the gaps in east-west traffic on Bay Street created by the "all-way" stop control at California Avenue. The installation of all-way stop sign control

at the Bay Street / California Street intersection may also conflict with operations at the Bay Street / California Avenue intersection (all-way stop control). Therefore, the installation of “all-way” stop control at the Bay Street / California Street intersection is not recommended for the existing plus project scenario. The project traffic will comprise less than 3% of the existing plus project traffic volumes at the Bay Street / California Street intersection and the existing plus project traffic volumes will not exceed the minimum “peak hour” signal warrant criteria (weekday PM and Saturday MD peak hours). Therefore, it’s concluded that the project traffic will not significantly impact peak hour operations at the Bay Street / California Street intersection.

Variant No. 2: Existing Plus Project Conditions (Mini-Roundabout Variant Plus RRFB)

At the direction of City staff, Pinnacle Traffic Engineering and MSA (Ourston) developed a series of mini-roundabout concepts for the Bay Street / W. Cliff Drive intersection. The latest mini-roundabout concept, which was evaluated in the MSA (Ourston) memoranda (August 27, 2018 and September 27, 2018) addressed some of the geometric design challenges associated with the initial concept (e.g. maintains 2 southbound approach lanes on W. Cliff Drive at Bay Street). The mini-roundabout alternative includes the components listed below.

- Install a Mini-Roundabout at W. Cliff Drive / Bay Street Intersection
- Maintain Two (2) Southbound Lanes on W. Cliff Drive at Bay Street
- Maintain Stop Sign Control for the Project Driveway on W. Cliff Drive (Right Turns Only, In & Out)
- Maintain Stop Sign Control for the Dream Inn Driveway on W. Cliff Drive (Right Turns Only, In & Out)
- Widen the Existing Mid-Block Crosswalk Pedestrian Refuge Island and Maintain RRFB
- Widen the Sidewalk on East Side of W. Cliff Drive (north of Project Driveway)
- Install “GREEN” Bike Lane Treatment Striping
- Install Left Turn on Bay Street at the Project Driveway

Similar to the analysis for Variant No. 1, the analysis of Variant No. 2 has been conducted for the following scenarios:

- Existing Plus Project Weekday PM Peak Hour
- Existing Plus Project Saturday MD Peak Hour
- Total Cumulative (General Plan) Weekday PM Peak Hour (includes project traffic)

The evaluation of operations associated with Variant No. 2 was also conducted with the modified existing traffic volumes as described under Variant No. 1. Copies of the existing plus project volumes for Variant No. 2 are included in Appendix D (Exhibit 2B - Weekday PM peak hour and Exhibit 3B - Saturday MD peak hour). The existing plus project volumes associated with Variant No. 2 were again evaluated using the Synchro 9 and HCS7 software. The results of the existing plus project intersection LOS analysis are presented in Table 7B. Copies of the LOS worksheets are included in Appendix B.

Table 7B - Existing Plus Project Intersection LOS Analysis (Variant No. 2)

Study Intersection	Peak Hour	Vehicle Delay - LOS Value (a)	
		Existing	Existing Plus Project
Mission St. (SR 1) / Bay St.	Weekday PM	36.7 - D	37.8 - D
	Saturday MD	29.6 - C	30.6 - C
Bay St. / California St.	Weekday PM	8.7 - A (36.6 - E)	10.4 - B (43.9 - E)
	Saturday MD	9.9 - A (34.2 - D)	11.3 - A (39.7 - E)
Bay St. / California Ave.	Weekday PM	15.5 - C	16.5 - C
	Saturday MD	14.7 - B	15.6 - C
W. Cliff Dr. / Bay St. (b)	Weekday PM	38.0 - E	8.2 - A
	Saturday MD	24.2 - C	7.4 - A
W. Cliff Dr. / Beach St.	Weekday PM	0.3 - A (9.8 - A)	0.3 - A (10.0 - A)
	Saturday MD	0.4 - A (10.1 - B)	0.3 - A (10.4 - B)
Pacific Ave. / Beach St.	Weekday PM	5.5 - A	5.7 - A
	Saturday MD	6.3 - A	6.7 - A
Pacific Ave. / Center St.	Weekday PM	7.9 - A	8.3 - A
	Saturday MD	10.8 - B	11.1 - B

(a) Highest stop sign controlled approach delay reported in parenthesis

(b) Existing plus project conditions analyzed with project improvements

The data in Table 7B indicates that average delays will remain within acceptable limits (LOS D or better). Therefore, it is concluded that the project will not significantly impact existing peak hour operations based on the City's level of significance criteria. It's noted that the project traffic will comprise less than 3% of the existing plus project weekday PM peak hour traffic volumes at the W. Cliff Drive / Bay Street intersection. A copy of the project percent contribution spreadsheet for the mini-roundabout at the W. Cliff Drive / Bay Street intersection is included in Appendix D. The 95th percentile queues will not exceed 1-2 vehicles on the southbound approach of the Bay Street driveway or in the eastbound left turn lane on Bay Street.

Delays on California Street (southbound left turn) at Bay Street will continue in the LOS E range (during one or both peak hour periods), as discussed under Variant No. 1. However, the existing plus project traffic volumes at the Bay Street / California Street intersection will not exceed the minimum "peak hour" signal warrant criteria. The installation of all-way stop sign control at the Bay Street / California Street intersection may also conflict with operations at the Bay Street / California Avenue intersection (all-way stop control). Therefore, the installation of "all-way" stop control at the Bay Street / California Street intersection is not recommended for the existing plus project scenario.

The project traffic will comprise slightly more than 3% of the existing plus project traffic volumes at the Bay Street / California Street intersection under Variant No. 2 (weekday PM peak hour only). However, the analysis does not take into consideration the potential trip reductions associated with implementing the project's Transportation Demand Management (TDM) Program. A reduction in the project's weekday PM peak hour trips of approximately 5% would lower the project's percentage to less than 3% percent of the total existing plus project traffic volumes. A reduction of this magnitude is slightly lower than documented in the project's TDM Program (5.8-7.8%). Therefore, it's concluded that the project traffic will not significantly impact peak hour operations at the Bay Street / California Street intersection.

5.0 CUMULATIVE CONDITIONS

The project TIA scope includes an evaluation of cumulative traffic conditions. The cumulative traffic volume projections reflect the future forecast growth documented in the City's General Plan 2030 Environmental Impact Report (EIR). The General Plan 2030 buildout scenario used for the cumulative analysis includes the long-range growth anticipated for UCSC. The following is a description of the General Plan 2030 traffic volume forecast projections and an evaluation of the project impacts associated with the two (2) improvement variants.

Cumulative (General Plan 2030) Traffic Volumes

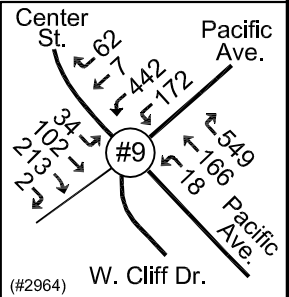
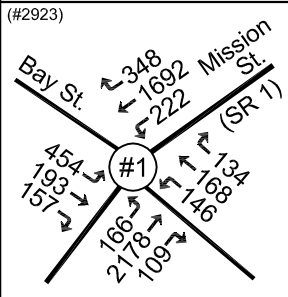
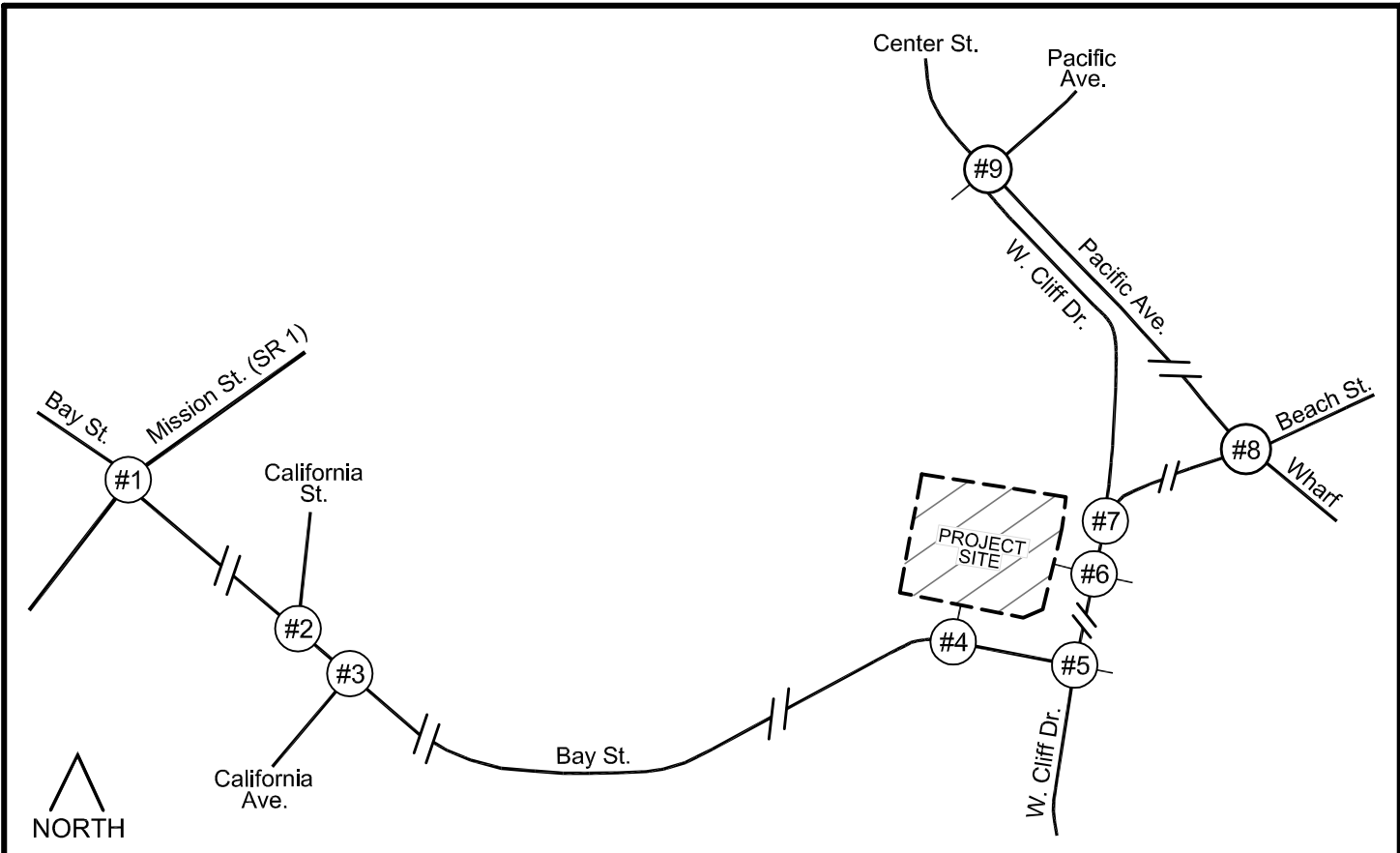
The General Plan 2030 buildout traffic projections were developed in 2010 (weekday PM peak hour). Discussions with City staff indicated that the General Plan 2030 buildout traffic projections did not include any vehicle trips associated with the development of the project site. Therefore, the project "primary" trips (weekday PM peak hour volumes on Figure 3B) were added to the base-line volumes for the General Plan 2030 buildout scenario. The Total Cumulative Traffic Volumes reflective of the General Plan 2030 buildout conditions plus the project are illustrated on Figures 5A (Variant No.1) and 5B (Variant No. 2).

Planned Transportation Improvements

The City of Santa Cruz and Santa Cruz County Regional Transportation Commission (SCCRTC) Regional Transportation Plan have identified the improvements to the transportation system to address future deficiencies and accommodate long range growth. These improvements are generally funded through the City's TIF Program, gas tax funds and transportation grants, and commonly programmed as part of the City's CIP. The City's TIF Program and CIP include future improvements at the following study intersections:

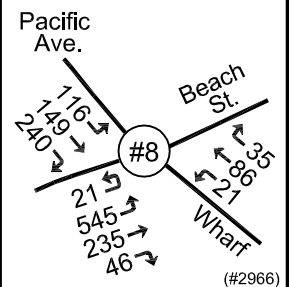
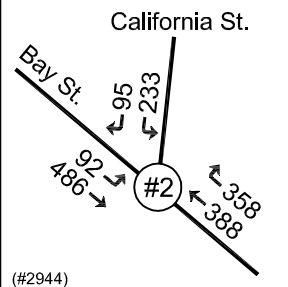
Mission Street (SR 1) / Bay Street
 Bay Street / California Street
 Bay Street / California Avenue
 W. Cliff Drive / Bay Street

Future improvements at the Mission Street (SR 1) / Bay Street intersection identified in the City's General Plan 2030 EIR include adding an exclusive right turn lane on both Mission Street (SR 1) approaches, adding a second left turn lane and an exclusive right turn lane on the eastbound approach of Bay Street; and adding a right turn lane on the westbound approach of Bay Street (also converting the existing shared through-right lane to a through lane). The future improvements at the California Street and California Avenue intersections are not clearly stated in the General Plan 2030 EIR but will likely include traffic signal control. The traffic volumes indicates that peak hour demands will exceed the minimum MUTCD signal warrant criteria. Therefore, it was deemed reasonable to analyze these intersections using traffic signal control. The traffic signal control at the California Street and California Avenue intersections would be interconnected and

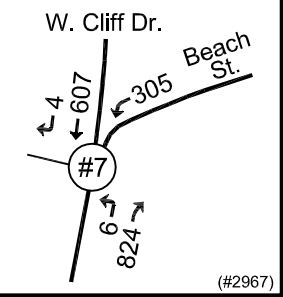
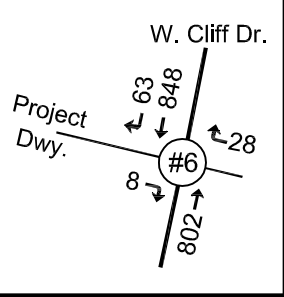
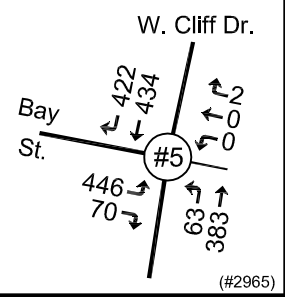
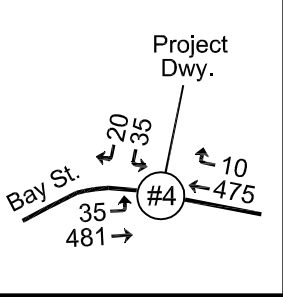


LEGEND

← 00 = PM Peak Hour Volume



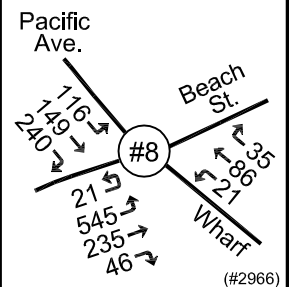
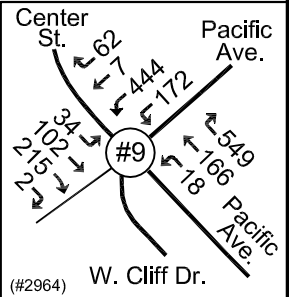
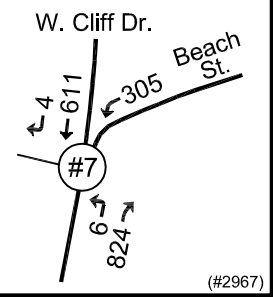
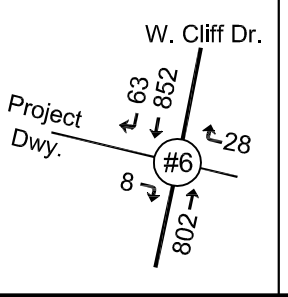
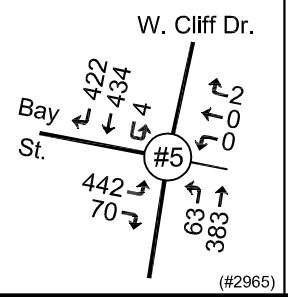
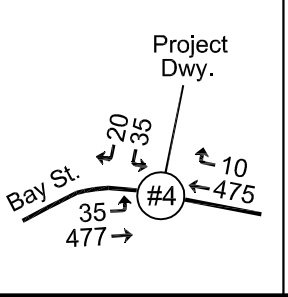
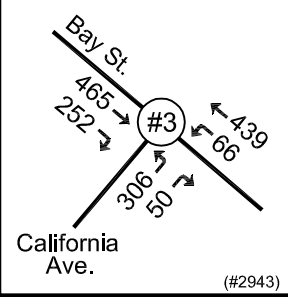
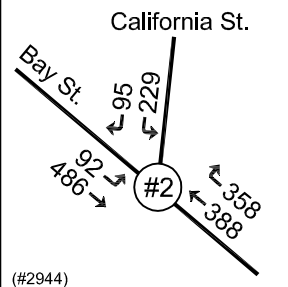
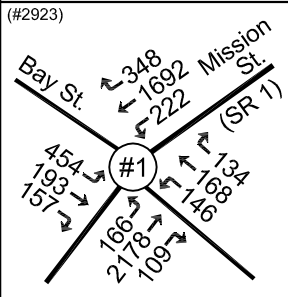
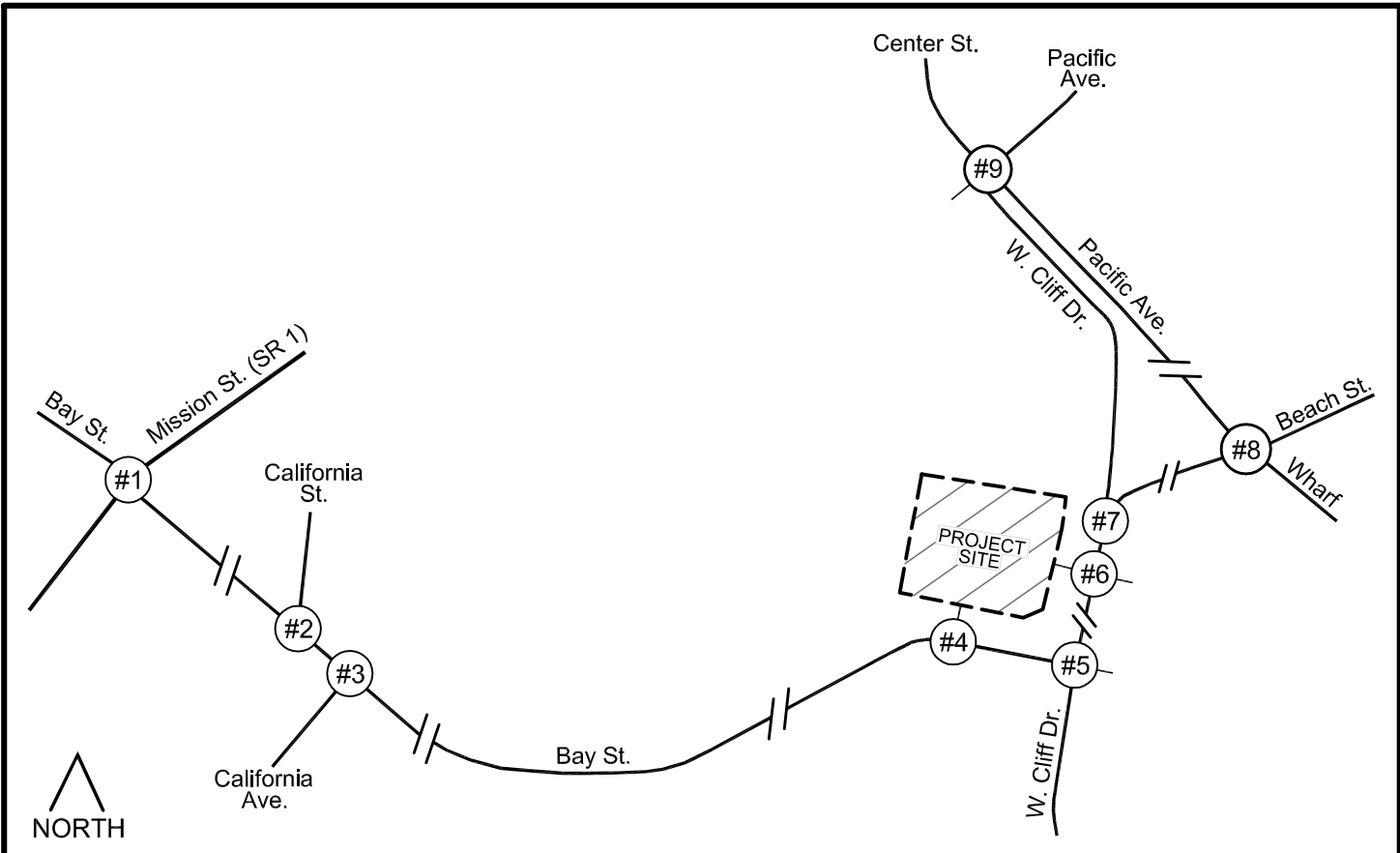
- Improvement Variant No. 1 -
(Signal at Bay St. / W. Cliff Dr.)



PINNACLE
TRAFFIC
ENGINEERING

190 W. Cliff Dr. Mixed Use
- Traffic Impact Analysis -

FIGURE 5A
TOTAL CUMULATIVE
(GP 2030 BUILDOUT)
TRAFFIC VOLUMES



LEGEND

← 00 = PM Peak Hour Volume

**- Improvement Variant No. 2 -
(Mini-Roundabout at Bay St. / W. Cliff Dr.)**

**PINNACLE
TRAFFIC
ENGINEERING**

**190 W. Cliff Dr. Mixed Use
- Traffic Impact Analysis -**

**FIGURE 5B
TOTAL CUMULATIVE
(GP 2030 BUILDOUT)
TRAFFIC VOLUMES**

synchronized. The installation of traffic signal control at these intersections may necessitate additional improvements (e.g. left turn lanes on Bay Street). However, the cumulative analysis was conducted assuming the existing lane configurations. As previously described, the installation of a traffic signal or a mini-roundabout at the W. Cliff Drive / Bay Street intersection is proposed as part of the project (Variant No. 1 and No. 2).

Level of Service Analysis

Similar to the exercise performed for the existing plus project scenario (Variants No. 1 and 2), the project and cumulative volumes reflect the egress (outbound) left turn restrictions on W. Cliff Drive and modified valet service circulation. The total cumulative traffic volumes associated with project improvement Variant No. 1 and No. 2 were evaluated using the Synchro 9 and HCS7 software. The results of the cumulative (General Plan 2030) intersection LOS analysis are presented in Table 8. The existing LOS analysis data is also provided in Table 8 for comparison purposes. Copies of the LOS worksheets are included in Appendix B.

Table 8 - Total Cumulative (General Plan 2030) Intersection LOS Analysis

Study Intersection	Vehicle Delay - LOS Value (a)		
	Existing	Total Cumulative (a)	
		Variant No. 1	Variant No. 2
Mission St. (SR 1) / Bay St.	36.7 - D	>80 - F	>80 - F
Bay St. / California St. (b)	8.7 - A (36.6 - E)	20.8 - C	20.8 - C
Bay St. / California Ave. (b)	15.5 - C	14.0 - B	14.0 - B
W. Cliff Dr. / Bay St.	38.0 - E	19.0 - B	9.5 - A
W. Cliff Dr. / Beach St.	0.3 - A (9.8 - A)	0.3 - A (10.3 - A)	0.3 - A (10.3 - B)
Pacific Ave. / Beach St.	5.5 - A	6.5 - A	6.5 - A
Pacific Ave. / Center St.	7.9 - A	10.4 - B	10.5 - B

- (a) Highest stop sign controlled approach delay reported in parenthesis
- (b) Analysis with project traffic signal improvements

The data in Table 8 indicates that average delays at the study intersections will be within acceptable limits (LOS D or better) under each total cumulative scenario, except at the Mission Street (SR 1) / Bay Street intersection. The Mission Street (SR 1) / Bay Street intersection will experience delays in the LOS F range. The City’s General Plan 2030 EIR acknowledges that future LOS at this intersection will remain at unacceptable levels, and therefore, the General Plan includes a policy that considers a lower LOS is acceptable at major regional intersections. A copy of the project percent contribution spreadsheets are included in Appendix D.

As previously stated, improvements associated with Variant No. 1 (signal alternative) and Variant No. 2 (mini-roundabout alternative) will modify the existing and cumulative base-line traffic volumes due to the various turning movement restrictions along W. Cliff Drive. The modified base-line volumes will increase existing and future demands at the W. Cliff Drive / Bay Street intersection. The turn movement restrictions will also increase the project traffic demands at this intersection. The project trips will comprise less than 3% of the “total cumulative (GP 2030)” weekday PM peak hour traffic volumes at the W. Cliff Drive / Bay Street intersection. The project trips also comprised less than 1% of the total cumulative (GP 2030) weekday PM peak hour traffic volumes at the Mission Street (SR 1) / Bay Street intersection.

Payment of the City’s TIF helps offset any potential long-term impacts related to local development projects. Therefore, payment of the TIF serves as the project’s “fair-share” contribution towards the funding of future infrastructure improvements necessary to maintain and/or achieve acceptable traffic operations.

Supplemental Microsimulation Modeling

City staff requested that the project applicant retain an expert to develop microsimulation models for the two (2) proposed intersection control alternatives (Variant No. 1 and No. 2). The additional analyses was conducted by MSA (Ourston) and the main purpose was to enhance the Project TIA’s otherwise “static” operational analyses with visualization of several alternatives for comparison. In order to account for the vehicular, pedestrian and bicycle traffic interactions the alternatives were modeled using the VISSIM microsimulation software. The VISSIM modeling and operational analysis was performed using the cumulative turning movement forecasts developed for the Saturday MD peak hour.

VISSIM Simulation Qualitative Analysis

Both alternatives (Variant No. 1 and Variant No. 2) were analyzed using the VISSIM 9.00-13 microsimulation software for the Saturday MD peak hour, which includes anticipated increases in vehicular, pedestrian and bicycle volumes generated by future background traffic growth and the project. The Saturday MD peak hour was determined to have the highest volumes of all modes of travel and should be considered the worst-case scenario for the W. Cliff Drive corridor. VISSIM microsimulation can account for lane changes, platoon effects, and variable arrival patterns and their impact to local access points and vehicles in neighboring lanes. VISSIM operates based on a time step, behavior-based stochastic model. Random seeds (varying traffic profiles) work with probabilistic inputs and the VISSIM driver/vehicle behavior model to generate each simulation.

Videos from the VISSIM simulation model are included with the “Intersection Planning Review and VISSIM Simulation” memorandum prepared by MSA (Ourston). The videos were produced at 2x speeds to help demonstrate a more complete visual depiction of the network operations within a two minute video. The qualitative discussion points developed by MSA (Ourston) are provided in Section 6.0 (Conclusions and Recommendations).

Second Mini-Roundabout at W. Cliff Drive and Beach Street

During the initial process of developing a mini-roundabout alternative for the W. Cliff Drive / Bay Street intersection, City staff discussed the possibility of having a second mini-roundabout at the W. Cliff Drive / Beach Street intersection. At the request of City staff, MSA (Ourston) investigated the possibility of placing a second mini-roundabout at this location and determined that it was neither useful for operations of the corridor nor feasible. The intersection is currently operating under free flow conditions with the only delay occurring for vehicles crossing Beach Street from W. Cliff Drive and heading north, which is minimal. Converting the intersection to a mini-roundabout would only increase the delay for vehicles through the corridor and particularly at this intersection. In addition, this intersection is less than ideal to install a mini-roundabout due to the low angles where W. Cliff Drive and Beach Street intersect and the steep grade on Beach Street going toward the Santa Cruz Wharf. These constraints would likely cause operational issues, sight distance issues for vehicles and pedestrians and may cause rollover crashes for trucks.

Santa Cruz Wharf Master Plan

Information in the Mitigated Negative Declaration / Initial study indicates that the implementation of the Wharf Master Plan would generate approximately 95 new vehicle trips during the weekday PM peak hour (57 entering and 38 exiting). The document also states that the additional trips at the Pacific Avenue / Beach Street intersection (roundabout) would result in maintaining acceptable peak hour LOS operations and the roundabout has sufficient reserve capacity to accommodate the growth potential of the Wharf Master Plan.

To evaluate the potential impact of the Wharf Master Plan on the cumulative (GP 2030) scenario evaluated in this TIA, the 95 additional PM peak hour trips were added to the Total Cumulative (GP 2030 Buildout) traffic volumes on Figures 5A and 5B. The Pacific Avenue / Beach Street intersection was again evaluated using the HCS7 software. The LOS analysis demonstrates that average vehicle delays would be 6.9 seconds per vehicle (LOS A), which is a slight increase over the 6.5 seconds per vehicle reported in Table 8 for the total cumulative scenario (City's GP 2030 Buildout plus the project traffic).

6.0 CONCLUSIONS AND RECOMMENDATIONS

As the analysis demonstrates, with implementation of any of the two (2) project variants the study intersections along W. Cliff Drive are expected to operate at an acceptable “level of service” (LOS). Traffic flows at the key intersection of W. Cliff Drive / Bay Street are expected to operate at LOS A-B, which is an improvement relative to existing conditions that operates at LOS E during the weekday PM peak hour. The project would also not contribute more than 3% to existing weekday PM peak hour traffic at this intersection, and therefore, would be considered to have a “less than significant” impact under the City’s thresholds of significance and the CEQA.

The City’s Public Works Department also requested that MSA (Ourston) provide a qualitative evaluation of the “pros” and “cons” of traffic signal control (Variant No.1) versus a mini-roundabout (Variant No. 2).

Pros and Cons of Alternative Intersection Controls along W. Cliff Drive, MSA (Ourston)

The MSA (Ourston) findings suggest that each alternative carries costs and benefits, with the traffic signal alternative (Variant No. 1) providing better intersection performance, longer waits for pedestrians and bicyclists, and with slightly longer delays for vehicles during peak periods. The mini-roundabout alternative (Variant No. 2) provides improved corridor performance during non-peak periods and less delay during peak periods as compared with traffic signal control. Variant No. 2 also provides less delay for bikes and pedestrians and slower vehicular speeds through the intersection, which is desirable in this corridor context.

Variant No. 1: Traffic Signal at W. Cliff Dr. / Bay St. and RRFB at Mid-Block Crosswalk

Pros:

- Faster service for pedestrians using a RRFB - pedestrians don’t have to wait for a walk signal that requires nearby signal coordination
- Bicycle lanes are preserved (southbound W. Cliff Drive) and bicyclists will experience a greater sense of safety than at the mini-roundabout
- Fits within existing public right-of-way (ROW) - no impact to the project site footprint
- A positive exchange of ROW assignment for pedestrians at the Bay Street traffic signal gives greater security to pedestrians - a pedestrian’s perception of safety and clarity will be greater than at the mini-roundabout
- Pedestrian delay at the midblock crossing is comparable to the mini-roundabout alternative with the RRFB

Cons:

- Delay along eastbound Bay Street results in long queues
- Perpetuates existing weaving condition on southbound W. Cliff Drive, which creates vehicle conflicts in the mid-block between the mid-block RRFB and signal at Bay Street
- At times pedestrians can dominate the flow of traffic at the RRFB location and the signal, which may result in poor operations along the corridor

- A RRFB system at the mid-block crosswalk, causes inefficiencies at the Bay Street signal due to the random arrival of pedestrians at the crosswalk, which can affect W. Cliff Drive traffic when the Bay Street signal green is available
- Pedestrian delay may be higher than the mini-roundabout
- Vehicular speeds through the intersection may be higher

Variant No. 2: Mini-Roundabout at W. Cliff Dr. / Bay St. and RRFB at Mid-Block Crosswalk

Pros:

- Use of the RRFB at the midblock crosswalk gives priority to pedestrians and bikes crossing the roadway
- Pedestrians are given higher priority at all times
- Continuous flow between all modes of traffic results in better overall corridor capacity
- Speeds are lower through the corridor, owing to the crosswalks and the mini-roundabout
- Off peak operations of the mini-roundabout are generally more efficient than a traffic signal (e.g. more traffic responsive)

Cons:

- Bicycle lanes are provided on the approaches to a mini-roundabout. They should be terminated to alert motorists and bicyclists of the need for bicyclists to merge and share the travel lanes
- Perpetuates existing weaving condition on southbound W Cliff Dr, which creates vehicle conflicts in the mid- block between the RRFB and Bay Street
- At times pedestrians can dominate the flow of traffic at the RRFB location and the mini-roundabout, which may result in poor operations along the corridor
- Pedestrians and bicyclists may feel uncomfortable with the fluid operations of the mini-roundabout, which may result in hesitation to cross (raised crosswalks or speed tables are strongly recommended)
- ROW required from the project site

MSA (Ourston) Conclusions

1. It is evident from the VISSIM simulations that the W. Cliff Drive corridor, for either Variant No. 1 or 2, there will be times of queuing and delay on either one or multiple approaches along the corridor. This is the result of future growth in background traffic and the relatively close spacing of facilities in the corridor, including roadway intersections, driveway accesses, and pedestrian and bicycle crossings, all of which occur in a short distance.
2. The mini-roundabout alternative at Bay Street (Variant No. 2) has demonstrated that it has slightly improved overall corridor performance for vehicles, but some approaches may suffer from times of excess delay or pedestrian / bicycle demands. Without traffic signals to ‘meter’ pedestrian flow at the mid-block crossing, the high pedestrian volumes, at times, may dominate the flow of traffic at the RRFB and the mini-roundabout.

3. Choice of traffic control for a low speed pedestrian dominated environment must account for the demand of pedestrian flow and the expectations of pedestrians over the exchange of right-to-way (ROW) between vehicles and pedestrians. A positive exchange of ROW (Walk/Don't Walk signals) generates more certainty of the ability to cross. Accessibility of mobility challenged and visually impaired pedestrians depends on audible queues, the ability to stop vehicular traffic conditions and reasonable expectation of a gap in traffic. A traffic signal provides more certainty versus a mini-roundabout, despite its attractiveness in terms of overall operations.
4. Without additional traffic control devices to accommodate pedestrian crossings, such as raised crosswalks pedestrian and bicycle traffic at the mini-roundabout intersection will not be afforded the same level of safety as a conventional roundabout due to the absence of geometric speed control on the Variant No. 2 mini-roundabout. Roundabouts by design are intended to slow traffic as it approaches and crosses the intersection. Speed reduction relies on effective geometry, which is dependent on the size and shape of the roundabout. The design proposed is not as effective at speed control as a larger roundabout but is still slower by comparison to a traffic signal (except when the lights are red). There is not sufficient space to introduce geometric speed control here as at conventional roundabouts.
5. In terms of overall performance for all users, the signal system gives more certainty to all its users, though has more delay than the mini-roundabout variant; users will experience a greater perception of safety and certainly of crossing the intersection.
6. For bicyclists and pedestrians, signal control provides a perception of certainty of crossing accommodation including for disabled and visually impaired. Pedestrians feel less safe at roundabouts despite the opposite statistics.
7. Modeling of the future operations as a network showed that the Wharf roundabout would not suffer operationally in either of the Variants No. 1 or 2.

END

Appendix A

- Intersection Traffic Count Data (April 2017, August 2017 and November 2018)
- Summary and Comparison of Intersection Traffic Count Data
- Roadway Traffic Count Data (April 2017 and August 2017)
- Summary and Comparison of Roadway Traffic Count Data
- Bicycle Traffic Count Data (April 2017 and August 2017)
- Pedestrian Traffic Count Data (April 2017 and August 2017)

National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-001 Bay St & Mission St
 Date : 4/13/2017

Unshifted Count = All Vehicles & Uturns

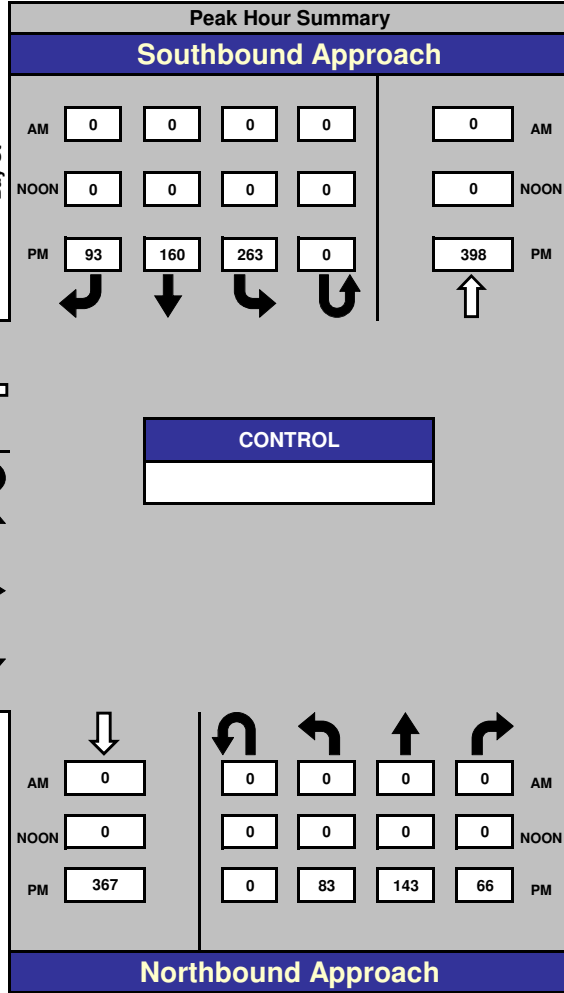
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	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	41	28	15	0	84	33	238	38	0	309	19	26	22	0	67	14	214	20	0	248	708	0
16:15	59	33	32	0	124	36	235	29	0	300	24	26	13	0	63	29	204	17	0	250	737	0
16:30	51	38	26	0	115	25	244	41	0	310	20	41	11	0	72	16	255	18	0	289	786	0
16:45	68	31	14	0	113	32	244	42	0	318	23	32	12	0	67	33	249	26	0	308	806	0
Total	219	130	87	0	436	126	961	150	0	1237	86	125	58	0	269	92	922	81	0	1095	3037	0
17:00	75	40	22	0	137	37	239	49	0	325	19	40	25	0	84	17	225	14	0	256	802	0
17:15	69	51	31	0	151	40	205	35	0	280	21	30	18	0	69	22	252	15	0	289	789	0
17:30	53	44	28	0	125	43	239	35	0	317	31	28	18	0	77	24	210	23	0	257	776	0
17:45	66	46	20	0	132	37	240	41	0	318	27	25	24	0	76	22	200	13	0	235	761	0
Total	263	181	101	0	545	157	923	160	0	1240	98	123	85	0	306	85	887	65	0	1037	3128	0
Grand Total	482	311	188	0	981	283	1884	310	0	2477	184	248	143	0	575	177	1809	146	0	2132	6165	0
Apprch %	49.1%	31.7%	19.2%	0.0%		11.4%	76.1%	12.5%	0.0%		32.0%	43.1%	24.9%	0.0%		8.3%	84.8%	6.8%	0.0%			
Total %	7.8%	5.0%	3.0%	0.0%	15.9%	4.6%	30.6%	5.0%	0.0%	40.2%	3.0%	4.0%	2.3%	0.0%	9.3%	2.9%	29.3%	2.4%	0.0%	34.6%	100.0%	

PM PEAK HOUR	Bay St Southbound					Mission St Westbound					Bay St Northbound					Mission St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	51	38	26	0	115	25	244	41	0	310	20	41	11	0	72	16	255	18	0	289	786
16:45	68	31	14	0	113	32	244	42	0	318	23	32	12	0	67	33	249	26	0	308	806
17:00	75	40	22	0	137	37	239	49	0	325	19	40	25	0	84	17	225	14	0	256	802
17:15	69	51	31	0	151	40	205	35	0	280	21	30	18	0	69	22	252	15	0	289	789
Total Volume	263	160	93	0	516	134	932	167	0	1233	83	143	66	0	292	88	981	73	0	1142	3183
% App Total	51.0%	31.0%	18.0%	0.0%		10.9%	75.6%	13.5%	0.0%		28.4%	49.0%	22.6%	0.0%		7.7%	85.9%	6.4%	0.0%		
PHF	.877	.784	.750	.000	.854	.838	.955	.852	.000	.948	.902	.872	.660	.000	.869	.667	.962	.702	.000	.927	.987

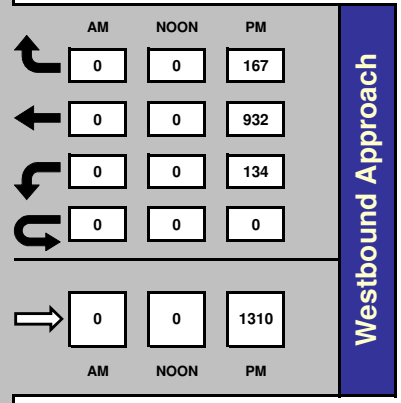
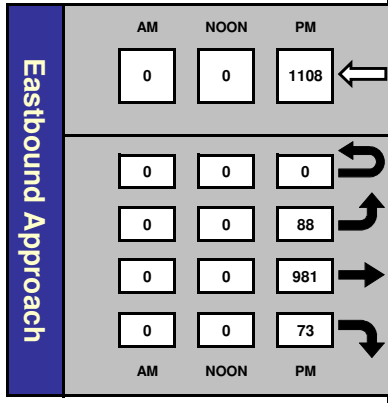
Bay St & Mission St

Date: 4/13/2017
Day: Thursday

Project #: 17-7270-001

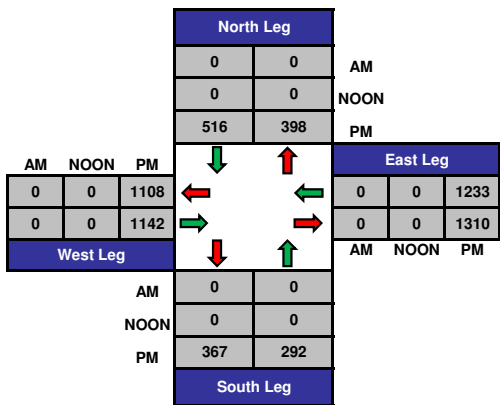


AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	16:30 - 17:30

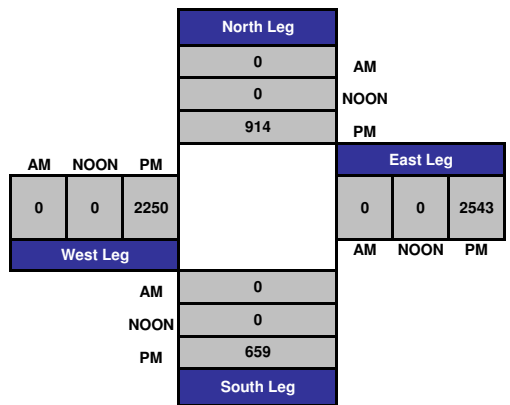


Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-001 Bay St & Mission St
 Date : 4/18/2017

Unshifted Count = All Vehicles & Uturns

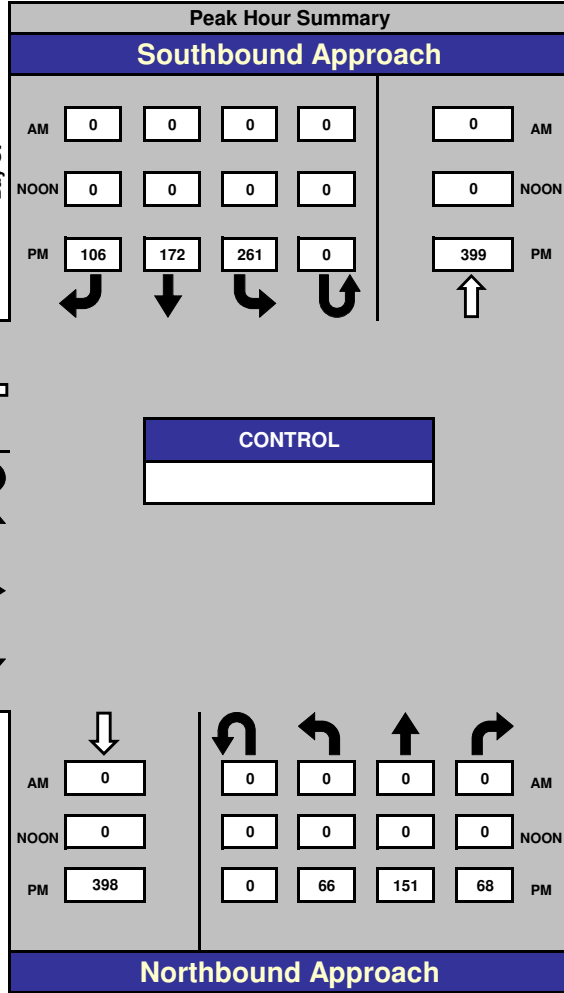
START TIME	Bay St Southbound					Mission St Westbound					Bay St Northbound					Mission St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	45	27	20	0	92	37	244	29	0	310	19	23	25	0	67	17	208	14	0	239	708	0
16:15	57	36	22	0	115	32	235	29	0	296	17	30	24	0	71	21	189	11	0	221	703	0
16:30	48	39	18	0	105	37	271	35	0	343	17	35	19	0	71	20	268	14	0	302	821	0
16:45	61	36	18	0	115	31	231	40	0	302	19	43	16	0	78	28	234	20	0	282	777	0
Total	211	138	78	0	427	137	981	133	0	1251	72	131	84	0	287	86	899	59	0	1044	3009	0
17:00	68	38	34	0	140	41	248	45	0	334	15	39	15	0	69	26	216	20	0	262	805	0
17:15	84	59	36	0	179	51	239	40	0	330	15	34	18	0	67	14	214	12	0	240	816	0
17:30	67	31	27	0	125	42	230	31	0	303	22	30	21	0	73	28	213	20	0	261	762	0
17:45	68	42	26	0	136	43	211	27	0	281	17	29	15	0	61	22	169	11	0	202	680	0
Total	287	170	123	0	580	177	928	143	0	1248	69	132	69	0	270	90	812	63	0	965	3063	0
Grand Total	498	308	201	0	1007	314	1909	276	0	2499	141	263	153	0	557	176	1711	122	0	2009	6072	0
Apprch %	49.5%	30.6%	20.0%	0.0%		12.6%	76.4%	11.0%	0.0%		25.3%	47.2%	27.5%	0.0%		8.8%	85.2%	6.1%	0.0%			
Total %	8.2%	5.1%	3.3%	0.0%	16.6%	5.2%	31.4%	4.5%	0.0%	41.2%	2.3%	4.3%	2.5%	0.0%	9.2%	2.9%	28.2%	2.0%	0.0%	33.1%	100.0%	

PM PEAK HOUR	Bay St Southbound					Mission St Westbound					Bay St Northbound					Mission St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	48	39	18	0	105	37	271	35	0	343	17	35	19	0	71	20	268	14	0	302	821
16:45	61	36	18	0	115	31	231	40	0	302	19	43	16	0	78	28	234	20	0	282	777
17:00	68	38	34	0	140	41	248	45	0	334	15	39	15	0	69	26	216	20	0	262	805
17:15	84	59	36	0	179	51	239	40	0	330	15	34	18	0	67	14	214	12	0	240	816
Total Volume	261	172	106	0	539	160	989	160	0	1309	66	151	68	0	285	88	932	66	0	1086	3219
% App Total	48.4%	31.9%	19.7%	0.0%		12.2%	75.6%	12.2%	0.0%		23.2%	53.0%	23.9%	0.0%		8.1%	85.8%	6.1%	0.0%		
PHF	.777	.729	.736	.000	.753	.784	.912	.889	.000	.954	.868	.878	.895	.000	.913	.786	.869	.825	.000	.899	.980

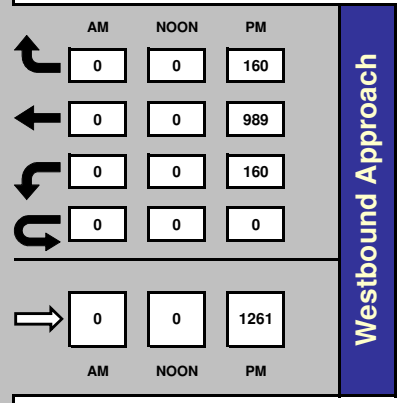
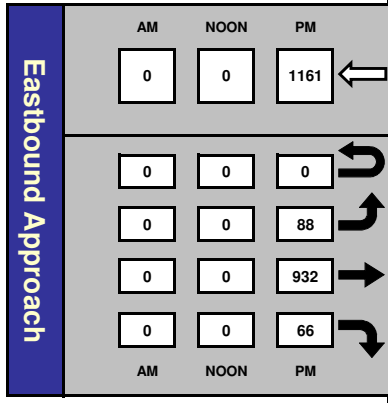
Bay St & Mission St

Date: 4/18/2017
Day: Tuesday

Project #: 17-7270-001

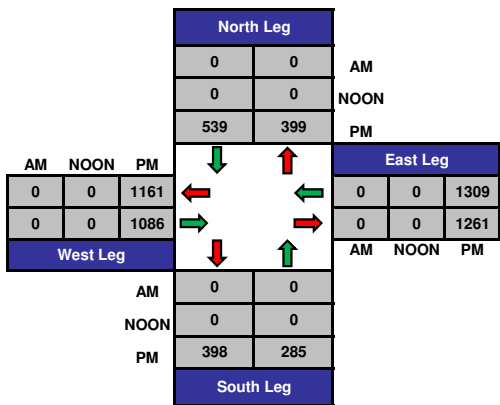


AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	16:30 - 17:30

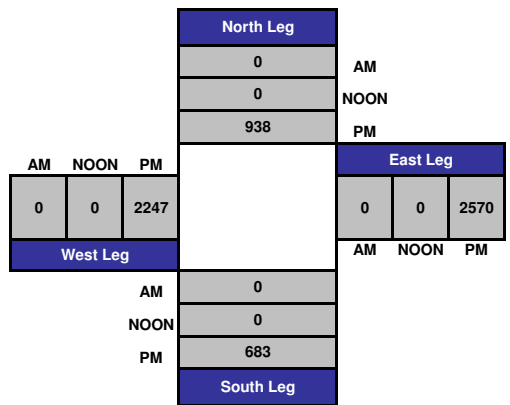


Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-001 Bay St & Mission St
 Date : 4/15/2017

Unshifted Count = All Vehicles & Uturns

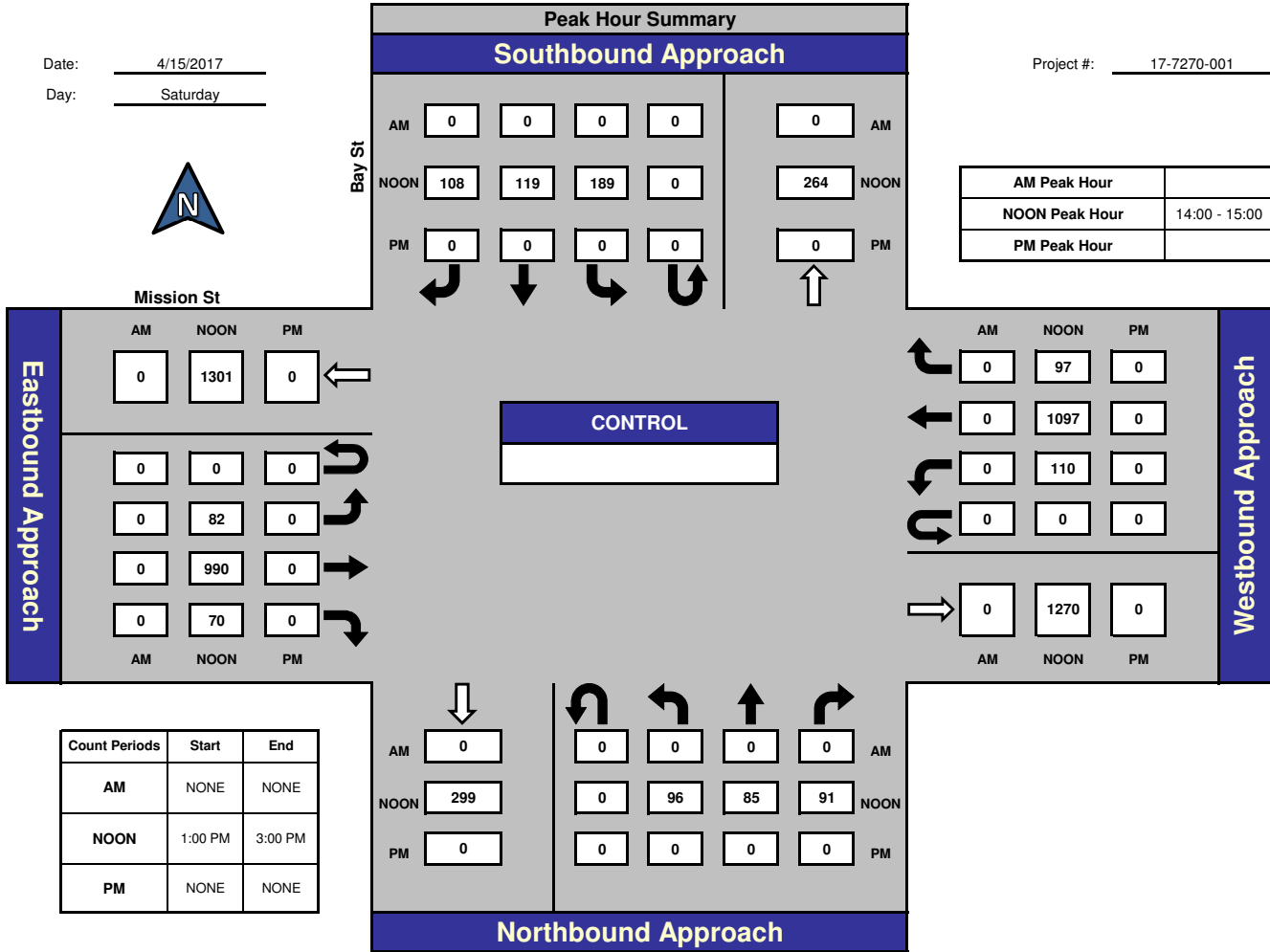
START TIME	Bay St Southbound					Mission St Westbound					Bay St Northbound					Mission St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	62	17	28	0	107	35	247	31	0	313	24	33	16	0	73	23	241	22	0	286	779	0
13:15	63	30	32	0	125	19	213	30	0	262	21	20	31	0	72	28	243	23	0	294	753	0
13:30	50	20	28	0	98	29	235	28	0	292	35	21	20	0	76	22	235	17	0	274	740	0
13:45	47	33	28	0	108	20	273	20	0	313	33	17	27	0	77	15	264	13	0	292	790	0
Total	222	100	116	0	438	103	968	109	0	1180	113	91	94	0	298	88	983	75	0	1146	3062	0
14:00	39	20	31	0	90	25	290	25	0	340	27	19	29	0	75	23	255	22	0	300	805	0
14:15	57	31	29	0	117	35	263	31	0	329	25	27	16	0	68	25	221	14	0	260	774	0
14:30	43	31	31	0	105	27	265	21	0	313	24	22	21	0	67	20	245	13	0	278	763	0
14:45	50	37	17	0	104	23	279	20	0	322	20	17	25	0	62	14	269	21	0	304	792	0
Total	189	119	108	0	416	110	1097	97	0	1304	96	85	91	0	272	82	990	70	0	1142	3134	0
Grand Total	411	219	224	0	854	213	2065	206	0	2484	209	176	185	0	570	170	1973	145	0	2288	6196	0
Apprch %	48.1%	25.6%	26.2%	0.0%		8.6%	83.1%	8.3%	0.0%		36.7%	30.9%	32.5%	0.0%		7.4%	86.2%	6.3%	0.0%			
Total %	6.6%	3.5%	3.6%	0.0%	13.8%	3.4%	33.3%	3.3%	0.0%	40.1%	3.4%	2.8%	3.0%	0.0%	9.2%	2.7%	31.8%	2.3%	0.0%	36.9%	100.0%	

NOON PEAK	Bay St Southbound					Mission St Westbound					Bay St Northbound					Mission St Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 14:00 to 15:00																						
Peak Hour For Entire Intersection Begins at 14:00																						
14:00	39	20	31	0	90	25	290	25	0	340	27	19	29	0	75	23	255	22	0	300	805	
14:15	57	31	29	0	117	35	263	31	0	329	25	27	16	0	68	25	221	14	0	260	774	
14:30	43	31	31	0	105	27	265	21	0	313	24	22	21	0	67	20	245	13	0	278	763	
14:45	50	37	17	0	104	23	279	20	0	322	20	17	25	0	62	14	269	21	0	304	792	
Total Volume	189	119	108	0	416	110	1097	97	0	1304	96	85	91	0	272	82	990	70	0	1142	3134	
% App Total	45.4%	28.6%	26.0%	0.0%		8.4%	84.1%	7.4%	0.0%		35.3%	31.3%	33.5%	0.0%		7.2%	86.7%	6.1%	0.0%			
PHF	.829	.804	.871	.000	.889	.786	.946	.782	.000	.959	.889	.787	.784	.000	.907	.820	.920	.795	.000	.939	.973	

Bay St & Mission St

Date: 4/15/2017
Day: Saturday

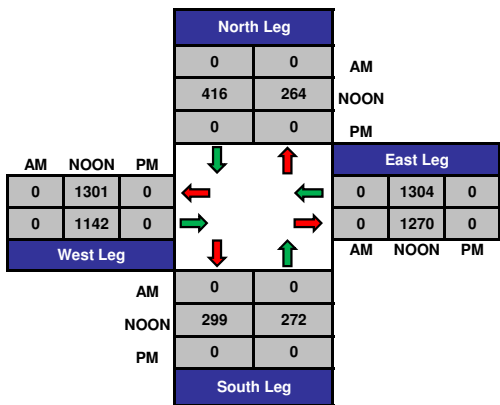
Project #: 17-7270-001



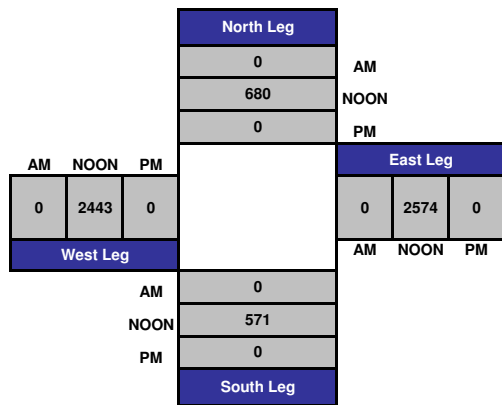
AM Peak Hour	
NOON Peak Hour	14:00 - 15:00
PM Peak Hour	

Count Periods	Start	End
AM	NONE	NONE
NOON	1:00 PM	3:00 PM
PM	NONE	NONE

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-003 Bay St & California St
 Date : 4/18/2017

Unshifted Count = All Vehicles & Uturns

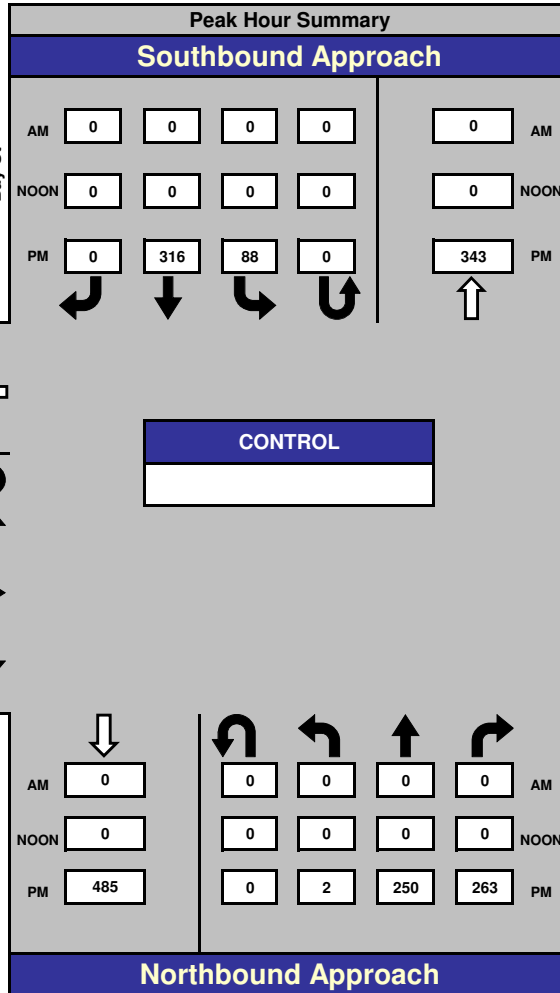
START TIME	Bay St Southbound					California St Westbound					Bay St Northbound					California St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	12	73	0	0	85	31	1	8	0	40	0	51	58	0	109	0	0	2	0	2	236	0
16:15	9	77	0	0	86	31	0	19	0	50	0	54	71	0	125	0	0	0	0	0	261	0
16:30	30	70	0	0	100	37	0	16	0	53	1	66	67	0	134	0	0	0	0	0	287	0
16:45	27	73	0	0	100	38	0	18	0	56	0	69	69	0	138	0	0	1	0	1	295	0
Total	78	293	0	0	371	137	1	61	0	199	1	240	265	0	506	0	0	3	0	3	1079	0
17:00	14	83	0	0	97	47	0	26	0	73	1	47	55	0	103	0	0	0	0	0	273	0
17:15	17	90	0	0	107	46	0	33	0	79	0	68	72	0	140	0	0	0	0	0	326	0
17:30	26	73	0	0	99	45	0	18	0	63	0	59	66	0	125	0	0	0	0	0	287	0
17:45	20	91	0	0	111	51	0	19	0	70	1	43	62	0	106	0	0	0	0	0	287	0
Total	77	337	0	0	414	189	0	96	0	285	2	217	255	0	474	0	0	0	0	0	1173	0
Grand Total	155	630	0	0	785	326	1	157	0	484	3	457	520	0	980	0	0	3	0	3	2252	0
Apprch %	19.7%	80.3%	0.0%	0.0%		67.4%	0.2%	32.4%	0.0%		0.3%	46.6%	53.1%	0.0%		0.0%	0.0%	100.0%	0.0%			
Total %	6.9%	28.0%	0.0%	0.0%	34.9%	14.5%	0.0%	7.0%	0.0%	21.5%	0.1%	20.3%	23.1%	0.0%	43.5%	0.0%	0.0%	0.1%	0.0%	0.1%	100.0%	

PM PEAK HOUR	Bay St Southbound					California St Westbound					Bay St Northbound					California St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	30	70	0	0	100	37	0	16	0	53	1	66	67	0	134	0	0	0	0	0	287
16:45	27	73	0	0	100	38	0	18	0	56	0	69	69	0	138	0	0	1	0	1	295
17:00	14	83	0	0	97	47	0	26	0	73	1	47	55	0	103	0	0	0	0	0	273
17:15	17	90	0	0	107	46	0	33	0	79	0	68	72	0	140	0	0	0	0	0	326
Total Volume	88	316	0	0	404	168	0	93	0	261	2	250	263	0	515	0	0	1	0	1	1181
% App Total	21.8%	78.2%	0.0%	0.0%		64.4%	0.0%	35.6%	0.0%		0.4%	48.5%	51.1%	0.0%		0.0%	0.0%	100.0%	0.0%		
PHF	.733	.878	.000	.000	.944	.894	.000	.705	.000	.826	.500	.906	.913	.000	.920	.000	.000	.250	.000	.250	.906

Bay St & California St

Date: 4/18/2017
Day: Tuesday

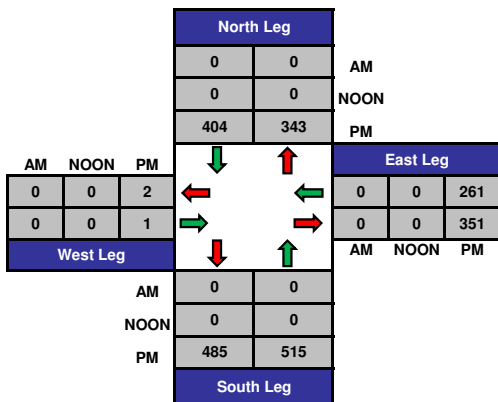
Project #: 17-7270-003



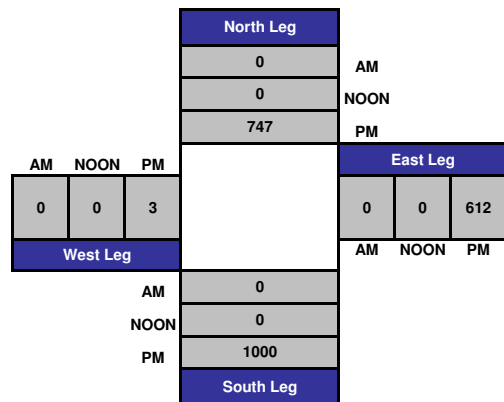
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	16:30 - 17:30

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



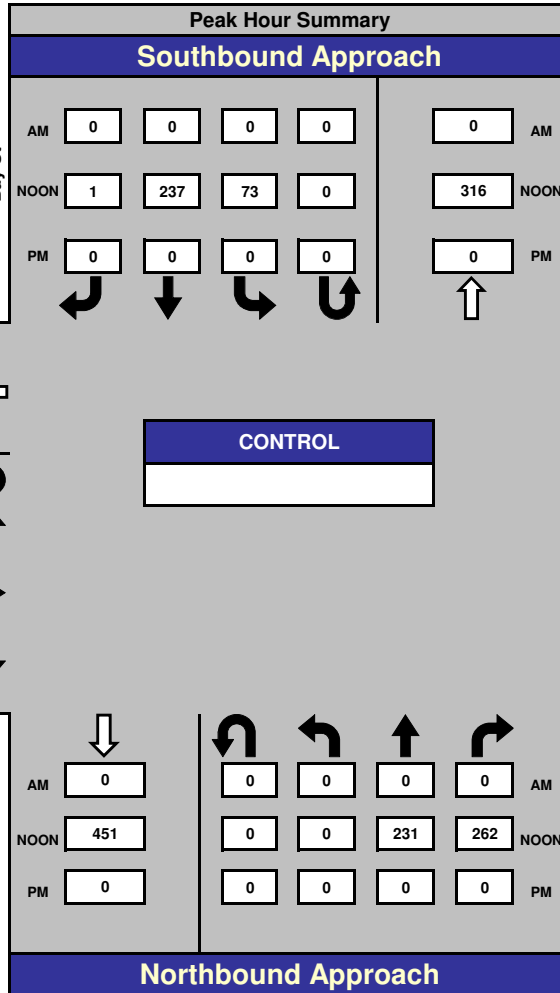
Total Volume Per Leg



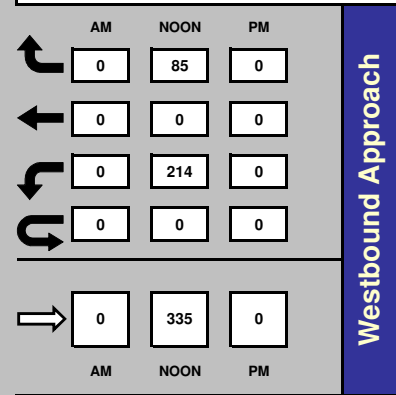
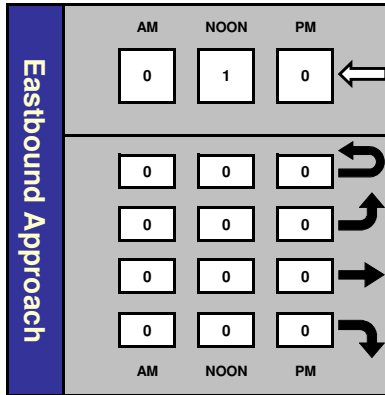
Bay St & California St

Date: 4/15/2017
 Day: Saturday

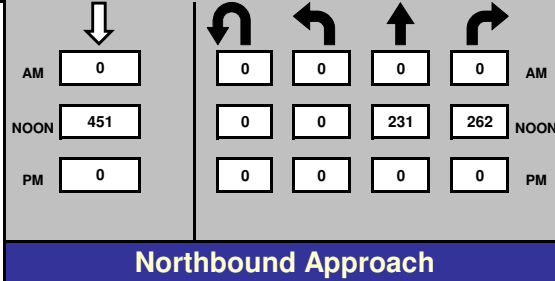
Project #: 17-7270-003



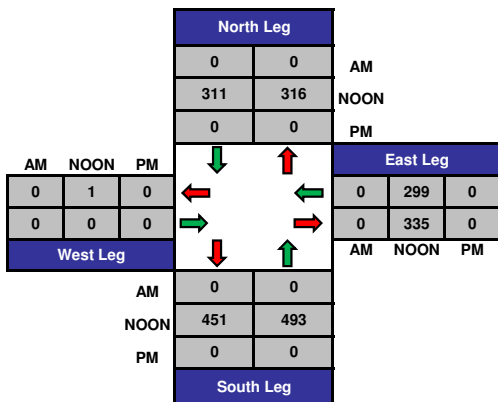
AM Peak Hour	
NOON Peak Hour	13:30 - 14:30
PM Peak Hour	



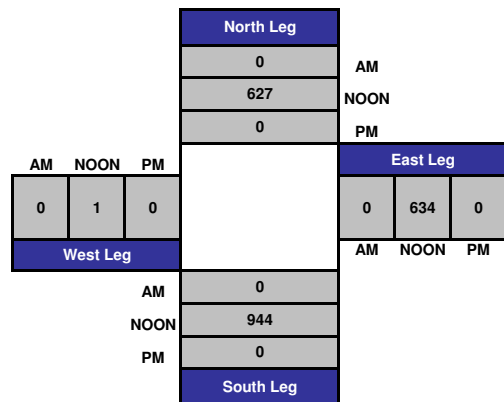
Count Periods	Start	End
AM	NONE	NONE
NOON	1:00 PM	3:00 PM
PM	NONE	NONE



Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-002 Bay St & California Ave
 Date : 4/18/2017

Unshifted Count = All Vehicles & Uturns

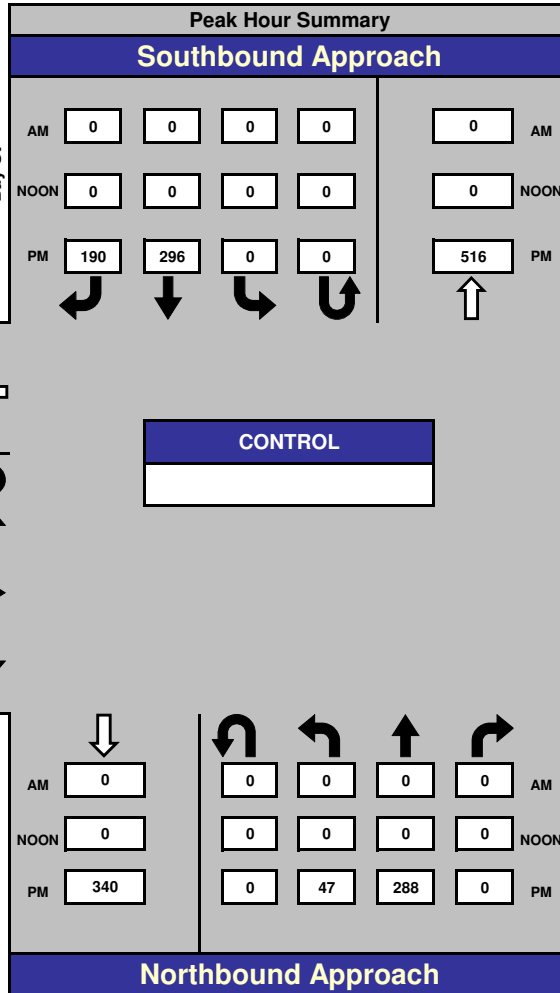
START TIME	Bay St Southbound					California Ave Westbound					Bay St Northbound					California Ave Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	71	37	0	108	0	0	0	0	0	8	72	0	0	80	36	0	4	0	40	228	0
16:15	0	64	39	0	103	0	0	0	0	0	10	77	0	0	87	48	0	11	0	59	249	0
16:30	0	67	44	0	111	0	0	0	0	0	17	74	0	0	91	62	0	11	0	73	275	0
16:45	0	67	47	0	114	0	0	0	0	0	7	77	0	0	84	64	0	11	0	75	273	0
Total	0	269	167	0	436	0	0	0	0	0	42	300	0	0	342	210	0	37	0	247	1025	0
17:00	0	82	44	0	126	0	0	0	0	0	12	54	0	0	66	47	0	13	0	60	252	0
17:15	0	80	55	0	135	0	0	0	0	0	11	83	0	0	94	55	0	9	0	64	293	0
17:30	0	72	49	0	121	0	0	0	0	0	12	74	0	0	86	51	0	11	0	62	269	0
17:45	0	82	54	0	136	0	0	0	0	0	17	58	0	0	75	51	0	8	0	59	270	0
Total	0	316	202	0	518	0	0	0	0	0	52	269	0	0	321	204	0	41	0	245	1084	0
Grand Total	0	585	369	0	954	0	0	0	0	0	94	569	0	0	663	414	0	78	0	492	2109	0
Apprch %	0.0%	61.3%	38.7%	0.0%		0.0%	0.0%	0.0%	0.0%		14.2%	85.8%	0.0%	0.0%		84.1%	0.0%	15.9%	0.0%			
Total %	0.0%	27.7%	17.5%	0.0%	45.2%	0.0%	0.0%	0.0%	0.0%	0.0%	4.5%	27.0%	0.0%	0.0%	31.4%	19.6%	0.0%	3.7%	0.0%	23.3%	100.0%	

PM PEAK HOUR	Bay St Southbound					California Ave Westbound					Bay St Northbound					California Ave Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	67	44	0	111	0	0	0	0	0	17	74	0	0	91	62	0	11	0	73	275
16:45	0	67	47	0	114	0	0	0	0	0	7	77	0	0	84	64	0	11	0	75	273
17:00	0	82	44	0	126	0	0	0	0	0	12	54	0	0	66	47	0	13	0	60	252
17:15	0	80	55	0	135	0	0	0	0	0	11	83	0	0	94	55	0	9	0	64	293
Total Volume	0	296	190	0	486	0	0	0	0	0	47	288	0	0	335	228	0	44	0	272	1093
% App Total	0.0%	60.9%	39.1%	0.0%		0.0%	0.0%	0.0%	0.0%		14.0%	86.0%	0.0%	0.0%		83.8%	0.0%	16.2%	0.0%		
PHF	.000	.902	.864	.000	.900	.000	.000	.000	.000	.000	.691	.867	.000	.000	.891	.891	.000	.846	.000	.907	.933

Bay St & California Ave

Date: 4/18/2017
Day: Tuesday

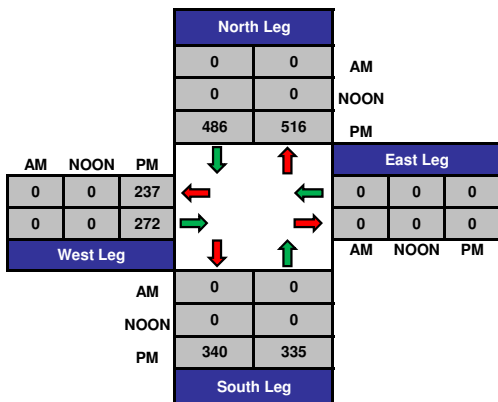
Project #: 17-7270-002



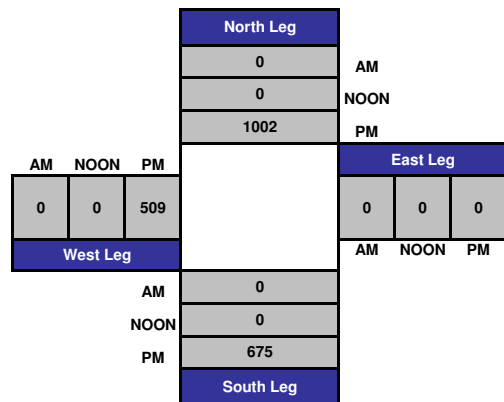
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	16:30 - 17:30

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-002 Bay St & California Ave
 Date : 4/15/2017

Unshifted Count = All Vehicles & Uturns

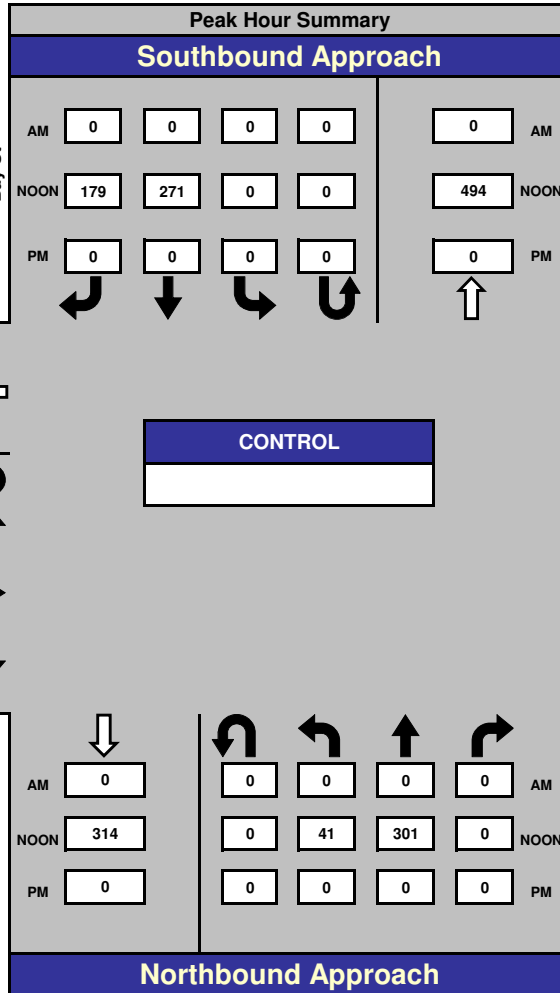
START TIME	Bay St Southbound					California Ave Westbound					Bay St Northbound					California Ave Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	0	64	47	0	111	0	0	0	0	0	11	68	0	0	79	59	0	9	0	68	258	0
13:15	0	63	31	0	94	0	0	0	0	0	14	65	0	0	79	61	0	19	0	80	253	0
13:30	0	59	50	0	109	0	0	0	0	0	8	81	0	0	89	39	0	11	0	50	248	0
13:45	0	70	36	0	106	0	0	0	0	0	13	62	0	0	75	49	0	9	0	58	239	0
Total	0	256	164	0	420	0	0	0	0	0	46	276	0	0	322	208	0	48	0	256	998	0
14:00	0	65	50	0	115	0	0	0	0	0	9	77	0	0	86	46	0	11	0	57	258	0
14:15	0	77	43	0	120	0	0	0	0	0	11	81	0	0	92	59	0	12	0	71	283	0
14:30	0	52	40	0	92	0	0	0	0	0	11	67	0	0	78	42	0	13	0	55	225	0
14:45	1	62	34	1	98	0	0	0	0	0	6	89	0	0	95	46	0	17	0	63	256	1
Total	1	256	167	1	425	0	0	0	0	0	37	314	0	0	351	193	0	53	0	246	1022	1
Grand Total	1	512	331	1	845	0	0	0	0	0	83	590	0	0	673	401	0	101	0	502	2020	1
Apprch %	0.1%	60.6%	39.2%	0.1%		0.0%	0.0%	0.0%	0.0%		12.3%	87.7%	0.0%	0.0%		79.9%	0.0%	20.1%	0.0%			
Total %	0.0%	25.3%	16.4%	0.0%	41.8%	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	29.2%	0.0%	0.0%	33.3%	19.9%	0.0%	5.0%	0.0%	24.9%	100.0%	

NOON PEAK	Bay St Southbound					California Ave Westbound					Bay St Northbound					California Ave Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 13:30 to 14:30																						
Peak Hour For Entire Intersection Begins at 13:30																						
13:30	0	59	50	0	109	0	0	0	0	0	8	81	0	0	89	39	0	11	0	50	248	
13:45	0	70	36	0	106	0	0	0	0	0	13	62	0	0	75	49	0	9	0	58	239	
14:00	0	65	50	0	115	0	0	0	0	0	9	77	0	0	86	46	0	11	0	57	258	
14:15	0	77	43	0	120	0	0	0	0	0	11	81	0	0	92	59	0	12	0	71	283	
Total Volume	0	271	179	0	450	0	0	0	0	0	41	301	0	0	342	193	0	43	0	236	1028	
% App Total	0.0%	60.2%	39.8%	0.0%		0.0%	0.0%	0.0%	0.0%		12.0%	88.0%	0.0%	0.0%		81.8%	0.0%	18.2%	0.0%			
PHF	.000	.880	.895	.000	.938	.000	.000	.000	.000	.000	.788	.929	.000	.000	.929	.818	.000	.896	.000	.831	.908	

Bay St & California Ave

Date: 4/15/2017
Day: Saturday

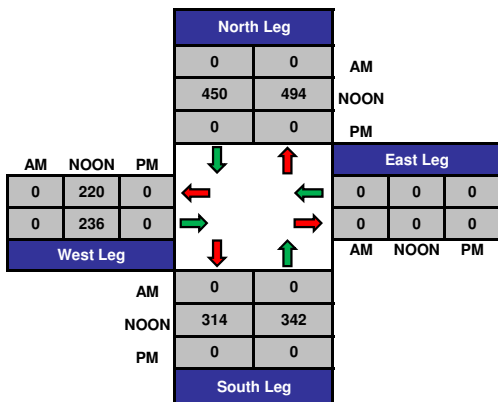
Project #: 17-7270-002



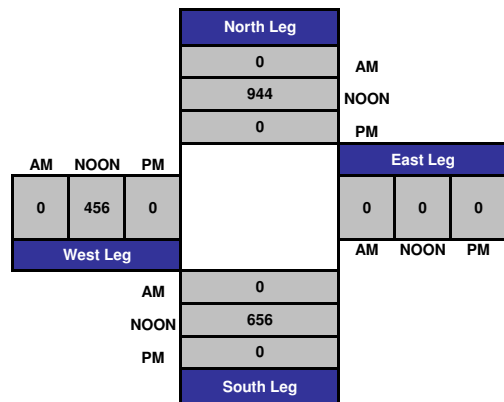
AM Peak Hour	
NOON Peak Hour	13:30 - 14:30
PM Peak Hour	

Count Periods	Start	End
AM	NONE	NONE
NOON	1:00 PM	3:00 PM
PM	NONE	NONE

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-005 W Cliff Dr & Bay St
 Date : 4/13/2017

Unshifted Count = All Vehicles & Uturns

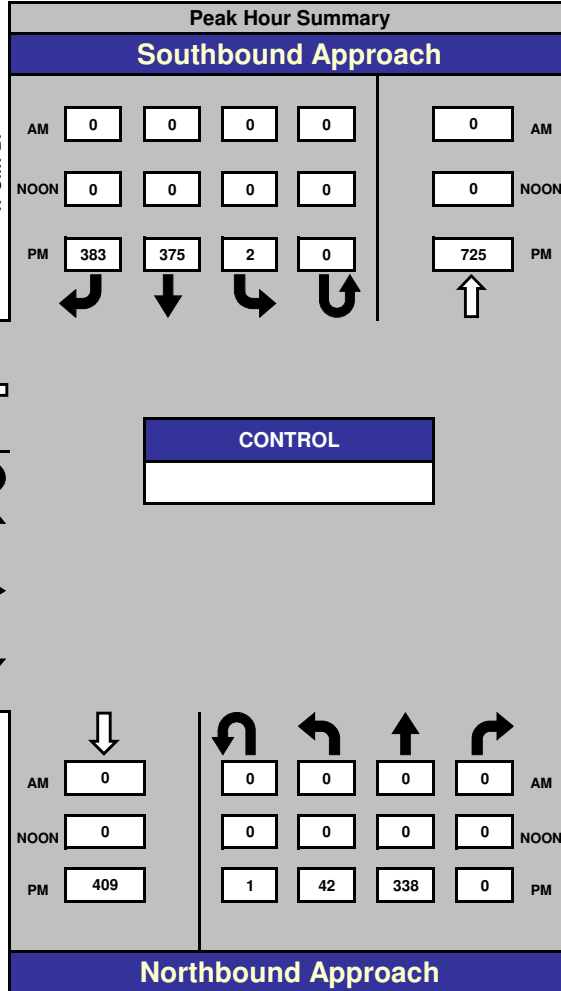
START TIME	W Cliff Dr Southbound					Bay St Westbound					W Cliff Dr Northbound					Bay St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	1	88	97	0	186	0	0	0	0	0	11	90	0	0	101	91	0	10	0	101	388	0
16:15	0	82	78	0	160	0	0	0	0	0	7	105	0	0	112	84	0	12	0	96	368	0
16:30	1	94	96	0	191	0	0	1	0	1	13	90	0	0	103	77	0	7	0	84	379	0
16:45	1	92	96	0	189	0	1	1	0	2	6	95	0	0	101	104	1	13	0	118	410	0
Total	3	356	367	0	726	0	1	2	0	3	37	380	0	0	417	356	1	42	0	399	1545	0
17:00	1	88	101	0	190	1	0	0	0	1	10	77	0	1	88	89	0	13	0	102	381	1
17:15	0	94	95	0	189	0	0	0	0	0	15	72	0	0	87	98	0	2	0	100	376	0
17:30	0	101	91	0	192	0	0	0	0	0	11	94	0	0	105	95	0	4	0	99	396	0
17:45	0	94	94	0	188	0	0	0	0	0	9	89	0	0	98	107	0	10	0	117	403	0
Total	1	377	381	0	759	1	0	0	0	1	45	332	0	1	378	389	0	29	0	418	1556	1
Grand Total	4	733	748	0	1485	1	1	2	0	4	82	712	0	1	795	745	1	71	0	817	3101	1
Apprch %	0.3%	49.4%	50.4%	0.0%		25.0%	25.0%	50.0%	0.0%		10.3%	89.6%	0.0%	0.1%		91.2%	0.1%	8.7%	0.0%			
Total %	0.1%	23.6%	24.1%	0.0%	47.9%	0.0%	0.0%	0.1%	0.0%	0.1%	2.6%	23.0%	0.0%	0.0%	25.6%	24.0%	0.0%	2.3%	0.0%	26.3%	100.0%	

PM PEAK HOUR	W Cliff Dr Southbound					Bay St Westbound					W Cliff Dr Northbound					Bay St Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 16:45 to 17:45																						
Peak Hour For Entire Intersection Begins at 16:45																						
16:45	1	92	96	0	189	0	1	1	0	2	6	95	0	0	101	104	1	13	0	118	410	
17:00	1	88	101	0	190	1	0	0	0	1	10	77	0	1	88	89	0	13	0	102	381	
17:15	0	94	95	0	189	0	0	0	0	0	15	72	0	0	87	98	0	2	0	100	376	
17:30	0	101	91	0	192	0	0	0	0	0	11	94	0	0	105	95	0	4	0	99	396	
Total Volume	2	375	383	0	760	1	1	1	0	3	42	338	0	1	381	386	1	32	0	419	1563	
% App Total	0.3%	49.3%	50.4%	0.0%		33.3%	33.3%	33.3%	0.0%		11.0%	88.7%	0.0%	0.3%		92.1%	0.2%	7.6%	0.0%			
PHF	.500	.928	.948	.000	.990	.250	.250	.250	.000	.375	.700	.889	.000	.250	.907	.928	.250	.615	.000	.888	.953	

W Cliff Dr & Bay St

Date: 4/13/2017
Day: Thursday

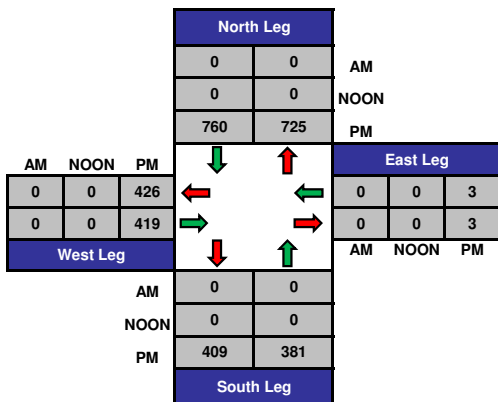
Project #: 17-7270-005



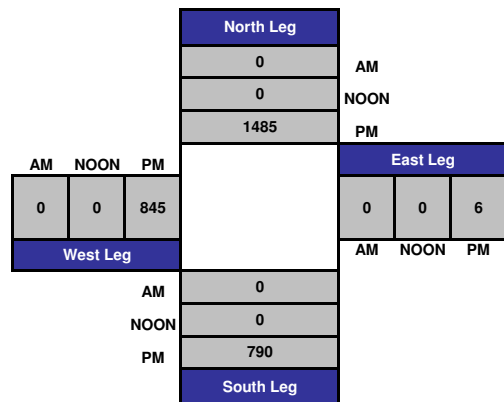
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	16:45 - 17:45

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-005 W Cliff Dr & Bay St
 Date : 4/18/2017

Unshifted Count = All Vehicles & Uturns

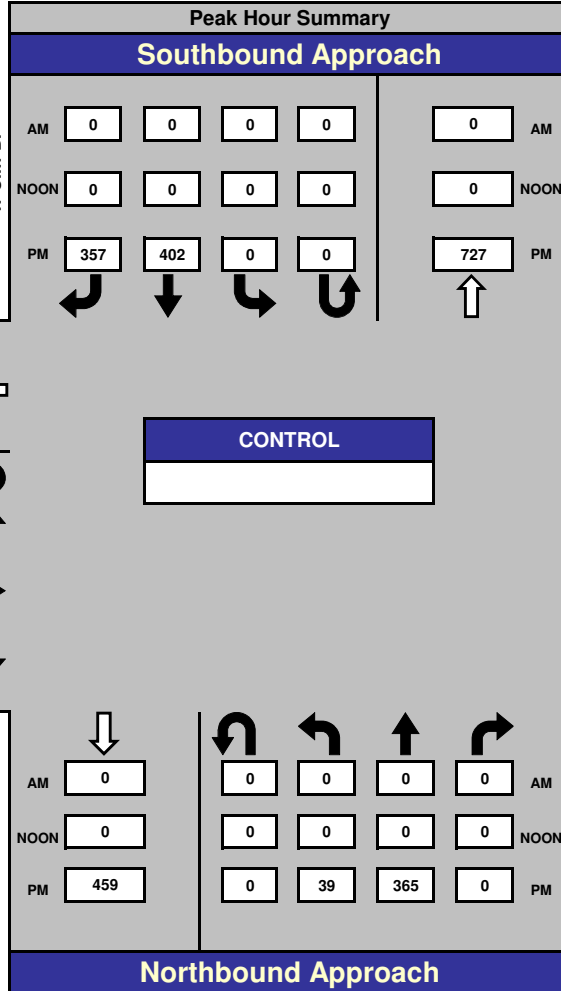
START TIME	W Cliff Dr Southbound					Bay St Westbound					W Cliff Dr Northbound					Bay St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	87	89	0	176	1	0	0	0	1	19	77	0	0	96	90	0	14	0	104	377	0
16:15	0	90	96	0	186	0	0	0	0	0	14	89	0	0	103	79	0	13	0	92	381	0
16:30	1	93	88	0	182	0	0	0	0	0	12	88	0	0	100	90	0	10	0	100	382	0
16:45	0	109	85	0	194	0	0	0	0	0	7	108	0	0	115	89	0	12	0	101	410	0
Total	1	379	358	0	738	1	0	0	0	1	52	362	0	0	414	348	0	49	0	397	1550	0
17:00	0	89	102	0	191	0	0	0	0	0	5	81	0	0	86	91	0	13	0	104	381	0
17:15	0	107	83	0	190	0	0	1	0	1	13	84	0	0	97	91	0	14	0	105	393	0
17:30	0	97	87	0	184	0	0	1	0	1	14	92	0	0	106	89	0	18	0	107	398	0
17:45	0	82	80	1	163	0	0	0	0	0	9	77	0	0	86	85	0	12	0	97	346	1
Total	0	375	352	1	728	0	0	2	0	2	41	334	0	0	375	356	0	57	0	413	1518	1
Grand Total	1	754	710	1	1466	1	0	2	0	3	93	696	0	0	789	704	0	106	0	810	3068	1
Apprch %	0.1%	51.4%	48.4%	0.1%		33.3%	0.0%	66.7%	0.0%		11.8%	88.2%	0.0%	0.0%		86.9%	0.0%	13.1%	0.0%			
Total %	0.0%	24.6%	23.1%	0.0%	47.8%	0.0%	0.0%	0.1%	0.0%	0.1%	3.0%	22.7%	0.0%	0.0%	25.7%	22.9%	0.0%	3.5%	0.0%	26.4%	100.0%	

PM PEAK HOUR	W Cliff Dr Southbound					Bay St Westbound					W Cliff Dr Northbound					Bay St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	109	85	0	194	0	0	0	0	0	7	108	0	0	115	89	0	12	0	101	410
17:00	0	89	102	0	191	0	0	0	0	0	5	81	0	0	86	91	0	13	0	104	381
17:15	0	107	83	0	190	0	0	1	0	1	13	84	0	0	97	91	0	14	0	105	393
17:30	0	97	87	0	184	0	0	1	0	1	14	92	0	0	106	89	0	18	0	107	398
Total Volume	0	402	357	0	759	0	0	2	0	2	39	365	0	0	404	360	0	57	0	417	1582
% App Total	0.0%	53.0%	47.0%	0.0%		0.0%	0.0%	100.0%	0.0%		9.7%	90.3%	0.0%	0.0%		86.3%	0.0%	13.7%	0.0%		
PHF	.000	.922	.875	.000	.978	.000	.000	.500	.000	.500	.696	.845	.000	.000	.878	.989	.000	.792	.000	.974	.965

W Cliff Dr & Bay St

Date: 4/18/2017
Day: Tuesday

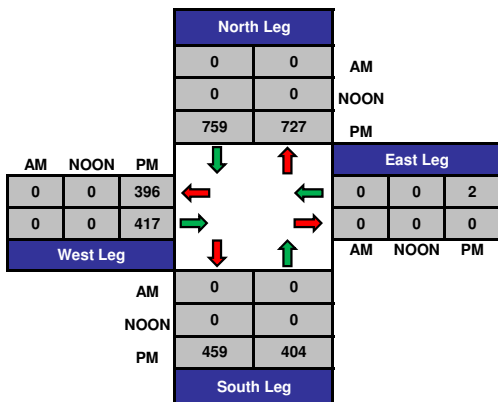
Project #: 17-7270-005



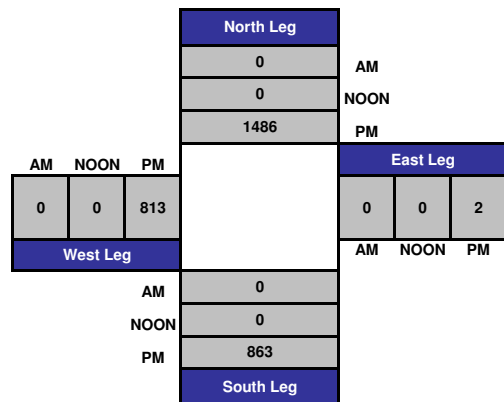
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	16:45 - 17:45

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-005 W Cliff Dr & Bay St
 Date : 4/15/2017

Unshifted Count = All Vehicles & Uturns

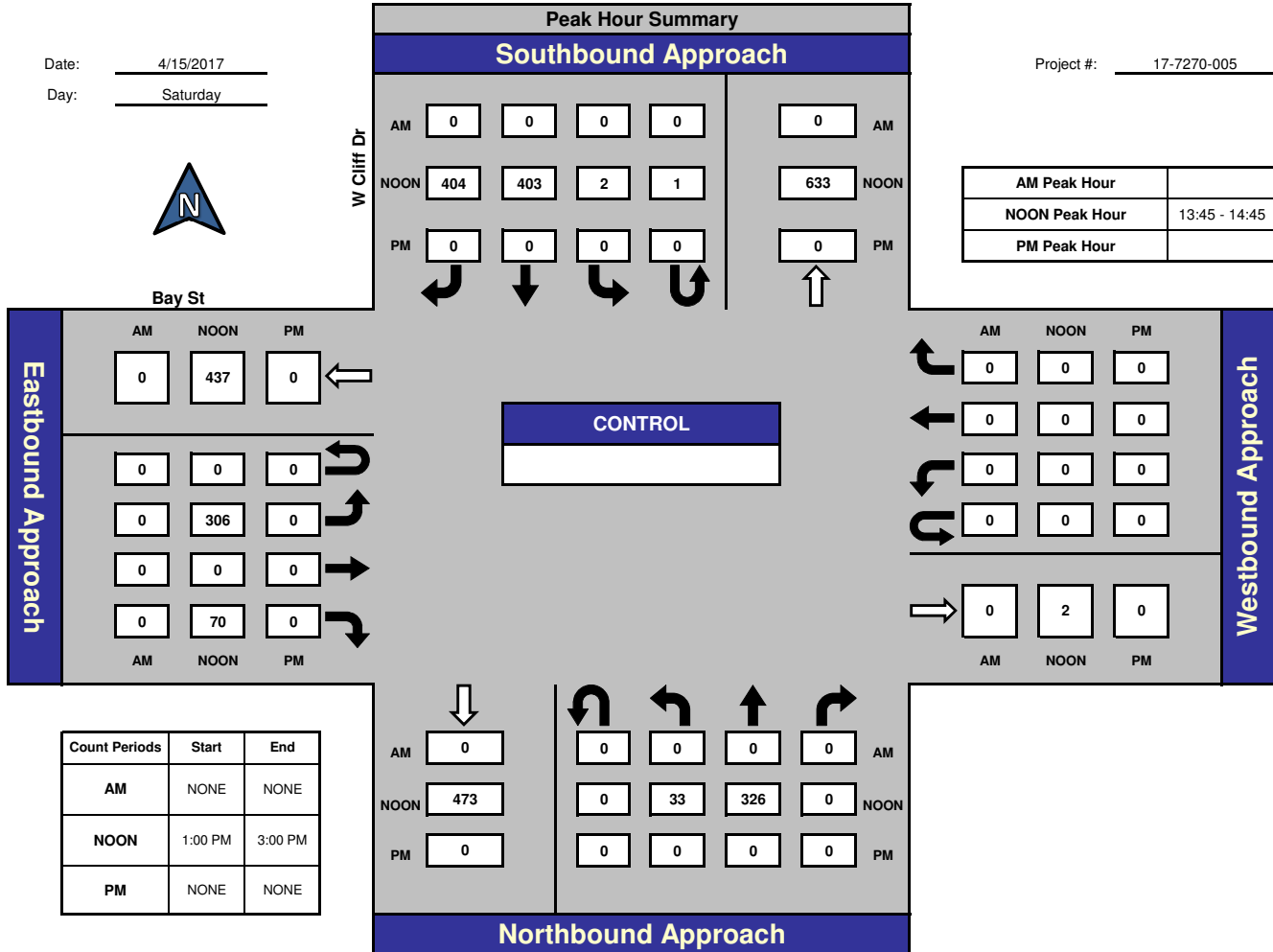
START TIME	W Cliff Dr Southbound					Bay St Westbound					W Cliff Dr Northbound					Bay St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	1	93	89	1	184	0	0	0	0	0	8	91	0	0	99	72	0	11	0	83	366	1
13:15	0	90	96	0	186	0	0	0	0	0	11	84	0	0	95	82	0	14	0	96	377	0
13:30	3	97	102	2	204	0	0	0	0	0	5	84	0	0	89	68	0	16	0	84	377	2
13:45	1	96	98	1	196	0	0	0	0	0	4	90	0	0	94	79	0	13	0	92	382	1
Total	5	376	385	4	770	0	0	0	0	0	28	349	0	0	377	301	0	54	0	355	1502	4
14:00	0	110	92	0	202	0	0	0	0	0	12	75	0	0	87	69	0	18	0	87	376	0
14:15	1	99	106	0	206	0	0	0	0	0	10	78	0	0	88	78	0	24	0	102	396	0
14:30	0	98	108	0	206	0	0	0	0	0	7	83	0	0	90	80	0	15	0	95	391	0
14:45	0	88	80	0	168	0	0	0	0	0	13	79	0	0	92	83	0	12	0	95	355	0
Total	1	395	386	0	782	0	0	0	0	0	42	315	0	0	357	310	0	69	0	379	1518	0
Grand Total	6	771	771	4	1552	0	0	0	0	0	70	664	0	0	734	611	0	123	0	734	3020	4
Apprch %	0.4%	49.7%	49.7%	0.3%		0.0%	0.0%	0.0%	0.0%		9.5%	90.5%	0.0%	0.0%		83.2%	0.0%	16.8%	0.0%			
Total %	0.2%	25.5%	25.5%	0.1%	51.4%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	22.0%	0.0%	0.0%	24.3%	20.2%	0.0%	4.1%	0.0%	24.3%	100.0%	

NOON PEAK	W Cliff Dr Southbound					Bay St Westbound					W Cliff Dr Northbound					Bay St Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 13:45 to 14:45																						
Peak Hour For Entire Intersection Begins at 13:45																						
13:45	1	96	98	1	196	0	0	0	0	0	4	90	0	0	94	79	0	13	0	92	382	
14:00	0	110	92	0	202	0	0	0	0	0	12	75	0	0	87	69	0	18	0	87	376	
14:15	1	99	106	0	206	0	0	0	0	0	10	78	0	0	88	78	0	24	0	102	396	
14:30	0	98	108	0	206	0	0	0	0	0	7	83	0	0	90	80	0	15	0	95	391	
Total Volume	2	403	404	1	810	0	0	0	0	0	33	326	0	0	359	306	0	70	0	376	1545	
% App Total	0.2%	49.8%	49.9%	0.1%		0.0%	0.0%	0.0%	0.0%		9.2%	90.8%	0.0%	0.0%		81.4%	0.0%	18.6%	0.0%			
PHF	.500	.916	.935	.250	.983	.000	.000	.000	.000	.000	.688	.906	.000	.000	.955	.956	.000	.729	.000	.922	.975	

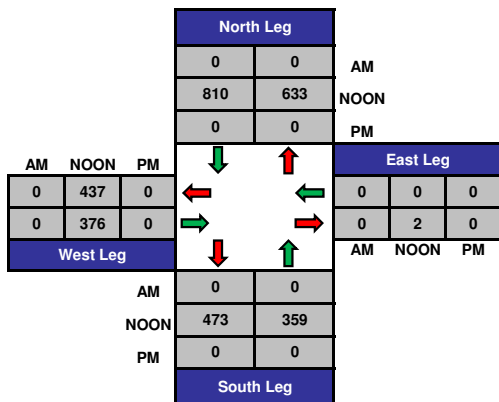
W Cliff Dr & Bay St

Date: 4/15/2017
Day: Saturday

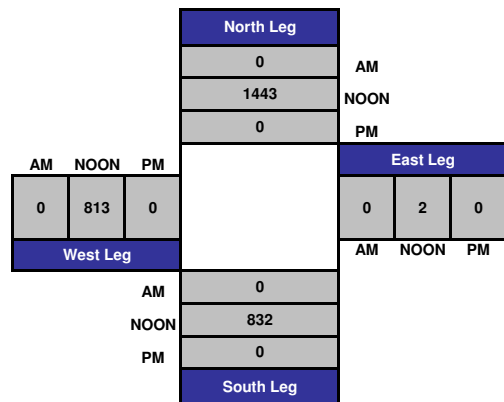
Project #: 17-7270-005



Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7271-001 W Cliff Dr & Project Dwy
 Date : 4/18/2017

Unshifted Count = All Vehicles & Uturns

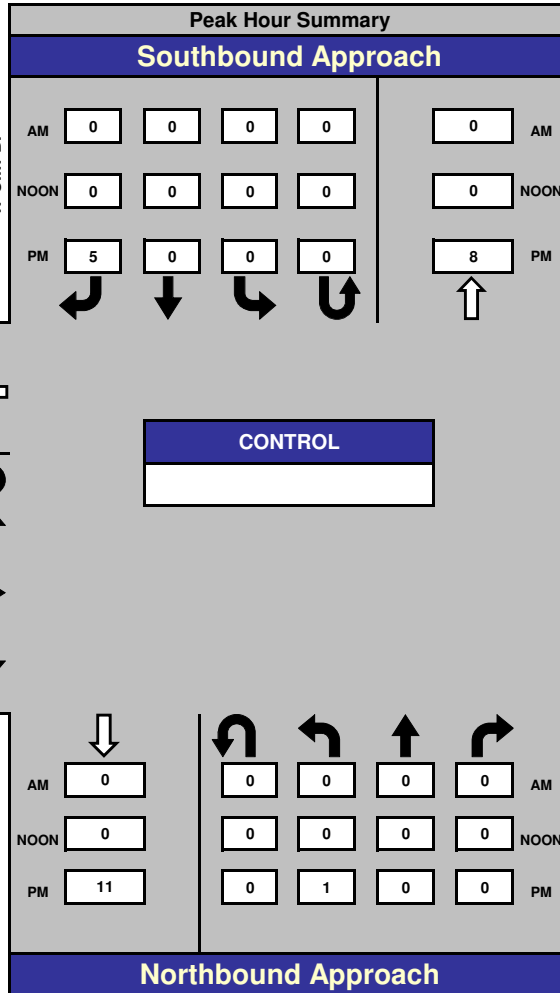
START TIME	W Cliff Dr Southbound					Project Dwy Westbound					W Cliff Dr Northbound					Project Dwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	3	0	3	0	6	9	0
16:15	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	6	0
16:30	0	0	2	0	2	0	0	0	0	0	1	0	0	0	1	1	0	1	0	2	5	0
16:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	3	0
Total	0	0	8	0	8	0	0	0	0	0	1	0	0	0	1	6	0	8	0	14	23	0
17:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3	0
17:15	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	4	0	4	0	8	10	0
17:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0	5	0	7	8	0
17:45	0	0	2	0	2	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	5	0
Total	0	0	5	0	5	0	0	0	0	0	2	0	0	0	2	8	0	11	0	19	26	0
Grand Total	0	0	13	0	13	0	0	0	0	0	3	0	0	0	3	14	0	19	0	33	49	0
Apprch %	0.0%	0.0%	100.0%	0.0%		0.0%	0.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		42.4%	0.0%	57.6%	0.0%			
Total %	0.0%	0.0%	26.5%	0.0%	26.5%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	0.0%	0.0%	0.0%	6.1%	28.6%	0.0%	38.8%	0.0%	67.3%	100.0%	

PM PEAK HOUR	W Cliff Dr Southbound					Project Dwy Westbound					W Cliff Dr Northbound					Project Dwy Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:00 to 18:00																						
Peak Hour For Entire Intersection Begins at 17:00																						
17:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3	
17:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4	0	4	0	8	9	
17:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0	5	0	7	8	
17:45	0	0	2	0	2	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	5	
Total Volume	0	0	5	0	5	0	0	0	0	0	1	0	0	0	1	8	0	11	0	19	25	
% App Total	0.0%	0.0%	100.0%	0.0%		0.0%	0.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		42.1%	0.0%	57.9%	0.0%			
PHF	.000	.000	.625	.000	.625	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.500	.000	.550	.000	.594	.694	

W Cliff Dr & Project Dwy

Date: 4/18/2017
Day: Tuesday

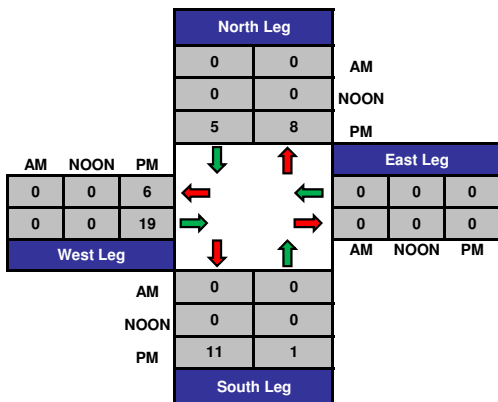
Project #: 17-7271-001



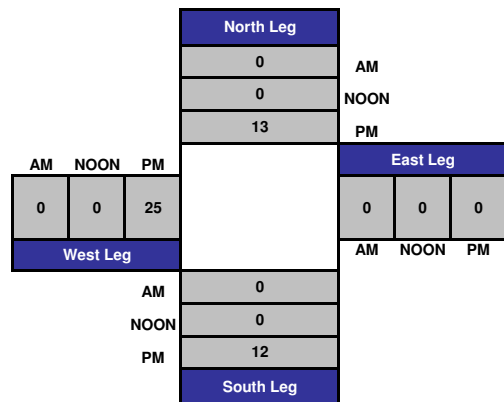
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	17:00 - 18:00

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7271-001 W Cliff Dr & Project Dwy
 Date : 4/15/2017

Unshifted Count = All Vehicles & Uturns

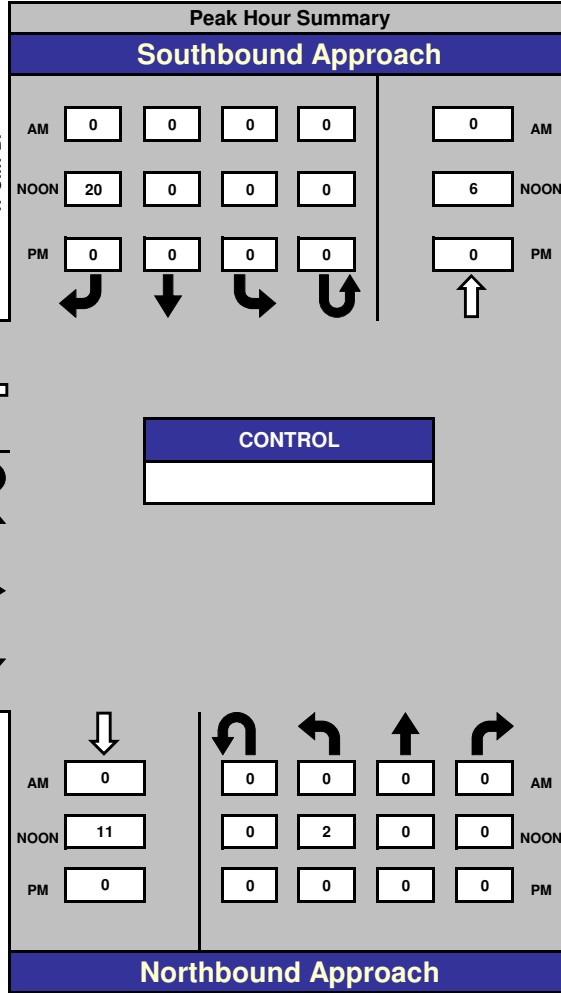
START TIME	W Cliff Dr Southbound					Project Dwy Westbound					W Cliff Dr Northbound					Project Dwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	0	0	3	0	3	0	0	0	0	0	3	0	0	0	3	0	0	2	0	2	8	0
13:15	0	0	2	0	2	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	5	0
13:30	0	0	4	0	4	0	0	0	0	0	2	0	0	0	2	1	0	5	0	6	12	0
13:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	7	0	8	9	0
Total	0	0	10	0	10	0	0	0	0	0	6	0	0	0	6	2	0	16	0	18	34	0
14:00	0	0	5	0	5	0	0	0	0	0	1	0	0	0	1	1	0	4	0	5	11	0
14:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	4	0
14:30	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	3	0	2	0	5	14	0
14:45	0	0	5	0	5	0	0	0	0	0	1	0	0	0	1	2	0	2	0	4	10	0
Total	0	0	20	0	20	0	0	0	0	0	2	0	0	0	2	6	0	11	0	17	39	0
Grand Total	0	0	30	0	30	0	0	0	0	0	8	0	0	0	8	8	0	27	0	35	73	0
Apprch %	0.0%	0.0%	100.0%	0.0%		0.0%	0.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		22.9%	0.0%	77.1%	0.0%			
Total %	0.0%	0.0%	41.1%	0.0%	41.1%	0.0%	0.0%	0.0%	0.0%	0.0%	11.0%	0.0%	0.0%	0.0%	11.0%	11.0%	0.0%	37.0%	0.0%	47.9%	100.0%	

NOON PEAK	W Cliff Dr Southbound					Project Dwy Westbound					W Cliff Dr Northbound					Project Dwy Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 14:00 to 15:00																						
Peak Hour For Entire Intersection Begins at 14:00																						
14:00	0	0	5	0	5	0	0	0	0	0	1	0	0	0	1	1	0	4	0	5	11	
14:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	4	
14:30	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	3	0	2	0	5	14	
14:45	0	0	5	0	5	0	0	0	0	0	1	0	0	0	1	2	0	2	0	4	10	
Total Volume	0	0	20	0	20	0	0	0	0	0	2	0	0	0	2	6	0	11	0	17	39	
% App Total	0.0%	0.0%	100.0%	0.0%		0.0%	0.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		35.3%	0.0%	64.7%	0.0%			
PHF	.000	.000	.556	.000	.556	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.500	.000	.688	.000	.850	.696	

W Cliff Dr & Project Dwy

Date: 4/15/2017
Day: Saturday

Project #: 17-7271-001

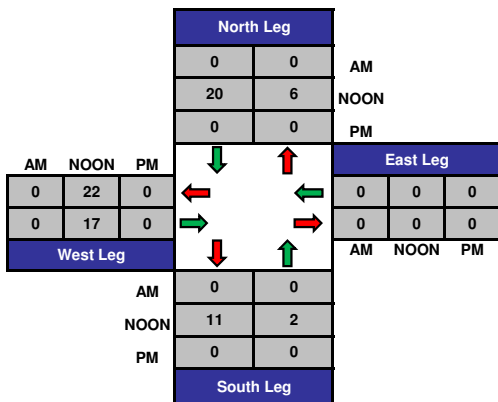


AM Peak Hour	
NOON Peak Hour	14:00 - 15:00
PM Peak Hour	

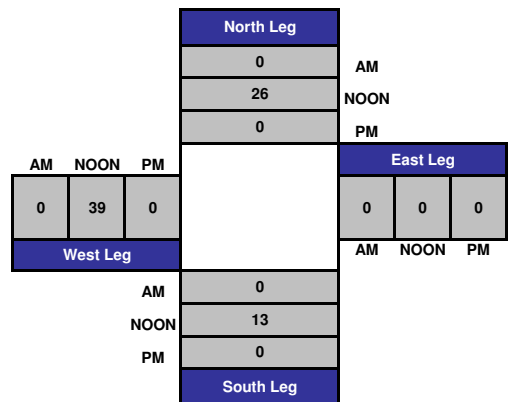
Project Dwy

Count Periods	Start	End
AM	NONE	NONE
NOON	1:00 PM	3:00 PM
PM	NONE	NONE

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7271-002 W Cliff Dr & Project Ins Dwy
 Date : 4/18/2017

Unshifted Count = All Vehicles & Uturns

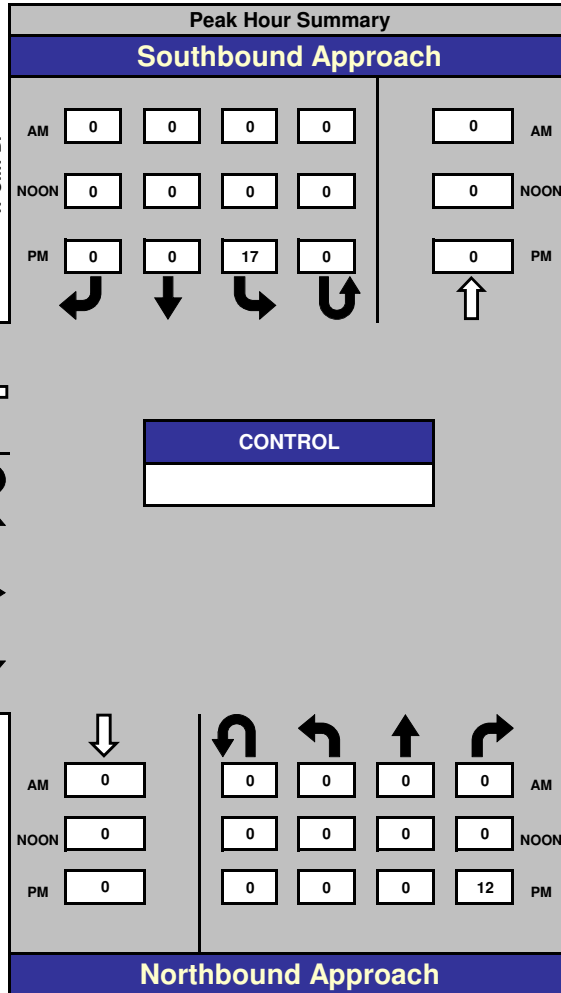
START TIME	W Cliff Dr Southbound					Project Ins Dwy Westbound					W Cliff Dr Northbound					Project Ins Dwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	4	0	0	0	4	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	6	0
16:15	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0
16:30	6	0	0	0	6	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	9	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0
Total	13	0	0	0	13	0	0	0	0	0	0	0	9	0	9	0	0	0	0	0	22	0
17:00	3	0	0	0	3	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	6	0
17:15	3	0	0	0	3	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	5	0
17:30	6	0	0	0	6	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	10	0
17:45	5	0	0	0	5	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	8	0
Total	17	0	0	0	17	0	0	0	0	0	0	0	12	0	12	0	0	0	0	0	29	0
Grand Total	30	0	0	0	30	0	0	0	0	0	0	0	21	0	21	0	0	0	0	0	51	0
Apprch %	100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	58.8%	0.0%	0.0%	0.0%	58.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	41.2%	0.0%	41.2%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

PM PEAK HOUR	W Cliff Dr Southbound					Project Ins Dwy Westbound					W Cliff Dr Northbound					Project Ins Dwy Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:00 to 18:00																						
Peak Hour For Entire Intersection Begins at 17:00																						
17:00	3	0	0	0	3	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	6	
17:15	3	0	0	0	3	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	5	
17:30	6	0	0	0	6	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	10	
17:45	5	0	0	0	5	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	8	
Total Volume	17	0	0	0	17	0	0	0	0	0	0	0	12	0	12	0	0	0	0	0	29	
% App Total	100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	0.0%	0.0%	0.0%			
PHF	.708	.000	.000	.000	.708	.000	.000	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.725	

W Cliff Dr & Project Ins Dwy

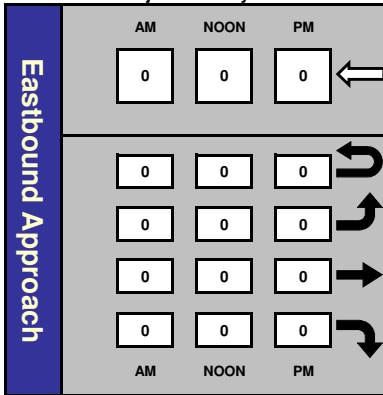
Date: 4/18/2017
Day: Tuesday

Project #: 17-7271-002



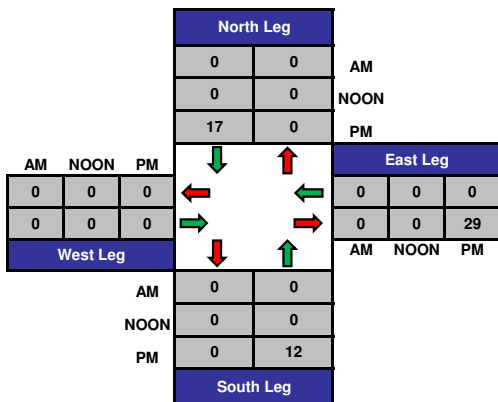
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	17:00 - 18:00

Project Ins Dwy

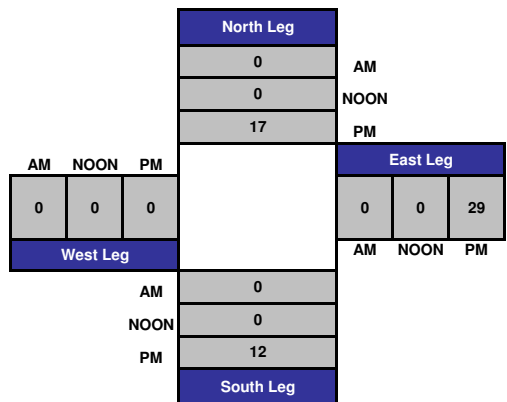


Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7271-002 W Cliff Dr & Project Ins Dwy
 Date : 4/15/2017

Unshifted Count = All Vehicles & Uturns

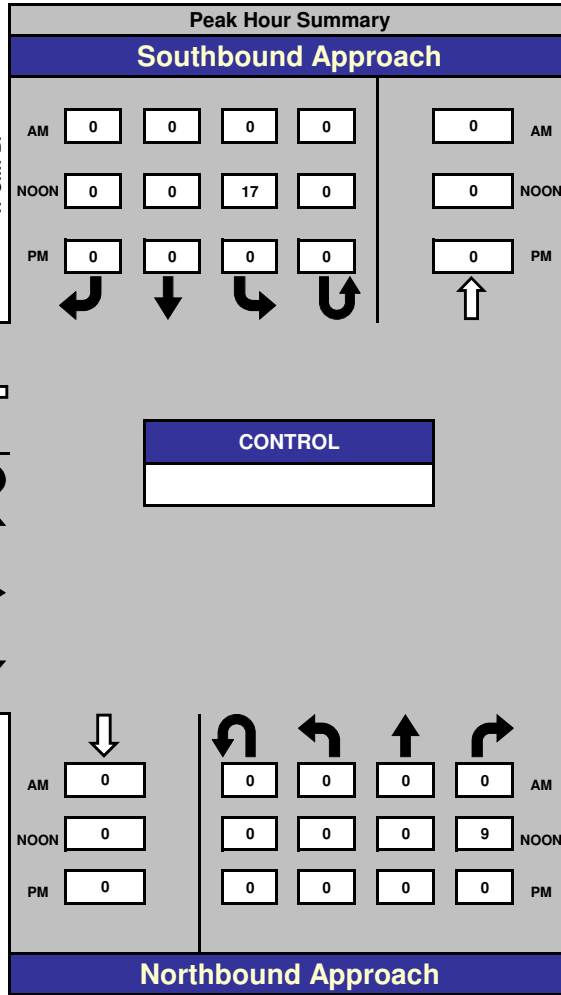
START TIME	W Cliff Dr Southbound					Project Ins Dwy Westbound					W Cliff Dr Northbound					Project Ins Dwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	3	0	0	0	3	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	6	0
13:15	2	0	0	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0
13:30	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0
13:45	5	0	0	0	5	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	8	0
Total	13	0	0	0	13	0	0	0	0	0	0	0	9	0	9	0	0	0	0	0	22	0
14:00	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0
14:15	6	0	0	0	6	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	10	0
14:30	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0
14:45	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
Total	16	0	0	0	16	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	22	0
Grand Total	29	0	0	0	29	0	0	0	0	0	0	0	15	0	15	0	0	0	0	0	44	0
Apprch %	100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	65.9%	0.0%	0.0%	0.0%	65.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.1%	0.0%	34.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

NOON PEAK	W Cliff Dr Southbound					Project Ins Dwy Westbound					W Cliff Dr Northbound					Project Ins Dwy Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 13:30 to 14:30																						
Peak Hour For Entire Intersection Begins at 13:30																						
13:30	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	
13:45	5	0	0	0	5	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	8	
14:00	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	
14:15	6	0	0	0	6	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	10	
Total Volume	17	0	0	0	17	0	0	0	0	0	0	0	9	0	9	0	0	0	0	0	26	
% App Total	100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	0.0%	0.0%	0.0%			
PHF	.708	.000	.000	.000	.708	.000	.000	.000	.000	.000	.000	.000	.563	.000	.563	.000	.000	.000	.000	.000	.650	

W Cliff Dr & Project Ins Dwy

Date: 4/15/2017
Day: Saturday

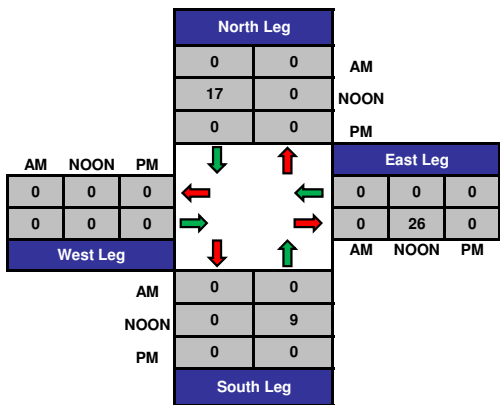
Project #: 17-7271-002



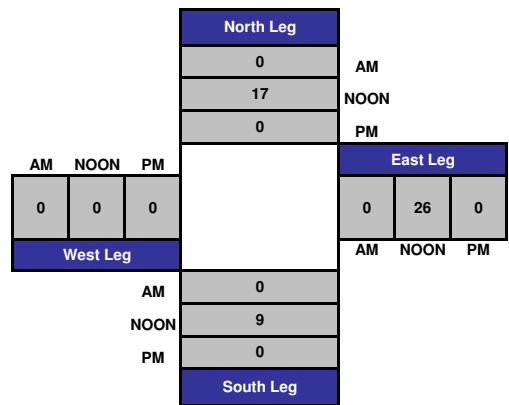
AM Peak Hour	
NOON Peak Hour	13:30 - 14:30
PM Peak Hour	

Count Periods	Start	End
AM	NONE	NONE
NOON	1:00 PM	3:00 PM
PM	NONE	NONE

Total Ins & Outs



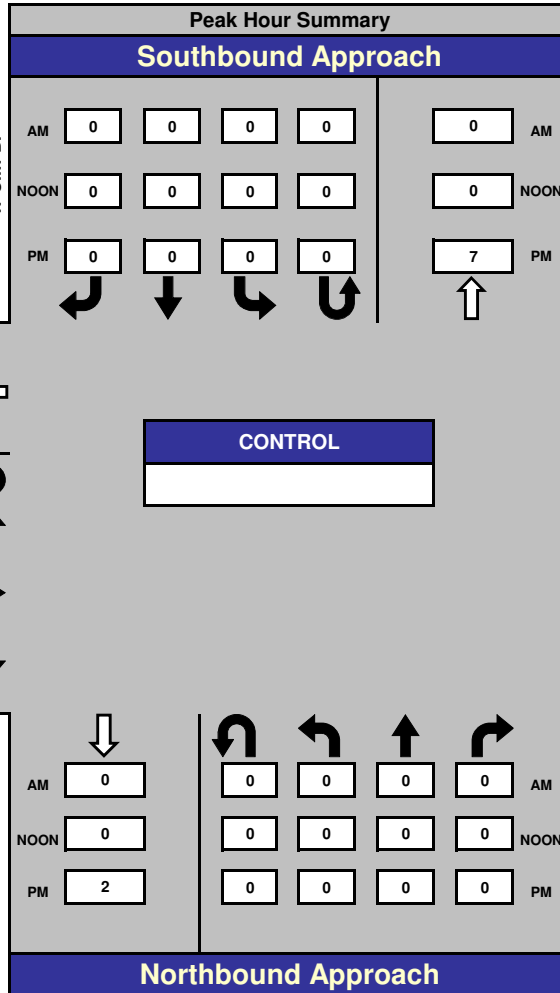
Total Volume Per Leg



W Cliff Dr & Project Out Dwy

Date: 4/18/2017
Day: Tuesday

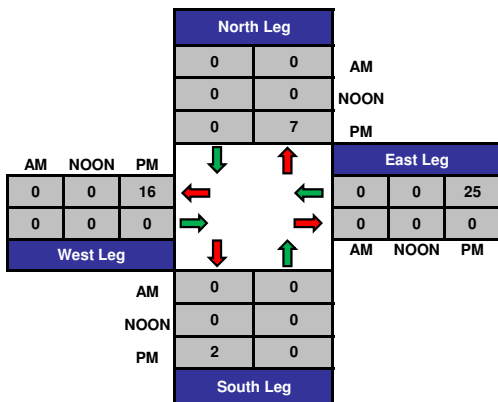
Project #: 17-7271-003



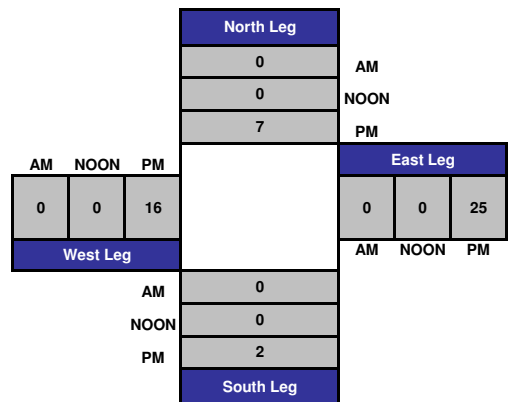
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	16:00 - 17:00

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7271-003 W Cliff Dr & Project Out Dwy
 Date : 4/15/2017

Unshifted Count = All Vehicles & Uturns

START TIME	W Cliff Dr Southbound					Project Out Dwy Westbound					W Cliff Dr Northbound					Project Out Dwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	4	0
13:15	0	0	0	0	0	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	5	0
13:30	0	0	0	0	0	3	2	2	0	7	0	0	0	0	0	0	0	0	0	0	7	0
13:45	0	0	0	0	0	0	2	4	0	6	0	0	0	0	0	0	0	0	0	0	6	0
Total	0	0	0	0	0	4	6	12	0	22	0	0	0	0	0	0	0	0	0	0	22	0
14:00	0	0	0	0	0	1	1	6	0	8	0	0	0	0	0	0	0	0	0	0	8	0
14:15	0	0	0	0	0	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	3	0
14:30	0	0	0	0	0	0	1	6	0	7	0	0	0	0	0	0	0	0	0	0	7	0
14:45	0	0	0	0	0	0	1	4	0	5	0	0	0	0	0	0	0	0	0	0	5	0
Total	0	0	0	0	0	2	3	18	0	23	0	0	0	0	0	0	0	0	0	0	23	0
Grand Total	0	0	0	0	0	6	9	30	0	45	0	0	0	0	0	0	0	0	0	0	45	0
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%	20.0%	66.7%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%	20.0%	66.7%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0

NOON PEAK	W Cliff Dr Southbound					Project Out Dwy Westbound					W Cliff Dr Northbound					Project Out Dwy Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
13:15	0	0	0	0	0	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	5
13:30	0	0	0	0	0	3	2	2	0	7	0	0	0	0	0	0	0	0	0	0	7
13:45	0	0	0	0	0	0	2	4	0	6	0	0	0	0	0	0	0	0	0	0	6
14:00	0	0	0	0	0	1	1	6	0	8	0	0	0	0	0	0	0	0	0	0	8
Total Volume	0	0	0	0	0	5	5	16	0	26	0	0	0	0	0	0	0	0	0	0	26
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	19.2%	19.2%	61.5%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
PHF	.000	.000	.000	.000	.000	.417	.625	.667	.000	.813	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.813

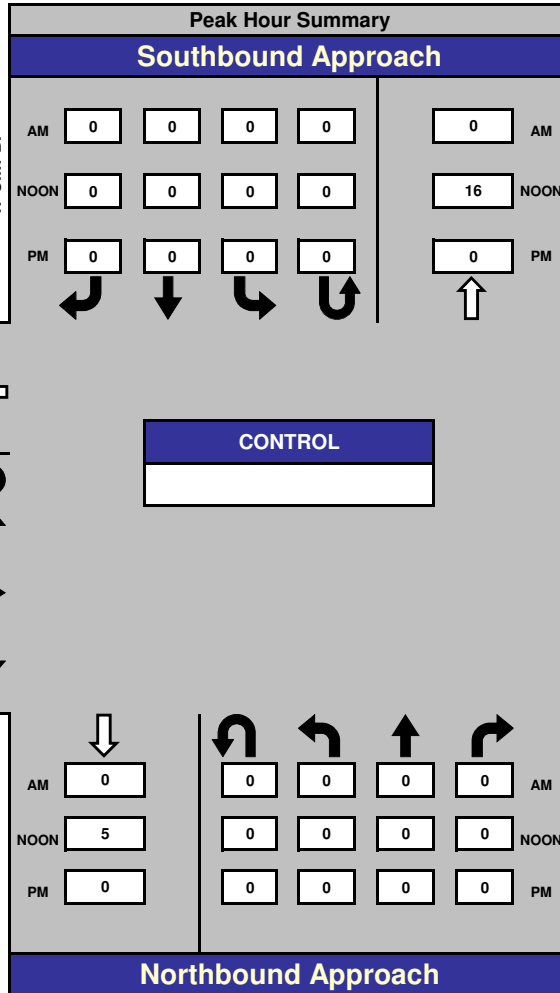
Peak Hour Analysis From 13:15 to 14:15

Peak Hour For Entire Intersection Begins at 13:15

W Cliff Dr & Project Out Dwy

Date: 4/15/2017
Day: Saturday

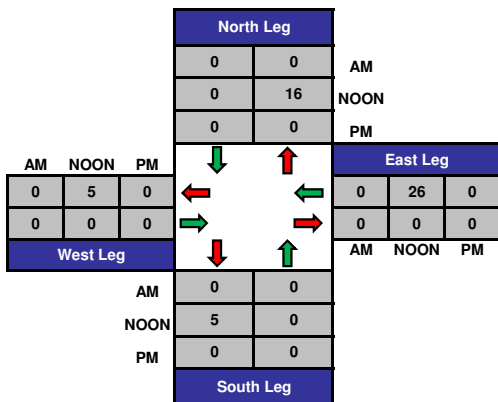
Project #: 17-7271-003



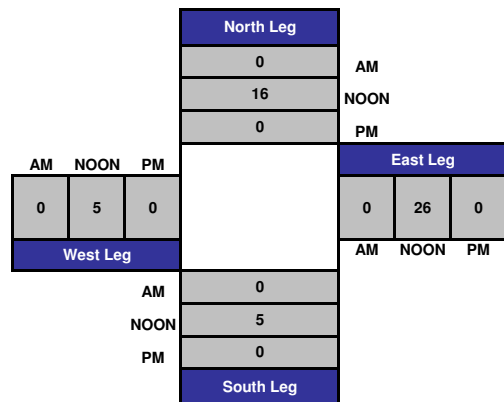
AM Peak Hour	
NOON Peak Hour	13:15 - 14:15
PM Peak Hour	

Count Periods	Start	End
AM	NONE	NONE
NOON	1:00 PM	3:00 PM
PM	NONE	NONE

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-007 W Cliff Dr & Beach St
 Date : 4/18/2017

Unshifted Count = All Vehicles & Uturns

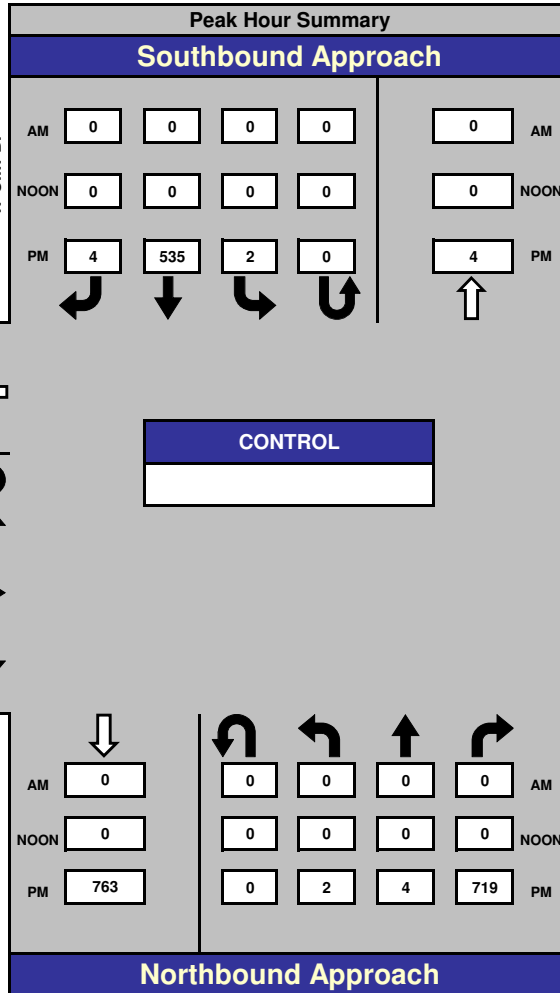
START TIME	W Cliff Dr Southbound					Beach St Westbound					W Cliff Dr Northbound					Beach St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	1	122	0	0	123	58	1	1	0	60	0	0	171	0	171	0	1	0	0	1	355	0
16:15	2	130	0	0	132	60	0	0	0	60	0	2	169	0	171	0	2	0	0	2	365	0
16:30	1	124	3	0	128	68	0	0	0	68	0	0	178	0	178	0	0	2	0	2	376	0
16:45	0	138	0	0	138	52	0	0	0	52	0	1	195	0	196	0	0	0	0	0	386	0
Total	4	514	3	0	521	238	1	1	0	240	0	3	713	0	716	0	3	2	0	5	1482	0
17:00	1	137	1	0	139	52	1	0	1	54	2	1	171	0	174	0	0	0	0	0	367	1
17:15	0	136	0	0	136	54	0	0	0	54	0	2	175	0	177	0	1	0	0	1	368	0
17:30	2	143	0	0	145	46	0	0	0	46	0	2	180	0	182	0	1	0	0	1	374	0
17:45	2	109	1	0	112	57	0	2	0	59	1	3	160	0	164	0	0	1	0	1	336	0
Total	5	525	2	0	532	209	1	2	1	213	3	8	686	0	697	0	2	1	0	3	1445	1
Grand Total	9	1039	5	0	1053	447	2	3	1	453	3	11	1399	0	1413	0	5	3	0	8	2927	1
Apprch %	0.9%	98.7%	0.5%	0.0%		98.7%	0.4%	0.7%	0.2%		0.2%	0.8%	99.0%	0.0%		0.0%	62.5%	37.5%	0.0%			
Total %	0.3%	35.5%	0.2%	0.0%	36.0%	15.3%	0.1%	0.1%	0.0%	15.5%	0.1%	0.4%	47.8%	0.0%	48.3%	0.0%	0.2%	0.1%	0.0%	0.3%	100.0%	

PM PEAK HOUR	W Cliff Dr Southbound					Beach St Westbound					W Cliff Dr Northbound					Beach St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	1	124	3	0	128	68	0	0	0	68	0	0	178	0	178	0	0	2	0	2	376
16:45	0	138	0	0	138	52	0	0	0	52	0	1	195	0	196	0	0	0	0	0	386
17:00	1	137	1	0	139	52	1	0	1	54	2	1	171	0	174	0	0	0	0	0	367
17:15	0	136	0	0	136	54	0	0	0	54	0	2	175	0	177	0	1	0	0	1	368
Total Volume	2	535	4	0	541	226	1	0	1	228	2	4	719	0	725	0	1	2	0	3	1497
% App Total	0.4%	98.9%	0.7%	0.0%		99.1%	0.4%	0.0%	0.4%		0.3%	0.6%	99.2%	0.0%		0.0%	33.3%	66.7%	0.0%		
PHF	.500	.969	.333	.000	.973	.831	.250	.000	.250	.838	.250	.500	.922	.000	.925	.000	.250	.250	.000	.375	.970

W Cliff Dr & Beach St

Date: 4/18/2017
Day: Tuesday

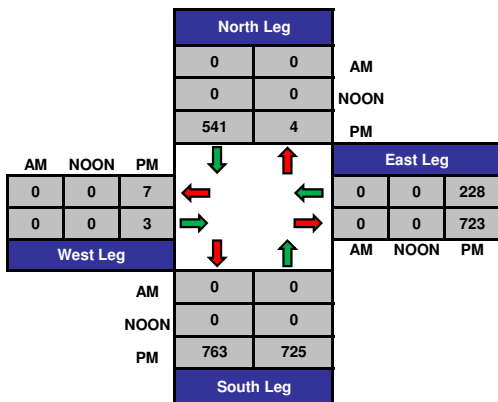
Project #: 17-7270-007



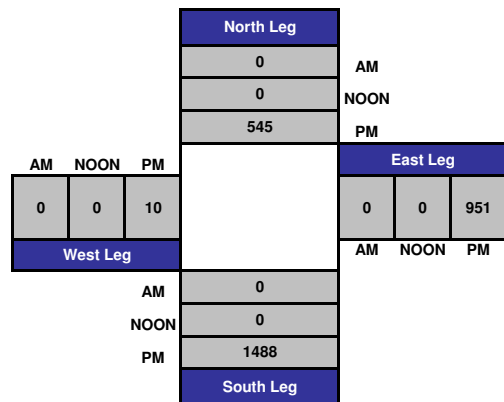
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	16:30 - 17:30

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-007 W Cliff Dr & Beach St
 Date : 4/15/2017

Unshifted Count = All Vehicles & Uturns

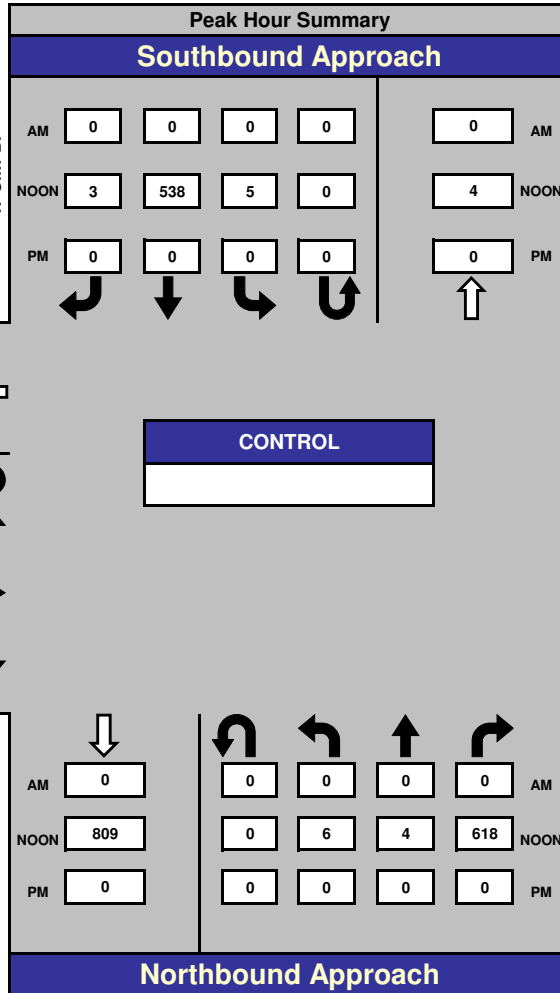
START TIME	W Cliff Dr Southbound					Beach St Westbound					W Cliff Dr Northbound					Beach St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	0	104	0	0	104	69	0	1	0	70	3	2	158	0	163	0	1	1	0	2	339	0
13:15	1	118	1	0	120	65	1	0	0	66	2	4	156	0	162	0	1	3	0	4	352	0
13:30	2	115	0	0	117	70	0	0	0	70	2	1	156	0	159	0	0	1	0	1	347	0
13:45	1	137	0	0	138	65	0	0	0	65	1	1	161	0	163	0	0	0	0	0	366	0
Total	4	474	1	0	479	269	1	1	0	271	8	8	631	0	647	0	2	5	0	7	1404	0
14:00	1	138	2	0	141	63	0	0	3	66	1	1	147	0	149	0	0	0	0	0	356	3
14:15	0	137	1	0	138	66	0	0	0	66	0	0	150	0	150	0	1	2	0	3	357	0
14:30	3	126	0	0	129	75	0	0	0	75	4	2	160	0	166	0	1	0	0	1	371	0
14:45	0	107	0	0	107	63	0	0	0	63	1	1	166	0	168	0	1	0	0	1	339	0
Total	4	508	3	0	515	267	0	0	3	270	6	4	623	0	633	0	3	2	0	5	1423	3
Grand Total	8	982	4	0	994	536	1	1	3	541	14	12	1254	0	1280	0	5	7	0	12	2827	3
Apprch %	0.8%	98.8%	0.4%	0.0%		99.1%	0.2%	0.2%	0.6%		1.1%	0.9%	98.0%	0.0%		0.0%	41.7%	58.3%	0.0%			
Total %	0.3%	34.7%	0.1%	0.0%	35.2%	19.0%	0.0%	0.0%	0.1%	19.1%	0.5%	0.4%	44.4%	0.0%	45.3%	0.0%	0.2%	0.2%	0.0%	0.4%	100.0%	

NOON PEAK START TIME	W Cliff Dr Southbound					Beach St Westbound					W Cliff Dr Northbound					Beach St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 13:45 to 14:45																					
Peak Hour For Entire Intersection Begins at 13:45																					
13:45	1	137	0	0	138	65	0	0	0	65	1	1	161	0	163	0	0	0	0	0	366
14:00	1	138	2	0	141	63	0	0	3	66	1	1	147	0	149	0	0	0	0	0	356
14:15	0	137	1	0	138	66	0	0	0	66	0	0	150	0	150	0	1	2	0	3	357
14:30	3	126	0	0	129	75	0	0	0	75	4	2	160	0	166	0	1	0	0	1	371
Total Volume	5	538	3	0	546	269	0	0	3	272	6	4	618	0	628	0	2	2	0	4	1450
% App Total	0.9%	98.5%	0.5%	0.0%		98.9%	0.0%	0.0%	1.1%		1.0%	0.6%	98.4%	0.0%		0.0%	50.0%	50.0%	0.0%		
PHF	.417	.975	.375	.000	.968	.897	.000	.000	.250	.907	.375	.500	.960	.000	.946	.000	.500	.250	.000	.333	.977

W Cliff Dr & Beach St

Date: 4/15/2017
Day: Saturday

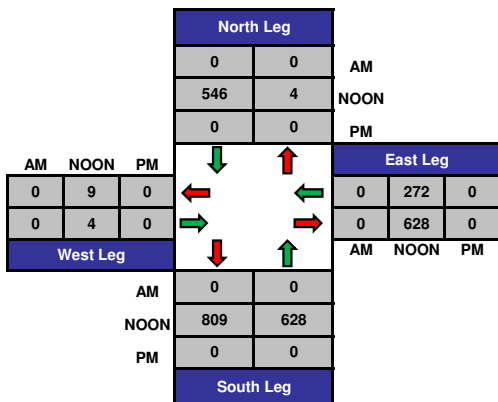
Project #: 17-7270-007



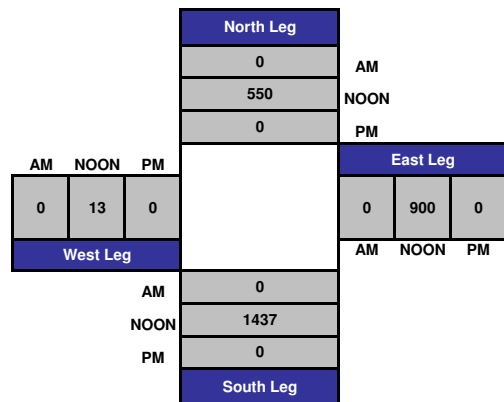
AM Peak Hour	
NOON Peak Hour	13:45 - 14:45
PM Peak Hour	

Count Periods	Start	End
AM	NONE	NONE
NOON	1:00 PM	3:00 PM
PM	NONE	NONE

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-006 Pacific Ave & Beach St
 Date : 4/18/2017

Unshifted Count = All Vehicles & Uturns

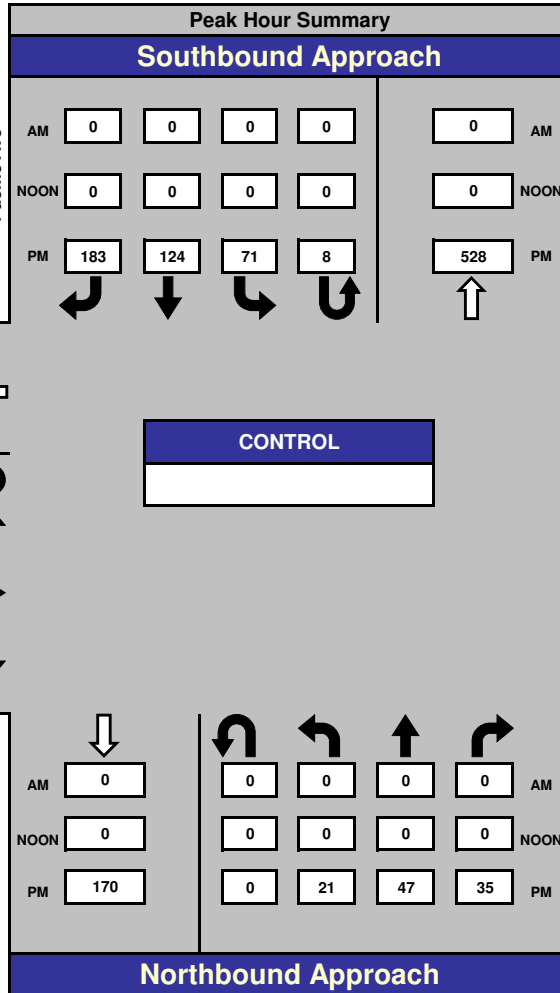
START TIME	Pacific Ave Southbound					Beach St Westbound					Pacific Ave Northbound					Beach St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	17	22	50	1	90	0	0	0	0	0	6	17	11	0	34	101	65	9	4	179	303	5
16:15	20	22	49	1	92	0	1	0	0	1	6	12	12	0	30	102	64	13	2	181	304	3
16:30	18	19	55	1	93	0	0	0	0	0	8	13	6	0	27	117	52	10	3	182	302	4
16:45	10	28	48	2	88	0	0	0	0	0	5	13	3	0	21	121	59	14	1	195	304	3
Total	65	91	202	5	363	0	1	0	0	1	25	55	32	0	112	441	240	46	10	737	1213	15
17:00	20	44	52	3	119	0	0	0	0	0	2	14	10	0	26	108	57	11	1	177	322	4
17:15	19	27	41	1	88	0	0	0	0	0	11	10	11	0	32	115	60	9	1	185	305	2
17:30	22	25	42	2	91	0	0	0	0	0	3	10	11	0	24	129	45	12	1	187	302	3
17:45	18	30	54	0	102	0	0	0	0	0	5	14	6	0	25	103	56	8	1	168	295	1
Total	79	126	189	6	400	0	0	0	0	0	21	48	38	0	107	455	218	40	4	717	1224	10
Grand Total	144	217	391	11	763	0	1	0	0	1	46	103	70	0	219	896	458	86	14	1454	2437	25
Apprch %	18.9%	28.4%	51.2%	1.4%		0.0%	100.0%	0.0%	0.0%		21.0%	47.0%	32.0%	0.0%		61.6%	31.5%	5.9%	1.0%			
Total %	5.9%	8.9%	16.0%	0.5%	31.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	4.2%	2.9%	0.0%	9.0%	36.8%	18.8%	3.5%	0.6%	59.7%	100.0%	

PM PEAK HOUR	Pacific Ave Southbound					Beach St Westbound					Pacific Ave Northbound					Beach St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	10	28	48	2	88	0	0	0	0	0	5	13	3	0	21	121	59	14	1	195	304
17:00	20	44	52	3	119	0	0	0	0	0	2	14	10	0	26	108	57	11	1	177	322
17:15	19	27	41	1	88	0	0	0	0	0	11	10	11	0	32	115	60	9	1	185	305
17:30	22	25	42	2	91	0	0	0	0	0	3	10	11	0	24	129	45	12	1	187	302
Total Volume	71	124	183	8	386	0	0	0	0	0	21	47	35	0	103	473	221	46	4	744	1233
% App Total	18.4%	32.1%	47.4%	2.1%		0.0%	0.0%	0.0%	0.0%		20.4%	45.6%	34.0%	0.0%		63.6%	29.7%	6.2%	0.5%		
PHF	.807	.705	.880	.667	.811	.000	.000	.000	.000	.000	.477	.839	.795	.000	.805	.917	.921	.821	1.000	.954	.957

Pacific Ave & Beach St

Date: 4/18/2017
Day: Tuesday

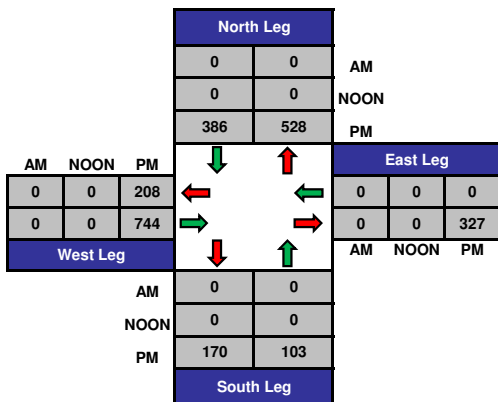
Project #: 17-7270-006



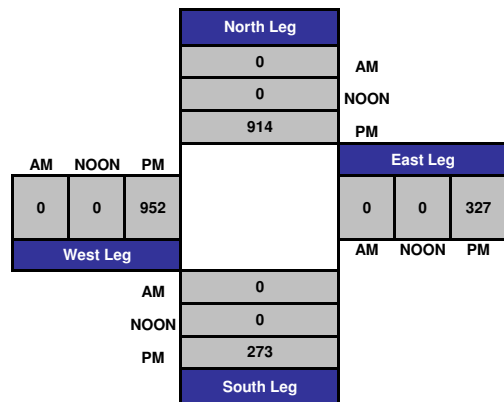
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	16:45 - 17:45

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-006 Pacific Ave & Beach St
 Date : 4/15/2017

Unshifted Count = All Vehicles & Uturns

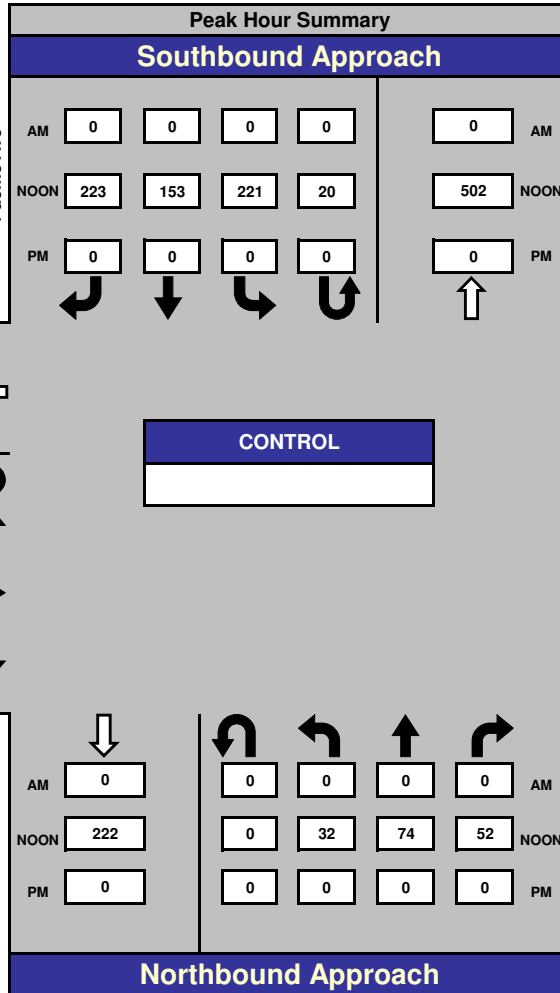
START TIME	Pacific Ave Southbound					Beach St Westbound					Pacific Ave Northbound					Beach St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	67	34	58	10	169	0	0	0	0	0	9	12	10	0	31	88	51	20	2	161	361	12
13:15	62	20	58	7	147	0	0	0	0	0	4	12	11	0	27	97	44	23	1	165	339	8
13:30	60	33	54	5	152	0	0	0	0	0	10	15	12	0	37	79	64	17	4	164	353	9
13:45	50	44	51	1	146	0	0	0	0	0	8	13	13	0	34	100	51	22	4	177	357	5
Total	239	131	221	23	614	0	0	0	0	0	31	52	46	0	129	364	210	82	11	667	1410	34
14:00	72	38	49	6	165	0	0	0	0	0	8	21	15	0	44	99	52	11	1	163	372	7
14:15	52	33	65	6	156	0	0	0	0	0	7	17	9	0	33	91	48	16	4	159	348	10
14:30	47	38	58	7	150	0	0	0	0	0	9	23	15	0	47	118	39	20	6	183	380	13
14:45	44	39	50	6	139	0	0	0	0	0	8	20	9	0	37	101	50	20	4	175	351	10
Total	215	148	222	25	610	0	0	0	0	0	32	81	48	0	161	409	189	67	15	680	1451	40
Grand Total	454	279	443	48	1224	0	0	0	0	0	63	133	94	0	290	773	399	149	26	1347	2861	74
Apprch %	37.1%	22.8%	36.2%	3.9%		0.0%	0.0%	0.0%	0.0%		21.7%	45.9%	32.4%	0.0%		57.4%	29.6%	11.1%	1.9%			
Total %	15.9%	9.8%	15.5%	1.7%	42.8%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	4.6%	3.3%	0.0%	10.1%	27.0%	13.9%	5.2%	0.9%	47.1%	100.0%	

NOON PEAK	Pacific Ave Southbound					Beach St Westbound					Pacific Ave Northbound					Beach St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 13:45 to 14:45																					
Peak Hour For Entire Intersection Begins at 13:45																					
13:45	50	44	51	1	146	0	0	0	0	0	8	13	13	0	34	100	51	22	4	177	357
14:00	72	38	49	6	165	0	0	0	0	0	8	21	15	0	44	99	52	11	1	163	372
14:15	52	33	65	6	156	0	0	0	0	0	7	17	9	0	33	91	48	16	4	159	348
14:30	47	38	58	7	150	0	0	0	0	0	9	23	15	0	47	118	39	20	6	183	380
Total Volume	221	153	223	20	617	0	0	0	0	0	32	74	52	0	158	408	190	69	15	682	1457
% App Total	35.8%	24.8%	36.1%	3.2%		0.0%	0.0%	0.0%	0.0%		20.3%	46.8%	32.9%	0.0%		59.8%	27.9%	10.1%	2.2%		
PHF	.767	.869	.858	.714	.935	.000	.000	.000	.000	.000	.889	.804	.867	.000	.840	.864	.913	.784	.625	.932	.959

Pacific Ave & Beach St

Date: 4/15/2017
Day: Saturday

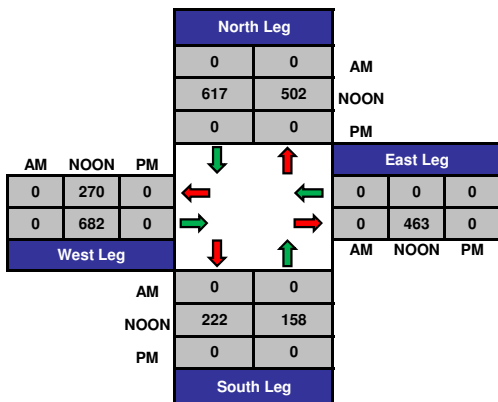
Project #: 17-7270-006



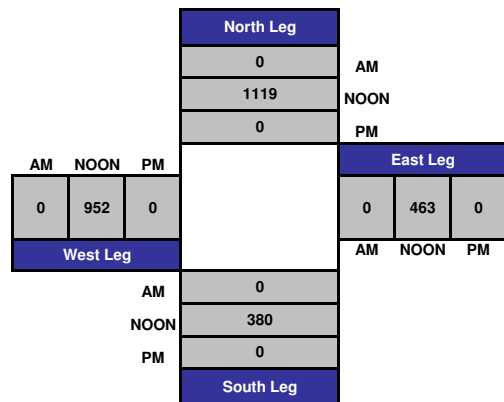
AM Peak Hour	
NOON Peak Hour	13:45 - 14:45
PM Peak Hour	

Count Periods	Start	End
AM	NONE	NONE
NOON	1:00 PM	3:00 PM
PM	NONE	NONE

Total Ins & Outs



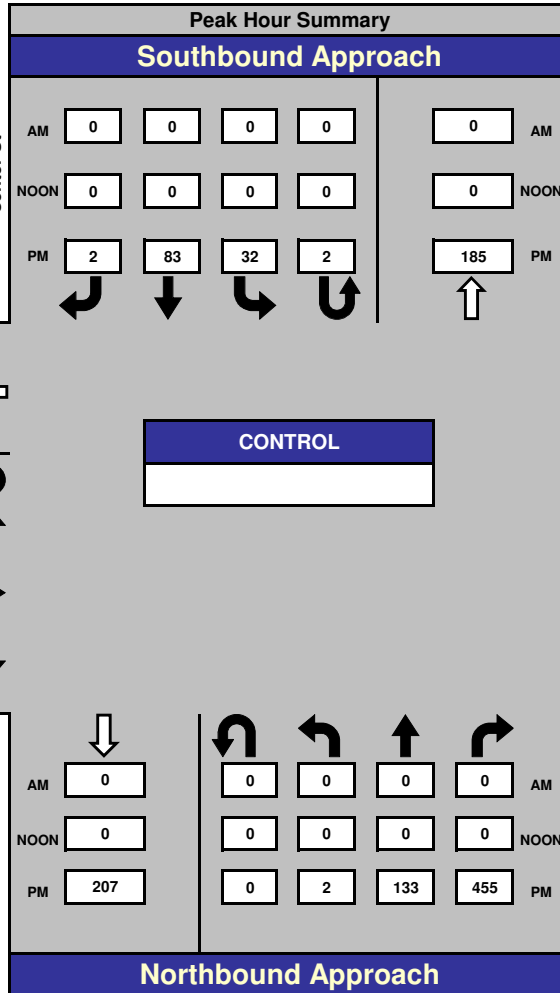
Total Volume Per Leg



Center St & Pacific Ave

Date: 4/18/2017
Day: Tuesday

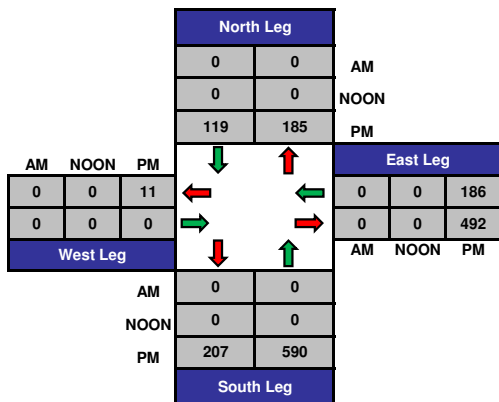
Project #: 17-7270-004



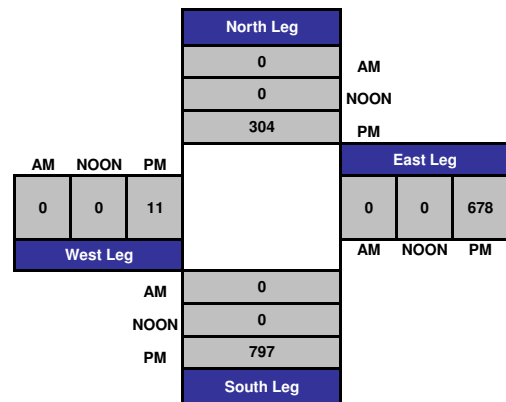
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	17:00 - 18:00

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-004 Center St & Pacific Ave
 Date : 4/15/2017

Unshifted Count = All Vehicles & Uturns

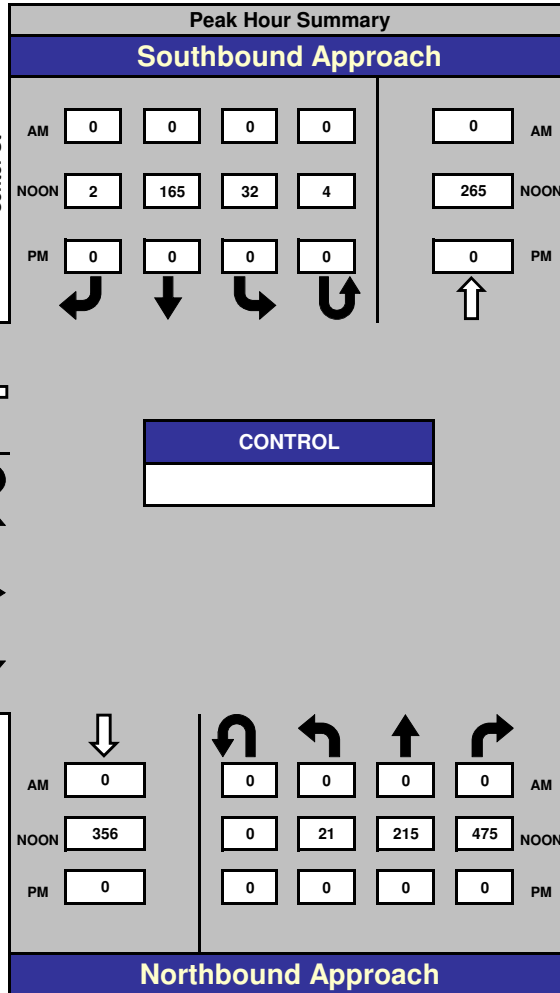
START TIME	Center St Southbound					Pacific Ave Westbound					Center St Northbound					Pacific Ave Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	5	52	0	1	58	61	3	13	2	79	3	45	98	0	146	1	0	0	0	1	284	3
13:15	6	29	1	3	39	46	2	21	2	71	7	45	100	0	152	0	0	0	0	0	262	5
13:30	2	33	0	1	36	60	5	9	0	74	6	44	112	0	162	0	0	1	0	1	273	1
13:45	1	36	0	0	37	56	4	11	1	72	2	51	103	0	156	0	0	0	0	0	265	1
Total	14	150	1	5	170	223	14	54	5	296	18	185	413	0	616	1	0	1	0	2	1084	10
14:00	7	49	1	0	57	65	2	16	1	84	6	51	115	0	172	1	0	0	0	1	314	1
14:15	13	47	1	3	64	42	2	12	2	58	6	49	104	0	159	0	0	0	0	0	281	5
14:30	10	40	0	1	51	45	6	8	1	60	3	59	120	0	182	0	0	1	0	1	294	2
14:45	2	29	0	0	31	38	2	9	2	51	6	56	136	0	198	0	0	0	0	0	280	2
Total	32	165	2	4	203	190	12	45	6	253	21	215	475	0	711	1	0	1	0	2	1169	10
Grand Total	46	315	3	9	373	413	26	99	11	549	39	400	888	0	1327	2	0	2	0	4	2253	20
Apprch %	12.3%	84.5%	0.8%	2.4%		75.2%	4.7%	18.0%	2.0%		2.9%	30.1%	66.9%	0.0%		50.0%	0.0%	50.0%	0.0%			
Total %	2.0%	14.0%	0.1%	0.4%	16.6%	18.3%	1.2%	4.4%	0.5%	24.4%	1.7%	17.8%	39.4%	0.0%	58.9%	0.1%	0.0%	0.1%	0.0%	0.2%	100.0%	

NOON PEAK START TIME	Center St Southbound					Pacific Ave Westbound					Center St Northbound					Pacific Ave Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 14:00 to 15:00																					
Peak Hour For Entire Intersection Begins at 14:00																					
14:00	7	49	1	0	57	65	2	16	1	84	6	51	115	0	172	1	0	0	0	1	314
14:15	13	47	1	3	64	42	2	12	2	58	6	49	104	0	159	0	0	0	0	0	281
14:30	10	40	0	1	51	45	6	8	1	60	3	59	120	0	182	0	0	1	0	1	294
14:45	2	29	0	0	31	38	2	9	2	51	6	56	136	0	198	0	0	0	0	0	280
Total Volume	32	165	2	4	203	190	12	45	6	253	21	215	475	0	711	1	0	1	0	2	1169
% App Total	15.8%	81.3%	1.0%	2.0%		75.1%	4.7%	17.8%	2.4%		3.0%	30.2%	66.8%	0.0%		50.0%	0.0%	50.0%	0.0%		
PHF	.615	.842	.500	.333	.793	.731	.500	.703	.750	.753	.875	.911	.873	.000	.898	.250	.000	.250	.000	.500	.931

Center St & Pacific Ave

Date: 4/15/2017
Day: Saturday

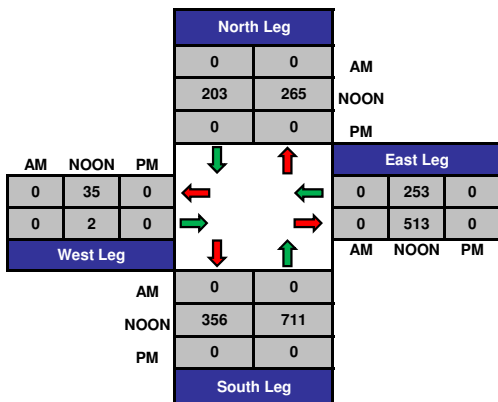
Project #: 17-7270-004



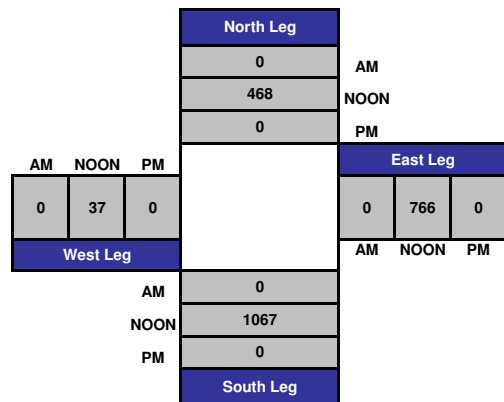
AM Peak Hour	
NOON Peak Hour	14:00 - 15:00
PM Peak Hour	

Count Periods	Start	End
AM	NONE	NONE
NOON	1:00 PM	3:00 PM
PM	NONE	NONE

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-104 Center St/W Cliff Dr & Pacific Ave
 Date : 4/18/2017

Unshifted Count = All Vehicles & Uturns

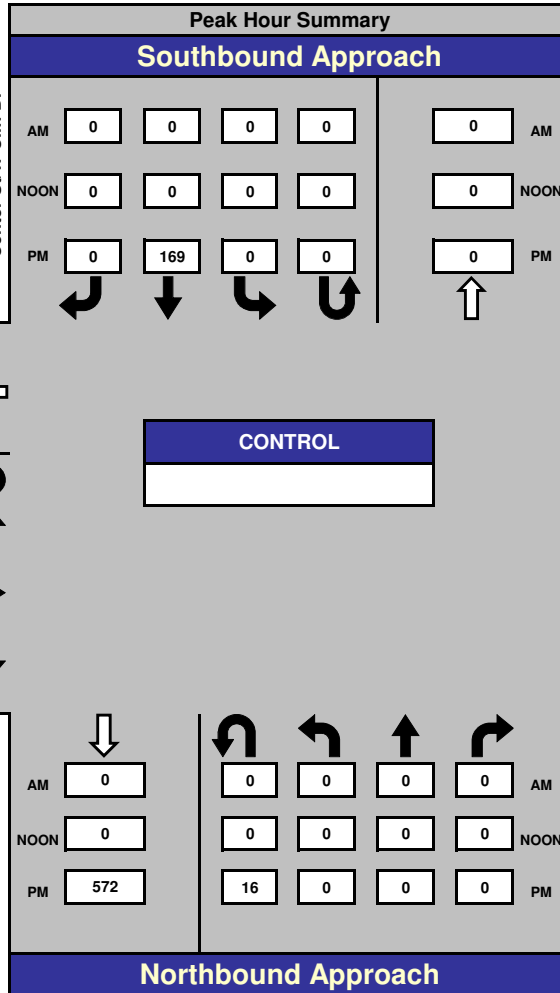
START TIME	Center St/W Cliff Dr Southbound					Pacific Ave Westbound					Center St/W Cliff Dr Northbound					Pacific Ave Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	30	0	0	30	88	0	0	0	88	0	0	0	9	9	0	0	0	0	0	127	9
16:15	0	34	0	0	34	96	0	0	0	96	0	0	0	5	5	0	0	0	0	0	135	5
16:30	0	32	0	0	32	88	0	0	0	88	0	0	0	3	3	0	0	0	0	0	123	3
16:45	0	40	0	0	40	88	0	0	0	88	0	0	0	5	5	0	0	0	0	0	133	5
Total	0	136	0	0	136	360	0	0	0	360	0	0	0	22	22	0	0	0	0	0	518	22
17:00	0	45	0	0	45	98	0	0	0	98	0	0	0	5	5	0	0	0	0	0	148	5
17:15	0	38	0	0	38	99	0	0	0	99	0	0	0	4	4	0	0	0	0	0	141	4
17:30	0	46	0	0	46	102	0	0	0	102	0	0	0	2	2	0	0	0	0	0	150	2
17:45	0	28	0	0	28	88	0	0	0	88	0	0	0	8	8	0	0	0	0	0	124	8
Total	0	157	0	0	157	387	0	0	0	387	0	0	0	19	19	0	0	0	0	0	563	19
Grand Total	0	293	0	0	293	747	0	0	0	747	0	0	0	41	41	0	0	0	0	0	1081	41
Apprch %	0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	100.0%		0.0%	0.0%	0.0%	0.0%			
Total %	0.0%	27.1%	0.0%	0.0%	27.1%	69.1%	0.0%	0.0%	0.0%	69.1%	0.0%	0.0%	0.0%	3.8%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

PM PEAK HOUR	Center St/W Cliff Dr Southbound					Pacific Ave Westbound					Center St/W Cliff Dr Northbound					Pacific Ave Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 16:45 to 17:45																						
Peak Hour For Entire Intersection Begins at 16:45																						
16:45	0	40	0	0	40	88	0	0	0	88	0	0	0	5	5	0	0	0	0	0	133	
17:00	0	45	0	0	45	98	0	0	0	98	0	0	0	5	5	0	0	0	0	0	148	
17:15	0	38	0	0	38	99	0	0	0	99	0	0	0	4	4	0	0	0	0	0	141	
17:30	0	46	0	0	46	102	0	0	0	102	0	0	0	2	2	0	0	0	0	0	150	
Total Volume	0	169	0	0	169	387	0	0	0	387	0	0	0	16	16	0	0	0	0	0	572	
% App Total	0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	100.0%		0.0%	0.0%	0.0%	0.0%			
PHF	.000	.918	.000	.000	.918	.949	.000	.000	.000	.949	.000	.000	.000	.800	.800	.000	.000	.000	.000	.000	.953	

Center St/W Cliff Dr & Pacific Ave

Date: 4/18/2017
Day: Tuesday

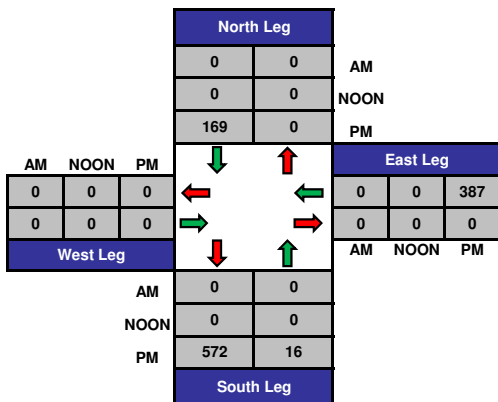
Project #: 17-7270-104



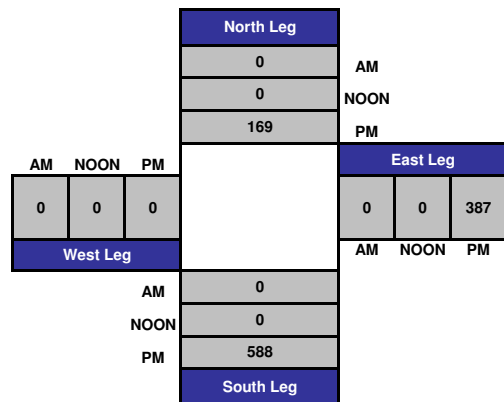
AM Peak Hour	
NOON Peak Hour	
PM Peak Hour	16:45 - 17:45

Count Periods	Start	End
AM	NONE	NONE
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



National Data and Surveying Services

City of Santa Cruz
 All Vehicles & Uturns On Unshifted
 Nothing On Bank 1
 Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7270-104 Center St/W Cliff Dr & Pacific Ave
 Date : 4/15/2017

Unshifted Count = All Vehicles & Uturns

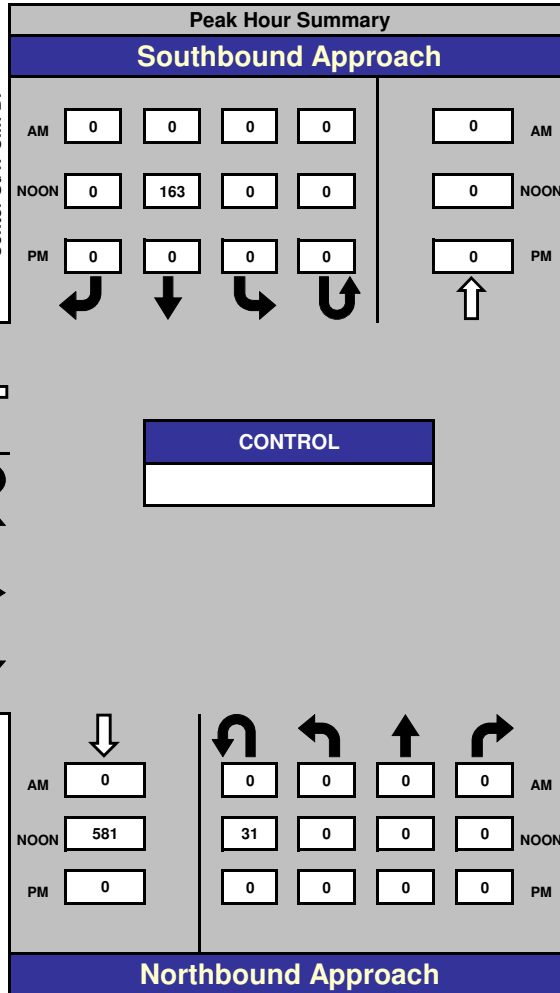
START TIME	Center St/W Cliff Dr Southbound					Pacific Ave Westbound					Center St/W Cliff Dr Northbound					Pacific Ave Eastbound					Total	Utms Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	0	28	0	0	28	70	0	0	0	70	0	0	0	11	11	0	0	0	0	0	109	11
13:15	0	32	0	0	32	84	0	0	0	84	0	0	0	9	9	0	0	0	0	0	125	9
13:30	0	41	0	0	41	71	0	0	0	71	0	0	0	8	8	0	0	0	0	0	120	8
13:45	0	42	0	0	42	95	0	0	0	95	0	0	0	4	4	0	0	0	0	0	141	4
Total	0	143	0	0	143	320	0	0	0	320	0	0	0	32	32	0	0	0	0	0	495	32
14:00	0	45	0	0	45	104	0	0	0	104	0	0	0	10	10	0	0	0	0	0	159	10
14:15	0	43	0	0	43	100	0	0	0	100	0	0	0	6	6	0	0	1	0	1	150	6
14:30	0	33	0	0	33	87	0	0	0	87	0	0	0	11	11	0	0	0	0	0	131	11
14:45	0	24	0	0	24	75	0	0	0	75	0	0	0	9	9	0	0	0	0	0	108	9
Total	0	145	0	0	145	366	0	0	0	366	0	0	0	36	36	0	0	1	0	1	548	36
Grand Total	0	288	0	0	288	686	0	0	0	686	0	0	0	68	68	0	0	1	0	1	1043	68
Apprch %	0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	100.0%		0.0%	0.0%	100.0%	0.0%			
Total %	0.0%	27.6%	0.0%	0.0%	27.6%	65.8%	0.0%	0.0%	0.0%	65.8%	0.0%	0.0%	0.0%	6.5%	6.5%	0.0%	0.0%	0.1%	0.0%	0.1%	100.0%	

NOON PEAK	Center St/W Cliff Dr Southbound					Pacific Ave Westbound					Center St/W Cliff Dr Northbound					Pacific Ave Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 13:45 to 14:45																						
Peak Hour For Entire Intersection Begins at 13:45																						
13:45	0	42	0	0	42	95	0	0	0	95	0	0	0	4	4	0	0	0	0	0	141	
14:00	0	45	0	0	45	104	0	0	0	104	0	0	0	10	10	0	0	0	0	0	159	
14:15	0	43	0	0	43	100	0	0	0	100	0	0	0	6	6	0	0	1	0	1	150	
14:30	0	33	0	0	33	87	0	0	0	87	0	0	0	11	11	0	0	0	0	0	131	
Total Volume	0	163	0	0	163	386	0	0	0	386	0	0	0	31	31	0	0	1	0	1	581	
% App Total	0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	100.0%		0.0%	0.0%	100.0%	0.0%			
PHF	.000	.906	.000	.000	.906	.928	.000	.000	.000	.928	.000	.000	.000	.705	.705	.000	.000	.250	.000	.250	.914	

Center St/W Cliff Dr & Pacific Ave

Date: 4/15/2017
Day: Saturday

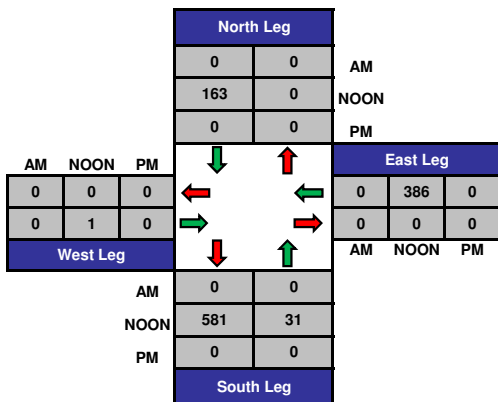
Project #: 17-7270-104



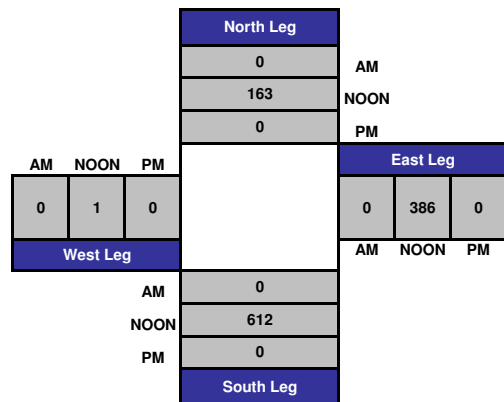
AM Peak Hour	
NOON Peak Hour	13:45 - 14:45
PM Peak Hour	

Count Periods	Start	End
AM	NONE	NONE
NOON	1:00 PM	3:00 PM
PM	NONE	NONE

Total Ins & Outs



Total Volume Per Leg



ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-001

Date : 08/17/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Bay St Southbound					Mission St Westbound					Bay St Northbound					Mission St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	31	23	17	0	71	31	254	24	0	309	25	24	27	0	76	21	229	16	0	266	722	0
16:15	45	23	23	0	91	36	252	21	0	309	13	19	20	0	52	16	211	15	0	242	694	0
16:30	48	22	17	0	87	32	244	18	0	294	18	21	15	0	54	13	279	12	0	304	739	0
16:45	47	42	27	0	116	33	237	31	0	301	22	28	11	0	61	20	247	18	0	285	763	0
Total	171	110	84	0	365	132	987	94	0	1213	78	92	73	0	243	70	966	61	0	1097	2918	0
17:00	40	34	19	0	93	26	235	27	0	288	15	19	29	0	63	22	241	13	0	276	720	0
17:15	52	32	21	0	105	41	227	21	0	289	19	21	22	0	62	18	221	12	0	251	707	0
17:30	43	22	12	0	77	27	245	18	0	290	14	25	17	0	56	14	263	11	0	288	711	0
17:45	44	28	26	0	98	32	254	24	0	310	22	29	16	0	67	19	211	23	0	253	728	0
Total	179	116	78	0	373	126	961	90	0	1177	70	94	84	0	248	73	936	59	0	1068	2866	0
Grand Total	350	226	162	0	738	258	1948	184	0	2390	148	186	157	0	491	143	1902	120	0	2165	5784	0
Apprch %	47.4%	30.6%	22.0%	0.0%		10.8%	81.5%	7.7%	0.0%		30.1%	37.9%	32.0%	0.0%		6.6%	87.9%	5.5%	0.0%			
Total %	6.1%	3.9%	2.8%	0.0%	12.8%	4.5%	33.7%	3.2%	0.0%	41.3%	2.6%	3.2%	2.7%	0.0%	8.5%	2.5%	32.9%	2.1%	0.0%	37.4%	100.0%	

PM PEAK HOUR	Bay St Southbound					Mission St Westbound					Bay St Northbound					Mission St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	48	22	17	0	87	32	244	18	0	294	18	21	15	0	54	13	279	12	0	304	739
16:45	47	42	27	0	116	33	237	31	0	301	22	28	11	0	61	20	247	18	0	285	763
17:00	40	34	19	0	93	26	235	27	0	288	15	19	29	0	63	22	241	13	0	276	720
17:15	52	32	21	0	105	41	227	21	0	289	19	21	22	0	62	18	221	12	0	251	707
Total Volume	187	130	84	0	401	132	943	97	0	1172	74	89	77	0	240	73	988	55	0	1116	2929
% App Total	46.6%	32.4%	20.9%	0.0%		11.3%	80.5%	8.3%	0.0%		30.8%	37.1%	32.1%	0.0%		6.5%	88.5%	4.9%	0.0%		
PHF	.899	.774	.778	.000	.864	.805	.966	.782	.000	.973	.841	.795	.664	.000	.952	.830	.885	.764	.000	.918	.960

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-001

Date : 08/19/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Bay St Southbound					Mission St Westbound					Bay St Northbound					Mission St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	29	15	18	0	62	33	231	30	0	294	25	23	28	0	76	10	266	10	0	286	718	0
13:15	36	20	16	0	72	31	230	30	0	291	30	18	30	0	78	16	250	20	0	286	727	0
13:30	34	16	14	0	64	36	272	21	0	329	29	25	26	0	80	15	260	14	0	289	762	0
13:45	42	19	19	0	80	33	212	18	0	263	32	14	27	0	73	16	263	19	0	298	714	0
Total	141	70	67	0	278	133	945	99	0	1177	116	80	111	0	307	57	1039	63	0	1159	2921	0
14:00	34	14	13	0	61	35	259	27	0	321	22	22	29	0	73	10	253	19	0	282	737	0
14:15	42	24	20	0	86	34	280	30	0	344	20	20	32	0	72	18	252	16	0	286	788	0
14:30	41	18	13	0	72	37	256	21	0	314	27	24	26	0	77	13	271	15	0	299	762	0
14:45	33	19	17	0	69	38	266	20	0	324	14	12	30	0	56	14	228	19	0	261	710	0
Total	150	75	63	0	288	144	1061	98	0	1303	83	78	117	0	278	55	1004	69	0	1128	2997	0
Grand Total	291	145	130	0	566	277	2006	197	0	2480	199	158	228	0	585	112	2043	132	0	2287	5918	0
Apprch %	51.4%	25.6%	23.0%	0.0%		11.2%	80.9%	7.9%	0.0%		34.0%	27.0%	39.0%	0.0%		4.9%	89.3%	5.8%	0.0%			
Total %	4.9%	2.5%	2.2%	0.0%	9.6%	4.7%	33.9%	3.3%	0.0%	41.9%	3.4%	2.7%	3.9%	0.0%	9.9%	1.9%	34.5%	2.2%	0.0%	38.6%	100.0%	

NOON PEAK	Bay St Southbound					Mission St Westbound					Bay St Northbound					Mission St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 13:30 to 14:30																					
Peak Hour For Entire Intersection Begins at 13:30																					
13:30	34	16	14	0	64	36	272	21	0	329	29	25	26	0	80	15	260	14	0	289	762
13:45	42	19	19	0	80	33	212	18	0	263	32	14	27	0	73	16	263	19	0	298	714
14:00	34	14	13	0	61	35	259	27	0	321	22	22	29	0	73	10	253	19	0	282	737
14:15	42	24	20	0	86	34	280	30	0	344	20	20	32	0	72	18	252	16	0	286	788
Total Volume	152	73	66	0	291	138	1023	96	0	1257	103	81	114	0	298	59	1028	68	0	1155	3001
% App Total	52.2%	25.1%	22.7%	0.0%		11.0%	81.4%	7.6%	0.0%		34.6%	27.2%	38.3%	0.0%		5.1%	89.0%	5.9%	0.0%		
PHF	.905	.760	.825	.000	.846	.958	.913	.800	.000	.914	.805	.810	.891	.000	.931	.819	.977	.895	.000	.969	.952

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-002

Date : 08/17/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Bay St Southbound					California Ave Westbound					Bay St Northbound					California Ave Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	55	20	0	75	0	0	0	0	0	12	76	0	0	88	53	0	10	0	63	226	0
16:15	0	57	29	0	86	0	0	0	0	0	15	57	0	0	72	45	0	8	0	53	211	0
16:30	0	57	32	0	89	0	0	0	0	0	10	68	0	0	78	49	0	6	0	55	222	0
16:45	0	67	27	0	94	0	0	0	0	0	16	64	0	0	80	49	0	16	0	65	239	0
Total	0	236	108	0	344	0	0	0	0	0	53	265	0	0	318	196	0	40	0	236	898	0
17:00	0	65	34	0	99	0	0	0	0	0	21	59	0	0	80	52	0	11	0	63	242	0
17:15	0	67	37	0	104	0	0	0	0	0	11	73	0	0	84	41	0	13	0	54	242	0
17:30	0	55	34	0	89	0	0	0	0	0	18	63	0	0	81	56	0	8	0	64	234	0
17:45	0	63	33	0	96	0	0	0	0	0	10	74	0	0	84	40	0	11	0	51	231	0
Total	0	250	138	0	388	0	0	0	0	0	60	269	0	0	329	189	0	43	0	232	949	0
Grand Total	0	486	246	0	732	0	0	0	0	0	113	534	0	0	647	385	0	83	0	468	1847	0
Apprch %	0.0%	66.4%	33.6%	0.0%		0.0%	0.0%	0.0%	0.0%		17.5%	82.5%	0.0%	0.0%		82.3%	0.0%	17.7%	0.0%			
Total %	0.0%	26.3%	13.3%	0.0%	39.6%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	28.9%	0.0%	0.0%	35.0%	20.8%	0.0%	4.5%	0.0%	25.3%	100.0%	

PM PEAK HOUR	Bay St Southbound					California Ave Westbound					Bay St Northbound					California Ave Eastbound					Total		
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL			
Peak Hour Analysis From 16:45 to 17:45																							
Peak Hour For Entire Intersection Begins at 16:45																							
16:45	0	67	27	0	94	0	0	0	0	0	16	64	0	0	80	49	0	16	0	65	239		
17:00	0	65	34	0	99	0	0	0	0	0	21	59	0	0	80	52	0	11	0	63	242		
17:15	0	67	37	0	104	0	0	0	0	0	11	73	0	0	84	41	0	13	0	54	242		
17:30	0	55	34	0	89	0	0	0	0	0	18	63	0	0	81	56	0	8	0	64	234		
Total Volume	0	254	132	0	386	0	0	0	0	0	66	259	0	0	325	198	0	48	0	246	957		
% App Total	0.0%	65.8%	34.2%	0.0%		0.0%	0.0%	0.0%	0.0%		20.3%	79.7%	0.0%	0.0%		80.5%	0.0%	19.5%	0.0%				
PHF	.000	.948	.892	.000	.928	.000	.000	.000	.000	.000	.786	.887	.000	.000	.967	.884	.000	.750	.000	.946	.989		

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-002

Date : 08/19/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Bay St Southbound					California Ave Westbound					Bay St Northbound					California Ave Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	0	55	25	0	80	0	0	0	0	0	14	73	0	0	87	50	0	7	0	57	224	0
13:15	0	59	15	0	74	0	0	0	0	0	22	96	0	0	118	39	0	11	0	50	242	0
13:30	0	66	25	0	91	0	0	0	0	0	9	87	0	0	96	29	0	9	0	38	225	0
13:45	0	59	17	0	76	0	0	0	0	0	20	86	0	0	106	52	0	11	0	63	245	0
Total	0	239	82	0	321	0	0	0	0	0	65	342	0	0	407	170	0	38	0	208	936	0
14:00	0	74	24	0	98	0	0	0	0	0	13	75	0	0	88	52	0	12	0	64	250	0
14:15	0	54	22	0	76	0	0	0	0	0	8	91	0	0	99	48	0	9	0	57	232	0
14:30	0	69	22	0	91	0	0	0	0	0	12	65	0	1	78	43	0	5	0	48	217	1
14:45	0	63	31	0	94	0	0	0	0	0	16	84	0	0	100	49	0	13	0	62	256	0
Total	0	260	99	0	359	0	0	0	0	0	49	315	0	1	365	192	0	39	0	231	955	1
Grand Total	0	499	181	0	680	0	0	0	0	0	114	657	0	1	772	362	0	77	0	439	1891	1
Apprch %	0.0%	73.4%	26.6%	0.0%		0.0%	0.0%	0.0%	0.0%		14.8%	85.1%	0.0%	0.1%		82.5%	0.0%	17.5%	0.0%			
Total %	0.0%	26.4%	9.6%	0.0%	36.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	34.7%	0.0%	0.1%	40.8%	19.1%	0.0%	4.1%	0.0%	23.2%	100.0%	

NOON PEAK	Bay St Southbound					California Ave Westbound					Bay St Northbound					California Ave Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 13:15 to 14:15																					
Peak Hour For Entire Intersection Begins at 13:15																					
13:15	0	59	15	0	74	0	0	0	0	0	22	96	0	0	118	39	0	11	0	50	242
13:30	0	66	25	0	91	0	0	0	0	0	9	87	0	0	96	29	0	9	0	38	225
13:45	0	59	17	0	76	0	0	0	0	0	20	86	0	0	106	52	0	11	0	63	245
14:00	0	74	24	0	98	0	0	0	0	0	13	75	0	0	88	52	0	12	0	64	250
Total Volume	0	258	81	0	339	0	0	0	0	0	64	344	0	0	408	172	0	43	0	215	962
% App Total	0.0%	76.1%	23.9%	0.0%		0.0%	0.0%	0.0%	0.0%		15.7%	84.3%	0.0%	0.0%		80.0%	0.0%	20.0%	0.0%		
PHF	.000	.872	.810	.000	.865	.000	.000	.000	.000	.000	.727	.896	.000	.000	.864	.827	.000	.896	.000	.840	.962

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-003

Date : 08/17/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Bay St Southbound					California St Westbound					Bay St Northbound					California St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	14	56	0	0	70	17	0	7	0	24	0	70	60	0	130	0	0	0	0	0	224	0
16:15	13	60	0	0	73	26	0	8	0	34	0	44	57	0	101	0	0	0	0	0	208	0
16:30	15	59	0	0	74	31	0	12	0	43	0	51	68	0	119	0	0	0	0	0	236	0
16:45	15	75	0	0	90	18	0	12	0	30	0	46	67	0	113	0	0	0	0	0	233	0
Total	57	250	0	0	307	92	0	39	0	131	0	211	252	0	463	0	0	0	0	0	901	0
17:00	19	60	0	0	79	40	0	15	0	55	0	52	59	0	111	0	0	0	0	0	245	0
17:15	17	71	0	0	88	35	0	10	0	45	0	56	58	0	114	0	0	0	0	0	247	0
17:30	12	62	0	0	74	24	0	11	0	35	0	55	63	0	118	0	0	0	0	0	227	0
17:45	13	69	0	0	82	28	0	7	0	35	0	64	51	0	115	0	0	0	0	0	232	0
Total	61	262	0	0	323	127	0	43	0	170	0	227	231	0	458	0	0	0	0	0	951	0
Grand Total	118	512	0	0	630	219	0	82	0	301	0	438	483	0	921	0	0	0	0	0	1852	0
Apprch %	18.7%	81.3%	0.0%	0.0%		72.8%	0.0%	27.2%	0.0%		0.0%	47.6%	52.4%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	6.4%	27.6%	0.0%	0.0%	34.0%	11.8%	0.0%	4.4%	0.0%	16.3%	0.0%	23.7%	26.1%	0.0%	49.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

PM PEAK HOUR	Bay St Southbound					California St Westbound					Bay St Northbound					California St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	15	59	0	0	74	31	0	12	0	43	0	51	68	0	119	0	0	0	0	0	236
16:45	15	75	0	0	90	18	0	12	0	30	0	46	67	0	113	0	0	0	0	0	233
17:00	19	60	0	0	79	40	0	15	0	55	0	52	59	0	111	0	0	0	0	0	245
17:15	17	71	0	0	88	35	0	10	0	45	0	56	58	0	114	0	0	0	0	0	247
Total Volume	66	265	0	0	331	124	0	49	0	173	0	205	252	0	457	0	0	0	0	0	961
% App Total	19.9%	80.1%	0.0%	0.0%		71.7%	0.0%	28.3%	0.0%		0.0%	44.9%	55.1%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.868	.883	.000	.000	.919	.775	.000	.817	.000	.786	.000	.915	.926	.000	.960	.000	.000	.000	.000	.000	.973

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-005

Date : 08/17/2017

Unshifted Count = All Vehicles & Uturns

START TIME	W Cliff Dr Southbound					Bay St Westbound					W Cliff Dr Northbound					Bay St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	86	89	0	175	0	0	0	0	0	10	96	0	0	106	83	0	12	0	95	376	0
16:15	0	83	0	0	83	0	0	0	0	0	9	82	0	0	91	91	0	9	0	100	274	0
16:30	1	90	101	1	193	0	0	0	0	0	7	91	0	0	98	87	0	10	0	97	388	1
16:45	0	90	111	0	201	0	0	0	0	0	12	92	0	0	104	97	0	19	0	116	421	0
Total	1	349	301	1	652	0	0	0	0	0	38	361	0	0	399	358	0	50	0	408	1459	1
17:00	0	89	106	1	196	0	0	0	0	0	3	100	0	0	103	103	0	7	0	110	409	1
17:15	0	97	118	0	215	0	0	0	0	0	8	89	0	0	97	96	0	9	0	105	417	0
17:30	0	93	114	0	207	0	0	1	0	1	6	78	0	0	84	99	0	3	0	102	394	0
17:45	0	84	92	0	176	0	0	1	0	1	10	91	0	0	101	84	0	9	0	93	371	0
Total	0	363	430	1	794	0	0	2	0	2	27	358	0	0	385	382	0	28	0	410	1591	1
Grand Total	1	712	731	2	1446	0	0	2	0	2	65	719	0	0	784	740	0	78	0	818	3050	2
Apprch %	0.1%	49.2%	50.6%	0.1%		0.0%	0.0%	100.0%	0.0%		8.3%	91.7%	0.0%	0.0%		90.5%	0.0%	9.5%	0.0%			
Total %	0.0%	23.3%	24.0%	0.1%	47.4%	0.0%	0.0%	0.1%	0.0%	0.1%	2.1%	23.6%	0.0%	0.0%	25.7%	24.3%	0.0%	2.6%	0.0%	26.8%	100.0%	

PM PEAK HOUR	W Cliff Dr Southbound					Bay St Westbound					W Cliff Dr Northbound					Bay St Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 16:45 to 17:45																						
Peak Hour For Entire Intersection Begins at 16:45																						
16:45	0	90	111	0	201	0	0	0	0	0	12	92	0	0	104	97	0	19	0	116	421	
17:00	0	89	106	1	196	0	0	0	0	0	3	100	0	0	103	103	0	7	0	110	409	
17:15	0	97	118	0	215	0	0	0	0	0	8	89	0	0	97	96	0	9	0	105	417	
17:30	0	93	114	0	207	0	0	1	0	1	6	78	0	0	84	99	0	3	0	102	394	
Total Volume	0	369	449	1	819	0	0	1	0	1	29	359	0	0	388	395	0	38	0	433	1641	
% App Total	0.0%	45.1%	54.8%	0.1%		0.0%	0.0%	100.0%	0.0%		7.5%	92.5%	0.0%	0.0%		91.2%	0.0%	8.8%	0.0%			
PHF	.000	.951	.951	.250	.952	.000	.000	.250	.000	.250	.604	.898	.000	.000	.933	.959	.000	.500	.000	.933	.974	

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-005

Date : 08/19/2017

Unshifted Count = All Vehicles & UtURNS

START TIME	W Cliff Dr Southbound					Bay St Westbound					W Cliff Dr Northbound					Bay St Eastbound					Total	UtURNS Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	0	104	103	2	209	1	0	0	0	1	12	75	0	0	87	58	0	11	0	69	366	2
13:15	1	99	123	2	225	0	1	1	0	2	13	72	1	0	86	66	0	16	0	82	395	2
13:30	0	108	126	0	234	1	0	0	0	1	11	74	1	0	86	77	0	11	0	88	409	0
13:45	0	90	119	0	209	0	0	0	0	0	8	85	0	0	93	72	0	22	0	94	396	0
Total	1	401	471	4	877	2	1	1	0	4	44	306	2	0	352	273	0	60	0	333	1566	4
14:00	0	90	98	0	188	0	0	2	0	2	8	79	1	0	88	78	0	10	0	88	366	0
14:15	1	95	86	1	183	0	0	1	0	1	15	79	0	0	94	58	0	11	0	69	347	1
14:30	1	86	94	0	181	0	0	3	0	3	7	60	0	0	67	66	0	15	0	81	332	0
14:45	1	106	106	1	214	0	0	0	0	0	17	77	0	0	94	74	1	15	0	90	398	1
Total	3	377	384	2	766	0	0	6	0	6	47	295	1	0	343	276	1	51	0	328	1443	2
Grand Total	4	778	855	6	1643	2	1	7	0	10	91	601	3	0	695	549	1	111	0	661	3009	6
Apprch %	0.2%	47.4%	52.0%	0.4%		20.0%	10.0%	70.0%	0.0%		13.1%	86.5%	0.4%	0.0%		83.1%	0.2%	16.8%	0.0%			
Total %	0.1%	25.9%	28.4%	0.2%	54.6%	0.1%	0.0%	0.2%	0.0%	0.3%	3.0%	20.0%	0.1%	0.0%	23.1%	18.2%	0.0%	3.7%	0.0%	22.0%	100.0%	

NOON PEAK START TIME	W Cliff Dr Southbound					Bay St Westbound					W Cliff Dr Northbound					Bay St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 13:00 to 14:00																					
Peak Hour For Entire Intersection Begins at 13:00																					
13:00	0	104	103	2	209	1	0	0	0	1	12	75	0	0	87	58	0	11	0	69	366
13:15	1	99	123	2	225	0	1	1	0	2	13	72	1	0	86	66	0	16	0	82	395
13:30	0	108	126	0	234	1	0	0	0	1	11	74	1	0	86	77	0	11	0	88	409
13:45	0	90	119	0	209	0	0	0	0	0	8	85	0	0	93	72	0	22	0	94	396
Total Volume	1	401	471	4	877	2	1	1	0	4	44	306	2	0	352	273	0	60	0	333	1566
% App Total	0.1%	45.7%	53.7%	0.5%		50.0%	25.0%	25.0%	0.0%		12.5%	86.9%	0.6%	0.0%		82.0%	0.0%	18.0%	0.0%		
PHF	.250	.928	.935	.500	.937	.500	.250	.250	.000	.500	.846	.900	.500	.000	.946	.886	.000	.682	.000	.886	.957

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7613-001

Date : 08/17/2017

Unshifted Count = All Vehicles & Uturns

START TIME	W Cliff Dr Southbound					Project Dwy Westbound					W Cliff Dr Northbound					Project Dwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	0	3	0	3	0	2	0	0	2	0	0	0	0	0	1	0	7	0	8	13	0
16:15	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	1	0	3	0	4	10	0
16:30	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	3	0	0	0	3	6	0
16:45	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	2	0	2	0	4	7	0
Total	0	0	4	0	4	0	12	0	0	12	1	0	0	0	1	7	0	12	0	19	36	0
17:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	0	1	0	4	7	0
17:15	0	0	2	0	2	0	3	0	0	3	0	0	0	0	0	2	0	8	0	10	15	0
17:30	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	4	0
17:45	0	0	4	0	4	0	4	0	0	4	0	0	0	0	0	1	0	2	0	3	11	0
Total	0	0	8	0	8	0	10	0	0	10	0	0	0	0	0	8	0	11	0	19	37	0
Grand Total	0	0	12	0	12	0	22	0	0	22	1	0	0	0	1	15	0	23	0	38	73	0
Apprch %	0.0%	0.0%	100.0%	0.0%		0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		39.5%	0.0%	60.5%	0.0%			
Total %	0.0%	0.0%	16.4%	0.0%	16.4%	0.0%	30.1%	0.0%	0.0%	30.1%	1.4%	0.0%	0.0%	0.0%	1.4%	20.5%	0.0%	31.5%	0.0%	52.1%	100.0%	

PM PEAK HOUR	W Cliff Dr Southbound					Project Dwy Westbound					W Cliff Dr Northbound					Project Dwy Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	0	1	0	4	7
17:15	0	0	2	0	2	0	3	0	0	3	0	0	0	0	0	2	0	8	0	10	15
17:30	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	4
17:45	0	0	4	0	4	0	4	0	0	4	0	0	0	0	0	1	0	2	0	3	11
Total Volume	0	0	8	0	8	0	10	0	0	10	0	0	0	0	0	8	0	11	0	19	37
% App Total	0.0%	0.0%	100.0%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		42.1%	0.0%	57.9%	0.0%		
PHF	.000	.000	.500	.000	.500	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.667	.000	.344	.000	.475	.617

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7613-003

Date : 08/17/2017

Unshifted Count = All Vehicles & Uturns

START TIME	W Cliff Dr Southbound					Project Dwy Outbound Westbound					W Cliff Dr Northbound					Project Dwy Outbound Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	0	0	0	0	0	2	3	0	5	0	0	0	0	0	0	0	0	0	0	5	0
16:15	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	6	0
16:30	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	4	0
16:45	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	5	0
Total	0	0	0	0	0	0	12	8	0	20	0	0	0	0	0	0	0	0	0	0	20	0
17:00	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	5	0
17:15	0	0	0	0	0	1	3	3	0	7	0	0	0	0	0	0	0	0	0	0	7	0
17:30	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0
17:45	0	0	0	0	0	0	4	3	0	7	0	0	0	0	0	0	0	0	0	0	7	0
Total	0	0	0	0	0	1	10	9	0	20	0	0	0	0	0	0	0	0	0	0	20	0
Grand Total	0	0	0	0	0	1	22	17	0	40	0	0	0	0	0	0	0	0	0	0	40	0
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	55.0%	42.5%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	55.0%	42.5%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

PM PEAK HOUR	W Cliff Dr Southbound					Project Dwy Outbound Westbound					W Cliff Dr Northbound					Project Dwy Outbound Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	4
16:45	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	5
17:00	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	5
17:15	0	0	0	0	0	1	3	3	0	7	0	0	0	0	0	0	0	0	0	0	7
Total Volume	0	0	0	0	0	1	11	9	0	21	0	0	0	0	0	0	0	0	0	0	21
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%	52.4%	42.9%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
PHF	.000	.000	.000	.000	.000	.250	.917	.750	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7613-001

Date : 08/19/2017

Unshifted Count = All Vehicles & Uturns

START TIME	W Cliff Dr Southbound					Project Dwy Westbound					W Cliff Dr Northbound					Project Dwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	0	0	4	0	4	0	0	0	0	0	1	0	0	0	1	1	0	4	0	5	10	0
13:15	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	1	3	0	4	7	0
13:30	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	8	0
13:45	0	0	2	0	2	0	1	0	0	1	1	0	0	0	1	0	0	2	0	2	6	0
Total	0	0	12	0	12	0	3	0	0	3	2	0	0	0	2	2	1	11	0	14	31	0
14:00	0	0	5	0	5	0	1	0	0	1	0	0	0	0	0	1	0	3	0	4	10	0
14:15	0	0	5	0	5	0	1	0	0	1	0	0	0	0	0	1	0	1	0	2	8	0
14:30	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	7	0
14:45	0	0	7	0	7	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	10	0
Total	0	0	20	0	20	0	3	0	0	3	0	0	0	0	0	4	0	8	0	12	35	0
Grand Total	0	0	32	0	32	0	6	0	0	6	2	0	0	0	2	6	1	19	0	26	66	0
Apprch %	0.0%	0.0%	100.0%	0.0%		0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		23.1%	3.8%	73.1%	0.0%			
Total %	0.0%	0.0%	48.5%	0.0%	48.5%	0.0%	9.1%	0.0%	0.0%	9.1%	3.0%	0.0%	0.0%	0.0%	3.0%	9.1%	1.5%	28.8%	0.0%	39.4%	100.0%	

NOON PEAK START TIME	W Cliff Dr Southbound					Project Dwy Westbound					W Cliff Dr Northbound					Project Dwy Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 14:00 to 15:00																						
Peak Hour For Entire Intersection Begins at 14:00																						
14:00	0	0	5	0	5	0	1	0	0	1	0	0	0	0	0	1	0	3	0	4	10	
14:15	0	0	5	0	5	0	1	0	0	1	0	0	0	0	0	1	0	1	0	2	8	
14:30	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	7	
14:45	0	0	7	0	7	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	10	
Total Volume	0	0	20	0	20	0	3	0	0	3	0	0	0	0	0	4	0	8	0	12	35	
% App Total	0.0%	0.0%	100.0%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		33.3%	0.0%	66.7%	0.0%			
PHF	.000	.000	.714	.000	.714	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.500	.000	.667	.000	.750	.875	

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7613-003

Date : 08/19/2017

Unshifted Count = All Vehicles & Uturns

START TIME	W Cliff Dr Southbound					Project Dwy Outbound Westbound					W Cliff Dr Northbound					Project Dwy Outbound Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	0
13:15	0	0	0	0	0	1	2	3	0	6	0	0	0	0	0	0	0	0	0	0	6	0
13:30	0	0	0	0	0	3	0	6	0	9	0	0	0	0	0	0	0	0	0	0	9	0
13:45	0	0	0	0	0	1	1	2	0	4	0	0	0	0	0	0	0	0	0	0	4	0
Total	0	0	0	0	0	5	3	13	0	21	0	0	0	0	0	0	0	0	0	0	21	0
14:00	0	0	0	0	0	0	1	7	0	8	0	0	0	0	0	0	0	0	0	0	8	0
14:15	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	3	0
14:30	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	4	0
14:45	0	0	0	0	0	1	1	5	0	7	0	0	0	0	0	0	0	0	0	0	7	0
Total	0	0	0	0	0	1	3	18	0	22	0	0	0	0	0	0	0	0	0	0	22	0
Grand Total	0	0	0	0	0	6	6	31	0	43	0	0	0	0	0	0	0	0	0	0	43	0
Apprch %	0.0%	0.0%	0.0%	0.0%	0.0%	14.0%	14.0%	72.1%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	14.0%	14.0%	72.1%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0

NOON PEAK START TIME	W Cliff Dr Southbound					Project Dwy Outbound Westbound					W Cliff Dr Northbound					Project Dwy Outbound Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 13:15 to 14:15																						
Peak Hour For Entire Intersection Begins at 13:15																						
13:15	0	0	0	0	0	1	2	3	0	6	0	0	0	0	0	0	0	0	0	0	6	0
13:30	0	0	0	0	0	3	0	6	0	9	0	0	0	0	0	0	0	0	0	0	9	0
13:45	0	0	0	0	0	1	1	2	0	4	0	0	0	0	0	0	0	0	0	0	4	0
14:00	0	0	0	0	0	0	1	7	0	8	0	0	0	0	0	0	0	0	0	0	8	0
Total Volume	0	0	0	0	0	5	4	18	0	27	0	0	0	0	0	0	0	0	0	0	27	0
% App Total	0.0%	0.0%	0.0%	0.0%	0.0%	18.5%	14.8%	66.7%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0
PHF	.000	.000	.000	.000	.000	.417	.500	.643	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750	0

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-007

Date : 08/17/2017

Unshifted Count = All Vehicles & Uturns

START TIME	W Cliff Dr Southbound					Beach St Westbound					W Cliff Dr Northbound					Beach St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	0	121	1	0	122	51	0	0	0	51	0	1	178	0	179	0	1	1	0	2	354	0
16:15	0	140	0	0	140	62	0	0	0	62	1	2	174	3	180	0	0	1	0	1	383	3
16:30	0	145	0	0	145	41	0	0	0	41	0	2	174	0	176	0	0	0	0	0	362	0
16:45	0	147	1	0	148	62	0	0	0	62	0	2	196	2	200	0	0	0	0	0	410	2
Total	0	553	2	0	555	216	0	0	0	216	1	7	722	5	735	0	1	2	0	3	1509	5
17:00	0	142	0	0	142	52	0	0	0	52	0	2	201	1	204	0	0	0	0	0	398	1
17:15	0	138	0	0	138	79	0	0	0	79	0	2	191	2	195	0	0	1	0	1	413	2
17:30	0	165	2	0	167	39	0	0	0	39	0	2	178	0	180	0	0	2	0	2	388	0
17:45	1	134	0	0	135	52	0	1	0	53	0	2	172	0	174	0	0	1	0	1	363	0
Total	1	579	2	0	582	222	0	1	0	223	0	8	742	3	753	0	0	4	0	4	1562	3
Grand Total	1	1132	4	0	1137	438	0	1	0	439	1	15	1464	8	1488	0	1	6	0	7	3071	8
Apprch %	0.1%	99.6%	0.4%	0.0%		99.8%	0.0%	0.2%	0.0%		0.1%	1.0%	98.4%	0.5%		0.0%	14.3%	85.7%	0.0%			
Total %	0.0%	36.9%	0.1%	0.0%	37.0%	14.3%	0.0%	0.0%	0.0%	14.3%	0.0%	0.5%	47.7%	0.3%	48.5%	0.0%	0.0%	0.2%	0.0%	0.2%	100.0%	

PM PEAK HOUR	W Cliff Dr Southbound					Beach St Westbound					W Cliff Dr Northbound					Beach St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	147	1	0	148	62	0	0	0	62	0	2	196	2	200	0	0	0	0	0	410
17:00	0	142	0	0	142	52	0	0	0	52	0	2	201	1	204	0	0	0	0	0	398
17:15	0	138	0	0	138	79	0	0	0	79	0	2	191	2	195	0	0	1	0	1	413
17:30	0	165	2	0	167	39	0	0	0	39	0	2	178	0	180	0	0	2	0	2	388
Total Volume	0	592	3	0	595	232	0	0	0	232	0	8	766	5	779	0	0	3	0	3	1609
% App Total	0.0%	99.5%	0.5%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	1.0%	98.3%	0.6%		0.0%	0.0%	100.0%	0.0%		
PHF	.000	.897	.375	.000	.891	.734	.000	.000	.000	.734	.000	1.000	.953	.625	.955	.000	.000	.375	.000	.375	.974

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-007

Date : 08/19/2017

Unshifted Count = All Vehicles & Uturns

START TIME	W Cliff Dr Southbound					Beach St Westbound					W Cliff Dr Northbound					Beach St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	1	161	0	0	162	47	0	0	0	47	0	0	133	1	134	0	2	1	0	3	346	1
13:15	0	164	1	0	165	65	0	1	0	66	0	0	142	1	143	0	0	1	0	1	375	1
13:30	2	162	1	0	165	61	0	0	1	62	0	0	150	4	154	0	0	1	0	1	382	5
13:45	0	142	0	0	142	67	0	1	0	68	0	1	151	3	155	0	1	0	0	1	366	3
Total	3	629	2	0	634	240	0	2	1	243	0	1	576	9	586	0	3	3	0	6	1469	10
14:00	0	134	0	0	134	57	0	0	1	58	2	2	161	3	168	0	2	0	0	2	362	4
14:15	1	142	1	0	144	47	0	2	0	49	0	0	141	1	142	0	0	0	0	0	335	1
14:30	1	132	2	0	135	51	1	0	1	53	1	0	127	2	130	0	0	0	0	0	318	3
14:45	0	159	0	0	159	62	0	0	1	63	0	2	154	4	160	0	0	0	0	0	382	5
Total	2	567	3	0	572	217	1	2	3	223	3	4	583	10	600	0	2	0	0	2	1397	13
Grand Total	5	1196	5	0	1206	457	1	4	4	466	3	5	1159	19	1186	0	5	3	0	8	2866	23
Apprch %	0.4%	99.2%	0.4%	0.0%		98.1%	0.2%	0.9%	0.9%		0.3%	0.4%	97.7%	1.6%		0.0%	62.5%	37.5%	0.0%			
Total %	0.2%	41.7%	0.2%	0.0%	42.1%	15.9%	0.0%	0.1%	0.1%	16.3%	0.1%	0.2%	40.4%	0.7%	41.4%	0.0%	0.2%	0.1%	0.0%	0.3%	100.0%	

NOON PEAK	W Cliff Dr Southbound					Beach St Westbound					W Cliff Dr Northbound					Beach St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 13:15 to 14:15																					
Peak Hour For Entire Intersection Begins at 13:15																					
13:15	0	164	1	0	165	65	0	1	0	66	0	0	142	1	143	0	0	1	0	1	375
13:30	2	162	1	0	165	61	0	0	1	62	0	0	150	4	154	0	0	1	0	1	382
13:45	0	142	0	0	142	67	0	1	0	68	0	1	151	3	155	0	1	0	0	1	366
14:00	0	134	0	0	134	57	0	0	1	58	2	2	161	3	168	0	2	0	0	2	362
Total Volume	2	602	2	0	606	250	0	2	2	254	2	3	604	11	620	0	3	2	0	5	1485
% App Total	0.3%	99.3%	0.3%	0.0%		98.4%	0.0%	0.8%	0.8%		0.3%	0.5%	97.4%	1.8%		0.0%	60.0%	40.0%	0.0%		
PHF	.250	.918	.500	.000	.918	.933	.000	.500	.500	.934	.250	.375	.938	.688	.923	.000	.375	.500	.000	.625	.972

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-006

Date : 08/17/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Pacific Ave Southbound					Beach St Westbound					Pacific Ave Northbound					Beach St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	25	31	41	1	98	0	0	0	0	0	9	19	17	0	45	124	69	14	2	209	352	3
16:15	24	12	49	2	87	0	0	0	0	0	4	17	14	0	35	120	61	9	6	196	318	8
16:30	32	32	32	2	98	0	0	0	0	0	5	19	8	1	33	106	62	18	2	188	319	5
16:45	22	34	55	3	114	0	0	0	0	0	4	17	4	0	25	123	63	19	5	210	349	8
Total	103	109	177	8	397	0	0	0	0	0	22	72	43	1	138	473	255	60	15	803	1338	24
17:00	21	25	45	1	92	0	0	0	0	0	4	13	10	1	28	132	59	22	3	216	336	5
17:15	23	31	55	5	114	0	0	0	0	0	3	14	9	0	26	121	60	13	2	196	336	7
17:30	21	31	31	3	86	0	0	0	0	0	4	14	4	0	22	109	60	10	2	181	289	5
17:45	24	33	53	0	110	0	0	0	0	0	3	16	9	1	29	102	57	22	4	185	324	5
Total	89	120	184	9	402	0	0	0	0	0	14	57	32	2	105	464	236	67	11	778	1285	22
Grand Total	192	229	361	17	799	0	0	0	0	0	36	129	75	3	243	937	491	127	26	1581	2623	46
Apprch %	24.0%	28.7%	45.2%	2.1%		0.0%	0.0%	0.0%	0.0%		14.8%	53.1%	30.9%	1.2%		59.3%	31.1%	8.0%	1.6%			
Total %	7.3%	8.7%	13.8%	0.6%	30.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	4.9%	2.9%	0.1%	9.3%	35.7%	18.7%	4.8%	1.0%	60.3%	100.0%	

PM PEAK HOUR	Pacific Ave Southbound					Beach St Westbound					Pacific Ave Northbound					Beach St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	32	32	32	2	98	0	0	0	0	0	5	19	8	1	33	106	62	18	2	188	319
16:45	22	34	55	3	114	0	0	0	0	0	4	17	4	0	25	123	63	19	5	210	349
17:00	21	25	45	1	92	0	0	0	0	0	4	13	10	1	28	132	59	22	3	216	336
17:15	23	31	55	5	114	0	0	0	0	0	3	14	9	0	26	121	60	13	2	196	336
Total Volume	98	122	187	11	418	0	0	0	0	0	16	63	31	2	112	482	244	72	12	810	1340
% App Total	23.4%	29.2%	44.7%	2.6%		0.0%	0.0%	0.0%	0.0%		14.3%	56.3%	27.7%	1.8%		59.5%	30.1%	8.9%	1.5%		
PHF	.766	.897	.850	.550	.917	.000	.000	.000	.000	.000	.800	.829	.775	.500	.848	.913	.968	.818	.600	.938	.960

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-006

Date : 08/19/2017

Unshifted Count = All Vehicles & UtURNS

START TIME	Pacific Ave Southbound					Beach St Westbound					Pacific Ave Northbound					Beach St Eastbound					Total	UtURNS Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	42	43	38	6	129	0	0	2	0	2	5	13	21	0	39	85	34	22	2	143	313	8
13:15	41	47	55	7	150	0	1	0	0	1	5	17	10	0	32	67	60	15	1	143	326	8
13:30	53	25	48	5	131	0	1	0	0	1	7	19	14	1	41	87	48	15	2	152	325	8
13:45	52	39	55	5	151	0	0	2	0	2	12	14	14	1	41	100	56	12	2	170	364	8
Total	188	154	196	23	561	0	2	4	0	6	29	63	59	2	153	339	198	64	7	608	1328	32
14:00	46	33	42	4	125	0	0	0	0	0	8	15	19	1	43	96	45	17	1	159	327	6
14:15	50	24	38	7	119	0	1	2	0	3	12	17	9	0	38	66	47	20	3	136	296	10
14:30	44	34	46	15	139	0	2	3	0	5	4	11	14	0	29	72	47	10	1	130	303	16
14:45	43	30	58	19	150	0	1	1	2	4	6	20	12	0	38	77	68	22	0	167	359	21
Total	183	121	184	45	533	0	4	6	2	12	30	63	54	1	148	311	207	69	5	592	1285	53
Grand Total	371	275	380	68	1094	0	6	10	2	18	59	126	113	3	301	650	405	133	12	1200	2613	85
Apprch %	33.9%	25.1%	34.7%	6.2%		0.0%	33.3%	55.6%	11.1%		19.6%	41.9%	37.5%	1.0%		54.2%	33.8%	11.1%	1.0%			
Total %	14.2%	10.5%	14.5%	2.6%	41.9%	0.0%	0.2%	0.4%	0.1%	0.7%	2.3%	4.8%	4.3%	0.1%	11.5%	24.9%	15.5%	5.1%	0.5%	45.9%	100.0%	

NOON PEAK START TIME	Pacific Ave Southbound					Beach St Westbound					Pacific Ave Northbound					Beach St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 13:15 to 14:15																					
Peak Hour For Entire Intersection Begins at 13:15																					
13:15	41	47	55	7	150	0	1	0	0	1	5	17	10	0	32	67	60	15	1	143	326
13:30	53	25	48	5	131	0	1	0	0	1	7	19	14	1	41	87	48	15	2	152	325
13:45	52	39	55	5	151	0	0	2	0	2	12	14	14	1	41	100	56	12	2	170	364
14:00	46	33	42	4	125	0	0	0	0	0	8	15	19	1	43	96	45	17	1	159	327
Total Volume	192	144	200	21	557	0	2	2	0	4	32	65	57	3	157	350	209	59	6	624	1342
% App Total	34.5%	25.9%	35.9%	3.8%		0.0%	50.0%	50.0%	0.0%		20.4%	41.4%	36.3%	1.9%		56.1%	33.5%	9.5%	1.0%		
PHF	.906	.766	.909	.750	.922	.000	.500	.250	.000	.500	.667	.855	.750	.750	.913	.875	.871	.868	.750	.918	.922

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-004

Date : 08/17/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Center St Southbound					Pacific Ave Westbound					Center St Northbound					Pacific Ave Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
16:00	3	24	1	1	29	38	1	2	1	42	1	31	114	1	147	0	0	0	0	0	218	3
16:15	8	26	0	1	35	25	5	7	1	38	2	25	108	0	135	0	0	1	0	1	209	2
16:30	4	31	2	0	37	41	0	7	1	49	0	35	105	0	140	0	0	0	0	0	226	1
16:45	11	31	0	0	42	31	1	7	2	41	2	38	103	2	145	0	0	0	0	0	228	4
Total	26	112	3	2	143	135	7	23	5	170	5	129	430	3	567	0	0	1	0	1	881	10
17:00	4	21	0	0	25	33	2	8	1	44	2	26	116	2	146	0	0	0	0	0	215	3
17:15	6	31	0	1	38	34	2	10	1	47	0	33	101	0	134	0	0	0	0	0	219	2
17:30	2	26	3	1	32	35	1	6	0	42	1	26	112	2	141	0	0	1	0	1	216	3
17:45	2	21	1	2	26	45	4	14	4	67	1	34	91	1	127	0	0	0	0	0	220	7
Total	14	99	4	4	121	147	9	38	6	200	4	119	420	5	548	0	0	1	0	1	870	15
Grand Total	40	211	7	6	264	282	16	61	11	370	9	248	850	8	1115	0	0	2	0	2	1751	25
Apprch %	15.2%	79.9%	2.7%	2.3%		76.2%	4.3%	16.5%	3.0%		0.8%	22.2%	76.2%	0.7%		0.0%	0.0%	100.0%	0.0%			
Total %	2.3%	12.1%	0.4%	0.3%	15.1%	16.1%	0.9%	3.5%	0.6%	21.1%	0.5%	14.2%	48.5%	0.5%	63.7%	0.0%	0.0%	0.1%	0.0%	0.1%	100.0%	

PM PEAK HOUR	Center St Southbound					Pacific Ave Westbound					Center St Northbound					Pacific Ave Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	4	31	2	0	37	41	0	7	1	49	0	35	105	0	140	0	0	0	0	0	226
16:45	11	31	0	0	42	31	1	7	2	41	2	38	103	2	145	0	0	0	0	0	228
17:00	4	21	0	0	25	33	2	8	1	44	2	26	116	2	146	0	0	0	0	0	215
17:15	6	31	0	1	38	34	2	10	1	47	0	33	101	0	134	0	0	0	0	0	219
Total Volume	25	114	2	1	142	139	5	32	5	181	4	132	425	4	565	0	0	0	0	0	888
% App Total	17.6%	80.3%	1.4%	0.7%		76.8%	2.8%	17.7%	2.8%		0.7%	23.4%	75.2%	0.7%		0.0%	0.0%	0.0%	0.0%		
PHF	.568	.919	.250	.250	.845	.848	.625	.800	.625	.923	.500	.868	.916	.500	.967	.000	.000	.000	.000	.000	.974

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-004

Date : 08/19/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Center St Southbound					Pacific Ave Westbound					Center St Northbound					Pacific Ave Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	10	34	0	2	46	50	3	7	3	63	10	37	87	2	136	0	0	0	0	0	245	7
13:15	3	39	0	2	44	45	7	14	0	66	1	32	87	1	121	0	0	0	0	0	231	3
13:30	5	34	0	2	41	45	1	11	1	58	6	43	91	0	140	0	0	0	0	0	239	3
13:45	8	39	0	1	48	42	6	9	3	60	13	39	100	0	152	0	0	0	0	0	260	4
Total	26	146	0	7	179	182	17	41	7	247	30	151	365	3	549	0	0	0	0	0	975	17
14:00	13	35	0	1	49	51	3	7	0	61	9	39	112	1	161	0	0	0	0	0	271	2
14:15	8	44	2	1	55	40	3	10	0	53	2	44	74	2	122	0	1	1	0	2	232	3
14:30	4	27	0	0	31	51	2	11	0	64	3	30	92	1	126	0	0	0	0	0	221	1
14:45	9	32	0	1	42	41	6	9	0	56	2	47	102	0	151	1	0	0	0	1	250	1
Total	34	138	2	3	177	183	14	37	0	234	16	160	380	4	560	1	1	1	0	3	974	7
Grand Total	60	284	2	10	356	365	31	78	7	481	46	311	745	7	1109	1	1	1	0	3	1949	24
Apprch %	16.9%	79.8%	0.6%	2.8%		75.9%	6.4%	16.2%	1.5%		4.1%	28.0%	67.2%	0.6%		33.3%	33.3%	33.3%	0.0%			
Total %	3.1%	14.6%	0.1%	0.5%	18.3%	18.7%	1.6%	4.0%	0.4%	24.7%	2.4%	16.0%	38.2%	0.4%	56.9%	0.1%	0.1%	0.1%	0.0%	0.2%	100.0%	

NOON PEAK START TIME	Center St Southbound					Pacific Ave Westbound					Center St Northbound					Pacific Ave Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 13:30 to 14:30																					
Peak Hour For Entire Intersection Begins at 13:30																					
13:30	5	34	0	2	41	45	1	11	1	58	6	43	91	0	140	0	0	0	0	0	239
13:45	8	39	0	1	48	42	6	9	3	60	13	39	100	0	152	0	0	0	0	0	260
14:00	13	35	0	1	49	51	3	7	0	61	9	39	112	1	161	0	0	0	0	0	271
14:15	8	44	2	1	55	40	3	10	0	53	2	44	74	2	122	0	1	1	0	2	232
Total Volume	34	152	2	5	193	178	13	37	4	232	30	165	377	3	575	0	1	1	0	2	1002
% App Total	17.6%	78.8%	1.0%	2.6%		76.7%	5.6%	15.9%	1.7%		5.2%	28.7%	65.6%	0.5%		0.0%	50.0%	50.0%	0.0%		
PHF	.654	.864	.250	.625	.877	.873	.542	.841	.333	.951	.577	.938	.842	.375	.893	.000	.250	.250	.000	.250	.924

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-104

Date : 08/17/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Center St Southbound					Pacific Ave Westbound					Center St Northbound					Pacific Ave Eastbound					Total	Uturns Total					
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL							
16:00	0	38	0	0	38	71	0	0	0	71	7	1	0	0	8	0	0	0	0	0	0	0	0	0	0	117	0
16:15	0	50	0	0	50	83	0	0	0	83	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	143	0
16:30	0	51	0	0	51	88	0	0	0	88	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	148	0
16:45	0	46	0	0	46	104	0	0	0	104	8	0	0	0	8	0	0	0	0	0	0	0	0	0	0	158	0
Total	0	185	0	0	185	346	0	0	0	346	34	1	0	0	35	0	0	0	0	0	0	0	0	0	0	566	0
17:00	0	44	0	0	44	91	0	0	0	91	8	0	0	0	8	0	0	1	0	1	0	0	0	0	0	144	0
17:15	0	54	0	0	54	88	0	0	0	88	12	0	1	0	13	0	0	0	0	0	0	0	0	0	0	155	0
17:30	0	47	0	0	47	107	0	0	0	107	11	0	1	0	12	0	0	0	0	0	0	0	0	0	0	166	0
17:45	0	44	0	0	44	86	0	0	0	86	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	137	0
Total	0	189	0	0	189	372	0	0	0	372	38	0	2	0	40	0	0	1	0	1	0	0	0	0	0	602	0
Grand Total	0	374	0	0	374	718	0	0	0	718	72	1	2	0	75	0	0	1	0	1	0	0	0	0	0	1168	0
Apprch %	0.0%	100.0%	0.0%	0.0%	32.0%	100.0%	0.0%	0.0%	0.0%	61.5%	96.0%	1.3%	2.7%	0.0%	6.4%	0.0%	0.0%	100.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.1%	100.0%	
Total %	0.0%	32.0%	0.0%	0.0%	32.0%	61.5%	0.0%	0.0%	0.0%	61.5%	6.2%	0.1%	0.2%	0.0%	6.4%	0.0%	0.0%	100.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.1%	100.0%	

PM PEAK HOUR	Center St Southbound					Pacific Ave Westbound					Center St Northbound					Pacific Ave Eastbound					Total					
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL						
Peak Hour Analysis From 16:45 to 17:45																										
Peak Hour For Entire Intersection Begins at 16:45																										
16:45	0	46	0	0	46	104	0	0	0	104	8	0	0	0	8	0	0	0	0	0	0	0	0	0	0	158
17:00	0	44	0	0	44	91	0	0	0	91	8	0	0	0	8	0	0	1	0	1	0	0	0	0	1	144
17:15	0	54	0	0	54	88	0	0	0	88	12	0	1	0	13	0	0	0	0	0	0	0	0	0	0	155
17:30	0	47	0	0	47	107	0	0	0	107	11	0	1	0	12	0	0	0	0	0	0	0	0	0	0	166
Total Volume	0	191	0	0	191	390	0	0	0	390	39	0	2	0	41	0	0	1	0	1	0	0	0	0	1	623
% App Total	0.0%	100.0%	0.0%	0.0%	32.0%	100.0%	0.0%	0.0%	0.0%	61.5%	95.1%	0.0%	4.9%	0.0%	6.4%	0.0%	0.0%	100.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.1%	100.0%
PHF	.000	.884	.000	.000	.884	.911	.000	.000	.000	.911	.813	.000	.500	.000	.788	.000	.000	.250	.000	.250	.000	.000	.250	.000	.250	.938

ALL TRAFFIC DATA

(916) 771-8700

orders@atdtraffic.com

File Name : 17-7612-104

Date : 08/19/2017

Unshifted Count = All Vehicles & Uturns

START TIME	Center St/W Cliff Dr Southbound					Pacific Ave Westbound					Center St/W Cliff Dr Northbound					Pacific Ave Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
13:00	0	52	0	0	52	96	0	0	0	96	11	0	0	0	11	0	0	0	0	0	159	0
13:15	0	70	0	0	70	95	0	0	0	95	9	0	0	0	9	0	0	0	0	0	174	0
13:30	0	62	0	0	62	91	0	0	0	91	7	0	0	0	7	0	0	0	0	0	160	0
13:45	0	50	0	0	50	81	0	0	0	81	12	0	0	0	12	0	0	1	0	1	144	0
Total	0	234	0	0	234	363	0	0	0	363	39	0	0	0	39	0	0	1	0	1	637	0
14:00	0	60	0	0	60	81	0	0	0	81	8	0	0	0	8	0	0	0	0	0	149	0
14:15	0	72	0	0	72	60	0	0	0	60	8	0	0	0	8	0	0	1	0	1	141	0
14:30	0	48	0	0	48	80	0	0	0	80	6	0	0	0	6	0	0	1	0	1	135	0
14:45	0	65	0	0	65	84	0	0	0	84	9	0	0	0	9	0	0	1	0	1	159	0
Total	0	245	0	0	245	305	0	0	0	305	31	0	0	0	31	0	0	3	0	3	584	0
Grand Total	0	479	0	0	479	668	0	0	0	668	70	0	0	0	70	0	0	4	0	4	1221	0
Apprch %	0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%			
Total %	0.0%	39.2%	0.0%	0.0%	39.2%	54.7%	0.0%	0.0%	0.0%	54.7%	5.7%	0.0%	0.0%	0.0%	5.7%	0.0%	0.0%	0.3%	0.0%	0.3%	100.0%	

NOON PEAK	Center St/W Cliff Dr Southbound					Pacific Ave Westbound					Center St/W Cliff Dr Northbound					Pacific Ave Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 13:00 to 14:00																						
Peak Hour For Entire Intersection Begins at 13:00																						
13:00	0	52	0	0	52	96	0	0	0	96	11	0	0	0	11	0	0	0	0	0	159	
13:15	0	70	0	0	70	95	0	0	0	95	9	0	0	0	9	0	0	0	0	0	174	
13:30	0	62	0	0	62	91	0	0	0	91	7	0	0	0	7	0	0	0	0	0	160	
13:45	0	50	0	0	50	81	0	0	0	81	12	0	0	0	12	0	0	1	0	1	144	
Total Volume	0	234	0	0	234	363	0	0	0	363	39	0	0	0	39	0	0	1	0	1	637	
% App Total	0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%			
PHF	.000	.836	.000	.000	.836	.945	.000	.000	.000	.945	.813	.000	.000	.000	.813	.000	.000	.250	.000	.250	.915	

PINNACLE TRAFFIC ENGINEERING

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190 W. Cliff Dr. Mixed Use Project; City of Santa Cruz, CA - Peak Hour Traffic Count Data Comparison (April 2017 vs. August 2017) -

<u>Intersection # / Name</u>	<u>April 2017</u>	<u>August 2017</u>	<u>% Change</u>
#1 Mission St. (SR 1) / Bay St.			
Weekday PM Peak Hour:	3,219	2,929	-9.01%
Saturday Mid-Day (MD) Peak Hour:	3,134	3,001	-4.24%
#2 Bay St. / California St.			
Weekday PM Peak Hour:	1,181	961	-18.63%
Saturday Mid-Day (MD) Peak Hour:	1,103	964	-12.60%
#3 Bay St. / California Ave.			
Weekday PM Peak Hour:	1,093	957	-12.44%
Saturday Mid-Day (MD) Peak Hour:	1,028	962	-6.42%
#5 Bay St. / W. Cliff Dr.			
Weekday PM Peak Hour:	1,582	1,641	3.73%
Saturday Mid-Day (MD) Peak Hour:	1,545	1,566	1.36%
#6 W. Cliff Dr. / Dream Inn Dwy.			
Weekday PM Peak Hour:	1,519	1,629	7.24%
Saturday Mid-Day (MD) Peak Hour:	1,496	1,478	-1.20%
#7 W. Cliff Dr. / Beach St.			
Weekday PM Peak Hour:	1,497	1,609	7.48%
Saturday Mid-Day (MD) Peak Hour:	1,450	1,485	2.41%
#8 Beach St. / Pacific Ave.			
Weekday PM Peak Hour:	1,233	1,340	8.68%
Saturday Mid-Day (MD) Peak Hour:	1,457	1,342	-7.89%
#9 Pacific Ave. / Center / W. Cliff			
Weekday PM Peak Hour:	1,467	1,506	2.66%
Saturday Mid-Day (MD) Peak Hour:	1,747	1,636	-6.35%

VOLUME

W Cliff Dr N/O Bay St

Day: **Friday**

Date: 4/14/2017

City: Santa Cruz

Project #: CA17_7272_001

DAILY TOTALS						NB	SB	EB	WB	Total		
						9,655	10,677	0	0	20,332		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
0:00	20	19			39	12:00	154	191			345	
0:15	9	15			24	12:15	170	173			343	
0:30	10	8			18	12:30	185	192			377	
0:45	13	52	11	53	24	12:45	178	687	205	761	383	1448
1:00	9	16			25	13:00	158	211			369	
1:15	7	8			15	13:15	175	199			374	
1:30	9	10			19	13:30	197	175			372	
1:45	3	28	11	45	14	13:45	201	731	213	798	414	1529
2:00	5	14			19	14:00	185	222			407	
2:15	8	9			17	14:15	197	198			395	
2:30	4	5			9	14:30	190	199			389	
2:45	4	21	4	32	8	14:45	185	757	225	844	410	1601
3:00	3	4			7	15:00	196	216			412	
3:15	4	8			12	15:15	203	209			412	
3:30	3	3			6	15:30	205	209			414	
3:45	3	13	5	20	8	15:45	206	810	195	829	401	1639
4:00	4	4			8	16:00	207	189			396	
4:15	2	4			6	16:15	181	178			359	
4:30	4	5			9	16:30	201	190			391	
4:45	4	14	9	22	13	16:45	203	792	177	734	380	1526
5:00	6	5			11	17:00	188	194			382	
5:15	2	10			12	17:15	195	200			395	
5:30	10	6			16	17:30	190	172			362	
5:45	14	32	16	37	30	17:45	189	762	177	743	366	1505
6:00	10	25			35	18:00	186	196			382	
6:15	20	29			49	18:15	173	207			380	
6:30	33	46			79	18:30	176	185			361	
6:45	35	98	57	157	92	18:45	177	712	193	781	370	1493
7:00	41	56			97	19:00	151	181			332	
7:15	66	84			150	19:15	165	162			327	
7:30	68	113			181	19:30	143	134			277	
7:45	118	293	153	406	271	19:45	141	600	128	605	269	1205
8:00	98	160			258	20:00	149	111			260	
8:15	115	167			282	20:15	110	106			216	
8:30	131	164			295	20:30	81	98			179	
8:45	135	479	189	680	324	20:45	95	435	107	422	202	857
9:00	115	137			252	21:00	78	101			179	
9:15	133	129			262	21:15	60	92			152	
9:30	125	134			259	21:30	85	76			161	
9:45	105	478	119	519	224	21:45	61	284	77	346	138	630
10:00	144	162			306	22:00	51	59			110	
10:15	150	177			327	22:15	48	64			112	
10:30	156	169			325	22:30	46	65			111	
10:45	166	616	181	689	347	22:45	31	176	59	247	90	423
11:00	166	175			341	23:00	25	46			71	
11:15	164	168			332	23:15	36	36			72	
11:30	164	183			347	23:30	29	40			69	
11:45	174	668	224	750	398	23:45	27	117	35	157	62	274
TOTALS	2792	3410			6202	TOTALS	6863	7267			14130	
SPLIT %	45.0%	55.0%			30.5%	SPLIT %	48.6%	51.4%			69.5%	

DAILY TOTALS						NB	SB	EB	WB	Total	
						9,655	10,677	0	0	20,332	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	15:15	14:45		14:45	
AM Pk Volume	683	780			1463	PM Pk Volume	821	859		1648	
Pk Hr Factor	0.923	0.871			0.919	Pk Hr Factor	0.992	0.954		0.995	
7 - 9 Volume	772	1086	0	0	1858	4 - 6 Volume	1554	1477	0	0	3031
7 - 9 Peak Hour	8:00	8:00			8:00	4 - 6 Peak Hour	16:00	16:30			16:30
7 - 9 Pk Volume	479	680	0	0	1159	4 - 6 Pk Volume	792	761	0	0	1548
Pk Hr Factor	0.887	0.899	0.000	0.000	0.894	Pk Hr Factor	0.957	0.951	0.000	0.000	0.980

VOLUMEW **Cliff Dr N/O Bay St**Day: **Saturday**Date: **4/15/2017**

City: Santa Cruz

Project #: CA17_7272_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,430	9,457	0	0	17,887	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	36	26			62	12:00	147	167			314
0:15	19	23			42	12:15	142	188			330
0:30	21	13			34	12:30	154	191			345
0:45	25	101	15	77	40	12:45	173	616	175	721	348
1:00	12	28			40	13:00	161	183			344
1:15	15	17			32	13:15	166	186			352
1:30	13	11			24	13:30	154	207			361
1:45	19	59	13	69	32	13:45	167	648	201	777	368
2:00	12	16			28	14:00	150	204			354
2:15	7	11			18	14:15	148	195			343
2:30	5	10			15	14:30	171	201			372
2:45	6	30	6	43	12	14:45	164	633	167	767	331
3:00	10	6			16	15:00	153	190			343
3:15	3	5			8	15:15	187	185			372
3:30	2	7			9	15:30	161	206			367
3:45	0	15	6	24	6	15:45	160	661	172	753	332
4:00	5	5			10	16:00	159	188			347
4:15	7	2			9	16:15	153	187			340
4:30	4	3			7	16:30	150	174			324
4:45	5	21	2	12	7	16:45	174	636	159	708	333
5:00	6	5			11	17:00	188	181			369
5:15	2	5			7	17:15	180	182			362
5:30	7	5			12	17:30	173	164			337
5:45	16	31	10	25	26	17:45	162	703	167	694	329
6:00	11	13			24	18:00	155	173			328
6:15	18	25			43	18:15	153	166			319
6:30	12	23			35	18:30	160	158			318
6:45	31	72	29	90	60	18:45	153	621	160	657	313
7:00	28	30			58	19:00	145	149			294
7:15	37	48			85	19:15	150	147			297
7:30	40	50			90	19:30	153	157			310
7:45	66	171	76	204	142	19:45	131	579	107	560	238
8:00	61	91			152	20:00	123	100			223
8:15	69	76			145	20:15	127	94			221
8:30	82	91			173	20:30	97	75			172
8:45	89	301	84	342	173	20:45	73	420	102	371	175
9:00	89	116			205	21:00	60	108			168
9:15	107	120			227	21:15	76	81			157
9:30	121	129			250	21:30	63	80			143
9:45	127	444	151	516	278	21:45	60	259	91	360	151
10:00	121	165			286	22:00	57	63			120
10:15	126	153			279	22:15	55	64			119
10:30	132	157			289	22:30	42	64			106
10:45	137	516	155	630	292	22:45	39	193	39	230	78
11:00	133	178			311	23:00	44	46			90
11:15	128	166			294	23:15	30	38			68
11:30	151	173			324	23:30	39	42			81
11:45	150	562	157	674	307	23:45	25	138	27	153	52
TOTALS	2323	2706			5029	TOTALS	6107	6751			12858
SPLIT %	46.2%	53.8%			28.1%	SPLIT %	47.5%	52.5%			71.9%

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,430	9,457	0	0	17,887	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	16:45	13:30			13:45
AM Pk Volume	593	703			1296	PM Pk Volume	715	807			1437
Pk Hr Factor	0.963	0.920			0.939	Pk Hr Factor	0.951	0.975			0.966
7 - 9 Volume	472	546	0	0	1018	4 - 6 Volume	1339	1402	0	0	2741
7 - 9 Peak Hour	8:00	8:00			8:00	4 - 6 Peak Hour	16:45	16:00			16:45
7 - 9 Pk Volume	301	342	0	0	643	4 - 6 Pk Volume	715	708	0	0	1401
Pk Hr Factor	0.846	0.940	0.000	0.000	0.929	Pk Hr Factor	0.951	0.941	0.000	0.000	0.949

VOLUME

W Cliff Dr N/O Bay St

Day: Sunday
Date: 4/16/2017City: Santa Cruz
Project #: CA17_7272_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						5,892	6,654	0	0	12,546	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	13	23			36	12:00	137	140			277
0:15	19	32			51	12:15	168	161			329
0:30	30	32			62	12:30	177	151			328
0:45	18	80	24	111	42	12:45	168	650	150	602	318
1:00	22	28			50	13:00	152	157			309
1:15	19	19			38	13:15	123	139			262
1:30	17	21			38	13:30	129	146			275
1:45	21	79	16	84	37	13:45	127	531	123	565	250
2:00	15	25			40	14:00	108	129			237
2:15	7	10			17	14:15	111	113			224
2:30	7	13			20	14:30	108	124			232
2:45	6	35	13	61	19	14:45	108	435	106	472	214
3:00	12	11			23	15:00	100	120			220
3:15	3	4			7	15:15	114	117			231
3:30	1	6			7	15:30	113	132			245
3:45	3	19	5	26	8	15:45	135	462	140	509	275
4:00	6	3			9	16:00	96	128			224
4:15	3	3			6	16:15	119	114			233
4:30	2	2			4	16:30	80	111			191
4:45	2	13	2	10	4	16:45	95	390	104	457	199
5:00	5	2			7	17:00	85	92			177
5:15	3	3			6	17:15	88	92			180
5:30	9	12			21	17:30	82	90			172
5:45	11	28	14	31	25	17:45	89	344	90	364	179
6:00	8	23			31	18:00	84	101			185
6:15	10	19			29	18:15	67	88			155
6:30	24	31			55	18:30	62	99			161
6:45	20	62	60	133	80	18:45	77	290	79	367	156
7:00	32	58			90	19:00	69	81			150
7:15	32	50			82	19:15	62	85			147
7:30	29	47			76	19:30	82	64			146
7:45	50	143	44	199	94	19:45	71	284	75	305	146
8:00	40	57			97	20:00	57	69			126
8:15	60	55			115	20:15	66	61			127
8:30	145	65			210	20:30	62	41			103
8:45	94	339	79	256	173	20:45	38	223	53	224	91
9:00	73	75			148	21:00	38	74			112
9:15	69	86			155	21:15	36	36			72
9:30	84	98			182	21:30	34	44			78
9:45	103	329	143	402	246	21:45	29	137	42	196	71
10:00	90	122			212	22:00	28	22			50
10:15	106	106			212	22:15	28	36			64
10:30	91	150			241	22:30	15	23			38
10:45	129	416	163	541	292	22:45	19	90	16	97	35
11:00	116	158			274	23:00	15	18			33
11:15	118	134			252	23:15	15	18			33
11:30	111	132			243	23:30	8	11			19
11:45	122	467	155	579	277	23:45	8	46	16	63	24
TOTALS	2010	2433			4443	TOTALS	3882	4221			8103
SPLIT %	45.2%	54.8%			35.4%	SPLIT %	47.9%	52.1%			64.6%

DAILY TOTALS						NB	SB	EB	WB	Total	
						5,892	6,654	0	0	12,546	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	12:15	12:15			12:15
AM Pk Volume	604	607			1211	PM Pk Volume	665	619			1284
Pk Hr Factor	0.853	0.943			0.920	Pk Hr Factor	0.939	0.961			0.976
7 - 9 Volume	482	455	0	0	937	4 - 6 Volume	734	821	0	0	1555
7 - 9 Peak Hour	8:00	8:00			8:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	339	256	0	0	595	4 - 6 Pk Volume	390	457	0	0	847
Pk Hr Factor	0.584	0.810	0.000	0.000	0.708	Pk Hr Factor	0.819	0.893	0.000	0.000	0.909

VOLUME

W Cliff Dr N/O Bay St

Day: Monday
Date: 4/17/2017City: Santa Cruz
Project #: CA17_7272_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						6,840	8,060	0	0	14,900	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	11	10			21	12:00	109	135			244
0:15	9	8			17	12:15	107	135			242
0:30	7	8			15	12:30	117	129			246
0:45	8	35	10	36	18	12:45	133	466	136	535	269
1:00	6	7			13	13:00	111	156			267
1:15	4	7			11	13:15	126	158			284
1:30	2	6			8	13:30	153	160			313
1:45	1	13	5	25	6	13:45	133	523	168	642	301
2:00	3	6			9	14:00	145	154			299
2:15	2	3			5	14:15	139	167			306
2:30	3	5			8	14:30	145	149			294
2:45	6	14	6	20	12	14:45	167	596	173	643	340
3:00	4	6			10	15:00	189	194			383
3:15	2	2			4	15:15	193	162			355
3:30	1	2			3	15:30	212	163			375
3:45	3	10	2	12	5	15:45	160	754	159	678	319
4:00	5	5			10	16:00	147	171			318
4:15	4	4			8	16:15	136	133			269
4:30	1	3			4	16:30	157	146			303
4:45	4	14	10	22	14	16:45	165	605	175	625	340
5:00	5	9			14	17:00	138	193			331
5:15	5	9			14	17:15	151	179			330
5:30	8	7			15	17:30	119	152			271
5:45	15	33	20	45	35	17:45	129	537	147	671	276
6:00	16	18			34	18:00	109	142			251
6:15	20	25			45	18:15	101	98			199
6:30	29	22			51	18:30	74	123			197
6:45	42	107	53	118	95	18:45	82	366	103	466	185
7:00	20	43			63	19:00	94	118			212
7:15	45	64			109	19:15	73	74			147
7:30	63	114			177	19:30	84	113			197
7:45	108	236	152	373	260	19:45	81	332	82	387	163
8:00	124	146			270	20:00	69	85			154
8:15	141	152			293	20:15	67	73			140
8:30	111	158			269	20:30	53	50			103
8:45	112	488	124	580	236	20:45	37	226	84	292	121
9:00	100	113			213	21:00	35	69			104
9:15	95	94			189	21:15	30	76			106
9:30	92	122			214	21:30	34	65			99
9:45	97	384	99	428	196	21:45	28	127	37	247	65
10:00	92	123			215	22:00	43	39			82
10:15	97	106			203	22:15	21	49			70
10:30	91	114			205	22:30	22	33			55
10:45	98	378	110	453	208	22:45	30	116	35	156	65
11:00	101	121			222	23:00	27	28			55
11:15	87	135			222	23:15	17	22			39
11:30	109	126			235	23:30	12	24			36
11:45	109	406	139	521	248	23:45	18	74	11	85	29
TOTALS	2118	2633			4751	TOTALS	4722	5427			10149
SPLIT %	44.6%	55.4%			31.9%	SPLIT %	46.5%	53.5%			68.1%

DAILY TOTALS						NB	SB	EB	WB	Total	
						6,840	8,060	0	0	14,900	
AM Peak Hour	8:00	7:45			7:45	PM Peak Hour	14:45	16:45		14:45	
AM Pk Volume	488	608			1092	PM Pk Volume	761	699		1453	
Pk Hr Factor	0.865	0.962			0.932	Pk Hr Factor	0.897	0.905		0.948	
7 - 9 Volume	724	953	0	0	1677	4 - 6 Volume	1142	1296	0	0	2438
7 - 9 Peak Hour	8:00	7:45			7:45	4 - 6 Peak Hour	16:30	16:45			16:30
7 - 9 Pk Volume	488	608	0	0	1092	4 - 6 Pk Volume	611	699	0	0	1304
Pk Hr Factor	0.865	0.962	0.000	0.000	0.932	Pk Hr Factor	0.926	0.905	0.000	0.000	0.959

VOLUME**W Cliff Dr N/O Bay St**Day: **Tuesday**Date: **4/18/2017**

City: Santa Cruz

Project #: CA17_7272_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,019	9,113	0	0	17,132	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	20	14			34	12:00	156	134			290
0:15	4	10			14	12:15	121	149			270
0:30	8	10			18	12:30	127	147			274
0:45	5	37	9	43	14	12:45	128	532	157	587	285
1:00	6	13			19	13:00	130	169			299
1:15	8	4			12	13:15	150	135			285
1:30	2	8			10	13:30	141	139			280
1:45	4	20	7	32	11	13:45	142	563	161	604	303
2:00	3	6			9	14:00	151	170			321
2:15	6	2			8	14:15	124	166			290
2:30	2	2			4	14:30	171	196			367
2:45	5	16	3	13	8	14:45	166	612	183	715	349
3:00	3	6			9	15:00	186	179			365
3:15	4	2			6	15:15	172	177			349
3:30	3	4			7	15:30	206	171			377
3:45	1	11	4	16	5	15:45	195	759	163	690	358
4:00	4	5			6	16:00	165	178			343
4:15	4	10			14	16:15	169	184			353
4:30	4	7			11	16:30	176	185			361
4:45	7	16	7	29	14	16:45	198	708	181	728	379
5:00	4	5			9	17:00	174	190			364
5:15	5	8			13	17:15	177	188			365
5:30	12	11			23	17:30	183	189			372
5:45	15	36	20	44	35	17:45	166	700	169	736	335
6:00	12	22			34	18:00	143	190			333
6:15	21	24			45	18:15	176	159			335
6:30	16	22			38	18:30	152	161			313
6:45	47	96	48	116	95	18:45	152	623	167	677	319
7:00	43	48			91	19:00	122	152			274
7:15	46	63			109	19:15	113	153			266
7:30	75	98			173	19:30	100	136			236
7:45	89	253	178	387	267	19:45	130	465	120	561	250
8:00	110	166			276	20:00	130	110			240
8:15	141	153			294	20:15	85	102			187
8:30	119	157			276	20:30	70	100			170
8:45	135	505	148	624	283	20:45	68	353	85	397	153
9:00	99	114			213	21:00	65	74			139
9:15	85	120			205	21:15	51	92			143
9:30	87	87			174	21:30	49	80			129
9:45	118	389	124	445	242	21:45	55	220	62	308	117
10:00	78	107			185	22:00	37	57			94
10:15	84	134			218	22:15	33	49			82
10:30	82	124			206	22:30	40	41			81
10:45	117	361	142	507	259	22:45	38	148	36	183	74
11:00	136	134			270	23:00	22	43			65
11:15	114	153			267	23:15	23	24			47
11:30	137	133			270	23:30	20	18			38
11:45	130	517	147	567	277	23:45	14	79	19	104	33
TOTALS		2257	2823		5080	TOTALS		5762	6290		12052
SPLIT %		44.4%	55.6%		29.7%	SPLIT %		47.8%	52.2%		70.3%

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,019	9,113	0	0	17,132	
AM Peak Hour	11:30	7:45			8:00	PM Peak Hour	15:00	16:45		16:45	
AM Pk Volume	544	654			1129	PM Pk Volume	759	748		1480	
Pk Hr Factor	0.872	0.919			0.960	Pk Hr Factor	0.921	0.984		0.976	
7 - 9 Volume	758	1011	0	0	1769	4 - 6 Volume	1408	1464	0	0	2872
7 - 9 Peak Hour	8:00	7:45			8:00	4 - 6 Peak Hour	16:45	16:45			16:45
7 - 9 Pk Volume	505	654	0	0	1129	4 - 6 Pk Volume	732	748	0	0	1480
Pk Hr Factor	0.895	0.919	0.000	0.000	0.960	Pk Hr Factor	0.924	0.984	0.000	0.000	0.976

VOLUME

W Cliff Dr N/O Bay St

Day: Wednesday
Date: 4/19/2017City: Santa Cruz
Project #: CA17_7272_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,689	9,904	0	0	18,593	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	15	33			48	12:00	139	160			299
0:15	17	19			36	12:15	150	192			342
0:30	16	24			40	12:30	144	184			328
0:45	5	53	7	83	12	12:45	159	592	183	719	342
1:00	13	11			24	13:00	170	175			345
1:15	3	8			11	13:15	181	190			371
1:30	8	1			9	13:30	186	158			344
1:45	6	30	8	28	14	13:45	149	686	192	715	341
2:00	3	7			10	14:00	153	173			326
2:15	7	4			11	14:15	133	178			311
2:30	2	1			3	14:30	159	183			342
2:45	0	12	3	15	3	14:45	166	611	197	731	363
3:00	8	6			14	15:00	189	198			387
3:15	5	4			9	15:15	186	203			389
3:30	1	2			3	15:30	199	183			382
3:45	3	17	3	15	6	15:45	192	766	202	786	394
4:00	1	2			3	16:00	197	185			382
4:15	5	5			10	16:15	203	172			375
4:30	3	4			7	16:30	182	192			374
4:45	6	15	8	19	14	16:45	203	785	187	736	390
5:00	3	5			8	17:00	197	209			406
5:15	6	6			12	17:15	200	218			418
5:30	15	16			31	17:30	195	176			371
5:45	12	36	16	43	28	17:45	196	788	193	796	389
6:00	11	23			34	18:00	185	210			395
6:15	15	37			52	18:15	164	166			330
6:30	32	33			65	18:30	147	180			327
6:45	42	100	52	145	94	18:45	151	647	137	693	288
7:00	38	50			88	19:00	136	158			294
7:15	48	75			123	19:15	129	156			285
7:30	87	132			219	19:30	141	152			293
7:45	110	283	161	418	271	19:45	154	560	124	590	278
8:00	118	188			306	20:00	109	131			240
8:15	128	168			296	20:15	100	94			194
8:30	147	168			315	20:30	80	82			162
8:45	128	521	161	685	289	20:45	67	356	95	402	162
9:00	123	135			258	21:00	42	94			136
9:15	109	120			229	21:15	61	60			121
9:30	88	135			223	21:30	43	59			102
9:45	119	439	135	525	254	21:45	36	182	65	278	101
10:00	106	121			227	22:00	37	49			86
10:15	106	141			247	22:15	30	44			74
10:30	102	135			237	22:30	29	46			75
10:45	116	430	158	555	274	22:45	35	131	29	168	64
11:00	110	155			265	23:00	26	34			60
11:15	130	165			295	23:15	30	22			52
11:30	157	149			306	23:30	17	25			42
11:45	154	551	195	664	349	23:45	25	98	14	95	39
TOTALS	2487	3195			5682	TOTALS	6202	6709			12911
SPLIT %	43.8%	56.2%			30.6%	SPLIT %	48.0%	52.0%			69.4%

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,689	9,904	0	0	18,593	
AM Peak Hour	11:30	11:45			11:45	PM Peak Hour	16:45	16:30		16:30	
AM Pk Volume	600	731			1318	PM Pk Volume	795	806		1588	
Pk Hr Factor	0.955	0.937			0.944	Pk Hr Factor	0.979	0.924		0.950	
7 - 9 Volume	804	1103	0	0	1907	4 - 6 Volume	1573	1532	0	0	3105
7 - 9 Peak Hour	8:00	7:45			8:00	4 - 6 Peak Hour	16:45	16:30			16:30
7 - 9 Pk Volume	521	685	0	0	1206	4 - 6 Pk Volume	795	806	0	0	1588
Pk Hr Factor	0.886	0.911	0.000	0.000	0.957	Pk Hr Factor	0.979	0.924	0.000	0.000	0.950

VOLUME

W Cliff Dr N/O Bay St

Day: Thursday
Date: 4/20/2017City: Santa Cruz
Project #: CA17_7272_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						9,122	10,241	0	0	19,363	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	21	35			56	12:00	174	176			350
0:15	12	18			30	12:15	136	186			322
0:30	11	21			32	12:30	139	194			333
0:45	11	55	10	84	21	12:45	181	630	173	729	354
1:00	8	7			15	13:00	162	194			356
1:15	6	7			13	13:15	152	159			311
1:30	5	7			12	13:30	161	195			356
1:45	1	20	7	28	8	13:45	179	654	208	756	387
2:00	8	8			16	14:00	167	171			338
2:15	3	5			8	14:15	160	206			366
2:30	3	2			5	14:30	171	206			377
2:45	2	16	3	18	5	14:45	203	701	203	786	406
3:00	4	5			9	15:00	197	184			381
3:15	4	1			5	15:15	212	205			417
3:30	3	5			8	15:30	215	221			436
3:45	4	15	3	14	7	15:45	178	802	219	829	397
4:00	2	2			4	16:00	156	207			363
4:15	1	3			4	16:15	185	207			392
4:30	4	4			8	16:30	184	180			364
4:45	5	12	17	26	22	16:45	199	724	198	792	397
5:00	8	4			12	17:00	208	189			397
5:15	6	7			13	17:15	201	197			398
5:30	13	21			34	17:30	217	181			398
5:45	15	42	21	53	36	17:45	191	817	169	736	360
6:00	17	25			42	18:00	192	190			382
6:15	23	29			52	18:15	184	182			366
6:30	28	23			51	18:30	172	160			332
6:45	40	108	68	145	108	18:45	147	695	161	693	308
7:00	44	52			96	19:00	157	157			314
7:15	67	78			145	19:15	128	171			299
7:30	84	119			203	19:30	148	135			283
7:45	111	306	174	423	285	19:45	171	604	138	601	309
8:00	112	164			276	20:00	157	135			292
8:15	139	164			303	20:15	155	108			263
8:30	136	172			308	20:30	99	107			206
8:45	133	520	159	659	292	20:45	89	500	101	451	190
9:00	99	152			251	21:00	56	103			159
9:15	108	135			243	21:15	58	79			137
9:30	114	130			244	21:30	49	70			119
9:45	110	431	112	529	222	21:45	54	217	76	328	130
10:00	99	139			238	22:00	45	64			109
10:15	127	136			263	22:15	36	57			93
10:30	108	141			249	22:30	29	45			74
10:45	113	447	157	573	270	22:45	49	159	43	209	92
11:00	124	148			272	23:00	29	47			76
11:15	125	162			287	23:15	28	28			56
11:30	142	172			314	23:30	16	20			36
11:45	168	559	185	667	353	23:45	15	88	17	112	32
TOTALS	2531	3219			5750	TOTALS	6591	7022			13613
SPLIT %	44.0%	56.0%			29.7%	SPLIT %	48.4%	51.6%			70.3%

DAILY TOTALS						NB	SB	EB	WB	Total	
						9,122	10,241	0	0	19,363	
AM Peak Hour	11:30	11:45			11:45	PM Peak Hour	14:45	15:30		14:45	
AM Pk Volume	620	741			1358	PM Pk Volume	827	854		1640	
Pk Hr Factor	0.891	0.955			0.962	Pk Hr Factor	0.962	0.966		0.940	
7 - 9 Volume	826	1082	0	0	1908	4 - 6 Volume	1541	1528	0	0	3069
7 - 9 Peak Hour	8:00	7:45			8:00	4 - 6 Peak Hour	16:45	16:00			16:45
7 - 9 Pk Volume	520	674	0	0	1179	4 - 6 Pk Volume	825	792	0	0	1590
Pk Hr Factor	0.935	0.968	0.000	0.000	0.957	Pk Hr Factor	0.950	0.957	0.000	0.000	0.999

VOLUME

W Cliff Dr N/O Bay St

Day: Friday
Date: 4/21/2017City: Santa Cruz
Project #: CA17_7272_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					9,683	10,826	0	0	20,509		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	15	23			38	12:00	170	188			358
0:15	19	23			42	12:15	153	199			352
0:30	16	14			30	12:30	172	166			338
0:45	16	66	19	79	35	12:45	164	659	161	714	325
1:00	11	14			25	13:00	156	228			384
1:15	8	9			17	13:15	156	201			357
1:30	9	7			16	13:30	191	189			380
1:45	11	39	15	45	26	13:45	171	674	238	856	409
2:00	5	12			17	14:00	192	221			413
2:15	7	10			17	14:15	177	227			404
2:30	3	6			9	14:30	191	245			436
2:45	3	18	5	33	8	14:45	196	756	195	888	391
3:00	5	4			9	15:00	217	222			439
3:15	2	7			9	15:15	217	207			424
3:30	7	3			10	15:30	202	231			433
3:45	1	15	10	24	11	15:45	209	845	190	850	399
4:00	1	6			7	16:00	199	199			398
4:15	2	7			9	16:15	181	178			359
4:30	3	6			9	16:30	199	197			396
4:45	4	10	8	27	12	16:45	204	783	182	756	386
5:00	3	8			11	17:00	193	209			402
5:15	10	10			20	17:15	196	211			407
5:30	9	15			24	17:30	199	208			407
5:45	18	40	23	56	41	17:45	202	790	189	817	391
6:00	15	16			31	18:00	198	195			393
6:15	26	29			55	18:15	187	188			375
6:30	33	45			78	18:30	192	192			384
6:45	43	117	53	143	96	18:45	167	744	197	772	364
7:00	39	57			96	19:00	143	173			316
7:15	66	78			144	19:15	139	162			301
7:30	81	104			185	19:30	160	145			305
7:45	102	288	142	381	244	19:45	162	604	139	619	301
8:00	101	153			254	20:00	164	139			303
8:15	135	164			299	20:15	129	123			252
8:30	142	162			304	20:30	123	113			236
8:45	143	521	172	651	315	20:45	105	521	117	492	222
9:00	121	133			254	21:00	110	115			225
9:15	100	115			215	21:15	58	99			157
9:30	122	126			248	21:30	83	89			172
9:45	123	466	149	523	272	21:45	71	322	88	391	159
10:00	115	147			262	22:00	65	66			131
10:15	118	175			293	22:15	51	68			119
10:30	132	170			302	22:30	47	63			110
10:45	123	488	149	641	272	22:45	45	208	61	258	106
11:00	134	169			303	23:00	34	38			72
11:15	130	154			284	23:15	36	34			70
11:30	149	176			325	23:30	32	51			83
11:45	166	579	161	660	327	23:45	28	130	27	150	55
TOTALS	2647	3263			5910	TOTALS	7036	7563			14599
SPLIT %	44.8%	55.2%			28.8%	SPLIT %	48.2%	51.8%			71.2%

DAILY TOTALS					NB	SB	EB	WB	Total		
					9,683	10,826	0	0	20,509		
AM Peak Hour	11:45	11:30			11:45	PM Peak Hour	15:00	13:45			15:00
AM Pk Volume	661	724			1375	PM Pk Volume	845	931			1695
Pk Hr Factor	0.961	0.910			0.960	Pk Hr Factor	0.974	0.950			0.965
7 - 9 Volume	809	1032	0	0	1841	4 - 6 Volume	1573	1573	0	0	3146
7 - 9 Peak Hour	8:00	8:00			8:00	4 - 6 Peak Hour	16:30	17:00			17:00
7 - 9 Pk Volume	521	651	0	0	1172	4 - 6 Pk Volume	792	817	0	0	1607
Pk Hr Factor	0.911	0.946	0.000	0.000	0.930	Pk Hr Factor	0.971	0.968	0.000	0.000	0.987

VOLUME

W Cliff Dr N/O Bay St

Day: Saturday
Date: 4/22/2017City: Santa Cruz
Project #: CA17_7272_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,168	9,172	0	0	17,340	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	15	29			44	12:00	158	179			337
0:15	24	21			45	12:15	161	196			357
0:30	25	27			52	12:30	170	203			373
0:45	14	78	20	97	34	12:45	145	634	199	777	344
1:00	10	21			31	13:00	155	173			328
1:15	14	10			24	13:15	166	200			366
1:30	17	16			33	13:30	166	213			379
1:45	9	50	23	70	32	13:45	160	647	200	786	360
2:00	8	17			25	14:00	177	188			365
2:15	10	12			22	14:15	161	178			339
2:30	11	8			19	14:30	183	187			370
2:45	4	33	9	46	13	14:45	169	690	152	705	321
3:00	4	6			10	15:00	181	204			385
3:15	5	7			12	15:15	157	158			315
3:30	5	5			10	15:30	158	184			342
3:45	3	17	6	24	9	15:45	181	677	161	707	342
4:00	7	4			11	16:00	158	180			338
4:15	2	8			10	16:15	169	188			357
4:30	3	4			7	16:30	175	189			364
4:45	10	22	6	22	16	16:45	171	673	176	733	347
5:00	3	7			10	17:00	153	173			326
5:15	7	10			17	17:15	161	176			337
5:30	6	12			18	17:30	153	160			313
5:45	15	31	13	42	28	17:45	156	623	145	654	301
6:00	18	15			33	18:00	153	159			312
6:15	14	16			30	18:15	140	175			315
6:30	23	25			48	18:30	148	159			307
6:45	28	83	27	83	55	18:45	133	574	133	626	266
7:00	25	33			58	19:00	138	136			274
7:15	38	43			81	19:15	118	127			245
7:30	45	37			82	19:30	121	109			230
7:45	40	148	59	172	99	19:45	127	504	102	474	229
8:00	61	80			141	20:00	113	87			200
8:15	61	65			126	20:15	116	91			207
8:30	83	105			188	20:30	84	92			176
8:45	78	283	109	359	187	20:45	58	371	82	352	140
9:00	74	102			176	21:00	69	74			143
9:15	98	109			207	21:15	44	94			138
9:30	107	108			215	21:30	46	89			135
9:45	122	401	128	447	250	21:45	65	224	75	332	140
10:00	115	135			250	22:00	56	77			133
10:15	129	154			283	22:15	51	58			109
10:30	126	151			277	22:30	44	68			112
10:45	142	512	183	623	325	22:45	41	192	53	256	94
11:00	126	152			278	23:00	32	56			88
11:15	140	134			274	23:15	28	46			74
11:30	153	164			317	23:30	28	36			64
11:45	173	592	164	614	337	23:45	21	109	33	171	54
TOTALS	2250	2599			4849	TOTALS	5918	6573			12491
SPLIT %	46.4%	53.6%			28.0%	SPLIT %	47.4%	52.6%			72.0%

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,168	9,172	0	0	17,340	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	14:15	13:15		13:15	
AM Pk Volume	662	742			1404	PM Pk Volume	694	801		1470	
Pk Hr Factor	0.957	0.914			0.941	Pk Hr Factor	0.948	0.940		0.970	
7 - 9 Volume	431	531	0	0	962	4 - 6 Volume	1296	1387	0	0	2683
7 - 9 Peak Hour	8:00	8:00			8:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	283	359	0	0	642	4 - 6 Pk Volume	673	733	0	0	1406
Pk Hr Factor	0.852	0.823	0.000	0.000	0.854	Pk Hr Factor	0.961	0.970	0.000	0.000	0.966

VOLUME

W Cliff Dr N/O Bay St

Day: Sunday

Date: 4/23/2017

City: Santa Cruz

Project #: CA17_7272_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,143	8,991	0	0	17,134	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	27	24			51	12:00	124	167			291
0:15	22	21			43	12:15	177	192			369
0:30	28	26			54	12:30	167	190			357
0:45	10	87	24	95	34	12:45	164	632	203	752	367
1:00	17	20			37	13:00	160	193			353
1:15	14	18			32	13:15	170	204			374
1:30	14	23			37	13:30	168	217			385
1:45	19	64	19	80	38	13:45	174	672	169	783	343
2:00	10	16			26	14:00	157	208			365
2:15	7	12			19	14:15	183	204			387
2:30	13	10			23	14:30	182	184			366
2:45	4	34	6	44	10	14:45	170	692	195	791	365
3:00	7	7			14	15:00	170	202			372
3:15	8	3			11	15:15	178	181			359
3:30	9	5			14	15:30	173	203			376
3:45	3	27	7	22	10	15:45	189	710	165	751	354
4:00	3	6			9	16:00	169	193			362
4:15	4	5			9	16:15	180	191			371
4:30	1	6			7	16:30	171	155			326
4:45	2	10	4	21	6	16:45	171	691	181	720	352
5:00	7	5			12	17:00	148	181			329
5:15	1	1			2	17:15	180	150			330
5:30	8	5			13	17:30	161	147			308
5:45	9	25	15	26	24	17:45	176	665	163	641	339
6:00	10	13			23	18:00	147	153			300
6:15	11	19			30	18:15	141	180			321
6:30	24	21			45	18:30	141	148			289
6:45	25	70	21	74	46	18:45	165	594	153	634	318
7:00	17	23			40	19:00	130	144			274
7:15	38	31			69	19:15	119	141			260
7:30	37	34			71	19:30	137	112			249
7:45	50	142	50	138	100	19:45	140	526	105	502	245
8:00	39	46			85	20:00	136	112			248
8:15	55	62			117	20:15	110	89			199
8:30	67	86			153	20:30	76	85			161
8:45	72	233	107	301	179	20:45	68	390	79	365	147
9:00	67	82			149	21:00	62	68			130
9:15	80	123			203	21:15	49	75			124
9:30	129	126			255	21:30	42	61			103
9:45	106	382	115	446	221	21:45	42	195	44	248	86
10:00	112	145			257	22:00	30	43			73
10:15	129	157			286	22:15	28	50			78
10:30	130	165			295	22:30	25	36			61
10:45	129	500	198	665	327	22:45	35	118	30	159	65
11:00	145	156			301	23:00	29	30			59
11:15	154	175			329	23:15	18	23			41
11:30	148	151			299	23:30	21	10			31
11:45	152	599	166	648	318	23:45	17	85	22	85	39
TOTALS	2173	2560			4733	TOTALS	5970	6431			12401
SPLIT %	45.9%	54.1%			27.6%	SPLIT %	48.1%	51.9%			72.4%

DAILY TOTALS						NB	SB	EB	WB	Total
						8,143	8,991	0	0	17,134
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	15:30	12:45		14:15
AM Pk Volume	620	715			1335	PM Pk Volume	711	817		1490
Pk Hr Factor	0.876	0.931			0.904	Pk Hr Factor	0.940	0.941		0.963
7 - 9 Volume	375	439	0	0	814	4 - 6 Volume	1356	1361	0	2717
7 - 9 Peak Hour	8:00	8:00			8:00	4 - 6 Peak Hour	16:00	16:00		16:00
7 - 9 Pk Volume	233	301	0	0	534	4 - 6 Pk Volume	691	720	0	1411
Pk Hr Factor	0.809	0.703	0.000	0.000	0.746	Pk Hr Factor	0.960	0.933	0.000	0.951

VOLUME

W Cliff Dr S/O Bay St

Day: Friday
Date: 4/14/2017City: Santa Cruz
Project #: CA17_7272_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					5,571	5,539	0	0	11,110		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	10	4			14	12:00	68	98			166
00:15	2	4			6	12:15	122	97			219
00:30	6	5			11	12:30	85	97			182
00:45	16	34	6	19	22	12:45	75	350	105	397	180
01:00	2	5			7	13:00	93	103			196
01:15	5	2			7	13:15	87	98			185
01:30	2	3			5	13:30	130	107			237
01:45	6	15	6	16	12	13:45	155	465	120	428	275
02:00	3	2			5	14:00	101	92			193
02:15	1	3			4	14:15	146	108			254
02:30	2	3			5	14:30	134	108			242
02:45	6	12	2	10	8	14:45	74	455	106	414	180
03:00	2	2			4	15:00	86	93			179
03:15	1	3			4	15:15	80	91			171
03:30	1	1			2	15:30	116	91			207
03:45	3	7	4	10	7	15:45	115	397	95	370	210
04:00	4	2			6	16:00	128	98			226
04:15	0	1			1	16:15	106	91			197
04:30	1	1			2	16:30	122	95			217
04:45	5	10	2	6	7	16:45	109	465	86	370	195
05:00	8	1			9	17:00	107	93			200
05:15	4	5			9	17:15	123	109			232
05:30	13	6			19	17:30	144	98			242
05:45	8	33	8	20	16	17:45	120	494	107	407	227
06:00	1	22			23	18:00	94	104			198
06:15	17	20			37	18:15	75	103			178
06:30	18	33			51	18:30	93	97			190
06:45	8	44	30	105	38	18:45	115	377	106	410	221
07:00	29	38			67	19:00	71	87			158
07:15	35	53			88	19:15	121	90			211
07:30	29	56			85	19:30	87	78			165
07:45	56	149	74	221	130	19:45	87	366	56	311	143
08:00	44	95			139	20:00	100	50			150
08:15	63	105			168	20:15	82	47			129
08:30	68	106			174	20:30	51	37			88
08:45	51	226	84	390	135	20:45	75	308	50	184	125
09:00	63	73			136	21:00	55	47			102
09:15	100	92			192	21:15	44	37			81
09:30	71	76			147	21:30	36	41			77
09:45	69	303	78	319	147	21:45	27	162	31	156	58
10:00	87	83			170	22:00	25	27			52
10:15	69	98			167	22:15	12	26			38
10:30	116	108			224	22:30	24	34			58
10:45	87	359	101	390	188	22:45	20	81	30	117	50
11:00	89	97			186	23:00	12	18			30
11:15	109	85			194	23:15	23	23			46
11:30	115	106			221	23:30	27	18			45
11:45	70	383	105	393	175	23:45	14	76	17	76	31
TOTALS	1575	1899			3474	TOTALS	3996	3640			7636
SPLIT %	45.3%	54.7%			31.3%	SPLIT %	52.3%	47.7%			68.7%

DAILY TOTALS					NB	SB	EB	WB	Total
					5,571	5,539	0	0	11,110
AM Peak Hour	10:30	11:30			10:30	PM Peak Hour	13:45	13:00	13:45
AM Pk Volume	401	406			792	PM Pk Volume	536	428	964
Pk Hr Factor	0.864	0.958			0.884	Pk Hr Factor	0.865	0.892	0.876
7 - 9 Volume	375	611	0	0	986	4 - 6 Volume	959	777	0
7 - 9 Peak Hour	07:45	08:00			08:00	4 - 6 Peak Hour	17:00	17:00	17:00
7 - 9 Pk Volume	231	390	0	0	616	4 - 6 Pk Volume	494	407	0
Pk Hr Factor	0.849	0.920	0.000	0.000	0.885	Pk Hr Factor	0.858	0.933	0.000

VOLUME

W Cliff Dr S/O Bay St

Day: **Saturday**
Date: **4/15/2017**

City: Santa Cruz
Project #: CA17_7272_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					4,778	5,332	0	0	10,110		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	15	10			25	12:00	93	92			185
00:15	6	10			16	12:15	72	100			172
00:30	11	8			19	12:30	66	104			170
00:45	10	42	8	36	18	12:45	106	337	90	386	196
01:00	2	12			14	13:00	100	94			194
01:15	3	8			11	13:15	92	96			188
01:30	5	4			9	13:30	79	102			181
01:45	15	25	6	30	21	13:45	110	381	99	391	209
02:00	10	8			18	14:00	71	116			187
02:15	3	6			9	14:15	67	118			185
02:30	3	6			9	14:30	95	107			202
02:45	2	18	1	21	3	14:45	98	331	97	438	195
03:00	5	3			8	15:00	87	102			189
03:15	5	1			6	15:15	101	104			205
03:30	3	2			5	15:30	98	104			202
03:45	1	14	5	11	6	15:45	73	359	100	410	173
04:00	4	4			5	16:00	84	102			186
04:15	5	1			6	16:15	90	103			193
04:30	3	1			4	16:30	82	98			180
04:45	8	17	0	6	8	16:45	125	381	94	397	219
05:00	7	2			9	17:00	112	95			207
05:15	4	4			8	17:15	104	90			194
05:30	8	3			11	17:30	110	111			221
05:45	14	33	8	17	22	17:45	119	445	103	399	222
06:00	10	17			27	18:00	82	99			181
06:15	16	19			35	18:15	99	98			197
06:30	8	14			22	18:30	111	100			211
06:45	21	55	24	74	45	18:45	88	380	94	391	182
07:00	25	25			50	19:00	105	104			209
07:15	34	39			73	19:15	109	90			199
07:30	19	45			64	19:30	82	95			177
07:45	39	117	52	161	91	19:45	88	384	60	349	148
08:00	43	73			116	20:00	100	64			164
08:15	49	66			115	20:15	83	42			125
08:30	49	63			112	20:30	71	34			105
08:45	58	199	56	258	114	20:45	34	288	44	184	78
09:00	43	76			119	21:00	35	39			74
09:15	55	77			132	21:15	40	47			87
09:30	65	85			150	21:30	33	39			72
09:45	60	223	92	330	152	21:45	19	127	31	156	50
10:00	48	107			155	22:00	30	22			52
10:15	57	87			144	22:15	22	30			52
10:30	43	84			127	22:30	17	22			39
10:45	70	218	97	375	167	22:45	21	90	22	96	43
11:00	63	94			157	23:00	24	22			46
11:15	44	83			127	23:15	18	21			39
11:30	63	87			150	23:30	26	20			46
11:45	52	222	76	340	128	23:45	24	92	13	76	37
TOTALS	1183	1659			2842	TOTALS	3595	3673			7268
SPLIT %	41.6%	58.4%			28.1%	SPLIT %	49.5%	50.5%			71.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					4,778	5,332	0	0	10,110
AM Peak Hour	11:45	10:00			11:45	PM Peak Hour	16:45	13:45	17:00
AM Pk Volume	283	375			655	PM Pk Volume	451	440	844
Pk Hr Factor	0.761	0.876			0.885	Pk Hr Factor	0.902	0.932	0.950
7 - 9 Volume	316	419	0	0	735	4 - 6 Volume	826	796	0
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:45	17:00	17:00
7 - 9 Pk Volume	199	258	0	0	457	4 - 6 Pk Volume	451	399	0
Pk Hr Factor	0.858	0.884	0.000	0.000	0.985	Pk Hr Factor	0.902	0.899	0.000

VOLUME

W Cliff Dr S/O Bay St

Day: Sunday
Date: 4/16/2017City: Santa Cruz
Project #: CA17_7272_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						3,857	4,026	0	0	7,883	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	5	8			13	12:00	77	77			154
00:15	11	17			28	12:15	113	93			206
00:30	9	13			22	12:30	119	98			217
00:45	11	36	12	50	23	12:45	110	419	76	344	186
01:00	8	10			18	13:00	107	96			203
01:15	5	9			14	13:15	112	91			203
01:30	7	12			19	13:30	103	81			184
01:45	7	27	7	38	14	13:45	96	418	71	339	167
02:00	5	9			14	14:00	70	66			136
02:15	2	3			5	14:15	80	59			139
02:30	4	4			8	14:30	66	66			132
02:45	2	13	8	24	10	14:45	75	291	69	260	144
03:00	4	6			10	15:00	72	66			138
03:15	2	1			3	15:15	79	73			152
03:30	6	2			8	15:30	89	80			169
03:45	2	14	2	11	4	15:45	62	302	79	298	141
04:00	4	2			6	16:00	79	72			151
04:15	6	2			8	16:15	82	66			148
04:30	5	2			7	16:30	31	59			90
04:45	1	16	1	7	2	16:45	70	262	62	259	132
05:00	2	1			3	17:00	81	65			146
05:15	2	3			5	17:15	51	71			122
05:30	1	9			10	17:30	42	53			95
05:45	15	20	14	27	29	17:45	56	230	46	235	102
06:00	5	19			24	18:00	59	55			114
06:15	13	20			33	18:15	40	52			92
06:30	22	37			59	18:30	33	63			96
06:45	22	62	70	146	92	18:45	48	180	44	214	92
07:00	41	70			111	19:00	42	48			90
07:15	29	47			76	19:15	33	44			77
07:30	22	46			68	19:30	49	30			79
07:45	29	121	33	196	62	19:45	41	165	40	162	81
08:00	33	38			71	20:00	43	26			69
08:15	51	44			95	20:15	36	25			61
08:30	115	46			161	20:30	41	21			62
08:45	89	288	53	181	142	20:45	33	153	31	103	64
09:00	48	53			101	21:00	22	27			49
09:15	39	50			89	21:15	32	16			48
09:30	51	61			112	21:30	23	25			48
09:45	44	182	76	240	120	21:45	15	92	14	82	29
10:00	46	82			128	22:00	23	9			32
10:15	75	84			159	22:15	20	18			38
10:30	57	117			174	22:30	8	10			18
10:45	72	250	119	402	191	22:45	16	67	8	45	24
11:00	54	104			158	23:00	4	4			8
11:15	63	87			150	23:15	5	2			7
11:30	51	67			118	23:30	6	5			11
11:45	62	230	92	350	154	23:45	4	19	2	13	6
TOTALS	1259	1672			2931	TOTALS	2598	2354			4952
SPLIT %	43.0%	57.0%			37.2%	SPLIT %	52.5%	47.5%			62.8%

DAILY TOTALS						NB	SB	EB	WB	Total	
						3,857	4,026	0	0	7,883	
AM Peak Hour	11:45	10:30			11:45	PM Peak Hour	12:15	12:15		12:15	
AM Pk Volume	371	427			731	PM Pk Volume	449	363		812	
Pk Hr Factor	0.779	0.897			0.842	Pk Hr Factor	0.943	0.926		0.935	
7 - 9 Volume	409	377	0	0	786	4 - 6 Volume	492	494	0	0	986
7 - 9 Peak Hour	08:00	07:00			08:00	4 - 6 Peak Hour	16:15	16:00			16:00
7 - 9 Pk Volume	288	196	0	0	469	4 - 6 Pk Volume	264	259	0	0	521
Pk Hr Factor	0.626	0.700	0.000	0.000	0.728	Pk Hr Factor	0.805	0.899	0.000	0.000	0.863

VOLUME

W Cliff Dr S/O Bay St

Day: Monday
Date: 4/17/2017City: Santa Cruz
Project #: CA17_7272_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						3,409	4,017	0	0	7,426	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	3	2			5	12:00	52	83			135
00:15	7	6			13	12:15	58	69			127
00:30	2	3			5	12:30	68	76			144
00:45	0	12	5	16	5	12:45	78	256	78	306	562
01:00	0	4			4	13:00	62	83			145
01:15	2	3			5	13:15	71	94			165
01:30	0	4			4	13:30	76	89			165
01:45	4	6	4	15	8	13:45	70	279	91	357	636
02:00	1	3			4	14:00	85	75			160
02:15	4	2			6	14:15	75	93			168
02:30	0	2			2	14:30	82	80			162
02:45	3	8	4	11	7	14:45	90	332	105	353	685
03:00	3	1			4	15:00	104	94			198
03:15	2	0			2	15:15	102	80			182
03:30	5	2			7	15:30	111	74			185
03:45	1	11	0	3	1	15:45	89	406	83	331	737
04:00	1	3			4	16:00	68	96			164
04:15	0	2			2	16:15	57	69			126
04:30	2	2			4	16:30	83	74			157
04:45	3	6	1	8	4	16:45	72	280	82	321	601
05:00	1	2			3	17:00	66	99			165
05:15	3	1			4	17:15	68	89			157
05:30	1	1			2	17:30	49	67			116
05:45	6	11	9	13	15	17:45	54	237	82	337	574
06:00	4	6			10	18:00	57	66			123
06:15	8	9			17	18:15	54	40			94
06:30	6	9			15	18:30	36	70			106
06:45	12	30	23	47	35	18:45	49	196	60	236	432
07:00	10	20			30	19:00	38	51			89
07:15	22	32			54	19:15	41	42			83
07:30	25	37			62	19:30	37	49			86
07:45	43	100	55	144	98	19:45	37	153	35	177	330
08:00	86	74			160	20:00	38	34			72
08:15	66	88			154	20:15	29	23			52
08:30	61	87			148	20:30	28	14			42
08:45	57	270	59	308	116	20:45	15	110	31	102	212
09:00	41	49			90	21:00	22	25			47
09:15	54	44			98	21:15	20	34			54
09:30	44	53			97	21:30	13	26			39
09:45	52	191	48	194	100	21:45	16	71	16	101	172
10:00	39	70			109	22:00	11	16			27
10:15	46	52			98	22:15	9	19			28
10:30	34	59			93	22:30	12	16			28
10:45	43	162	69	250	112	22:45	15	47	21	72	119
11:00	39	62			101	23:00	8	12			20
11:15	41	72			113	23:15	10	11			21
11:30	53	61			114	23:30	5	10			15
11:45	71	204	79	274	150	23:45	8	31	8	41	72
TOTALS	1011	1283			2294	TOTALS	2398	2734			5132
SPLIT %	44.1%	55.9%			30.9%	SPLIT %	46.7%	53.3%			69.1%

DAILY TOTALS						NB	SB	EB	WB	Total	
						3,409	4,017	0	0	7,426	
AM Peak Hour	08:00	08:00			08:00	PM Peak Hour	14:45	14:15		14:45	
AM Pk Volume	270	308			578	PM Pk Volume	407	372		760	
Pk Hr Factor	0.785	0.875			0.903	Pk Hr Factor	0.917	0.886		0.960	
7 - 9 Volume	370	452	0	0	822	4 - 6 Volume	517	658	0	0	1175
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:30	16:30			16:30
7 - 9 Pk Volume	270	308	0	0	578	4 - 6 Pk Volume	289	344	0	0	633
Pk Hr Factor	0.785	0.875	0.000	0.000	0.903	Pk Hr Factor	0.870	0.869	0.000	0.000	0.959

VOLUME

W Cliff Dr S/O Bay St

Day: Tuesday
Date: 4/18/2017

City: Santa Cruz
Project #: CA17_7272_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,332	4,918	0	0	9,250	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	5	2			7	12:00	87	79			166
00:15	2	6			8	12:15	64	85			149
00:30	4	8			12	12:30	67	79			146
00:45	2	13	4	20	6	12:45	72	290	91	334	163
01:00	1	3			4	13:00	67	85			152
01:15	3	1			4	13:15	87	82			169
01:30	0	3			3	13:30	71	77			148
01:45	3	7	5	12	8	13:45	66	291	92	336	158
02:00	2	4			6	14:00	106	92			198
02:15	3	2			5	14:15	72	96			168
02:30	2	1			3	14:30	77	100			177
02:45	1	8	1	8	2	14:45	93	348	113	401	206
03:00	1	0			1	15:00	105	99			204
03:15	1	1			2	15:15	90	103			193
03:30	2	1			3	15:30	110	87			197
03:45	1	5	2	4	3	15:45	114	419	98	387	212
04:00	4	2			6	16:00	93	96			189
04:15	3	7			10	16:15	101	98			199
04:30	3	2			5	16:30	101	102			203
04:45	4	11	1	12	5	16:45	130	425	117	413	247
05:00	0	1			1	17:00	93	101			194
05:15	3	4			7	17:15	95	116			211
05:30	5	3			8	17:30	102	116			218
05:45	8	16	10	18	18	17:45	76	366	90	423	166
06:00	3	14			17	18:00	81	117			198
06:15	14	12			26	18:15	106	106			212
06:30	8	13			21	18:30	88	84			172
06:45	18	43	17	56	35	18:45	88	363	93	400	181
07:00	24	30			54	19:00	62	94			156
07:15	24	30			54	19:15	73	91			164
07:30	26	41			67	19:30	60	90			150
07:45	41	115	55	156	96	19:45	73	268	70	345	143
08:00	52	82			134	20:00	55	49			104
08:15	80	98			178	20:15	62	32			94
08:30	69	90			159	20:30	40	36			76
08:45	76	277	72	342	148	20:45	32	189	28	145	60
09:00	47	60			107	21:00	28	39			67
09:15	47	63			110	21:15	12	39			51
09:30	52	56			108	21:30	19	40			59
09:45	62	208	70	249	132	21:45	19	78	28	146	47
10:00	50	72			122	22:00	9	26			35
10:15	41	81			122	22:15	14	18			32
10:30	44	69			113	22:30	16	19			35
10:45	58	193	76	298	134	22:45	17	56	17	80	34
11:00	73	71			144	23:00	10	17			27
11:15	66	86			152	23:15	5	8			13
11:30	93	61			154	23:30	15	9			24
11:45	77	309	71	289	148	23:45	4	34	10	44	14
TOTALS	1205	1464			2669	TOTALS	3127	3454			6581
SPLIT %	45.1%	54.9%			28.9%	SPLIT %	47.5%	52.5%			71.1%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,332	4,918	0	0	9,250	
AM Peak Hour	11:15	08:00			11:15	PM Peak Hour	16:00	16:45		16:45	
AM Pk Volume	323	342			620	PM Pk Volume	425	450		870	
Pk Hr Factor	0.868	0.872			0.934	Pk Hr Factor	0.817	0.962		0.881	
7 - 9 Volume	392	498	0	0	890	4 - 6 Volume	791	836	0	0	1627
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	16:45			16:45
7 - 9 Pk Volume	277	342	0	0	619	4 - 6 Pk Volume	425	450	0	0	870
Pk Hr Factor	0.866	0.872	0.000	0.000	0.869	Pk Hr Factor	0.817	0.962	0.000	0.000	0.881

VOLUME

W Cliff Dr S/O Bay St

Day: Wednesday
Date: 4/19/2017City: Santa Cruz
Project #: CA17_7272_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,883	5,216	0	0	10,099	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	4	17			21	12:00	73	99			172
00:15	8	9			17	12:15	88	103			191
00:30	5	6			11	12:30	74	94			168
00:45	2	19	4	36	6	12:45	76	311	105	401	181
01:00	3	3			6	13:00	96	100			196
01:15	3	3			6	13:15	103	94			197
01:30	5	2			7	13:30	113	83			196
01:45	3	14	5	13	8	13:45	95	407	100	377	195
02:00	0	1			1	14:00	77	84			161
02:15	5	5			10	14:15	92	107			199
02:30	2	1			3	14:30	85	105			190
02:45	1	8	4	11	5	14:45	94	348	104	400	198
03:00	4	3			7	15:00	108	98			206
03:15	4	4			8	15:15	99	105			204
03:30	0	1			1	15:30	105	93			198
03:45	3	11	2	10	5	15:45	113	425	97	393	210
04:00	1	2			3	16:00	120	94			214
04:15	5	1			6	16:15	104	84			188
04:30	2	2			4	16:30	87	101			188
04:45	2	10	1	6	3	16:45	116	427	91	370	207
05:00	2	2			4	17:00	106	84			190
05:15	1	4			5	17:15	111	97			208
05:30	6	2			8	17:30	136	97			233
05:45	6	15	7	15	13	17:45	100	453	103	381	203
06:00	7	15			22	18:00	123	111			234
06:15	5	21			26	18:15	94	99			193
06:30	16	24			40	18:30	78	96			174
06:45	21	49	26	86	47	18:45	92	387	72	378	164
07:00	24	35			59	19:00	87	87			174
07:15	28	42			70	19:15	83	101			184
07:30	42	50			92	19:30	77	76			153
07:45	51	145	63	190	114	19:45	106	353	73	337	179
08:00	66	95			161	20:00	79	67			146
08:15	78	119			197	20:15	83	45			128
08:30	62	94			156	20:30	43	39			82
08:45	91	297	79	387	170	20:45	29	234	37	188	66
09:00	66	79			145	21:00	22	32			54
09:15	60	62			122	21:15	29	15			44
09:30	58	79			137	21:30	23	23			46
09:45	61	245	82	302	143	21:45	14	88	27	97	41
10:00	62	69			131	22:00	11	22			33
10:15	74	77			151	22:15	14	22			36
10:30	55	88			143	22:30	9	22			31
10:45	67	258	98	332	165	22:45	6	40	12	78	18
11:00	65	102			167	23:00	11	21			32
11:15	66	91			157	23:15	15	10			25
11:30	86	86			172	23:30	6	12			18
11:45	79	296	102	381	181	23:45	11	43	4	47	15
TOTALS	1367	1769			3136	TOTALS	3516	3447			6963
SPLIT %	43.6%	56.4%			31.1%	SPLIT %	50.5%	49.5%			68.9%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,883	5,216	0	0	10,099	
AM Peak Hour	11:30	11:45			11:30	PM Peak Hour	17:15	14:15		17:15	
AM Pk Volume	326	398			716	PM Pk Volume	470	414		878	
Pk Hr Factor	0.926	0.966			0.937	Pk Hr Factor	0.864	0.967		0.938	
7 - 9 Volume	442	577	0	0	1019	4 - 6 Volume	880	751	0	0	1631
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	297	387	0	0	684	4 - 6 Pk Volume	469	381	0	0	838
Pk Hr Factor	0.816	0.813	0.000	0.000	0.868	Pk Hr Factor	0.862	0.925	0.000	0.000	0.899

VOLUME

W Cliff Dr S/O Bay St

Day: Thursday
Date: 4/20/2017City: Santa Cruz
Project #: CA17_7272_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					5,149	5,496	0	0	10,645		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	8	15			23	12:00	104	106			210
00:15	7	5			12	12:15	70	113			183
00:30	5	9			14	12:30	78	108			186
00:45	2	22	4	33	6	12:45	85	337	92	419	177
01:00	1	3			4	13:00	105	107			212
01:15	2	1			3	13:15	99	90			189
01:30	2	1			3	13:30	90	105			195
01:45	3	8	4	9	7	13:45	86	380	104	406	190
02:00	1	4			5	14:00	105	87			192
02:15	3	5			8	14:15	81	104			185
02:30	3	2			5	14:30	80	102			182
02:45	0	7	1	12	1	14:45	115	381	123	416	238
03:00	1	6			7	15:00	107	102			209
03:15	5	1			6	15:15	108	97			205
03:30	1	1			2	15:30	107	106			213
03:45	5	12	1	9	6	15:45	95	417	108	413	203
04:00	1	3			4	16:00	72	113			185
04:15	0	1			1	16:15	91	113			204
04:30	4	2			6	16:30	99	93			192
04:45	2	7	6	12	8	16:45	114	376	109	428	223
05:00	8	1			9	17:00	119	88			207
05:15	5	2			7	17:15	120	95			215
05:30	7	4			11	17:30	119	91			210
05:45	8	28	10	17	18	17:45	118	476	96	370	214
06:00	11	18			29	18:00	136	97			233
06:15	13	13			26	18:15	121	96			217
06:30	14	14			28	18:30	104	90			194
06:45	11	49	40	85	51	18:45	96	457	95	378	191
07:00	26	27			53	19:00	98	96			194
07:15	38	50			88	19:15	90	100			190
07:30	32	49			81	19:30	104	76			180
07:45	56	152	73	199	129	19:45	101	393	76	348	177
08:00	60	91			151	20:00	110	57			167
08:15	74	100			174	20:15	109	52			161
08:30	80	103			183	20:30	66	45			111
08:45	83	297	97	391	180	20:45	42	327	44	198	86
09:00	56	84			140	21:00	30	46			76
09:15	63	73			136	21:15	33	35			68
09:30	65	79			144	21:30	26	34			60
09:45	55	239	63	299	118	21:45	22	111	34	149	56
10:00	58	93			151	22:00	19	26			45
10:15	72	92			164	22:15	21	26			47
10:30	57	95			152	22:30	14	22			36
10:45	68	255	100	380	168	22:45	20	74	21	95	41
11:00	68	86			154	23:00	15	27			42
11:15	64	103			167	23:15	14	11			25
11:30	80	93			173	23:30	9	8			17
11:45	83	295	92	374	175	23:45	11	49	10	56	21
TOTALS	1371	1820			3191	TOTALS	3778	3676			7454
SPLIT %	43.0%	57.0%			30.0%	SPLIT %	50.7%	49.3%			70.0%

DAILY TOTALS					NB	SB	EB	WB	Total		
					5,149	5,496	0	0	10,645		
AM Peak Hour	11:30	11:45		11:45	PM Peak Hour	17:30	15:30		17:30		
AM Pk Volume	337	419		754	PM Pk Volume	494	440		874		
Pk Hr Factor	0.810	0.927		0.898	Pk Hr Factor	0.908	0.973		0.938		
7 - 9 Volume	449	590	0	0	1039	4 - 6 Volume	852	798	0	0	1650
7 - 9 Peak Hour	08:00	08:00		08:00	4 - 6 Peak Hour	17:00	16:00				16:45
7 - 9 Pk Volume	297	391	0	0	688	4 - 6 Pk Volume	476	428	0	0	855
Pk Hr Factor	0.895	0.949	0.000	0.000	0.940	Pk Hr Factor	0.992	0.947	0.000	0.000	0.959

VOLUME

W Cliff Dr S/O Bay St

Day: Friday
Date: 4/21/2017City: Santa Cruz
Project #: CA17_7272_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						5,336	5,581	0	0	10,917	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	8	7			15	12:00	89	100			189
00:15	3	9			12	12:15	80	102			182
00:30	6	6			12	12:30	103	105			208
00:45	2	19	3	25	5	12:45	84	356	91	398	175
01:00	7	6			13	13:00	89	119			208
01:15	6	7			13	13:15	77	106			183
01:30	6	3			9	13:30	104	100			204
01:45	3	22	4	20	7	13:45	86	356	102	427	188
02:00	2	6			8	14:00	102	101			203
02:15	6	6			12	14:15	105	111			216
02:30	0	1			1	14:30	88	101			189
02:45	0	8	2	15	2	14:45	114	409	108	421	222
03:00	2	0			2	15:00	112	104			216
03:15	1	1			2	15:15	115	108			223
03:30	1	0			1	15:30	103	96			199
03:45	0	4	5	6	5	15:45	125	455	90	398	215
04:00	0	1			1	16:00	105	98			203
04:15	1	5			6	16:15	101	94			195
04:30	0	1			1	16:30	123	104			227
04:45	0	1	0	7	0	16:45	111	440	105	401	216
05:00	2	1			3	17:00	96	89			185
05:15	2	7			9	17:15	96	100			196
05:30	1	5			6	17:30	109	94			203
05:45	6	11	13	26	19	17:45	108	409	102	385	210
06:00	4	14			18	18:00	115	112			227
06:15	16	17			33	18:15	104	93			197
06:30	12	32			44	18:30	110	99			209
06:45	19	51	30	93	49	18:45	87	416	90	394	177
07:00	26	37			63	19:00	78	88			166
07:15	26	43			69	19:15	98	93			191
07:30	41	46			87	19:30	109	96			205
07:45	51	144	69	195	120	19:45	115	400	79	356	194
08:00	30	90			120	20:00	116	80			196
08:15	68	90			158	20:15	95	62			157
08:30	80	106			186	20:30	77	51			128
08:45	78	256	93	379	171	20:45	65	353	45	238	110
09:00	68	64			132	21:00	55	49			104
09:15	63	75			138	21:15	40	51			91
09:30	79	79			158	21:30	39	30			69
09:45	73	283	96	314	169	21:45	36	170	37	167	73
10:00	76	84			160	22:00	32	22			54
10:15	58	107			165	22:15	17	33			50
10:30	68	85			153	22:30	27	29			56
10:45	69	271	95	371	164	22:45	25	101	26	110	51
11:00	72	105			177	23:00	22	17			39
11:15	85	82			167	23:15	18	13			31
11:30	80	83			163	23:30	19	24			43
11:45	88	325	102	372	190	23:45	17	76	9	63	26
TOTALS	1395	1823			3218	TOTALS	3941	3758			7699
SPLIT %	43.3%	56.7%			29.5%	SPLIT %	51.2%	48.8%			70.5%

DAILY TOTALS						NB	SB	EB	WB	Total	
						5,336	5,581	0	0	10,917	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	15:00	13:00		14:45	
AM Pk Volume	360	409			769	PM Pk Volume	455	427		860	
Pk Hr Factor	0.874	0.974			0.924	Pk Hr Factor	0.910	0.897		0.964	
7 - 9 Volume	400	574	0	0	974	4 - 6 Volume	849	786	0	0	1635
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	256	379	0	0	635	4 - 6 Pk Volume	440	401	0	0	841
Pk Hr Factor	0.800	0.894	0.000	0.000	0.853	Pk Hr Factor	0.894	0.955	0.000	0.000	0.926

VOLUME

W Cliff Dr S/O Bay St

Day: Saturday
Date: 4/22/2017City: Santa Cruz
Project #: CA17_7272_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,556	5,208	0	0	9,764	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	8	16			24	12:00	98	92			190
00:15	10	10			20	12:15	106	118			224
00:30	8	13			21	12:30	85	134			219
00:45	2	28	8	47	10	12:45	79	368	114	458	193
01:00	1	6			7	13:00	97	101			198
01:15	4	3			7	13:15	81	102			183
01:30	6	9			15	13:30	78	103			181
01:45	2	13	10	28	12	13:45	103	359	112	418	215
02:00	5	7			12	14:00	109	116			225
02:15	2	6			8	14:15	68	101			169
02:30	4	3			7	14:30	106	104			210
02:45	1	12	4	20	5	14:45	106	389	94	415	200
03:00	1	3			4	15:00	106	112			218
03:15	4	3			7	15:15	92	92			184
03:30	2	2			4	15:30	108	95			203
03:45	0	7	3	11	3	15:45	106	412	101	400	207
04:00	1	4			5	16:00	95	102			197
04:15	1	3			4	16:15	108	99			207
04:30	2	2			4	16:30	109	108			217
04:45	3	7	4	13	7	16:45	122	434	95	404	217
05:00	1	4			5	17:00	95	97			192
05:15	1	5			6	17:15	106	99			205
05:30	6	6			12	17:30	90	100			190
05:45	6	14	5	20	11	17:45	123	414	88	384	211
06:00	4	10			14	18:00	82	86			168
06:15	10	9			19	18:15	75	94			169
06:30	14	23			37	18:30	79	78			157
06:45	14	42	19	61	33	18:45	79	315	73	331	152
07:00	22	22			44	19:00	77	81			158
07:15	25	26			51	19:15	70	74			144
07:30	28	32			60	19:30	71	79			150
07:45	27	102	48	128	75	19:45	71	289	58	292	129
08:00	31	55			86	20:00	62	44			106
08:15	30	46			76	20:15	51	51			102
08:30	37	63			100	20:30	45	41			86
08:45	41	139	70	234	111	20:45	27	185	37	173	64
09:00	50	81			131	21:00	31	32			63
09:15	46	65			111	21:15	19	40			59
09:30	61	71			132	21:30	22	25			47
09:45	63	220	77	294	140	21:45	35	107	35	132	70
10:00	59	96			155	22:00	24	33			57
10:15	64	93			157	22:15	20	17			37
10:30	53	89			142	22:30	17	24			41
10:45	68	244	114	392	182	22:45	15	76	30	104	45
11:00	78	93			171	23:00	5	19			24
11:15	77	84			161	23:15	13	32			45
11:30	91	100			191	23:30	16	18			34
11:45	88	334	92	369	180	23:45	12	46	11	80	23
TOTALS	1162	1617			2779	TOTALS	3394	3591			6985
SPLIT %	41.8%	58.2%			28.5%	SPLIT %	48.6%	51.4%			71.5%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,556	5,208	0	0	9,764	
AM Peak Hour	11:30	11:45			11:45	PM Peak Hour	16:00	12:15		16:00	
AM Pk Volume	383	436			813	PM Pk Volume	434	467		838	
Pk Hr Factor	0.903	0.813			0.907	Pk Hr Factor	0.889	0.871		0.965	
7 - 9 Volume	241	362	0	0	603	4 - 6 Volume	848	788	0	0	1636
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	139	234	0	0	373	4 - 6 Pk Volume	434	404	0	0	838
Pk Hr Factor	0.848	0.836	0.000	0.000	0.840	Pk Hr Factor	0.889	0.935	0.000	0.000	0.965

VOLUME

W Cliff Dr S/O Bay St

Day: Sunday

Date: 4/23/2017

City: Santa Cruz

Project #: CA17_7272_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,936	5,306	0	0	10,242	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	5	6			11	12:00	67	107			174
00:15	16	6			22	12:15	111	116			227
00:30	12	8			20	12:30	93	117			210
00:45	7	40	6	26	13	12:45	79	350	104	444	183
01:00	7	6			13	13:00	99	111			210
01:15	6	14			20	13:15	115	111			226
01:30	0	10			10	13:30	105	113			218
01:45	5	18	11	41	16	13:45	136	455	105	440	241
02:00	1	8			9	14:00	91	112			203
02:15	4	8			12	14:15	108	109			217
02:30	7	7			14	14:30	122	119			241
02:45	0	12	3	26	3	14:45	90	411	110	450	200
03:00	1	5			6	15:00	104	112			216
03:15	4	2			6	15:15	116	108			224
03:30	8	3			11	15:30	111	114			225
03:45	3	16	1	11	4	15:45	107	438	110	444	217
04:00	6	6			12	16:00	123	105			228
04:15	1	1			2	16:15	100	102			202
04:30	2	4			6	16:30	109	92			201
04:45	2	11	2	13	4	16:45	109	441	102	401	211
05:00	2	3			5	17:00	91	101			192
05:15	0	2			2	17:15	112	96			208
05:30	1	3			4	17:30	105	99			204
05:45	1	4	8	16	9	17:45	127	435	102	398	229
06:00	8	12			20	18:00	102	86			188
06:15	7	14			21	18:15	80	106			186
06:30	14	14			28	18:30	82	89			171
06:45	16	45	16	56	32	18:45	104	368	87	368	191
07:00	14	19			33	19:00	97	97			194
07:15	24	25			49	19:15	73	85			158
07:30	20	22			42	19:30	101	71			172
07:45	31	89	37	103	68	19:45	98	369	64	317	162
08:00	23	41			64	20:00	101	49			150
08:15	32	43			75	20:15	73	46			119
08:30	31	60			91	20:30	44	31			75
08:45	53	139	71	215	124	20:45	36	254	36	162	72
09:00	33	52			85	21:00	28	29			57
09:15	42	93			135	21:15	27	33			60
09:30	75	72			147	21:30	19	30			49
09:45	70	220	67	284	137	21:45	26	100	13	105	39
10:00	59	95			154	22:00	10	15			25
10:15	78	114			192	22:15	11	24			35
10:30	74	113			187	22:30	10	17			27
10:45	57	268	136	458	193	22:45	18	49	12	68	30
11:00	94	116			210	23:00	11	9			20
11:15	85	110			195	23:15	8	13			21
11:30	97	101			198	23:30	17	5			22
11:45	84	360	96	423	180	23:45	8	44	10	37	18
TOTALS	1222	1672			2894	TOTALS	3714	3634			7348
SPLIT %	42.2%	57.8%			28.3%	SPLIT %	50.5%	49.5%			71.7%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,936	5,306	0	0	10,242	
AM Peak Hour	11:00	10:15			10:45	PM Peak Hour	13:45	14:00		13:45	
AM Pk Volume	360	479			796	PM Pk Volume	457	450		902	
Pk Hr Factor	0.928	0.881			0.948	Pk Hr Factor	0.840	0.945		0.936	
7 - 9 Volume	228	318	0	0	546	4 - 6 Volume	876	799	0	0	1675
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	139	215	0	0	354	4 - 6 Pk Volume	441	401	0	0	842
Pk Hr Factor	0.656	0.757	0.000	0.000	0.714	Pk Hr Factor	0.896	0.955	0.000	0.000	0.923

VOLUME

Bay St W/O W Cliff Dr

Day: Friday
Date: 4/14/2017

City: Santa Cruz
Project #: CA17_7272_003

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	0	0	0	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00			0	0	0	12:00			0	0	0
0:15			0	0	0	12:15			0	0	0
0:30			0	0	0	12:30			0	0	0
0:45			0	0	0	12:45			0	0	0
1:00			0	0	0	13:00			0	0	0
1:15			0	0	0	13:15			0	0	0
1:30			0	0	0	13:30			0	0	0
1:45			0	0	0	13:45			0	0	0
2:00			0	0	0	14:00			0	0	0
2:15			0	0	0	14:15			0	0	0
2:30			0	0	0	14:30			0	0	0
2:45			0	0	0	14:45			0	0	0
3:00			0	0	0	15:00			0	0	0
3:15			0	0	0	15:15			0	0	0
3:30			0	0	0	15:30			0	0	0
3:45			0	0	0	15:45			0	0	0
4:00			0	0	0	16:00			0	0	0
4:15			0	0	0	16:15			0	0	0
4:30			0	0	0	16:30			0	0	0
4:45			0	0	0	16:45			0	0	0
5:00			0	0	0	17:00			0	0	0
5:15			0	0	0	17:15			0	0	0
5:30			0	0	0	17:30			0	0	0
5:45			0	0	0	17:45			0	0	0
6:00			0	0	0	18:00			0	0	0
6:15			0	0	0	18:15			0	0	0
6:30			0	0	0	18:30			0	0	0
6:45			0	0	0	18:45			0	0	0
7:00			0	0	0	19:00			0	0	0
7:15			0	0	0	19:15			0	0	0
7:30			0	0	0	19:30			0	0	0
7:45			0	0	0	19:45			0	0	0
8:00			0	0	0	20:00			0	0	0
8:15			0	0	0	20:15			0	0	0
8:30			0	0	0	20:30			0	0	0
8:45			0	0	0	20:45			0	0	0
9:00			0	0	0	21:00			0	0	0
9:15			0	0	0	21:15			0	0	0
9:30			0	0	0	21:30			0	0	0
9:45			0	0	0	21:45			0	0	0
10:00			0	0	0	22:00			0	0	0
10:15			0	0	0	22:15			0	0	0
10:30			0	0	0	22:30			0	0	0
10:45			0	0	0	22:45			0	0	0
11:00			0	0	0	23:00			0	0	0
11:15			0	0	0	23:15			0	0	0
11:30			0	0	0	23:30			0	0	0
11:45			0	0	0	23:45			0	0	0
TOTALS					0	TOTALS					0
SPLIT %					#DIV/0!	SPLIT %					#DIV/0!

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	0	0	0

AM Peak Hour						PM Peak Hour					
AM Pk Volume						PM Pk Volume					
Pk Hr Factor						Pk Hr Factor					
7 - 9 Volume	0	0	0	0	0	4 - 6 Volume	0	0	0	0	0
7 - 9 Peak Hour						4 - 6 Peak Hour					
7 - 9 Pk Volume	0	0	0	0	0	4 - 6 Pk Volume	0	0	0	0	0
Pk Hr Factor	0.000	0.000	0.000	0.000	0.000	Pk Hr Factor	0.000	0.000	0.000	0.000	0.000

VOLUME

Bay St W/O W Cliff Dr

Day: Saturday
Date: 4/15/2017

City: Santa Cruz
Project #: CA17_7272_003

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	0	0	0	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00			0	0	0	12:00			0	0	0
0:15			0	0	0	12:15			0	0	0
0:30			0	0	0	12:30			0	0	0
0:45			0	0	0	12:45			0	0	0
1:00			0	0	0	13:00			0	0	0
1:15			0	0	0	13:15			0	0	0
1:30			0	0	0	13:30			0	0	0
1:45			0	0	0	13:45			0	0	0
2:00			0	0	0	14:00			0	0	0
2:15			0	0	0	14:15			0	0	0
2:30			0	0	0	14:30			0	0	0
2:45			0	0	0	14:45			0	0	0
3:00			0	0	0	15:00			0	0	0
3:15			0	0	0	15:15			0	0	0
3:30			0	0	0	15:30			0	0	0
3:45			0	0	0	15:45			0	0	0
4:00			0	0	0	16:00			0	0	0
4:15			0	0	0	16:15			0	0	0
4:30			0	0	0	16:30			0	0	0
4:45			0	0	0	16:45			0	0	0
5:00			0	0	0	17:00			0	0	0
5:15			0	0	0	17:15			0	0	0
5:30			0	0	0	17:30			0	0	0
5:45			0	0	0	17:45			0	0	0
6:00			0	0	0	18:00			0	0	0
6:15			0	0	0	18:15			0	0	0
6:30			0	0	0	18:30			0	0	0
6:45			0	0	0	18:45			0	0	0
7:00			0	0	0	19:00			0	0	0
7:15			0	0	0	19:15			0	0	0
7:30			0	0	0	19:30			0	0	0
7:45			0	0	0	19:45			0	0	0
8:00			0	0	0	20:00			0	0	0
8:15			0	0	0	20:15			0	0	0
8:30			0	0	0	20:30			0	0	0
8:45			0	0	0	20:45			0	0	0
9:00			0	0	0	21:00			0	0	0
9:15			0	0	0	21:15			0	0	0
9:30			0	0	0	21:30			0	0	0
9:45			0	0	0	21:45			0	0	0
10:00			0	0	0	22:00			0	0	0
10:15			0	0	0	22:15			0	0	0
10:30			0	0	0	22:30			0	0	0
10:45			0	0	0	22:45			0	0	0
11:00			0	0	0	23:00			0	0	0
11:15			0	0	0	23:15			0	0	0
11:30			0	0	0	23:30			0	0	0
11:45			0	0	0	23:45			0	0	0
TOTALS					0	TOTALS					0
SPLIT %					#DIV/0!	SPLIT %					#DIV/0!

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	0	0	0

AM Peak Hour						PM Peak Hour					
AM Pk Volume						PM Pk Volume					
Pk Hr Factor						Pk Hr Factor					
7 - 9 Volume	0	0	0	0	0	4 - 6 Volume	0	0	0	0	0
7 - 9 Peak Hour						4 - 6 Peak Hour					
7 - 9 Pk Volume	0	0	0	0	0	4 - 6 Pk Volume	0	0	0	0	0
Pk Hr Factor	0.000	0.000	0.000	0.000	0.000	Pk Hr Factor	0.000	0.000	0.000	0.000	0.000

VOLUME

Bay St W/O W Cliff Dr

Day: Sunday
Date: 4/16/2017

City: Santa Cruz
Project #: CA17_7272_003

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	0	0	0		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00			0	0	0	12:00			0	0	0
0:15			0	0	0	12:15			0	0	0
0:30			0	0	0	12:30			0	0	0
0:45			0	0	0	12:45			0	0	0
1:00			0	0	0	13:00			0	0	0
1:15			0	0	0	13:15			0	0	0
1:30			0	0	0	13:30			0	0	0
1:45			0	0	0	13:45			0	0	0
2:00			0	0	0	14:00			0	0	0
2:15			0	0	0	14:15			0	0	0
2:30			0	0	0	14:30			0	0	0
2:45			0	0	0	14:45			0	0	0
3:00			0	0	0	15:00			0	0	0
3:15			0	0	0	15:15			0	0	0
3:30			0	0	0	15:30			0	0	0
3:45			0	0	0	15:45			0	0	0
4:00			0	0	0	16:00			0	0	0
4:15			0	0	0	16:15			0	0	0
4:30			0	0	0	16:30			0	0	0
4:45			0	0	0	16:45			0	0	0
5:00			0	0	0	17:00			0	0	0
5:15			0	0	0	17:15			0	0	0
5:30			0	0	0	17:30			0	0	0
5:45			0	0	0	17:45			0	0	0
6:00			0	0	0	18:00			0	0	0
6:15			0	0	0	18:15			0	0	0
6:30			0	0	0	18:30			0	0	0
6:45			0	0	0	18:45			0	0	0
7:00			0	0	0	19:00			0	0	0
7:15			0	0	0	19:15			0	0	0
7:30			0	0	0	19:30			0	0	0
7:45			0	0	0	19:45			0	0	0
8:00			0	0	0	20:00			0	0	0
8:15			0	0	0	20:15			0	0	0
8:30			0	0	0	20:30			0	0	0
8:45			0	0	0	20:45			0	0	0
9:00			0	0	0	21:00			0	0	0
9:15			0	0	0	21:15			0	0	0
9:30			0	0	0	21:30			0	0	0
9:45			0	0	0	21:45			0	0	0
10:00			0	0	0	22:00			0	0	0
10:15			0	0	0	22:15			0	0	0
10:30			0	0	0	22:30			0	0	0
10:45			0	0	0	22:45			0	0	0
11:00			0	0	0	23:00			0	0	0
11:15			0	0	0	23:15			0	0	0
11:30			0	0	0	23:30			0	0	0
11:45			0	0	0	23:45			0	0	0
TOTALS					0	TOTALS					0
SPLIT %					#DIV/0!	SPLIT %					#DIV/0!

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	0	0	0

AM Peak Hour						PM Peak Hour					
AM Pk Volume						PM Pk Volume					
Pk Hr Factor						Pk Hr Factor					
7 - 9 Volume	0	0	0	0	0	4 - 6 Volume	0	0	0	0	0
7 - 9 Peak Hour						4 - 6 Peak Hour					
7 - 9 Pk Volume	0	0	0	0	0	4 - 6 Pk Volume	0	0	0	0	0
Pk Hr Factor	0.000	0.000	0.000	0.000	0.000	Pk Hr Factor	0.000	0.000	0.000	0.000	0.000

VOLUME

Bay St W/O W Cliff Dr

Day: Monday
Date: 4/17/2017

City: Santa Cruz
Project #: CA17_7272_003

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	4,053	4,528	8,581			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
0:00			4	7	11	12:00			75	66	141	
0:15			9	6	15	12:15			74	91	165	
0:30			4	3	7	12:30			60	64	124	
0:45			5	22	4	12:45			77	286	80	301
1:00			3	1	4	13:00			72	78	150	
1:15			2	3	5	13:15			74	83	157	
1:30			2	4	6	13:30			92	86	178	
1:45			1	8	4	13:45			78	316	88	335
2:00			1	3	4	14:00			65	84	149	
2:15			5	1	6	14:15			86	83	169	
2:30			3	6	9	14:30			85	78	163	
2:45			2	11	3	14:45			93	329	84	329
3:00			1	4	5	15:00			101	116	217	
3:15			4	1	5	15:15			99	90	189	
3:30			1	3	4	15:30			58	94	152	
3:45			3	9	2	15:45			80	338	85	385
4:00			1	1	2	16:00			88	84	172	
4:15			2	2	4	16:15			92	77	169	
4:30			2	3	5	16:30			85	83	168	
4:45			6	11	6	16:45			107	372	91	335
5:00			2	5	7	17:00			86	100	186	
5:15			5	5	10	17:15			94	101	195	
5:30			11	10	21	17:30			81	87	168	
5:45			14	32	16	17:45			86	347	76	364
6:00			15	12	27	18:00			59	83	142	
6:15			10	14	24	18:15			44	55	99	
6:30			25	15	40	18:30			40	55	95	
6:45			23	73	30	18:45			46	189	56	249
7:00			13	22	35	19:00			54	65	119	
7:15			26	44	70	19:15			42	42	84	
7:30			44	54	98	19:30			52	69	121	
7:45			71	154	103	19:45			47	195	50	226
8:00			70	104	174	20:00			35	55	90	
8:15			95	84	179	20:15			25	53	78	
8:30			58	84	142	20:30			27	38	65	
8:45			66	289	76	20:45			28	115	50	196
9:00			61	66	127	21:00			26	44	70	
9:15			61	70	131	21:15			15	47	62	
9:30			51	49	100	21:30			22	40	62	
9:45			53	226	59	21:45			16	79	25	156
10:00			62	51	113	22:00			33	24	57	
10:15			71	74	145	22:15			14	34	48	
10:30			72	70	142	22:30			16	23	39	
10:45			69	274	55	22:45			21	84	20	101
11:00			75	47	122	23:00			18	15	33	
11:15			52	66	118	23:15			9	13	22	
11:30			59	68	127	23:30			8	15	23	
11:45			61	247	83	23:45			12	47	5	48
TOTALS			1356	1503	2859	TOTALS			2697	3025	5722	
SPLIT %			47.4%	52.6%	33.3%	SPLIT %			47.1%	52.9%	66.7%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	4,053	4,528	8,581		
AM Peak Hour			7:45	7:45	7:45	PM Peak Hour			14:30	15:00	16:30
AM Pk Volume			294	375	669	PM Pk Volume			378	385	747
Pk Hr Factor			0.774	0.901	0.934	Pk Hr Factor			0.936	0.830	0.943
7 - 9 Volume	0	0	443	571	1014	4 - 6 Volume	0	0	719	699	1418
7 - 9 Peak Hour			7:45	7:45	7:45	4 - 6 Peak Hour			16:00	16:45	16:30
7 - 9 Pk Volume	0	0	294	375	669	4 - 6 Pk Volume	0	0	372	379	747
Pk Hr Factor	0.000	0.000	0.774	0.901	0.934	Pk Hr Factor	0.000	0.000	0.869	0.938	0.943

VOLUME

Bay St W/O W Cliff Dr

Day: **Tuesday**
Date: **4/18/2017**

City: Santa Cruz
Project #: CA17_7272_003

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	4,438	5,006	9,444		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00			9	11	20	12:00			78	64	142
0:15			5	3	8	12:15			73	80	153
0:30			4	5	9	12:30			63	71	134
0:45			3	21	8	12:45			77	291	161
1:00			3	8	11	13:00			69	90	159
1:15			4	2	6	13:15			92	82	174
1:30			3	6	9	13:30			84	76	160
1:45			2	12	5	13:45			91	336	175
2:00			2	3	5	14:00			58	91	149
2:15			3	0	3	14:15			61	79	140
2:30			1	2	3	14:30			104	100	204
2:45			4	10	6	14:45			108	331	213
3:00			1	5	6	15:00			91	88	179
3:15			3	1	4	15:15			99	89	188
3:30			1	3	4	15:30			96	87	183
3:45			0	5	2	15:45			97	383	181
4:00			0	3	3	16:00			94	107	201
4:15			2	4	6	16:15			92	110	202
4:30			1	5	6	16:30			91	99	190
4:45			4	7	11	16:45			98	375	192
5:00			3	3	6	17:00			100	108	208
5:15			4	6	10	17:15			104	94	198
5:30			9	10	19	17:30			111	103	214
5:45			10	26	23	17:45			99	414	187
6:00			9	8	17	17:55			96	96	192
6:15			12	17	29	18:00			101	87	188
6:30			15	16	31	18:15			80	96	176
6:45			30	66	62	18:30			78	355	169
7:00			29	28	57	18:45			71	91	162
7:15			29	40	69	19:00			54	74	128
7:30			54	62	116	19:15			52	81	133
7:45			51	163	177	19:30			55	58	113
8:00			78	104	182	19:45			232	62	294
8:15			81	75	156	20:00			50	78	128
8:30			59	76	135	20:15			24	71	95
8:45			75	293	167	20:30			33	67	100
9:00			62	64	126	20:45			42	149	191
9:15			50	69	119	21:00			42	40	82
9:30			51	47	98	21:15			36	50	86
9:45			63	226	124	21:30			34	44	78
10:00			45	52	97	21:45			47	159	206
10:15			45	51	96	22:00			27	30	57
10:30			48	65	113	22:15			19	31	50
10:45			67	205	141	22:30			30	28	58
11:00			68	68	136	22:45			23	99	122
11:15			48	67	115	23:00			12	26	38
11:30			56	84	140	23:15			16	14	30
11:45			65	237	153	23:30			6	10	16
TOTALS			1271	1578	2849	TOTALS			3167	3428	6595
SPLIT %			44.6%	55.4%	30.2%	SPLIT %			48.0%	52.0%	69.8%

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	4,438	5,006	9,444

AM Peak Hour			8:00	7:45	7:45	PM Peak Hour			17:00	16:15	16:45
AM Pk Volume			293	381	650	PM Pk Volume			414	411	812
Pk Hr Factor			0.904	0.756	0.893	Pk Hr Factor			0.932	0.934	0.949
7 - 9 Volume	0	0	456	603	1059	4 - 6 Volume	0	0	789	803	1592
7 - 9 Peak Hour			8:00	7:45	7:45	4 - 6 Peak Hour			17:00	16:15	16:45
7 - 9 Pk Volume	0	0	293	381	650	4 - 6 Pk Volume	0	0	414	411	812
Pk Hr Factor	0.000	0.000	0.904	0.756	0.893	Pk Hr Factor	0.000	0.000	0.932	0.934	0.949

VOLUME

Bay St W/O W Cliff Dr

Day: Wednesday
Date: 4/19/2017

City: Santa Cruz
Project #: CA17_7272_003

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	4,610	5,487	10,097		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
0:00			11	16	27	12:00			80	75	155	
0:15			11	12	23	12:15			68	95	163	
0:30			5	19	24	12:30			78	94	172	
0:45			5	32	5	52	12:45		99	325	94	358
1:00			9	7	16	13:00			98	99	197	
1:15			3	8	11	13:15			89	107	196	
1:30			5	1	6	13:30			89	91	180	
1:45			3	20	3	19	13:45		67	343	105	402
2:00			2	5	7	14:00			86	99	185	
2:15			4	1	5	14:15			74	104	178	
2:30			2	2	4	14:30			103	107	210	
2:45			1	9	1	9	14:45		94	357	115	425
3:00			3	2	5	15:00			104	123	227	
3:15			3	2	5	15:15			105	116	221	
3:30			1	1	2	15:30			108	104	212	
3:45			1	8	2	7	15:45		82	399	108	451
4:00			1	1	2	16:00			103	118	221	
4:15			1	5	6	16:15			92	83	175	
4:30			2	3	5	16:30			103	102	205	
4:45			5	9	8	17	16:45		93	391	100	403
5:00			1	3	4	17:00			97	132	229	
5:15			7	4	11	17:15			88	122	210	
5:30			10	15	25	17:30			82	103	185	
5:45			9	27	12	34	17:45		109	376	100	457
6:00			7	11	18	18:00			96	133	229	
6:15			13	19	32	18:15			94	91	185	
6:30			18	11	29	18:30			85	100	185	
6:45			27	65	32	73	18:45		70	345	76	400
7:00			21	22	43	19:00			63	85	148	
7:15			28	41	69	19:15			68	77	145	
7:30			49	86	135	19:30			70	82	152	
7:45			75	173	114	263	19:45		61	262	64	308
8:00			73	114	187	20:00			41	75	116	
8:15			75	74	149	20:15			30	62	92	
8:30			85	74	159	20:30			47	53	100	
8:45			54	287	99	361	20:45		39	157	59	249
9:00			75	74	149	21:00			25	62	87	
9:15			53	62	115	21:15			33	51	84	
9:30			47	73	120	21:30			24	40	64	
9:45			65	240	60	269	21:45		21	103	37	190
10:00			59	67	126	22:00			29	30	59	
10:15			43	75	118	22:15			18	24	42	
10:30			65	48	113	22:30			20	24	44	
10:45			75	242	85	275	22:45		31	98	19	97
11:00			61	69	130	23:00			15	13	28	
11:15			60	70	130	23:15			19	21	40	
11:30			78	70	148	23:30			11	13	24	
11:45			83	282	101	310	23:45		15	60	11	58
TOTALS			1394	1689	3083	TOTALS			3216	3798	7014	
SPLIT %			45.2%	54.8%	30.5%	SPLIT %			45.9%	54.1%	69.5%	

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	4,610	5,487	10,097

AM Peak Hour			11:30	7:30	7:45	PM Peak Hour			14:45	14:30	14:45
AM Pk Volume			309	388	684	PM Pk Volume			411	461	869
Pk Hr Factor			0.931	0.851	0.905	Pk Hr Factor			0.951	0.937	0.957
7 - 9 Volume	0	0	460	624	1084	4 - 6 Volume	0	0	767	860	1627
7 - 9 Peak Hour			7:45	7:30	7:45	4 - 6 Peak Hour			16:00	16:45	16:30
7 - 9 Pk Volume	0	0	308	388	684	4 - 6 Pk Volume	0	0	391	457	837
Pk Hr Factor	0.000	0.000	0.906	0.851	0.905	Pk Hr Factor	0.000	0.000	0.949	0.866	0.914

VOLUME

Bay St W/O W Cliff Dr

Day: Thursday
Date: 4/20/2017

City: Santa Cruz
Project #: CA17_7272_003

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	4,842	5,575	10,417					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
0:00			11	18	29	12:00			84	84	168			
0:15			6	14	20	12:15			80	82	162			
0:30			8	14	22	12:30			79	104	183			
0:45			7	32	4	12:45			100	343	85	355	185	698
1:00			6	3	9	13:00			76	106	182			
1:15			4	6	10	13:15			69	85	154			
1:30			2	5	7	13:30			85	104	189			
1:45			1	13	6	13:45			100	330	111	406	211	736
2:00			5	2	7	14:00			88	110	198			
2:15			1	1	2	14:15			88	111	199			
2:30			2	2	4	14:30			103	112	215			
2:45			1	9	1	14:45			124	403	116	449	240	852
3:00			5	1	6	15:00			109	101	210			
3:15			1	2	3	15:15			111	115	226			
3:30			1	3	4	15:30			112	119	231			
3:45			1	8	4	15:45			95	427	123	458	218	885
4:00			3	1	4	16:00			97	107	204			
4:15			1	2	3	16:15			119	119	238			
4:30			2	4	6	16:30			99	101	200			
4:45			3	9	11	16:45			105	420	109	436	214	856
5:00			5	8	13	17:00			98	110	208			
5:15			6	10	16	17:15			96	117	213			
5:30			8	19	27	17:30			98	90	188			
5:45			11	30	15	17:45			92	384	92	409	184	793
6:00			11	12	23	18:00			91	128	219			
6:15			15	21	36	18:15			79	102	181			
6:30			18	13	31	18:30			86	88	174			
6:45			36	80	35	18:45			66	322	81	399	147	721
7:00			24	31	55	19:00			71	73	144			
7:15			41	40	81	19:15			53	86	139			
7:30			50	68	118	19:30			63	78	141			
7:45			71	186	117	19:45			78	265	70	307	148	572
8:00			76	97	173	20:00			53	84	137			
8:15			84	83	167	20:15			62	72	134			
8:30			69	82	151	20:30			43	72	115			
8:45			70	299	82	20:45			50	208	60	288	110	496
9:00			60	68	128	21:00			27	50	77			
9:15			60	77	137	21:15			35	54	89			
9:30			58	60	118	21:30			31	44	75			
9:45			69	247	63	21:45			32	125	42	190	74	315
10:00			58	61	119	22:00			25	39	64			
10:15			68	57	125	22:15			18	34	52			
10:30			61	51	112	22:30			18	26	44			
10:45			66	253	78	22:45			30	91	23	122	53	213
11:00			62	68	130	23:00			18	24	42			
11:15			73	71	144	23:15			17	20	37			
11:30			76	93	169	23:30			10	15	25			
11:45			93	304	101	23:45			9	54	12	71	21	125
TOTALS			1470	1685	3155	TOTALS			3372	3890	7262			
SPLIT %			46.6%	53.4%	30.3%	SPLIT %			46.4%	53.6%	69.7%			

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	4,842	5,575	10,417		
AM Peak Hour			11:45	7:45	11:45	PM Peak Hour			14:45	15:30	14:45
AM Pk Volume			336	379	707	PM Pk Volume			456	468	907
Pk Hr Factor			0.903	0.810	0.911	Pk Hr Factor			0.919	0.951	0.945
7 - 9 Volume	0	0	485	600	1085	4 - 6 Volume	0	0	804	845	1649
7 - 9 Peak Hour			7:45	7:45	7:45	4 - 6 Peak Hour			16:15	16:15	16:15
7 - 9 Pk Volume	0	0	300	379	679	4 - 6 Pk Volume	0	0	421	439	860
Pk Hr Factor	0.000	0.000	0.893	0.810	0.903	Pk Hr Factor	0.000	0.000	0.884	0.922	0.903

VOLUME

Bay St W/O W Cliff Dr

Day: Friday
Date: 4/21/2017

City: Santa Cruz
Project #: CA17_7272_003

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	5,133	6,077	11,210		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
0:00			7	14	21	12:00			93	97	190	
0:15			14	15	29	12:15			80	106	186	
0:30			12	8	20	12:30			84	77	161	
0:45			10	43	15	12:45			100	357	91	371
1:00			7	8	15	13:00			79	120	199	
1:15			3	5	8	13:15			86	100	186	
1:30			6	5	11	13:30			97	101	198	
1:45			4	20	9	13:45			94	356	143	464
2:00			3	6	9	14:00			109	138	247	
2:15			5	5	10	14:15			101	143	244	
2:30			1	4	5	14:30			120	158	278	
2:45			2	11	4	14:45			110	440	117	556
3:00			2	4	6	15:00			113	125	238	
3:15			1	6	7	15:15			109	105	214	
3:30			3	2	5	15:30			95	124	219	
3:45			1	7	5	15:45			94	411	107	461
4:00			1	6	7	16:00			103	118	221	
4:15			2	3	5	16:15			102	113	215	
4:30			1	5	6	16:30			108	128	236	
4:45			2	6	8	16:45			100	413	96	455
5:00			2	5	7	17:00			105	129	234	
5:15			10	8	18	17:15			103	121	224	
5:30			8	12	20	17:30			99	127	226	
5:45			15	35	14	17:45			102	409	106	483
6:00			12	5	17	18:00			104	105	209	
6:15			14	18	32	18:15			88	97	185	
6:30			27	22	49	18:30			99	107	206	
6:45			29	82	31	18:45			88	379	112	421
7:00			19	24	43	19:00			79	96	175	
7:15			38	35	73	19:15			63	88	151	
7:30			46	62	108	19:30			75	74	149	
7:45			71	174	90	19:45			62	279	78	336
8:00			88	82	170	20:00			61	74	135	
8:15			77	85	162	20:15			54	83	137	
8:30			81	74	155	20:30			57	70	127	
8:45			79	325	94	20:45			38	210	73	300
9:00			68	82	150	21:00			45	73	118	
9:15			46	47	93	21:15			41	58	99	
9:30			52	58	110	21:30			47	60	107	
9:45			69	235	70	21:45			45	178	58	249
10:00			60	85	145	22:00			40	48	88	
10:15			76	77	153	22:15			29	32	61	
10:30			71	90	161	22:30			32	43	75	
10:45			69	276	72	22:45			32	133	49	172
11:00			65	68	133	23:00			15	22	37	
11:15			61	91	152	23:15			15	16	31	
11:30			72	98	170	23:30			18	36	54	
11:45			90	288	73	23:45			18	66	26	100
TOTALS			1502	1709	3211	TOTALS			3631	4368	7999	
SPLIT %			46.8%	53.2%	28.6%	SPLIT %			45.4%	54.6%	71.4%	

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	5,133	6,077	11,210	
AM Peak Hour			11:45	11:30	11:30	PM Peak Hour			14:30	13:45	13:45
AM Pk Volume			347	374	709	PM Pk Volume			452	582	1006
Pk Hr Factor			0.933	0.882	0.933	Pk Hr Factor			0.942	0.921	0.905
7 - 9 Volume	0	0	499	546	1045	4 - 6 Volume	0	0	822	938	1760
7 - 9 Peak Hour			8:00	8:00	8:00	4 - 6 Peak Hour			16:30	17:00	17:00
7 - 9 Pk Volume	0	0	325	335	660	4 - 6 Pk Volume	0	0	416	483	892
Pk Hr Factor	0.000	0.000	0.923	0.891	0.954	Pk Hr Factor	0.000	0.000	0.963	0.936	0.953

VOLUME

Bay St W/O W Cliff Dr

Day: **Saturday**
Date: **4/22/2017**

City: Santa Cruz
Project #: CA17_7272_003

DAILY TOTALS						NB	SB	EB	WB	Total				
						0	0	4,417	4,830	9,247				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
0:00			7	15	22	12:00			71	95	166			
0:15			11	14	25	12:15			88	108	196			
0:30			17	15	32	12:30			120	105	225			
0:45			9	44	11	55	12:45		79	358	100	408	179	766
1:00			5		13	18	13:00		82		98	180		
1:15			11		9	20	13:15		97		100	197		
1:30			8		5	13	13:30		98		112	210		
1:45			8	32	13	40	13:45		73	350	107	417	180	767
2:00			4		12	16	14:00		100		103	203		
2:15			12		9	21	14:15		91		74	165		
2:30			3		4	7	14:30		94		103	197		
2:45			4	23	6	31	14:45		105	390	98	378	203	768
3:00			3		4	7	15:00		88		107	195		
3:15			3		5	8	15:15		81		79	160		
3:30			6		3	9	15:30		90		128	218		
3:45			2	14	3	15	15:45		100	359	88	402	188	761
4:00			8		3	11	16:00		95		108	203		
4:15			4		6	10	16:15		84		104	188		
4:30			2		2	4	16:30		92		105	197		
4:45			2	16	4	15	16:45		76	347	101	418	177	765
5:00			2		3	5	17:00		76		90	166		
5:15			6		5	11	17:15		74		89	163		
5:30			2		7	9	17:30		88		78	166		
5:45			8	18	9	24	17:45		65	303	85	342	150	645
6:00			12		6	18	18:00		73		78	151		
6:15			10		11	21	18:15		72		85	157		
6:30			21		13	34	18:30		73		87	160		
6:45			18	61	11	41	18:45		63	281	68	318	131	599
7:00			12		17	29	19:00		70		76	146		
7:15			22		25	47	19:15		51		66	117		
7:30			25		10	35	19:30		57		47	104		
7:45			26	85	26	78	19:45		45	223	52	241	97	464
8:00			37		35	72	20:00		36		46	82		
8:15			40		29	69	20:15		48		53	101		
8:30			53		51	104	20:30		36		53	89		
8:45			46	176	45	160	20:45		29	149	46	198	75	347
9:00			50		45	95	21:00		43		45	88		
9:15			60		49	109	21:15		24		56	80		
9:30			64		53	117	21:30		34		62	96		
9:45			71	245	65	212	21:45		36	137	48	211	84	348
10:00			77		61	138	22:00		28		43	71		
10:15			75		70	145	22:15		28		39	67		
10:30			71		57	128	22:30		23		43	66		
10:45			84	307	78	266	22:45		31	110	31	156	62	266
11:00			69		81	150	23:00		20		33	53		
11:15			80		65	145	23:15		23		25	48		
11:30			75		74	149	23:30		13		20	33		
11:45			99	323	85	305	23:45		10	66	21	99	31	165
TOTALS				1344	1242	2586	TOTALS			3073	3588	6661		
SPLIT %				52.0%	48.0%	28.0%	SPLIT %			46.1%	53.9%	72.0%		

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	4,417	4,830	9,247	
AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			14:00	15:30	15:30
AM Pk Volume			378	393	771	PM Pk Volume			390	428	797
Pk Hr Factor			0.788	0.910	0.857	Pk Hr Factor			0.929	0.836	0.914
7 - 9 Volume	0	0	261	238	499	4 - 6 Volume	0	0	650	760	1410
7 - 9 Peak Hour			8:00	8:00	8:00	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	176	160	336	4 - 6 Pk Volume	0	0	347	418	765
Pk Hr Factor	0.000	0.000	0.830	0.784	0.808	Pk Hr Factor	0.000	0.000	0.913	0.968	0.942

VOLUME

Bay St W/O W Cliff Dr

Day: Sunday

Date: 4/23/2017

City: Santa Cruz

Project #: CA17_7272_003

DAILY TOTALS						NB	SB	EB	WB	Total				
						0	0	4,251	4,694	8,945				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
0:00			19	18	37	12:00			63	68	131			
0:15			12	18	30	12:15			98	109	207			
0:30			14	19	33	12:30			105	102	207			
0:45			7	52	19	74	12:45		88	354	105	384	193	738
1:00			11	14	25	13:00			94	113	207			
1:15			10	8	18	13:15			81	116	197			
1:30			12	14	26	13:30			86	124	210			
1:45			16	49	13	49	13:45		94	355	118	471	212	826
2:00			9	7	16	14:00			76	103	179			
2:15			6	6	12	14:15			92	113	205			
2:30			10	4	14	14:30			106	109	215			
2:45			3	28	2	19	14:45		88	362	90	415	178	777
3:00			4	2	6	15:00			96	121	217			
3:15			5	1	6	15:15			94	106	200			
3:30			4	3	7	15:30			95	125	220			
3:45			3	16	4	10	15:45		106	391	82	434	188	825
4:00			4	6	10	16:00			78	119	197			
4:15			1	4	5	16:15			87	99	186			
4:30			2	4	6	16:30			85	87	172			
4:45			4	11	3	17	16:45		73	323	89	394	162	717
5:00			4	1	5	17:00			72	93	165			
5:15			3	1	4	17:15			94	81	175			
5:30			10	4	14	17:30			81	76	157			
5:45			7	24	8	14	17:45		89	336	98	348	187	684
6:00			9	5	14	18:00			60	83	143			
6:15			9	9	18	18:15			81	92	173			
6:30			15	10	25	18:30			68	66	134			
6:45			17	50	10	34	18:45		67	276	75	316	142	592
7:00			10	8	18	19:00			59	72	131			
7:15			19	10	29	19:15			54	65	119			
7:30			11	7	18	19:30			52	56	108			
7:45			32	72	23	48	19:45		49	214	53	246	102	460
8:00			29	15	44	20:00			42	72	114			
8:15			36	31	67	20:15			47	55	102			
8:30			37	29	66	20:30			39	58	97			
8:45			44	146	62	137	20:45		33	161	46	231	79	392
9:00			36	34	70	21:00			40	44	84			
9:15			54	45	99	21:15			29	48	77			
9:30			61	63	124	21:30			28	33	61			
9:45			55	206	64	206	21:45		19	116	32	157	51	273
10:00			62	57	119	22:00			20	31	51			
10:15			70	59	129	22:15			19	31	50			
10:30			73	71	144	22:30			17	20	37			
10:45			92	297	81	268	22:45		16	72	19	101	35	173
11:00			68	58	126	23:00			16	21	37			
11:15			79	73	152	23:15			13	10	23			
11:30			72	68	140	23:30			7	6	13			
11:45			73	292	73	272	23:45		12	48	12	49	24	97
TOTALS			1243	1148	2391	TOTALS			3008	3546	6554			
SPLIT %			52.0%	48.0%	26.7%	SPLIT %			45.9%	54.1%	73.3%			

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	4,251	4,694	8,945	
AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			15:00	13:00	13:00
AM Pk Volume			339	352	691	PM Pk Volume			391	471	826
Pk Hr Factor			0.807	0.807	0.835	Pk Hr Factor			0.922	0.950	0.974
7 - 9 Volume	0	0	218	185	403	4 - 6 Volume	0	0	659	742	1401
7 - 9 Peak Hour			8:00	8:00	8:00	4 - 6 Peak Hour			17:00	16:00	16:00
7 - 9 Pk Volume	0	0	146	137	283	4 - 6 Pk Volume	0	0	336	394	717
Pk Hr Factor	0.000	0.000	0.830	0.552	0.667	Pk Hr Factor	0.000	0.000	0.894	0.828	0.910

VOLUME

W. Cliff Dr N/O Bay St

Day: Tuesday
Date: 8/15/2017City: Santa Cruz
Project #: CA17_7614_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,935	10,229	0	0	18,164	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	18	24			42	12:00	161	218			379
00:15	15	13			28	12:15	153	292			445
00:30	9	17			26	12:30	163	203			366
00:45	12	54	13	67	25	12:45	174	651	196	909	370
01:00	11	6			17	13:00	142	174			316
01:15	12	8			20	13:15	169	195			364
01:30	3	10			13	13:30	161	208			369
01:45	4	30	12	36	16	13:45	177	649	173	750	350
02:00	5	10			15	14:00	193	205			398
02:15	2	1			3	14:15	187	168			355
02:30	5	3			8	14:30	165	170			335
02:45	5	17	4	18	9	14:45	161	706	208	751	369
03:00	8	2			10	15:00	179	187			366
03:15	1	2			3	15:15	154	198			352
03:30	4	0			4	15:30	149	191			340
03:45	0	13	6	10	6	15:45	155	637	184	760	339
04:00	2	1			3	16:00	163	191			354
04:15	4	9			13	16:15	163	185			348
04:30	6	4			10	16:30	188	214			402
04:45	5	17	9	23	14	16:45	173	687	214	804	387
05:00	5	9			14	17:00	172	238			410
05:15	10	12			22	17:15	173	225			398
05:30	8	12			20	17:30	164	184			348
05:45	14	37	17	50	31	17:45	163	672	199	846	362
06:00	10	17			27	18:00	170	176			346
06:15	20	30			50	18:15	139	133			272
06:30	33	34			67	18:30	133	131			264
06:45	55	118	51	132	106	18:45	117	559	142	582	259
07:00	45	51			96	19:00	110	161			271
07:15	35	54			89	19:15	113	149			262
07:30	62	84			146	19:30	112	122			234
07:45	86	228	107	296	193	19:45	113	448	122	554	235
08:00	81	118			199	20:00	111	114			225
08:15	82	137			219	20:15	89	104			193
08:30	95	130			225	20:30	73	93			166
08:45	92	350	182	567	274	20:45	86	359	96	407	182
09:00	116	146			262	21:00	55	96			151
09:15	96	136			232	21:15	70	75			145
09:30	100	138			238	21:30	48	68			116
09:45	101	413	144	564	245	21:45	30	203	62	301	92
10:00	84	116			200	22:00	45	59			104
10:15	97	190			287	22:15	40	64			104
10:30	93	183			276	22:30	33	60			93
10:45	102	376	209	698	311	22:45	41	159	65	248	106
11:00	116	171			287	23:00	29	41			70
11:15	109	168			277	23:15	25	27			52
11:30	114	210			324	23:30	15	26			41
11:45	130	469	197	746	327	23:45	14	83	16	110	30
TOTALS	2122	3207			5329	TOTALS	5813	7022			12835
SPLIT %	39.8%	60.2%			29.3%	SPLIT %	45.3%	54.7%			70.7%

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,935	10,229	0	0	18,164	
AM Peak Hour	11:45	11:30			11:45	PM Peak Hour	13:45	12:00			16:30
AM Pk Volume	607	917			1517	PM Pk Volume	722	909			1597
Pk Hr Factor	0.931	0.785			0.852	Pk Hr Factor	0.935	0.778			0.974
7 - 9 Volume	578	863	0	0	1441	4 - 6 Volume	1359	1650	0	0	3009
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:30	16:30			16:30
7 - 9 Pk Volume	350	567	0	0	917	4 - 6 Pk Volume	706	891	0	0	1597
Pk Hr Factor	0.921	0.779	0.000	0.000	0.837	Pk Hr Factor	0.939	0.936	0.000	0.000	0.974

VOLUME

W. Cliff Dr N/O Bay St

Day: Wednesday
Date: 8/16/2017City: Santa Cruz
Project #: CA17_7614_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,046	10,199	0	0	18,245	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	12	14			26	12:00	158	172			330
00:15	11	7			18	12:15	147	180			327
00:30	8	12			20	12:30	132	194			326
00:45	8	39	7	40	15	12:45	154	591	207	753	361
01:00	9	13			22	13:00	142	165			307
01:15	8	7			15	13:15	131	184			315
01:30	2	6			8	13:30	182	199			381
01:45	3	22	8	34	11	13:45	153	608	183	731	336
02:00	4	7			11	14:00	172	184			356
02:15	2	3			5	14:15	140	187			327
02:30	5	5			10	14:30	155	187			342
02:45	3	14	6	21	9	14:45	169	636	211	769	380
03:00	9	2			11	15:00	151	209			360
03:15	2	3			5	15:15	153	206			359
03:30	3	2			5	15:30	187	183			370
03:45	2	16	5	12	7	15:45	186	677	220	818	406
04:00	2	0			2	16:00	164	217			381
04:15	2	7			9	16:15	176	192			368
04:30	6	4			10	16:30	193	213			406
04:45	4	14	8	19	12	16:45	159	692	201	823	360
05:00	2	8			10	17:00	174	203			377
05:15	9	8			17	17:15	191	248			439
05:30	8	11			19	17:30	173	206			379
05:45	19	38	18	45	37	17:45	181	719	251	908	432
06:00	19	14			33	18:00	156	224			380
06:15	20	23			43	18:15	152	184			336
06:30	29	25			54	18:30	132	171			303
06:45	40	108	57	119	97	18:45	115	555	148	727	263
07:00	39	59			98	19:00	121	175			296
07:15	46	78			124	19:15	132	160			292
07:30	57	77			134	19:30	124	161			285
07:45	82	224	129	343	211	19:45	107	484	153	649	260
08:00	88	93			181	20:00	119	133			252
08:15	82	104			186	20:15	112	94			206
08:30	95	120			215	20:30	98	110			208
08:45	89	354	155	472	244	20:45	65	394	93	430	158
09:00	87	133			220	21:00	60	87			147
09:15	104	139			243	21:15	46	93			139
09:30	90	117			207	21:30	51	65			116
09:45	85	366	127	516	212	21:45	56	213	76	321	132
10:00	124	152			276	22:00	31	56			87
10:15	97	145			242	22:15	45	59			104
10:30	115	148			263	22:30	46	46			92
10:45	122	458	159	604	281	22:45	36	158	41	202	77
11:00	143	148			291	23:00	29	74			103
11:15	123	170			293	23:15	39	60			99
11:30	130	155			285	23:30	21	31			52
11:45	154	550	173	646	327	23:45	27	116	32	197	59
TOTALS		2203	2871		5074	TOTALS		5843	7328		13171
SPLIT %		43.4%	56.6%		27.8%	SPLIT %		44.4%	55.6%		72.2%

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,046	10,199	0	0	18,245	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	15:45	17:15		17:15	
AM Pk Volume	591	719			1310	PM Pk Volume	719	929		1630	
Pk Hr Factor	0.935	0.927			0.992	Pk Hr Factor	0.931	0.925		0.928	
7 - 9 Volume	578	815	0	0	1393	4 - 6 Volume	1411	1731	0	0	3142
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	354	472	0	0	826	4 - 6 Pk Volume	719	908	0	0	1627
Pk Hr Factor	0.932	0.761	0.000	0.000	0.846	Pk Hr Factor	0.941	0.904	0.000	0.000	0.927

VOLUME

W. Cliff Dr N/O Bay St

Day: Thursday
Date: 8/17/2017City: Santa Cruz
Project #: CA17_7614_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,043	10,142	0	0	18,185	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	11	33			44	12:00	126	187			313
00:15	20	18			38	12:15	127	185			312
00:30	8	10			18	12:30	141	193			334
00:45	6	45	13	74	19	12:45	163	557	187	752	350
01:00	7	6			13	13:00	168	226			394
01:15	5	4			9	13:15	178	222			400
01:30	4	4			8	13:30	164	200			364
01:45	9	25	8	22	17	13:45	157	667	202	850	359
02:00	4	6			10	14:00	144	181			325
02:15	2	7			9	14:15	149	198			347
02:30	2	7			9	14:30	162	183			345
02:45	2	10	6	26	8	14:45	170	625	175	737	345
03:00	8	1			9	15:00	148	198			346
03:15	2	4			6	15:15	165	203			368
03:30	1	2			3	15:30	183	182			365
03:45	1	12	2	9	3	15:45	172	668	196	779	368
04:00	2	3			5	16:00	180	171			351
04:15	1	6			7	16:15	176	200			376
04:30	5	6			11	16:30	178	188			366
04:45	3	11	13	28	16	16:45	197	731	206	765	403
05:00	3	6			9	17:00	206	194			400
05:15	7	11			18	17:15	193	219			412
05:30	10	14			24	17:30	180	204			384
05:45	23	43	16	47	39	17:45	175	754	178	795	353
06:00	17	23			40	18:00	157	207			364
06:15	14	29			43	18:15	161	174			335
06:30	25	28			53	18:30	131	170			301
06:45	44	100	55	135	99	18:45	122	571	164	715	286
07:00	43	52			95	19:00	108	156			264
07:15	55	68			123	19:15	133	170			303
07:30	70	97			167	19:30	104	171			275
07:45	108	276	142	359	250	19:45	119	464	160	657	279
08:00	98	104			202	20:00	121	120			241
08:15	86	118			204	20:15	117	102			219
08:30	82	140			222	20:30	73	95			168
08:45	113	379	170	532	283	20:45	71	382	91	408	162
09:00	92	140			232	21:00	57	100			157
09:15	90	147			237	21:15	34	74			108
09:30	107	106			213	21:30	41	65			106
09:45	110	399	154	547	264	21:45	39	171	58	297	97
10:00	90	129			219	22:00	36	69			105
10:15	99	147			246	22:15	42	73			115
10:30	96	144			240	22:30	47	58			105
10:45	108	393	167	587	275	22:45	42	167	38	238	80
11:00	118	162			280	23:00	32	42			74
11:15	121	164			285	23:15	18	30			48
11:30	130	170			300	23:30	18	31			49
11:45	139	508	160	656	299	23:45	17	85	24	127	41
TOTALS	2201	3022			5223	TOTALS	5842	7120			12962
SPLIT %	42.1%	57.9%			28.7%	SPLIT %	45.1%	54.9%			71.3%

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,043	10,142	0	0	18,185	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	16:45	13:00		16:45	
AM Pk Volume	533	725			1258	PM Pk Volume	776	850		1599	
Pk Hr Factor	0.945	0.939			0.942	Pk Hr Factor	0.942	0.940		0.970	
7 - 9 Volume	655	891	0	0	1546	4 - 6 Volume	1485	1560	0	0	3045
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:45	16:45			16:45
7 - 9 Pk Volume	379	532	0	0	911	4 - 6 Pk Volume	776	823	0	0	1599
Pk Hr Factor	0.838	0.782	0.000	0.000	0.805	Pk Hr Factor	0.942	0.939	0.000	0.000	0.970

VOLUME

W. Cliff Dr N/O Bay St

Day: Friday
Date: 8/18/2017City: Santa Cruz
Project #: CA17_7614_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,297	10,498	0	0	18,795	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	17	19			36	12:00	139	184			323
00:15	12	18			30	12:15	171	174			345
00:30	10	12			22	12:30	144	197			341
00:45	9	48	10	59	19	12:45	184	638	227	782	411
					107						1420
01:00	5	9			14	13:00	153	203			356
01:15	8	8			16	13:15	162	188			350
01:30	6	3			9	13:30	160	204			364
01:45	5	24	17	37	22	13:45	144	619	210	805	354
					61						1424
02:00	9	10			19	14:00	144	222			366
02:15	4	5			9	14:15	163	201			364
02:30	3	9			12	14:30	151	176			327
02:45	5	21	2	26	7	14:45	164	622	202	801	366
					47						1423
03:00	5	4			9	15:00	173	203			376
03:15	3	4			7	15:15	163	193			356
03:30	2	1			3	15:30	184	196			380
03:45	1	11	6	15	7	15:45	183	703	197	789	380
					26						1492
04:00	1	1			2	16:00	168	218			386
04:15	2	3			5	16:15	162	209			371
04:30	1	6			7	16:30	168	234			402
04:45	7	11	11	21	18	16:45	161	659	180	841	341
					32						1500
05:00	6	9			15	17:00	177	214			391
05:15	8	9			17	17:15	173	201			374
05:30	10	21			31	17:30	173	201			374
05:45	8	32	21	60	29	17:45	163	686	193	809	356
					92						1495
06:00	11	19			30	18:00	143	140			283
06:15	26	30			56	18:15	139	172			311
06:30	20	36			56	18:30	136	189			325
06:45	40	97	62	147	102	18:45	128	546	161	662	289
					244						1208
07:00	55	48			103	19:00	114	157			271
07:15	64	74			138	19:15	122	158			280
07:30	73	90			163	19:30	137	166			303
07:45	105	297	104	316	209	19:45	144	517	158	639	302
					613						1156
08:00	78	115			193	20:00	114	142			256
08:15	76	114			190	20:15	105	91			196
08:30	104	143			247	20:30	77	86			163
08:45	119	377	154	526	273	20:45	98	394	104	423	202
					903						817
09:00	86	156			242	21:00	72	109			181
09:15	81	136			217	21:15	50	105			155
09:30	106	137			243	21:30	62	83			145
09:45	111	384	132	561	243	21:45	57	241	93	390	150
					945						631
10:00	120	146			266	22:00	45	98			143
10:15	98	178			276	22:15	54	77			131
10:30	116	170			286	22:30	44	62			106
10:45	133	467	178	672	311	22:45	44	187	47	284	91
					1139						471
11:00	123	170			293	23:00	44	50			94
11:15	139	172			311	23:15	37	46			83
11:30	149	172			321	23:30	38	37			75
11:45	163	574	159	673	322	23:45	23	142	27	160	50
					1247						302
TOTALS	2343	3113			5456	TOTALS	5954	7385			13339
SPLIT %	42.9%	57.1%			29.0%	SPLIT %	44.6%	55.4%			71.0%

DAILY TOTALS						NB	SB	EB	WB	Total	
						8,297	10,498	0	0	18,795	
AM Peak Hour	11:30	11:45			11:45	PM Peak Hour	15:00	15:45		15:45	
AM Pk Volume	622	714			1331	PM Pk Volume	703	858		1539	
Pk Hr Factor	0.909	0.906			0.964	Pk Hr Factor	0.955	0.917		0.957	
7 - 9 Volume	674	842	0	0	1516	4 - 6 Volume	1345	1650	0	0	2995
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	17:00	16:00			16:30
7 - 9 Pk Volume	377	526	0	0	903	4 - 6 Pk Volume	686	841	0	0	1508
Pk Hr Factor	0.792	0.854	0.000	0.000	0.827	Pk Hr Factor	0.969	0.899	0.000	0.000	0.938

VOLUME

W. Cliff Dr N/O Bay St

Day: Saturday
Date: 8/19/2017City: Santa Cruz
Project #: CA17_7614_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,541	9,788	0	0	17,329	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	20	33			53	12:00	156	186			342
00:15	13	26			39	12:15	150	203			353
00:30	22	24			46	12:30	150	165			315
00:45	20	75	15	98	35	12:45	147	603	198	752	345
01:00	19	11			30	13:00	135	207			342
01:15	10	18			28	13:15	142	230			372
01:30	16	15			31	13:30	154	228			382
01:45	14	59	9	53	23	13:45	157	588	210	875	367
02:00	15	16			31	14:00	166	187			353
02:15	6	13			19	14:15	142	183			325
02:30	3	7			10	14:30	131	181			312
02:45	6	30	10	46	16	14:45	158	597	214	765	372
03:00	4	6			10	15:00	125	242			367
03:15	8	6			14	15:15	128	222			350
03:30	5	3			8	15:30	133	233			366
03:45	4	21	7	22	11	15:45	143	529	228	925	371
04:00	6	5			11	16:00	156	199			355
04:15	3	3			6	16:15	150	191			341
04:30	5	7			12	16:30	162	188			350
04:45	4	18	7	22	11	16:45	121	589	209	787	330
05:00	2	5			7	17:00	149	177			326
05:15	7	11			18	17:15	154	201			355
05:30	7	14			21	17:30	125	158			283
05:45	14	30	10	40	24	17:45	143	571	161	697	304
06:00	24	17			41	18:00	134	157			291
06:15	20	17			37	18:15	147	170			317
06:30	15	27			42	18:30	140	139			279
06:45	22	81	34	95	56	18:45	132	553	144	610	276
07:00	39	46			85	19:00	122	114			236
07:15	36	47			83	19:15	98	131			229
07:30	46	51			97	19:30	95	116			211
07:45	66	187	64	208	130	19:45	108	423	117	478	225
08:00	63	81			144	20:00	135	116			251
08:15	78	82			160	20:15	97	95			192
08:30	67	107			174	20:30	86	78			164
08:45	86	294	115	385	201	20:45	73	391	106	395	179
09:00	90	110			200	21:00	55	69			124
09:15	96	130			226	21:15	53	78			131
09:30	99	150			249	21:30	45	66			111
09:45	87	372	140	530	227	21:45	52	205	72	285	124
10:00	123	152			275	22:00	40	62			102
10:15	106	128			234	22:15	38	61			99
10:30	125	161			286	22:30	40	53			93
10:45	131	485	164	605	295	22:45	33	151	38	214	71
11:00	124	167			291	23:00	36	53			89
11:15	134	199			333	23:15	44	48			92
11:30	147	178			325	23:30	36	38			74
11:45	147	552	192	736	339	23:45	21	137	26	165	47
TOTALS	2204	2840			5044	TOTALS	5337	6948			12285
SPLIT %	43.7%	56.3%			29.1%	SPLIT %	43.4%	56.6%			70.9%

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,541	9,788	0	0	17,329	
AM Peak Hour	11:45	11:30			11:30	PM Peak Hour	13:15	15:00		13:15	
AM Pk Volume	603	759			1359	PM Pk Volume	619	925		1474	
Pk Hr Factor	0.966	0.935			0.962	Pk Hr Factor	0.932	0.956		0.965	
7 - 9 Volume	481	593	0	0	1074	4 - 6 Volume	1160	1484	0	0	2644
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	294	385	0	0	679	4 - 6 Pk Volume	589	787	0	0	1376
Pk Hr Factor	0.855	0.837	0.000	0.000	0.845	Pk Hr Factor	0.909	0.941	0.000	0.000	0.969

VOLUME

W. Cliff Dr N/O Bay St

Day: Sunday

Date: 8/20/2017

City: Santa Cruz

Project #: CA17_7614_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,019	8,507	0	0	15,526	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	13	32			45	12:00	154	180			334
00:15	19	26			45	12:15	151	148			299
00:30	20	26			46	12:30	145	180			325
00:45	13	65	17	101	30	12:45	142	592	158	666	300
01:00	14	24			38	13:00	158	176			334
01:15	10	15			25	13:15	124	198			322
01:30	14	14			28	13:30	127	165			292
01:45	7	45	16	69	23	13:45	117	526	175	714	292
02:00	6	10			16	14:00	134	187			321
02:15	13	8			21	14:15	128	167			295
02:30	5	9			14	14:30	145	143			288
02:45	6	30	9	36	15	14:45	131	538	199	696	330
03:00	5	8			13	15:00	168	210			378
03:15	2	2			4	15:15	134	191			325
03:30	2	3			5	15:30	124	183			307
03:45	3	12	5	18	8	15:45	137	563	167	751	304
04:00	2	2			4	16:00	140	195			335
04:15	2	1			3	16:15	132	208			340
04:30	1	2			3	16:30	134	162			296
04:45	3	8	6	11	9	16:45	131	537	173	738	304
05:00	4	2			6	17:00	134	143			277
05:15	7	9			16	17:15	141	200			341
05:30	11	14			25	17:30	124	146			270
05:45	6	28	23	48	29	17:45	134	533	153	642	287
06:00	14	14			28	18:00	123	138			261
06:15	10	21			31	18:15	136	128			264
06:30	19	17			36	18:30	133	129			262
06:45	23	66	34	86	57	18:45	112	504	129	524	241
07:00	28	34			62	19:00	125	137			262
07:15	33	41			74	19:15	114	129			243
07:30	36	34			70	19:30	109	104			213
07:45	62	159	49	158	111	19:45	117	465	92	462	209
08:00	57	45			102	20:00	105	85			190
08:15	63	60			123	20:15	114	96			210
08:30	68	83			151	20:30	69	85			154
08:45	80	268	105	293	185	20:45	60	348	66	332	126
09:00	63	96			159	21:00	50	65			115
09:15	82	89			171	21:15	67	72			139
09:30	83	89			172	21:30	51	52			103
09:45	104	332	119	393	223	21:45	40	208	61	250	101
10:00	109	125			234	22:00	49	56			105
10:15	95	123			218	22:15	45	44			89
10:30	134	144			278	22:30	30	42			72
10:45	133	471	185	577	318	22:45	23	147	24	166	47
11:00	108	171			279	23:00	23	29			52
11:15	129	177			306	23:15	17	26			43
11:30	132	156			288	23:30	15	19			34
11:45	124	493	176	680	300	23:45	26	81	22	96	48
TOTALS	1977	2470			4447	TOTALS	5042	6037			11079
SPLIT %	44.5%	55.5%			28.6%	SPLIT %	45.5%	54.5%			71.4%

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,019	8,507	0	0	15,526	
AM Peak Hour	11:45	10:45			11:45	PM Peak Hour	12:15	14:45		14:45	
AM Pk Volume	574	689			1258	PM Pk Volume	596	783		1340	
Pk Hr Factor	0.932	0.931			0.942	Pk Hr Factor	0.943	0.932		0.886	
7 - 9 Volume	427	451	0	0	878	4 - 6 Volume	1070	1380	0	0	2450
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:30	16:00			16:00
7 - 9 Pk Volume	268	293	0	0	561	4 - 6 Pk Volume	540	738	0	0	1275
Pk Hr Factor	0.838	0.698	0.000	0.000	0.758	Pk Hr Factor	0.957	0.887	0.000	0.000	0.938

VOLUME

W. Cliff Dr N/O Bay St

Day: Monday
Date: 8/21/2017City: Santa Cruz
Project #: CA17_7614_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					7,164	8,529	0	0	15,693		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	15	18			33	12:00	119	153			272
00:15	12	21			33	12:15	132	141			273
00:30	20	11			31	12:30	147	161			308
00:45	7	54	12	62	19	12:45	173	571	143	598	316
01:00	7	6			13	13:00	151	159			310
01:15	9	6			15	13:15	138	170			308
01:30	6	3			9	13:30	117	146			263
01:45	4	26	3	18	7	13:45	153	559	141	616	294
02:00	1	4			5	14:00	114	147			261
02:15	6	3			9	14:15	138	173			311
02:30	3	3			6	14:30	145	177			322
02:45	3	13	1	11	4	14:45	139	536	148	645	287
03:00	2	3			5	15:00	152	166			318
03:15	1	5			6	15:15	151	180			331
03:30	0	3			3	15:30	173	173			346
03:45	3	6	4	15	7	15:45	128	604	162	681	290
04:00	1	2			3	16:00	142	173			315
04:15	4	11			15	16:15	158	156			314
04:30	4	9			13	16:30	158	195			353
04:45	4	13	7	29	11	16:45	161	619	228	752	389
05:00	1	7			8	17:00	171	182			353
05:15	7	9			16	17:15	140	191			331
05:30	11	12			23	17:30	142	203			345
05:45	15	34	27	55	42	17:45	147	600	160	736	307
06:00	21	23			44	18:00	120	148			268
06:15	15	22			37	18:15	112	154			266
06:30	22	36			58	18:30	135	142			277
06:45	31	89	50	131	81	18:45	126	493	134	578	260
07:00	41	63			104	19:00	134	121			255
07:15	51	78			129	19:15	99	108			207
07:30	78	91			169	19:30	92	101			193
07:45	81	251	120	352	201	19:45	92	417	104	434	196
08:00	96	105			201	20:00	117	100			217
08:15	89	126			215	20:15	80	95			175
08:30	98	119			217	20:30	74	82			156
08:45	97	380	125	475	222	20:45	58	329	67	344	125
09:00	62	105			167	21:00	48	72			120
09:15	83	111			194	21:15	55	69			124
09:30	95	106			201	21:30	30	63			93
09:45	85	325	140	462	225	21:45	35	168	60	264	95
10:00	76	127			203	22:00	41	55			96
10:15	91	96			187	22:15	33	36			69
10:30	134	112			246	22:30	34	34			68
10:45	115	416	147	482	262	22:45	26	134	23	148	49
11:00	113	135			248	23:00	32	25			57
11:15	108	133			241	23:15	20	25			45
11:30	96	127			223	23:30	6	26			32
11:45	138	455	159	554	297	23:45	14	72	11	87	25
TOTALS	2062	2646			4708	TOTALS	5102	5883			10985
SPLIT %	43.8%	56.2%			30.0%	SPLIT %	46.4%	53.6%			70.0%

DAILY TOTALS					NB	SB	EB	WB	Total
					7,164	8,529	0	0	15,693
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	16:15	16:45	16:30
AM Pk Volume	536	614			1150	PM Pk Volume	648	804	1426
Pk Hr Factor	0.912	0.953			0.933	Pk Hr Factor	0.947	0.882	0.916
7 - 9 Volume	631	827	0	0	1458	4 - 6 Volume	1219	1488	2707
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:15	16:45	16:30
7 - 9 Pk Volume	380	475	0	0	855	4 - 6 Pk Volume	648	804	1426
Pk Hr Factor	0.969	0.942	0.000	0.000	0.963	Pk Hr Factor	0.947	0.882	0.916

VOLUME

W. Cliff Dr N/O Bay St

Day: Tuesday
Date: 8/22/2017City: Santa Cruz
Project #: CA17_7614_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,807	9,889	0	0	17,696	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	13	28			41	12:00	114	169			283
00:15	17	6			23	12:15	154	179			333
00:30	8	10			18	12:30	184	218			402
00:45	7	45	13	57	20	12:45	154	606	196	762	350
01:00	4	5			9	13:00	144	177			321
01:15	6	11			17	13:15	150	194			344
01:30	2	6			8	13:30	159	188			347
01:45	3	15	7	29	10	13:45	157	610	185	744	342
02:00	3	8			11	14:00	157	174			331
02:15	1	3			4	14:15	154	177			331
02:30	1	2			3	14:30	173	221			394
02:45	3	8	4	17	7	14:45	181	665	184	756	365
03:00	2	5			7	15:00	152	213			365
03:15	3	3			6	15:15	164	172			336
03:30	2	3			5	15:30	183	168			351
03:45	2	9	3	14	5	15:45	176	675	179	732	355
04:00	2	6			8	16:00	171	173			344
04:15	6	4			10	16:15	168	241			409
04:30	1	8			9	16:30	185	206			391
04:45	8	17	14	32	22	16:45	133	657	193	813	326
05:00	3	10			13	17:00	173	228			401
05:15	8	8			16	17:15	159	229			388
05:30	14	15			29	17:30	167	212			379
05:45	19	44	19	52	38	17:45	162	661	205	874	367
06:00	10	23			33	18:00	146	164			310
06:15	22	28			50	18:15	152	148			300
06:30	27	34			61	18:30	127	172			299
06:45	46	105	53	138	99	18:45	99	524	131	615	230
07:00	39	78			117	19:00	118	153			271
07:15	65	62			127	19:15	100	147			247
07:30	78	117			195	19:30	89	140			229
07:45	93	275	136	393	229	19:45	124	431	110	550	234
08:00	93	146			239	20:00	99	105			204
08:15	91	160			251	20:15	70	87			157
08:30	120	124			244	20:30	71	81			152
08:45	110	414	152	582	262	20:45	61	301	89	362	150
09:00	99	142			241	21:00	47	78			125
09:15	97	115			212	21:15	53	75			128
09:30	97	131			228	21:30	62	74			136
09:45	110	403	147	535	257	21:45	45	207	56	283	101
10:00	87	143			230	22:00	39	56			95
10:15	87	129			216	22:15	33	41			74
10:30	114	149			263	22:30	35	38			73
10:45	113	401	169	590	282	22:45	29	136	32	167	61
11:00	137	152			289	23:00	11	30			41
11:15	120	168			288	23:15	16	29			45
11:30	127	170			297	23:30	29	24			53
11:45	139	523	197	687	336	23:45	19	75	22	105	41
TOTALS		2259	3126		5385	TOTALS		5548	6763		12311
SPLIT %		41.9%	58.1%		30.4%	SPLIT %		45.1%	54.9%		69.6%

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,807	9,889	0	0	17,696	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	15:45	17:00		17:00	
AM Pk Volume	591	763			1354	PM Pk Volume	700	874		1535	
Pk Hr Factor	0.803	0.875			0.842	Pk Hr Factor	0.946	0.954		0.957	
7 - 9 Volume	689	975	0	0	1664	4 - 6 Volume	1318	1687	0	0	3005
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	414	582	0	0	996	4 - 6 Pk Volume	661	874	0	0	1535
Pk Hr Factor	0.863	0.909	0.000	0.000	0.950	Pk Hr Factor	0.955	0.954	0.000	0.000	0.957

VOLUME

W. Cliff Dr N/O Bay St

Day: Wednesday
Date: 8/23/2017City: Santa Cruz
Project #: CA17_7614_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,467	9,573	0	0	17,040	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	14	27			41	12:00	126	151			277
00:15	18	7			25	12:15	140	197			337
00:30	8	17			25	12:30	124	158			282
00:45	9	49	15	66	24	12:45	140	530	152	658	292
01:00	8	13			21	13:00	165	142			307
01:15	12	10			22	13:15	158	184			342
01:30	6	5			11	13:30	157	174			331
01:45	9	35	11	39	20	13:45	153	633	154	654	307
02:00	3	9			12	14:00	142	182			324
02:15	4	7			11	14:15	145	169			314
02:30	1	4			5	14:30	153	186			339
02:45	3	11	4	24	7	14:45	154	594	197	734	351
03:00	2	1			3	15:00	166	180			346
03:15	1	4			5	15:15	150	193			343
03:30	5	2			7	15:30	187	209			396
03:45	1	9	4	11	5	15:45	178	681	191	773	369
04:00	3	2			5	16:00	148	195			343
04:15	2	5			7	16:15	164	191			355
04:30	4	8			12	16:30	156	202			358
04:45	5	14	10	25	15	16:45	175	643	197	785	372
05:00	2	7			9	17:00	155	210			365
05:15	10	14			24	17:15	162	197			359
05:30	13	8			21	17:30	146	191			337
05:45	12	37	20	49	32	17:45	131	594	186	784	317
06:00	21	25			46	18:00	137	202			339
06:15	18	25			43	18:15	142	185			327
06:30	26	23			49	18:30	118	155			273
06:45	34	99	66	139	100	18:45	111	508	160	702	271
07:00	42	61			103	19:00	116	143			259
07:15	65	72			137	19:15	116	123			239
07:30	76	114			190	19:30	88	120			208
07:45	101	284	202	449	303	19:45	85	405	109	495	194
08:00	135	167			302	20:00	87	87			174
08:15	114	155			269	20:15	61	93			154
08:30	109	126			235	20:30	72	74			146
08:45	119	477	149	597	268	20:45	44	264	69	323	113
09:00	85	152			237	21:00	41	76			117
09:15	113	131			244	21:15	47	93			140
09:30	92	121			213	21:30	33	59			92
09:45	83	373	138	542	221	21:45	37	158	66	294	103
10:00	82	101			183	22:00	39	53			92
10:15	95	125			220	22:15	36	61			97
10:30	103	132			235	22:30	28	46			74
10:45	102	382	164	522	266	22:45	43	146	37	197	80
11:00	122	154			276	23:00	14	32			46
11:15	111	140			251	23:15	18	16			34
11:30	124	133			257	23:30	22	15			37
11:45	121	478	199	626	320	23:45	9	63	22	85	31
TOTALS	2248	3089			5337	TOTALS	5219	6484			11703
SPLIT %	42.1%	57.9%			31.3%	SPLIT %	44.6%	55.4%			68.7%

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,467	9,573	0	0	17,040	
AM Peak Hour	11:30	11:45			11:45	PM Peak Hour	15:00	16:30		15:30	
AM Pk Volume	511	705			1216	PM Pk Volume	681	806		1463	
Pk Hr Factor	0.913	0.886			0.902	Pk Hr Factor	0.910	0.960		0.924	
7 - 9 Volume	761	1046	0	0	1807	4 - 6 Volume	1237	1569	0	0	2806
7 - 9 Peak Hour	08:00	07:45			07:45	4 - 6 Peak Hour	16:15	16:30			16:30
7 - 9 Pk Volume	477	650	0	0	1109	4 - 6 Pk Volume	650	806	0	0	1454
Pk Hr Factor	0.883	0.804	0.000	0.000	0.915	Pk Hr Factor	0.929	0.960	0.000	0.000	0.977

VOLUME

W. Cliff Dr N/O Bay St

Day: Thursday
Date: 8/24/2017City: Santa Cruz
Project #: CA17_7614_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,688	9,656	0	0	17,344	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	17	15			32	12:00	134	150			284
00:15	10	11			21	12:15	119	157			276
00:30	11	6			17	12:30	142	173			315
00:45	5	43	7	39	12	12:45	141	536	177	657	318
01:00	3	13			16	13:00	137	174			311
01:15	8	10			18	13:15	142	190			332
01:30	5	7			12	13:30	165	184			349
01:45	9	25	5	35	14	13:45	142	586	201	749	343
02:00	3	7			10	14:00	138	222			360
02:15	2	4			6	14:15	157	202			359
02:30	0	2			2	14:30	157	168			325
02:45	4	9	2	15	6	14:45	168	620	162	754	330
03:00	2	4			6	15:00	151	166			317
03:15	2	2			4	15:15	158	178			336
03:30	4	0			4	15:30	202	168			370
03:45	2	10	4	10	6	15:45	150	661	206	718	356
04:00	3	1			4	16:00	160	216			376
04:15	2	4			6	16:15	149	164			313
04:30	1	3			4	16:30	144	181			325
04:45	4	10	9	17	13	16:45	167	620	214	775	381
05:00	3	11			14	17:00	181	222			403
05:15	14	10			24	17:15	181	198			379
05:30	11	12			23	17:30	187	186			373
05:45	14	42	20	53	34	17:45	155	704	175	781	330
06:00	11	23			34	18:00	147	174			321
06:15	18	30			48	18:15	147	174			321
06:30	36	33			69	18:30	136	145			281
06:45	44	109	66	152	110	18:45	144	574	149	642	293
07:00	29	64			93	19:00	98	153			251
07:15	51	61			112	19:15	101	146			247
07:30	70	105			175	19:30	119	125			244
07:45	119	269	203	433	322	19:45	103	421	106	530	209
08:00	118	169			287	20:00	107	115			222
08:15	117	144			261	20:15	83	106			189
08:30	107	147			254	20:30	84	95			179
08:45	102	444	148	608	250	20:45	60	334	84	400	144
09:00	90	114			204	21:00	51	75			126
09:15	90	127			217	21:15	54	84			138
09:30	93	124			217	21:30	33	84			117
09:45	107	380	118	483	225	21:45	28	166	62	305	90
10:00	104	134			238	22:00	35	61			96
10:15	105	143			248	22:15	30	55			85
10:30	105	140			245	22:30	16	40			56
10:45	110	424	155	572	265	22:45	24	105	41	197	65
11:00	134	144			278	23:00	26	22			48
11:15	118	165			283	23:15	20	29			49
11:30	130	156			286	23:30	18	23			41
11:45	126	508	162	627	288	23:45	24	88	30	104	54
TOTALS	2273	3044			5317	TOTALS	5415	6612			12027
SPLIT %	42.7%	57.3%			30.7%	SPLIT %	45.0%	55.0%			69.3%

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,688	9,656	0	0	17,344	
AM Peak Hour	11:45	07:45			11:45	PM Peak Hour	16:45	16:45		16:45	
AM Pk Volume	521	663			1163	PM Pk Volume	716	820		1536	
Pk Hr Factor	0.917	0.817			0.923	Pk Hr Factor	0.957	0.923		0.953	
7 - 9 Volume	713	1041	0	0	1754	4 - 6 Volume	1324	1556	0	0	2880
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:45	16:45			16:45
7 - 9 Pk Volume	461	663	0	0	1124	4 - 6 Pk Volume	716	820	0	0	1536
Pk Hr Factor	0.968	0.817	0.000	0.000	0.873	Pk Hr Factor	0.957	0.923	0.000	0.000	0.953

VOLUME

W. Cliff Dr S/O Bay St

Day: Tuesday
Date: 8/15/2017City: Santa Cruz
Project #: CA17_7614_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,287	4,949	0	0	9,236	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	10	12			22	12:00	98	89			187
00:15	10	10			20	12:15	94	102			196
00:30	6	10			16	12:30	90	94			184
00:45	6	32	9	41	15	12:45	84	366	88	373	172
01:00	6	2			8	13:00	78	85			163
01:15	6	4			10	13:15	88	102			190
01:30	2	3			5	13:30	82	95			177
01:45	1	15	7	16	8	13:45	84	332	94	376	178
02:00	5	2			7	14:00	104	88			192
02:15	0	1			1	14:15	98	81			179
02:30	2	2			4	14:30	79	84			163
02:45	3	10	2	7	5	14:45	56	337	99	352	155
03:00	2	0			2	15:00	75	90			165
03:15	1	1			2	15:15	79	104			183
03:30	1	0			1	15:30	86	95			181
03:45	0	4	3	4	3	15:45	86	326	87	376	173
04:00	1	0			1	16:00	82	82			164
04:15	2	2			4	16:15	74	83			157
04:30	3	1			4	16:30	77	86			163
04:45	2	8	2	5	4	16:45	91	324	83	334	174
05:00	2	5			7	17:00	79	97			176
05:15	2	3			5	17:15	78	111			189
05:30	3	6			9	17:30	89	83			172
05:45	4	11	6	20	10	17:45	79	325	109	400	188
06:00	7	23			30	18:00	83	85			168
06:15	15	20			35	18:15	81	72			153
06:30	22	20			42	18:30	80	70			150
06:45	38	82	17	80	55	18:45	77	321	84	311	161
07:00	24	26			50	19:00	65	89			154
07:15	26	25			51	19:15	70	86			156
07:30	38	31			69	19:30	80	90			170
07:45	37	125	42	124	79	19:45	69	284	90	355	159
08:00	46	36			82	20:00	84	81			165
08:15	48	57			105	20:15	68	46			114
08:30	54	53			107	20:30	47	39			86
08:45	40	188	91	237	131	20:45	56	255	45	211	101
09:00	65	75			140	21:00	32	37			69
09:15	47	60			107	21:15	44	47			91
09:30	59	71			130	21:30	29	32			61
09:45	46	217	72	278	118	21:45	16	121	33	149	49
10:00	49	58			107	22:00	29	26			55
10:15	47	91			138	22:15	24	26			50
10:30	43	109			152	22:30	19	30			49
10:45	53	192	108	366	161	22:45	22	94	23	105	45
11:00	70	96			166	23:00	21	21			42
11:15	64	84			148	23:15	13	13			26
11:30	57	109			166	23:30	11	9			20
11:45	73	264	87	376	160	23:45	9	54	10	53	19
TOTALS	1148	1554			2702	TOTALS	3139	3395			6534
SPLIT %	42.5%	57.5%			29.3%	SPLIT %	48.0%	52.0%			70.7%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,287	4,949	0	0	9,236	
AM Peak Hour	11:45	10:15			11:45	PM Peak Hour	13:30	17:00		12:00	
AM Pk Volume	355	404			727	PM Pk Volume	368	400		739	
Pk Hr Factor	0.906	0.927			0.927	Pk Hr Factor	0.885	0.901		0.943	
7 - 9 Volume	313	361	0	0	674	4 - 6 Volume	649	734	0	0	1383
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:45	17:00			17:00
7 - 9 Pk Volume	188	237	0	0	425	4 - 6 Pk Volume	337	400	0	0	725
Pk Hr Factor	0.870	0.651	0.000	0.000	0.811	Pk Hr Factor	0.926	0.901	0.000	0.000	0.959

VOLUME

W. Cliff Dr S/O Bay St

Day: Wednesday
Date: 8/16/2017City: Santa Cruz
Project #: CA17_7614_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					4,204	4,851	0	0	9,055		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	10	6			16	12:00	84	84			168
00:15	7	7			14	12:15	65	101			166
00:30	6	5			11	12:30	85	92			177
00:45	2	25	6	24	8	12:45	79	313	90	367	169
01:00	10	5			15	13:00	69	81			150
01:15	4	2			6	13:15	62	91			153
01:30	2	4			6	13:30	86	96			182
01:45	4	20	4	15	8	13:45	74	291	88	356	162
02:00	2	4			6	14:00	93	86			179
02:15	2	3			5	14:15	67	92			159
02:30	2	2			4	14:30	86	105			191
02:45	0	6	2	11	2	14:45	75	321	95	378	170
03:00	4	1			5	15:00	71	109			180
03:15	2	0			2	15:15	77	89			166
03:30	0	0			0	15:30	91	89			180
03:45	0	6	2	3	2	15:45	79	318	92	379	171
04:00	2	0			2	16:00	80	107			187
04:15	1	2			3	16:15	56	80			136
04:30	2	0			2	16:30	74	96			170
04:45	3	8	0	2	3	16:45	72	282	99	382	171
05:00	4	5			9	17:00	82	101			183
05:15	2	3			5	17:15	79	106			185
05:30	2	6			8	17:30	91	97			188
05:45	9	17	5	19	14	17:45	80	332	103	407	183
06:00	9	10			19	18:00	90	106			196
06:15	12	14			26	18:15	82	79			161
06:30	15	11			26	18:30	85	85			170
06:45	15	51	22	57	37	18:45	66	323	83	353	149
07:00	30	29			59	19:00	82	102			184
07:15	29	35			64	19:15	87	101			188
07:30	31	31			62	19:30	89	92			181
07:45	40	130	52	147	92	19:45	85	343	81	376	166
08:00	48	43			91	20:00	94	78			172
08:15	42	45			87	20:15	90	45			135
08:30	54	56			110	20:30	62	44			106
08:45	28	172	61	205	89	20:45	34	280	50	217	84
09:00	40	60			100	21:00	31	47			78
09:15	49	66			115	21:15	30	35			65
09:30	56	61			117	21:30	27	30			57
09:45	48	193	67	254	115	21:45	28	116	35	147	63
10:00	59	70			129	22:00	20	21			41
10:15	43	70			113	22:15	27	32			59
10:30	51	68			119	22:30	23	19			42
10:45	57	210	74	282	131	22:45	22	92	27	99	49
11:00	58	68			126	23:00	19	25			44
11:15	56	77			133	23:15	24	27			51
11:30	72	71			143	23:30	16	12			28
11:45	96	282	78	294	174	23:45	14	73	13	77	27
TOTALS	1120	1313			2433	TOTALS	3084	3538			6622
SPLIT %	46.0%	54.0%			26.9%	SPLIT %	46.6%	53.4%			73.1%

DAILY TOTALS					NB	SB	EB	WB	Total
					4,204	4,851	0	0	9,055
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	19:30	17:15	17:15
AM Pk Volume	330	355			685	PM Pk Volume	358	412	752
Pk Hr Factor	0.859	0.879			0.968	Pk Hr Factor	0.952	0.972	0.959
7 - 9 Volume	302	352	0	0	654	4 - 6 Volume	614	789	0
7 - 9 Peak Hour	07:45	08:00			07:45	4 - 6 Peak Hour	17:00	17:00	17:00
7 - 9 Pk Volume	184	205	0	0	380	4 - 6 Pk Volume	332	407	0
Pk Hr Factor	0.852	0.840	0.000	0.000	0.864	Pk Hr Factor	0.912	0.960	0.000

VOLUME

W. Cliff Dr S/O Bay St

Day: Thursday
Date: 8/17/2017City: Santa Cruz
Project #: CA17_7614_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,428	4,984	0	0	9,412	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	4	14			18	12:00	72	82			154
00:15	15	12			27	12:15	74	98			172
00:30	8	5			13	12:30	77	99			176
00:45	7	34	2	33	9	12:45	87	310	83	362	170
01:00	4	1			5	13:00	90	105			195
01:15	4	2			6	13:15	98	104			202
01:30	5	2			7	13:30	91	95			186
01:45	0	13	3	8	3	13:45	72	351	101	405	173
02:00	1	2			3	14:00	93	92			185
02:15	1	3			4	14:15	81	107			188
02:30	2	3			5	14:30	90	89			179
02:45	0	4	4	12	4	14:45	87	351	93	381	180
03:00	6	2			8	15:00	82	96			178
03:15	0	1			1	15:15	93	106			199
03:30	1	1			2	15:30	82	82			164
03:45	0	7	0	4	0	15:45	71	328	89	373	160
04:00	0	1			1	16:00	98	100			198
04:15	1	0			1	16:15	105	89			194
04:30	2	4			6	16:30	87	104			191
04:45	2	5	3	8	5	16:45	111	401	104	397	215
05:00	2	1			3	17:00	94	101			195
05:15	2	3			5	17:15	100	99			199
05:30	2	7			9	17:30	83	103			186
05:45	4	10	9	20	13	17:45	105	382	92	395	197
06:00	9	13			22	18:00	92	88			180
06:15	6	25			31	18:15	102	92			194
06:30	12	15			27	18:30	85	82			167
06:45	19	46	25	78	44	18:45	79	358	97	359	176
07:00	22	22			44	19:00	62	85			147
07:15	28	29			57	19:15	86	87			173
07:30	37	48			85	19:30	68	95			163
07:45	53	140	61	160	114	19:45	78	294	90	357	168
08:00	48	41			89	20:00	101	71			172
08:15	40	47			87	20:15	92	48			140
08:30	47	69			116	20:30	61	38			99
08:45	49	184	75	232	124	20:45	34	288	40	197	74
09:00	42	56			98	21:00	38	30			68
09:15	39	79			118	21:15	28	30			58
09:30	55	71			126	21:30	27	27			54
09:45	56	192	75	281	131	21:45	19	112	23	110	42
10:00	43	70			113	22:00	18	32			50
10:15	47	66			113	22:15	25	32			57
10:30	44	82			126	22:30	25	32			57
10:45	56	190	84	302	140	22:45	17	85	15	111	32
11:00	71	97			168	23:00	14	22			36
11:15	72	83			155	23:15	15	15			30
11:30	70	69			139	23:30	12	18			30
11:45	78	291	81	330	159	23:45	11	52	14	69	25
TOTALS	1116	1468			2584	TOTALS	3312	3516			6828
SPLIT %	43.2%	56.8%			27.5%	SPLIT %	48.5%	51.5%			72.5%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,428	4,984	0	0	9,412	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	16:00	16:30		16:30	
AM Pk Volume	301	360			661	PM Pk Volume	401	408		800	
Pk Hr Factor	0.965	0.909			0.939	Pk Hr Factor	0.903	0.981		0.930	
7 - 9 Volume	324	392	0	0	716	4 - 6 Volume	783	792	0	0	1575
7 - 9 Peak Hour	07:45	08:00			08:00	4 - 6 Peak Hour	16:00	16:30			16:30
7 - 9 Pk Volume	188	232	0	0	416	4 - 6 Pk Volume	401	408	0	0	800
Pk Hr Factor	0.887	0.773	0.000	0.000	0.839	Pk Hr Factor	0.903	0.981	0.000	0.000	0.930

VOLUME

W. Cliff Dr S/O Bay St

Day: Friday
Date: 8/18/2017City: Santa Cruz
Project #: CA17_7614_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					4,498	5,181	0	0	9,679		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	12	9			21	12:00	61	97			158
00:15	7	9			16	12:15	91	91			182
00:30	5	6			11	12:30	79	97			176
00:45	5	29	3	27	8	12:45	90	321	102	387	192
01:00	5	6			11	13:00	84	94			178
01:15	8	4			12	13:15	102	94			196
01:30	2	2			4	13:30	78	102			180
01:45	3	18	10	22	13	13:45	83	347	112	402	195
02:00	5	4			9	14:00	81	110			191
02:15	3	4			7	14:15	96	100			196
02:30	2	3			5	14:30	80	94			174
02:45	2	12	2	13	4	14:45	83	340	114	418	197
03:00	1	1			2	15:00	91	106			197
03:15	1	2			3	15:15	72	98			170
03:30	1	0			1	15:30	72	79			151
03:45	1	4	3	6	4	15:45	75	310	89	372	164
04:00	1	2			3	16:00	85	107			192
04:15	1	1			2	16:15	88	99			187
04:30	0	1			1	16:30	64	95			159
04:45	3	5	3	7	6	16:45	102	339	93	394	195
05:00	2	8			10	17:00	69	101			170
05:15	4	6			10	17:15	72	99			171
05:30	5	13			18	17:30	83	89			172
05:45	4	15	14	41	18	17:45	104	328	96	385	200
06:00	9	11			20	18:00	83	72			155
06:15	8	17			25	18:15	84	88			172
06:30	17	24			41	18:30	79	95			174
06:45	21	55	25	77	46	18:45	82	328	86	341	168
07:00	34	26			60	19:00	76	83			159
07:15	34	26			60	19:15	88	99			187
07:30	44	35			79	19:30	99	88			187
07:45	49	161	40	127	89	19:45	82	345	71	341	153
08:00	32	51			83	20:00	75	73			148
08:15	45	46			91	20:15	71	46			117
08:30	46	59			105	20:30	41	41			82
08:45	63	186	69	225	132	20:45	57	244	54	214	111
09:00	50	73			123	21:00	34	44			78
09:15	39	75			114	21:15	23	48			71
09:30	59	80			139	21:30	40	30			70
09:45	64	212	70	298	134	21:45	29	126	43	165	72
10:00	67	73			140	22:00	29	51			80
10:15	58	89			147	22:15	30	29			59
10:30	62	100			162	22:30	29	24			53
10:45	68	255	93	355	161	22:45	23	111	28	132	51
11:00	74	84			158	23:00	28	23			51
11:15	74	93			167	23:15	26	26			52
11:30	82	91			173	23:30	24	21			45
11:45	85	315	81	349	166	23:45	14	92	13	83	27
TOTALS	1267	1547			2814	TOTALS	3231	3634			6865
SPLIT %	45.0%	55.0%			29.1%	SPLIT %	47.1%	52.9%			70.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					4,498	5,181	0	0	9,679
AM Peak Hour	11:30	10:30			11:45	PM Peak Hour	12:30	13:30	14:15
AM Pk Volume	319	370			682	PM Pk Volume	355	424	764
Pk Hr Factor	0.876	0.925			0.937	Pk Hr Factor	0.870	0.946	0.970
7 - 9 Volume	347	352	0	0	699	4 - 6 Volume	667	779	0
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	16:00	0
7 - 9 Pk Volume	186	225	0	0	411	4 - 6 Pk Volume	339	394	0
Pk Hr Factor	0.738	0.815	0.000	0.000	0.778	Pk Hr Factor	0.831	0.921	0.000

VOLUME

W. Cliff Dr S/O Bay St

Day: Saturday
Date: 8/19/2017City: Santa Cruz
Project #: CA17_7614_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,494	5,189	0	0	9,683	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	12	21			33	12:00	88	98			186
00:15	13	16			29	12:15	69	99			168
00:30	12	11			23	12:30	76	81			157
00:45	13	50	9	57	22	12:45	88	321	100	378	188
01:00	12	6			18	13:00	82	112			194
01:15	6	10			16	13:15	90	119			209
01:30	7	10			17	13:30	83	118			201
01:45	11	36	6	32	17	13:45	97	352	110	459	207
02:00	5	10			15	14:00	79	105			184
02:15	5	7			12	14:15	97	101			198
02:30	1	7			8	14:30	64	99			163
02:45	4	15	4	28	8	14:45	89	329	116	421	205
03:00	1	3			4	15:00	79	129			208
03:15	5	2			7	15:15	50	90			140
03:30	0	2			2	15:30	82	116			198
03:45	3	9	3	10	6	15:45	76	287	112	447	188
04:00	4	3			7	16:00	98	87			185
04:15	1	1			2	16:15	86	104			190
04:30	3	3			6	16:30	66	83			149
04:45	4	12	3	10	7	16:45	81	331	97	371	178
05:00	0	2			2	17:00	112	90			202
05:15	5	11			16	17:15	113	91			204
05:30	6	13			19	17:30	83	92			175
05:45	8	19	9	35	17	17:45	80	388	86	359	166
06:00	11	12			23	18:00	89	81			170
06:15	11	17			28	18:15	99	77			176
06:30	6	24			30	18:30	101	94			195
06:45	15	43	27	80	42	18:45	74	363	81	333	155
07:00	19	31			50	19:00	67	61			128
07:15	16	31			47	19:15	74	75			149
07:30	19	31			50	19:30	64	61			125
07:45	43	97	29	122	72	19:45	76	281	64	261	140
08:00	35	61			96	20:00	97	66			163
08:15	40	58			98	20:15	84	47			131
08:30	43	78			121	20:30	55	38			93
08:45	47	165	66	263	113	20:45	42	278	53	204	95
09:00	49	62			111	21:00	36	34			70
09:15	56	83			139	21:15	25	34			59
09:30	51	82			133	21:30	27	26			53
09:45	48	204	83	310	131	21:45	28	116	32	126	60
10:00	87	96			183	22:00	31	37			68
10:15	60	80			140	22:15	27	22			49
10:30	67	96			163	22:30	25	32			57
10:45	72	286	93	365	165	22:45	22	105	11	102	33
11:00	84	83			167	23:00	18	22			40
11:15	70	95			165	23:15	21	13			34
11:30	75	91			166	23:30	22	19			41
11:45	100	329	81	350	181	23:45	17	78	12	66	29
TOTALS	1265	1662			2927	TOTALS	3229	3527			6756
SPLIT %	43.2%	56.8%			30.2%	SPLIT %	47.8%	52.2%			69.8%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,494	5,189	0	0	9,683	
AM Peak Hour	11:15	11:30			11:30	PM Peak Hour	16:45	13:00		13:00	
AM Pk Volume	333	369			701	PM Pk Volume	389	459		811	
Pk Hr Factor	0.833	0.932			0.942	Pk Hr Factor	0.861	0.964		0.970	
7 - 9 Volume	262	385	0	0	647	4 - 6 Volume	719	730	0	0	1449
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:45	16:15			16:45
7 - 9 Pk Volume	165	263	0	0	428	4 - 6 Pk Volume	389	374	0	0	759
Pk Hr Factor	0.878	0.843	0.000	0.000	0.884	Pk Hr Factor	0.861	0.899	0.000	0.000	0.930

VOLUME

W. Cliff Dr S/O Bay St

Day: Sunday
Date: 8/20/2017City: Santa Cruz
Project #: CA17_7614_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,601	5,077	0	0	9,678	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	4	22			26	12:00	99	99			198
00:15	11	12			23	12:15	81	85			166
00:30	14	16			30	12:30	96	99			195
00:45	9	38	7	57	16	12:45	80	356	98	381	178
01:00	7	7			14	13:00	100	84			184
01:15	7	5			12	13:15	81	118			199
01:30	7	9			16	13:30	84	93			177
01:45	7	28	9	30	16	13:45	70	335	114	409	184
02:00	4	11			15	14:00	95	95			190
02:15	11	5			16	14:15	62	105			167
02:30	5	4			9	14:30	98	93			191
02:45	3	23	5	25	8	14:45	70	325	109	402	179
03:00	3	2			5	15:00	100	105			205
03:15	2	4			6	15:15	101	101			202
03:30	2	2			4	15:30	87	106			193
03:45	2	9	2	10	4	15:45	93	381	104	416	197
04:00	0	1			1	16:00	67	103			170
04:15	0	2			2	16:15	91	107			198
04:30	1	2			3	16:30	90	103			193
04:45	2	3	5	10	7	16:45	85	333	94	407	179
05:00	1	3			4	17:00	86	68			154
05:15	6	7			13	17:15	80	111			191
05:30	3	13			16	17:30	96	79			175
05:45	3	13	16	39	19	17:45	81	343	115	373	196
06:00	7	19			26	18:00	86	83			169
06:15	6	24			30	18:15	102	91			193
06:30	16	19			35	18:30	95	76			171
06:45	11	40	28	90	39	18:45	84	367	86	336	170
07:00	22	28			50	19:00	101	87			188
07:15	21	33			54	19:15	76	97			173
07:30	27	26			53	19:30	89	68			157
07:45	33	103	30	117	63	19:45	82	348	52	304	134
08:00	40	32			72	20:00	85	45			130
08:15	38	51			89	20:15	76	57			133
08:30	40	54			94	20:30	61	45			106
08:45	46	164	57	194	103	20:45	44	266	36	183	80
09:00	46	64			110	21:00	34	32			66
09:15	63	59			122	21:15	41	32			73
09:30	57	50			107	21:30	29	21			50
09:45	62	228	74	247	136	21:45	33	137	32	117	65
10:00	69	84			153	22:00	29	32			61
10:15	61	79			140	22:15	28	27			55
10:30	88	93			181	22:30	21	18			39
10:45	77	295	117	373	194	22:45	14	92	13	90	27
11:00	68	106			174	23:00	13	17			30
11:15	81	109			190	23:15	15	14			29
11:30	79	90			169	23:30	10	19			29
11:45	83	311	103	408	186	23:45	25	63	9	59	34
TOTALS	1255	1600			2855	TOTALS	3346	3477			6823
SPLIT %	44.0%	56.0%			29.5%	SPLIT %	49.0%	51.0%			70.5%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,601	5,077	0	0	9,678	
AM Peak Hour	11:45	10:30			11:45	PM Peak Hour	18:15	14:45		15:00	
AM Pk Volume	359	425			745	PM Pk Volume	382	421		797	
Pk Hr Factor	0.907	0.908			0.941	Pk Hr Factor	0.936	0.966		0.972	
7 - 9 Volume	267	311	0	0	578	4 - 6 Volume	676	780	0	0	1456
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:15	16:00			16:00
7 - 9 Pk Volume	164	194	0	0	358	4 - 6 Pk Volume	352	407	0	0	740
Pk Hr Factor	0.891	0.851	0.000	0.000	0.869	Pk Hr Factor	0.967	0.951	0.000	0.000	0.934

VOLUME

W. Cliff Dr S/O Bay St

Day: Monday
Date: 8/21/2017City: Santa Cruz
Project #: CA17_7614_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,069	4,489	0	0	8,558	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	13	11			24	12:00	63	86			149
00:15	8	10			18	12:15	77	71			148
00:30	14	8			22	12:30	76	90			166
00:45	8	43	9	38	17	12:45	102	318	75	322	177
01:00	3	1			4	13:00	81	85			166
01:15	9	5			14	13:15	65	89			154
01:30	5	0			5	13:30	50	70			120
01:45	2	19	2	8	4	13:45	81	277	65	309	146
02:00	1	1			2	14:00	62	87			149
02:15	5	1			6	14:15	81	92			173
02:30	1	1			2	14:30	73	94			167
02:45	2	9	2	5	4	14:45	74	290	75	348	149
03:00	0	1			1	15:00	83	100			183
03:15	0	2			2	15:15	80	98			178
03:30	1	1			2	15:30	92	96			188
03:45	2	3	3	7	5	15:45	62	317	93	387	155
04:00	0	1			1	16:00	77	91			168
04:15	4	2			6	16:15	87	75			162
04:30	3	4			7	16:30	87	104			191
04:45	4	11	1	8	5	16:45	88	339	110	380	198
05:00	0	4			4	17:00	100	85			185
05:15	2	4			6	17:15	84	101			185
05:30	3	11			14	17:30	83	98			181
05:45	4	9	11	30	15	17:45	86	353	90	374	176
06:00	14	13			27	18:00	54	88			142
06:15	8	18			26	18:15	73	96			169
06:30	18	15			33	18:30	79	87			166
06:45	18	58	19	65	37	18:45	85	291	89	360	174
07:00	31	32			63	19:00	73	73			146
07:15	33	36			69	19:15	66	72			138
07:30	31	43			74	19:30	58	72			130
07:45	42	137	46	157	88	19:45	85	282	69	286	154
08:00	44	63			107	20:00	96	49			145
08:15	45	42			87	20:15	59	40			99
08:30	45	56			101	20:30	51	34			85
08:45	37	171	65	226	102	20:45	30	236	24	147	54
09:00	35	47			82	21:00	22	29			51
09:15	40	59			99	21:15	28	33			61
09:30	44	58			102	21:30	24	24			48
09:45	53	172	71	235	124	21:45	22	96	34	120	56
10:00	40	71			111	22:00	25	29			54
10:15	67	58			125	22:15	19	11			30
10:30	69	59			128	22:30	16	19			35
10:45	62	238	68	256	130	22:45	18	78	9	68	27
11:00	73	78			151	23:00	16	15			31
11:15	63	65			128	23:15	14	18			32
11:30	56	78			134	23:30	4	13			17
11:45	83	275	79	300	162	23:45	13	47	7	53	20
TOTALS	1145	1335			2480	TOTALS	2924	3154			6078
SPLIT %	46.2%	53.8%			29.0%	SPLIT %	48.1%	51.9%			71.0%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,069	4,489	0	0	8,558	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	16:15	16:30		16:30	
AM Pk Volume	299	326			625	PM Pk Volume	362	400		759	
Pk Hr Factor	0.901	0.906			0.941	Pk Hr Factor	0.905	0.909		0.958	
7 - 9 Volume	308	383	0	0	691	4 - 6 Volume	692	754	0	0	1446
7 - 9 Peak Hour	07:45	08:00			08:00	4 - 6 Peak Hour	16:15	16:30			16:30
7 - 9 Pk Volume	176	226	0	0	397	4 - 6 Pk Volume	362	400	0	0	759
Pk Hr Factor	0.978	0.869	0.000	0.000	0.928	Pk Hr Factor	0.905	0.909	0.000	0.000	0.958

VOLUME

W. Cliff Dr S/O Bay St

Day: Tuesday
Date: 8/22/2017City: Santa Cruz
Project #: CA17_7614_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,399	4,978	0	0	9,377	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	10	10			20	12:00	63	100			163
00:15	14	7			21	12:15	80	81			161
00:30	5	7			12	12:30	106	113			219
00:45	5	34	5	29	10	12:45	98	347	107	401	205
01:00	2	2			4	13:00	68	83			151
01:15	3	6			9	13:15	99	96			195
01:30	3	2			5	13:30	90	101			191
01:45	2	10	4	14	6	13:45	84	341	95	375	179
02:00	1	2			3	14:00	84	90			174
02:15	0	1			1	14:15	86	104			190
02:30	0	1			1	14:30	78	103			181
02:45	1	2	4	8	5	14:45	97	345	95	392	192
03:00	1	4			5	15:00	91	100			191
03:15	1	0			1	15:15	89	87			176
03:30	0	3			3	15:30	78	86			164
03:45	1	3	1	8	2	15:45	93	351	75	348	168
04:00	2	5			7	16:00	87	83			170
04:15	3	2			5	16:15	74	96			170
04:30	2	2			4	16:30	87	103			190
04:45	5	12	1	10	6	16:45	65	313	106	388	171
05:00	0	6			6	17:00	93	99			192
05:15	3	4			7	17:15	74	111			185
05:30	4	16			20	17:30	76	110			186
05:45	10	17	9	35	19	17:45	71	314	104	424	175
06:00	5	17			22	18:00	97	93			190
06:15	13	16			29	18:15	93	93			186
06:30	17	25			42	18:30	88	74			162
06:45	28	63	33	91	61	18:45	61	339	74	334	135
07:00	26	41			67	19:00	81	86			167
07:15	38	36			74	19:15	79	77			156
07:30	40	45			85	19:30	64	84			148
07:45	34	138	65	187	99	19:45	92	316	58	305	150
08:00	49	66			115	20:00	75	51			126
08:15	51	74			125	20:15	57	40			97
08:30	65	66			131	20:30	51	31			82
08:45	58	223	60	266	118	20:45	40	223	38	160	78
09:00	54	54			108	21:00	35	39			74
09:15	55	64			119	21:15	34	28			62
09:30	68	66			134	21:30	29	30			59
09:45	56	233	71	255	127	21:45	23	121	28	125	51
10:00	41	78			119	22:00	26	25			51
10:15	38	83			121	22:15	18	17			35
10:30	69	88			157	22:30	19	18			37
10:45	72	220	97	346	169	22:45	15	78	13	73	28
11:00	85	83			168	23:00	4	17			21
11:15	66	90			156	23:15	10	12			22
11:30	89	91			180	23:30	18	10			28
11:45	73	313	91	355	164	23:45	11	43	10	49	21
TOTALS	1268	1604			2872	TOTALS	3131	3374			6505
SPLIT %	44.2%	55.8%			30.6%	SPLIT %	48.1%	51.9%			69.4%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,399	4,978	0	0	9,377	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	12:30	16:45		12:30	
AM Pk Volume	322	385			707	PM Pk Volume	371	426		770	
Pk Hr Factor	0.759	0.852			0.807	Pk Hr Factor	0.875	0.959		0.879	
7 - 9 Volume	361	453	0	0	814	4 - 6 Volume	627	812	0	0	1439
7 - 9 Peak Hour	08:00	07:45			08:00	4 - 6 Peak Hour	16:15	16:45			16:30
7 - 9 Pk Volume	223	271	0	0	489	4 - 6 Pk Volume	319	426	0	0	738
Pk Hr Factor	0.858	0.916	0.000	0.000	0.933	Pk Hr Factor	0.858	0.959	0.000	0.000	0.961

VOLUME

W. Cliff Dr S/O Bay St

Day: Wednesday
Date: 8/23/2017City: Santa Cruz
Project #: CA17_7614_002

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,041	4,595	0	0	8,636	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	9	11			20	12:00	64	85			149
00:15	8	4			12	12:15	89	77			166
00:30	7	6			13	12:30	82	68			150
00:45	10	34	7	28	17	12:45	80	315	80	310	160
01:00	6	7			13	13:00	81	71			152
01:15	8	5			13	13:15	80	79			159
01:30	3	6			9	13:30	69	98			167
01:45	9	26	4	22	13	13:45	89	319	76	324	165
02:00	4	8			12	14:00	80	93			173
02:15	3	4			7	14:15	82	89			171
02:30	1	3			4	14:30	84	96			180
02:45	2	10	1	16	3	14:45	91	337	85	363	176
03:00	2	0			2	15:00	83	85			168
03:15	0	1			1	15:15	84	95			179
03:30	4	2			6	15:30	86	100			186
03:45	1	7	1	4	2	15:45	75	328	83	363	158
04:00	1	2			3	16:00	65	82			147
04:15	3	2			5	16:15	86	90			176
04:30	1	1			2	16:30	73	102			175
04:45	4	9	2	7	6	16:45	83	307	98	372	181
05:00	2	2			4	17:00	74	92			166
05:15	3	9			12	17:15	78	111			189
05:30	3	7			10	17:30	64	92			156
05:45	5	13	11	29	16	17:45	69	285	102	397	171
06:00	11	14			25	18:00	72	91			163
06:15	10	23			33	18:15	78	97			175
06:30	12	14			26	18:30	70	76			146
06:45	24	57	26	77	50	18:45	63	283	92	356	155
07:00	25	26			51	19:00	75	78			153
07:15	30	24			54	19:15	87	63			150
07:30	37	44			81	19:30	59	59			118
07:45	46	138	60	154	106	19:45	56	277	58	258	114
08:00	58	55			113	20:00	67	45			112
08:15	44	67			111	20:15	45	40			85
08:30	50	64			114	20:30	48	35			83
08:45	49	201	64	250	113	20:45	27	187	33	153	60
09:00	51	70			121	21:00	28	33			61
09:15	67	66			133	21:15	22	28			50
09:30	50	66			116	21:30	18	27			45
09:45	38	206	77	279	115	21:45	26	94	34	122	60
10:00	45	58			103	22:00	21	22			43
10:15	51	67			118	22:15	26	29			55
10:30	63	69			132	22:30	14	25			39
10:45	61	220	86	280	147	22:45	21	82	16	92	37
11:00	68	69			137	23:00	9	13			22
11:15	55	85			140	23:15	13	11			24
11:30	79	58			137	23:30	13	7			20
11:45	59	261	87	299	146	23:45	10	45	9	40	19
TOTALS	1182	1445			2627	TOTALS	2859	3150			6009
SPLIT %	45.0%	55.0%			30.4%	SPLIT %	47.6%	52.4%			69.6%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,041	4,595	0	0	8,636	
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	14:45	16:30		16:30	
AM Pk Volume	294	317			611	PM Pk Volume	344	403		711	
Pk Hr Factor	0.826	0.911			0.920	Pk Hr Factor	0.945	0.908		0.940	
7 - 9 Volume	339	404	0	0	743	4 - 6 Volume	592	769	0	0	1361
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:15	16:30			16:30
7 - 9 Pk Volume	201	250	0	0	451	4 - 6 Pk Volume	316	403	0	0	711
Pk Hr Factor	0.866	0.933	0.000	0.000	0.989	Pk Hr Factor	0.919	0.908	0.000	0.000	0.940

VOLUME

W. Cliff Dr S/O Bay St

Day: Thursday
Date: 8/24/2017City: Santa Cruz
Project #: CA17_7614_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					4,245	4,731	0	0	8,976		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	10	7			17	12:00	71	82			153
00:15	5	5			10	12:15	65	88			153
00:30	9	7			16	12:30	91	92			183
00:45	5	29	1	20	6	12:45	75	302	91	353	166
01:00	2	2			4	13:00	73	89			162
01:15	5	3			8	13:15	80	96			176
01:30	3	0			3	13:30	88	97			185
01:45	8	18	3	8	11	13:45	69	310	93	375	162
02:00	1	3			4	14:00	57	88			145
02:15	2	2			4	14:15	81	105			186
02:30	0	1			1	14:30	85	69			154
02:45	1	4	2	8	3	14:45	80	303	86	348	166
03:00	0	4			4	15:00	72	90			162
03:15	0	1			1	15:15	90	82			172
03:30	3	0			3	15:30	99	82			181
03:45	1	4	0	5	1	15:45	82	343	106	360	188
04:00	3	1			4	16:00	86	103			189
04:15	1	0			1	16:15	74	88			162
04:30	0	2			2	16:30	71	96			167
04:45	4	8	1	4	5	16:45	81	312	103	390	184
05:00	4	3			7	17:00	90	95			185
05:15	4	5			9	17:15	94	102			196
05:30	3	9			12	17:30	86	92			178
05:45	5	16	11	28	16	17:45	70	340	96	385	166
06:00	3	16			19	18:00	88	83			171
06:15	9	18			27	18:15	91	89			180
06:30	16	25			41	18:30	73	72			145
06:45	26	54	18	77	44	18:45	93	345	86	330	179
07:00	20	43			63	19:00	70	94			164
07:15	27	33			60	19:15	68	92			160
07:30	37	45			82	19:30	66	80			146
07:45	55	139	65	186	120	19:45	83	287	56	322	139
08:00	63	61			124	20:00	70	60			130
08:15	53	61			114	20:15	60	48			108
08:30	40	72			112	20:30	59	40			99
08:45	52	208	65	259	117	20:45	40	229	36	184	76
09:00	44	48			92	21:00	32	30			62
09:15	48	56			104	21:15	34	42			76
09:30	52	54			106	21:30	23	31			54
09:45	55	199	65	223	120	21:45	21	110	33	136	54
10:00	60	68			128	22:00	27	30			57
10:15	58	74			132	22:15	21	30			51
10:30	67	69			136	22:30	9	20			29
10:45	62	247	79	290	141	22:45	12	69	14	94	26
11:00	86	68			154	23:00	13	4			17
11:15	66	89			155	23:15	13	19			32
11:30	78	63			141	23:30	19	12			31
11:45	80	310	76	296	156	23:45	14	59	15	50	29
TOTALS	1236	1404			2640	TOTALS	3009	3327			6336
SPLIT %	46.8%	53.2%			29.4%	SPLIT %	47.5%	52.5%			70.6%

DAILY TOTALS					NB	SB	EB	WB	Total
					4,245	4,731	0	0	8,976
AM Peak Hour	11:00	11:45			11:45	PM Peak Hour	15:15	16:30	16:45
AM Pk Volume	310	338			645	PM Pk Volume	357	396	743
Pk Hr Factor	0.901	0.918			0.881	Pk Hr Factor	0.902	0.961	0.948
7 - 9 Volume	347	445	0	0	792	4 - 6 Volume	652	775	1427
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:45	16:30	16:45
7 - 9 Pk Volume	211	259	0	0	470	4 - 6 Pk Volume	351	396	743
Pk Hr Factor	0.837	0.899	0.000	0.000	0.948	Pk Hr Factor	0.934	0.961	0.948

VOLUME

Bay St W/O W. Cliff Dr

Day: Tuesday
Date: 8/15/2017

City: Santa Cruz
Project #: CA17_7614_003

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	4,477	5,702	10,179		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			8	14	22	12:00			85	143	228	
00:15			8	6	14	12:15			90	170	260	
00:30			8	10	18	12:30			79	126	205	
00:45			5	29	5	35	12:45		95	349	104	543
01:00			6	4	10	13:00			78	99	177	
01:15			6	4	10	13:15			99	101	200	
01:30			2	8	10	13:30			94	109	203	
01:45			4	18	6	22	13:45		116	387	91	400
02:00			1	9	10	14:00			111	111	222	
02:15			3	1	4	14:15			112	95	207	
02:30			3	1	4	14:30			96	101	197	
02:45			1	8	1	12	14:45		101	420	116	423
03:00			5	1	6	15:00			85	102	187	
03:15			1	2	3	15:15			86	98	184	
03:30			2	0	2	15:30			85	100	185	
03:45			2	10	4	7	15:45		74	330	92	392
04:00			1	1	2	16:00			104	102	206	
04:15			4	6	10	16:15			89	109	198	
04:30			0	2	2	16:30			106	115	221	
04:45			3	8	8	17	16:45		102	401	120	446
05:00			4	4	8	17:00			112	138	250	
05:15			10	12	22	17:15			96	132	228	
05:30			8	6	14	17:30			88	104	192	
05:45			12	34	15	37	17:45		99	395	104	478
06:00			13	4	17	18:00			104	97	201	
06:15			15	19	34	18:15			76	76	152	
06:30			18	20	38	18:30			63	72	135	
06:45			22	68	41	84	18:45		67	310	76	321
07:00			31	34	65	19:00			58	75	133	
07:15			18	35	53	19:15			59	73	132	
07:30			30	55	85	19:30			57	53	110	
07:45			59	138	74	198	19:45		60	234	56	257
08:00			42	78	120	20:00			47	53	100	
08:15			49	82	131	20:15			37	66	103	
08:30			49	84	133	20:30			40	65	105	
08:45			67	207	109	353	20:45		46	170	60	244
09:00			65	87	152	21:00			33	63	96	
09:15			55	72	127	21:15			33	42	75	
09:30			58	68	126	21:30			26	45	71	
09:45			61	239	81	308	21:45		21	113	37	187
10:00			47	66	113	22:00			19	35	54	
10:15			63	100	163	22:15			14	35	49	
10:30			67	82	149	22:30			24	34	58	
10:45			66	243	101	349	22:45		23	80	40	144
11:00			66	83	149	23:00			12	26	38	
11:15			48	87	135	23:15			11	14	25	
11:30			69	94	163	23:30			8	19	27	
11:45			65	248	113	377	23:45		7	38	9	68
TOTALS				1250	1799	3049	TOTALS			3227	3903	7130
SPLIT %				41.0%	59.0%	30.0%	SPLIT %			45.3%	54.7%	70.0%

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	4,477	5,702	10,179

AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			13:45	12:00	16:30
AM Pk Volume			319	552	871	PM Pk Volume			435	543	921
Pk Hr Factor			0.886	0.812	0.838	Pk Hr Factor			0.938	0.799	0.921
7 - 9 Volume	0	0	345	551	896	4 - 6 Volume	0	0	796	924	1720
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:30	16:30	16:30
7 - 9 Pk Volume	0	0	207	353	560	4 - 6 Pk Volume	0	0	416	505	921
Pk Hr Factor	0.000	0.000	0.772	0.810	0.795	Pk Hr Factor	0.000	0.000	0.929	0.915	0.921

VOLUME

Bay St W/O W. Cliff Dr

Day: Wednesday

Date: 8/16/2017

City: Santa Cruz

Project #: CA17_7614_003

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	4,677	5,789	10,466					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			3	7	10	12:00			85	101	186			
00:15			11	6	17	12:15			99	94	193			
00:30			4	12	16	12:30			67	114	181			
00:45			6	24	3	12:45			86	337	110	419	196	756
01:00			4	9	13	13:00			83	100	183			
01:15			3	6	9	13:15			77	99	176			
01:30			2	4	6	13:30			100	110	210			
01:45			3	12	8	13:45			105	365	102	411	207	776
02:00			2	3	5	14:00			94	106	200			
02:15			1	1	2	14:15			83	102	185			
02:30			3	4	7	14:30			89	85	174			
02:45			3	9	4	14:45			99	365	109	402	208	767
03:00			4	1	5	15:00			93	122	215			
03:15			1	3	4	15:15			85	118	203			
03:30			2	2	4	15:30			121	97	218			
03:45			3	10	3	15:45			112	411	112	449	224	860
04:00			0	0	0	16:00			109	123	232			
04:15			2	5	7	16:15			100	116	216			
04:30			3	6	9	16:30			111	115	226			
04:45			2	7	9	16:45			103	423	104	458	207	881
05:00			1	6	7	17:00			113	110	223			
05:15			6	6	12	17:15			120	146	266			
05:30			9	6	15	17:30			103	119	222			
05:45			12	28	16	17:45			118	454	139	514	257	968
06:00			14	8	22	18:00			85	116	201			
06:15			15	15	30	18:15			76	113	189			
06:30			15	14	29	18:30			70	95	165			
06:45			26	70	38	18:45			57	288	76	400	133	688
07:00			15	30	45	19:00			66	85	151			
07:15			28	53	81	19:15			60	60	120			
07:30			33	54	87	19:30			44	76	120			
07:45			52	128	85	19:45			52	222	83	304	135	526
08:00			51	62	113	20:00			48	85	133			
08:15			59	76	135	20:15			46	68	114			
08:30			48	73	121	20:30			44	69	113			
08:45			72	230	97	20:45			41	179	45	267	86	446
09:00			57	86	143	21:00			37	45	82			
09:15			68	77	145	21:15			28	69	97			
09:30			45	64	109	21:30			31	37	68			
09:45			50	220	66	21:45			40	136	57	208	97	344
10:00			78	84	162	22:00			17	37	54			
10:15			68	67	135	22:15			21	30	51			
10:30			66	77	143	22:30			25	29	54			
10:45			76	288	87	22:45			26	89	19	115	45	204
11:00			87	81	168	23:00			19	50	69			
11:15			77	101	178	23:15			15	36	51			
11:30			78	83	161	23:30			9	21	30			
11:45			83	325	110	23:45			14	57	17	124	31	181
TOTALS				1351	1718	3069	TOTALS			3326	4071	7397		
SPLIT %				44.0%	56.0%	29.3%	SPLIT %			45.0%	55.0%	70.7%		

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	4,677	5,789	10,466		
AM Peak Hour			11:30	11:45	11:45	PM Peak Hour			17:00	17:15	17:00
AM Pk Volume			345	419	753	PM Pk Volume			454	520	968
Pk Hr Factor			0.871	0.919	0.975	Pk Hr Factor			0.946	0.890	0.910
7 - 9 Volume	0	0	358	530	888	4 - 6 Volume	0	0	877	972	1849
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	230	308	538	4 - 6 Pk Volume	0	0	454	514	968
Pk Hr Factor	0.000	0.000	0.799	0.794	0.796	Pk Hr Factor	0.000	0.000	0.946	0.880	0.910

VOLUME

Bay St W/O W. Cliff Dr

Day: Thursday

Date: 8/17/2017

City: Santa Cruz

Project #: CA17_7614_003

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	4,528	5,789	10,317	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			9	23	32	12:00			78	106	184
00:15			8	11	19	12:15			66	100	166
00:30			3	7	10	12:30			90	99	189
00:45			2	22	12	12:45			88	322	410
01:00			2	5	7	13:00			98	111	209
01:15			3	4	7	13:15			88	110	198
01:30			1	2	3	13:30			94	108	202
01:45			10	16	6	13:45			92	372	464
02:00			3	5	8	14:00			75	98	173
02:15			2	5	7	14:15			75	106	181
02:30			2	4	6	14:30			93	103	196
02:45			1	8	2	14:45			110	353	463
03:00			2	0	2	15:00			76	113	189
03:15			2	2	4	15:15			92	102	194
03:30			0	1	1	15:30			110	122	232
03:45			1	5	2	15:45			91	369	460
04:00			2	2	4	16:00			95	102	197
04:15			1	5	6	16:15			105	120	225
04:30			2	3	5	16:30			96	112	208
04:45			0	5	7	16:45			125	421	546
05:00			1	7	8	17:00			103	111	214
05:15			6	6	12	17:15			107	130	237
05:30			11	11	22	17:30			109	124	233
05:45			21	39	10	17:45			93	412	505
06:00			11	13	24	18:00			91	120	211
06:15			18	14	32	18:15			62	98	160
06:30			23	17	40	18:30			67	96	163
06:45			31	83	36	18:45			60	280	340
07:00			24	32	56	19:00			59	79	138
07:15			37	45	82	19:15			65	82	147
07:30			44	62	106	19:30			54	89	143
07:45			63	168	89	19:45			44	222	266
08:00			58	67	125	20:00			44	69	113
08:15			49	69	118	20:15			43	74	117
08:30			50	77	127	20:30			31	71	102
08:45			74	231	94	20:45			44	162	206
09:00			57	97	154	21:00			25	73	98
09:15			68	79	147	21:15			14	45	59
09:30			66	50	116	21:30			20	41	61
09:45			70	261	89	21:45			30	89	119
10:00			66	69	135	22:00			22	37	59
10:15			55	79	134	22:15			21	50	71
10:30			68	79	147	22:30			29	32	61
10:45			68	257	80	22:45			33	105	138
11:00			64	76	140	23:00			23	22	45
11:15			65	86	151	23:15			11	24	35
11:30			69	100	169	23:30			10	14	24
11:45			78	276	94	23:45			6	50	56
TOTALS			1371	1735	3106	TOTALS			3157	4054	7211
SPLIT %			44.1%	55.9%	30.1%	SPLIT %			43.8%	56.2%	69.9%

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	4,528	5,789	10,317	
AM Peak Hour			11:45	11:30	11:45	PM Peak Hour			16:45	16:45	16:45
AM Pk Volume			312	400	711	PM Pk Volume			444	487	931
Pk Hr Factor			0.867	0.943	0.940	Pk Hr Factor			0.888	0.937	0.942
7 - 9 Volume	0	0	399	535	934	4 - 6 Volume	0	0	833	924	1757
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	231	307	538	4 - 6 Pk Volume	0	0	444	487	931
Pk Hr Factor	0.000	0.000	0.780	0.816	0.801	Pk Hr Factor	0.000	0.000	0.888	0.937	0.942

VOLUME

Bay St W/O W. Cliff Dr

Day: Friday

Date: 8/18/2017

City: Santa Cruz

Project #: CA17_7614_003

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	4,747	5,871	10,618					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			9	11	20	12:00			93	97	190			
00:15			5	9	14	12:15			96	91	187			
00:30			7	7	14	12:30			68	102	170			
00:45			4	25	8	12:45			119	376	129	419	248	795
01:00			4	6	10	13:00			81	109	190			
01:15			4	8	12	13:15			76	96	172			
01:30			4	3	7	13:30			95	108	203			
01:45			4	16	8	13:45			80	332	108	421	188	753
02:00			4	5	9	14:00			87	116	203			
02:15			1	2	3	14:15			86	108	194			
02:30			1	6	7	14:30			95	98	193			
02:45			3	9	0	14:45			90	358	94	416	184	774
03:00			3	2	5	15:00			100	106	206			
03:15			3	2	5	15:15			118	96	214			
03:30			1	2	3	15:30			125	121	246			
03:45			0	7	4	15:45			109	452	123	446	232	898
04:00			1	0	1	16:00			97	118	215			
04:15			1	2	3	16:15			91	119	210			
04:30			1	5	6	16:30			111	138	249			
04:45			6	9	11	16:45			80	379	101	476	181	855
05:00			8	4	12	17:00			118	124	242			
05:15			8	5	13	17:15			118	113	231			
05:30			8	12	20	17:30			116	119	235			
05:45			10	34	15	17:45			79	431	103	459	182	890
06:00			7	12	19	18:00			88	93	181			
06:15			23	14	37	18:15			88	98	186			
06:30			10	24	34	18:30			69	109	178			
06:45			24	64	41	18:45			63	308	91	391	154	699
07:00			27	30	57	19:00			55	87	142			
07:15			37	45	82	19:15			58	73	131			
07:30			44	65	109	19:30			54	90	144			
07:45			56	164	65	19:45			70	237	85	335	155	572
08:00			58	70	128	20:00			57	92	149			
08:15			43	75	118	20:15			53	61	114			
08:30			59	89	148	20:30			47	52	99			
08:45			69	229	95	20:45			51	208	48	253	99	461
09:00			46	92	138	21:00			43	68	111			
09:15			43	63	106	21:15			32	60	92			
09:30			63	76	139	21:30			35	59	94			
09:45			72	224	76	21:45			31	141	43	230	74	371
10:00			67	81	148	22:00			30	66	96			
10:15			61	94	155	22:15			25	47	72			
10:30			66	73	139	22:30			21	42	63			
10:45			77	271	89	22:45			30	106	23	178	53	284
11:00			63	84	147	23:00			16	28	44			
11:15			90	89	179	23:15			16	21	37			
11:30			78	90	168	23:30			13	20	33			
11:45			82	313	95	23:45			9	54	14	83	23	137
TOTALS				1365	1764	3129	TOTALS			3382	4107	7489		
SPLIT %				43.6%	56.4%	29.5%	SPLIT %			45.2%	54.8%	70.5%		

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	4,747	5,871	10,618

AM Peak Hour			11:30	11:45	11:45	PM Peak Hour			15:00	15:45	15:15
AM Pk Volume			349	385	724	PM Pk Volume			452	498	907
Pk Hr Factor			0.909	0.944	0.953	Pk Hr Factor			0.904	0.902	0.922
7 - 9 Volume	0	0	393	534	927	4 - 6 Volume	0	0	810	935	1745
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:45	16:15	16:30
7 - 9 Pk Volume	0	0	229	329	558	4 - 6 Pk Volume	0	0	432	482	903
Pk Hr Factor	0.000	0.000	0.830	0.866	0.851	Pk Hr Factor	0.000	0.000	0.915	0.873	0.907

VOLUME

Bay St W/O W. Cliff Dr

Day: Saturday

Date: 8/19/2017

City: Santa Cruz

Project #: CA17_7614_003

DAILY TOTALS						NB	SB	EB	WB	Total				
						0	0	4,112	5,332	9,444				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			11	14	25	12:00			94	107	201			
00:15			5	11	16	12:15			78	106	184			
00:30			6	12	18	12:30			88	86	174			
00:45			8	30	7	12:45			87	347	113	412	200	759
01:00			6	7	13	13:00			68	116	184			
01:15			5	9	14	13:15			80	135	215			
01:30			9	5	14	13:30			90	141	231			
01:45			4	24	3	13:45			90	328	122	514	212	842
02:00			8	5	13	14:00			90	109	199			
02:15			2	7	9	14:15			70	98	168			
02:30			4	2	6	14:30			89	101	190			
02:45			3	17	7	14:45			85	334	123	431	208	765
03:00			4	3	7	15:00			88	125	213			
03:15			4	4	8	15:15			75	142	217			
03:30			4	2	6	15:30			83	141	224			
03:45			0	12	4	15:45			94	340	139	547	233	887
04:00			2	2	4	16:00			83	113	196			
04:15			1	2	3	16:15			78	110	188			
04:30			1	3	4	16:30			84	108	192			
04:45			1	5	5	16:45			58	303	108	439	166	742
05:00			3	4	7	17:00			70	97	167			
05:15			5	3	8	17:15			74	112	186			
05:30			4	2	6	17:30			56	79	135			
05:45			9	21	4	17:45			77	277	79	367	156	644
06:00			15	6	21	18:00			58	82	140			
06:15			16	6	22	18:15			71	100	171			
06:30			14	8	22	18:30			59	65	124			
06:45			18	63	13	18:45			67	255	76	323	143	578
07:00			27	25	52	19:00			56	62	118			
07:15			21	17	38	19:15			40	70	110			
07:30			33	22	55	19:30			47	72	119			
07:45			34	115	36	19:45			47	190	55	259	102	449
08:00			44	35	79	20:00			61	61	122			
08:15			52	32	84	20:15			27	54	81			
08:30			51	51	102	20:30			44	52	96			
08:45			55	202	60	20:45			41	173	57	224	98	397
09:00			48	52	100	21:00			33	39	72			
09:15			57	68	125	21:15			28	42	70			
09:30			61	77	138	21:30			25	43	68			
09:45			64	230	64	21:45			28	114	45	169	73	283
10:00			60	75	135	22:00			22	37	59			
10:15			64	59	123	22:15			16	42	58			
10:30			71	74	145	22:30			23	26	49			
10:45			76	271	84	22:45			20	81	35	140	55	221
11:00			73	93	166	23:00			20	29	49			
11:15			79	104	183	23:15			26	35	61			
11:30			91	106	197	23:30			18	26	44			
11:45			67	310	109	23:45			6	70	14	104	20	174
TOTALS				1300	1403	2703	TOTALS			2812	3929	6741		
SPLIT %				48.1%	51.9%	28.6%	SPLIT %			41.7%	58.3%	71.4%		

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	4,112	5,332	9,444	
AM Peak Hour			11:15	11:30	11:30	PM Peak Hour			13:15	15:00	15:00
AM Pk Volume			331	428	758	PM Pk Volume			350	547	887
Pk Hr Factor			0.880	0.982	0.943	Pk Hr Factor			0.972	0.963	0.952
7 - 9 Volume	0	0	317	278	595	4 - 6 Volume	0	0	580	806	1386
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	202	178	380	4 - 6 Pk Volume	0	0	303	439	742
Pk Hr Factor	0.000	0.000	0.918	0.742	0.826	Pk Hr Factor	0.000	0.000	0.902	0.971	0.946

VOLUME

Bay St W/O W. Cliff Dr

Day: Sunday

Date: 8/20/2017

City: Santa Cruz

Project #: CA17_7614_003

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	3,587	4,184	7,771			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			12	12	24	12:00			70	99	169	
00:15			13	14	27	12:15			88	85	173	
00:30			6	12	18	12:30			82	103	185	
00:45			5	36	13	12:45			83	323	89	376
01:00			10	19	29	13:00			73	91	164	
01:15			3	8	11	13:15			67	83	150	
01:30			7	5	12	13:30			69	92	161	
01:45			5	25	10	13:45			69	278	76	342
02:00			5	4	9	14:00			69	95	164	
02:15			2	3	5	14:15			66	64	130	
02:30			2	6	8	14:30			87	58	145	
02:45			3	12	5	14:45			72	294	106	323
03:00			1	3	4	15:00			91	89	180	
03:15			2	1	3	15:15			48	104	152	
03:30			3	3	6	15:30			72	92	164	
03:45			3	9	5	15:45			66	277	84	369
04:00			4	1	5	16:00			74	102	176	
04:15			4	1	5	16:15			61	105	166	
04:30			2	2	4	16:30			71	86	157	
04:45			4	14	3	16:45			60	266	81	374
05:00			4	1	5	17:00			57	84	141	
05:15			3	4	7	17:15			66	95	161	
05:30			11	3	14	17:30			58	81	139	
05:45			8	26	9	17:45			62	243	64	324
06:00			14	6	20	18:00			56	58	114	
06:15			12	4	16	18:15			53	62	115	
06:30			15	4	19	18:30			53	62	115	
06:45			16	57	8	18:45			45	207	53	235
07:00			15	13	28	19:00			49	66	115	
07:15			17	11	28	19:15			59	55	114	
07:30			19	14	33	19:30			43	54	97	
07:45			39	90	21	19:45			43	194	55	230
08:00			23	18	41	20:00			40	53	93	
08:15			48	31	79	20:15			48	54	102	
08:30			38	34	72	20:30			30	52	82	
08:45			47	156	46	20:45			33	151	46	205
09:00			31	40	71	21:00			22	32	54	
09:15			35	47	82	21:15			29	46	75	
09:30			41	45	86	21:30			25	37	62	
09:45			60	167	65	21:45			17	93	32	147
10:00			63	53	116	22:00			23	24	47	
10:15			49	64	113	22:15			24	27	51	
10:30			83	62	145	22:30			17	28	45	
10:45			81	276	69	22:45			12	76	14	93
11:00			65	80	145	23:00			12	14	26	
11:15			78	77	155	23:15			7	13	20	
11:30			70	80	150	23:30			9	4	13	
11:45			73	286	86	23:45			3	31	10	41
TOTALS			1154	1125	2279	TOTALS			2433	3059	5492	
SPLIT %			50.6%	49.4%	29.3%	SPLIT %			44.3%	55.7%	70.7%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	3,587	4,184	7,771		
AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			12:15	14:45	12:00
AM Pk Volume			313	373	686	PM Pk Volume			326	391	699
Pk Hr Factor			0.889	0.905	0.927	Pk Hr Factor			0.926	0.922	0.945
7 - 9 Volume	0	0	246	188	434	4 - 6 Volume	0	0	509	698	1207
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	156	129	285	4 - 6 Pk Volume	0	0	266	374	640
Pk Hr Factor	0.000	0.000	0.813	0.701	0.766	Pk Hr Factor	0.000	0.000	0.899	0.890	0.909

VOLUME

Bay St W/O W. Cliff Dr

Day: Monday
Date: 8/21/2017

City: Santa Cruz
Project #: CA17_7614_003

DAILY TOTALS						NB	SB	EB	WB	Total				
						0	0	4,020	4,706	8,726				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			5	9	14	12:00			77	76	153			
00:15			6	12	18	12:15			66	79	145			
00:30			10	7	17	12:30			86	83	169			
00:45			1	22	6	12:45			88	317	79	317	167	634
01:00			5	7	12	13:00			83	83	166			
01:15			2	2	4	13:15			85	95	180			
01:30			2	2	4	13:30			82	89	171			
01:45			1	10	1	13:45			89	339	94	361	183	700
02:00			2	4	6	14:00			76	76	152			
02:15			1	3	4	14:15			68	88	156			
02:30			3	2	5	14:30			88	95	183			
02:45			1	7	0	14:45			92	324	96	355	188	679
03:00			1	1	2	15:00			85	70	155			
03:15			2	3	5	15:15			87	97	184			
03:30			0	3	3	15:30			92	94	186			
03:45			3	6	2	15:45			92	356	86	347	178	703
04:00			1	0	1	16:00			78	91	169			
04:15			0	9	9	16:15			91	86	177			
04:30			1	6	7	16:30			86	106	192			
04:45			1	3	6	16:45			95	350	117	400	212	750
05:00			1	4	5	17:00			98	112	210			
05:15			6	6	12	17:15			67	104	171			
05:30			12	5	17	17:30			78	113	191			
05:45			16	35	19	17:45			85	328	85	414	170	742
06:00			10	14	24	18:00			79	71	150			
06:15			13	9	22	18:15			66	77	143			
06:30			7	24	31	18:30			63	75	138			
06:45			17	47	33	18:45			61	269	65	288	126	557
07:00			21	36	57	19:00			68	53	121			
07:15			24	50	74	19:15			54	44	98			
07:30			53	50	103	19:30			43	45	88			
07:45			53	151	80	19:45			30	195	57	199	87	394
08:00			68	65	133	20:00			42	70	112			
08:15			48	81	129	20:15			34	66	100			
08:30			62	63	125	20:30			34	56	90			
08:45			73	251	76	20:45			30	140	44	236	74	376
09:00			38	67	105	21:00			26	40	66			
09:15			54	60	114	21:15			29	37	66			
09:30			65	56	121	21:30			15	41	56			
09:45			43	200	78	21:45			20	90	27	145	47	235
10:00			46	61	107	22:00			20	28	48			
10:15			45	51	96	22:15			21	21	42			
10:30			84	67	151	22:30			20	19	39			
10:45			71	246	85	22:45			18	79	17	85	35	164
11:00			49	74	123	23:00			17	13	30			
11:15			47	74	121	23:15			14	14	28			
11:30			56	57	113	23:30			2	13	15			
11:45			65	217	83	23:45			5	38	6	46	11	84
TOTALS			1195	1513	2708	TOTALS			2825	3193	6018			
SPLIT %			44.1%	55.9%	31.0%	SPLIT %			46.9%	53.1%	69.0%			

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	4,020	4,706	8,726	
AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			16:15	16:45	16:15
AM Pk Volume			294	321	615	PM Pk Volume			370	446	791
Pk Hr Factor			0.855	0.967	0.910	Pk Hr Factor			0.944	0.953	0.933
7 - 9 Volume	0	0	402	501	903	4 - 6 Volume	0	0	678	814	1492
7 - 9 Peak Hour			08:00	07:45	08:00	4 - 6 Peak Hour			16:15	16:45	16:15
7 - 9 Pk Volume	0	0	251	289	536	4 - 6 Pk Volume	0	0	370	446	791
Pk Hr Factor	0.000	0.000	0.860	0.892	0.899	Pk Hr Factor	0.000	0.000	0.944	0.953	0.933

VOLUME

Bay St W/O W. Cliff Dr

Day: Tuesday
Date: 8/22/2017

City: Santa Cruz
Project #: CA17_7614_003

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	4,306	5,503	9,809		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			5	21	26	12:00			58	84	142	
00:15			7	3	10	12:15			91	106	197	
00:30			2	2	4	12:30			93	117	210	
00:45			5	19	10	12:45			82	324	119	426
01:00			2	3	5	13:00			77	91	168	
01:15			4	5	9	13:15			70	106	176	
01:30			1	6	7	13:30			86	105	191	
01:45			2	9	5	13:45			94	327	95	397
02:00			3	6	9	14:00			76	97	173	
02:15			1	2	3	14:15			86	80	166	
02:30			2	2	4	14:30			107	114	221	
02:45			2	8	0	14:45			89	358	93	384
03:00			1	1	2	15:00			74	116	190	
03:15			1	2	3	15:15			84	95	179	
03:30			4	1	5	15:30			117	106	223	
03:45			1	7	2	15:45			91	366	104	421
04:00			3	2	5	16:00			108	103	211	
04:15			3	3	6	16:15			111	128	239	
04:30			0	6	6	16:30			110	113	223	
04:45			3	9	14	16:45			84	413	104	448
05:00			3	5	8	17:00			91	134	225	
05:15			7	6	13	17:15			88	129	217	
05:30			20	7	27	17:30			131	110	241	
05:45			9	39	14	17:45			103	413	118	491
06:00			11	7	18	18:00			77	87	164	
06:15			11	16	27	18:15			76	78	154	
06:30			18	16	34	18:30			52	94	146	
06:45			32	72	34	18:45			51	256	76	335
07:00			24	43	67	19:00			44	75	119	
07:15			35	37	72	19:15			42	81	123	
07:30			49	75	124	19:30			36	70	106	
07:45			74	182	86	19:45			48	170	81	307
08:00			52	87	139	20:00			39	59	98	
08:15			62	92	154	20:15			24	58	82	
08:30			64	76	140	20:30			34	52	86	
08:45			63	241	97	20:45			30	127	57	226
09:00			57	96	153	21:00			29	50	79	
09:15			54	70	124	21:15			23	52	75	
09:30			48	63	111	21:30			40	47	87	
09:45			70	229	82	21:45			26	118	28	177
10:00			51	70	121	22:00			21	35	56	
10:15			63	52	115	22:15			20	24	44	
10:30			62	67	129	22:30			20	21	41	
10:45			65	241	81	22:45			18	79	20	100
11:00			58	69	127	23:00			9	12	21	
11:15			70	85	155	23:15			8	16	24	
11:30			68	106	174	23:30			14	17	31	
11:45			64	260	100	23:45			8	39	11	56
TOTALS				1316	1735	3051	TOTALS		2990	3768	6758	
SPLIT %				43.1%	56.9%	31.1%	SPLIT %		44.2%	55.8%	68.9%	

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	4,306	5,503	9,809

AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			15:30	17:00	17:00
AM Pk Volume			306	407	713	PM Pk Volume			427	491	904
Pk Hr Factor			0.823	0.870	0.849	Pk Hr Factor			0.912	0.916	0.938
7 - 9 Volume	0	0	423	593	1016	4 - 6 Volume	0	0	826	939	1765
7 - 9 Peak Hour			07:45	08:00	07:45	4 - 6 Peak Hour			16:00	17:00	17:00
7 - 9 Pk Volume	0	0	252	352	593	4 - 6 Pk Volume	0	0	413	491	904
Pk Hr Factor	0.000	0.000	0.851	0.907	0.927	Pk Hr Factor	0.000	0.000	0.930	0.916	0.938

VOLUME

Bay St W/O W. Cliff Dr

Day: Wednesday
Date: 8/23/2017

City: Santa Cruz
Project #: CA17_7614_003

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	4,278	5,545	9,823					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			9	15	24	12:00			81	90	171			
00:15			8	5	13	12:15			68	123	191			
00:30			4	13	17	12:30			61	103	164			
00:45			3	24	9	42	12:45		70	280	84	400	154	680
01:00			4	10	14	13:00			99	82	181			
01:15			5	6	11	13:15			92	102	194			
01:30			3	1	4	13:30			98	102	200			
01:45			1	13	9	26	13:45		74	363	88	374	162	737
02:00			1	2	3	14:00			74	110	184			
02:15			3	5	8	14:15			79	91	170			
02:30			1	2	3	14:30			89	93	182			
02:45			1	6	2	11	14:45		74	316	107	401	181	717
03:00			0	1	1	15:00			95	94	189			
03:15			0	2	2	15:15			82	107	189			
03:30			3	1	4	15:30			116	116	232			
03:45			2	5	4	8	15:45		104	397	107	424	211	821
04:00			3	2	5	16:00			81	116	197			
04:15			0	3	3	16:15			93	107	200			
04:30			2	6	8	16:30			107	114	221			
04:45			1	6	9	20	16:45		114	395	111	448	225	843
05:00			2	5	7	17:00			97	120	217			
05:15			9	8	17	17:15			97	103	200			
05:30			16	6	22	17:30			87	104	191			
05:45			10	37	11	30	17:45		79	360	108	435	187	795
06:00			16	15	31	18:00			80	111	191			
06:15			14	11	25	18:15			86	112	198			
06:30			18	13	31	18:30			58	84	142			
06:45			19	67	50	89	18:45		68	292	77	384	145	676
07:00			19	29	48	19:00			58	80	138			
07:15			45	50	95	19:15			49	71	120			
07:30			53	83	136	19:30			44	73	117			
07:45			75	192	143	305	19:45		40	191	63	287	103	478
08:00			78	128	206	20:00			38	59	97			
08:15			77	84	161	20:15			28	69	97			
08:30			69	75	144	20:30			39	43	82			
08:45			79	303	82	369	20:45		27	132	48	219	75	351
09:00			59	104	163	21:00			18	45	63			
09:15			62	78	140	21:15			36	64	100			
09:30			50	55	105	21:30			14	40	54			
09:45			58	229	73	310	21:45		16	84	28	177	44	261
10:00			48	53	101	22:00			22	35	57			
10:15			57	64	121	22:15			12	36	48			
10:30			50	70	120	22:30			12	21	33			
10:45			60	215	89	276	22:45		27	73	24	116	51	189
11:00			69	76	145	23:00			6	19	25			
11:15			71	63	134	23:15			6	8	14			
11:30			57	89	146	23:30			12	10	22			
11:45			74	271	116	344	23:45		3	27	13	50	16	77
TOTALS			1368	1830	3198	TOTALS			2910	3715	6625			
SPLIT %			42.8%	57.2%	32.6%	SPLIT %			43.9%	56.1%	67.4%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	4,278	5,545	9,823

AM Peak Hour			08:00	07:30	07:45	PM Peak Hour			16:30	16:15	16:15
AM Pk Volume			303	438	729	PM Pk Volume			415	452	863
Pk Hr Factor			0.959	0.766	0.836	Pk Hr Factor			0.910	0.942	0.959
7 - 9 Volume	0	0	495	674	1169	4 - 6 Volume	0	0	755	883	1638
7 - 9 Peak Hour			08:00	07:30	07:45	4 - 6 Peak Hour			16:30	16:15	16:15
7 - 9 Pk Volume	0	0	303	438	729	4 - 6 Pk Volume	0	0	415	452	863
Pk Hr Factor	0.000	0.000	0.959	0.766	0.836	Pk Hr Factor	0.000	0.000	0.910	0.942	0.959

VOLUME

Bay St W/O W. Cliff Dr

Day: Thursday

Date: 8/24/2017

City: Santa Cruz

Project #: CA17_7614_003

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	4,422	5,569	9,991	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			6	10	16	12:00			87	80	167
00:15			6	4	10	12:15			55	87	142
00:30			7	4	11	12:30			71	85	156
00:45			0	19	5	12:45			85	298	190
01:00			1		12	13:00			81	104	185
01:15			5		12	13:15			73	96	169
01:30			3		10	13:30			94	92	186
01:45			3	12	7	13:45			86	334	198
02:00			1	4	5	14:00			80	124	204
02:15			0	0	0	14:15			79	104	183
02:30			2	2	4	14:30			91	115	206
02:45			3	6	3	14:45			97	347	185
03:00			2	0	2	15:00			100	99	199
03:15			1	0	1	15:15			90	101	191
03:30			1	0	1	15:30			113	98	211
03:45			1	5	5	15:45			85	388	192
04:00			0	0	0	16:00			88	118	206
04:15			0	3	3	16:15			91	85	176
04:30			1	1	2	16:30			104	106	210
04:45			1	2	10	16:45			108	391	243
05:00			4	8	12	17:00			113	123	236
05:15			9	8	17	17:15			111	107	218
05:30			12	6	18	17:30			122	114	236
05:45			16	41	33	17:45			108	454	203
06:00			10	10	20	18:00			74	106	180
06:15			13	14	27	18:15			71	97	168
06:30			29	17	46	18:30			75	80	155
06:45			22	74	70	18:45			71	291	151
07:00			21	34	55	19:00			49	74	123
07:15			35	40	75	19:15			60	63	123
07:30			45	63	108	19:30			62	61	123
07:45			72	173	211	19:45			39	210	102
08:00			73	127	200	20:00			55	66	121
08:15			74	92	166	20:15			38	64	102
08:30			76	91	167	20:30			36	66	102
08:45			65	288	154	20:45			28	157	86
09:00			52	73	125	21:00			33	58	91
09:15			57	74	131	21:15			23	38	61
09:30			49	74	123	21:30			18	55	73
09:45			67	225	131	21:45			14	88	50
10:00			53	69	122	22:00			18	38	56
10:15			59	70	129	22:15			20	34	54
10:30			59	80	139	22:30			10	24	34
10:45			66	237	149	22:45			20	68	50
11:00			61	83	144	23:00			16	19	35
11:15			73	85	158	23:15			12	15	27
11:30			68	98	166	23:30			6	19	25
11:45			68	270	166	23:45			10	44	26
TOTALS			1352	1829	3181	TOTALS			3070	3740	6810
SPLIT %			42.5%	57.5%	31.8%	SPLIT %			45.1%	54.9%	68.2%

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	4,422	5,569	9,991

AM Peak Hour			11:15	07:45	07:45	PM Peak Hour			16:45	16:45	16:45
AM Pk Volume			296	449	744	PM Pk Volume			454	479	933
Pk Hr Factor			0.851	0.808	0.882	Pk Hr Factor			0.930	0.887	0.960
7 - 9 Volume	0	0	461	675	1136	4 - 6 Volume	0	0	845	883	1728
7 - 9 Peak Hour			07:45	07:45	07:45	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	295	449	744	4 - 6 Pk Volume	0	0	454	479	933
Pk Hr Factor	0.000	0.000	0.970	0.808	0.882	Pk Hr Factor	0.000	0.000	0.930	0.887	0.960

PINNACLE TRAFFIC ENGINEERING

831 C Street • Hollister, CA 95023 • (831) 638-9260

9452 Telephone Road, #440 • Ventura, CA 93004 • (805) 644-9260

PinnacleTE.com

190 W. Cliff Dr. Mixed Use Project; City of Santa Cruz, CA Summary of 10-Day Traffic Count Data (April 14 - 23, 2017)

(1) W. Cliff Drive - North of Bay Street:

Date	Fri.	Sat.	Sun.	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.	Sun.
	April 14th	April 15th	April 16th	April 17th	April 18th	April 19th	April 20th	April 21st	April 22nd	April 23rd
ADT	20,332	17,887	12,546	14,900	17,132	18,593	19,363	20,509	17,340	17,134
24 Hr. Vol. NB -	9,655	8,430	5,892	6,840	8,019	8,689	9,122	9,683	8,168	8,143
SB -	10,677	9,457	6,654	8,060	9,113	9,904	10,241	10,826	9,172	8,991
Ex. DI % Occancy:	98.8%	92.7%	65.2%	85.5%	100.0%	97.6%	98.8%	95.1%	100.0%	97.5%

3-Day Avg. Weekday (Tues., Wed. & Thursday): **18,363** ADT

5-Day Avg. Weekday (Monday - Friday): **18,099** ADT

7-Day Average (Sunday - Saturday): **17,276** ADT **17,853** ADT

Friday: 112% of 3-Day Average
 Saturday: 97% of 3-Day Average
 Sunday: 93% of 3-Day Average

(2) W. Cliff Drive - South of Bay Street:

Date	Fri.	Sat.	Sun.	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.	Sun.
	April 14th	April 15th	April 16th	April 17th	April 18th	April 19th	April 20th	April 21st	April 22nd	April 23rd
ADT	11,110	10,110	7,883	7,426	9,250	10,099	10,645	10,917	9,764	10,242
24 Hr. Vol. NB -	5,571	4,778	3,857	3,409	4,332	4,883	5,149	5,336	4,556	4,936
SB -	5,539	5,332	4,026	4,017	4,918	5,216	5,496	5,581	5,208	5,306
Ex. DI % Occancy:	98.8%	92.7%	65.2%	85.5%	100.0%	97.6%	98.8%	95.1%	100.0%	97.5%

3-Day Avg. Weekday (Tues., Wed. & Thursday): **9,998** ADT

5-Day Avg. Weekday (Monday - Friday): **9,667** ADT

7-Day Average (Sunday - Saturday): **9,476** ADT **9,763** ADT

Friday: 109% of 3-Day Average
 Saturday: 101% of 3-Day Average
 Sunday: 102% of 3-Day Average

(3) Bay Street west of W. Cliff Drive:

Date	Fri.	Sat.	Sun.	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.	Sun.
	April 14th	April 15th	April 16th	April 17th	April 18th	April 19th	April 20th	April 21st	April 22nd	April 23rd
ADT	11,120	9,580	6,890	8,581	9,444	10,097	10,417	11,210	9,247	8,945
	Est.	Est.	Est.							
24 Hr. Vol. EB -	0	0	0	4,053	4,438	4,610	4,842	5,133	4,417	4,251
WB -	0	0	0	4,528	5,006	5,487	5,575	6,077	4,830	4,694
Ex. DI % Occancy:	98.8%	92.7%	65.2%	85.5%	100.0%	97.6%	98.8%	95.1%	100.0%	97.5%

3-Day Avg. Weekday (Tues., Wed. & Thursday): **9,986** ADT

5-Day Avg. Weekday (Monday - Friday): **9,950** ADT

7-Day Average (Sunday - Saturday): **9,706** ADT **9,706** ADT

Friday: 112% of 3-Day Average
 Saturday: 96% of 3-Day Average
 Sunday: 90% of 3-Day Average

PINNACLE TRAFFIC ENGINEERING

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190 W. Cliff Dr. Mixed Use Project; City of Santa Cruz, CA Summary of 10-Day Traffic Count Data (August 15-24, 2017)

(1) W. Cliff Drive - North of Bay Street:

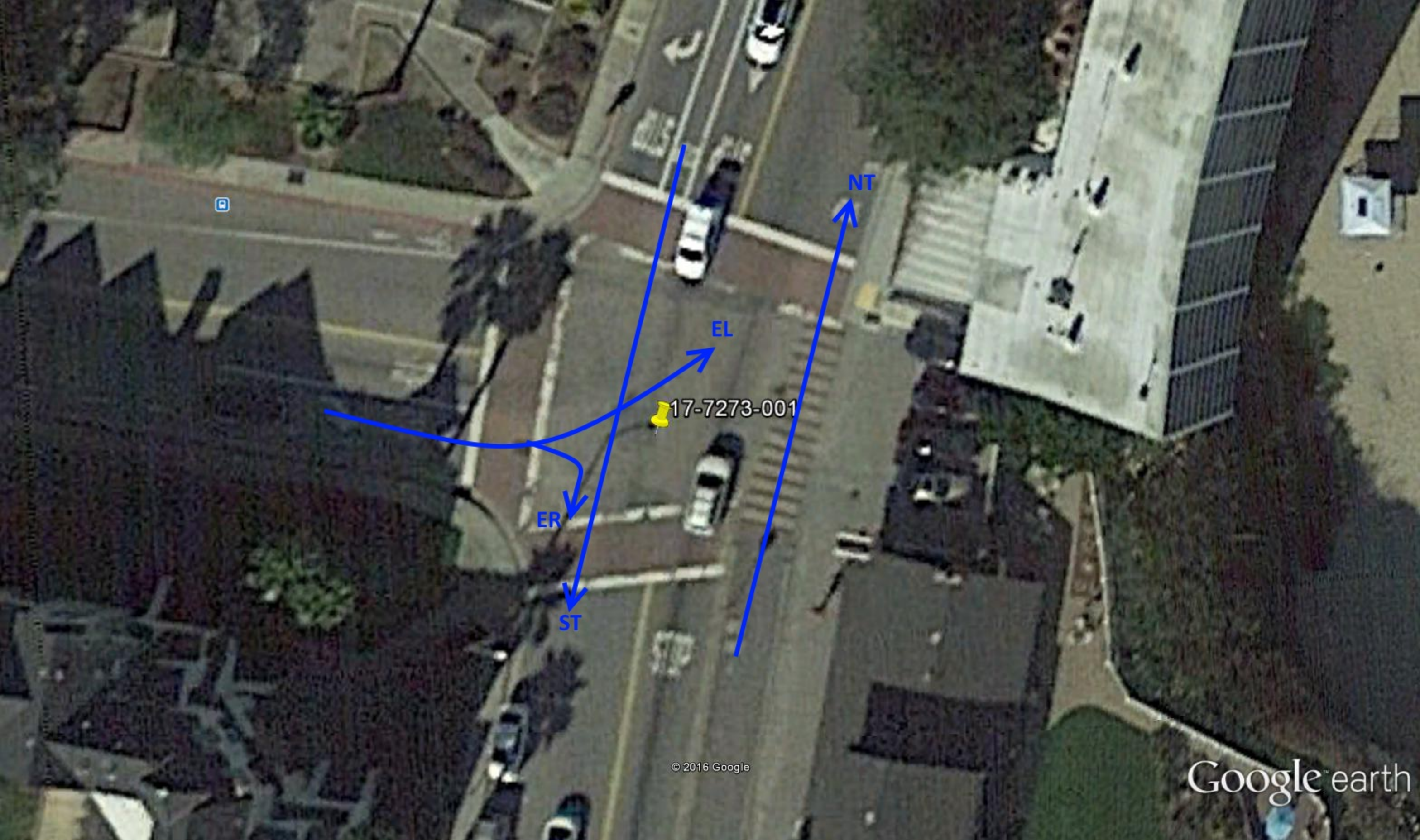
Date	Tue.	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tue.	Wed.	Thur.	
	Aug. 15th	Aug. 16th	Aug. 17th	Aug. 18th	Aug. 19th	Aug. 20th	Aug. 21st	Aug. 22nd	Aug. 23rd	Aug. 24th	
ADT	18,164	18,245	18,185	18,795	17,329	15,526	15,693	17,696	17,040	17,344	
24 Hr. Vol.											
NB -	7,935	8,046	8,043	8,297	7,541	7,019	7,164	7,807	7,467	7,688	
SB -	10,229	10,199	10,142	10,498	9,788	8,507	8,529	9,889	9,573	9,656	
											% Change
3-Day Avg. Weekday (Tues., Wed. & Thursday):				17,779	ADT		Apr-17	18,363	ADT		-3.18%
5-Day Avg. Weekday (Monday - Friday):				17,816	ADT		Apr-17	18,099	ADT		-1.56%
7-Day Average (Sunday - Saturday):				17,353	ADT		Apr-17	17,276	ADT		0.44%
Friday:	106%	of 3-Day Average		Aug-17			Apr-17	112%			
Saturday:	97%	of 3-Day Average		Aug-17			Apr-17	97%			
Sunday:	87%	of 3-Day Average		Aug-17			Apr-17	93%			

(2) W. Cliff Drive - South of Bay Street:

Date	Tue.	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tue.	Wed.	Thur.	
	Aug. 15th	Aug. 16th	Aug. 17th	Aug. 18th	Aug. 19th	Aug. 20th	Aug. 21st	Aug. 22nd	Aug. 23rd	Aug. 24th	
ADT	9,236	9,055	9,412	9,679	9,683	9,678	8,558	9,377	8,636	8,976	
24 Hr. Vol.											
NB -	4,287	4,204	4,428	4,498	4,494	4,601	4,069	4,399	4,041	4,245	
SB -	4,949	4,851	4,984	5,181	5,189	5,077	4,489	4,978	4,595	4,731	
											% Change
3-Day Avg. Weekday (Tues., Wed. & Thursday):				9,115	ADT		Apr-17	9,998	ADT		-8.83%
5-Day Avg. Weekday (Monday - Friday):				9,216	ADT		Apr-17	9,667	ADT		-4.66%
7-Day Average (Sunday - Saturday):				9,349	ADT		Apr-17	9,476	ADT		-1.34%
Friday:	106%	of 3-Day Average		Aug-17			Apr-17	109%			
Saturday:	106%	of 3-Day Average		Aug-17			Apr-17	101%			
Sunday:	106%	of 3-Day Average		Aug-17			Apr-17	102%			

(3) Bay Street west of W. Cliff Drive:

Date	Tue.	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tue.	Wed.	Thur.	
	Aug. 15th	Aug. 16th	Aug. 17th	Aug. 18th	Aug. 19th	Aug. 20th	Aug. 21st	Aug. 22nd	Aug. 23rd	Aug. 24th	
ADT	10,179	10,466	10,317	10,618	9,444	7,771	8,726	9,809	9,823	9,991	
24 Hr. Vol.											
EB -	4,477	4,677	4,528	4,747	4,112	3,587	4,020	4,306	4,278	4,422	
WB -	5,702	5,789	5,789	5,871	5,332	4,184	4,706	5,503	5,545	5,569	
											% Change
3-Day Avg. Weekday (Tues., Wed. & Thursday):				10,098	ADT		Apr-17	9,986	ADT		1.12%
5-Day Avg. Weekday (Monday - Friday):				9,987	ADT		Apr-17	9,950	ADT		0.37%
7-Day Average (Sunday - Saturday):				9,501	ADT		Apr-17	9,706	ADT		-2.11%
Friday:	105%	of 3-Day Average		Aug-17			Apr-17	112%			
Saturday:	94%	of 3-Day Average		Aug-17			Apr-17	96%			
Sunday:	77%	of 3-Day Average		Aug-17			Apr-17	90%			



17-7273-001

ER

ST

EL

NT

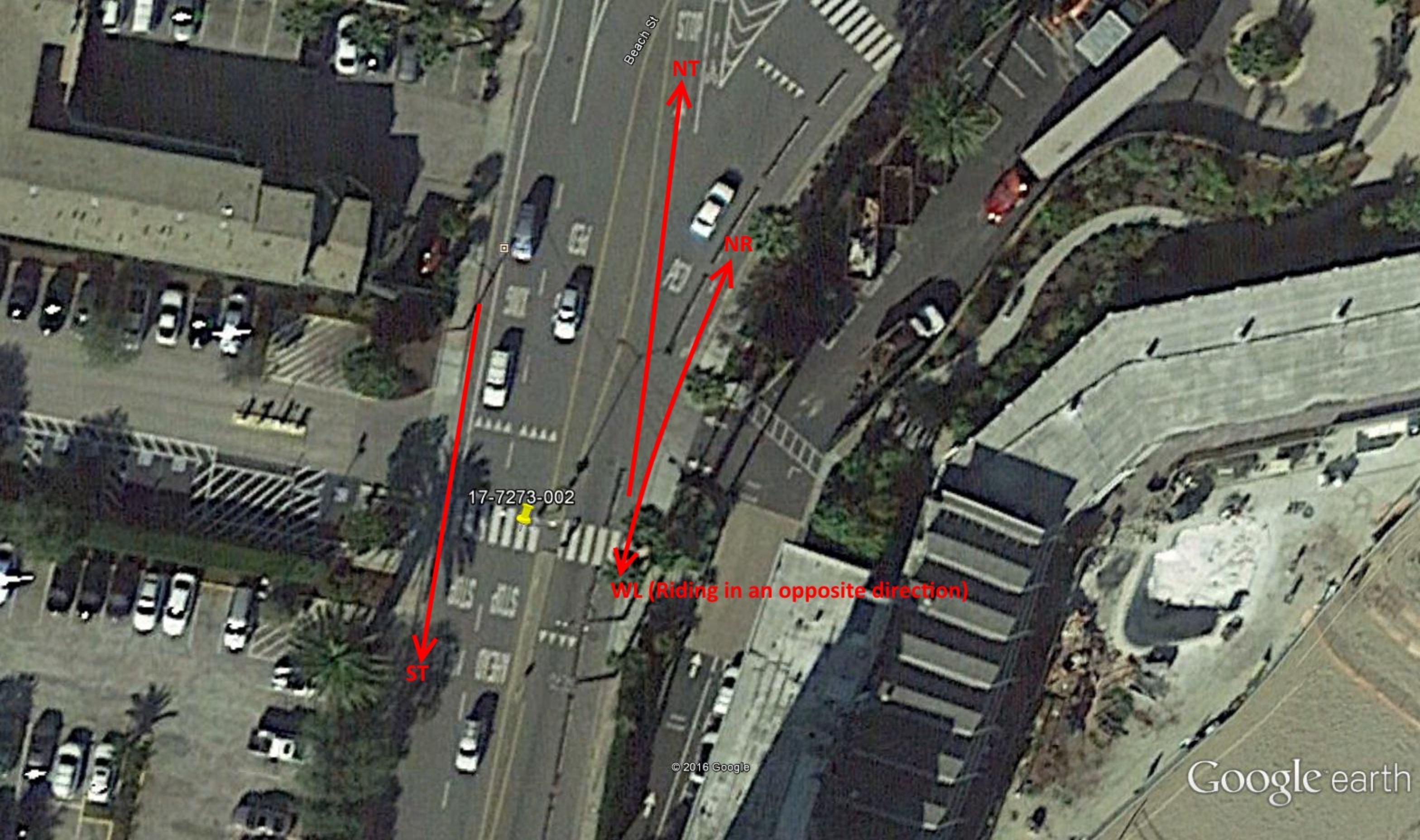
PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7273-001
 N/S Street: W Cliff Dr
 E/W Street: Bay St
 DATE: 4/15/2017
 CITY: Santa Cruz

DAY: Saturday

Time	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
10:00:00 AM	0	0	0	1	0	0	1	0	0	3	0	8
10:15:00 AM	0	0	0	0	0	0	2	0	0	2	0	2
10:30:00 AM	0	0	0	0	0	0	1	0	0	5	0	3
10:45:00 AM	0	0	0	0	0	0	0	0	0	8	0	9
11:00:00 AM	0	0	0	1	0	0	0	0	0	12	0	5
11:15:00 AM	0	0	0	0	0	0	0	0	0	9	0	8
11:30:00 AM	0	0	0	0	0	0	5	0	0	12	0	8
11:45:00 AM	0	0	4	1	0	0	1	0	0	15	0	8
12:00:00 PM	0	0	0	0	0	0	0	0	0	2	0	2
12:15:00 PM	1	0	0	2	0	0	0	0	0	14	0	3
12:30:00 PM	0	0	2	1	0	0	2	0	2	16	0	5
12:45:00 PM	5	0	1	3	0	0	0	0	0	10	0	10
1:00:00 PM	2	0	0	1	0	0	2	0	0	8	0	6
1:15:00 PM	0	0	0	0	0	0	0	0	0	8	0	11
1:30:00 PM	0	0	0	0	0	0	0	0	0	6	0	11
1:45:00 PM	0	0	0	0	0	0	0	0	0	6	0	6
2:00:00 PM	4	0	0	0	0	3	3	0	0	9	0	19
2:15:00 PM	0	0	0	2	0	0	0	0	0	10	0	6
2:30:00 PM	0	0	0	0	0	0	0	0	0	7	0	4
2:45:00 PM	1	0	1	0	0	0	0	0	0	10	0	7
Total	13	0	8	12	0	3	17	0	2	172	0	141
3:00:00 PM	0	0	0	0	0	0	0	0	0	13	0	11
3:15:00 PM	0	0	0	2	0	0	0	0	0	6	0	4
3:30:00 PM	1	0	1	0	0	0	0	0	0	6	0	4
3:45:00 PM	7	0	0	0	0	0	0	0	0	12	0	9
4:00:00 PM	1	0	0	3	0	0	1	0	0	5	0	5
4:15:00 PM	0	0	3	1	0	3	0	0	0	21	0	11
4:30:00 PM	0	0	0	5	0	1	0	0	0	16	0	10
4:45:00 PM	0	0	1	1	0	0	0	0	0	25	0	8
5:00:00 PM	2	0	0	0	0	0	0	0	0	7	0	8
5:15:00 PM	0	0	0	1	0	0	0	0	0	7	0	11
5:30:00 PM	0	0	0	0	0	0	2	0	0	7	0	11
5:45:00 PM	0	0	0	1	0	0	0	0	0	17	0	4
Total	11	0	5	14	0	4	3	0	0	142	0	96

3:45-4:45 PM	8	0	3	9	0	4	1	0	0	54	0	35
	North Leg			South Leg			East Leg			West Leg		
	EB	WB		EB	WB		NB	SB		NB	SB	



Beach St

NT

NR

17-7273-002

WL (Riding in an opposite direction)

ST

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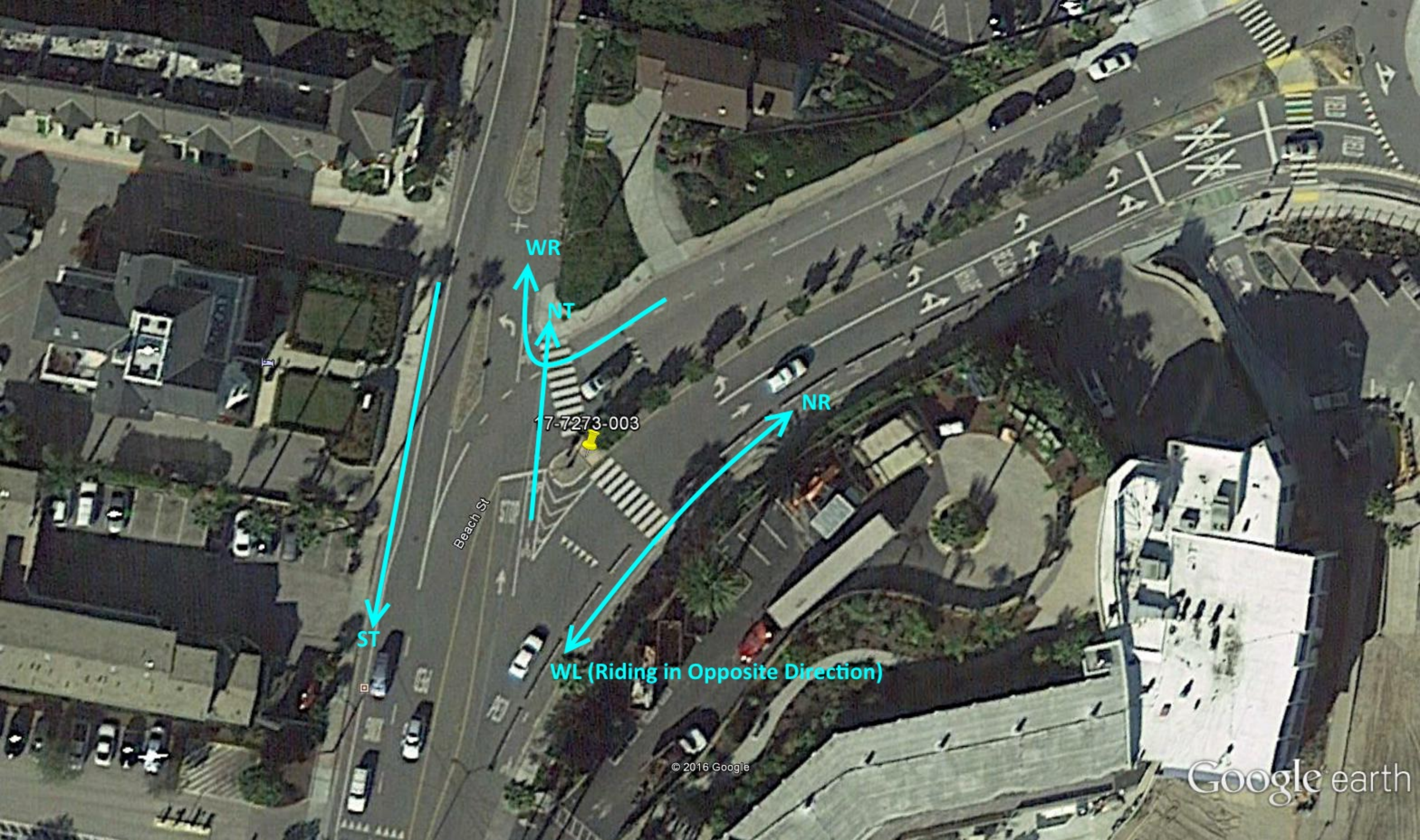
Google earth

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7273-002
 N/S Street: W Cliff Dr
 E/W Street: Existing Mid-block Crosswalk
 DATE: 4/15/2017
 CITY: Santa Cruz

	Crosswalk EB	Crosswalk WB
10:00:00 AM	0	0
10:15:00 AM	1	0
10:30:00 AM	0	0
10:45:00 AM	0	0
11:00:00 AM	1	0
11:15:00 AM	0	0
11:30:00 AM	1	0
11:45:00 AM	0	0
12:00:00 PM	0	0
12:15:00 PM	0	2
12:30:00 PM	0	0
12:45:00 PM	1	0
1:00:00 PM	0	0
1:15:00 PM	0	1
1:30:00 PM	0	0
1:45:00 PM	0	2
2:00:00 PM	0	0
2:15:00 PM	1	0
2:30:00 PM	0	0
2:45:00 PM	0	0
Total	5	5
3:00:00 PM	1	1
3:15:00 PM	0	0
3:30:00 PM	0	0
3:45:00 PM	1	3
4:00:00 PM	0	0
4:15:00 PM	2	0
4:30:00 PM	0	0
4:45:00 PM	0	0
5:00:00 PM	0	0
5:15:00 PM	0	0
5:30:00 PM	0	0
5:45:00 PM	0	0
Total	4	4

3:45-4:45 PM	3	3
	EB	WB



WR

NT

NR

17-7273-003

ST

WL (Riding in Opposite Direction)

Beach St

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7273-003
 N/S Street: NE W Cliff Dr
 E/W Street: Existing Crosswalk on Beach St
 DATE: 4/15/2017
 CITY: Santa Cruz

	Crosswalk NB	Crosswalk SB
10:00:00 AM	2	0
10:15:00 AM	0	0
10:30:00 AM	0	0
10:45:00 AM	0	1
11:00:00 AM	1	0
11:15:00 AM	0	0
11:30:00 AM	1	0
11:45:00 AM	2	0
12:00:00 PM	2	0
12:15:00 PM	0	3
12:30:00 PM	0	0
12:45:00 PM	2	2
1:00:00 PM	2	1
1:15:00 PM	0	0
1:30:00 PM	2	0
1:45:00 PM	0	0
2:00:00 PM	0	1
2:15:00 PM	1	0
2:30:00 PM	0	0
2:45:00 PM	2	0
Total	17	8
3:00:00 PM	3	6
3:15:00 PM	0	2
3:30:00 PM	0	4
3:45:00 PM	3	2
4:00:00 PM	0	0
4:15:00 PM	1	0
4:30:00 PM	3	0
4:45:00 PM	0	3
5:00:00 PM	0	0
5:15:00 PM	0	1
5:30:00 PM	0	0
5:45:00 PM	1	1
Total	11	19

3:45-4:45 PM	7	2
	NB	SB

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7273-001
 N/S Street: W Cliff Dr
 E/W Street: Bay St
 DATE: 4/15/2017
 CITY: Santa Cruz

DAY: Saturday

Time	South Leg		North Leg			West Leg			East Leg			
	NL (EB)		NR (WB)	SL (WB)		SR (EB)	EL (SB)		ER (NB)	WL (NB)		WR (SB)
10:00:00 AM	0	0	0	1	0	0	1	0	0	3	0	8
10:15:00 AM	0	0	0	0	0	0	2	0	0	2	0	2
10:30:00 AM	0	0	0	0	0	0	1	0	0	5	0	3
10:45:00 AM	0	0	0	0	0	0	0	0	0	8	0	9
11:00:00 AM	0	0	0	1	0	0	0	0	0	12	0	5
11:15:00 AM	0	0	0	0	0	0	0	0	0	9	0	8
11:30:00 AM	0	0	0	0	0	0	5	0	0	12	0	8
11:45:00 AM	0	0	4	1	0	0	1	0	0	15	0	8
12:00:00 PM	0	0	0	0	0	0	0	0	0	2	0	2
12:15:00 PM	1	0	0	2	0	0	0	0	0	14	0	3
12:30:00 PM	0	0	2	1	0	0	2	0	2	16	0	5
12:45:00 PM	5	0	1	3	0	0	0	0	0	10	0	10
1:00:00 PM	2	0	0	1	0	0	2	0	0	8	0	6
1:15:00 PM	0	0	0	0	0	0	0	0	0	8	0	11
1:30:00 PM	0	0	0	0	0	0	0	0	0	6	0	11
1:45:00 PM	0	0	0	0	0	0	0	0	0	6	0	6
2:00:00 PM	4	0	0	0	0	3	3	0	0	9	0	19
2:15:00 PM	0	0	0	2	0	0	0	0	0	10	0	6
2:30:00 PM	0	0	0	0	0	0	0	0	0	7	0	4
2:45:00 PM	1	0	1	0	0	0	0	0	0	10	0	7
Total	13	0	8	12	0	3	17	0	2	172	0	141
3:00:00 PM	0	0	0	0	0	0	0	0	0	13	0	11
3:15:00 PM	0	0	0	2	0	0	0	0	0	6	0	4
3:30:00 PM	1	0	1	0	0	0	0	0	0	6	0	4
3:45:00 PM	7	0	0	0	0	0	0	0	0	12	0	9
4:00:00 PM	1	0	0	3	0	0	1	0	0	5	0	5
4:15:00 PM	0	0	3	1	0	3	0	0	0	21	0	11
4:30:00 PM	0	0	0	5	0	1	0	0	0	16	0	10
4:45:00 PM	0	0	1	1	0	0	0	0	0	25	0	8
5:00:00 PM	2	0	0	0	0	0	0	0	0	7	0	8
5:15:00 PM	0	0	0	1	0	0	0	0	0	7	0	11
5:30:00 PM	0	0	0	0	0	0	2	0	0	7	0	11
5:45:00 PM	0	0	0	1	0	0	0	0	0	17	0	4
Total	11	0	5	14	0	4	3	0	0	142	0	96

3:45-4:45 PM	8	3	9	4	1	0	0	54	35	
	South Leg		North Leg			West Leg			East Leg	
	NL (EB)	NR (WB)	SL (WB)	SR (EB)	EL (SB)	ER (NB)	WL (NB)	WR (SB)		

Looking from Center of Intersection

ALL TRAFFIC DATA

(916) 771-8700

orders@aldtraffic.com

File Name : 17-7615-001

Date : 08/19/2017

Unshifted Count = Bikes

START TIME	W. Cliff Dr intersection Southbound					Bay Street Westbound					W. Cliff Dr intersection Northbound					Bay Street Eastbound					Total	UtURNS Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
10:00	0	25	3	0	28	0	0	0	0	0	1	8	0	0	9	1	0	0	0	1	38	0
10:15	0	13	2	0	15	0	0	0	0	0	1	12	0	0	13	2	0	2	0	4	32	0
10:30	0	15	1	0	16	0	0	0	0	0	0	18	0	0	18	0	0	2	0	2	36	0
10:45	0	24	2	0	26	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	41	0
Total	0	77	8	0	85	0	0	0	0	0	2	52	0	0	54	4	0	4	0	8	147	0
11:00	0	8	1	0	9	0	0	0	0	0	0	7	0	0	7	3	0	0	0	3	19	0
11:15	0	23	2	0	25	0	0	0	0	0	3	19	0	0	22	3	0	1	0	4	51	0
11:30	0	12	4	0	16	0	0	0	0	0	0	32	0	0	32	5	0	1	0	6	54	0
11:45	0	5	11	0	16	0	0	0	0	0	1	25	0	0	26	3	0	0	0	3	45	0
Total	0	48	18	0	66	0	0	0	0	0	4	83	0	0	87	14	0	2	0	16	169	0
12:00	0	16	2	0	18	0	0	0	0	0	0	22	0	0	22	2	0	0	0	2	42	0
12:15	0	11	4	0	15	0	0	0	0	0	1	21	0	0	22	5	0	1	0	6	43	0
12:30	0	12	4	0	16	0	0	0	0	0	0	26	0	0	26	6	0	2	0	8	50	0
12:45	0	18	5	0	23	0	0	0	0	0	2	26	0	0	28	4	0	0	0	4	55	0
Total	0	57	15	0	72	0	0	0	0	0	3	95	0	0	98	17	0	3	0	20	190	0
13:00	0	11	8	0	19	0	0	0	0	0	1	26	0	0	27	3	0	0	0	3	49	0
13:15	0	14	2	0	16	0	0	0	0	0	0	22	0	0	22	3	0	3	0	6	44	0
13:30	0	9	2	2	13	0	0	0	0	0	0	28	0	0	28	3	0	0	0	3	44	2
13:45	0	22	3	0	25	0	0	0	0	0	0	18	0	0	18	5	0	0	0	5	48	0
Total	0	56	15	2	73	0	0	0	0	0	1	94	0	0	95	14	0	3	0	17	185	2
14:00	0	10	1	0	11	0	0	0	0	0	0	24	0	0	24	3	0	0	0	3	38	0
14:15	0	7	6	0	13	0	0	0	0	0	0	19	0	0	19	1	0	0	0	1	33	0
14:30	0	328	4	0	332	0	0	0	0	0	0	11	0	0	11	3	0	0	0	3	346	0
14:45	0	21	5	0	26	0	0	0	0	0	3	18	0	0	21	4	0	0	0	4	51	0
Total	0	366	16	0	382	0	0	0	0	0	3	72	0	0	75	11	0	0	0	11	468	0
15:00	0	8	12	0	20	0	0	0	0	0	0	12	0	0	12	3	0	0	0	3	35	0
15:15	0	4	5	0	9	0	0	0	0	0	1	24	0	0	25	282	0	3	0	285	319	0
15:30	0	10	6	0	16	0	0	0	0	0	1	9	0	0	10	5	0	0	0	5	31	0
15:45	0	15	4	0	19	0	0	0	0	0	0	10	0	0	10	3	0	0	0	3	32	0
Total	0	37	27	0	64	0	0	0	0	0	2	55	0	0	57	293	0	3	0	296	417	0
16:00	0	16	4	0	20	0	0	0	0	0	2	19	0	0	21	4	0	0	0	4	45	0
16:15	0	15	9	0	24	0	0	0	0	0	1	24	0	0	25	3	0	1	0	4	53	0
16:30	0	7	4	0	11	0	0	0	0	0	0	8	0	0	8	2	0	0	0	2	21	0
16:45	0	14	3	0	17	0	0	0	0	0	0	7	0	0	7	5	0	0	0	5	29	0
Total	0	52	20	0	72	0	0	0	0	0	3	58	0	0	61	14	0	1	0	15	148	0
17:00	0	8	7	0	15	0	0	0	0	0	2	14	0	0	16	3	0	0	0	3	34	0
17:15	0	10	5	0	15	0	0	0	0	0	1	10	0	0	11	6	0	0	0	6	32	0
17:30	0	9	2	0	11	0	0	0	0	0	1	3	0	0	4	1	0	2	0	3	18	0
17:45	0	3	4	0	7	0	0	0	0	0	2	4	0	0	6	7	0	0	0	7	20	0
Total	0	30	18	0	48	0	0	0	0	0	6	31	0	0	37	17	0	2	0	19	104	0

Grand Total	0	723	137	2	862	0	0	0	0	0	24	540	0	0	564	384	0	18	0	402	1828	2
Apprch %	0.0%	83.9%	15.9%	0.2%	47.2%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	95.7%	0.0%	0.0%	30.9%	95.5%	0.0%	4.5%	0.0%	22.0%	100.0%	
Total %	0.0%	39.6%	7.5%	0.1%	47.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	29.5%	0.0%	0.0%	30.9%	21.0%	0.0%	1.0%	0.0%	22.0%	100.0%	

START TIME	W. Cliff Dr intersection Southbound					Bay Street Westbound					W. Cliff Dr intersection Northbound					Bay Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 12:30 to 13:30																					
Peak Hour For Entire Intersection Begins at 12:30																					
12:30	0	12	4	0	16	0	0	0	0	0	0	26	0	0	26	6	0	2	0	8	50
12:45	0	18	5	0	23	0	0	0	0	0	2	26	0	0	28	4	0	0	0	4	55
13:00	0	11	8	0	19	0	0	0	0	0	1	26	0	0	27	3	0	0	0	3	49
13:15	0	14	2	0	16	0	0	0	0	0	0	22	0	0	22	3	0	3	0	6	44
Total Volume	0	55	19	0	74	0	0	0	0	0	3	100	0	0	103	16	0	5	0	21	198
% App Total	0.0%	74.3%	25.7%	0.0%	47.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	97.1%	0.0%	0.0%	30.9%	76.2%	0.0%	23.8%	0.0%	22.0%	100.0%
PHF	.000	.764	.594	.000	.804	.000	.000	.000	.000	.000	.375	.962	.000	.000	.920	.667	.000	.417	.000	.656	.900

START TIME	W. Cliff Dr intersection Southbound					Bay Street Westbound					W. Cliff Dr intersection Northbound					Bay Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 14:30 to 15:30																					
Peak Hour For Entire Intersection Begins at 14:30																					
14:30	0	328	4	0	332	0	0	0	0	0	0	11	0	0	11	3	0	0	0	3	346
14:45	0	21	5	0	26	0	0	0	0	0	3	18	0	0	21	4	0	0	0	4	51
15:00	0	8	12	0	20	0	0	0	0	0	0	12	0	0	12	3	0	0	0	3	35
15:15	0	4	5	0	9	0	0	0	0	0	1	24	0	0	25	282	0	3	0	285	319
Total Volume	0	361	26	0	387	0	0	0	0	0	4	65	0	0	69	292	0	3	0	295	751
% App Total	0.0%	93.3%	6.7%	0.0%	47.2%	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	94.2%	0.0%	0.0%	30.9%	99.0%	0.0%	1.0%	0.0%	22.0%	100.0%
PHF	.000	.275	.542	.000	.291	.000	.000	.000	.000	.000	.333	.677	.000	.000	.690	.259	.000	.250	.000	.259	.543

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7615-001

N/S Street: W Cliff Dr

E/W Street: Bay St

DATE: 8/19/2017

DAY: Saturday

CITY: Santa Cruz

Time	Northleg Crosswalk		Southleg Crosswalk		Eastleg Crosswalk		Westleg Crosswalk	
	EB	WB	EB	WB	NB	SB	NB	SB
10:00:00 AM	0	1	0	1	0	0	0	0
10:15:00 AM	0	0	0	0	0	0	0	0
10:30:00 AM	0	0	0	0	0	0	0	0
10:45:00 AM	2	0	0	0	0	0	1	0
11:00:00 AM	0	0	0	0	0	0	0	0
11:15:00 AM	0	0	3	3	0	0	2	0
11:30:00 AM	1	0	0	0	0	0	5	0
11:45:00 AM	0	0	0	1	0	0	2	0
12:00:00 PM	1	0	0	0	0	0	1	0
12:15:00 PM	1	1	0	1	0	0	2	0
12:30:00 PM	2	0	0	2	0	0	5	0
12:45:00 PM	0	0	1	2	0	0	1	0
1:00:00 PM	0	0	0	2	0	0	0	0
1:15:00 PM	0	0	0	0	0	0	2	0
1:30:00 PM	1	0	0	0	0	0	3	0
1:45:00 PM	2	0	2	0	0	0	3	0
2:00:00 PM	0	0	0	1	0	0	0	0
2:15:00 PM	1	0	1	0	0	0	1	0
2:30:00 PM	0	0	0	1	0	0	13	1
2:45:00 PM	0	0	1	0	0	0	0	0
Total	11	2	8	14	0	0	41	1
3:00:00 PM	0	0	0	7	0	0	0	0
3:15:00 PM	0	0	0	1	0	0	0	0
3:30:00 PM	2	0	0	0	0	0	2	0
3:45:00 PM	0	0	1	1	0	0	0	0
4:00:00 PM	0	0	0	2	0	0	4	0
4:15:00 PM	0	1	0	1	0	0	0	0
4:30:00 PM	1	0	0	3	0	0	0	0
4:45:00 PM	0	0	0	1	0	0	1	0
5:00:00 PM	0	0	0	2	0	0	0	0
5:15:00 PM	2	0	0	1	0	0	1	0
5:30:00 PM	0	0	0	1	0	0	2	0
5:45:00 PM	0	0	0	0	0	0	0	0
Total	5	1	1	20	0	0	10	0

1:45-2:45 PM	3	0	3	2	0	0	17	1
	Northleg Crosswalk		Southleg Crosswalk		Eastleg Crosswalk		Westleg Crosswalk	
	EB	WB	EB	WB	NB	SB	NB	SB

Bike Lane Counts

Location: W Cliff Dr @ Bay St

City: Santa Cruz

Date: 8/19/2017

Day: Saturday

TIME	W Cliff Dr Bike Lane Eastside of Street (South Leg)		W Cliff Dr Bike Lane Westside Of Street (North Leg)		Bay St Bike Lane Northside of Street (West Leg)		Bay St Bike Lane Southside of Street (West Leg)	
	NB	SB	NB	SB	EB	WB	EB	WB
10:00 AM	6	3	0	20	1	3	0	0
10:15 AM	14	2	0	12	0	1	2	0
10:30 AM	12	9	0	13	1	2	1	0
10:45 AM	12	10	0	8	1	3	0	0
11:00 AM	9	6	0	3	0	1	0	0
11:15 AM	19	16	0	4	0	4	1	0
11:30 AM	23	3	0	5	0	4	3	0
11:45 AM	14	4	0	1	0	10	0	0
12:00 PM	19	8	0	7	0	1	2	0
12:15 PM	21	6	0	5	0	4	2	1
12:30 PM	30	6	0	3	0	1	5	0
12:45 PM	20	13	0	2	0	7	0	0
1:00 PM	13	12	0	0	0	10	1	0
1:15 PM	19	5	0	6	0	2	2	0
1:30 PM	29	10	0	3	0	2	1	0
1:45 PM	18	12	0	5	0	3	2	0
2:00 PM	25	9	0	2	3	1	0	0
2:15 PM	17	5	0	1	0	6	1	0
2:30 PM	11	22	0	93	1	4	0	0
2:45 PM	22	13	0	8	2	6	1	0
3:00 PM	13	12	0	4	2	12	0	0
3:15 PM	107	6	36	1	40	6	15	0
3:30 PM	15	6	0	0	0	5	2	0
3:45 PM	11	4	0	14	2	4	0	0
4:00 PM	23	8	0	6	0	7	5	0
4:15 PM	25	13	0	2	0	9	3	0
4:30 PM	7	5	0	3	0	5	1	1
4:45 PM	12	15	0	0	0	3	0	0
5:00 PM	16	4	0	0	0	5	1	0
5:15 PM	12	7	0	4	0	5	1	0
5:30 PM	3	8	0	1	0	2	2	0
5:45 PM	7	3	0	0	0	4	0	0
TOTALS	604	265	36	236	53	142	54	2

2:30-3:30	153	53	36	106	45	28	16	0
	South Leg		North Leg		West Leg		West Leg	
	NB	SB	NB	SB	EB	WB	EB	WB

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7615-002
 N/S Street: W Cliff Dr
 E/W Street: Existing Mid-block Crosswalk
 DATE: 8/19/2017
 CITY: Santa Cruz

	Crosswalk EB	Crosswalk WB
10:00:00 AM	0	0
10:15:00 AM	0	0
10:30:00 AM	0	0
10:45:00 AM	0	0
11:00:00 AM	0	0
11:15:00 AM	0	0
11:30:00 AM	0	0
11:45:00 AM	0	0
12:00:00 PM	1	0
12:15:00 PM	0	2
12:30:00 PM	0	0
12:45:00 PM	0	1
1:00:00 PM	0	2
1:15:00 PM	0	0
1:30:00 PM	1	0
1:45:00 PM	2	0
2:00:00 PM	0	0
2:15:00 PM	0	0
2:30:00 PM	2	0
2:45:00 PM	6	2
Total	12	7
3:00:00 PM	2	1
3:15:00 PM	1	0
3:30:00 PM	0	0
3:45:00 PM	0	0
4:00:00 PM	0	0
4:15:00 PM	0	0
4:30:00 PM	0	0
4:45:00 PM	3	0
5:00:00 PM	1	1
5:15:00 PM	0	0
5:30:00 PM	0	0
5:45:00 PM	1	0
Total	8	2

2:30-2:45 PM	11	3
	EB	WB

Bike Lane Counts

Location: W Cliff Dr

Date: 8/19/2017

City: Santa Cruz

Day: Saturday

TIME	W Cliff Dr Bike Lane Eastside of Street		W Cliff Dr Bike Lane Westside Of Street	
	NB	SB	NB	SB
10:00 AM	8	3	1	20
10:15 AM	15	2	0	10
10:30 AM	16	12	2	8
10:45 AM	18	12	1	8
11:00 AM	6	5	0	4
11:15 AM	20	18	0	8
11:30 AM	26	3	0	8
11:45 AM	23	5	0	10
12:00 PM	26	9	2	7
12:15 PM	26	6	0	7
12:30 PM	31	5	0	10
12:45 PM	28	15	0	7
1:00 PM	20	12	0	8
1:15 PM	21	6	0	9
1:30 PM	29	9	0	7
1:45 PM	22	8	0	14
2:00 PM	26	9	0	2
2:15 PM	18	6	0	8
2:30 PM	11	12	0	93
2:45 PM	23	6	0	21
3:00 PM	13	12	0	8
3:15 PM	169	7	0	2
3:30 PM	14	6	0	4
3:45 PM	10	4	0	13
4:00 PM	23	10	2	10
4:15 PM	24	12	1	8
4:30 PM	11	6	0	4
4:45 PM	13	16	0	1
5:00 PM	16	6	0	6
5:15 PM	17	6	0	8
5:30 PM	4	6	0	4
5:45 PM	9	2	0	6
TOTALS	736	256	9	343

2:30-2:45	216	37	0	124
	NB	SB	NB	SB

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7615-003
 N/S Street: NE W Cliff Dr
 E/W Street: Existing Crosswalk on Beach St
 DATE: 8/19/2017
 CITY: Santa Cruz

	Crosswalk NB	Crosswalk SB
10:00:00 AM	0	0
10:15:00 AM	2	2
10:30:00 AM	0	4
10:45:00 AM	1	4
11:00:00 AM	0	0
11:15:00 AM	1	0
11:30:00 AM	0	1
11:45:00 AM	3	0
12:00:00 PM	0	0
12:15:00 PM	2	1
12:30:00 PM	0	2
12:45:00 PM	0	0
1:00:00 PM	1	1
1:15:00 PM	0	1
1:30:00 PM	2	1
1:45:00 PM	0	1
2:00:00 PM	0	0
2:15:00 PM	1	0
2:30:00 PM	2	2
2:45:00 PM	5	1
Total	20	21
3:00:00 PM	1	2
3:15:00 PM	1	3
3:30:00 PM	1	1
3:45:00 PM	0	0
4:00:00 PM	0	0
4:15:00 PM	0	0
4:30:00 PM	0	0
4:45:00 PM	0	0
5:00:00 PM	3	4
5:15:00 PM	0	2
5:30:00 PM	0	0
5:45:00 PM	0	0
Total	6	12

2:30-2:45 PM	9	8
	NB	SB

Bike Lane Counts

Location: W Cliff Dr @ Beach St

Date: 8/19/2017

City: Santa Cruz

Day: Saturday

TIME	W Cliff Dr Bike Lane Eastside of Street (South Leg)		W Cliff Dr Bike Lane Westside Of Street (North Leg)		Beach St Bike Lane Southside of Street (East Leg)	
	NB	SB	NB	SB	EB	WB
10:00 AM	1	0	0	21	5	8
10:15 AM	6	0	0	9	10	1
10:30 AM	4	0	0	9	9	16
10:45 AM	5	0	0	5	12	10
11:00 AM	0	0	0	4	7	4
11:15 AM	7	0	0	7	13	17
11:30 AM	9	0	1	6	21	3
11:45 AM	10	0	0	8	16	9
12:00 PM	4	0	0	9	20	9
12:15 PM	8	0	0	9	18	4
12:30 PM	7	0	0	9	25	7
12:45 PM	8	0	0	5	21	15
1:00 PM	12	0	0	6	13	14
1:15 PM	11	0	0	7	11	6
1:30 PM	5	0	0	5	29	9
1:45 PM	8	0	0	6	15	10
2:00 PM	4	0	0	1	19	9
2:15 PM	2	0	0	6	14	6
2:30 PM	4	0	0	76	7	9
2:45 PM	7	0	0	9	20	9
3:00 PM	4	0	0	8	11	13
3:15 PM	2	0	0	6	218	5
3:30 PM	7	0	1	4	7	5
3:45 PM	2	0	0	15	6	3
4:00 PM	9	0	1	10	12	10
4:15 PM	5	0	0	6	18	5
4:30 PM	1	0	0	5	8	6
4:45 PM	1	0	1	5	17	9
5:00 PM	10	0	0	6	7	8
5:15 PM	5	0	0	12	7	9
5:30 PM	1	0	0	3	3	6
5:45 PM	2	0	0	5	6	2
TOTALS	171	0	4	302	625	256

2:30-3:30	17	0	0	99	256	36
	South Leg		North Leg		East Leg	
	NB	SB	NB	SB	EB	WB

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7273-001
 N/S Street: W Cliff Dr
 E/W Street: Bay St
 DATE: 4/15/2017
 CITY: Santa Cruz

DAY: Saturday

- AM
- NOON
- PM

NOON

PEDESTRIANS

TIME	NORTH LEG	SOUTH LEG	EAST LEG	WEST LEG
10:00 AM	10	5	68	2
10:15 AM	3	3	48	2
10:30 AM	5	10	72	1
10:45 AM	7	2	46	0
11:00 AM	5	12	58	5
11:15 AM	3	7	60	2
11:30 AM	6	6	74	3
11:45 AM	5	7	45	1
12:00 PM	1	6	39	2
12:15 PM	8	13	76	3
12:30 PM	8	7	56	5
12:45 PM	15	20	82	5
1:00 PM	14	25	77	5
1:15 PM	6	11	78	3
1:30 PM	5	15	105	0
1:45 PM	3	6	80	5
2:00 PM	9	11	103	1
2:15 PM	15	22	101	0
2:30 PM	9	6	86	6
2:45 PM	9	15	99	6
TOTALS	146	209	1453	57

PTE

- 284
- 279
- 295
- 296
- 299
- 267
- 295
- 282
- 346
- 419
- 417
- 466
- 438
- 441
- 481
- 463
- 498**

PM

PEDESTRIANS

TIME	NORTH LEG	SOUTH LEG	EAST LEG	WEST LEG
3:00 PM	4	14	129	3
3:15 PM	9	3	86	5
3:30 PM	7	22	71	12
3:45 PM	8	11	108	1
4:00 PM	10	18	108	1
4:15 PM	8	17	102	4
4:30 PM	9	16	87	2
4:45 PM	11	11	86	12
5:00 PM	6	19	115	5
5:15 PM	9	11	99	2
5:30 PM	4	10	90	7
5:45 PM	11	11	103	3
TOTALS	96	163	1184	57

- 524
- 489
- 494
- 493
- 480
- 508
- 510**
- 502
- 510**
- 500
- 497
- 505

3:45-4:45 PM	35	62	405	8
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PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7273-002
 N/S Street: W Cliff Dr
 E/W Street: Existing Mid-block Crosswalk
 DATE: 4/15/2017
 CITY: Santa Cruz

	Crosswalk EB	Crosswalk WB	PTE
10:00:00 AM	13	17	
10:15:00 AM	6	7	
10:30:00 AM	15	23	
10:45:00 AM	14	7	102
11:00:00 AM	8	20	100
11:15:00 AM	12	17	116
11:30:00 AM	30	31	139
11:45:00 AM	20	25	163
12:00:00 PM	25	14	174
12:15:00 PM	9	8	162
12:30:00 PM	7	9	117
12:45:00 PM	13	13	98
1:00:00 PM	22	7	88
1:15:00 PM	8	13	92
1:30:00 PM	20	17	113
1:45:00 PM	18	30	135
2:00:00 PM	14	17	137
2:15:00 PM	11	21	148
2:30:00 PM	24	7	142
2:45:00 PM	24	22	140
Total	313	325	
3:00:00 PM	12	17	138
3:15:00 PM	12	15	133
3:30:00 PM	7	17	126
3:45:00 PM	19	1	100
4:00:00 PM	4	14	89
4:15:00 PM	15	16	93
4:30:00 PM	22	19	110
4:45:00 PM	12	14	116
5:00:00 PM	7	9	114
5:15:00 PM	8	28	119
5:30:00 PM	8	13	99
5:45:00 PM	9	7	89
Total	135	170	
11:15-12:15 PM	87	87	174

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7273-003
 N/S Street: NE W Cliff Dr
 E/W Street: Existing Crosswalk on Beach St
 DATE: 4/15/2017
 CITY: Santa Cruz

	Crosswalk NB	Crosswalk SB	PTE
10:00:00 AM	5	6	
10:15:00 AM	9	8	
10:30:00 AM	2	2	
10:45:00 AM	2	8	42
11:00:00 AM	2	5	38
11:15:00 AM	5	3	29
11:30:00 AM	5	4	34
11:45:00 AM	2	6	32
12:00:00 PM	5	4	34
12:15:00 PM	6	21	53
12:30:00 PM	2	4	50
12:45:00 PM	1	6	49
1:00:00 PM	1	1	42
1:15:00 PM	13	10	38
1:30:00 PM	5	4	41
1:45:00 PM	11	3	48
2:00:00 PM	4	3	53
2:15:00 PM	8	3	41
2:30:00 PM	7	5	44
2:45:00 PM	4	0	34
Total	99	106	
3:00:00 PM	6	9	42
3:15:00 PM	5	6	42
3:30:00 PM	6	6	42
3:45:00 PM	6	4	48
4:00:00 PM	2	9	44
4:15:00 PM	1	13	47
4:30:00 PM	0	0	35
4:45:00 PM	4	7	36
5:00:00 PM	7	11	43
5:15:00 PM	14	0	43
5:30:00 PM	5	13	61
5:45:00 PM	3	12	65
Total	59	90	
11:30-12:30 PM	18	35	53

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7615-002
 N/S Street: W Cliff Dr
 E/W Street: Existing Mid-block Crosswalk
 DATE: 8/19/2017
 CITY: Santa Cruz

	Crosswalk EB	Crosswalk WB
10:00:00 AM	6	8
10:15:00 AM	6	12
10:30:00 AM	9	16
10:45:00 AM	7	14
11:00:00 AM	7	19
11:15:00 AM	5	12
11:30:00 AM	14	13
11:45:00 AM	16	19
12:00:00 PM	17	10
12:15:00 PM	10	17
12:30:00 PM	9	16
12:45:00 PM	11	9
1:00:00 PM	8	9
1:15:00 PM	12	5
1:30:00 PM	13	8
1:45:00 PM	7	8
2:00:00 PM	12	12
2:15:00 PM	13	8
2:30:00 PM	10	12
2:45:00 PM	12	10
Total	204	237
3:00:00 PM	13	11
3:15:00 PM	5	5
3:30:00 PM	20	10
3:45:00 PM	31	33
4:00:00 PM	16	21
4:15:00 PM	14	20
4:30:00 PM	17	13
4:45:00 PM	20	25
5:00:00 PM	14	9
5:15:00 PM	7	9
5:30:00 PM	7	13
5:45:00 PM	8	9
Total	172	178

3:30-4:30 PM	81	84
	Crosswalk EB	Crosswalk WB

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 17-7615-003
 N/S Street: NE W Cliff Dr
 E/W Street: Existing Crosswalk on Beach St
 DATE: 8/19/2017
 CITY: Santa Cruz

	Crosswalk NB	Crosswalk SB
10:00:00 AM	4	4
10:15:00 AM	3	4
10:30:00 AM	4	2
10:45:00 AM	4	2
11:00:00 AM	1	3
11:15:00 AM	7	9
11:30:00 AM	5	10
11:45:00 AM	1	13
12:00:00 PM	12	12
12:15:00 PM	9	8
12:30:00 PM	12	8
12:45:00 PM	8	8
1:00:00 PM	13	9
1:15:00 PM	2	14
1:30:00 PM	13	7
1:45:00 PM	8	1
2:00:00 PM	5	3
2:15:00 PM	7	5
2:30:00 PM	2	6
2:45:00 PM	6	2
Total	126	130
3:00:00 PM	5	7
3:15:00 PM	1	6
3:30:00 PM	5	10
3:45:00 PM	5	5
4:00:00 PM	1	4
4:15:00 PM	3	3
4:30:00 PM	2	7
4:45:00 PM	6	4
5:00:00 PM	4	3
5:15:00 PM	7	3
5:30:00 PM	11	5
5:45:00 PM	2	6
Total	52	63

12:00-1:00 PM	41	36
	Crosswalk NB	Crosswalk SB

Appendix B






















- Level of Service (LOS) LOS Descriptions
- Synchro and HCM Software (HCS7) “Level of Service” (LOS) Worksheets

The ability of a highway system to carry traffic is expressed in terms of its "Service Level" at critical locations, usually intersections. Service levels are defined as follows:

- "LOS A" Conditions primarily describe free-flowing operations. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at the boundary intersections is minimal. The travel speed exceeds 85% of the base free-flow speed.
- "LOS B" Conditions describe reasonably unimpeded operations. The ability to maneuver within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67% and 85% of the base free-flow speed.
- "LOS C" Conditions describe stable operations. The ability to maneuver and change lanes at mid-segment locations may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed.
- "LOS D" Conditions describe less stable operations in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 40% and 50% of the base free-flow speed.
- "LOS E" Conditions describe unstable operations and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30% and 40% of the base free-flow speed.
- "LOS F" Conditions describe flow at extreme low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is 30% or less of the base free-flow speed. Also, LOS F is assigned to the subject direction of travel if the through movement at one or more boundary intersections has a volume-to-capacity (V/C) ratio greater than 1.0.






















HCM 2010 Signalized Intersection Summary
1: Mission St & Bay St

Weekday
05/22/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	172	106	66	151	68	88	932	66	160	989	160
Future Volume (veh/h)	261	172	106	66	151	68	88	932	66	160	989	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1881	1864	1900	1881	1865	1900
Adj Flow Rate, veh/h	266	176	108	67	154	69	90	951	67	163	1009	163
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	2	1	2	2
Cap, veh/h	344	210	129	264	182	81	136	1266	89	197	1224	198
Arrive On Green	0.19	0.19	0.19	0.15	0.15	0.15	0.08	0.38	0.38	0.11	0.40	0.40
Sat Flow, veh/h	1792	1092	670	1792	1232	552	1792	3357	236	1792	3057	493
Grp Volume(v), veh/h	266	0	284	67	0	223	90	502	516	163	584	588
Grp Sat Flow(s),veh/h/ln	1792	0	1763	1792	0	1784	1792	1771	1822	1792	1772	1778
Q Serve(g_s), s	13.8	0.0	15.2	3.2	0.0	11.9	4.8	24.1	24.1	8.7	28.9	28.9
Cycle Q Clear(g_c), s	13.8	0.0	15.2	3.2	0.0	11.9	4.8	24.1	24.1	8.7	28.9	28.9
Prop In Lane	1.00		0.38	1.00		0.31	1.00		0.13	1.00		0.28
Lane Grp Cap(c), veh/h	344	0	338	264	0	263	136	668	687	197	710	712
V/C Ratio(X)	0.77	0.00	0.84	0.25	0.00	0.85	0.66	0.75	0.75	0.83	0.82	0.83
Avail Cap(c_a), veh/h	458	0	450	330	0	328	165	814	838	275	924	927
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	0.0	38.1	36.9	0.0	40.6	44.0	26.5	26.5	42.6	26.2	26.3
Incr Delay (d2), s/veh	5.8	0.0	10.3	0.5	0.0	15.4	7.0	3.2	3.1	13.6	4.7	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	7.4	0.0	8.4	1.6	0.0	7.0	2.6	12.3	12.6	5.0	15.1	15.1
LnGrp Delay(d),s/veh	43.3	0.0	48.4	37.4	0.0	56.1	51.0	29.6	29.5	56.3	31.0	31.0
LnGrp LOS	D		D	D		E	D	C	C	E	C	C
Approach Vol, veh/h		550			290			1108			1335	
Approach Delay, s/veh		45.9			51.8			31.3			34.1	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.7	41.9		22.8	12.5	44.2		18.4				
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0				
Max Green Setting (Gmax), s	15.0	45.0		25.0	9.0	* 51		18.0				
Max Q Clear Time (g_c+I1), s	10.7	26.1		17.2	6.8	30.9		13.9				
Green Ext Time (p_c), s	0.2	6.6		1.6	1.4	8.2		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				36.7								
HCM 2010 LOS				D								
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 2010 Signalized Intersection Summary
1: Mission St & Bay St

Saturday
05/22/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	119	108	96	85	91	82	990	70	110	1097	97
Future Volume (veh/h)	189	119	108	96	85	91	82	990	70	110	1097	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1881	1864	1900	1881	1864	1900
Adj Flow Rate, veh/h	195	123	111	99	88	94	85	1021	72	113	1131	100
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	2	1	2	2
Cap, veh/h	299	153	138	232	108	115	139	1466	103	143	1411	125
Arrive On Green	0.17	0.17	0.17	0.13	0.13	0.13	0.08	0.44	0.44	0.08	0.43	0.43
Sat Flow, veh/h	1792	912	823	1792	834	890	1792	3356	237	1792	3293	291
Grp Volume(v), veh/h	195	0	234	99	0	182	85	539	554	113	608	623
Grp Sat Flow(s),veh/h/ln	1792	0	1736	1792	0	1724	1792	1771	1822	1792	1771	1813
Q Serve(g_s), s	9.3	0.0	11.8	4.6	0.0	9.4	4.2	22.4	22.4	5.6	27.2	27.3
Cycle Q Clear(g_c), s	9.3	0.0	11.8	4.6	0.0	9.4	4.2	22.4	22.4	5.6	27.2	27.3
Prop In Lane	1.00		0.47	1.00		0.52	1.00		0.13	1.00		0.16
Lane Grp Cap(c), veh/h	299	0	290	232	0	223	139	774	796	143	759	777
V/C Ratio(X)	0.65	0.00	0.81	0.43	0.00	0.82	0.61	0.70	0.70	0.79	0.80	0.80
Avail Cap(c_a), veh/h	472	0	457	295	0	284	177	1011	1040	236	1069	1095
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	0.0	36.5	36.6	0.0	38.6	40.7	20.8	20.8	41.1	22.7	22.7
Incr Delay (d2), s/veh	2.4	0.0	5.7	1.2	0.0	13.5	4.3	1.4	1.4	9.2	3.0	3.0
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	4.8	0.0	6.1	2.4	0.0	5.3	2.2	11.2	11.5	3.2	13.8	14.1
LnGrp Delay(d),s/veh	37.8	0.0	42.2	37.8	0.0	52.1	45.0	22.2	22.1	50.4	25.6	25.6
LnGrp LOS	D		D	D		D	D	C	C	D	C	C
Approach Vol, veh/h		429			281			1178			1344	
Approach Delay, s/veh		40.2			47.1			23.8			27.7	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.3	44.8		19.2	12.1	44.0		15.8				
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0				
Max Green Setting (Gmax), s	12.0	52.0		24.0	9.0	* 55		15.0				
Max Q Clear Time (g_c+I1), s	7.6	24.4		13.8	6.2	29.3		11.4				
Green Ext Time (p_c), s	0.1	8.3		1.4	1.8	9.7		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay				29.6								
HCM 2010 LOS				C								
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Int Delay, s/veh 8.7

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	88	316	252	263	168	93
Future Vol, veh/h	88	316	252	263	168	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	97	347	277	289	185	102

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	566	0	-	0	962	421
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	541	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1016	-	-	-	286	637
Stage 1	-	-	-	-	667	-
Stage 2	-	-	-	-	588	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1016	-	-	-	252	637
Mov Cap-2 Maneuver	-	-	-	-	252	-
Stage 1	-	-	-	-	667	-
Stage 2	-	-	-	-	519	-

Approach EB WB SB

HCM Control Delay, s	1.9	0	36.6
HCM LOS			E

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1 SBLn2

Capacity (veh/h)	1016	-	-	-	252	637
HCM Lane V/C Ratio	0.095	-	-	-	0.733	0.16
HCM Control Delay (s)	8.9	0	-	-	50.4	11.7
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	5.1	0.6

Intersection

Int Delay, s/veh 9.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	73	238	231	262	214	85
Future Vol, veh/h	73	238	231	262	214	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	80	262	254	288	235	93

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	542	0	-	0	820	398
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	422	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1037	-	-	-	347	656
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	666	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1037	-	-	-	316	656
Mov Cap-2 Maneuver	-	-	-	-	316	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	606	-

Approach EB WB SB

HCM Control Delay, s	2.1	0	34.2
HCM LOS			D

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1 SBLn2

Capacity (veh/h)	1037	-	-	-	316	656
HCM Lane V/C Ratio	0.077	-	-	-	0.744	0.142
HCM Control Delay (s)	8.8	0	-	-	43.3	11.4
HCM Lane LOS	A	A	-	-	E	B
HCM 95th %tile Q(veh)	0.3	-	-	-	5.6	0.5

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	↗
Traffic Vol, veh/h	296	190	47	288	228	44
Future Vol, veh/h	296	190	47	288	228	44
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	318	204	51	310	245	47
Number of Lanes	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	13.7	18.1	15.7
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	100%	0%	0%	0%	14%
Vol Thru, %	0%	0%	100%	0%	86%
Vol Right, %	0%	100%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	44	296	190	335
LT Vol	228	0	0	0	47
Through Vol	0	0	296	0	288
RT Vol	0	44	0	190	0
Lane Flow Rate	245	47	318	204	360
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.494	0.079	0.539	0.305	0.606
Departure Headway (Hd)	7.258	6.036	6.1	5.372	6.06
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	495	592	589	666	594
Service Time	5.01	3.788	3.85	3.122	4.108
HCM Lane V/C Ratio	0.495	0.079	0.54	0.306	0.606
HCM Control Delay	16.9	9.3	15.8	10.5	18.1
HCM Lane LOS	C	A	C	B	C
HCM 95th-tile Q	2.7	0.3	3.2	1.3	4

Intersection	
Intersection Delay, s/veh	14.7
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	↗
Traffic Vol, veh/h	271	179	41	301	193	43
Future Vol, veh/h	271	179	41	301	193	43
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	298	197	45	331	212	47
Number of Lanes	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	12.7	17.8	14.1
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	100%	0%	0%	0%	12%
Vol Thru, %	0%	0%	100%	0%	88%
Vol Right, %	0%	100%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	193	43	271	179	342
LT Vol	193	0	0	0	41
Through Vol	0	0	271	0	301
RT Vol	0	43	0	179	0
Lane Flow Rate	212	47	298	197	376
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.424	0.078	0.493	0.286	0.613
Departure Headway (Hd)	7.198	5.977	5.956	5.228	5.871
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	501	598	605	686	616
Service Time	4.945	3.724	3.697	2.969	3.912
HCM Lane V/C Ratio	0.423	0.079	0.493	0.287	0.61
HCM Control Delay	15.2	9.2	14.4	10.1	17.8
HCM Lane LOS	C	A	B	B	C
HCM 95th-tile Q	2.1	0.3	2.7	1.2	4.2

Intersection	
Intersection Delay, s/veh	33.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗		↕			↖			↗	↗
Traffic Vol, veh/h	360	0	57	0	0	2	39	365	0	0	402	357
Future Vol, veh/h	360	0	57	0	0	2	39	365	0	0	402	357
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	1	0	0	0	0	0	0	0	0	0	0	1
Mvmt Flow	371	0	59	0	0	2	40	376	0	0	414	368
Number of Lanes	1	0	1	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	37.1	12	39.4	28.8
HCM LOS	E	B	E	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	10%	100%	0%	0%	0%	0%
Vol Thru, %	90%	0%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	404	360	57	2	402	357
LT Vol	39	360	0	0	0	0
Through Vol	365	0	0	0	402	0
RT Vol	0	0	57	2	0	357
Lane Flow Rate	416	371	59	2	414	368
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.849	0.842	0.113	0.005	0.826	0.662
Departure Headway (Hd)	7.335	8.167	6.915	8.851	7.178	6.477
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	496	445	521	403	506	556
Service Time	5.372	5.867	4.615	6.93	4.924	4.223
HCM Lane V/C Ratio	0.839	0.834	0.113	0.005	0.818	0.662
HCM Control Delay	39.4	41.3	10.5	12	35.7	21.1
HCM Lane LOS	E	E	B	B	E	C
HCM 95th-tile Q	8.7	8.2	0.4	0	8.1	4.9

Intersection	
Intersection Delay, s/veh	38
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗		↕			↖			↗	↗
Traffic Vol, veh/h	391	0	33	0	0	0	45	365	0	0	355	396
Future Vol, veh/h	391	0	33	0	0	0	45	365	0	0	355	396
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	1	0	0	0	0	0	0	0	0	0	0	1
Mvmt Flow	403	0	34	0	0	0	46	376	0	0	366	408
Number of Lanes	1	0	1	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	49.8	0	44.1	28
HCM LOS	E	-	E	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	11%	100%	0%	0%	0%	0%
Vol Thru, %	89%	0%	0%	100%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	410	391	33	0	355	396
LT Vol	45	391	0	0	0	0
Through Vol	365	0	0	0	355	0
RT Vol	0	0	33	0	0	396
Lane Flow Rate	423	403	34	0	366	408
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.878	0.916	0.066	0	0.748	0.754
Departure Headway (Hd)	7.477	8.184	6.933	9.683	7.353	6.65
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	486	447	520	0	490	543
Service Time	5.519	5.884	4.633	7.776	5.106	4.403
HCM Lane V/C Ratio	0.87	0.902	0.065	0	0.747	0.751
HCM Control Delay	44.1	53.1	10.1	12.8	29	27.1
HCM Lane LOS	E	F	B	N	D	D
HCM 95th-tile Q	9.4	10.2	0.2	0	6.3	6.6

Intersection	
Intersection Delay, s/veh	24.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗		↕			↖			↗	↗
Traffic Vol, veh/h	306	0	70	0	0	0	33	326	0	0	405	404
Future Vol, veh/h	306	0	70	0	0	0	33	326	0	0	405	404
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	1	0	0	0	0	0	0	0	0	0	0	1
Mvmt Flow	312	0	71	0	0	0	34	333	0	0	413	412
Number of Lanes	1	0	1	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	23.3	0	25.2	24.2
HCM LOS	C	-	D	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	9%	100%	0%	0%	0%	0%
Vol Thru, %	91%	0%	0%	100%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	359	306	70	0	405	404
LT Vol	33	306	0	0	0	0
Through Vol	326	0	0	0	405	0
RT Vol	0	0	70	0	0	404
Lane Flow Rate	366	312	71	0	413	412
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.707	0.685	0.132	0	0.762	0.68
Departure Headway (Hd)	6.947	7.898	6.652	8.866	6.635	5.937
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	517	456	536	0	541	602
Service Time	5.028	5.671	4.424	6.866	4.426	3.727
HCM Lane V/C Ratio	0.708	0.684	0.132	0	0.763	0.684
HCM Control Delay	25.2	26.3	10.4	11.9	27.8	20.6
HCM Lane LOS	D	D	B	N	D	C
HCM 95th-tile Q	5.6	5.1	0.5	0	6.7	5.2

Intersection	
Intersection Delay, s/veh	40
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗		↕			↖			↗	↗
Traffic Vol, veh/h	395	0	38	0	0	1	29	359	0	0	369	449
Future Vol, veh/h	395	0	38	0	0	1	29	359	0	0	369	449
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	1	0	0	0	0	0	0	0	0	0	0	1
Mvmt Flow	407	0	39	0	0	1	30	370	0	0	380	463
Number of Lanes	1	0	1	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	51.9	12.2	38.7	34.4
HCM LOS	F	B	E	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	7%	100%	0%	0%	0%	0%
Vol Thru, %	93%	0%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	388	395	38	1	369	449
LT Vol	29	395	0	0	0	0
Through Vol	359	0	0	0	369	0
RT Vol	0	0	38	1	0	449
Lane Flow Rate	400	407	39	1	380	463
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.837	0.93	0.076	0.003	0.776	0.854
Departure Headway (Hd)	7.537	8.222	6.97	9.065	7.344	6.642
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	480	444	517	394	491	546
Service Time	5.577	5.922	4.67	7.148	5.094	4.391
HCM Lane V/C Ratio	0.833	0.917	0.075	0.003	0.774	0.848
HCM Control Delay	38.7	55.9	10.2	12.2	31.3	37
HCM Lane LOS	E	F	B	B	D	E
HCM 95th-tile Q	8.3	10.6	0.2	0	6.9	9.1

Intersection	
Intersection Delay, s/veh	38
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗		↕			↖			↗	↗
Traffic Vol, veh/h	391	0	33	0	0	0	45	365	0	0	356	396
Future Vol, veh/h	391	0	33	0	0	0	45	365	0	0	356	396
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	1	0	0	0	0	0	0	0	0	0	0	1
Mvmt Flow	403	0	34	0	0	0	46	376	0	0	367	408
Number of Lanes	1	0	1	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	49.8	0	44.1	28
HCM LOS	E	-	E	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	11%	100%	0%	0%	0%	0%
Vol Thru, %	89%	0%	0%	100%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	410	391	33	0	356	396
LT Vol	45	391	0	0	0	0
Through Vol	365	0	0	0	356	0
RT Vol	0	0	33	0	0	396
Lane Flow Rate	423	403	34	0	367	408
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.878	0.916	0.066	0	0.75	0.754
Departure Headway (Hd)	7.477	8.185	6.934	9.684	7.353	6.65
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	486	447	520	0	492	543
Service Time	5.52	5.885	4.634	7.777	5.106	4.403
HCM Lane V/C Ratio	0.87	0.902	0.065	0	0.746	0.751
HCM Control Delay	44.1	53.1	10.1	12.8	29.1	27.1
HCM Lane LOS	E	F	B	N	D	D
HCM 95th-tile Q	9.4	10.2	0.2	0	6.3	6.6

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	0	11	1	16	7	1	712	0	0	759	4
Future Vol, veh/h	8	0	11	1	16	7	1	712	0	0	759	4
Conflicting Peds, #/hr	0	0	9	9	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	8	0	11	1	16	7	1	734	0	0	782	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1533	1521	402	1136	1523	734	787	0	-	-	-	0
Stage 1	785	785	-	736	736	-	-	-	-	-	-	-
Stage 2	748	736	-	400	787	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	88	120	604	170	119	423	841	-	0	0	-	-
Stage 1	356	407	-	414	428	-	-	-	0	0	-	-
Stage 2	408	428	-	603	406	-	-	-	0	0	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	77	120	599	165	119	423	835	-	-	-	-	-
Mov Cap-2 Maneuver	77	120	-	165	119	-	-	-	-	-	-	-
Stage 1	355	407	-	413	427	-	-	-	-	-	-	-
Stage 2	385	427	-	587	406	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	31.6		33		0		0			
HCM LOS	D		D							

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	835	-	155	153	-	-
HCM Lane V/C Ratio	0.001	-	0.126	0.162	-	-
HCM Control Delay (s)	9.3	0	31.6	33	-	-
HCM Lane LOS	A	A	D	D	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0.6	-	-

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Vol, veh/h	6	0	11	5	5	16	2	621	0	0	810	20
Future Vol, veh/h	6	0	11	5	5	16	2	621	0	0	810	20
Conflicting Peds, #/hr	0	0	174	174	0	0	87	0	0	87	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	6	0	11	5	5	16	2	634	0	0	827	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1564	1562	684	1225	1572	634	934	0	-	-	-	0
Stage 1	924	924	-	638	638	-	-	-	-	-	-	-
Stage 2	640	638	-	587	934	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	84	113	396	147	111	483	741	-	0	0	-	-
Stage 1	294	351	-	468	474	-	-	-	0	0	-	-
Stage 2	467	474	-	468	347	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	72	104	314	121	102	483	634	-	-	-	-	-
Mov Cap-2 Maneuver	72	104	-	121	102	-	-	-	-	-	-	-
Stage 1	271	326	-	466	472	-	-	-	-	-	-	-
Stage 2	444	472	-	386	322	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB		
HCM Control Delay, s	33.4		23.5		0		0		
HCM LOS	D		C						

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	634	-	144	111	483	-	-
HCM Lane V/C Ratio	0.003	-	0.12	0.092	0.034	-	-
HCM Control Delay (s)	10.7	0	33.4	40.7	12.7	-	-
HCM Lane LOS	B	A	D	E	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0.3	0.1	-	-

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	0	11	9	11	1	0	755	0	0	798	8
Future Vol, veh/h	8	0	11	9	11	1	0	755	0	0	798	8
Conflicting Peds, #/hr	0	0	18	18	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	8	0	11	9	11	1	0	778	0	0	823	8

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1612	1605	433	1207	1609	778	831	0	-	-	-	0
Stage 1	827	827	-	778	778	-	-	-	-	-	-	-
Stage 2	785	778	-	429	831	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	78	106	576	151	106	400	810	-	0	0	-	-
Stage 1	336	389	-	392	410	-	-	-	0	0	-	-
Stage 2	389	410	-	580	387	-	-	-	0	0	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	71	106	567	146	106	400	798	-	-	-	-	-
Mov Cap-2 Maneuver	71	106	-	146	106	-	-	-	-	-	-	-
Stage 1	336	389	-	392	410	-	-	-	-	-	-	-
Stage 2	377	410	-	560	387	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	33.9		39.7		0		0	
HCM LOS	D		E					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	798	-	144	125	-	-
HCM Lane V/C Ratio	-	-	0.136	0.173	-	-
HCM Control Delay (s)	0	-	33.9	39.7	-	-
HCM Lane LOS	A	-	D	E	-	-
HCM 95th %tile Q(veh)	0	-	0.5	0.6	-	-

Intersection

Int Delay, s/veh 0.3

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗	↘		↑	
Traffic Vol, veh/h	0	541	6	0	227	0
Future Vol, veh/h	0	541	6	0	227	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	0	558	6	0	234	0

Major/Minor Major1 Minor1 Major2

Conflicting Flow All	-	-	234	-	-	0
Stage 1	-	-	0	-	-	-
Stage 2	-	-	234	-	-	-
Critical Hdwy	-	-	6.4	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	5.4	-	-	-
Follow-up Hdwy	-	-	3.5	-	-	-
Pot Cap-1 Maneuver	0	0	759	0	-	0
Stage 1	0	0	-	0	-	0
Stage 2	0	0	810	0	-	0
Platoon blocked, %						-
Mov Cap-1 Maneuver	-	-	759	0	-	-
Mov Cap-2 Maneuver	-	-	759	0	-	-
Stage 1	-	-	-	0	-	-
Stage 2	-	-	810	0	-	-

Approach EB NB SB

HCM Control Delay, s	0	9.8	0
HCM LOS		A	

Minor Lane/Major Mvmt NBLn1 SBT

Capacity (veh/h)	759	-
HCM Lane V/C Ratio	0.008	-
HCM Control Delay (s)	9.8	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	0	-

Intersection

Int Delay, s/veh 0.4

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗	↘		↑	
Traffic Vol, veh/h	0	546	10	0	269	0
Future Vol, veh/h	0	546	10	0	269	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	0	557	10	0	274	0

Major/Minor Major1 Minor1 Major2

Conflicting Flow All	-	-	274	-	-	0
Stage 1	-	-	0	-	-	-
Stage 2	-	-	274	-	-	-
Critical Hdwy	-	-	6.4	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	5.4	-	-	-
Follow-up Hdwy	-	-	3.5	-	-	-
Pot Cap-1 Maneuver	0	0	720	0	-	0
Stage 1	0	0	-	0	-	0
Stage 2	0	0	777	0	-	0
Platoon blocked, %						-
Mov Cap-1 Maneuver	-	-	720	0	-	-
Mov Cap-2 Maneuver	-	-	720	0	-	-
Stage 1	-	-	-	0	-	-
Stage 2	-	-	777	0	-	-

Approach EB NB SB

HCM Control Delay, s	0	10.1	0
HCM LOS		B	

Minor Lane/Major Mvmt NBLn1 SBT

Capacity (veh/h)	720	-
HCM Lane V/C Ratio	0.014	-
HCM Control Delay (s)	10.1	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘		↑	
Traffic Vol, veh/h	0	595	8	0	211	0
Future Vol, veh/h	0	595	8	0	211	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	0	613	8	0	218	0

Major/Minor	Major1	Minor1	Major2	Minor2	Major3	Minor3
Conflicting Flow All	-	-	218	-	-	0
Stage 1	-	-	0	-	-	-
Stage 2	-	-	218	-	-	-
Critical Hdwy	-	-	6.4	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	5.4	-	-	-
Follow-up Hdwy	-	-	3.5	-	-	-
Pot Cap-1 Maneuver	0	0	775	0	-	0
Stage 1	0	0	-	0	-	0
Stage 2	0	0	823	0	-	0
Platoon blocked, %						-
Mov Cap-1 Maneuver	-	-	775	0	-	-
Mov Cap-2 Maneuver	-	-	775	0	-	-
Stage 1	-	-	-	0	-	-
Stage 2	-	-	823	0	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	9.7	0
HCM LOS		A	

Minor Lane/Major Mvmt	NBLn1	SBT
Capacity (veh/h)	775	-
HCM Lane V/C Ratio	0.011	-
HCM Control Delay (s)	9.7	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	0	-

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Beach Street and Pacific Avenue			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Beach Street			
Date Performed	4/18/2017				N/S Street Name	Pacific Avenue			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Existing Weekday PM Peak Hour				Peak Hour Factor	0.96			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	L		LTR						LT		T				LT	
Volume (V), veh/h	0	477	221	46					0	21	47	35	0	71	124	183
Percent Heavy Vehicles, %	0	1	0	0					0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	0	502	230	48					0	22	49	36	0	74	129	193
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1								2				1			
Pedestrians Crossing, p/h	10								10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436					4.6453	4.3276	4.9763		4.9763	4.9763
Follow-Up Headway (s)	2.5352	2.5352					2.6667	2.5352	2.6087		2.6087	2.6087

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h	390	390					0	71	36		203	193
Entry Volume veh/h	388	388					0	71	36		203	191
Circulating Flow (v _c), pc/h	203			573			806			22		
Exiting Flow (v _{ex}), pc/h	304			22			551			177		
Capacity (c _{PCE}), pc/h	1180	1180					643	716	1012		1349	1349
Capacity (c), veh/h	1162	1162					642	714	1010		1348	1334
v/c Ratio (x)	0.33	0.33					0.00	0.10	0.04		0.15	0.14

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	6.3	6.3					5.6	6.1	3.9		3.9	3.9
Lane LOS	A	A					A	A	A		A	A
95% Queue, veh	1.5	1.5					0.0	0.3	0.1		0.5	0.5
Approach Delay, s/veh	6.3						5.3			3.9		
Approach LOS	A						A			A		
Intersection Delay, s/veh LOS	5.5						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Beach Street and Pacific Avenue			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Beach Street			
Date Performed	4/15/2017				N/S Street Name	Pacific Avenue			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Existing Saturday MD Peak Hour				Peak Hour Factor	0.96			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	L		LTR						LT		T				LT	
Volume (V), veh/h	0	423	190	69					0	32	74	52	0	221	153	223
Percent Heavy Vehicles, %	0	1	0	0					0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	0	445	198	72					0	33	77	54	0	230	159	235
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1								2				1			
Pedestrians Crossing, p/h	20								20				20			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436					4.6453	4.3276	4.9763		4.9763	4.9763
Follow-Up Headway (s)	2.5352	2.5352					2.6667	2.5352	2.6087		2.6087	2.6087

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h	358	358					0	110	54		389	235
Entry Volume veh/h	355	355					0	110	54		389	233
Circulating Flow (v _c), pc/h	389			555			873			33		
Exiting Flow (v _{ex}), pc/h	428			33			522			231		
Capacity (c _{PCE}), pc/h	997	997					605	676	892		1334	1334
Capacity (c), veh/h	975	975					604	675	890		1331	1317
v/c Ratio (x)	0.36	0.36					0.00	0.16	0.06		0.29	0.18

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	7.6	7.6					6.0	7.2	4.6		5.3	4.2
Lane LOS	A	A					A	A	A		A	A
95% Queue, veh	1.7	1.7					0.0	0.6	0.2		1.2	0.6
Approach Delay, s/veh	7.6						6.3			4.9		
Approach LOS	A						A			A		
Intersection Delay, s/veh LOS	6.3						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Beach Street and Pacific Avenue			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Beach Street			
Date Performed	4/18/2017				N/S Street Name	Pacific Avenue			
Analysis Year	August 2017				Analysis Time Period (hrs)	0.25			
Time Period	Existing Weekday PM Peak Hour				Peak Hour Factor	0.92			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics																
Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	L		LTR						LT		T				LT	
Volume (V), veh/h	0	350	209	59					0	32	65	57	21	192	144	200
Percent Heavy Vehicles, %	0	1	0	0					0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	0	384	227	64					0	35	71	62	23	209	157	220
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1								2				1			
Pedestrians Crossing, p/h	50								50				50			

Critical and Follow-Up Headway Adjustment													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Critical Headway (s)	4.5436	4.5436					4.6453	4.3276	4.9763		4.9763	4.9763	
Follow-Up Headway (s)	2.5352	2.5352					2.6667	2.5352	2.6087		2.6087	2.6087	

Flow Computations, Capacity and v/c Ratios													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Entry Flow (v _e), pc/h	338	338					0	106	62		389	220	
Entry Volume veh/h	336	336					0	106	62		389	218	
Circulating Flow (v _c), pc/h	389			513			843			35			
Exiting Flow (v _{ex}), pc/h	436			35			478			221			
Capacity (c _{PCE}), pc/h	997	997					622	694	885		1332	1332	
Capacity (c), veh/h	953	953					617	689	878		1322	1309	
v/c Ratio (x)	0.35	0.35					0.00	0.15	0.07		0.29	0.17	

Delay and Level of Service													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Lane Control Delay (d), s/veh	7.6	7.6					5.8	6.9	4.8		5.3	4.1	
Lane LOS	A	A					A	A	A		A	A	
95% Queue, veh	1.6	1.6					0.0	0.5	0.2		1.2	0.6	
Approach Delay, s/veh	7.6						6.1			4.9			
Approach LOS	A						A			A			
Intersection Delay, s/veh LOS	6.3						A						

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Pacific Avenue and Center Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Pacific Ave. - W. Cliff Dr.			
Date Performed	4/18/2017				N/S Street Name	Pacific Avenue - Center St.			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Existing Weekday PM Peak Hour				Peak Hour Factor	0.93			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment									LTR				LTR			
Volume (V), veh/h					0	516	7	50	0	18	133	455	0	34	252	2
Percent Heavy Vehicles, %					0	1	0	0	0	0	1	1	0	0	1	0
Flow Rate (v _{PCE}), pc/h					0	560	8	54	0	19	144	494	0	37	274	2
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB					
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass			
Critical Headway (s)								4.9763			4.9763	4.9763		4.9763	
Follow-Up Headway (s)								2.6087			2.6087	2.6087		2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h												
Entry Volume veh/h												
Circulating Flow (v _c), pc/h	871			163			37			587		
Exiting Flow (v _{ex}), pc/h	37			29			198			834		
Capacity (c _{PCE}), pc/h												
Capacity (c), veh/h												
v/c Ratio (x)												

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh												
Lane LOS												
95% Queue, veh												
Approach Delay, s/veh				9.3			5.6			10.2		
Approach LOS				A			A			B		
Intersection Delay, s/veh LOS	7.9						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Pacific Avenue and Center Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Pacific Ave. - W. Cliff Dr.			
Date Performed	4/15/2017				N/S Street Name	Pacific Avenue - Center St.			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Existing Saturday MD Peak Hour				Peak Hour Factor	0.93			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment							LTR				LT				LTR	
Volume (V), veh/h					0	582	12	45	0	52	215	475	0	36	328	2
Percent Heavy Vehicles, %					0	1	0	0	0	0	0	1	0	0	0	0
Flow Rate (v _{PCE}), pc/h					0	632	13	48	0	56	231	516	0	39	353	2
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					20				20				20			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)					4.9763			4.9763	4.9763		4.9763	
Follow-Up Headway (s)					2.6087			2.6087	2.6087		2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					693			287	516		394	
Entry Volume veh/h					687			287	511		394	
Circulating Flow (v _c), pc/h	1024			287			39			701		
Exiting Flow (v _{ex}), pc/h	39			71			279			985		
Capacity (c _{PCE}), pc/h					1030			1326	1326		675	
Capacity (c), veh/h					1018			1323	1309		673	
v/c Ratio (x)					0.67			0.22	0.39		0.59	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					13.9			4.6	6.4		15.5	
Lane LOS					B			A	A		C	
95% Queue, veh					5.5			0.8	1.9		3.8	
Approach Delay, s/veh				13.9			5.8			15.5		
Approach LOS				B			A			C		
Intersection Delay, s/veh LOS	10.8						B					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Pacific Avenue and Center Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Pacific Ave. - W. Cliff Dr.			
Date Performed	4/18/2017				N/S Street Name	Pacific Avenue - Center St.			
Analysis Year	August 2017				Analysis Time Period (hrs)	0.25			
Time Period	Existing Weekday PM Peak Hour				Peak Hour Factor	0.93			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0
Lane Assignment									LTR				LT				
Volume (V), veh/h					0	537	9	38	0	43	132	425	0	26	290	4	
Percent Heavy Vehicles, %					0	1	0	0	0	0	0	1	0	0	0	0	
Flow Rate (v _{pce}), pc/h					0	583	10	41	0	46	142	462	0	28	312	4	
Right-Turn Bypass	None				None				Yielding				None				
Conflicting Lanes					1				1				1				
Pedestrians Crossing, p/h					30				30				30				

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)					4.9763			4.9763	4.9763		4.9763	
Follow-Up Headway (s)					2.6087			2.6087	2.6087		2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					634			188	462		344	
Entry Volume veh/h					628			188	457		344	
Circulating Flow (v _c), pc/h	923			188			28			639		
Exiting Flow (v _{ex}), pc/h	28			60			183			895		
Capacity (c _{pce}), pc/h					1139			1341	1341		719	
Capacity (c), veh/h					1124			1336	1322		716	
v/c Ratio (x)					0.56			0.14	0.35		0.48	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					10.0			3.8	5.9		12.0	
Lane LOS					A			A	A		B	
95% Queue, veh					3.6			0.5	1.6		2.6	
Approach Delay, s/veh				10.0			5.3			12.0		
Approach LOS				A			A			B		
Intersection Delay, s/veh LOS	8.5						A					

HCM 2010 Signalized Intersection Summary
1: Mission St & Bay St

Ex. + Proj. (Weekday) - Variant #1
01/17/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	178	106	67	153	71	88	932	69	165	989	160
Future Volume (veh/h)	261	178	106	67	153	71	88	932	69	165	989	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1881	1864	1900	1881	1865	1900
Adj Flow Rate, veh/h	266	182	108	68	156	72	90	951	70	168	1009	163
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	2	1	2	2
Cap, veh/h	348	215	128	268	183	84	136	1245	92	201	1219	197
Arrive On Green	0.19	0.19	0.19	0.15	0.15	0.15	0.08	0.37	0.37	0.11	0.40	0.40
Sat Flow, veh/h	1792	1108	657	1792	1219	563	1792	3345	246	1792	3057	493
Grp Volume(v), veh/h	266	0	290	68	0	228	90	503	518	168	584	588
Grp Sat Flow(s),veh/h/ln	1792	0	1765	1792	0	1782	1792	1771	1821	1792	1772	1778
Q Serve(g_s), s	13.9	0.0	15.7	3.3	0.0	12.4	4.8	24.7	24.7	9.1	29.3	29.4
Cycle Q Clear(g_c), s	13.9	0.0	15.7	3.3	0.0	12.4	4.8	24.7	24.7	9.1	29.3	29.4
Prop In Lane	1.00		0.37	1.00		0.32	1.00		0.14	1.00		0.28
Lane Grp Cap(c), veh/h	348	0	343	268	0	267	136	659	678	201	707	709
V/C Ratio(X)	0.76	0.00	0.85	0.25	0.00	0.85	0.66	0.76	0.76	0.83	0.83	0.83
Avail Cap(c_a), veh/h	452	0	445	325	0	323	163	804	826	271	911	915
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	0.0	38.5	37.3	0.0	41.1	44.6	27.3	27.3	43.1	26.7	26.8
Incr Delay (d2), s/veh	5.7	0.0	11.3	0.5	0.0	16.9	7.5	3.5	3.4	15.1	5.0	5.1
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	7.4	0.0	8.7	1.7	0.0	7.3	2.7	12.7	13.0	5.4	15.3	15.4
LnGrp Delay(d),s/veh	43.5	0.0	49.8	37.7	0.0	58.0	52.1	30.8	30.7	58.2	31.7	31.8
LnGrp LOS	D		D	D		E	D	C	C	E	C	C
Approach Vol, veh/h		556			296			1111			1340	
Approach Delay, s/veh		46.8			53.4			32.5			35.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.1	41.9		23.3	12.5	44.6		18.9				
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0				
Max Green Setting (Gmax), s	15.0	45.0		25.0	9.0	* 51		18.0				
Max Q Clear Time (g_c+I1), s	11.1	26.7		17.7	6.8	31.4		14.4				
Green Ext Time (p_c), s	0.1	6.6		1.5	1.3	8.1		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				37.8								
HCM 2010 LOS				D								
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 2010 Signalized Intersection Summary
1: Mission St & Bay St

Ex. + Proj. (Weekday) - Variant #2
01/17/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	178	106	67	153	71	88	932	69	165	989	160
Future Volume (veh/h)	261	178	106	67	153	71	88	932	69	165	989	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1881	1864	1900	1881	1865	1900
Adj Flow Rate, veh/h	266	182	108	68	156	72	90	951	70	168	1009	163
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	2	1	2	2
Cap, veh/h	348	215	128	268	183	84	136	1245	92	201	1219	197
Arrive On Green	0.19	0.19	0.19	0.15	0.15	0.15	0.08	0.37	0.37	0.11	0.40	0.40
Sat Flow, veh/h	1792	1108	657	1792	1219	563	1792	3345	246	1792	3057	493
Grp Volume(v), veh/h	266	0	290	68	0	228	90	503	518	168	584	588
Grp Sat Flow(s),veh/h/ln	1792	0	1765	1792	0	1782	1792	1771	1821	1792	1772	1778
Q Serve(g_s), s	13.9	0.0	15.7	3.3	0.0	12.4	4.8	24.7	24.7	9.1	29.3	29.4
Cycle Q Clear(g_c), s	13.9	0.0	15.7	3.3	0.0	12.4	4.8	24.7	24.7	9.1	29.3	29.4
Prop In Lane	1.00		0.37	1.00		0.32	1.00		0.14	1.00		0.28
Lane Grp Cap(c), veh/h	348	0	343	268	0	267	136	659	678	201	707	709
V/C Ratio(X)	0.76	0.00	0.85	0.25	0.00	0.85	0.66	0.76	0.76	0.83	0.83	0.83
Avail Cap(c_a), veh/h	452	0	445	325	0	323	163	804	826	271	911	915
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	0.0	38.5	37.3	0.0	41.1	44.6	27.3	27.3	43.1	26.7	26.8
Incr Delay (d2), s/veh	5.7	0.0	11.3	0.5	0.0	16.9	7.5	3.5	3.4	15.1	5.0	5.1
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	7.4	0.0	8.7	1.7	0.0	7.3	2.7	12.7	13.0	5.4	15.3	15.4
LnGrp Delay(d),s/veh	43.5	0.0	49.8	37.7	0.0	58.0	52.1	30.8	30.7	58.2	31.7	31.8
LnGrp LOS	D		D	D		E	D	C	C	E	C	C
Approach Vol, veh/h		556			296			1111			1340	
Approach Delay, s/veh		46.8			53.4			32.5			35.1	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.1	41.9		23.3	12.5	44.6		18.9				
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0				
Max Green Setting (Gmax), s	15.0	45.0		25.0	9.0	* 51		18.0				
Max Q Clear Time (g_c+I1), s	11.1	26.7		17.7	6.8	31.4		14.4				
Green Ext Time (p_c), s	0.1	6.6		1.5	1.3	8.1		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				37.8								
HCM 2010 LOS				D								
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 2010 Signalized Intersection Summary
1: Mission St & Bay St

Ex. + Proj. (Sat.) - Variant #1
01/17/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	124	108	98	88	95	82	990	72	114	1097	97
Future Volume (veh/h)	189	124	108	98	88	95	82	990	72	114	1097	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1881	1864	1900	1881	1864	1900
Adj Flow Rate, veh/h	195	128	111	101	91	98	85	1021	74	118	1131	100
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	2	1	2	2
Cap, veh/h	303	158	137	238	110	119	138	1445	105	149	1405	124
Arrive On Green	0.17	0.17	0.17	0.13	0.13	0.13	0.08	0.43	0.43	0.08	0.43	0.43
Sat Flow, veh/h	1792	931	808	1792	830	894	1792	3349	243	1792	3293	291
Grp Volume(v), veh/h	195	0	239	101	0	189	85	540	555	118	608	623
Grp Sat Flow(s),veh/h/ln	1792	0	1739	1792	0	1723	1792	1771	1821	1792	1771	1813
Q Serve(g_s), s	9.4	0.0	12.2	4.8	0.0	9.9	4.3	23.1	23.1	6.0	27.7	27.8
Cycle Q Clear(g_c), s	9.4	0.0	12.2	4.8	0.0	9.9	4.3	23.1	23.1	6.0	27.7	27.8
Prop In Lane	1.00		0.46	1.00		0.52	1.00		0.13	1.00		0.16
Lane Grp Cap(c), veh/h	303	0	294	238	0	229	138	764	786	149	756	773
V/C Ratio(X)	0.64	0.00	0.81	0.43	0.00	0.83	0.62	0.71	0.71	0.79	0.80	0.81
Avail Cap(c_a), veh/h	465	0	451	291	0	280	174	996	1024	232	1053	1078
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	0.0	37.0	36.9	0.0	39.1	41.4	21.5	21.5	41.6	23.1	23.2
Incr Delay (d2), s/veh	2.3	0.0	6.5	1.2	0.0	15.4	4.4	1.6	1.5	9.6	3.2	3.2
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	4.9	0.0	6.4	2.5	0.0	5.7	2.3	11.6	11.9	3.3	14.2	14.5
LnGrp Delay(d),s/veh	38.1	0.0	43.5	38.1	0.0	54.5	45.8	23.1	23.1	51.2	26.3	26.3
LnGrp LOS	D		D	D		D	D	C	C	D	C	C
Approach Vol, veh/h		434			290			1180			1349	
Approach Delay, s/veh		41.1			48.8			24.7			28.5	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	44.9		19.6	12.1	44.5		16.3				
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0				
Max Green Setting (Gmax), s	12.0	52.0		24.0	9.0	* 55		15.0				
Max Q Clear Time (g_c+I1), s	8.0	25.1		14.2	6.3	29.8		11.9				
Green Ext Time (p_c), s	0.1	8.3		1.4	1.8	9.7		0.4				

Intersection Summary

HCM 2010 Ctrl Delay	30.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
1: Mission St & Bay St

Ex. + Proj. (Sat.) - Variant #2
01/17/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	124	108	98	88	95	82	990	72	114	1097	97
Future Volume (veh/h)	189	124	108	98	88	95	82	990	72	114	1097	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1881	1864	1900	1881	1864	1900
Adj Flow Rate, veh/h	195	128	111	101	91	98	85	1021	74	118	1131	100
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	2	1	2	2
Cap, veh/h	303	158	137	238	110	119	138	1445	105	149	1405	124
Arrive On Green	0.17	0.17	0.17	0.13	0.13	0.13	0.08	0.43	0.43	0.08	0.43	0.43
Sat Flow, veh/h	1792	931	808	1792	830	894	1792	3349	243	1792	3293	291
Grp Volume(v), veh/h	195	0	239	101	0	189	85	540	555	118	608	623
Grp Sat Flow(s),veh/h/ln	1792	0	1739	1792	0	1723	1792	1771	1821	1792	1771	1813
Q Serve(g_s), s	9.4	0.0	12.2	4.8	0.0	9.9	4.3	23.1	23.1	6.0	27.7	27.8
Cycle Q Clear(g_c), s	9.4	0.0	12.2	4.8	0.0	9.9	4.3	23.1	23.1	6.0	27.7	27.8
Prop In Lane	1.00		0.46	1.00		0.52	1.00		0.13	1.00		0.16
Lane Grp Cap(c), veh/h	303	0	294	238	0	229	138	764	786	149	756	773
V/C Ratio(X)	0.64	0.00	0.81	0.43	0.00	0.83	0.62	0.71	0.71	0.79	0.80	0.81
Avail Cap(c_a), veh/h	465	0	451	291	0	280	174	996	1024	232	1053	1078
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	0.0	37.0	36.9	0.0	39.1	41.4	21.5	21.5	41.6	23.1	23.2
Incr Delay (d2), s/veh	2.3	0.0	6.5	1.2	0.0	15.4	4.4	1.6	1.5	9.6	3.2	3.2
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	4.9	0.0	6.4	2.5	0.0	5.7	2.3	11.6	11.9	3.3	14.2	14.5
LnGrp Delay(d),s/veh	38.1	0.0	43.5	38.1	0.0	54.5	45.8	23.1	23.1	51.2	26.3	26.3
LnGrp LOS	D		D	D		D	D	C	C	D	C	C
Approach Vol, veh/h		434			290			1180			1349	
Approach Delay, s/veh		41.1			48.8			24.7			28.5	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	44.9		19.6	12.1	44.5		16.3				
Change Period (Y+Rc), s	4.0	5.0		4.0	5.0	* 5		4.0				
Max Green Setting (Gmax), s	12.0	52.0		24.0	9.0	* 55		15.0				
Max Q Clear Time (g_c+I1), s	8.0	25.1		14.2	6.3	29.8		11.9				
Green Ext Time (p_c), s	0.1	8.3		1.4	1.8	9.7		0.4				

Intersection Summary

HCM 2010 Ctrl Delay	30.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Int Delay, s/veh 11

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	88	330	258	270	181	93
Future Vol, veh/h	88	330	258	270	181	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	97	363	284	297	199	102

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	581	0	0
Stage 1	-	-	433
Stage 2	-	-	557
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1003	-	276
Stage 1	-	-	658
Stage 2	-	-	578
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1003	-	243
Mov Cap-2 Maneuver	-	-	243
Stage 1	-	-	578
Stage 2	-	-	578

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	45.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1003	-	-	-	243	627
HCM Lane V/C Ratio	0.096	-	-	-	0.819	0.163
HCM Control Delay (s)	9	0	-	-	63.4	11.9
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	6.3	0.6

Intersection

Int Delay, s/veh 10.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	88	330	258	270	177	93
Future Vol, veh/h	88	330	258	270	177	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	97	363	284	297	195	102

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	581	0	-	0	990
Stage 1	-	-	-	-	433
Stage 2	-	-	-	-	557
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1003	-	-	-	276
Stage 1	-	-	-	-	658
Stage 2	-	-	-	-	578
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1003	-	-	-	243
Mov Cap-2 Maneuver	-	-	-	-	243
Stage 1	-	-	-	-	578
Stage 2	-	-	-	-	578

Approach

	EB	WB	SB
HCM Control Delay, s	1.9	0	43.9
HCM LOS			E

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1003	-	-	-	243	627
HCM Lane V/C Ratio	0.096	-	-	-	0.8	0.163
HCM Control Delay (s)	9	0	-	-	60.7	11.9
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	6	0.6

Intersection	
Intersection Delay, s/veh	25.9
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	88	330	260	269	182	93
Future Vol, veh/h	88	330	260	269	182	93
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	97	363	286	296	200	102
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	24.1	33.3	14.2
HCM LOS	C	D	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	21%	0%	100%	0%
Vol Thru, %	79%	49%	0%	0%
Vol Right, %	0%	51%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	418	529	182	93
LT Vol	88	0	182	0
Through Vol	330	260	0	0
RT Vol	0	269	0	93
Lane Flow Rate	459	581	200	102
Geometry Grp	2	2	7	7
Degree of Util (X)	0.744	0.866	0.425	0.182
Departure Headway (Hd)	5.83	5.366	7.648	6.42
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	616	669	468	555
Service Time	3.904	3.436	5.431	4.201
HCM Lane V/C Ratio	0.745	0.868	0.427	0.184
HCM Control Delay	24.1	33.3	16	10.6
HCM Lane LOS	C	D	C	B
HCM 95th-tile Q	6.5	10.1	2.1	0.7

Intersection	
Intersection Delay, s/veh	26.3
Intersection LOS	D

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	↙
Traffic Vol, veh/h	0	88	331	0	261	269	0	178	93
Future Vol, veh/h	0	88	331	0	261	269	0	178	93
Peak Hour Factor	0.92	0.91	0.91	0.92	0.91	0.91	0.92	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	97	364	0	287	296	0	196	102
Number of Lanes	0	0	1	0	1	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	24.5	33.9	14.2
HCM LOS	C	D	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	21%	0%	100%	0%
Vol Thru, %	79%	49%	0%	0%
Vol Right, %	0%	51%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	419	530	178	93
LT Vol	88	0	178	0
Through Vol	331	261	0	0
RT Vol	0	269	0	93
Lane Flow Rate	460	582	196	102
Geometry Grp	2	2	7	7
Degree of Util (X)	0.749	0.87	0.418	0.184
Departure Headway (Hd)	5.856	5.378	7.695	6.466
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	612	670	466	551
Service Time	3.932	3.449	5.479	4.249
HCM Lane V/C Ratio	0.752	0.869	0.421	0.185
HCM Control Delay	24.5	33.9	16	10.7
HCM Lane LOS	C	D	C	B
HCM 95th-tile Q	6.6	10.3	2	0.7

Intersection

Int Delay, s/veh 14.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	73	249	239	269	241	85
Future Vol, veh/h	73	249	239	269	241	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	80	274	263	296	265	93

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	559	0	0	845	411
Stage 1	-	-	-	411	-
Stage 2	-	-	-	434	-
Critical Hdwy	4.1	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	3.5	3.3
Pot Cap-1 Maneuver	1022	-	-	336	645
Stage 1	-	-	-	674	-
Stage 2	-	-	-	658	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1022	-	-	305	645
Mov Cap-2 Maneuver	-	-	-	305	-
Stage 1	-	-	-	612	-
Stage 2	-	-	-	658	-

Approach

	EB	WB	SB
HCM Control Delay, s	2	0	48.3
HCM LOS			E

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1022	-	-	-	305	645
HCM Lane V/C Ratio	0.078	-	-	-	0.868	0.145
HCM Control Delay (s)	8.8	0	-	-	61.3	11.5
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	7.8	0.5

Intersection						
Int Delay, s/veh	11.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	73	249	239	269	221	85
Future Vol, veh/h	73	249	239	269	221	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	80	274	263	296	243	93

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	559	0	-	0	845 411
Stage 1	-	-	-	-	411 -
Stage 2	-	-	-	-	434 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1022	-	-	-	336 645
Stage 1	-	-	-	-	674 -
Stage 2	-	-	-	-	658 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1022	-	-	-	305 645
Mov Cap-2 Maneuver	-	-	-	-	305 -
Stage 1	-	-	-	-	612 -
Stage 2	-	-	-	-	658 -

Approach	EB	WB	SB
HCM Control Delay, s	2	0	39.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1022	-	-	-	305	645
HCM Lane V/C Ratio	0.078	-	-	-	0.796	0.145
HCM Control Delay (s)	8.8	0	-	-	50.5	11.5
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	6.4	0.5

Intersection	
Intersection Delay, s/veh	22.7
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	73	249	240	268	243	85
Future Vol, veh/h	73	249	240	268	243	85
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	80	274	264	295	267	93
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	17.5	30	16.6
HCM LOS	C	D	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	23%	0%	100%	0%
Vol Thru, %	77%	47%	0%	0%
Vol Right, %	0%	53%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	322	508	243	85
LT Vol	73	0	243	0
Through Vol	249	240	0	0
RT Vol	0	268	0	85
Lane Flow Rate	354	558	267	93
Geometry Grp	2	2	7	7
Degree of Util (X)	0.59	0.836	0.549	0.16
Departure Headway (Hd)	6.005	5.39	7.396	6.17
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	598	670	486	578
Service Time	4.088	3.462	5.172	3.946
HCM Lane V/C Ratio	0.592	0.833	0.549	0.161
HCM Control Delay	17.5	30	18.9	10.1
HCM Lane LOS	C	D	C	B
HCM 95th-tile Q	3.8	9.1	3.3	0.6

Intersection	
Intersection Delay, s/veh	21.9
Intersection LOS	C

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↔		↔			↔	↔
Traffic Vol, veh/h	0	73	249	0	240	268	0	223	85
Future Vol, veh/h	0	73	249	0	240	268	0	223	85
Peak Hour Factor	0.92	0.91	0.91	0.92	0.91	0.91	0.92	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	80	274	0	264	295	0	245	93
Number of Lanes	0	0	1	0	1	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	17.2	28.7	15.6
HCM LOS	C	D	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	23%	0%	100%	0%
Vol Thru, %	77%	47%	0%	0%
Vol Right, %	0%	53%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	322	508	223	85
LT Vol	73	0	223	0
Through Vol	249	240	0	0
RT Vol	0	268	0	85
Lane Flow Rate	354	558	245	93
Geometry Grp	2	2	7	7
Degree of Util (X)	0.585	0.826	0.505	0.161
Departure Headway (Hd)	5.951	5.327	7.412	6.187
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	602	675	485	576
Service Time	4.027	3.394	5.184	3.958
HCM Lane V/C Ratio	0.588	0.827	0.505	0.161
HCM Control Delay	17.2	28.7	17.6	10.2
HCM Lane LOS	C	D	C	B
HCM 95th-tile Q	3.8	8.8	2.8	0.6

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	↗
Traffic Vol, veh/h	323	190	49	301	228	46
Future Vol, veh/h	323	190	49	301	228	46
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	347	204	53	324	245	49
Number of Lanes	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	14.9	19.4	16.1
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	100%	0%	0%	0%	14%
Vol Thru, %	0%	0%	100%	0%	86%
Vol Right, %	0%	100%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	46	323	190	350
LT Vol	228	0	0	0	49
Through Vol	0	0	323	0	301
RT Vol	0	46	0	190	0
Lane Flow Rate	245	49	347	204	376
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.502	0.084	0.593	0.308	0.639
Departure Headway (Hd)	7.366	6.144	6.148	5.419	6.116
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	488	581	587	660	587
Service Time	5.125	3.901	3.906	3.177	4.172
HCM Lane V/C Ratio	0.502	0.084	0.591	0.309	0.641
HCM Control Delay	17.4	9.5	17.5	10.6	19.4
HCM Lane LOS	C	A	C	B	C
HCM 95th-tile Q	2.8	0.3	3.9	1.3	4.5

Intersection	
Intersection Delay, s/veh	16.5
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	↗
Traffic Vol, veh/h	319	190	49	301	228	46
Future Vol, veh/h	319	190	49	301	228	46
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	343	204	53	324	245	49
Number of Lanes	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	14.8	19.4	16
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	100%	0%	0%	0%	14%
Vol Thru, %	0%	0%	100%	0%	86%
Vol Right, %	0%	100%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	46	319	190	350
LT Vol	228	0	0	0	49
Through Vol	0	0	319	0	301
RT Vol	0	46	0	190	0
Lane Flow Rate	245	49	343	204	376
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.501	0.084	0.586	0.308	0.639
Departure Headway (Hd)	7.358	6.135	6.148	5.419	6.111
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	490	582	587	660	591
Service Time	5.116	3.893	3.904	3.175	4.165
HCM Lane V/C Ratio	0.5	0.084	0.584	0.309	0.636
HCM Control Delay	17.3	9.5	17.3	10.6	19.4
HCM Lane LOS	C	A	C	B	C
HCM 95th-tile Q	2.8	0.3	3.8	1.3	4.5

Intersection	
Intersection Delay, s/veh	16
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	↗
Traffic Vol, veh/h	309	179	44	316	193	46
Future Vol, veh/h	309	179	44	316	193	46
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	340	197	48	347	212	51
Number of Lanes	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	14.1	19.6	14.4
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	100%	0%	0%	0%	12%
Vol Thru, %	0%	0%	100%	0%	88%
Vol Right, %	0%	100%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	193	46	309	179	360
LT Vol	193	0	0	0	44
Through Vol	0	0	309	0	316
RT Vol	0	46	0	179	0
Lane Flow Rate	212	51	340	197	396
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.433	0.086	0.567	0.289	0.654
Departure Headway (Hd)	7.345	6.123	6.016	5.288	5.951
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	490	584	598	677	605
Service Time	5.097	3.874	3.766	3.037	3.998
HCM Lane V/C Ratio	0.433	0.087	0.569	0.291	0.655
HCM Control Delay	15.6	9.5	16.4	10.2	19.6
HCM Lane LOS	C	A	C	B	C
HCM 95th-tile Q	2.2	0.3	3.5	1.2	4.8

Intersection	
Intersection Delay, s/veh	15.6
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	↗
Traffic Vol, veh/h	289	179	44	316	193	46
Future Vol, veh/h	289	179	44	316	193	46
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	318	197	48	347	212	51
Number of Lanes	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	13.4	19.3	14.3
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1
Vol Left, %	100%	0%	0%	0%	12%
Vol Thru, %	0%	0%	100%	0%	88%
Vol Right, %	0%	100%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	193	46	289	179	360
LT Vol	193	0	0	0	44
Through Vol	0	0	289	0	316
RT Vol	0	46	0	179	0
Lane Flow Rate	212	51	318	197	396
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.43	0.085	0.53	0.288	0.65
Departure Headway (Hd)	7.297	6.075	6.007	5.279	5.919
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	494	589	600	679	609
Service Time	5.046	3.823	3.754	3.025	3.962
HCM Lane V/C Ratio	0.429	0.087	0.53	0.29	0.65
HCM Control Delay	15.5	9.4	15.4	10.2	19.3
HCM Lane LOS	C	A	C	B	C
HCM 95th-tile Q	2.1	0.3	3.1	1.2	4.7

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	
Traffic Vol, veh/h	35	426	397	10	35	20
Future Vol, veh/h	35	426	397	10	35	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	36	439	409	10	36	21

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	419	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1151	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1151	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	16.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1151	-	-	-	364
HCM Lane V/C Ratio	0.031	-	-	-	0.156
HCM Control Delay (s)	8.2	-	-	-	16.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	
Traffic Vol, veh/h	35	422	397	10	35	20
Future Vol, veh/h	35	422	397	10	35	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	36	435	409	10	36	21

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	419	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1151	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1151	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1151	-	-	-	366
HCM Lane V/C Ratio	0.031	-	-	-	0.155
HCM Control Delay (s)	8.2	-	-	-	16.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↔		↘	
Traffic Vol, veh/h	32	394	434	12	33	25
Future Vol, veh/h	32	394	434	12	33	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	33	402	443	12	34	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	455	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1116	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1116	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1116	-	-	-	380
HCM Lane V/C Ratio	0.029	-	-	-	0.156
HCM Control Delay (s)	8.3	-	-	-	16.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	
Traffic Vol, veh/h	32	374	434	12	33	25
Future Vol, veh/h	32	374	434	12	33	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	33	382	443	12	34	26

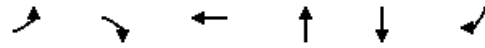
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	455	0	-	0	897 449
Stage 1	-	-	-	-	449 -
Stage 2	-	-	-	-	448 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1116	-	-	-	313 614
Stage 1	-	-	-	-	647 -
Stage 2	-	-	-	-	648 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1116	-	-	-	304 614
Mov Cap-2 Maneuver	-	-	-	-	304 -
Stage 1	-	-	-	-	628 -
Stage 2	-	-	-	-	648 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1116	-	-	-	389
HCM Lane V/C Ratio	0.029	-	-	-	0.152
HCM Control Delay (s)	8.3	-	-	-	15.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Queues
5: W. Cliff Dr & Bay St

Weekday
05/26/2018





















Lane Group	EBL	EBR	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	393	63	2	427	420	369
v/c Ratio	0.95	0.14	0.01	0.40	0.36	0.27
Control Delay	62.5	5.6	0.0	8.5	7.2	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.5	0.1
Total Delay	62.5	5.6	0.0	8.6	7.7	0.7
Queue Length 50th (ft)	154	0	0	67	64	0
Queue Length 95th (ft)	#310	21	0	174	106	2
Internal Link Dist (ft)			34	274	189	
Turn Bay Length (ft)		75				
Base Capacity (vph)	412	840	533	1076	1172	1383
Starvation Cap Reductn	0	0	0	0	378	267
Spillback Cap Reductn	0	0	0	34	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.07	0.00	0.41	0.53	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 2010 Signalized Intersection Summary
5: W. Cliff Dr & Bay St

Weekday
11/19/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	406	0	61	0	0	2	49	365	0	0	405	357
Future Volume (veh/h)	406	0	61	0	0	2	49	365	0	0	405	357
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.81	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
Adj Sat Flow, veh/h/ln	1881	0	1900	1900	1900	1900	1900	1900	0	0	1900	1881
Adj Flow Rate, veh/h	419	0	63	0	0	2	51	376	0	0	418	368
Adj No. of Lanes	1	0	1	0	1	0	0	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	0	0	0	0	0	0	0	0	0	1
Cap, veh/h	441	0	0	0	0	66	122	822	0	0	985	1220
Arrive On Green	0.25	0.00	0.00	0.00	0.00	0.05	0.52	0.52	0.00	0.00	0.52	0.52
Sat Flow, veh/h	1792	419		0	0	1300	116	1584	0	0	1900	1593
Grp Volume(v), veh/h	419	54.5		0	0	2	427	0	0	0	418	368
Grp Sat Flow(s),veh/h/ln	1792	D		0	0	1300	1700	0	0	0	1900	1593
Q Serve(g_s), s	15.0			0.0	0.0	0.1	0.0	0.0	0.0	0.0	8.8	4.6
Cycle Q Clear(g_c), s	15.0			0.0	0.0	0.1	9.1	0.0	0.0	0.0	8.8	4.6
Prop In Lane	1.00			0.00		1.00	0.12		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	441			0	0	66	944	0	0	0	985	1220
V/C Ratio(X)	0.95			0.00	0.00	0.03	0.45	0.00	0.00	0.00	0.42	0.30
Avail Cap(c_a), veh/h	441			0	0	320	944	0	0	0	985	1220
HCM Platoon Ratio	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	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	24.1			0.0	0.0	29.3	9.7	0.0	0.0	0.0	9.7	2.3
Incr Delay (d2), s/veh	30.4			0.0	0.0	0.2	1.6	0.0	0.0	0.0	1.3	0.6
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
%ile BackOfQ(50%),veh/ln	11.1			0.0	0.0	0.0	5.2	0.0	0.0	0.0	4.9	2.2
LnGrp Delay(d),s/veh	54.5			0.0	0.0	29.5	11.3	0.0	0.0	0.0	11.0	3.0
LnGrp LOS	D					C	B				B	A
Approach Vol, veh/h					2			427			786	
Approach Delay, s/veh					29.5			11.3			7.2	
Approach LOS					C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6	7	8				
Phs Duration (G+Y+Rc), s		37.7				37.7	20.0	7.3				
Change Period (Y+Rc), s		4.0				4.0	4.0	4.0				
Max Green Setting (Gmax), s		21.0				21.0	16.0	16.0				
Max Q Clear Time (g_c+I1), s		11.1				10.8	17.0	2.1				
Green Ext Time (p_c), s		4.9				5.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					20.4							
HCM 2010 LOS					C							

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	W. Cliff Drive and Bay Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Bay Street			
Date Performed	8/26/2018 - Supplemental				N/S Street Name	W. Cliff Drive			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Weekday PM Pk Hr Plus Project - VARIANT 3				Peak Hour Factor	0.97			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics																
Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	1
Lane Assignment			LTR				LTR				LTR		LT		R	
Volume (V), veh/h	0	389	0	61	0	0	0	2	0	49	365	0	16	0	405	357
Percent Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	0	405	0	63	0	0	0	2	0	51	376	0	16	0	418	372
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	4				16				24				16			

Critical and Follow-Up Headway Adjustment													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Critical Headway (s)		4.9763			4.9763			4.9763	4.9763	4.5436	4.5436	4.9763	
Follow-Up Headway (s)		2.6087			2.6087			2.6087	2.6087	2.5352	2.5352	2.6087	



















Flow Computations, Capacity and v/c Ratios												
Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		468			2			427	0	434	0	372
Entry Volume veh/h		464			2			427	0	434	0	368
Circulating Flow (v _c), pc/h	434			848			421			51		
Exiting Flow (v _{ex}), pc/h	0			51			799			481		
Capacity (c _{PCE}), pc/h		886			581			898	1380	1356	1356	1310
Capacity (c), veh/h		878			580			895	1375	1332	1332	1274
v/c Ratio (x)		0.53			0.00			0.48	0.00	0.33	0.00	0.29

Delay and Level of Service												
Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		11.2			6.2			10.0	2.6	5.6	2.7	5.4
Lane LOS		B			A			B	A	A	A	A
95% Queue, veh		3.2			0.0			2.6	0.0	1.4	0.0	1.2
Approach Delay, s/veh	11.2			6.2			10.0			5.5		
Approach LOS	B			A			B			A		
Intersection Delay, s/veh LOS	8.2						A					

Intersection					
Intersection Delay, s/veh	11.7				
Intersection LOS	B				
Approach	EB	WB	NB	SB	
Entry Lanes	1	1	1	2	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	464	2	427	803	
Demand Flow Rate, veh/h	468	2	427	807	
Vehicles Circulating, veh/h	435	849	422	51	
Vehicles Exiting, veh/h	423	0	481	800	
Follow-Up Headway, s	3.186	3.186	3.186	3.186	
Ped Vol Crossing Leg, #/h	4	0	24	16	
Ped Cap Adj	0.999	1.000	0.997	0.982	
Approach Delay, s/veh	16.6	7.5	14.2	7.5	
Approach LOS	C	A	B	A	
Lane	Left	Left	Left	Left	Right
Designated Moves	LTR	LTR	LTR	LT	R
Assumed Moves	LTR	LTR	LTR	LT	R
RT Channelized					
Lane Util	1.000	1.000	1.000	0.539	0.461
Critical Headway, s	5.193	5.193	5.193	5.193	5.193
Entry Flow, veh/h	468	2	427	435	372
Cap Entry Lane, veh/h	731	483	741	1074	1074
Entry HV Adj Factor	0.991	1.000	1.000	0.999	0.989
Flow Entry, veh/h	464	2	427	435	368
Cap Entry, veh/h	725	483	739	1054	1044
V/C Ratio	0.640	0.004	0.578	0.412	0.353
Control Delay, s/veh	16.6	7.5	14.2	7.9	7.1
LOS	C	A	B	A	A
95th %tile Queue, veh	5	0	4	2	2

HCM 2010 Signalized Intersection Summary
5: W. Cliff Dr & Bay St

Ex. + Proj. (Weekday) - Variant #1
01/17/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	404	0	57	0	0	2	48	365	0	0	410	357
Future Volume (veh/h)	404	0	57	0	0	2	48	365	0	0	410	357
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.81	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
Adj Sat Flow, veh/h/ln	1881	0	1900	1900	1900	1900	1900	1900	0	0	1900	1881
Adj Flow Rate, veh/h	416	0	59	0	0	2	49	376	0	0	423	368
Adj No. of Lanes	1	0	1	0	1	0	0	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	0	0	0	0	0	0	0	0	0	1
Cap, veh/h	471	0	0	0	0	66	118	801	0	0	953	1220
Arrive On Green	0.26	0.00	0.00	0.00	0.00	0.05	0.50	0.50	0.00	0.00	0.50	0.50
Sat Flow, veh/h	1792	416		0	0	1300	111	1596	0	0	1900	1593
Grp Volume(v), veh/h	416	35.9		0	0	2	425	0	0	0	423	368
Grp Sat Flow(s),veh/h/ln	1792	D		0	0	1300	1707	0	0	0	1900	1593
Q Serve(g_s), s	14.5			0.0	0.0	0.1	0.0	0.0	0.0	0.0	9.3	4.6
Cycle Q Clear(g_c), s	14.5			0.0	0.0	0.1	9.3	0.0	0.0	0.0	9.3	4.6
Prop In Lane	1.00			0.00		1.00	0.12		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	471			0	0	66	918	0	0	0	953	1220
V/C Ratio(X)	0.88			0.00	0.00	0.03	0.46	0.00	0.00	0.00	0.44	0.30
Avail Cap(c_a), veh/h	579			0	0	320	918	0	0	0	953	1220
HCM Platoon Ratio	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	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.0			0.0	0.0	29.3	10.4	0.0	0.0	0.0	10.4	2.3
Incr Delay (d2), s/veh	12.9			0.0	0.0	0.2	1.7	0.0	0.0	0.0	1.5	0.6
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
%ile BackOfQ(50%),veh/ln	8.9			0.0	0.0	0.0	5.3	0.0	0.0	0.0	5.2	2.2
LnGrp Delay(d),s/veh	35.9			0.0	0.0	29.5	12.1	0.0	0.0	0.0	11.9	3.0
LnGrp LOS	D					C	B				B	A
Approach Vol, veh/h					2			425			791	
Approach Delay, s/veh					29.5			12.1			7.7	
Approach LOS					C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6	7	8				
Phs Duration (G+Y+Rc), s		36.6				36.6	21.1	7.3				
Change Period (Y+Rc), s		4.0				4.0	4.0	4.0				
Max Green Setting (Gmax), s		16.0				16.0	21.0	16.0				
Max Q Clear Time (g_c+I1), s		11.3				11.3	16.5	2.1				
Green Ext Time (p_c), s		2.8				2.8	0.6	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					16.1							
HCM 2010 LOS					B							

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	W. Cliff Drive and Bay Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Bay Street			
Date Performed	1/17/2019 - Variant #2				N/S Street Name	W. Cliff Drive			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Weekday PM Pk Hr Plus Project				Peak Hour Factor	0.97			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	1
Lane Assignment			LTR				LTR				LTR		LT		R	
Volume (V), veh/h	0	400	0	57	0	0	0	2	0	48	365	0	4	0	410	357
Percent Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	0	416	0	59	0	0	0	2	0	49	376	0	4	0	423	372
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	4				16				24				16			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.9763			4.9763	4.9763	4.5436	4.5436	4.9763
Follow-Up Headway (s)		2.6087			2.6087			2.6087	2.6087	2.5352	2.5352	2.6087

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		475			2			425	0	427	0	372
Entry Volume veh/h		471			2			425	0	427	0	368
Circulating Flow (v _c), pc/h	427			845			420			49		
Exiting Flow (v _{ex}), pc/h	0			49			798			482		
Capacity (c _{PCE}), pc/h		893			583			899	1380	1358	1358	1313
Capacity (c), veh/h		885			582			896	1375	1334	1334	1277
v/c Ratio (x)		0.53			0.00			0.47	0.00	0.32	0.00	0.29

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		11.3			6.2			10.0	2.6	5.6	2.7	5.4
Lane LOS		B			A			A	A	A	A	A
95% Queue, veh		3.2			0.0			2.6	0.0	1.4	0.0	1.2
Approach Delay, s/veh	11.3			6.2			10.0			5.5		
Approach LOS	B			A			A			A		
Intersection Delay, s/veh LOS	8.2						A					

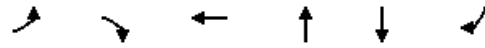
HCM 2010 Signalized Intersection Summary
5: W. Cliff Dr & Bay St

Weekday
05/26/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	381	0	61	0	0	2	50	364	0	0	407	358
Future Volume (veh/h)	381	0	61	0	0	2	50	364	0	0	407	358
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.75	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
Adj Sat Flow, veh/h/ln	1881	0	1900	1900	1900	1900	1900	1900	0	0	1900	1881
Adj Flow Rate, veh/h	393	0	63	0	0	2	52	375	0	0	420	369
Adj No. of Lanes	1	0	1	0	1	0	0	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	0	0	0	0	0	0	0	0	0	1
Cap, veh/h	374	0	0	0	0	59	82	594	0	0	397	665
Arrive On Green	0.21	0.00	0.00	0.00	0.00	0.05	0.36	0.36	0.00	0.00	0.21	0.21
Sat Flow, veh/h	1792	393		0	0	1214	230	1659	0	0	1900	1584
Grp Volume(v), veh/h	393	96.4		0	0	2	427	0	0	0	420	369
Grp Sat Flow(s),veh/h/ln	1792	F		0	0	1214	1889	0	0	0	1900	1584
Q Serve(g_s), s	19.0			0.0	0.0	0.1	17.1	0.0	0.0	0.0	19.0	16.1
Cycle Q Clear(g_c), s	19.0			0.0	0.0	0.1	17.1	0.0	0.0	0.0	19.0	16.1
Prop In Lane	1.00			0.00		1.00	0.12		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	374			0	0	59	676	0	0	0	397	665
V/C Ratio(X)	1.05			0.00	0.00	0.03	0.63	0.00	0.00	0.00	1.06	0.56
Avail Cap(c_a), veh/h	374			0	0	214	676	0	0	0	397	665
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00			0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.98	0.98
Uniform Delay (d), s/veh	36.0			0.0	0.0	41.3	24.2	0.0	0.0	0.0	36.0	20.1
Incr Delay (d2), s/veh	60.4			0.0	0.0	0.2	4.4	0.0	0.0	0.0	61.0	3.2
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
%ile BackOfQ(50%),veh/ln	15.6			0.0	0.0	0.1	9.7	0.0	0.0	0.0	16.6	7.6
LnGrp Delay(d),s/veh	96.4			0.0	0.0	41.5	28.7	0.0	0.0	0.0	97.0	23.4
LnGrp LOS	F					D	C				F	C
Approach Vol, veh/h					2			427			789	
Approach Delay, s/veh					41.5			28.7			62.6	
Approach LOS					D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6	7	8				
Phs Duration (G+Y+Rc), s		36.6				23.0	23.0	8.4				
Change Period (Y+Rc), s		4.0				4.0	4.0	4.0				
Max Green Setting (Gmax), s		21.0				19.0	19.0	16.0				
Max Q Clear Time (g_c+I1), s		19.1				21.0	21.0	2.1				
Green Ext Time (p_c), s		0.5				0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					61.8							
HCM 2010 LOS					E							

Queues
5: W. Cliff Dr & Bay St

Weekday
05/26/2018





















Lane Group	EBL	EBR	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	393	63	2	427	420	369
v/c Ratio	1.05	0.16	0.00	0.53	1.06	0.42
Control Delay	98.3	7.8	0.0	23.0	98.9	3.3
Queue Delay	0.0	0.0	0.0	0.0	17.0	0.1
Total Delay	98.3	7.8	0.0	23.0	115.9	3.4
Queue Length 50th (ft)	~250	0	0	169	~268	0
Queue Length 95th (ft)	#425	28	0	309	#448	47
Internal Link Dist (ft)			34	274	189	
Turn Bay Length (ft)		75				
Base Capacity (vph)	373	668	620	811	396	872
Starvation Cap Reductn	0	0	0	0	89	75
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.09	0.00	0.53	1.37	0.46

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

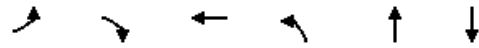
HCM 2010 Signalized Intersection Summary
5: W. Cliff Dr & Bay St

Weekday
05/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	381	0	61	0	0	2	50	364	0	0	407	358
Future Volume (veh/h)	381	0	61	0	0	2	50	364	0	0	407	358
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.75	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
Adj Sat Flow, veh/h/ln	1881	0	1900	1900	1900	1900	1900	1900	0	0	1891	1900
Adj Flow Rate, veh/h	393	0	63	0	0	2	52	375	0	0	420	369
Adj No. of Lanes	1	0	1	0	1	0	1	1	0	0	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	398	0	0	0	0	59	263	1132	0	0	553	486
Arrive On Green	0.22	0.00	0.00	0.00	0.00	0.05	0.60	0.60	0.00	0.00	0.60	0.60
Sat Flow, veh/h	1792	393	0	0	0	1215	698	1900	0	0	928	816
Grp Volume(v), veh/h	393	76.4	0	0	0	2	52	375	0	0	0	789
Grp Sat Flow(s),veh/h/ln	1792	E	0	0	0	1215	698	1900	0	0	0	1744
Q Serve(g_s), s	19.7			0.0	0.0	0.1	5.3	8.9	0.0	0.0	0.0	30.0
Cycle Q Clear(g_c), s	19.7			0.0	0.0	0.1	35.4	8.9	0.0	0.0	0.0	30.0
Prop In Lane	1.00			0.00		1.00	1.00		0.00	0.00		0.47
Lane Grp Cap(c), veh/h	398			0	0	59	263	1132	0	0	0	1039
V/C Ratio(X)	0.99			0.00	0.00	0.03	0.20	0.33	0.00	0.00	0.00	0.76
Avail Cap(c_a), veh/h	398			0	0	216	263	1132	0	0	0	1039
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00			0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.98
Uniform Delay (d), s/veh	34.9			0.0	0.0	40.8	26.5	9.2	0.0	0.0	0.0	13.4
Incr Delay (d2), s/veh	41.6			0.0	0.0	0.2	1.7	0.8	0.0	0.0	0.0	5.1
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
%ile BackOfQ(50%),veh/ln	14.3			0.0	0.0	0.1	1.1	4.9	0.0	0.0	0.0	15.7
LnGrp Delay(d),s/veh	76.4			0.0	0.0	41.0	28.1	9.9	0.0	0.0	0.0	18.5
LnGrp LOS	E					D	C	A				B
Approach Vol, veh/h					2			427			789	
Approach Delay, s/veh					41.0			12.2			18.5	
Approach LOS					D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6	7	8				
Phs Duration (G+Y+Rc), s		57.6				57.6	24.0	8.4				
Change Period (Y+Rc), s		4.0				4.0	4.0	4.0				
Max Green Setting (Gmax), s		42.0				42.0	20.0	16.0				
Max Q Clear Time (g_c+I1), s		37.4				32.0	21.7	2.1				
Green Ext Time (p_c), s		3.1				5.8	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			31.0									
HCM 2010 LOS			C									

Queues
5: W. Cliff Dr & Bay St

Weekday
05/26/2018



Lane Group	EBL	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	393	63	2	52	375	789
v/c Ratio	0.99	0.15	0.01	0.18	0.30	0.66
Control Delay	79.8	7.4	0.0	8.7	7.5	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	33.7
Total Delay	79.8	7.4	0.0	8.7	7.5	46.0
Queue Length 50th (ft)	224	0	0	9	72	197
Queue Length 95th (ft)	#407	27	0	34	156	443
Internal Link Dist (ft)			34		274	189
Turn Bay Length (ft)		75				
Base Capacity (vph)	397	691	515	286	1268	1188
Starvation Cap Reductn	0	0	0	0	0	440
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.09	0.00	0.18	0.30	1.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: W. Cliff Dr & Bay St

Saturday
05/26/2018



Lane Group	EBL	EBR	NBT	SBT	SBR
Lane Group Flow (vph)	347	76	378	428	427
v/c Ratio	0.87	0.21	0.33	0.35	0.30
Control Delay	48.3	7.4	6.1	6.1	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	7.4	6.1	6.1	0.6
Queue Length 50th (ft)	132	0	57	65	0
Queue Length 95th (ft)	#264	29	96	107	0
Internal Link Dist (ft)			274	189	
Turn Bay Length (ft)		75			
Base Capacity (vph)	412	779	1142	1240	1425
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.84	0.10	0.33	0.35	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 2010 Signalized Intersection Summary
5: W. Cliff Dr & Bay St

Ex. + Proj. (Sat.) - Variant #1
01/17/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	357	0	70	0	0	0	44	326	0	0	410	402
Future Volume (veh/h)	357	0	70	0	0	0	44	326	0	0	410	402
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.96
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
Adj Sat Flow, veh/h/ln	1881	0	1900	1900	1900	1900	1900	1900	0	0	1900	1881
Adj Flow Rate, veh/h	364	0	71	0	0	0	45	333	0	0	418	410
Adj No. of Lanes	1	0	1	0	1	0	0	1	0	0	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	0	0	0	0	0	0	0	0	0	0	1
Cap, veh/h	411	0	0	0	3	0	143	1001	0	0	1230	1365
Arrive On Green	0.23	0.00	0.00	0.00	0.00	0.00	0.65	0.65	0.00	0.00	0.65	0.65
Sat Flow, veh/h	1792	364		0	-76000	0	125	1547	0	0	1900	1541
Grp Volume(v), veh/h	364	42.4		0	0	0	378	0	0	0	418	410
Grp Sat Flow(s),veh/h/ln	1792	D		0	1900	0	1672	0	0	0	1900	1541
Q Serve(g_s), s	12.8			0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	2.9
Cycle Q Clear(g_c), s	12.8			0.0	0.0	0.0	5.7	0.0	0.0	0.0	6.5	2.9
Prop In Lane	1.00			0.00		0.00	0.12		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	411			0	3	0	1144	0	0	0	1230	1365
V/C Ratio(X)	0.89			0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.34	0.30
Avail Cap(c_a), veh/h	441			0	468	0	1144	0	0	0	1230	1365
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00			0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	24.2			0.0	0.0	0.0	5.0	0.0	0.0	0.0	5.2	0.7
Incr Delay (d2), s/veh	18.2			0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.8	0.6
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
%ile BackOfQ(50%),veh/ln	8.3			0.0	0.0	0.0	3.2	0.0	0.0	0.0	3.6	1.4
LnGrp Delay(d),s/veh	42.4			0.0	0.0	0.0	5.8	0.0	0.0	0.0	5.9	1.2
LnGrp LOS	D						A				A	A
Approach Vol, veh/h					0			378			828	
Approach Delay, s/veh					0.0			5.8			3.6	
Approach LOS								A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6	7	8				
Phs Duration (G+Y+Rc), s		46.1				46.1	18.9	0.0				
Change Period (Y+Rc), s		4.0				4.0	4.0	4.0				
Max Green Setting (Gmax), s		21.0				21.0	16.0	16.0				
Max Q Clear Time (g_c+I1), s		7.7				8.5	14.8	0.0				
Green Ext Time (p_c), s		5.8				5.6	0.2	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					13.1							
HCM 2010 LOS					B							

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	W. Cliff Drive and Bay Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Bay Street			
Date Performed	1/17/2019 - Variant #2				N/S Street Name	W. Cliff Drive			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Sat. MD PM Pk Hr Plus Project				Peak Hour Factor	0.98			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics																
Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	1
Lane Assignment			LTR				LTR				LTR		LT		R	
Volume (V), veh/h	0	337	0	70	0	0	0	0	0	44	326	0	20	0	410	402
Percent Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	0	347	0	71	0	0	0	0	0	45	333	0	20	0	418	414
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	8				35				62				8			

Critical and Follow-Up Headway Adjustment													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Critical Headway (s)		4.9763			4.9763			4.9763	4.9763	4.5436	4.5436	4.9763	
Follow-Up Headway (s)		2.6087			2.6087			2.6087	2.6087	2.5352	2.5352	2.6087	

Flow Computations, Capacity and v/c Ratios												
Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		418			0			378	0	438	0	414
Entry Volume veh/h		415			0			378	0	438	0	410
Circulating Flow (v _c), pc/h	438			745			367			45		
Exiting Flow (v _{ex}), pc/h	0			45			700			489		
Capacity (c _{PCE}), pc/h		883			645			949	1380	1363	1363	1318
Capacity (c), veh/h		875			642			941	1368	1351	1351	1294
v/c Ratio (x)		0.47			0.00			0.40	0.00	0.32	0.00	0.32

Delay and Level of Service												
Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		10.1			5.6			8.4	2.6	5.6	2.7	5.7
Lane LOS		B			A			A	A	A	A	A
95% Queue, veh		2.6			0.0			2.0	0.0	1.4	0.0	1.4
Approach Delay, s/veh	10.1						8.4			5.6		
Approach LOS	B						A			A		
Intersection Delay, s/veh LOS	7.4						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	W. Cliff Drive and Bay Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Bay Street			
Date Performed	8/26/2018 - Supplemental				N/S Street Name	W. Cliff Drive			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Sat. MD PM Pk Hr Plus Project - VARIANT 3				Peak Hour Factor	0.98			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	1
Lane Assignment	LTR				LTR				LTR				LT		R	
Volume (V), veh/h	0	337	0	74	0	0	0	0	0	44	326	0	36	0	410	404
Percent Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	0	347	0	76	0	0	0	0	0	45	333	0	37	0	418	416
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	8				35				62				8			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.9763			4.9763	4.9763	4.5436	4.5436	4.9763
Follow-Up Headway (s)		2.6087			2.6087			2.6087	2.6087	2.5352	2.5352	2.6087

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		423			0			378	0	455	0	416
Entry Volume veh/h		420			0			378	0	455	0	412
Circulating Flow (v _c), pc/h		455			762			384				45
Exiting Flow (v _{ex}), pc/h		0			45			717				494
Capacity (c _{PCE}), pc/h		868			634			933	1380	1363	1363	1318
Capacity (c), veh/h		860			631			925	1368	1351	1351	1294
v/c Ratio (x)		0.49			0.00			0.41	0.00	0.34	0.00	0.32

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		10.6			5.7			8.6	2.6	5.7	2.7	5.7
Lane LOS		B			A			A	A	A	A	A
95% Queue, veh		2.7			0.0			2.0	0.0	1.5	0.0	1.4
Approach Delay, s/veh		10.6						8.6				5.7
Approach LOS		B						A				A
Intersection Delay, s/veh LOS	7.6						A					

Intersection					
Intersection Delay, s/veh	10.7				
Intersection LOS	B				
Approach	EB	WB	NB	SB	
Entry Lanes	1	1	1	2	
Conflicting Circle Lanes	1	1	1	1	
Adj Approach Flow, veh/h	420	0	378	869	
Demand Flow Rate, veh/h	423	0	378	874	
Vehicles Circulating, veh/h	458	765	387	45	
Vehicles Exiting, veh/h	461	0	494	720	
Follow-Up Headway, s	3.186	3.186	3.186	3.186	
Ped Vol Crossing Leg, #/h	8	0	62	35	
Ped Cap Adj	0.999	1.000	0.992	0.961	
Approach Delay, s/veh	15.1	0.0	11.8	8.1	
Approach LOS	C	-	B	A	
Lane	Left	Left	Left	Left	Right
Designated Moves	LTR	LTR	LT	LT	R
Assumed Moves	LTR	LTR	LT	LT	R
RT Channelized					
Lane Util	1.000	1.000	1.000	0.524	0.476
Critical Headway, s	5.193	5.193	5.193	5.193	5.193
Entry Flow, veh/h	423	0	378	458	416
Cap Entry Lane, veh/h	715	526	767	1080	1080
Entry HV Adj Factor	0.993	1.000	1.000	0.998	0.990
Flow Entry, veh/h	420	0	378	457	412
Cap Entry, veh/h	709	526	761	1037	1029
V/C Ratio	0.592	0.000	0.497	0.441	0.401
Control Delay, s/veh	15.1	6.8	11.8	8.4	7.8
LOS	C	A	B	A	A
95th %tile Queue, veh	4	0	3	2	2

HCM 2010 Signalized Intersection Summary
5: W. Cliff Dr & Bay St

Saturday
05/26/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	0	74	0	0	0	46	324	0	0	419	418
Future Volume (veh/h)	340	0	74	0	0	0	46	324	0	0	419	418
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		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
Adj Sat Flow, veh/h/ln	1881	0	1900	1900	1900	1900	1900	1900	0	0	1900	1881
Adj Flow Rate, veh/h	347	0	76	0	0	0	47	331	0	0	428	427
Adj No. of Lanes	1	0	1	0	1	0	0	1	0	0	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	0	0	0	0	0	0	0	0	0	0	1
Cap, veh/h	358	0	0	0	2	0	102	717	0	0	443	687
Arrive On Green	0.20	0.00	0.00	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.23	0.23
Sat Flow, veh/h	1792	347		0	-76000	0	235	1653	0	0	1900	1572
Grp Volume(v), veh/h	347	74.8		0	0	0	378	0	0	0	428	427
Grp Sat Flow(s),veh/h/ln	1792	E		0	1900	0	1888	0	0	0	1900	1572
Q Serve(g_s), s	17.3			0.0	0.0	0.0	12.8	0.0	0.0	0.0	20.1	19.0
Cycle Q Clear(g_c), s	17.3			0.0	0.0	0.0	12.8	0.0	0.0	0.0	20.1	19.0
Prop In Lane	1.00			0.00		0.00	0.12		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	358			0	2	0	818	0	0	0	443	687
V/C Ratio(X)	0.97			0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.97	0.62
Avail Cap(c_a), veh/h	358			0	338	0	818	0	0	0	443	687
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00			0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.7			0.0	0.0	0.0	18.1	0.0	0.0	0.0	34.1	19.8
Incr Delay (d2), s/veh	39.1			0.0	0.0	0.0	1.9	0.0	0.0	0.0	34.9	4.2
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
%ile BackOfQ(50%),veh/ln	12.5			0.0	0.0	0.0	7.0	0.0	0.0	0.0	14.8	9.0
LnGrp Delay(d),s/veh	74.8			0.0	0.0	0.0	19.9	0.0	0.0	0.0	69.1	24.1
LnGrp LOS	E						B				E	C
Approach Vol, veh/h					0			378			855	
Approach Delay, s/veh					0.0			19.9			46.6	
Approach LOS								B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6	7	8				
Phs Duration (G+Y+Rc), s		43.0				25.0	22.0	0.0				
Change Period (Y+Rc), s		4.0				4.0	4.0	4.0				
Max Green Setting (Gmax), s		19.0				21.0	18.0	16.0				
Max Q Clear Time (g_c+I1), s		14.8				22.1	19.3	0.0				
Green Ext Time (p_c), s		0.9				0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					46.4							
HCM 2010 LOS					D							

Queues
5: W. Cliff Dr & Bay St

Saturday
05/26/2018





















Lane Group	EBL	EBR	NBT	SBT	SBR
Lane Group Flow (vph)	347	76	378	428	427
v/c Ratio	0.97	0.24	0.46	0.97	0.46
Control Delay	79.0	9.7	20.4	71.2	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	9.7	20.4	71.2	3.3
Queue Length 50th (ft)	197	0	148	242	0
Queue Length 95th (ft)	#368	36	225	#427	48
Internal Link Dist (ft)			274	189	
Turn Bay Length (ft)		75			
Base Capacity (vph)	357	595	818	443	919
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.97	0.13	0.46	0.97	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 2010 Signalized Intersection Summary
5: W. Cliff Dr & Bay St

Saturday
05/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	0	74	0	0	0	46	324	0	0	419	418
Future Volume (veh/h)	340	0	74	0	0	0	46	324	0	0	419	418
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		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
Adj Sat Flow, veh/h/ln	1881	0	1900	1900	1900	1900	1900	1900	0	0	1891	1900
Adj Flow Rate, veh/h	347	0	76	0	0	0	47	331	0	0	428	427
Adj No. of Lanes	1	0	1	0	1	0	1	1	0	0	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	358	0	0	0	2	0	362	1351	0	0	617	615
Arrive On Green	0.20	0.00	0.00	0.00	0.00	0.00	0.71	0.71	0.00	0.00	0.71	0.71
Sat Flow, veh/h	1792	347		0	-76000	0	656	1900	0	0	867	865
Grp Volume(v), veh/h	347	74.8		0	0	0	47	331	0	0	0	855
Grp Sat Flow(s),veh/h/ln	1792	E		0	1900	0	656	1900	0	0	0	1732
Q Serve(g_s), s	17.3			0.0	0.0	0.0	4.0	5.5	0.0	0.0	0.0	25.3
Cycle Q Clear(g_c), s	17.3			0.0	0.0	0.0	29.3	5.5	0.0	0.0	0.0	25.3
Prop In Lane	1.00			0.00		0.00	1.00		0.00	0.00		0.50
Lane Grp Cap(c), veh/h	358			0	2	0	362	1351	0	0	0	1232
V/C Ratio(X)	0.97			0.00	0.00	0.00	0.13	0.24	0.00	0.00	0.00	0.69
Avail Cap(c_a), veh/h	358			0	338	0	362	1351	0	0	0	1232
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00			0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	35.7			0.0	0.0	0.0	15.8	4.5	0.0	0.0	0.0	7.4
Incr Delay (d2), s/veh	39.1			0.0	0.0	0.0	0.7	0.4	0.0	0.0	0.0	3.2
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
%ile BackOfQ(50%),veh/ln	12.5			0.0	0.0	0.0	0.8	3.0	0.0	0.0	0.0	13.0
LnGrp Delay(d),s/veh	74.8			0.0	0.0	0.0	16.5	5.0	0.0	0.0	0.0	10.7
LnGrp LOS	E						B	A				B
Approach Vol, veh/h					0			378			855	
Approach Delay, s/veh					0.0			6.4			10.7	
Approach LOS								A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6	7	8				
Phs Duration (G+Y+Rc), s		68.0				68.0	22.0	0.0				
Change Period (Y+Rc), s		4.0				4.0	4.0	4.0				
Max Green Setting (Gmax), s		44.0				44.0	18.0	16.0				
Max Q Clear Time (g_c+l1), s		31.3				27.3	19.3	0.0				
Green Ext Time (p_c), s		7.2				8.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					23.7							
HCM 2010 LOS					C							

Queues
5: W. Cliff Dr & Bay St

Saturday
05/26/2018



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	347	76	47	331	855
v/c Ratio	0.97	0.24	0.15	0.25	0.68
Control Delay	79.0	9.7	5.4	5.1	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	9.7	5.4	5.1	10.0
Queue Length 50th (ft)	197	0	7	56	208
Queue Length 95th (ft)	#368	36	19	86	331
Internal Link Dist (ft)				274	189
Turn Bay Length (ft)		75			
Base Capacity (vph)	357	595	324	1351	1250
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.97	0.13	0.15	0.25	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↑			↕↗	
Traffic Vol, veh/h	0	0	8	0	0	28	0	742	0	0	759	63
Future Vol, veh/h	0	0	8	0	0	28	0	742	0	0	759	63
Conflicting Peds, #/hr	0	0	27	27	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	0	0	8	0	0	29	0	765	0	0	782	65

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	451	-	-	765	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-
Pot Cap-1 Maneuver	0	0	561	0	0	406	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	548	-	-	406	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.7		14.5		0		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	548	406	-	-
HCM Lane V/C Ratio	-	0.015	0.071	-	-
HCM Control Delay (s)	-	11.7	14.5	-	-
HCM Lane LOS	-	B	B	-	-
HCM 95th %tile Q(veh)	-	0	0.2	-	-

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↑			↕↗	
Traffic Vol, veh/h	0	0	8	0	0	28	0	742	0	0	763	63
Future Vol, veh/h	0	0	8	0	0	28	0	742	0	0	763	63
Conflicting Peds, #/hr	0	0	27	27	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	0	0	8	0	0	29	0	765	0	0	787	65

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	453	-	-	765	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-
Pot Cap-1 Maneuver	0	0	559	0	0	406	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	546	-	-	406	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.7		14.5		0		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	546	406	-	-
HCM Lane V/C Ratio	-	0.015	0.071	-	-
HCM Control Delay (s)	-	11.7	14.5	-	-
HCM Lane LOS	-	B	B	-	-
HCM 95th %tile Q(veh)	-	0	0.2	-	-

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↑			↕↗	
Traffic Vol, veh/h	0	0	6	0	0	46	0	653	0	0	806	68
Future Vol, veh/h	0	0	6	0	0	46	0	653	0	0	806	68
Conflicting Peds, #/hr	0	0	174	174	0	0	87	0	0	87	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	0	0	6	0	0	47	0	666	0	0	822	69

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	620	-	-	666	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-
Pot Cap-1 Maneuver	0	0	436	0	0	463	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	373	-	-	463	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.8		13.7		0		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	373	463	-	-
HCM Lane V/C Ratio	-	0.016	0.101	-	-
HCM Control Delay (s)	-	14.8	13.7	-	-
HCM Lane LOS	-	B	B	-	-
HCM 95th %tile Q(veh)	-	0.1	0.3	-	-

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↑			↕↗	
Traffic Vol, veh/h	0	0	6	0	0	46	0	653	0	0	826	68
Future Vol, veh/h	0	0	6	0	0	46	0	653	0	0	826	68
Conflicting Peds, #/hr	0	0	174	174	0	0	87	0	0	87	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	0	0	6	0	0	47	0	666	0	0	843	69

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	630	-	-	666	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-
Pot Cap-1 Maneuver	0	0	429	0	0	463	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	367	-	-	463	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15	13.7	0	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	367	463	-	-
HCM Lane V/C Ratio	-	0.017	0.101	-	-
HCM Control Delay (s)	-	15	13.7	-	-
HCM Lane LOS	-	C	B	-	-
HCM 95th %tile Q(veh)	-	0.1	0.3	-	-

Intersection

Int Delay, s/veh 0.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗	↘		↑	
Traffic Vol, veh/h	0	565	6	0	260	0
Future Vol, veh/h	0	565	6	0	260	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	0	582	6	0	268	0

Major/Minor Minor2 Major2

Conflicting Flow All	268	-	-	0
Stage 1	268	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	-	-	-
Pot Cap-1 Maneuver	726	0	-	0
Stage 1	782	0	-	0
Stage 2	-	0	-	0
Platoon blocked, %				-
Mov Cap-1 Maneuver	726	0	-	-
Mov Cap-2 Maneuver	726	0	-	-
Stage 1	782	0	-	-
Stage 2	-	0	-	-

Approach NB SB

HCM Control Delay, s	10	0
HCM LOS	B	

Minor Lane/Major Mvmt NBLn1 SBT

Capacity (veh/h)	726	-
HCM Lane V/C Ratio	0.009	-
HCM Control Delay (s)	10	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘		↑	
Traffic Vol, veh/h	0	569	6	0	260	0
Future Vol, veh/h	0	569	6	0	260	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	0	587	6	0	268	0

Major/Minor	Minor2	Major2		
Conflicting Flow All	268	-	-	0
Stage 1	268	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	-	-	-
Pot Cap-1 Maneuver	726	0	-	0
Stage 1	782	0	-	0
Stage 2	-	0	-	0
Platoon blocked, %				-
Mov Cap-1 Maneuver	726	0	-	-
Mov Cap-2 Maneuver	726	0	-	-
Stage 1	782	0	-	-
Stage 2	-	0	-	-

Approach	NB	SB
HCM Control Delay, s	10	0
HCM LOS	B	

Minor Lane/Major Mvmt	NBLn1	SBT
Capacity (veh/h)	726	-
HCM Lane V/C Ratio	0.009	-
HCM Control Delay (s)	10	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0	-

Intersection

Int Delay, s/veh 0.3

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗	↘		↑	
Traffic Vol, veh/h	0	529	10	0	310	0
Future Vol, veh/h	0	529	10	0	310	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	0	540	10	0	316	0

Major/Minor Minor2 Major2

Conflicting Flow All	316	-	-	0
Stage 1	316	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	-	-	-
Pot Cap-1 Maneuver	681	0	-	0
Stage 1	744	0	-	0
Stage 2	-	0	-	0
Platoon blocked, %				-
Mov Cap-1 Maneuver	681	0	-	-
Mov Cap-2 Maneuver	681	0	-	-
Stage 1	744	0	-	-
Stage 2	-	0	-	-

Approach NB SB

HCM Control Delay, s	10.4	0
HCM LOS	B	

Minor Lane/Major Mvmt NBLn1 SBT

Capacity (veh/h)	681	-
HCM Lane V/C Ratio	0.015	-
HCM Control Delay (s)	10.4	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0	-

Intersection

Int Delay, s/veh 0.3

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗	↘		↑	
Traffic Vol, veh/h	0	569	10	0	310	0
Future Vol, veh/h	0	569	10	0	310	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	0	581	10	0	316	0

Major/Minor Minor2 Major2

Conflicting Flow All	316	-	-	0
Stage 1	316	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	-	-	-
Pot Cap-1 Maneuver	681	0	-	0
Stage 1	744	0	-	0
Stage 2	-	0	-	0
Platoon blocked, %				-
Mov Cap-1 Maneuver	681	0	-	-
Mov Cap-2 Maneuver	681	0	-	-
Stage 1	744	0	-	-
Stage 2	-	0	-	-

Approach NB SB

HCM Control Delay, s	10.4	0
HCM LOS	B	

Minor Lane/Major Mvmt NBLn1 SBT

Capacity (veh/h)	681	-
HCM Lane V/C Ratio	0.015	-
HCM Control Delay (s)	10.4	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0	-

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Beach Street and Pacific Avenue			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Beach Street			
Date Performed	1/17/2019 - Variant #1				N/S Street Name	Pacific Avenue			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Weekday PM Pk Hr Plus Project				Peak Hour Factor	0.96			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	L		LTR						LT		T				LT	
Volume (V), veh/h	21	495	225	46					0	21	47	35	0	71	124	196
Percent Heavy Vehicles, %	0	1	0	0					0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	22	521	234	48					0	22	49	36	0	74	129	206
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1								2				1			
Pedestrians Crossing, p/h	10								10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436					4.6453	4.3276	4.9763		4.9763	4.9763
Follow-Up Headway (s)	2.5352	2.5352					2.6667	2.5352	2.6087		2.6087	2.6087

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h	413	413					0	71	36		203	206
Entry Volume veh/h	410	410					0	71	36		203	204
Circulating Flow (v _c), pc/h	203			614			851			44		
Exiting Flow (v _{ex}), pc/h	308			44			570			177		
Capacity (c _{PCE}), pc/h	1180	1180					617	689	1008		1319	1319
Capacity (c), veh/h	1162	1162					616	688	1007		1318	1305
v/c Ratio (x)	0.35	0.35					0.00	0.10	0.04		0.15	0.16

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	6.5	6.5					5.8	6.3	3.9		4.0	4.1
Lane LOS	A	A					A	A	A		A	A
95% Queue, veh	1.6	1.6					0.0	0.3	0.1		0.5	0.6
Approach Delay, s/veh	6.5						5.5			4.0		
Approach LOS	A						A			A		
Intersection Delay, s/veh LOS	5.7						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Beach Street and Pacific Avenue			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Beach Street			
Date Performed	1/17/2019 - Variant #2				N/S Street Name	Pacific Avenue			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Weekday PM Pk Hr Plus Project				Peak Hour Factor	0.96			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	L		LTR						LT		T				LT	
Volume (V), veh/h	21	495	225	46					0	21	47	35	0	71	124	195
Percent Heavy Vehicles, %	0	1	0	0					0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	22	521	234	48					0	22	49	36	0	74	129	205
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1								2				1			
Pedestrians Crossing, p/h	10								10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436					4.6453	4.3276	4.9763		4.9763	4.9763
Follow-Up Headway (s)	2.5352	2.5352					2.6667	2.5352	2.6087		2.6087	2.6087

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h	413	413					0	71	36		203	205
Entry Volume veh/h	410	410					0	71	36		203	203
Circulating Flow (v _c), pc/h	203			614			851			44		
Exiting Flow (v _{ex}), pc/h	308			44			570			177		
Capacity (c _{PCE}), pc/h	1180	1180					617	689	1008		1319	1319
Capacity (c), veh/h	1162	1162					616	688	1007		1318	1305
v/c Ratio (x)	0.35	0.35					0.00	0.10	0.04		0.15	0.16

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	6.5	6.5					5.8	6.3	3.9		4.0	4.0
Lane LOS	A	A					A	A	A		A	A
95% Queue, veh	1.6	1.6					0.0	0.3	0.1		0.5	0.6
Approach Delay, s/veh	6.5						5.5			4.0		
Approach LOS	A						A			A		
Intersection Delay, s/veh LOS	5.7						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Beach Street and Pacific Avenue			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Beach Street			
Date Performed	1/17/2019 - Variant #1				N/S Street Name	Pacific Avenue			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Saturday MD Pk Hr Plus Project				Peak Hour Factor	0.96			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	L		LTR						LT		T				LT	
Volume (V), veh/h	27	448	194	69					0	32	74	52	0	221	153	237
Percent Heavy Vehicles, %	0	1	0	0					0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	28	471	202	72					0	33	77	54	0	230	159	249
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1								2				1			
Pedestrians Crossing, p/h	20								20				20			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436					4.6453	4.3276	4.9763		4.9763	4.9763
Follow-Up Headway (s)	2.5352	2.5352					2.6667	2.5352	2.6087		2.6087	2.6087

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h	387	387					0	110	54		389	249
Entry Volume veh/h	384	384					0	110	54		389	247
Circulating Flow (v _c), pc/h	389			609			931			61		
Exiting Flow (v _{ex}), pc/h	432			61			548			231		
Capacity (c _{PCE}), pc/h	997	997					573	644	888		1297	1297
Capacity (c), veh/h	975	975					573	644	888		1293	1280
v/c Ratio (x)	0.39	0.39					0.00	0.17	0.06		0.30	0.19

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	8.0	8.0					6.3	7.6	4.6		5.5	4.4
Lane LOS	A	A					A	A	A		A	A
95% Queue, veh	1.9	1.9					0.0	0.6	0.2		1.3	0.7
Approach Delay, s/veh	8.0						6.6			5.1		
Approach LOS	A						A			A		
Intersection Delay, s/veh LOS	6.7						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Beach Street and Pacific Avenue			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Beach Street			
Date Performed	1/17/2018 - Variant #2				N/S Street Name	Pacific Avenue			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Saturday MD Pk Hr Plus Project				Peak Hour Factor	0.96			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	L		LTR						LT		T				LT	
Volume (V), veh/h	27	448	194	69					0	32	74	52	0	221	153	237
Percent Heavy Vehicles, %	0	1	0	0					0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	28	471	202	72					0	33	77	54	0	230	159	249
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1								2				1			
Pedestrians Crossing, p/h	20								20				20			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436					4.6453	4.3276	4.9763		4.9763	4.9763
Follow-Up Headway (s)	2.5352	2.5352					2.6667	2.5352	2.6087		2.6087	2.6087

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h	387	387					0	110	54		389	249
Entry Volume veh/h	384	384					0	110	54		389	247
Circulating Flow (v _c), pc/h	389			609			931			61		
Exiting Flow (v _{ex}), pc/h	432			61			548			231		
Capacity (c _{PCE}), pc/h	997	997					573	644	888		1297	1297
Capacity (c), veh/h	975	975					573	644	888		1293	1280
v/c Ratio (x)	0.39	0.39					0.00	0.17	0.06		0.30	0.19

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	8.0	8.0					6.3	7.6	4.6		5.5	4.4
Lane LOS	A	A					A	A	A		A	A
95% Queue, veh	1.9	1.9					0.0	0.6	0.2		1.3	0.7
Approach Delay, s/veh	8.0						6.6			5.1		
Approach LOS	A						A			A		
Intersection Delay, s/veh LOS	6.7						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Pacific Avenue and Center Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Pacific Ave. - W. Cliff Dr.			
Date Performed	1/17/2019 - Variant #1				N/S Street Name	Pacific Avenue - Center St.			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Weekday PM Pk Hr Plus Project				Peak Hour Factor	0.93			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0
Lane Assignment									LTR				LT				
Volume (V), veh/h					0	532	7	50	0	18	139	465	0	34	260	2	
Percent Heavy Vehicles, %					0	1	0	0	0	0	1	1	0	0	1	0	
Flow Rate (v _{pc}), pc/h					0	578	8	54	0	19	151	505	0	37	282	2	
Right-Turn Bypass	None				None				Yielding				None				
Conflicting Lanes					1				1				1				
Pedestrians Crossing, p/h					10				10				10				

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)					4.9763			4.9763	4.9763		4.9763	
Follow-Up Headway (s)					2.6087			2.6087	2.6087		2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					640			170	505		321	
Entry Volume veh/h					634			169	500		318	
Circulating Flow (v _c), pc/h	897			170			37			605		
Exiting Flow (v _{ex}), pc/h	37			29			205			860		
Capacity (c _{pc}), pc/h					1160			1329	1329		745	
Capacity (c), veh/h					1148			1315	1314		737	
v/c Ratio (x)					0.55			0.13	0.38		0.43	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					9.7			3.8	6.3		10.7	
Lane LOS					A			A	A		B	
95% Queue, veh					3.5			0.4	1.8		2.2	
Approach Delay, s/veh				9.7			5.7			10.7		
Approach LOS				A			A			B		
Intersection Delay, s/veh LOS	8.2						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Pacific Avenue and Center Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Pacific Ave. - W. Cliff Dr.			
Date Performed	1/17/2019 - Variant #2				N/S Street Name	Pacific Avenue - Center St.			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Weekday PM Pk Hr Plus Project				Peak Hour Factor	0.93			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				LTR			
Volume (V), veh/h					0	534	7	50	0	18	139	465	0	34	262	2
Percent Heavy Vehicles, %					0	1	0	0	0	0	1	1	0	0	1	0
Flow Rate (v _{PCE}), pc/h					0	580	8	54	0	19	151	505	0	37	285	2
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)					4.9763			4.9763	4.9763		4.9763	
Follow-Up Headway (s)					2.6087			2.6087	2.6087		2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					642			170	505		324	
Entry Volume veh/h					636			169	500		321	
Circulating Flow (v _c), pc/h	902			170			37			607		
Exiting Flow (v _{ex}), pc/h	37			29			205			865		
Capacity (c _{PCE}), pc/h					1160			1329	1329		743	
Capacity (c), veh/h					1148			1315	1314		736	
v/c Ratio (x)					0.55			0.13	0.38		0.44	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					9.7			3.8	6.3		10.8	
Lane LOS					A			A	A		B	
95% Queue, veh					3.5			0.4	1.8		2.2	
Approach Delay, s/veh				9.7			5.7			10.8		
Approach LOS				A			A			B		
Intersection Delay, s/veh LOS	8.3						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Pacific Avenue and Center Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Pacific Ave. - W. Cliff Dr.			
Date Performed	1/17/2019 - Variant #1				N/S Street Name	Pacific Avenue - Center St.			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Sat. MD Pk Hr Plus Project				Peak Hour Factor	0.93			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				LTR			
Volume (V), veh/h					0	584	12	45	0	52	221	487	0	36	329	2
Percent Heavy Vehicles, %					0	1	0	0	0	0	0	1	0	0	0	0
Flow Rate (v _{PCE}), pc/h					0	634	13	48	0	56	238	529	0	39	354	2
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					20				20				20			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)					4.9763			4.9763	4.9763		4.9763	
Follow-Up Headway (s)					2.6087			2.6087	2.6087		2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					695			294	529		395	
Entry Volume veh/h					689			294	524		395	
Circulating Flow (v _c), pc/h	1027			294			39			703		
Exiting Flow (v _{ex}), pc/h	39			71			286			988		
Capacity (c _{PCE}), pc/h					1022			1326	1326		674	
Capacity (c), veh/h					1010			1323	1309		672	
v/c Ratio (x)					0.68			0.22	0.40		0.59	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					14.2			4.6	6.6		15.7	
Lane LOS					B			A	A		C	
95% Queue, veh					5.6			0.9	2.0		3.9	
Approach Delay, s/veh				14.2			5.9			15.7		
Approach LOS				B			A			C		
Intersection Delay, s/veh LOS	10.9						B					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Pacific Avenue and Center Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Pacific Ave. - W. Cliff Dr.			
Date Performed	1/17/2019 - Variant #2				N/S Street Name	Pacific Avenue - Center St.			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Ex. Sat. MD Pk Hr Plus Project				Peak Hour Factor	0.93			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				LTR			
Volume (V), veh/h					0	589	12	45	0	52	221	487	0	36	335	2
Percent Heavy Vehicles, %					0	1	0	0	0	0	0	1	0	0	0	0
Flow Rate (v _{pc}), pc/h					0	640	13	48	0	56	238	529	0	39	360	2
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					20				20				20			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)					4.9763			4.9763	4.9763		4.9763	
Follow-Up Headway (s)					2.6087			2.6087	2.6087		2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					701			294	529		401	
Entry Volume veh/h					695			294	524		401	
Circulating Flow (v _c), pc/h	1039			294			39			709		
Exiting Flow (v _{ex}), pc/h	39			71			286			1000		
Capacity (c _{pc}), pc/h					1022			1326	1326		670	
Capacity (c), veh/h					1010			1323	1309		668	
v/c Ratio (x)					0.69			0.22	0.40		0.60	

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					14.4			4.6	6.6		16.2	
Lane LOS					B			A	A		C	
95% Queue, veh					5.8			0.9	2.0		4.0	
Approach Delay, s/veh				14.4			5.9			16.2		
Approach LOS				B			A			C		
Intersection Delay, s/veh LOS	11.1						B					

HCM 2010 Signalized Intersection Summary
1: Mission St & Bay St

2030 GP - Variant #1
01/17/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	454	193	0	146	168	0	166	2178	0	222	1692	121
Future Volume (veh/h)	454	193	0	146	168	0	166	2178	0	222	1692	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1863	1881	1881	1863	1881
Adj Flow Rate, veh/h	463	197	0	149	171	0	169	2222	0	227	1727	123
Adj No. of Lanes	2	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	1	1	2	1
Cap, veh/h	514	278	399	133	140	292	182	1963	1006	194	1987	1134
Arrive On Green	0.15	0.15	0.00	0.07	0.07	0.00	0.10	0.55	0.00	0.11	0.56	0.56
Sat Flow, veh/h	3476	1881	1599	1792	1881	1599	1792	3539	1599	1792	3539	1599
Grp Volume(v), veh/h	463	197	0	149	171	0	169	2222	0	227	1727	123
Grp Sat Flow(s),veh/h/ln	1738	1881	1599	1792	1881	1599	1792	1770	1599	1792	1770	1599
Q Serve(g_s), s	19.4	14.7	0.0	11.0	11.0	0.0	13.8	82.0	0.0	16.0	61.8	3.6
Cycle Q Clear(g_c), s	19.4	14.7	0.0	11.0	11.0	0.0	13.8	82.0	0.0	16.0	61.8	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	514	278	399	133	140	292	182	1963	1006	194	1987	1134
V/C Ratio(X)	0.90	0.71	0.00	1.12	1.22	0.00	0.93	1.13	0.00	1.17	0.87	0.11
Avail Cap(c_a), veh/h	564	305	422	133	140	292	182	1963	1006	194	1987	1134
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.9	60.0	0.0	68.4	68.4	0.0	65.9	32.9	0.0	65.9	27.8	6.8
Incr Delay (d2), s/veh	16.7	6.6	0.0	113.1	147.7	0.0	46.9	66.4	0.0	118.2	4.5	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	10.5	8.2	0.0	9.6	11.4	0.0	9.2	57.9	0.0	14.2	31.2	1.6
LnGrp Delay(d),s/veh	78.6	66.6	0.0	181.5	216.1	0.0	112.9	99.4	0.0	184.2	32.2	6.8
LnGrp LOS	E	E		F	F		F	F		F	C	A
Approach Vol, veh/h		660			320			2391			2077	
Approach Delay, s/veh		75.1			200.0			100.3			47.3	
Approach LOS		E			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	87.0	15.0	25.9	19.0	88.0	25.9	15.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0				
Max Green Setting (Gmax), s	16.0	82.0	11.0	24.0	15.0	83.0	24.0	11.0				
Max Q Clear Time (g_c+I1), s	18.0	84.0	13.0	16.7	15.8	63.8	21.4	13.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.0	18.9	0.5	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				82.9								
HCM 2010 LOS				F								











HCM 2010 Signalized Intersection Summary
1: Mission St & Bay St

2030 GP - Variant #2
01/17/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	454	193	0	146	168	0	166	2178	0	222	1692	121
Future Volume (veh/h)	454	193	0	146	168	0	166	2178	0	222	1692	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1863	1881	1881	1863	1881
Adj Flow Rate, veh/h	463	197	0	149	171	0	169	2222	0	227	1727	123
Adj No. of Lanes	2	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	1	2	1	1	2	1
Cap, veh/h	514	278	399	133	140	292	182	1963	1006	194	1987	1134
Arrive On Green	0.15	0.15	0.00	0.07	0.07	0.00	0.10	0.55	0.00	0.11	0.56	0.56
Sat Flow, veh/h	3476	1881	1599	1792	1881	1599	1792	3539	1599	1792	3539	1599
Grp Volume(v), veh/h	463	197	0	149	171	0	169	2222	0	227	1727	123
Grp Sat Flow(s),veh/h/ln	1738	1881	1599	1792	1881	1599	1792	1770	1599	1792	1770	1599
Q Serve(g_s), s	19.4	14.7	0.0	11.0	11.0	0.0	13.8	82.0	0.0	16.0	61.8	3.6
Cycle Q Clear(g_c), s	19.4	14.7	0.0	11.0	11.0	0.0	13.8	82.0	0.0	16.0	61.8	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	514	278	399	133	140	292	182	1963	1006	194	1987	1134
V/C Ratio(X)	0.90	0.71	0.00	1.12	1.22	0.00	0.93	1.13	0.00	1.17	0.87	0.11
Avail Cap(c_a), veh/h	564	305	422	133	140	292	182	1963	1006	194	1987	1134
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.9	60.0	0.0	68.4	68.4	0.0	65.9	32.9	0.0	65.9	27.8	6.8
Incr Delay (d2), s/veh	16.7	6.6	0.0	113.1	147.7	0.0	46.9	66.4	0.0	118.2	4.5	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	10.5	8.2	0.0	9.6	11.4	0.0	9.2	57.9	0.0	14.2	31.2	1.6
LnGrp Delay(d),s/veh	78.6	66.6	0.0	181.5	216.1	0.0	112.9	99.4	0.0	184.2	32.2	6.8
LnGrp LOS	E	E		F	F		F	F		F	C	A
Approach Vol, veh/h		660			320			2391			2077	
Approach Delay, s/veh		75.1			200.0			100.3			47.3	
Approach LOS		E			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	87.0	15.0	25.9	19.0	88.0	25.9	15.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0				
Max Green Setting (Gmax), s	16.0	82.0	11.0	24.0	15.0	83.0	24.0	11.0				
Max Q Clear Time (g_c+I1), s	18.0	84.0	13.0	16.7	15.8	63.8	21.4	13.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.0	18.9	0.5	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				82.9								
HCM 2010 LOS				F								











HCM 2010 Signalized Intersection Summary
 2: Bay St & California St

2030 GP - Variant #1
 01/17/2019

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	92	486	388	358	233	95		
Future Volume (veh/h)	92	486	388	358	233	95		
Number	7	4	8	18	1	16		
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		
Adj Sat Flow, veh/h/ln	1900	1884	1890	1900	1900	1900		
Adj Flow Rate, veh/h	101	534	426	393	256	104		
Adj No. of Lanes	0	1	1	0	1	1		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	1	1	1	1	0	0		
Cap, veh/h	113	563	564	520	523	467		
Arrive On Green	0.62	0.62	0.62	0.62	0.29	0.29		
Sat Flow, veh/h	108	905	906	836	1810	1615		
Grp Volume(v), veh/h	635	0	0	819	256	104		
Grp Sat Flow(s),veh/h/ln	1013	0	0	1743	1810	1615		
Q Serve(g_s), s	25.9	0.0	0.0	30.1	10.5	4.4		
Cycle Q Clear(g_c), s	56.0	0.0	0.0	30.1	10.5	4.4		
Prop In Lane	0.16			0.48	1.00	1.00		
Lane Grp Cap(c), veh/h	676	0	0	1084	523	467		
V/C Ratio(X)	0.94	0.00	0.00	0.76	0.49	0.22		
Avail Cap(c_a), veh/h	676	0	0	1084	523	467		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.20	0.00	0.00	0.54	1.00	1.00		
Uniform Delay (d), s/veh	19.6	0.0	0.0	12.1	26.5	24.3		
Incr Delay (d2), s/veh	6.0	0.0	0.0	1.7	3.3	1.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	16.8	0.0	0.0	14.8	5.7	2.1		
LnGrp Delay(d),s/veh	25.6	0.0	0.0	13.8	29.8	25.4		
LnGrp LOS	C			B	C	C		
Approach Vol, veh/h		635	819		360			
Approach Delay, s/veh		25.6	13.8		28.5			
Approach LOS		C	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				60.0		30.0		60.0
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				56.0		26.0		56.0
Max Q Clear Time (g_c+I1), s				58.0		12.5		32.1
Green Ext Time (p_c), s				0.0		1.0		12.4
Intersection Summary								
HCM 2010 Ctrl Delay			20.8					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary
 2: Bay St & California St

2030 GP - Variant #2
 01/17/2019

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	92	486	388	358	229	95		
Future Volume (veh/h)	92	486	388	358	229	95		
Number	7	4	8	18	1	16		
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		
Adj Sat Flow, veh/h/ln	1900	1884	1890	1900	1900	1900		
Adj Flow Rate, veh/h	101	534	426	393	252	104		
Adj No. of Lanes	0	1	1	0	1	1		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	1	1	1	1	0	0		
Cap, veh/h	113	563	564	520	523	467		
Arrive On Green	0.62	0.62	0.62	0.62	0.29	0.29		
Sat Flow, veh/h	108	905	906	836	1810	1615		
Grp Volume(v), veh/h	635	0	0	819	252	104		
Grp Sat Flow(s),veh/h/ln	1013	0	0	1743	1810	1615		
Q Serve(g_s), s	25.9	0.0	0.0	30.1	10.4	4.4		
Cycle Q Clear(g_c), s	56.0	0.0	0.0	30.1	10.4	4.4		
Prop In Lane	0.16			0.48	1.00	1.00		
Lane Grp Cap(c), veh/h	676	0	0	1084	523	467		
V/C Ratio(X)	0.94	0.00	0.00	0.76	0.48	0.22		
Avail Cap(c_a), veh/h	676	0	0	1084	523	467		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.20	0.00	0.00	0.54	1.00	1.00		
Uniform Delay (d), s/veh	19.6	0.0	0.0	12.1	26.4	24.3		
Incr Delay (d2), s/veh	6.0	0.0	0.0	1.7	3.2	1.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	16.8	0.0	0.0	14.8	5.6	2.1		
LnGrp Delay(d),s/veh	25.6	0.0	0.0	13.8	29.6	25.4		
LnGrp LOS	C			B	C	C		
Approach Vol, veh/h		635	819		356			
Approach Delay, s/veh		25.6	13.8		28.4			
Approach LOS		C	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				60.0		30.0		60.0
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				56.0		26.0		56.0
Max Q Clear Time (g_c+I1), s				58.0		12.4		32.1
Green Ext Time (p_c), s				0.0		0.9		12.4
Intersection Summary								
HCM 2010 Ctrl Delay			20.8					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary
 3: California Ave & Bay St

2030 GP - Variant #1
 01/17/2019

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗		↖	↘	↗		
Traffic Volume (veh/h)	469	252	66	439	306	50		
Future Volume (veh/h)	469	252	66	439	306	50		
Number	4	14	3	8	5	12		
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		
Adj Sat Flow, veh/h/ln	1881	1900	1900	1884	1900	1900		
Adj Flow Rate, veh/h	504	271	71	472	329	54		
Adj No. of Lanes	1	1	0	1	1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	1	0	1	1	0	0		
Cap, veh/h	774	665	108	599	904	807		
Arrive On Green	0.82	0.82	0.41	0.41	0.50	0.50		
Sat Flow, veh/h	1881	1615	152	1455	1810	1615		
Grp Volume(v), veh/h	504	271	543	0	329	54		
Grp Sat Flow(s),veh/h/ln	1881	1615	1607	0	1810	1615		
Q Serve(g_s), s	9.2	4.0	17.2	0.0	10.0	1.6		
Cycle Q Clear(g_c), s	9.2	4.0	26.4	0.0	10.0	1.6		
Prop In Lane		1.00	0.13		1.00	1.00		
Lane Grp Cap(c), veh/h	774	665	707	0	904	807		
V/C Ratio(X)	0.65	0.41	0.77	0.00	0.36	0.07		
Avail Cap(c_a), veh/h	1066	915	946	0	904	807		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	0.42	0.42	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.0	22.9	0.0	13.8	11.7		
Incr Delay (d2), s/veh	0.4	0.2	2.7	0.0	1.1	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.6	1.7	12.3	0.0	5.2	0.7		
LnGrp Delay(d),s/veh	5.9	5.2	25.6	0.0	14.9	11.8		
LnGrp LOS	A	A	C		B	B		
Approach Vol, veh/h	775			543	383			
Approach Delay, s/veh	5.6			25.6	14.5			
Approach LOS	A			C	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		49.0		41.0				41.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		31.0		51.0				51.0
Max Q Clear Time (g_c+I1), s		12.0		11.2				28.4
Green Ext Time (p_c), s		1.1		10.2				8.6
Intersection Summary								
HCM 2010 Ctrl Delay			14.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
3: California Ave & Bay St

2030 GP - Variant #2
01/17/2019

	→	↘	↙	←	↖	↗			
Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	↑	↗		↖	↘	↗			
Traffic Volume (veh/h)	465	252	66	439	306	50			
Future Volume (veh/h)	465	252	66	439	306	50			
Number	4	14	3	8	5	12			
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			
Adj Sat Flow, veh/h/ln	1881	1900	1900	1884	1900	1900			
Adj Flow Rate, veh/h	500	271	71	472	329	54			
Adj No. of Lanes	1	1	0	1	1	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	1	0	1	1	0	0			
Cap, veh/h	773	663	108	599	906	808			
Arrive On Green	0.82	0.82	0.41	0.41	0.50	0.50			
Sat Flow, veh/h	1881	1615	152	1458	1810	1615			
Grp Volume(v), veh/h	500	271	543	0	329	54			
Grp Sat Flow(s),veh/h/ln	1881	1615	1610	0	1810	1615			
Q Serve(g_s), s	9.1	4.1	17.2	0.0	10.0	1.6			
Cycle Q Clear(g_c), s	9.1	4.1	26.3	0.0	10.0	1.6			
Prop In Lane		1.00	0.13		1.00	1.00			
Lane Grp Cap(c), veh/h	773	663	706	0	906	808			
V/C Ratio(X)	0.65	0.41	0.77	0.00	0.36	0.07			
Avail Cap(c_a), veh/h	1066	915	947	0	906	808			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.42	0.42	1.00	0.00	1.00	1.00			
Uniform Delay (d), s/veh	5.6	5.1	22.9	0.0	13.7	11.6			
Incr Delay (d2), s/veh	0.4	0.2	2.7	0.0	1.1	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.5	1.7	12.3	0.0	5.2	0.7			
LnGrp Delay(d),s/veh	5.9	5.3	25.6	0.0	14.9	11.8			
LnGrp LOS	A	A	C		B	B			
Approach Vol, veh/h	771			543	383				
Approach Delay, s/veh	5.7			25.6	14.4				
Approach LOS	A			C	B				
Timer	1	2	3	4	5	6	7	8	
Assigned Phs		2		4				8	
Phs Duration (G+Y+Rc), s		49.0		41.0				41.0	
Change Period (Y+Rc), s		4.0		4.0				4.0	
Max Green Setting (Gmax), s		31.0		51.0				51.0	
Max Q Clear Time (g_c+I1), s		12.0		11.1				28.3	
Green Ext Time (p_c), s		1.1		10.2				8.6	
Intersection Summary									
HCM 2010 Ctrl Delay			14.0						
HCM 2010 LOS			B						

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	
Traffic Vol, veh/h	35	481	475	10	35	20
Future Vol, veh/h	35	481	475	10	35	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	36	496	490	10	36	21

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	500	0	-	0	1063 495
Stage 1	-	-	-	-	495 -
Stage 2	-	-	-	-	568 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1075	-	-	-	249 579
Stage 1	-	-	-	-	617 -
Stage 2	-	-	-	-	571 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1075	-	-	-	241 579
Mov Cap-2 Maneuver	-	-	-	-	241 -
Stage 1	-	-	-	-	597 -
Stage 2	-	-	-	-	571 -

Approach

	EB	WB	SB
HCM Control Delay, s	0.6	0	19.4
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1075	-	-	-	306
HCM Lane V/C Ratio	0.034	-	-	-	0.185
HCM Control Delay (s)	8.5	-	-	-	19.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	
Traffic Vol, veh/h	35	477	475	10	35	20
Future Vol, veh/h	35	477	475	10	35	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	36	492	490	10	36	21

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	500	0	-	0	1059 495
Stage 1	-	-	-	-	495 -
Stage 2	-	-	-	-	564 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1075	-	-	-	251 579
Stage 1	-	-	-	-	617 -
Stage 2	-	-	-	-	573 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1075	-	-	-	243 579
Mov Cap-2 Maneuver	-	-	-	-	243 -
Stage 1	-	-	-	-	597 -
Stage 2	-	-	-	-	573 -

Approach

	EB	WB	SB
HCM Control Delay, s	0.6	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1075	-	-	-	308
HCM Lane V/C Ratio	0.034	-	-	-	0.184
HCM Control Delay (s)	8.5	-	-	-	19.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

HCM 2010 Signalized Intersection Summary
5: W. Cliff Dr & Bay St

2030 GP - Variant #1
01/17/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	446	0	70	0	0	2	63	383	0	0	434	422
Future Volume (veh/h)	446	0	70	0	0	2	63	383	0	0	434	422
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.80	1.00		1.00	1.00		0.97
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
Adj Sat Flow, veh/h/ln	1881	0	1900	1900	1900	1900	1900	1900	0	0	1900	1881
Adj Flow Rate, veh/h	460	0	72	0	0	2	65	395	0	0	447	435
Adj No. of Lanes	1	0	1	0	1	0	0	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	0	0	0	0	0	0	0	0	0	1
Cap, veh/h	506	0	0	0	0	49	131	769	0	0	1037	1297
Arrive On Green	0.28	0.00	0.00	0.00	0.00	0.04	0.55	0.55	0.00	0.00	0.55	0.55
Sat Flow, veh/h	1792	460		0	0	1288	156	1408	0	0	1900	1549
Grp Volume(v), veh/h	460	44.4		0	0	2	460	0	0	0	447	435
Grp Sat Flow(s),veh/h/ln	1792	D		0	0	1288	1564	0	0	0	1900	1549
Q Serve(g_s), s	22.3			0.0	0.0	0.1	2.0	0.0	0.0	0.0	12.6	6.0
Cycle Q Clear(g_c), s	22.3			0.0	0.0	0.1	14.6	0.0	0.0	0.0	12.6	6.0
Prop In Lane	1.00			0.00		1.00	0.14		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	506			0	0	49	900	0	0	0	1037	1297
V/C Ratio(X)	0.91			0.00	0.00	0.04	0.51	0.00	0.00	0.00	0.43	0.34
Avail Cap(c_a), veh/h	677			0	0	258	900	0	0	0	1037	1297
HCM Platoon Ratio	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	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.2			0.0	0.0	41.7	12.3	0.0	0.0	0.0	12.1	1.8
Incr Delay (d2), s/veh	13.3			0.0	0.0	0.3	2.1	0.0	0.0	0.0	1.3	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
%ile BackOfQ(50%),veh/ln	12.9			0.0	0.0	0.1	7.5	0.0	0.0	0.0	7.0	2.7
LnGrp Delay(d),s/veh	44.4			0.0	0.0	42.0	14.4	0.0	0.0	0.0	13.4	2.5
LnGrp LOS	D					D	B				B	A
Approach Vol, veh/h					2			460			882	
Approach Delay, s/veh					42.0			14.4			8.1	
Approach LOS					D			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6	7	8				
Phs Duration (G+Y+Rc), s		53.1				53.1	29.4	7.4				
Change Period (Y+Rc), s		4.0				4.0	4.0	4.0				
Max Green Setting (Gmax), s		26.0				26.0	34.0	18.0				
Max Q Clear Time (g_c+I1), s		16.6				14.6	24.3	2.1				
Green Ext Time (p_c), s		5.3				6.0	1.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					19.0							
HCM 2010 LOS					B							

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	W. Cliff Drive and Bay Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Bay Street			
Date Performed	1/17/2019 - Variant #2				N/S Street Name	W. Cliff Drive			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	GP 2030 Weekday PM Pk Hr				Peak Hour Factor	0.97			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	1
Lane Assignment	LTR				LTR				LTR				LT		R	
Volume (V), veh/h	0	442	0	70	0	0	0	2	0	63	383	0	4	0	434	422
Percent Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	0	460	0	72	0	0	0	2	0	65	395	0	4	0	447	439
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	4				16				24				16			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.9763			4.9763	4.9763	4.5436	4.5436	4.9763
Follow-Up Headway (s)		2.6087			2.6087			2.6087	2.6087	2.5352	2.5352	2.6087

Flow Computations, Capacity and v/c Ratios

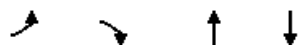
Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h		532			2			460	0	451	0	439
Entry Volume veh/h		527			2			460	0	451	0	435
Circulating Flow (v _c), pc/h		451			924			464				65
Exiting Flow (v _{ex}), pc/h		0			65			861				519
Capacity (c _{PCE}), pc/h		871			538			860	1380	1338	1338	1291
Capacity (c), veh/h		863			538			857	1375	1315	1315	1256
v/c Ratio (x)		0.61			0.00			0.54	0.00	0.34	0.00	0.35

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		13.5			6.7			11.6	2.6	5.9	2.7	6.1
Lane LOS		B			A			B	A	A	A	A
95% Queue, veh		4.3			0.0			3.3	0.0	1.5	0.0	1.6
Approach Delay, s/veh		13.5			6.7			11.6				6.0
Approach LOS		B			A			B				A
Intersection Delay, s/veh LOS	9.5						A					

Queues
5: W. Cliff Dr & Bay St

Weekday
05/27/2018



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	438	63	459	447
v/c Ratio	0.78	0.12	0.48	0.42
Control Delay	30.1	6.2	11.8	9.2
Queue Delay	1.0	0.0	0.0	0.6
Total Delay	31.0	6.2	11.8	9.7
Queue Length 50th (ft)	153	3	101	94
Queue Length 95th (ft)	227	23	198	179
Internal Link Dist (ft)			274	189
Turn Bay Length (ft)		75		
Base Capacity (vph)	687	613	954	1068
Starvation Cap Reductn	0	0	0	288
Spillback Cap Reductn	84	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.73	0.10	0.48	0.57

Intersection Summary

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↑			↕↗	
Traffic Vol, veh/h	0	0	8	0	0	28	0	802	0	0	848	63
Future Vol, veh/h	0	0	8	0	0	28	0	802	0	0	848	63
Conflicting Peds, #/hr	0	0	90	90	0	0	0	0	0	0	0	40
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	0	0	8	0	0	29	0	827	0	0	874	65

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	600	-	-	827	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-
Pot Cap-1 Maneuver	0	0	449	0	0	375	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	401	-	-	375	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.2		15.4		0		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	401	375	-	-
HCM Lane V/C Ratio	-	0.021	0.077	-	-
HCM Control Delay (s)	-	14.2	15.4	-	-
HCM Lane LOS	-	B	C	-	-
HCM 95th %tile Q(veh)	-	0.1	0.2	-	-

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↑			↕↗	
Traffic Vol, veh/h	0	0	8	0	0	28	0	802	0	0	852	63
Future Vol, veh/h	0	0	8	0	0	28	0	802	0	0	852	63
Conflicting Peds, #/hr	0	0	90	90	0	0	0	0	0	0	0	40
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	0	0	8	0	0	29	0	827	0	0	878	65

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	602	-	-	827	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	-	-
Pot Cap-1 Maneuver	0	0	448	0	0	375	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	401	-	-	375	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.2		15.4		0		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	401	375	-	-
HCM Lane V/C Ratio	-	0.021	0.077	-	-
HCM Control Delay (s)	-	14.2	15.4	-	-
HCM Lane LOS	-	B	C	-	-
HCM 95th %tile Q(veh)	-	0.1	0.2	-	-

Intersection

Int Delay, s/veh 0.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗	↘		↑	
Traffic Vol, veh/h	0	611	6	0	305	0
Future Vol, veh/h	0	611	6	0	305	0
Conflicting Peds, #/hr	0	0	0	0	0	53
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	0	630	6	0	314	0

Major/Minor Minor2 Major2

Conflicting Flow All	314	-	-	0
Stage 1	314	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	-	-	-
Pot Cap-1 Maneuver	683	0	-	0
Stage 1	745	0	-	0
Stage 2	-	0	-	0
Platoon blocked, %				-
Mov Cap-1 Maneuver	683	0	-	-
Mov Cap-2 Maneuver	683	0	-	-
Stage 1	745	0	-	-
Stage 2	-	0	-	-

Approach NB SB

HCM Control Delay, s	10.3	0
HCM LOS	B	

Minor Lane/Major Mvmt NBLn1 SBT

Capacity (veh/h)	683	-
HCM Lane V/C Ratio	0.009	-
HCM Control Delay (s)	10.3	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0	-

Intersection

Int Delay, s/veh 0.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗	↘		↑	
Traffic Vol, veh/h	0	615	6	0	305	0
Future Vol, veh/h	0	615	6	0	305	0
Conflicting Peds, #/hr	0	0	0	0	0	53
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	0	634	6	0	314	0

Major/Minor Minor2 Major2

Conflicting Flow All	314	-	-	0
Stage 1	314	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	-	-	-
Pot Cap-1 Maneuver	683	0	-	0
Stage 1	745	0	-	0
Stage 2	-	0	-	0
Platoon blocked, %				-
Mov Cap-1 Maneuver	683	0	-	-
Mov Cap-2 Maneuver	683	0	-	-
Stage 1	745	0	-	-
Stage 2	-	0	-	-

Approach NB SB

HCM Control Delay, s	10.3	0
HCM LOS	B	

Minor Lane/Major Mvmt NBLn1 SBT

Capacity (veh/h)	683	-
HCM Lane V/C Ratio	0.009	-
HCM Control Delay (s)	10.3	-
HCM Lane LOS	B	-
HCM 95th %tile Q(veh)	0	-

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Beach Street and Pacific Avenue			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Beach Street			
Date Performed	1/17/2019 - Variant #1 and #2 (Plus SC Whaft MP Volumes)				N/S Street Name	Pacific Avenue			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Total Cum (GP 2030) Weekday PM Pk Hr				Peak Hour Factor	0.96			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics																
Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	L		LTR						LT		T				LT	
Volume (V), veh/h	21	545	235	69					0	27	109	44	0	116	183	240
Percent Heavy Vehicles, %	0	1	0	0					0	0	0	0	0	0	0	1
Flow Rate (V _{PCE}), pc/h	22	573	245	72					0	28	114	46	0	121	191	252
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1								2				1			
Pedestrians Crossing, p/h	10								10				10			

Critical and Follow-Up Headway Adjustment													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Critical Headway (s)	4.5436	4.5436					4.6453	4.3276	4.9763		4.9763	4.9763	
Follow-Up Headway (s)	2.5352	2.5352					2.6667	2.5352	2.6087		2.6087	2.6087	

Flow Computations, Capacity and v/c Ratios													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Entry Flow (v _e), pc/h	456	456					0	142	46		312	252	
Entry Volume veh/h	453	453					0	142	46		312	250	
Circulating Flow (v _c), pc/h	312			737			961			50			
Exiting Flow (v _{ex}), pc/h	366			50			687			263			
Capacity (C _{PCE}), pc/h	1069	1069					558	627	950		1311	1311	
Capacity (c), veh/h	1053	1053					558	627	950		1310	1297	
v/c Ratio (x)	0.43	0.43					0.00	0.23	0.05		0.24	0.19	

Delay and Level of Service													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Lane Control Delay (d), s/veh	8.1	8.1					6.5	8.5	4.2		4.8	4.4	
Lane LOS	A	A					A	A	A		A	A	
95% Queue, veh	2.2	2.2					0.0	0.9	0.2		0.9	0.7	
Approach Delay, s/veh	8.1						7.5			4.6			
Approach LOS	A						A			A			
Intersection Delay, s/veh LOS	6.9						A						

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Beach Street and Pacific Avenue			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Beach Street			
Date Performed	1/17/2019 - Variant #1				N/S Street Name	Pacific Avenue			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Total Cum (GP 2030) Weekday PM Pk Hr				Peak Hour Factor	0.96			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics																
Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	L		LTR						LT		T				LT	
Volume (V), veh/h	21	545	235	46					0	21	86	35	0	116	149	240
Percent Heavy Vehicles, %	0	1	0	0					0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	22	573	245	48					0	22	90	36	0	121	155	252
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1								2				1			
Pedestrians Crossing, p/h	10								10				10			

Critical and Follow-Up Headway Adjustment													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Critical Headway (s)	4.5436	4.5436					4.6453	4.3276	4.9763		4.9763	4.9763	
Follow-Up Headway (s)	2.5352	2.5352					2.6667	2.5352	2.6087		2.6087	2.6087	

Flow Computations, Capacity and v/c Ratios													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Entry Flow (v _e), pc/h	444	444					0	112	36		276	252	
Entry Volume veh/h	441	441					0	112	36		276	250	
Circulating Flow (v _c), pc/h	276			707			961			44			
Exiting Flow (v _{ex}), pc/h	366			44			663			203			
Capacity (c _{PCE}), pc/h	1105	1105					558	627	950		1319	1319	
Capacity (c), veh/h	1088	1088					558	627	950		1318	1305	
v/c Ratio (x)	0.41	0.41					0.00	0.18	0.04		0.21	0.19	

Delay and Level of Service													
Approach	EB			WB			NB			SB			
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Lane Control Delay (d), s/veh	7.6	7.6					6.5	7.9	4.1		4.5	4.4	
Lane LOS	A	A					A	A	A		A	A	
95% Queue, veh	2.0	2.0					0.0	0.6	0.1		0.8	0.7	
Approach Delay, s/veh	7.6						7.0			4.4			
Approach LOS	A						A			A			
Intersection Delay, s/veh LOS	6.5						A						

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Beach Street and Pacific Avenue			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Beach Street			
Date Performed	1/17/2019 - Variant #2				N/S Street Name	Pacific Avenue			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Total Cum (GP 2030) Weekday PM Pk Hr				Peak Hour Factor	0.96			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	1	1	0	0	0	0	0	0	0	2	0	0	0	1	0
Lane Assignment	L		LTR						LT		T				LT	
Volume (V), veh/h	21	545	235	46					0	21	86	35	0	116	149	240
Percent Heavy Vehicles, %	0	1	0	0					0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	22	573	245	48					0	22	90	36	0	121	155	252
Right-Turn Bypass	None				None				Yielding				Yielding			
Conflicting Lanes	1								2				1			
Pedestrians Crossing, p/h	10								10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.5436	4.5436					4.6453	4.3276	4.9763		4.9763	4.9763
Follow-Up Headway (s)	2.5352	2.5352					2.6667	2.5352	2.6087		2.6087	2.6087

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h	444	444					0	112	36		276	252
Entry Volume veh/h	441	441					0	112	36		276	250
Circulating Flow (v _c), pc/h	276			707			961			44		
Exiting Flow (v _{ex}), pc/h	366			44			663			203		
Capacity (c _{PCE}), pc/h	1105	1105					558	627	950		1319	1319
Capacity (c), veh/h	1088	1088					558	627	950		1318	1305
v/c Ratio (x)	0.41	0.41					0.00	0.18	0.04		0.21	0.19

Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	7.6	7.6					6.5	7.9	4.1		4.5	4.4
Lane LOS	A	A					A	A	A		A	A
95% Queue, veh	2.0	2.0					0.0	0.6	0.1		0.8	0.7
Approach Delay, s/veh	7.6						7.0			4.4		
Approach LOS	A						A			A		
Intersection Delay, s/veh LOS	6.5						A					

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Pacific Avenue and Center Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Pacific Ave. - W. Cliff Dr.			
Date Performed	1/17/2019				N/S Street Name	Pacific Avenue - Center St.			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Cum (GP 2030) Weekday PM Pk Hr - Variant 1				Peak Hour Factor	0.93			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics																
Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				LTR			
Volume (V), veh/h					0	614	7	62	0	18	166	549	0	34	315	2
Percent Heavy Vehicles, %					0	1	0	0	0	0	1	1	0	0	1	0
Flow Rate (v _{PCE}), pc/h					0	667	8	67	0	19	180	596	0	37	342	2
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					10				10				10			

Critical and Follow-Up Headway Adjustment													
Approach	EB			WB			NB			SB			
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Critical Headway (s)							4.9763			4.9763	4.9763		4.9763
Follow-Up Headway (s)							2.6087			2.6087	2.6087		2.6087

Flow Computations, Capacity and v/c Ratios													
Approach	EB			WB			NB			SB			
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Entry Flow (v _e), pc/h							742			199	596		381
Entry Volume veh/h							735			197	590		378
Circulating Flow (v _c), pc/h	1046			199			37			694			
Exiting Flow (v _{ex}), pc/h	37			29			247			1009			
Capacity (c _{PCE}), pc/h							1126			1329	1329		680
Capacity (c), veh/h							1115			1315	1314		673
v/c Ratio (x)							0.66			0.15	0.45		0.56

Delay and Level of Service													
Approach	EB			WB			NB			SB			
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	
Lane Control Delay (d), s/veh							12.5			4.0	7.2		14.8
Lane LOS							B			A	A		B
95% Queue, veh							5.2			0.5	2.4		3.5
Approach Delay, s/veh				12.5			6.4			14.8			
Approach LOS				B			A			B			
Intersection Delay, s/veh LOS	10.4						B						

HCS7 Roundabouts Report

General Information					Site Information				
Analyst	LDH				Intersection	Pacific Avenue and Center Street			
Agency or Co.	Pinnacle Traffic Engineering				E/W Street Name	Pacific Ave. - W. Cliff Dr.			
Date Performed	1/17/2019 - Variant 2				N/S Street Name	Pacific Avenue - Center St.			
Analysis Year	2017				Analysis Time Period (hrs)	0.25			
Time Period	Cum (GP 2030) Weekday PM Pk Hr				Peak Hour Factor	0.93			
Project Description	190 W. Cliff Dr. Mixed Use				Jurisdiction	City of Santa Cruz			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment					LTR				LT				LTR			
Volume (V), veh/h					0	616	7	62	0	18	166	549	0	34	317	2
Percent Heavy Vehicles, %					0	1	0	0	0	0	1	1	0	0	1	0
Flow Rate (v _{PCE}), pc/h					0	669	8	67	0	19	180	596	0	37	344	2
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes					1				1				1			
Pedestrians Crossing, p/h					10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)					4.9763			4.9763	4.9763		4.9763	
Follow-Up Headway (s)					2.6087			2.6087	2.6087		2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v _e), pc/h					744			199	596		383	
Entry Volume veh/h					737			197	590		380	
Circulating Flow (v _c), pc/h	1050			199			37			696		
Exiting Flow (v _{ex}), pc/h	37			29			247			1013		
Capacity (c _{PCE}), pc/h					1126			1329	1329		679	
Capacity (c), veh/h					1115			1315	1314		672	
v/c Ratio (x)					0.66			0.15	0.45		0.57	

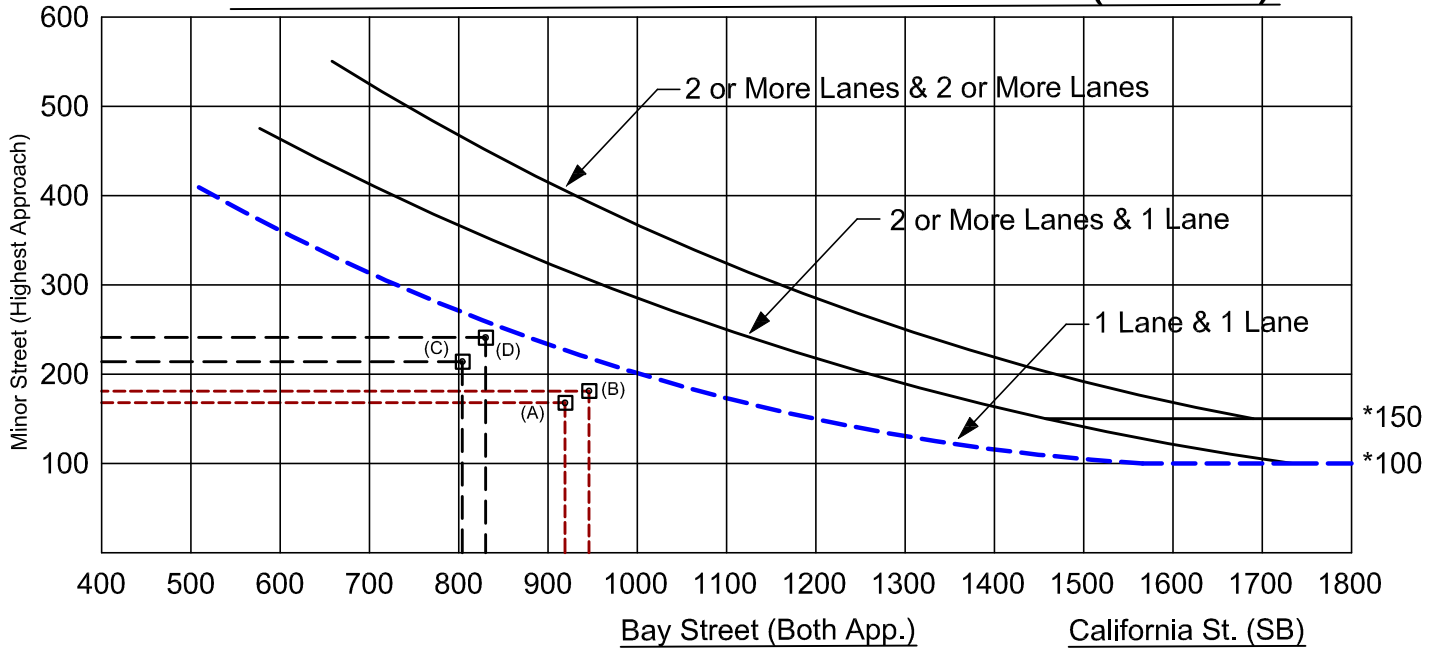
Delay and Level of Service

Approach	EB			WB			NB			SB		
	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh					12.6			4.0	7.2		14.9	
Lane LOS					B			A	A		B	
95% Queue, veh					5.3			0.5	2.4		3.6	
Approach Delay, s/veh				12.6			6.4			14.9		
Approach LOS				B			A			B		
Intersection Delay, s/veh LOS	10.5						B					

Appendix C

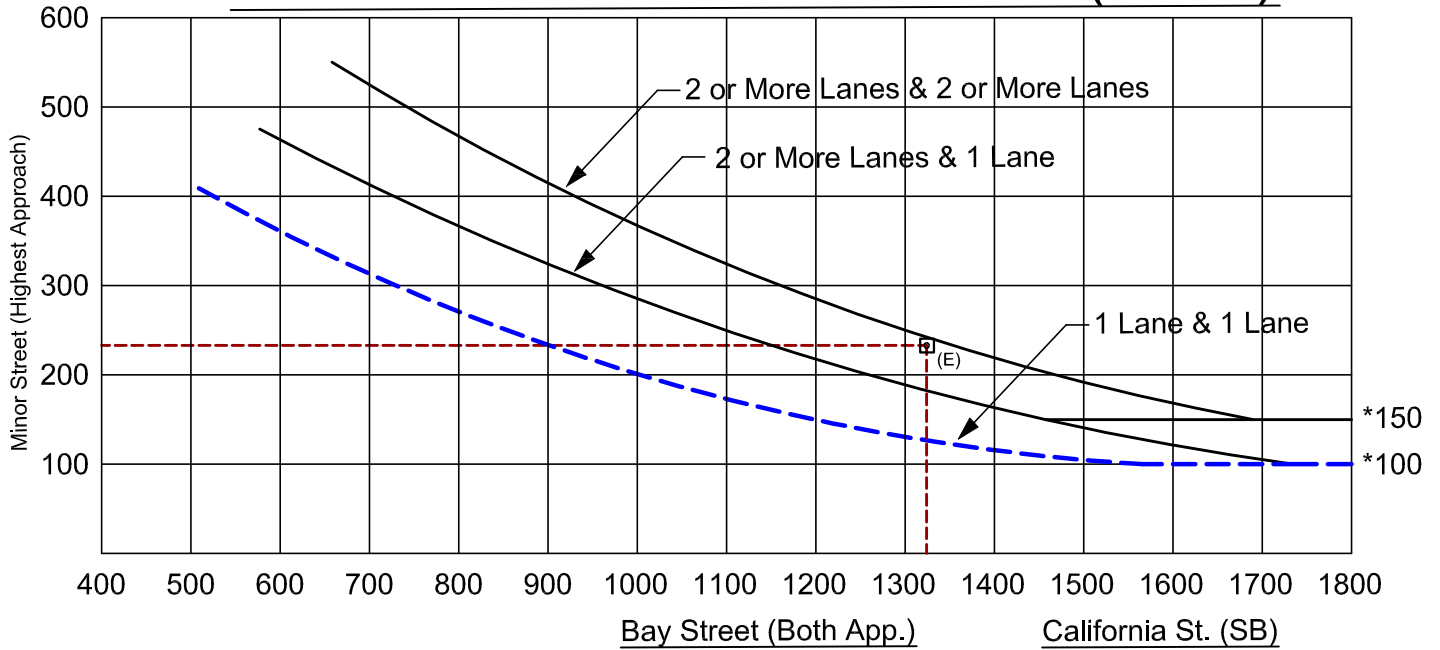
- California MUTCD Signal Warrant Analysis Data and Graphs

Warrant #3 - Peak Hour Volume (100%)



	<u>Bay Street (Both App.)</u>	<u>California St. (SB)</u>
(A) Existing Weekday PM Peak Hour:	919	168 (SB) - One Lane (Left)
(B) Exist. + Project Weekday PM Peak Hour:	946	181 (SB) - One Lane (Left)
(C) Existing Saturday MD Peak Hour:	804	214 (SB) - One Lane (Left)
(D) Exist. + Project Saturday MD PM Peak Hour:	830	241 (SB) - One Lane (Left)

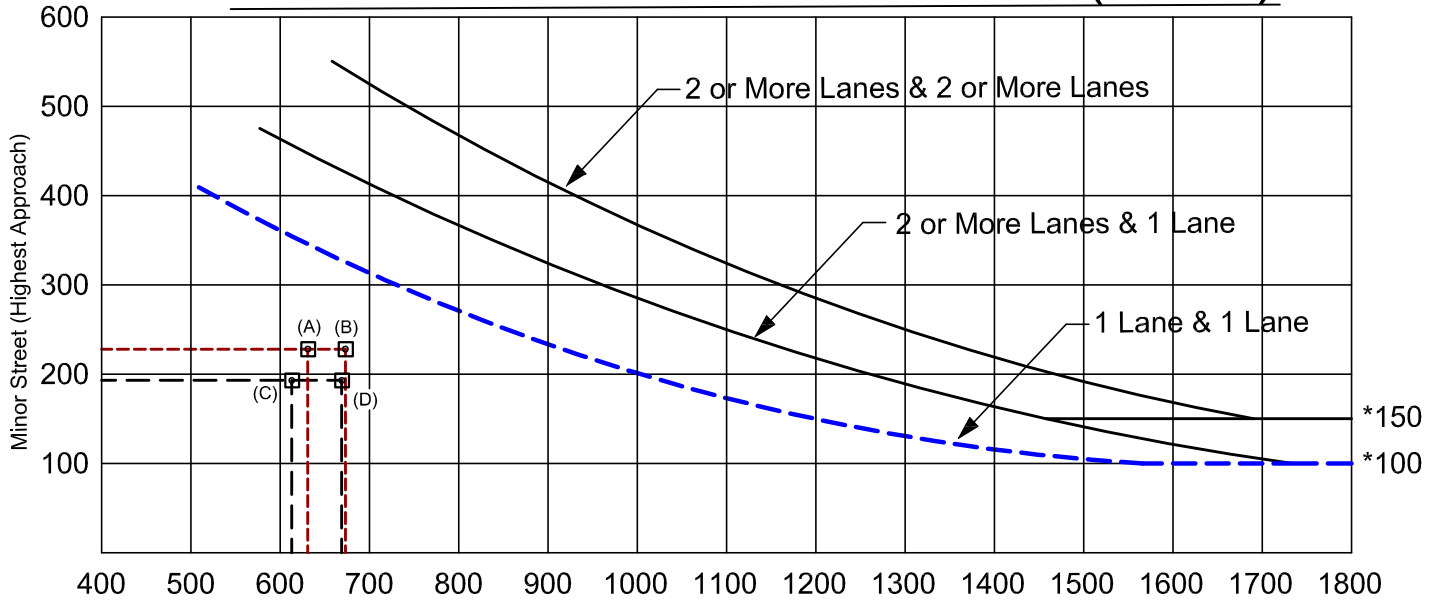
Warrant #3 - Peak Hour Volume (100%)



(E) Cumulative Weekday PM Peak Hour:	1,324	233 (SB) - One Lane (Left)
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#3 - Bay Street and California Avenue

Warrant #3 - Peak Hour Volume (100%)

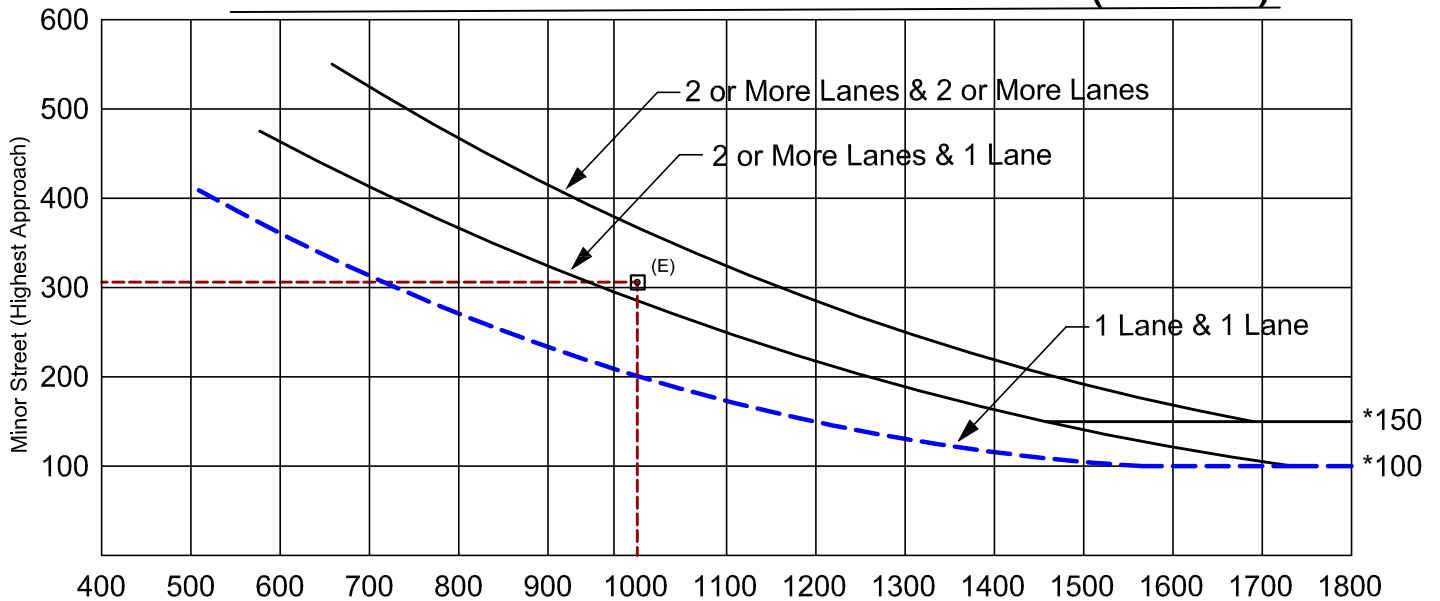


Bay Street (Both App.)

California Ave. (NB)

(A) Existing Weekday PM Peak Hour:	631 (no EB Rt)	228 (NB) - One Lane (Left)
(B) Exist. + Project Weekday PM Peak Hour:	673 (no EB Rt)	228 (NB) - One Lane (left)
(C) Existing Saturday MD Peak Hour:	613 (no EB Rt)	193 (NB) - One Lane (Left)
(D) Exist. + Project Saturday MD PM Peak Hour:	669 (no EB Rt)	193 (NB) - One Lane (Left)

Warrant #3 - Peak Hour Volume (100%)

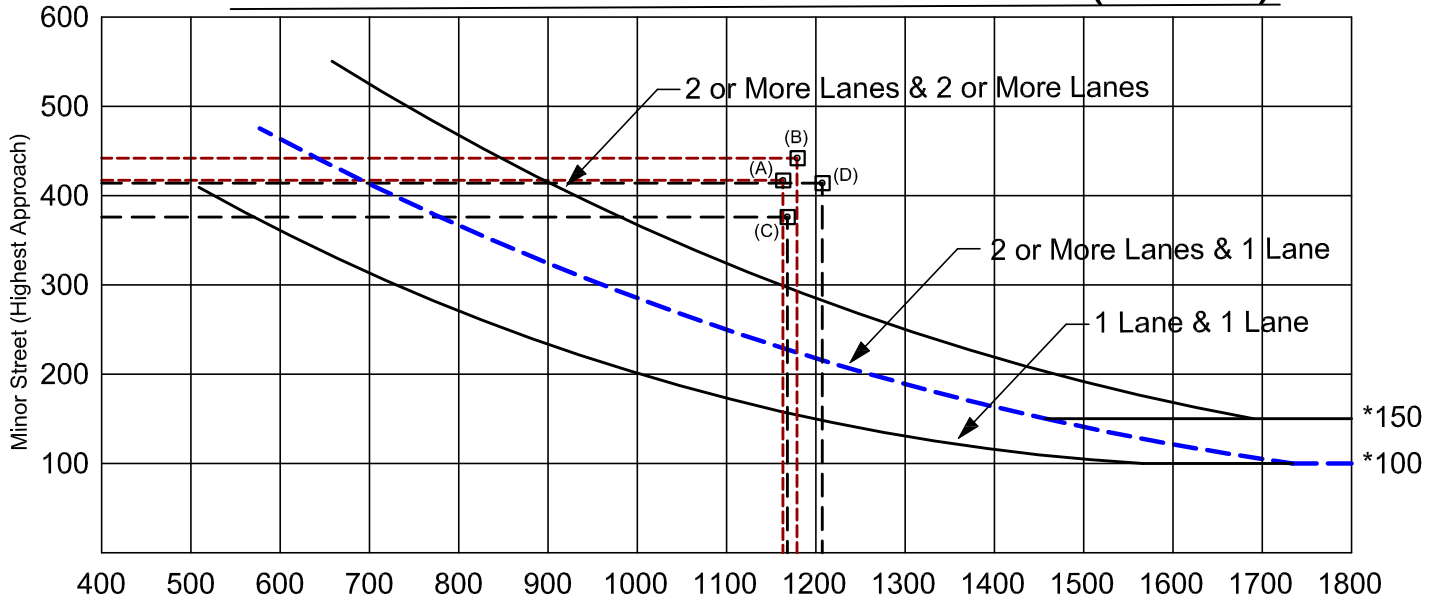


Bay Street (Both App.)

California Ave. (NB)

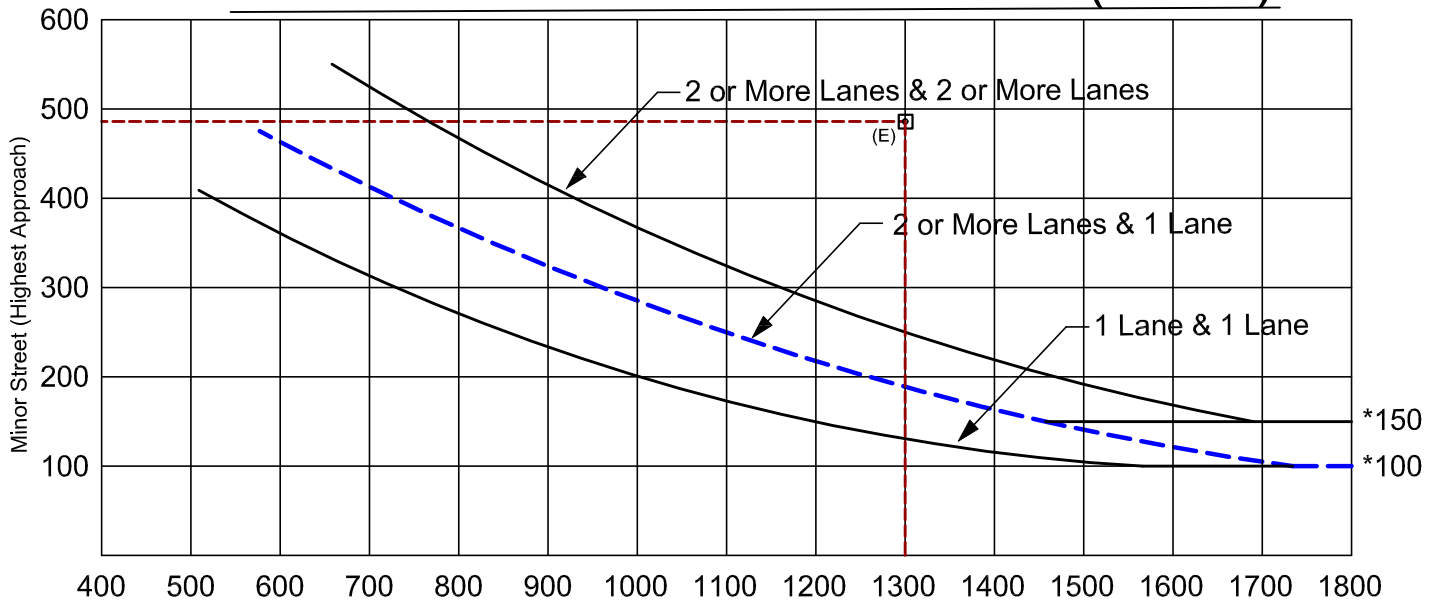
(E) Cumulative Weekday PM Peak Hour:	974	306 (NB) - One Lane (Left)
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Warrant #3 - Peak Hour Volume (100%)



	<u>W. Cliff Dr. (Both App.)</u>	<u>Bay Street (EB)</u>
(A) Existing Weekday PM Peak Hour:	1,163	417 (EB) - Two Lanes
(B) Exist. + Project Weekday PM Peak Hour:	1,179	442 (EB) - Two Lanes
(C) Existing Saturday MD Peak Hour:	1,168	376 (EB) - Two Lanes
(D) Exist. + Project Saturday MD PM Peak Hour:	1,207	414 (EB) - Two Lanes

Warrant #3 - Peak Hour Volume (100%)



	<u>W. Cliff Dr. (Both App.)</u>	<u>Bay Street (EB)</u>
(E) Cumulative Weekday PM Peak Hour:	1,300	486 (EB) - Two Lanes

Appendix D

- ITE Mixed-Use Development Internal Trip Spreadsheet (January 2019)
- Project Trip Distribution Percentages (Exhibits 1A and 1B)
- Existing Plus Project Volumes (Weekday PM Peak Hour) - Variant No. 1 (Exhibit 2A)
- Existing Plus Project Volumes (Weekday PM Peak Hour) - Variant No. 2 (Exhibit 2B)
- Existing Plus Project Volumes (Saturday MD Peak Hour) - Variant No. 1 (Exhibit 3A)
- Existing Plus Project Volumes (Saturday MD Peak Hour) - Variant No. 2 (Exhibit 3B)
- Project Percent Increase Spreadsheet (Intersections)

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	190 W. Cliff Dr. Mixed Use Project	Organization:	Pinnacle Traffic Engineering (PTE)
Project Location:	City of Santa Cruz, CA	Performed By:	LDH
Scenario Description:	Mixed-Use Development	Date:	1/17/2019
Analysis Year:	2019	Checked By:	LDH
Analysis Period:	Weekday PM Street Peak Hour	Date:	1/17/2019

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	#710	1,646	SF	2	0	2
Retail	#826	8,265	SF	23	10	13
Restaurant	#931	7,525	SF	57	38	19
Cinema/Entertainment				0		
Residential				0		
Hotel	#310	165	Rooms	115	56	59
All Other Land Uses ²				0		
				197	104	93

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.25			1.25		
Retail	1.50			1.50		
Restaurant	2.00			2.00		
Cinema/Entertainment						
Residential	1.25			1.25		
Hotel	2.50			2.50		
All Other Land Uses ²	1.50			1.50		

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	0	0	0	0
Retail	0		6	0	0	1
Restaurant	0	8		0	0	3
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	4	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	440	231	209
Internal Capture Percentage	10%	10%	11%
External Vehicle-Trips ⁵	174	91	83
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	33%
Retail	60%	35%
Restaurant	13%	29%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	3%	3%

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in *ITE Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	190 W. Cliff Dr. Mixed Use Project	Organization:	Pinnacle Traffic Engineering (PTE)
Project Location:	City of Santa Cruz, CA	Performed By:	LDH
Scenario Description:	Mixed-Use Development	Date:	1/17/2019
Analysis Year:	2019	Checked By:	LDH
Analysis Period:	Weekday PM Street Peak Hour	Date:	1/17/2019

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	#710	1,646	SF	2	0	2
Retail	#826	8,265	SF	23	10	13
Restaurant	#931	7,525	SF	57	38	19
Cinema/Entertainment				0		
Residential	#230	89	Condos	73	49	24
Hotel	#310	165	Rooms	115	56	59
All Other Land Uses ²				0		
				270	153	117

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.25			1.25		
Retail	1.50			1.50		
Restaurant	2.00			2.00		
Cinema/Entertainment						
Residential	1.25			1.25		
Hotel	2.50			2.50		
All Other Land Uses ²	1.50			1.50		

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	0	0	0	0
Retail	0		6	0	5	1
Restaurant	0	8		0	7	3
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	6	0		1
Hotel	0	0	4	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	531	292	239
Internal Capture Percentage	17%	15%	18%
External Vehicle-Trips ⁵	218	126	92
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	33%
Retail	73%	60%
Restaurant	21%	47%
Cinema/Entertainment	N/A	N/A
Residential	20%	30%
Hotel	4%	3%

¹ Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³ Enter trips assuming no transit or non-motorized trips (as assumed in *ITE Trip Generation Manual*).

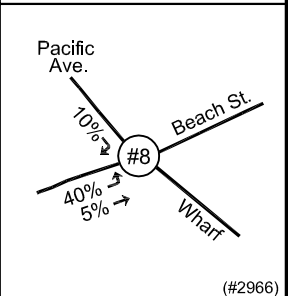
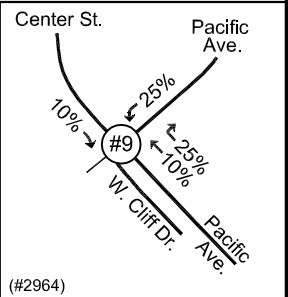
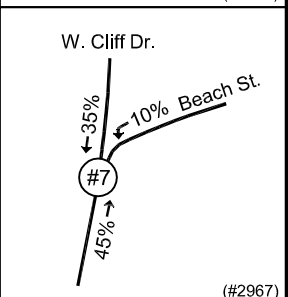
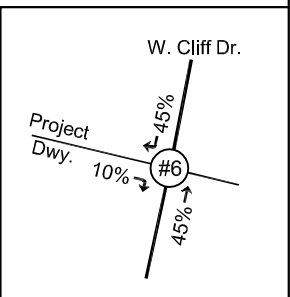
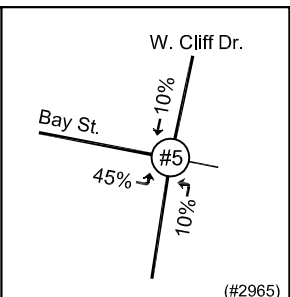
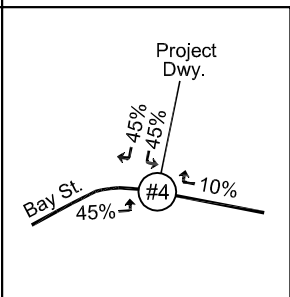
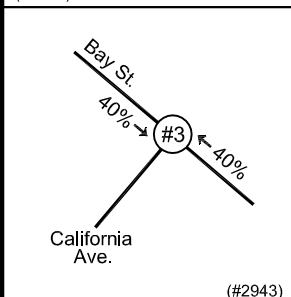
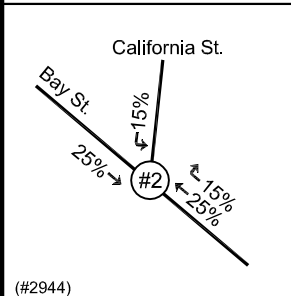
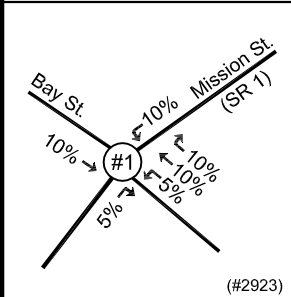
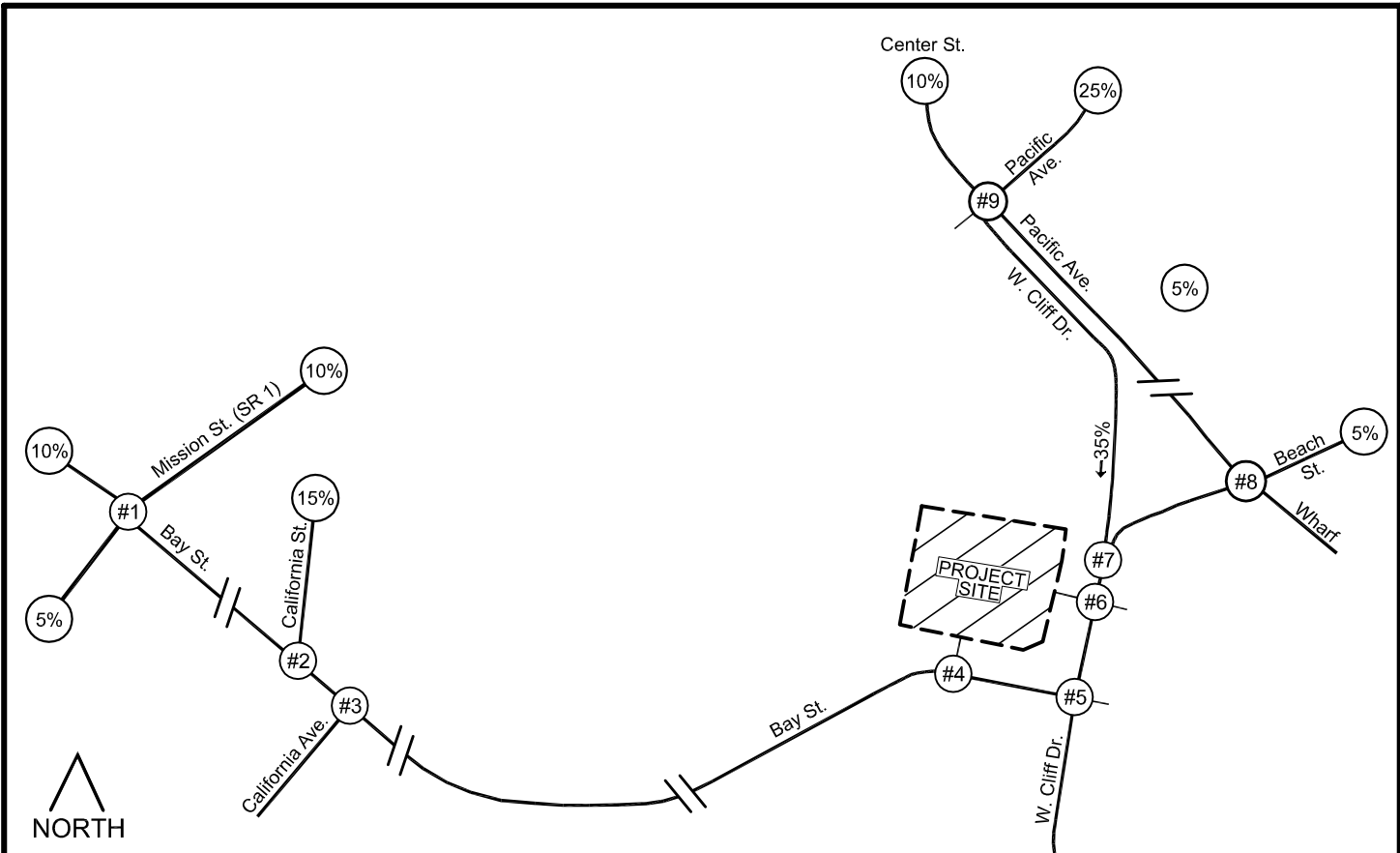
⁴ Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.

⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶ Person-Trips

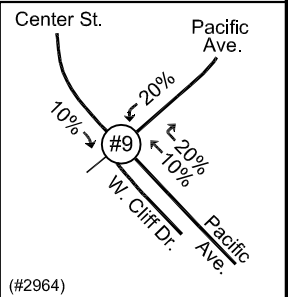
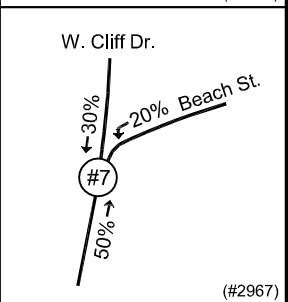
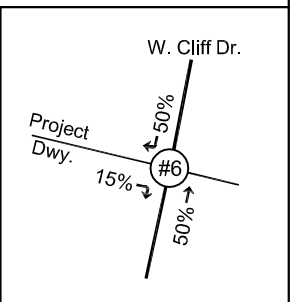
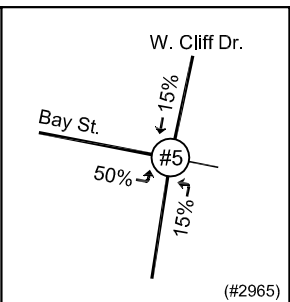
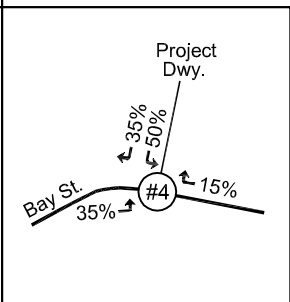
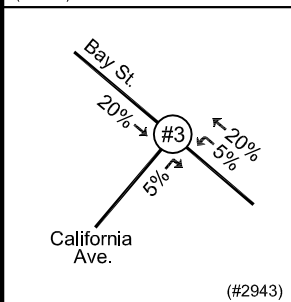
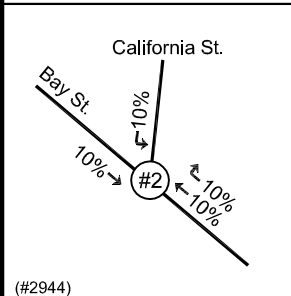
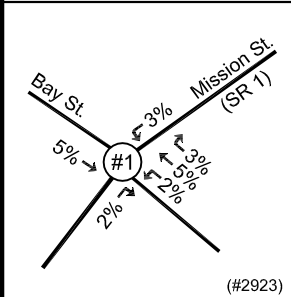
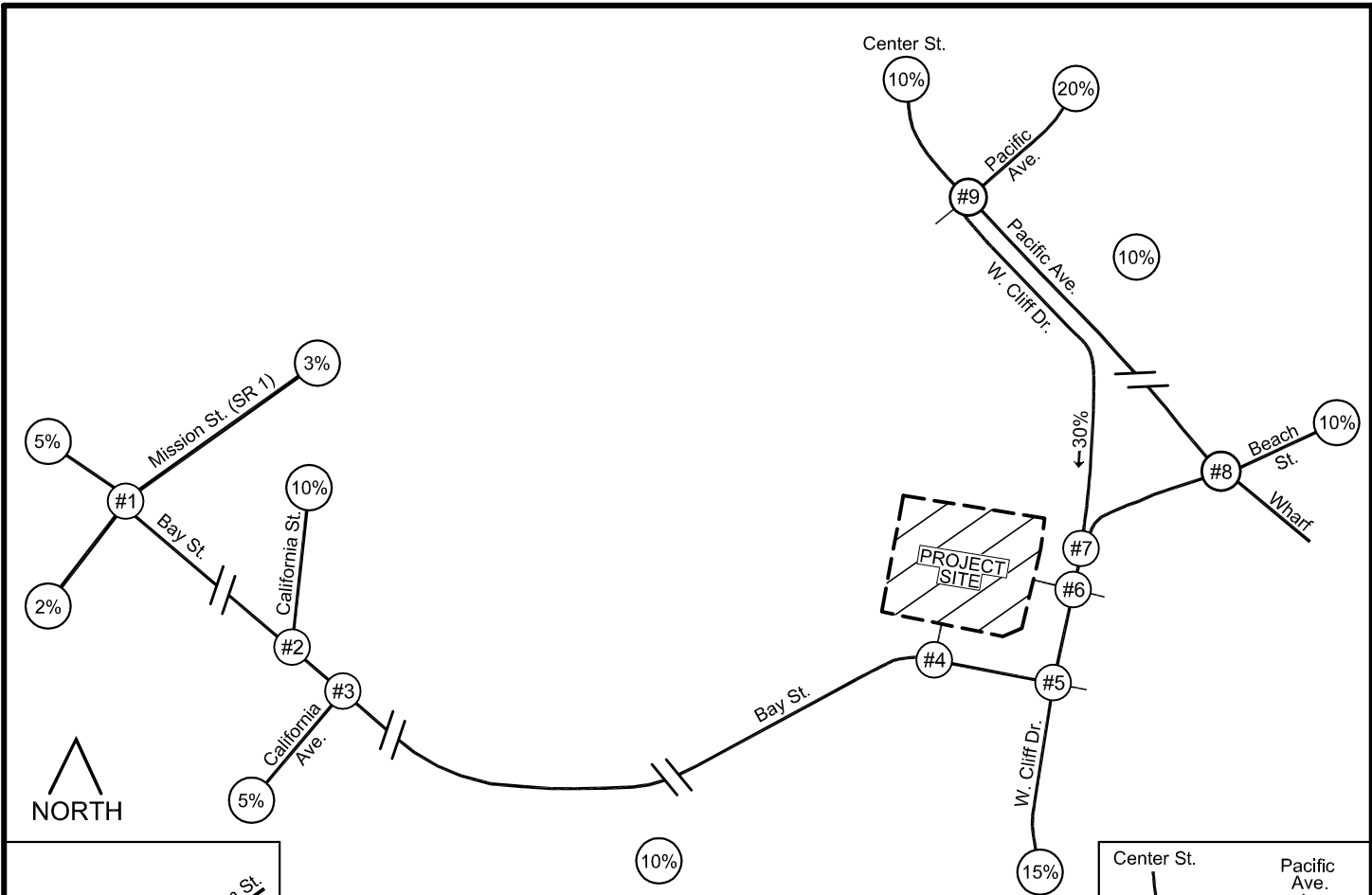
*Indicates computation that has been rounded to the nearest whole number.

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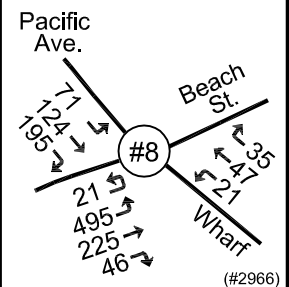
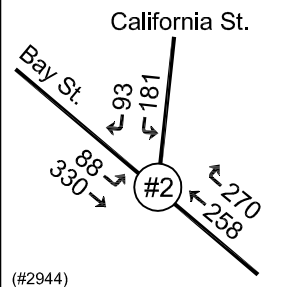
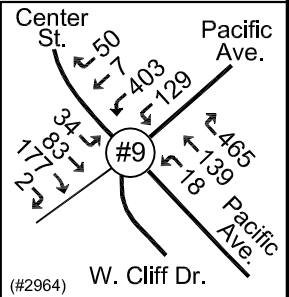
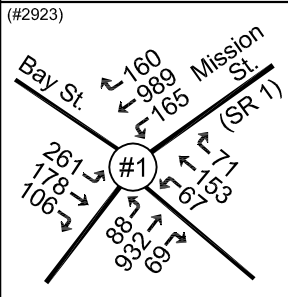
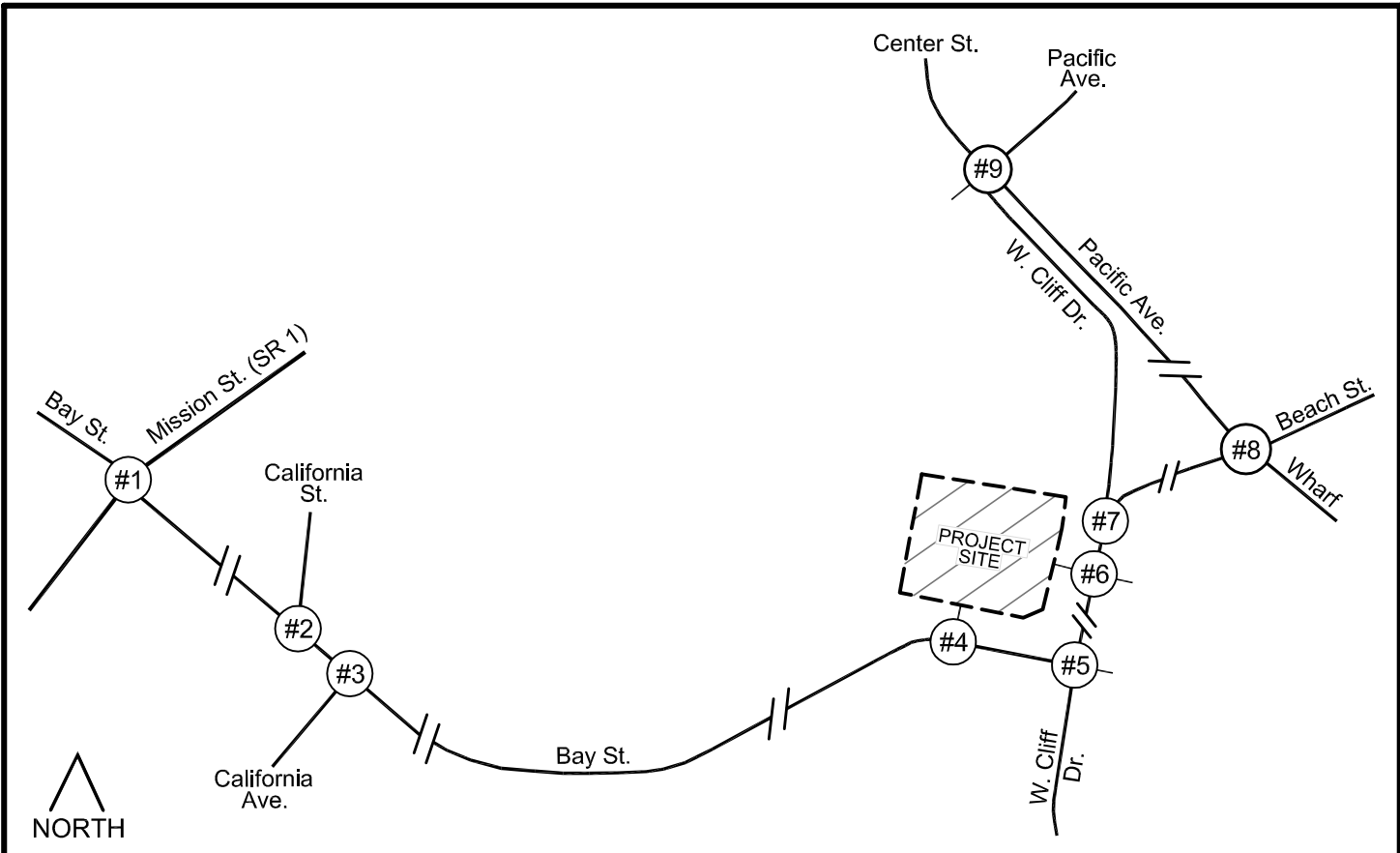
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- ← 00% = PM Peak Hour Assignment (%)
- ⊙ 00% = Trip Assignment Percentage (%)



LEGEND

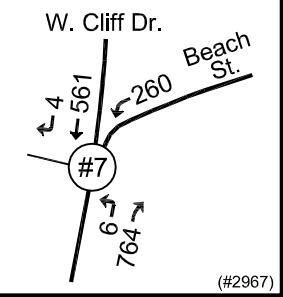
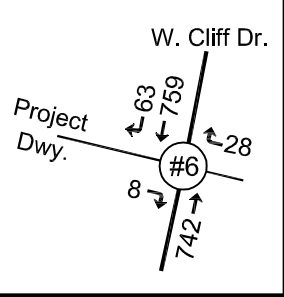
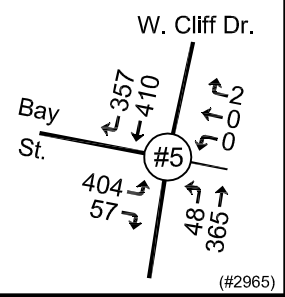
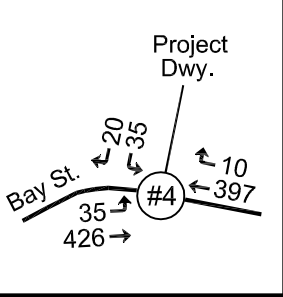
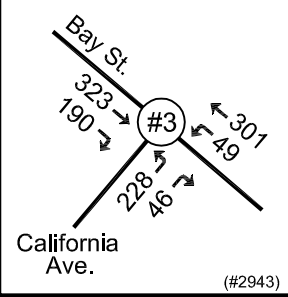
- ← 00% = PM Peak Hour Assignment (%)
- 00% = Trip Assignment Percentage (%)

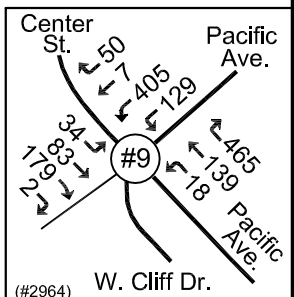
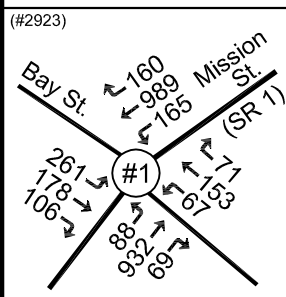
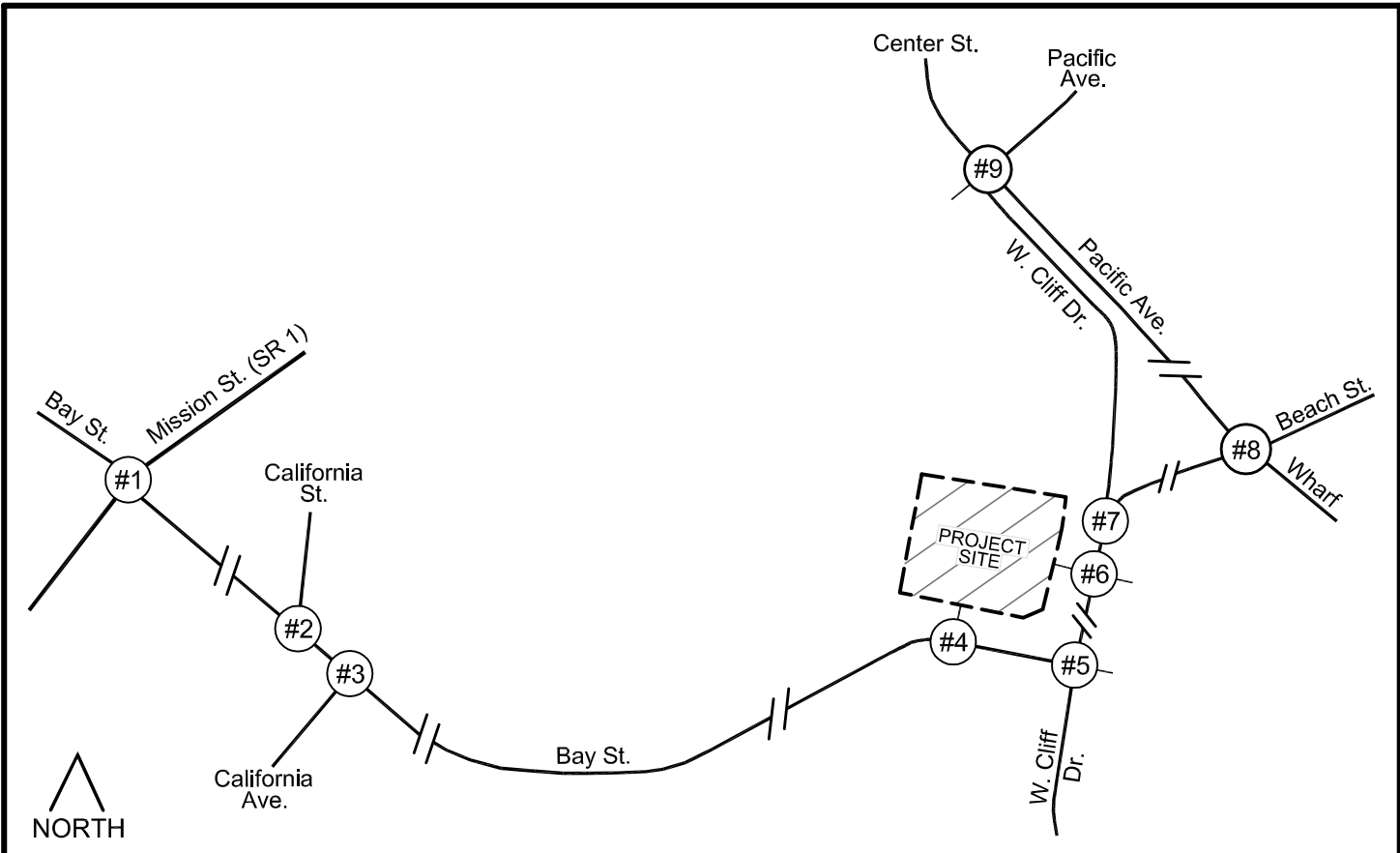


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← 00 = PM Peak Hour Volume

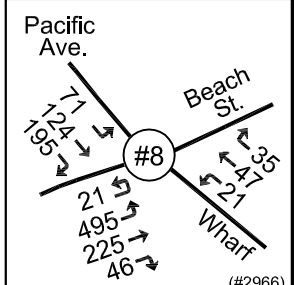
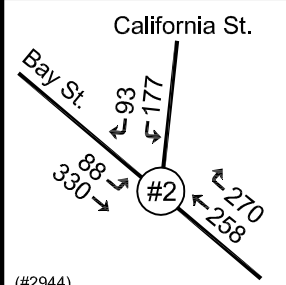
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 (Signal at Bay St. / W. Cliff Dr.)



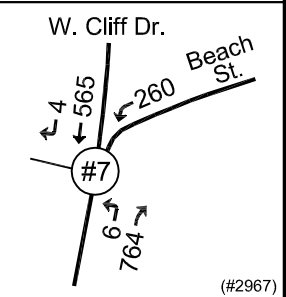
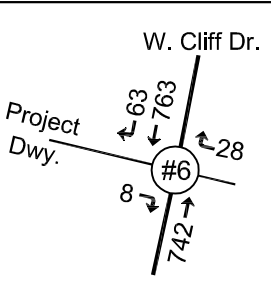
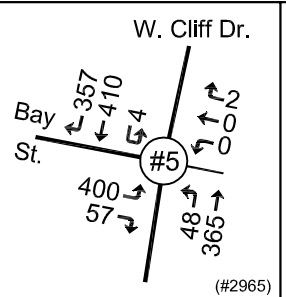
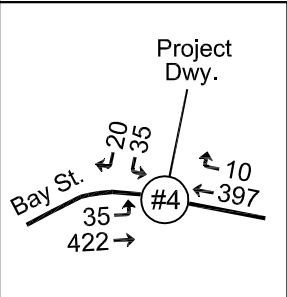
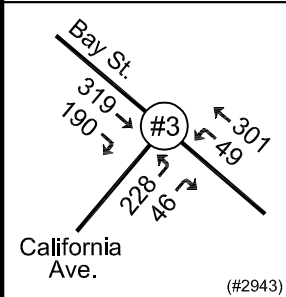


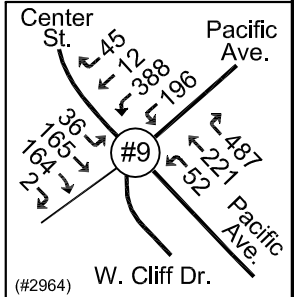
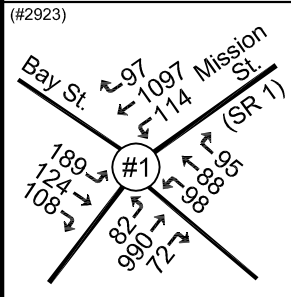
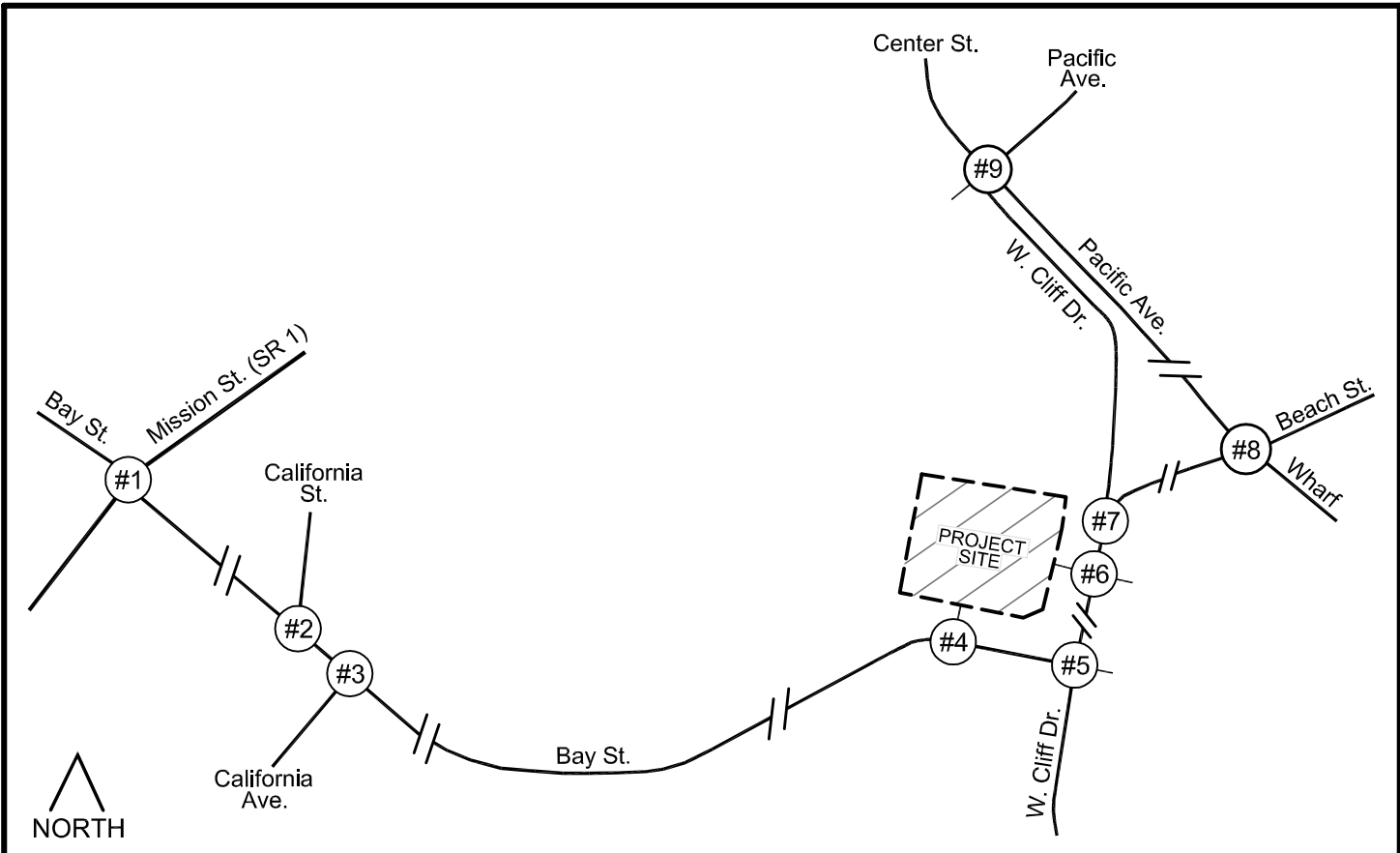
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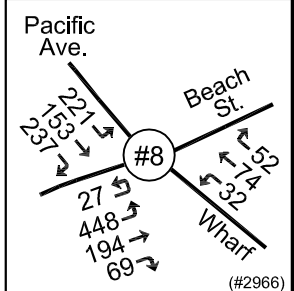
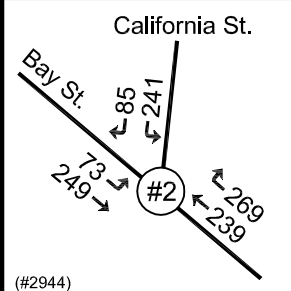
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(Roundabout at Bay St. / W. Cliff Dr.)



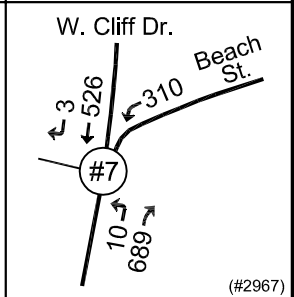
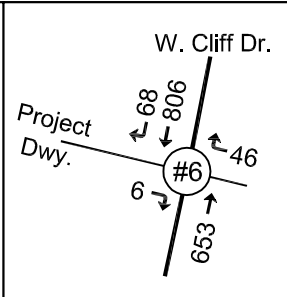
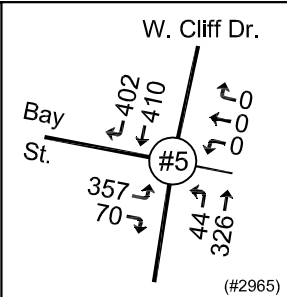
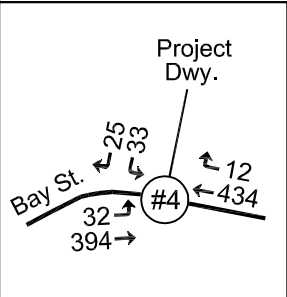


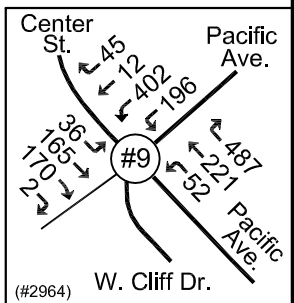
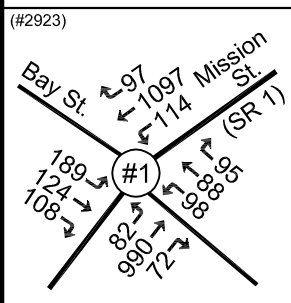
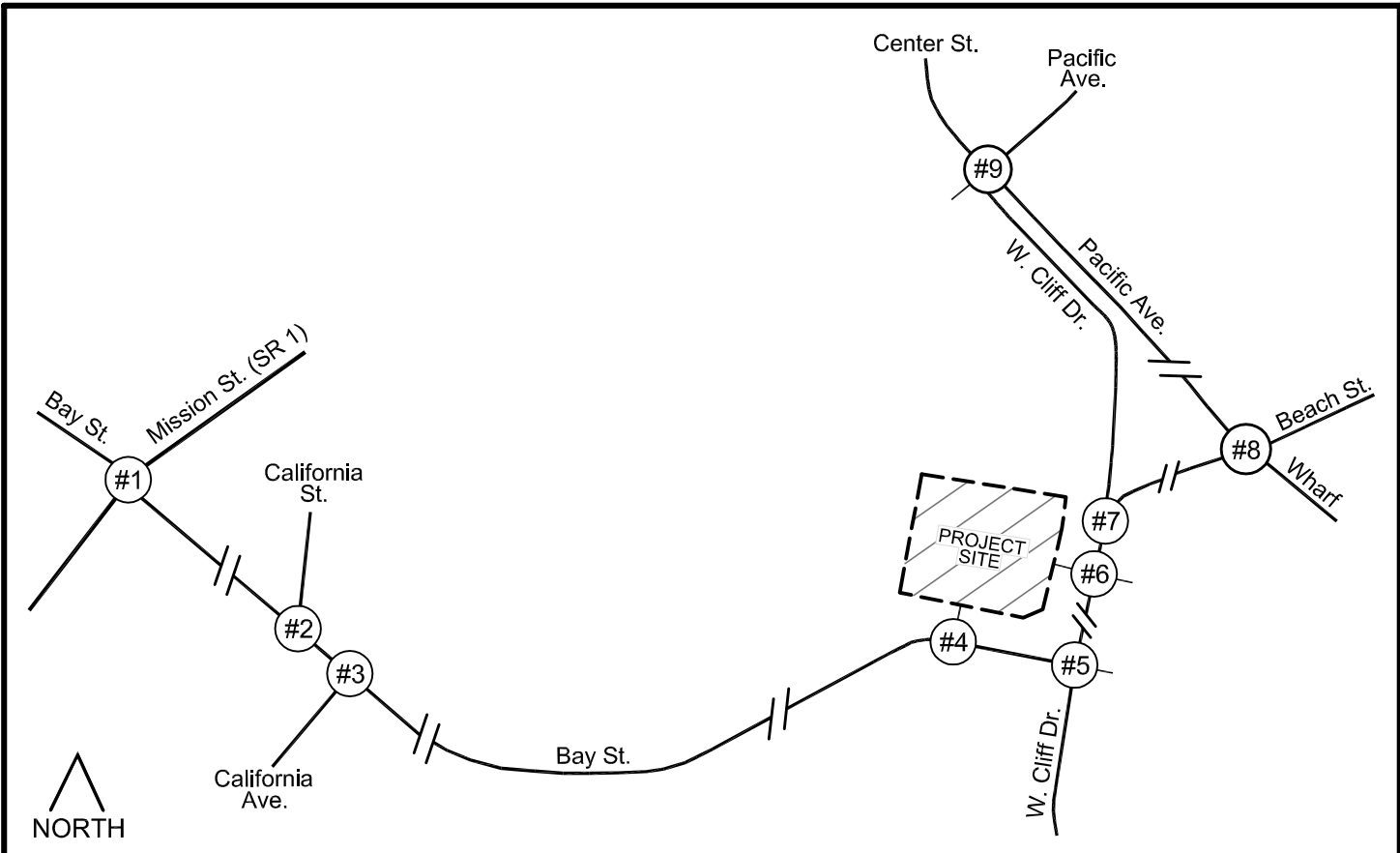
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← 00 = MD Peak Hour Volume



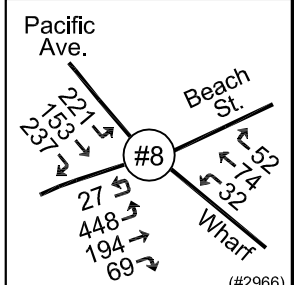
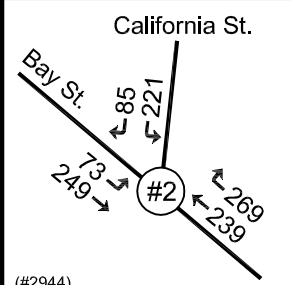
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(Signal at Bay St. / W. Cliff Dr.)



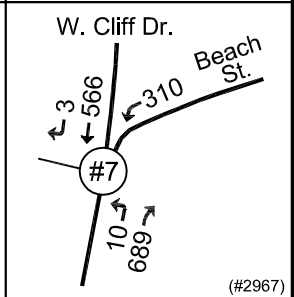
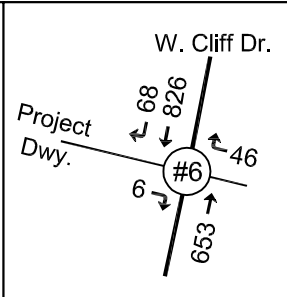
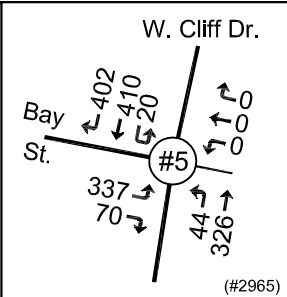
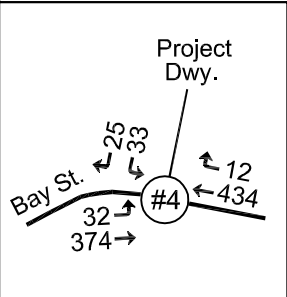
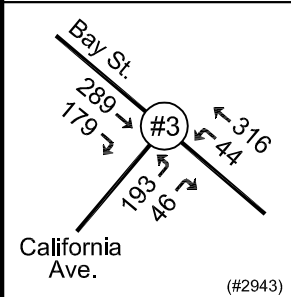


LEGEND

← 00 = MD Peak Hour Volume



- Improvement Variant No. 2 -
(Roundabout at Bay St. / W. Cliff Dr.)



190 W. Cliff Dr. - Feb. 12, 2019 - "Weekday" (% Increases) - Variant No. 1

#1 - SR 1 (Mission Street) / Bay Street (#2923)

	Exist.	Proj. Primary	Ex. + Proj. (a)	Ex. Adj.	Percent
NBLT	88		88		Increase
NBTH	932		932		
NBRT	66	3	69		
SBLT	160	5	165		
SBTH	989		989		
SBRT	160		160		
EBLT	261		261		
EBTH	172	6	178		
EBRT	106		106		
WBLT	66	1	68		
WBTH	151	2	153		
WBRT	68	3	72		
Totals:	3219	20	3239		0.62% Increase

(a) from Fig. 6A
(b) Reflects DI mod. Valet Serv.

#2 Bay Street / California Street (#2944)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
SBLT	168	9	181	172	
SBRT	93		93	93	
EBLT	88		88	88	
EBTH	316	14	330	316	
WBTH	252	6	258	252	
WBRT	263	7	270	263	
Totals:	1180	36	1216	1184	2.70% Increase

#3 - Bay Street / California Avenue (#2943)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	228		228	228	
NBRT	44	2	46	44	
EBTH	296	23	323	300	
EBRT	190		190	190	
WBLT	47	2	49	47	
WBTH	288	13	301	288	
Totals:	1093	40	1133	1097	3.28% Increase

#5 - W. Cliff Dr / Bay St (#2965)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	39	9	48	39	
NBTH	365		365	365	
SBTH	402	8	410	402	
SBRT	357		357	357	
WBRT	2		2	2	
EBLT	360	22	404	382	
EBRT	57		57	57	
Totals:	1582	39	1621	1604	1.06% Increase

#7 - W. Cliff Drive / Beach Street (#2967)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	6		6	6	
NBTH	721	22	764	742	
SBTH	537	28	561	533	
SBRT	4		4	4	
WBLT	227	12	260	248	
Totals:	1495	62	1557	1533	1.57% Increase

#8 - Beach Street / Pacific Avenue (#2966)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	477	18	516	498	
NBTH	221	4	225	221	
NBRT	46		46	46	
EBLT	71		71	71	
EBTH	124		124	124	
EBRT	183	12	195	183	
WBLT	21		21	21	
WBTH	47		47	47	
WBRT	35		35	35	
Totals:	1225	34	1259	1246	1.04% Increase

#9 - Pacific Avenue / Center Street (#2964)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
SBLT	129		129	129	
SBTH	394	18	410	392	
SBLT	50		50	50	
EBLT	34		34	34	
EBTH	83		83	83	
EBRT	171	10	179	169	
WBLT	18		18	18	
WBTH	133	6	139	133	
WBRT	455	10	465	455	
Totals:	1467	44	1511	1463	3.28% Increase

190 W. Cliff Dr. - Feb. 12, 2019 - "Weekday" (% Increases) - Variant No. 2

#1 - SR 1 (Mission Street) / Bay Street (#2923)

	Exist.	Proj. Primary	Ex. + Proj. (a)		Percent
NBLT	88		88		Increase
NBTH	932		932		
NBRT	66	3	69		
SBLT	160	5	165		
SBTH	989		989		
SBRT	160		160		
EBLT	261		261		
EBTH	172	6	178		
EBRT	106		106		
WBLT	66	1	67		
WBTH	151	2	153		
WBRT	68	3	71		
Totals:	3219	20	3239		0.62% Increase

(a) from Fig. 6A
(b) Reflects DI mod. Valet Serv.

#2 Bay Street / California Street (#2944)

	Ex.	Proj. Primary	Ex. + Proj.		Percent
SBLT	168	9	177		
SBRT	93		93		
EBLT	88		88		
EBTH	316	14	330		
WBTH	252	6	258		
WBRT	263	7	270		
Totals:	1180	36	1216		3.05% Increase

#3 - Bay Street / California Avenue (#2943)

	Ex.	Proj. Primary	Ex. + Proj.		Percent
NBLT	228		228		
NBRT	44	2	46		
EBTH	296	23	319		
EBRT	190		190		
WBLT	47	2	49		
WBTH	288	13	301		
Totals:	1093	40	1133		3.66% Increase

#5 - W. Cliff Dr / Bay St (#2965)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	39	9	48	39	
NBTH	365		365	365	
SBTH	402	8	414	406	
SBRT	357		357	357	
WBRT	2		2	2	
EBLT	360	22	400	378	
EBRT	57		57	57	
Totals:	1582	39	1621	1604	1.06% Increase

#7 - W. Cliff Drive / Beach Street (#2967)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	6		6	6	
NBTH	721	22	764	742	
SBTH	537	28	565	537	
SBRT	4		4	4	
WBLT	227	12	260	248	
Totals:	1495	62	1557	1537	1.30% Increase

#8 - Beach Street / Pacific Avenue (#2966)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	477	18	516	498	
NBTH	221	4	225	221	
NBRT	46		46	46	
EBLT	71		71	71	
EBTH	124		124	124	
EBRT	183	12	195	183	
WBLT	21		21	21	
WBTH	47		47	47	
WBRT	35		35	35	
Totals:	1225	34	1259	1246	1.04% Increase

#9 - Pacific Avenue / Center Street (#2964)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
SBLT	129		129	129	
SBTH	394	18	405	387	
SBLT	50		50	50	
EBLT	34		34	34	
EBTH	83		83	83	
EBRT	171	10	181	171	
WBLT	18		18	18	
WBTH	133	6	139	133	
WBRT	455	10	465	455	
Totals:	1467	44	1511	1460	3.49% Increase

190 W. Cliff Dr. - Feb. 12, 2019 - "Weekday" (% Increases) - Variant No. 2

#1 - SR 1 (Mission Street) / Bay Street (#2923)

	Exist.	Proj. Primary	Ex. + Proj. (a)		Percent
NBLT	88		88		Increase
NBTH	932		932		
NBRT	66	3	69		
SBLT	160	5	165		
SBTH	989		989		
SBRT	160		160		
EBLT	261		261		
EBTH	172	6	178		
EBRT	106		106		
WBLT	66	1	67		
WBTH	151	2	153		
WBRT	68	3	71		
Totals:	3219	20	3239		0.62% Increase

(a) from Fig. 6A
(b) Reflects DI mod. Valet Serv.

#2 Bay Street / California Street (#2944)

	Ex.	Proj. Primary	Ex. + Proj.		Percent
SBLT	168	9	177		
SBRT	93		93		
EBLT	88		88		
EBTH	316	13	329	5% TDM Red.	
WBTH	252	6	258		
WBRT	263	7	270		
Totals:	1180	35	1215		2.97% Increase

#3 - Bay Street / California Avenue (#2943)

	Ex.	Proj. Primary	Ex. + Proj.		Percent
NBLT	228		228		
NBRT	44	2	46		
EBTH	296	23	319		
EBRT	190		190		
WBLT	47	2	49		
WBTH	288	13	301		
Totals:	1093	40	1133		3.66% Increase

#5 - W. Cliff Dr / Bay St (#2965)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	39	9	48	39	
NBTH	365		365	365	
SBTH	402	8	414	406	
SBRT	357		357	357	
WBRT	2		2	2	
EBLT	360	22	400	378	
EBRT	57		57	57	
Totals:	1582	39	1621	1604	1.06% Increase

#7 - W. Cliff Drive / Beach Street (#2967)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	6		6	6	
NBTH	721	22	764	742	
SBTH	537	28	565	537	
SBRT	4		4	4	
WBLT	227	12	260	248	
Totals:	1495	62	1557	1537	1.30% Increase

#8 - Beach Street / Pacific Avenue (#2966)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	477	18	516	498	
NBTH	221	4	225	221	
NBRT	46		46	46	
EBLT	71		71	71	
EBTH	124		124	124	
EBRT	183	12	195	183	
WBLT	21		21	21	
WBTH	47		47	47	
WBRT	35		35	35	
Totals:	1225	34	1259	1246	1.04% Increase

#9 - Pacific Avenue / Center Street (#2964)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
SBLT	129		129	129	
SBTH	394	18	405	387	
SBLT	50		50	50	
EBLT	34		34	34	
EBTH	83		83	83	
EBRT	171	10	181	171	
WBLT	18		18	18	
WBTH	133	6	139	133	
WBRT	455	10	465	455	
Totals:	1467	44	1511	1460	3.49% Increase

190 W. Cliff Dr. - Feb. 12, 2019 - "Saturday" (% Increase) - Variant No. 1

#1 - SR 1 (Mission Street) / Bay Street (#2923)

	Exist.	Proj. Primary	Ex. + Proj. (a)		Percent
NBLT	82		82		Increase
NBTH	990		990		
NBRT	70	2	72		
SBLT	110	4	114		
SBTH	1097		1097		
SBRT	97		97		
EBLT	189		189		
EBTH	119	5	124		
EBRT	108		108		
WBLT	96	2	98		
WBTH	85	3	88		
WBRT	91	3	94		
Totals:	3134	19	3153		0.61% Percent Increase

(a) from Fig. 6B
(b) Reflects DI mod. Valet Serv.

#2 Bay Street / California Street (#2944)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
SBLT	214	7	241	234	
SBRT	85		85	85	
EBLT	73		73	73	
EBTH	238	11	249	238	
WBTH	231	8	239	231	
WBRT	262	7	269	262	
Totals:	1103	33	1156	1123	2.94% Percent Increase

#3 - Bay Street / California Avenue (#2943)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	193		193	193	
NBRT	43	3	46	43	
EBTH	271	18	309	291	
EBRT	179		179	179	
WBLT	41	3	44	41	
WBTH	301	15	316	301	
Totals:	1028	39	1087	1048	3.72% Percent Increase

#5 - W. Cliff Dr / Bay St (#2965)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	33	11	44	33	
NBTH	326		326	326	
SBTH	405	5	410	405	
SBRT	404		402	402	
EBLT	306	31	357	326	
EBRT	70		70	70	
Totals:	1544	47	1609	1562	3.01% Percent Increase

#7 - W. Cliff Drive / Beach Street (#2967)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	10		10	10	
NBTH	633	31	662	631	
SBTH	543	23	568	545	
SBRT	3		3	3	
WBLT	269	14	282	268	
Totals:	1458	68	1526	1457	4.74% Percent Increase

#8 - Beach Street / Pacific Avenue (#2966)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	423	23	448	425	
NBTH	190	8	194	186	
NBRT	69		69	69	
EBLT	221		221	221	
EBTH	153		153	153	
EBRT	223	14	236	222	
WBLT	32		32	32	
WBTH	74		74	74	
WBRT	52		52	52	
Totals:	1437	45	1479	1434	3.14% Percent Increase

#9 - Pacific Avenue / Center Street (#2964)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
SBLT	196		196	196	
SBTH	398	16	416	400	
SBLT	45		45	45	
EBLT	36		36	36	
EBTH	165		165	165	
EBRT	165	7	172	165	
WBLT	52		52	52	
WBTH	215	6	220	214	
WBRT	475	12	488	476	
Totals:	1747	41	1788	1749	2.23% Percent Increase

190 W. Cliff Dr. - Feb. 12, 2019 - "Saturday" (% Increase) - Variant No. 2

#1 - SR 1 (Mission Street) / Bay Street (#2923)

	Exist.	Proj. Primary	Ex. + Proj. (a)		Percent
NBLT	82		82		Increase
NBTH	990		990		
NBRT	70	2	72		
SBLT	110	4	114		
SBTH	1097		1097		
SBRT	97		97		
EBLT	189		189		
EBTH	119	5	124		
EBRT	108		108		
WBLT	96	2	98		
WBTH	85	3	88		
WBRT	91	3	94		
Totals:	3134	19	3153		0.61% Percent Increase

(a) from Fig. 6B
(b) Reflects DI mod. Valet Serv.

#2 Bay Street / California Street (#2944)

	Ex.	Proj. Primary	Ex. + Proj.		Percent
SBLT	214	7	221		
SBRT	85		85		
EBLT	73		73		
EBTH	238	11	249		
WBTH	231	8	239		
WBRT	262	7	269		
Totals:	1103	33	1136		2.99% Percent Increase

#3 - Bay Street / California Avenue (#2943)

	Ex.	Proj. Primary	Ex. + Proj.		Percent
NBLT	193		193		
NBRT	43	3	46		
EBTH	271	18	289		
EBRT	179		179		
WBLT	41	3	44		
WBTH	301	15	316		
Totals:	1028	39	1067		3.79% Percent Increase

#5 - W. Cliff Dr / Bay St (#2965)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	33	11	44	33	
NBTH	326		326	326	
SBTH	405	5	430	425	
SBRT	404		402	402	
EBLT	306	31	337	306	
EBRT	70		70	70	
Totals:	1544	47	1609	1562	3.01% Percent Increase

#7 - W. Cliff Drive / Beach Street (#2967)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	10		10	10	
NBTH	633	31	662	631	
SBTH	543	23	568	545	
SBRT	3		3	3	
WBLT	269	14	282	268	
Totals:	1458	68	1526	1457	4.74% Percent Increase

#8 - Beach Street / Pacific Avenue (#2966)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
NBLT	423	23	448	425	
NBTH	190	8	194	186	
NBRT	69		69	69	
EBLT	221		221	221	
EBTH	153		153	153	
EBRT	223	14	236	222	
WBLT	32		32	32	
WBTH	74		74	74	
WBRT	52		52	52	
Totals:	1437	45	1479	1434	3.14% Percent Increase

#9 - Pacific Avenue / Center Street (#2964)

	Ex.	Proj. Primary	Ex. + Proj.	Ex. Adj.	Percent
SBLT	196		196	196	
SBTH	398	16	416	400	
SBLT	45		45	45	
EBLT	36		36	36	
EBTH	165		165	165	
EBRT	165	7	172	165	
WBLT	52		52	52	
WBTH	215	6	220	214	
WBRT	475	12	488	476	
Totals:	1747	41	1788	1749	2.23% Percent Increase