APPENDIX A

# LOS METHODOLOGY

# APPENDIX A
# LEVEL OF SERVICE

The description and procedures for calculating capacity and level of service are found in Transportation Research Board, Highway Capacity Manual 2000. Highway Capacity Manual 2000 represents the latest research on capacity and quality of service for transportation facilities.

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Six levels of service are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with level-of-service A representing the best operating conditions and level-of-service F the worst. Each level of service represents a range of operating conditions and the driver's perception of these conditions. Safety is not included in the measures that establish service levels.

A general description of service levels for various types of facilities is shown in Table A-I

**Table A-I: Level of Service Description**

| | **Uninterrupted Flow** | **Interrupted Flow** |
|---|---|---|
| Facility Type | Freeways<br>Multi-lane Highways<br>Two-lane Highways<br>Urban Streets | Signalized Intersections<br>Unsignalized Intersections<br>Two-way Stop Control<br>All-way Stop Control |
| **LOS** | | |
| A | Free-flow | Very low delay. |
| B | Stable flow. Presence of other users noticeable. | Low delay. |
| C | Stable flow. Comfort and convenience starts to decline. | Acceptable delay. |
| D | High density stable flow. | Tolerable delay. |
| E | Unstable flow. | Limit of acceptable delay. |
| F | Forced or breakdown flow. | Unacceptable delay |

**Source:** Highway Capacity Manual 2000

### Urban Streets

The term "urban streets" refers to urban arterials and collectors, including those in downtown areas.

Arterial streets are roads that primarily serve longer through trips. However, providing access to abutting commercial and residential land uses is also an important function of arterials.
Collector streets provide both land access and traffic circulation within residential, commercial and industrial areas. Their access function is more important than that of arterials, and unlike arterials their operation is not always dominated by traffic signals.
Downtown streets are signalized facilities that often resemble arterials. They not only move through traffic but also provide access to local businesses for passenger cars, transit buses, and trucks. Pedestrian conflicts and lane obstructions created by stopping or standing buses, trucks and parking vehicles that cause turbulence in the traffic flow are typical of downtown streets.

The speed of vehicles on urban streets is influenced by three main factors, street environment, interaction among vehicles and traffic control. As a result, these factors also affect quality of service.

The street environment includes the geometric characteristics of the facility, the character of roadside activity and adjacent land uses. Thus, the environment reflects the number and width of lanes, type of median, driveway density, spacing between signalized intersections, existence of parking, level of pedestrian activity and speed limit.

The interaction among vehicles is determined by traffic density, the proportion of trucks and buses, and turning movements. This interaction affects the operation of vehicles at intersections and, to a lesser extent, between signals.

Traffic control (including signals and signs) forces a portion of all vehicles to slow or stop. The delays and speed changes caused by traffic control devices reduce vehicle speeds, however, such controls are needed to establish right-of-way.

The average travel speed for through vehicles along an urban street is the determinant of the operating level of service. The travel speed along a segment, section or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections.

Level-of-service A describes primarily free-flow operations. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.

Level-of-service B describes reasonably unimpeded operations. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.

Level-of-service C describes stable operations, however, ability to maneuver and change lanes in midblock location may be more restricted than at level-of-service B. Longer queues, adverse signal coordination, or both may contribute to lower travel speeds.

Level-of-service D borders on a range in which in which small increases in flow may cause substantial increases in delay and decreases in travel speed. Level-of-service D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors.

Level-of-service E is characterized by significant delays and lower travel speeds. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.

Level-of-service F is characterized by urban street flow at extremely low speeds. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.

The methodology to determine level of service stratifies urban streets into four classifications. The classifications are complex, and are related to functional and design categories. Table A-II describes the functional and design categories, while Table A-III relates these to the urban street classification.

Once classified, the urban street is divided into segments for analysis. An urban street segment is a one-way section of street encompassing a series of blocks or links terminating at a signalized intersection. Adjacent segments of urban streets may be combined to form larger street sections, provided that the segments have similar demand flows and characteristics.

Levels of service are related to the average travel speed of vehicles along the urban street segment or section.

Travel times for existing conditions are obtained by field measurements. The maximum-car technique is used. The vehicle is driven at the posted speed limit unless impeded by actual traffic conditions. In the maximum-car technique, a safe level of vehicular operation is maintained by observing proper following distances and by changing speeds at reasonable rates of acceleration and deceleration. The maximum-car technique provides the best base for measuring traffic performance.

An observer records the travel time and locations and duration of delay. The beginning and ending points are the centers of intersections. Delays include times waiting in queues at signalized intersections. The travel speed is determined by dividing the length of the segment by the travel time. Once the travel speed on the arterial is determined, the level of service is found by comparing the speed to the criteria in Table A-IV. Level-of-service criteria vary for the different classifications of urban street, reflecting differences in driver expectations.

**Table A-II: Functional and Design Categories for Urban Streets**

| **Criterion** | **Functional Category** | | | |
|---|---|---|---|---|
| | **Principal Arterial** | | **Minor Arterial** | |
| Mobility function | Very important | | Important | |
| Access function | Very minor | | Substantial | |
| Points connected | Freeways, important activity centers, major traffic generators | | Principal arterials | |
| Predominant trips served | Relatively long trips between major points and through trips entering, leaving, and passing through city | | Trips of moderate length within relatively small geographical areas | |
| **Criterion** | **Design Category** | | | |
| | **High-Speed** | **Suburban** | **Intermediate** | **Urban** |
| Driveway access density | Very low density | Low density | Moderate density | High density |
| Arterial type | Multilane divided; undivided or two-lane with shoulders | Multilane divided: undivided or two-lane with shoulders | Multilane divided or undivided; one way, two lane | Undivided one way; two way, two or more lanes |
| Parking | No | No | Some | Usually |
| Separate left-turn lanes | Yes | Yes | Usually | Some |
| Signals per mile | 0.5 to 2 | 1 to 5 | 4 to 10 | 6 to 12 |
| Speed limits | 45 to 55 mph | 40 to 45 mph | 30 to 40 mph | 25 to 35 mph |
| Pedestrian activity | Very little | Little | Some | Usually |
| Roadside development | Low density | Low to medium density | Medium to moderate density | High density |

**Source:** Highway Capacity Manual 2000

**Table A-III: Urban Street Class based on Function and Design Categories**

| | Functional Category | |
|---|---|---|
| **Design Category** | **Principal Arterial** | **Minor Arterial** |
| High-Speed | I | Not applicable |
| Suburban | II | II |
| Intermediate | II | III or IV |
| Urban | III or IV | IV |

**Source**: Highway Capacity Manual 2000

**Table A-IV: Urban Street Levels of Service by Class**

| **Urban Street Class** | **I** | **II** | **III** | **IV** |
|---|---|---|---|---|
| Range of Free Flow Speeds (mph) | 45 to 55 | 35 to 45 | 30 to 35 | 25 to 35 |
| Typical Free Flow Speed (mph) | 50 | 40 | 33 | 30 |
| **Level of Service** | **Average Travel Speed (mph)** | | | |
| A | >42 | >35 | >30 | >25 |
| B | >34 | >28 | >24 | >19 |
| C | >27 | >22 | >18 | >13 |
| D | >21 | >17 | >14 | >9 |
| E | >16 | >13 | >10 | >7 |
| F | ≤16 | ≤13 | ≤10 | ≤7 |

**Source**: Highway Capacity Manual 2000

### Interrupted Flow

One of the more important elements limiting, and often interrupting the flow of traffic on a highway is the intersection. Flow on an interrupted facility is usually dominated by points of fixed operation such as traffic signals, stop and yield signs. These all operate quite differently and have differing impacts on overall flow.

### Signalized Intersections

The capacity of a highway is related primarily to the geometric characteristics of the facility, as well as to the composition of the traffic stream on the facility. Geometrics are a fixed, or non-varying, characteristic of a facility.

At the signalized intersection, an additional element is introduced into the concept of capacity: time allocation. A traffic signal essentially allocates time among conflicting traffic movements seeking use of the same physical space. The way in which time is allocated has a significant impact on the operation of the intersection and on the capacity of the intersection and its approaches.

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, *i. e.,* in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, level of service criteria for traffic signals are stated in terms of average control delay per vehicle, typically for a 15-minute analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the ratio of green time to cycle length and the volume to capacity ratio for the lane group.

For each intersection analyzed the average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection. A level of service designation is given to the control delay to better describe the level of operation. A description of levels of service for signalized intersections can be found in Table A-V

**Table A-V: Description of Level of Service for Signalized Intersections**

| Level of Service | Description |
|---|---|
| A | Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values. |
| B | Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay. |
| C | Control delay greater than 20 and up to 35 seconds per vehicle. Higher delays are caused by fair progression or longer cycle lengths or both. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase doe not serve queued vehicles, and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping. |
| D | Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestions becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. |
| E | Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent. |
| F | Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay. |

**Source**: Highway Capacity Manual 2000

The use of control delay, which may also be referred to as signal delay, was introduced in the 1997 update to the *Highway Capacity Manual*, and represents a departure from previous updates. In the third edition, published in 1985 and the 1994 update to the third edition, delay only included stopped delay. Thus, the level of service criteria listed in Table A-V differs from earlier criteria.

### Unsignalized Intersections

The current procedures on unsignalized intersections were first introduced in the 1997 update to the *Highway Capacity Manual* and represent a revision of the methodology published in the 1994 update to the 1985 *Highway Capacity Manual*. The revised procedures use control delay as a measure of effectiveness to determine level of service. Delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, *i. e.,* in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Control delay is the increased time of travel for a vehicle approaching and passing through an unsignalized intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection.

### Two-Way Stop Controlled Intersections

Two-way stop controlled intersections in which stop signs are used to assign the right-of-way, are the most prevalent type of intersection in the United States. At two-way stop-controlled intersections the stop-controlled approaches are referred as the minor street approaches and can be either public streets or private driveways. The approaches that are not controlled by stop signs are referred to as the major street approaches.

The capacity of movements subject to delay are determined using the "critical gap" method of capacity analysis. Expected average control delay based on movement volume and movement capacity is calculated. A level of service designation is given to the expected control delay for each minor movement. Level of service is not defined for the intersection as a whole. Control delay is the increased time of travel for a vehicle approaching and passing through a stop-controlled intersection, compared with a free-flow vehicle if it were not required

to slow or stop at the intersection. A description of levels of service for two-way stop-controlled intersections is found in Table A-VI.

**Table A-VI: Description of Level of Service for Two-Way Stop Controlled Intersections**

| Level of Service | Description |
|---|---|
| A | Very low control delay less than 10 seconds per vehicle for each movement subject to delay. |
| B | Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay. |
| C | Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay. |
| D | Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay. |
| E | Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay. |
| F | Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay. |

**Source:** Highway Capacity Manual 2000

APPENDIX B

# LOS CALCULATION SHEETS

Menlo Park GP Circulation Update

Vistro File: J:\...\Menlo Park AM_update.vistro
Report File: J:\...\Menlo Park_AM Results.pdf

Scenario 1: Existing AM
1/9/2015

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | Marsh Rd (SR 84)/US 101 SB Offramp | Signalized | HCM2000 | SWBT | 1.021 | 53.4 | D |
| 2 | Marsh Rd/Rolison Rd-Scott Dr | Signalized | HCM2000 | SWBT | 0.704 | 95.4 | F |
| 3 | Marsh Rd/Florence St-Bohannon Dr | Signalized | HCM2000 | NBL | 0.739 | 67.2 | E |
| 4 | Marsh Rd/Bay Rd | Signalized | HCM2000 | SBL | 0.585 | 32.2 | C |
| 9 | Middlefield Rd/Ravenswood Ave | Signalized | HCM2000 | NEBL | 0.647 | 35.5 | D |
| 10 | Middlefield Rd/Ringswood Ave | Signalized | HCM2000 | NWBL | 0.429 | 33.7 | C |
| 15 | Bayfront Expy (SR 84)/University Ave (SR 109) | Signalized | HCM2000 | NWBL | 0.957 | 22.1 | C |
| 16 | Bayfront Expy (SR 84)/Willow Rd (SR 114) | Signalized | HCM2000 | SBR | 0.814 | 33.7 | C |
| 17 | Willow Rd (SR 114)/Hamilton Ave | Signalized | HCM2000 | SBL | 0.557 | 27.6 | C |
| 18 | Willow Rd (SR 114)/Ivy Dr | Signalized | HCM2000 | NBL | 0.543 | 19.0 | B |
| 19 | Willow Rd (SR 114)/O'Brien Dr | Signalized | HCM2000 | SBL | 0.547 | 14.5 | B |
| 20 | Willow Rd (SR 114)/Newbridge St | Signalized | HCM2000 | SBL | 0.785 | 40.6 | D |
| 21 | Willow Rd/Bay Rd | Signalized | HCM2000 | NEBL | 0.675 | 20.7 | C |
| 22 | Willow Rd/Durham St-VA Med Entrance | Signalized | HCM2000 | WBL | 0.761 | 14.3 | B |
| 23 | Willow Rd/Coleman Ave | Signalized | HCM2000 | EBL | 0.954 | 33.8 | C |
| 24 | Willow Rd/Gilbert Ave | Signalized | HCM2000 | WBT | 0.683 | 18.3 | B |
| 25 | Middlefield Rd-Willow Rd | Signalized | HCM2000 | NEBT | 0.623 | 48.7 | D |
| 26 | Ravenswood Ave/Laurel St | Signalized | HCM2000 | SEBT | 0.958 | 20.4 | C |
| 28 | Oak Grove Ave/Laurel St | Signalized | HCM2000 | SEBT | 0.751 | 15.6 | B |
| 29 | El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance | Signalized | HCM2000 | NWBL | 0.646 | 18.1 | B |
| 30 | El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave | Signalized | HCM2000 | NWBL | 0.823 | 35.4 | D |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Ave | | | | | | |
| 31 | El Camino Real (SR 82)/Oak Grove Ave | Signalized | HCM2000 | NEBL | 0.728 | 30.6 | C |
| 32 | El Camino Real (SR 82)/Santa Cruz Ave | Signalized | HCM2000 | NEBR | 0.658 | 11.3 | B |
| 33 | El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave | Signalized | HCM2000 | NWBL | 0.824 | 37.8 | D |
| 34 | El Camino Real (SR 82)/Roble Ave | Signalized | HCM2000 | SEBL | 0.569 | 8.7 | A |
| 35 | El Camino Real (SR 82)/Middle Ave | Signalized | HCM2000 | NWBL | 0.685 | 16.8 | B |
| 36 | El Camino Real (SR 82)/Cambridge Ave | Signalized | HCM2000 | NEBL | 0.591 | 4.3 | A |
| 38 | Santa Cruz Ave/University Dr (S) | Signalized | HCM2000 | SWBL | 0.601 | 16.9 | B |
| 39 | Santa Cruz Ave/Sand Hill Rd | Signalized | HCM2000 | SEBL | 0.782 | 52.6 | D |
| 58 | University Avenue and Adams Drive | Two-way stop | HCM2000 | EBL | 0.196 | 146.8 | F |
| 74 | University Ave/O'Brien Dr | Signalized | HCM2000 | EBR | 0.569 | 3.7 | A |
| 88 | Valparaiso Ave/ University Dr | Signalized | HCM2000 | NWBT | 0.675 | 19.8 | B |
| 103 | Addison Wesley/Sand Hill Rd | Signalized | HCM2000 | EBT | 0.668 | 155.5 | F |
| 107 | Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd | Signalized | HCM2000 | WBR | 0.784 | 46.4 | D |
| 110 | Marsh Road and US 101 NB Ramps | Signalized | HCM2000 | NWBL | 0.681 | 17.1 | B |
| 132 | Oak Ave/Sand Hill Rd | Signalized | HCM2000 | SEBR | 0.789 | 18.2 | B |
| 156 | Saga Ln/Sand Hill Rd | Signalized | HCM2000 | EBT | 0.605 | 54.3 | D |
| 157 | Branner Dr/Sand Hill Rd | Signalized | HCM2000 | EBT | 0.575 | 44.3 | D |
| 162 | Sharon Park Dr/ Sand Hill Rd | Signalized | HCM2000 | SWBL | 0.650 | 29.4 | C |
| 163 | Bayfront Expy/Marsh Rd | Signalized | HCM2000 | WBL | 1.173 | 140.9 | F |
| 181 | Santa Cruz Ave/Elder Ave | Signalized | HCM2000 | NEBL | 0.545 | 15.4 | B |
| 195 | Bayfront Expy/Chilco St | Signalized | HCM2000 | NBL | 0.843 | 18.9 | B |
| 196 | Bayfront Expy/Chrysler Drive | Signalized | HCM2000 | NBL | 0.883 | 15.1 | B |
| 207 | Chilco St/Constitution Dr | All-way stop | HCM2000 | SBT | | 11.6 | B |
| 209 | Jefferson Dr/Constitution Dr | Two-way stop | HCM2000 | NEBT | 0.000 | 9.6 | A |
| 213 | Chrysler Dr/Independence Dr | Two-way stop | HCM2000 | NWBT | 0.016 | 10.1 | B |
| 214 | Chrysler Dr/Jefferson Dr | Two-way stop | HCM2000 | NWBT | 0.000 | 12.2 | B |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 215 | Chrysler Dr/Constitution Dr | All-way stop | HCM2000 | EBT | | 8.8 | A |
| 233 | Sand Hill Road and Sand Hill Circle | Signalized | HCM2000 | NBT | 0.435 | 63.7 | E |
| 234 | Sand Hill Rd/Hwy 280 NB Off-Ramp | Signalized | HCM2000 | EBT | 0.731 | 233.2 | F |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**#1: Marsh Rd (SR 84)/US 101 SB Offramp**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 53.4 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.021 |

**Intersection Setup**

| Name | Marsh Road | | Marsh Road (SR 84) | | US 101 SB Offramp | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 1 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 420.00 |
| Speed [mph] | 35.00 | | 35.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | no | | no | | no | |

**Volumes**

| Name | Marsh Road | | Marsh Road (SR 84) | | US 101 SB Offramp | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 784 | 1747 | 279 | 953 | 320 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 3.30 | 3.60 | 2.15 | 5.10 | 3.40 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 784 | 1747 | 279 | 953 | 320 |
| Peak Hour Factor | 1.0000 | 0.9700 | 0.9700 | 1.0000 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 202 | 450 | 70 | 246 | 82 |
| Total Analysis Volume [veh/h] | 0 | 808 | 1801 | 279 | 982 | 330 |
| Presence of On-Street Parking | | no | no | | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 4 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 80 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 57.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Permissive | Permissive | Protected | Overlap |
|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 6 | 0 | 4 | 1 |
| Auxiliary Signal Groups | | | | | | 1,4 |
| Lead / Lag | - | - | - | - | Lead | - |
| Minimum Green [s] | 0 | 8 | 8 | 0 | 6 | 4 |
| Maximum Green [s] | 0 | 36 | 36 | 0 | 36 | 30 |
| Amber [s] | 0.0 | 3.6 | 3.6 | 0.0 | 3.1 | 3.1 |
| All red [s] | 0.0 | 0.5 | 0.5 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 46 | 38 | 0 | 34 | 8 |
| Vehicle Extension [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 1.5 |
| Walk [s] | 0 | 0 | 7 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 16 | 0 | 22 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | yes | yes | | no | no |
| Maximum Recall | | no | no | | no | no |
| Pedestrian Recall | | no | no | | no | no |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 20.0 | 0.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | L | R |
|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 44 | 36 | 32 | 40 |
| g / C, Green / Cycle | 0.55 | 0.45 | 0.40 | 0.50 |
| (v / s)_i Volume / Saturation Flow Rate | 0.20 | 0.52 | 0.29 | 0.21 |
| Total Saturation Flow Adjustment | 1.05 | 0.92 | 0.88 | 0.82 |
| s, saturation flow rate [veh/h] | 4000 | 3492 | 3335 | 1562 |
| c, Capacity [veh/h] | 2200 | 1571 | 1334 | 781 |
| d1, Uniform Delay [s] | 10.15 | 22.00 | 20.41 | 12.68 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.47 | 73.77 | 3.65 | 1.68 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

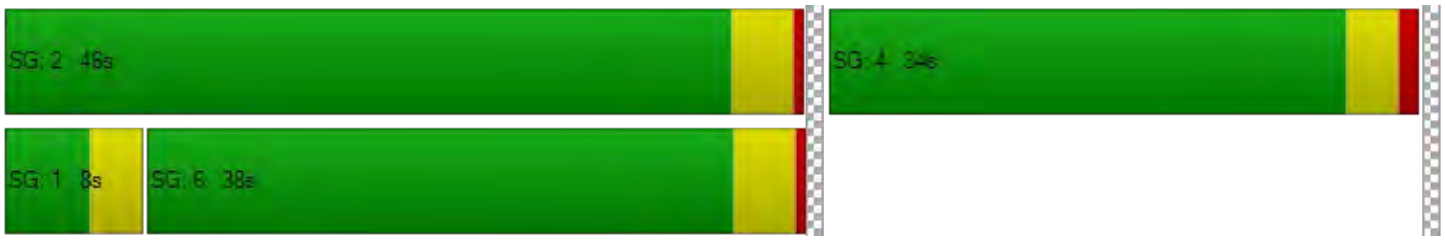
| | | | | |
|---|---|---|---|---|
| X, volume / capacity | 0.37 | 1.15 | 0.74 | 0.42 |
| d, Delay for Lane Group [s/veh] | 10.62 | 95.77 | 24.06 | 14.35 |
| Lane Group LOS | B | F | C | B |
| Critical Lane Group | no | yes | yes | yes |
| 50th-Percentile Queue Length [veh] | 5.99 | 41.42 | 11.62 | 5.29 |
| 50th-Percentile Queue Length [ft] | 149.71 | 1035.62 | 290.57 | 132.22 |
| 95th-Percentile Queue Length [veh] | 11.39 | 66.29 | 19.73 | 10.30 |
| 95th-Percentile Queue Length [ft] | 284.74 | 1657.26 | 493.33 | 257.47 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 10.62 | 95.77 | 0.00 | 24.06 | 14.35 |
| Movement LOS | | B | F | | C | B |
| d_A, Approach Delay [s/veh] | 10.62 | | 95.77 | | 21.62 | |
| Approach LOS | B | | F | | C | |
| d_I, Intersection Delay [s/veh] | 53.41 | | | | | |
| Intersection LOS | D | | | | | |
| Intersection V/C | 1.021 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 1 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#2: Marsh Rd/Rolison Rd-Scott Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 95.4 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.704 |

**Intersection Setup**

| Name | Marsh Road | | | Marsh Road | | | Scott Drive | | | Rolison Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Pocket Length [ft] | 155.00 | 100.00 | 100.00 | 350.00 | 100.00 | 100.00 | 60.00 | 100.00 | 35.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Marsh Road | | | Marsh Road | | | Scott Drive | | | Rolison Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 28 | 1184 | 14 | 439 | 1422 | 296 | 15 | 4 | 71 | 239 | 12 | 5 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 3.60 | 3.00 | 7.10 | 3.90 | 4.00 | 1.00 | 0.00 | 0.00 | 12.70 | 1.70 | 0.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 59 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 28 | 1184 | 14 | 439 | 1422 | 296 | 15 | 4 | 12 | 239 | 12 | 5 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 7 | 312 | 4 | 116 | 374 | 78 | 4 | 1 | 3 | 63 | 3 | 1 |
| Total Analysis Volume [veh/h] | 29 | 1246 | 15 | 462 | 1497 | 312 | 16 | 4 | 13 | 252 | 13 | 5 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 1 | | | 0 | | | 1 | | | 2 | | |
| Bicycle Volume [bicycles/h] | 2 | | | 0 | | | 0 | | | 1 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 160 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 70.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 3 | 8 | 4 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lead | - | - | - | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 10 | 10 | 4 | 10 | 10 | 0 | 6 | 0 | 4 | 4 | 4 |
| Maximum Green [s] | 4 | 16 | 16 | 4 | 16 | 16 | 0 | 30 | 0 | 16 | 16 | 16 |
| Amber [s] | 3.0 | 4.0 | 4.0 | 3.0 | 4.0 | 4.0 | 0.0 | 3.2 | 0.0 | 3.2 | 3.2 | 3.2 |
| All red [s] | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 |
| Split [s] | 8 | 53 | 53 | 29 | 74 | 74 | 0 | 41 | 0 | 37 | 37 | 37 |
| Vehicle Extension [s] | 2.5 | 3.5 | 3.5 | 2.0 | 3.5 | 3.5 | 0.0 | 2.5 | 0.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 7 | 7 | 0 | 7 | 7 | 0 | 8 | 0 | 8 | 8 | 8 |
| Pedestrian Clearance [s] | 0 | 21 | 21 | 0 | 21 | 21 | 0 | 28 | 0 | 24 | 24 | 24 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | yes | | no | yes | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | R | L | C |
|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 6 | 51 | 27 | 72 | 39 | 39 | 35 | 35 |
| g / C, Green / Cycle | 0.04 | 0.32 | 0.17 | 0.45 | 0.24 | 0.24 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02 | 0.25 | 0.14 | 0.53 | 0.01 | 0.01 | 0.14 | 0.01 |
| Total Saturation Flow Adjustment | 0.92 | 0.88 | 0.89 | 0.89 | 0.96 | 0.67 | 0.93 | 0.96 |
| s, saturation flow rate [veh/h] | 1742 | 5015 | 3374 | 3387 | 1827 | 2536 | 1775 | 1815 |
| c, Capacity [veh/h] | 65 | 1599 | 569 | 1524 | 445 | 618 | 388 | 397 |
| d1, Uniform Delay [s] | 75.37 | 49.60 | 64.05 | 44.00 | 46.26 | 45.99 | 56.91 | 49.32 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 20.34 | 4.03 | 11.93 | 90.99 | 0.19 | 0.06 | 8.15 | 0.22 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.44 | 0.79 | 0.81 | 1.19 | 0.04 | 0.02 | 0.65 | 0.05 |
| d, Delay for Lane Group [s/veh] | 95.70 | 53.63 | 75.98 | 134.99 | 46.45 | 46.05 | 65.06 | 49.53 |
| Lane Group LOS | F | D | E | F | D | D | E | D |
| Critical Lane Group | yes | no | no | yes | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 1.46 | 22.29 | 12.51 | 67.73 | 0.73 | 0.27 | 11.70 | 0.67 |
| 50th-Percentile Queue Length [ft] | 36.38 | 557.37 | 312.84 | 1693.24 | 18.13 | 6.64 | 292.40 | 16.84 |
| 95th-Percentile Queue Length [veh] | 3.42 | 35.93 | 21.05 | 108.37 | 1.79 | 0.68 | 19.84 | 1.67 |
| 95th-Percentile Queue Length [ft] | 85.41 | 898.25 | 526.16 | 2709.18 | 44.69 | 16.93 | 496.03 | 41.67 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 95.70 | 53.63 | 53.63 | 75.98 | 134.99 | 134.99 | 46.45 | 46.45 | 46.05 | 65.06 | 49.53 | 49.53 |
| Movement LOS | F | D | D | E | F | F | D | D | D | E | D | D |
| d_A, Approach Delay [s/veh] | 54.58 | | | 122.99 | | | 46.29 | | | 64.03 | | |
| Approach LOS | D | | | F | | | D | | | E | | |
| d_I, Intersection Delay [s/veh] | 95.37 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |
| Intersection V/C | 0.704 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#3: Marsh Rd/Florence St-Bohannon Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 67.2 |
| Analysis Method: | HCM2000 | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.739 |

**Intersection Setup**

| Name | Marsh Road | | | Marsh Road | | | Florence Street | | | Bohannon Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 145.00 | 100.00 | 100.00 | 135.00 | 100.00 | 100.00 | 155.00 | 100.00 | 100.00 | 90.00 | 100.00 | 100.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Marsh Road | | | Marsh Road | | | Florence Street | | | Bohannon Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 99 | 767 | 90 | 27 | 1068 | 435 | 447 | 47 | 198 | 27 | 16 | 25 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 4.00 | 1.60 | 5.60 | 7.40 | 5.10 | 3.00 | 6.50 | 8.50 | 4.50 | 25.90 | 37.50 | 28.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 99 | 767 | 90 | 27 | 1068 | 435 | 447 | 47 | 183 | 27 | 16 | 25 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 26 | 202 | 24 | 7 | 281 | 114 | 118 | 12 | 48 | 7 | 4 | 7 |
| Total Analysis Volume [veh/h] | 104 | 807 | 95 | 28 | 1124 | 458 | 471 | 49 | 193 | 28 | 17 | 26 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 6 | | | 5 | | | 3 | | | 3 | | |
| Bicycle Volume [bicycles/h] | 10 | | | 5 | | | 2 | | | 1 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 160 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 50.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 4 | 3 | 4 | 8 | 4 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lag | - | - | Lag | - | - | - | - | - |
| Minimum Green [s] | 4 | 12 | 12 | 4 | 12 | 12 | 8 | 8 | 8 | 0 | 8 | 0 |
| Maximum Green [s] | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | 3.6 | 3.2 | 3.0 | 3.2 | 0.0 | 3.2 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 12 | 79 | 79 | 8 | 75 | 75 | 37 | 36 | 37 | 0 | 37 | 0 |
| Vehicle Extension [s] | 2.0 | 5.0 | 5.0 | 2.0 | 5.0 | 5.0 | 2.5 | 2.5 | 2.5 | 0.0 | 2.5 | 0.0 |
| Walk [s] | 0 | 7 | 7 | 0 | 7 | 7 | 7 | 7 | 7 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 19 | 19 | 0 | 16 | 16 | 25 | 25 | 25 | 0 | 25 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | yes | | no | yes | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | R | L | C |
|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 10 | 77 | 6 | 73 | 34 | 34 | 35 | 35 |
| g / C, Green / Cycle | 0.06 | 0.48 | 0.04 | 0.46 | 0.21 | 0.21 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.06 | 0.26 | 0.02 | 0.48 | 0.16 | 0.13 | 0.02 | 0.03 |
| Total Saturation Flow Adjustment | 0.91 | 0.92 | 0.88 | 0.86 | 0.84 | 0.80 | 0.75 | 0.65 |
| s, saturation flow rate [veh/h] | 1736 | 3500 | 1681 | 3283 | 3190 | 1514 | 1434 | 1243 |
| c, Capacity [veh/h] | 108 | 1684 | 63 | 1498 | 678 | 322 | 314 | 272 |
| d1, Uniform Delay [s] | 74.79 | 29.00 | 75.37 | 43.50 | 59.28 | 56.86 | 49.80 | 50.58 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 75.84 | 1.22 | 21.06 | 39.65 | 8.12 | 8.03 | 0.56 | 1.24 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

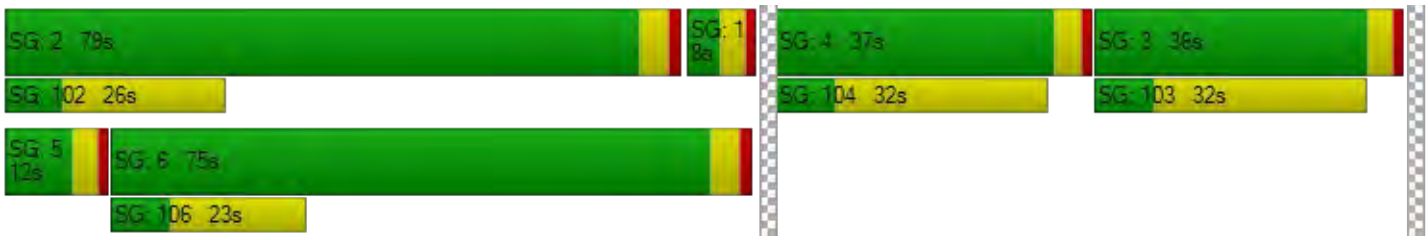
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.96 | 0.54 | 0.44 | 1.06 | 0.77 | 0.60 | 0.09 | 0.16 |
| d, Delay for Lane Group [s/veh] | 150.64 | 30.23 | 96.43 | 83.15 | 67.40 | 64.89 | 50.36 | 51.82 |
| Lane Group LOS | F | C | F | F | E | E | D | D |
| Critical Lane Group | yes | no | no | yes | yes | no | no | yes |
| 50th-Percentile Queue Length [veh] | 6.51 | 16.46 | 1.41 | 52.24 | 13.67 | 8.83 | 1.07 | 1.67 |
| 50th-Percentile Queue Length [ft] | 162.85 | 411.56 | 35.18 | 1306.06 | 341.65 | 220.66 | 26.65 | 41.87 |
| 95th-Percentile Queue Length [veh] | 12.19 | 26.95 | 3.31 | 83.59 | 22.75 | 15.63 | 2.57 | 3.88 |
| 95th-Percentile Queue Length [ft] | 304.82 | 673.80 | 82.84 | 2089.74 | 568.86 | 390.82 | 64.16 | 96.95 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 150.64 | 30.23 | 30.23 | 96.43 | 83.15 | 83.15 | 67.40 | 67.40 | 64.89 | 50.36 | 51.82 | 51.82 |
| Movement LOS | F | C | C | F | F | F | E | E | E | D | D | D |
| d_A, Approach Delay [s/veh] | 42.67 | | | 83.38 | | | 66.72 | | | 51.24 | | |
| Approach LOS | D | | | F | | | E | | | D | | |
| d_I, Intersection Delay [s/veh] | 67.17 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.739 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#4: Marsh Rd/Bay Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 32.2 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.585 |

**Intersection Setup**

| Name | Marsh Road | | | Marsh Road | | | Bay Road | | | Bay Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 260.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 25.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Marsh Road | | | Marsh Road | | | Bay Road | | | Bay Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 1 | 803 | 82 | 268 | 867 | 31 | 114 | 78 | 7 | 45 | 19 | 173 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 1.20 | 2.40 | 7.10 | 6.20 | 3.20 | 3.50 | 2.60 | 0.00 | 0.00 | 5.30 | 4.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 803 | 82 | 268 | 867 | 31 | 114 | 78 | 7 | 45 | 19 | 173 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 211 | 22 | 71 | 228 | 8 | 30 | 21 | 2 | 12 | 5 | 46 |
| Total Analysis Volume [veh/h] | 1 | 845 | 86 | 282 | 913 | 33 | 120 | 82 | 7 | 47 | 20 | 182 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 6 | | | 4 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 4 | | | 4 | | | 6 | | | 8 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 80 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 8.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 6 | 2 | 5 | 2 | 6 | 4 | 4 | 4 | 8 | 4 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lead | - | - | Lag | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 6 | 4 | 6 | 6 | 6 | 6 | 6 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 29 | 30 | 30 | 30 | 29 | 19 | 19 | 19 | 0 | 19 | 0 |
| Amber [s] | 3.6 | 3.6 | 3.6 | 3.1 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 0.0 | 3.6 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 48 | 50 | 48 | 19 | 48 | 50 | 32 | 32 | 32 | 0 | 32 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 2.0 | 3.0 | 3.0 | 2.5 | 2.5 | 2.5 | 0.0 | 2.5 | 0.0 |
| Walk [s] | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 7 | 7 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 12 | 0 | 12 | 0 | 12 | 0 | 20 | 20 | 20 | 0 | 20 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | no | no | | | no | | | no | |
| Maximum Recall | | yes | | no | yes | | | no | | | no | |
| Pedestrian Recall | | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | L | C | C | C |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 2.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 48 | 17 | 46 | 30 | 30 |
| g / C, Green / Cycle | 0.48 | 0.17 | 0.46 | 0.30 | 0.30 |
| (v / s)_i Volume / Saturation Flow Rate | 0.27 | 0.17 | 0.28 | 0.20 | 0.17 |
| Total Saturation Flow Adjustment | 0.91 | 0.89 | 0.89 | 0.56 | 0.78 |
| s, saturation flow rate [veh/h] | 3449 | 1685 | 3387 | 1068 | 1479 |
| c, Capacity [veh/h] | 1639 | 284 | 1543 | 317 | 439 |
| d1, Uniform Delay [s] | 19.06 | 41.95 | 20.78 | 31.03 | 30.01 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.44 | 51.97 | 1.83 | 10.28 | 5.22 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.57 | 0.99 | 0.61 | 0.66 | 0.57 |
| d, Delay for Lane Group [s/veh] | 20.49 | 93.92 | 22.61 | 41.30 | 35.23 |
| Lane Group LOS | C | F | C | D | D |
| Critical Lane Group | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 11.30 | 12.05 | 12.16 | 6.12 | 6.78 |
| 50th-Percentile Queue Length [ft] | 282.52 | 301.24 | 303.98 | 153.06 | 169.60 |
| 95th-Percentile Queue Length [veh] | 19.26 | 20.36 | 20.52 | 11.60 | 12.60 |
| 95th-Percentile Queue Length [ft] | 481.51 | 509.05 | 513.08 | 289.88 | 315.03 |

**Movement, Approach, & Intersection Results**

| d_M, Delay for Movement [s/veh] | 20.49 | 20.49 | 20.49 | 93.92 | 22.61 | 22.61 | 41.30 | 41.30 | 41.30 | 35.23 | 35.23 | 35.23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | C | C | C | F | C | C | D | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 20.49 | | | 38.99 | | | 41.30 | | | 35.23 | | |
| Approach LOS | C | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 32.23 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.585 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#9: Middlefield Rd/Ravenswood Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 35.5 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.647 |

**Intersection Setup**

| Name | Ravenswood Avenue | | Middlefield Road | | Middlefield Road | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Northwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 1 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 120.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Ravenswood Avenue | | Middlefield Road | | Middlefield Road | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 85 | 522 | 446 | 364 | 420 | 75 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 11.80 | 4.20 | 3.10 | 2.50 | 3.30 | 6.70 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 1000 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 85 | 0 | 446 | 364 | 420 | 75 |
| Peak Hour Factor | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 24 | 0 | 124 | 101 | 117 | 21 |
| Total Analysis Volume [veh/h] | 94 | 0 | 496 | 404 | 467 | 83 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 2 | | 21 | | 0 | |
| Bicycle Volume [bicycles/h] | 22 | | 39 | | 37 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 160 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 61.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 3 | 2 | 1 | 6 | 2 | 4 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 4 | 10 | 4 | 10 | 10 | 0 |
| Maximum Green [s] | 30 | 26 | 19 | 42 | 26 | 0 |
| Amber [s] | 3.2 | 3.6 | 3.0 | 3.6 | 3.6 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 24 | 71 | 65 | 136 | 71 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 7 | 7 | 0 | 7 | 7 | 0 |
| Pedestrian Clearance [s] | 12 | 12 | 0 | 12 | 12 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | | no | no | no | |
| Maximum Recall | no | | no | yes | yes | |
| Pedestrian Recall | no | | no | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 6.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 22 | 22 | 63 | 134 | 69 |
| g / C, Green / Cycle | 0.14 | 0.14 | 0.39 | 0.84 | 0.43 |
| (v / s)_i Volume / Saturation Flow Rate | 0.06 | 0.00 | 0.28 | 0.22 | 0.31 |
| Total Saturation Flow Adjustment | 0.85 | 0.82 | 0.92 | 0.98 | 0.95 |
| s, saturation flow rate [veh/h] | 1614 | 1550 | 1751 | 1854 | 1798 |
| c, Capacity [veh/h] | 222 | 213 | 689 | 1552 | 775 |
| d1, Uniform Delay [s] | 63.19 | 59.51 | 41.03 | 2.70 | 37.28 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.82 | 0.00 | 6.38 | 0.41 | 5.44 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

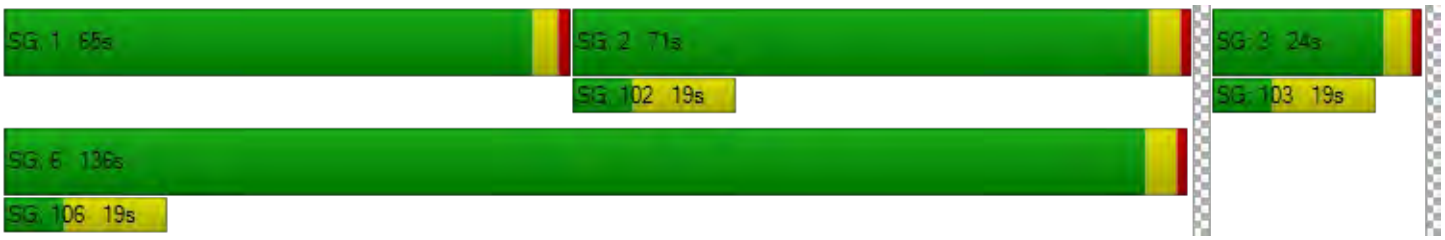
| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.42 | 0.00 | 0.72 | 0.26 | 0.71 |
| d, Delay for Lane Group [s/veh] | 69.02 | 59.51 | 47.40 | 3.11 | 42.73 |
| Lane Group LOS | E | E | D | A | D |
| Critical Lane Group | yes | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 4.25 | 0.00 | 21.65 | 4.54 | 23.17 |
| 50th-Percentile Queue Length [ft] | 106.31 | 0.00 | 541.31 | 113.60 | 579.27 |
| 95th-Percentile Queue Length [veh] | 8.62 | 0.00 | 34.93 | 9.10 | 37.30 |
| 95th-Percentile Queue Length [ft] | 215.51 | 0.00 | 873.21 | 227.55 | 932.46 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 69.02 | 59.51 | 47.40 | 3.11 | 42.73 | 42.73 |
| Movement LOS | E | E | D | A | D | D |
| d_A, Approach Delay [s/veh] | 69.02 | | 27.52 | | 42.73 | |
| Approach LOS | E | | C | | D | |
| d_I, Intersection Delay [s/veh] | 35.46 | | | | | |
| Intersection LOS | D | | | | | |
| Intersection V/C | 0.647 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#10: Middlefield Rd/Ringswood Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 33.7 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.429 |

**Intersection Setup**

| Name | D Street | | | Ringwood Avenue | | | Middlefield Road | | | Middlefield Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Pocket Length [ft] | 30.00 | 100.00 | 100.00 | 100.00 | 100.00 | 250.00 | 175.00 | 100.00 | 100.00 | 125.00 | 100.00 | 100.00 |
| Speed [mph] | 20.00 | | | 30.00 | | | 35.00 | | | 35.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | D Street | | | Ringwood Avenue | | | Middlefield Road | | | Middlefield Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 5 | 3 | 12 | 136 | 44 | 251 | 55 | 559 | 84 | 216 | 653 | 62 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 8.30 | 4.40 | 0.00 | 4.00 | 0.00 | 3.20 | 0.00 | 4.60 | 4.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 222 | 0 | 0 | 96 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 5 | 3 | 12 | 136 | 44 | 29 | 55 | 559 | 0 | 216 | 653 | 62 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 1 | 3 | 36 | 12 | 8 | 14 | 147 | 0 | 57 | 172 | 16 |
| Total Analysis Volume [veh/h] | 5 | 3 | 13 | 143 | 46 | 31 | 58 | 588 | 0 | 227 | 687 | 65 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 6 | | | 27 | | | 5 | | | 11 | | |
| Bicycle Volume [bicycles/h] | 6 | | | 23 | | | 39 | | | 34 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 160 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 61.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 8 | 2 | 6 | 8 | 6 | 5 | 2 | 8 | 1 | 6 | 4 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 10 | 6 | 10 | 10 | 6 | 10 | 4 | 10 | 6 | 4 | 10 | 0 |
| Maximum Green [s] | 30 | 16 | 30 | 30 | 16 | 30 | 30 | 30 | 16 | 30 | 30 | 0 |
| Amber [s] | 3.6 | 3.2 | 3.6 | 3.6 | 3.2 | 3.6 | 3.5 | 3.6 | 3.2 | 3.0 | 3.6 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 62 | 49 | 62 | 97 | 49 | 97 | 14 | 62 | 49 | 49 | 97 | 0 |
| Vehicle Extension [s] | 3.6 | 2.9 | 3.6 | 3.0 | 2.9 | 3.0 | 3.0 | 3.6 | 2.9 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 7 | 7 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 12 | 21 | 12 | 12 | 21 | 12 | 0 | 12 | 21 | 0 | 12 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | yes | | no | yes | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | C | R | L | C | R | L | C |
|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 47 | 47 | 47 | 47 | 12 | 60 | 60 | 47 | 95 |
| g / C, Green / Cycle | 0.29 | 0.29 | 0.29 | 0.29 | 0.08 | 0.38 | 0.38 | 0.29 | 0.59 |
| (v / s)_i Volume / Saturation Flow Rate | 0.01 | 0.01 | 0.13 | 0.02 | 0.03 | 0.17 | 0.00 | 0.13 | 0.22 |
| Total Saturation Flow Adjustment | 0.47 | 0.87 | 0.77 | 0.80 | 0.95 | 0.92 | 0.85 | 0.91 | 0.90 |
| s, saturation flow rate [veh/h] | 885 | 1650 | 1459 | 1512 | 1805 | 3505 | 1615 | 1726 | 3433 |
| c, Capacity [veh/h] | 260 | 485 | 428 | 444 | 135 | 1315 | 606 | 507 | 2039 |
| d1, Uniform Delay [s] | 40.13 | 40.29 | 45.84 | 40.74 | 70.72 | 37.55 | 31.25 | 45.95 | 16.91 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.14 | 0.13 | 3.27 | 0.30 | 9.61 | 1.10 | 0.00 | 2.85 | 0.52 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.02 | 0.03 | 0.44 | 0.07 | 0.43 | 0.45 | 0.00 | 0.45 | 0.37 |
| d, Delay for Lane Group [s/veh] | 40.27 | 40.42 | 49.12 | 41.04 | 80.33 | 38.65 | 31.25 | 48.79 | 17.42 |
| Lane Group LOS | D | D | D | D | F | D | C | D | B |
| Critical Lane Group | no | no | yes | no | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 0.17 | 0.54 | 7.54 | 1.07 | 2.77 | 11.35 | 0.00 | 9.05 | 10.17 |
| 50th-Percentile Queue Length [ft] | 4.27 | 13.56 | 188.58 | 26.65 | 69.25 | 283.79 | 0.00 | 226.14 | 254.15 |
| 95th-Percentile Queue Length [veh] | 0.44 | 1.35 | 13.74 | 2.57 | 6.02 | 19.33 | 0.00 | 15.95 | 17.60 |
| 95th-Percentile Queue Length [ft] | 10.96 | 33.85 | 343.44 | 64.17 | 150.59 | 483.37 | 0.00 | 398.86 | 439.92 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 40.27 | 40.42 | 40.42 | 49.12 | 49.12 | 41.04 | 80.33 | 38.65 | 31.25 | 48.79 | 17.42 | 17.42 |
| Movement LOS | D | D | D | D | D | D | F | D | C | D | B | B |
| d_A, Approach Delay [s/veh] | 40.38 | | | 47.98 | | | 42.39 | | | 24.70 | | |
| Approach LOS | D | | | D | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 33.74 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.429 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#15: Bayfront Expy (SR 84)/University Ave (SR 109)**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 22.1 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.957 |

**Intersection Setup**

| Name | Bayfront Expy (SR84) | | Bayfront Expy (SR84) | | University Avenue (SR109) | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Northwestbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 1 | 2 | 0 | 1 | 2 |
| Pocket Length [ft] | 100.00 | 430.00 | 830.00 | 100.00 | 175.00 | 1000.00 |
| Speed [mph] | 55.00 | | 55.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Bayfront Expy (SR84) | | Bayfront Expy (SR84) | | University Avenue (SR109) | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 873 | 85 | 1495 | 3915 | 185 | 359 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 5.40 | 3.50 | 1.60 | 3.10 | 2.20 | 3.60 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 873 | 85 | 1495 | 3915 | 185 | 359 |
| Peak Hour Factor | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 227 | 22 | 389 | 1020 | 48 | 93 |
| Total Analysis Volume [veh/h] | 909 | 89 | 1557 | 4078 | 193 | 374 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 4 | | 8 | |
| Bicycle Volume [bicycles/h] | 1 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 160 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Protected | Permissive | Protected | Overlap |
|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 1 | 6 | 4 | 1 |
| Auxiliary Signal Groups | | | | | | 1,4 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 4 | 24 | 16 | 4 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 44 | 44 | 102 | 146 | 14 | 102 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 0 | 1 | 1 | 0 |
| Pedestrian Clearance [s] | 1 | 1 | 0 | 1 | 1 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | | no | no | no | no |
| Maximum Recall | no | | no | no | no | no |
| Pedestrian Recall | no | | no | no | no | no |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 20.0 | 6.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | L | C | L | R |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 40 | 40 | 98 | 142 | 10 | 112 |
| g / C, Green / Cycle | 0.25 | 0.25 | 0.61 | 0.89 | 0.06 | 0.70 |
| (v / s)_i Volume / Saturation Flow Rate | 0.19 | 0.06 | 0.45 | 0.81 | 0.06 | 0.09 |
| Total Saturation Flow Adjustment | 0.86 | 0.82 | 0.91 | 0.88 | 0.90 | 0.73 |
| s, saturation flow rate [veh/h] | 4910 | 1560 | 3450 | 5020 | 3430 | 4139 |
| c, Capacity [veh/h] | 1228 | 390 | 2113 | 4455 | 214 | 2897 |
| d1, Uniform Delay [s] | 55.22 | 47.72 | 21.89 | 5.40 | 74.50 | 7.92 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.04 | 1.36 | 2.34 | 3.96 | 40.06 | 0.09 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.74 | 0.23 | 0.74 | 0.92 | 0.90 | 0.13 |
| d, Delay for Lane Group [s/veh] | 59.27 | 49.08 | 24.23 | 9.35 | 114.57 | 8.01 |
| Lane Group LOS | E | D | C | A | F | A |
| Critical Lane Group | no | no | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 16.05 | 3.41 | 29.67 | 54.17 | 5.94 | 2.33 |
| 50th-Percentile Queue Length [ft] | 401.19 | 85.14 | 741.79 | 1354.31 | 148.47 | 58.34 |
| 95th-Percentile Queue Length [veh] | 26.32 | 7.17 | 47.55 | 86.68 | 11.31 | 5.20 |
| 95th-Percentile Queue Length [ft] | 658.10 | 179.31 | 1188.82 | 2166.92 | 282.82 | 129.92 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 59.27 | 49.08 | 24.23 | 9.35 | 114.57 | 8.01 |
| Movement LOS | E | D | C | A | F | A |
| d_A, Approach Delay [s/veh] | 58.36 | | 13.46 | | 44.28 | |
| Approach LOS | E | | B | | D | |
| d_I, Intersection Delay [s/veh] | 22.11 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.957 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#16: Bayfront Expy (SR 84)/Willow Rd (SR 114)**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 33.7 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.814 |

**Intersection Setup**

| Name | Willow Road (SR 114) | | | Willow Road | | | Bayfront Expy (SR 84) | | | Bayfront Expy (SR 84) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 3 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 0 |
| Pocket Length [ft] | 265.00 | 100.00 | 100.00 | 45.00 | 100.00 | 80.00 | 165.00 | 100.00 | 140.00 | 1000.00 | 100.00 | 100.00 |
| Speed [mph] | 40.00 | | | 20.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road (SR 114) | | | Willow Road | | | Bayfront Expy (SR 84) | | | Bayfront Expy (SR 84) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 128 | 380 | 361 | 16 | 59 | 42 | 217 | 713 | 155 | 732 | 2780 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 10.90 | 4.20 | 10.20 | 37.50 | 30.50 | 40.50 | 4.60 | 6.20 | 12.30 | 6.70 | 3.80 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 106 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 128 | 380 | 361 | 16 | 59 | 26 | 217 | 713 | 49 | 732 | 2780 | 24 |
| Peak Hour Factor | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 35 | 104 | 99 | 4 | 16 | 7 | 60 | 196 | 13 | 201 | 764 | 7 |
| Total Analysis Volume [veh/h] | 141 | 418 | 397 | 18 | 65 | 29 | 238 | 784 | 54 | 804 | 3055 | 26 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 5 | | | 2 | | | 12 | | | 2 | | |
| Bicycle Volume [bicycles/h] | 17 | | | 6 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Overlap | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 8 | 8 | 1 | 4 | 4 | 4 | 5 | 2 | 2 | 1 | 6 | 6 |
| Auxiliary Signal Groups | | | 1,8 | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 4 | 16 | 16 | 16 | 4 | 16 | 16 | 4 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 23 | 23 | 63 | 8 | 8 | 8 | 15 | 36 | 36 | 63 | 84 | 84 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| Pedestrian Clearance [s] | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | no | | no | | no | no | | no | no | |
| Maximum Recall | | no | no | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | no | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 2.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 0.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 19 | 19 | 82 | 4 | 4 | 4 | 11 | 32 | 32 | 59 | 80 | 80 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.63 | 0.03 | 0.03 | 0.03 | 0.08 | 0.25 | 0.25 | 0.45 | 0.62 | 0.62 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.12 | 0.12 | 0.01 | 0.02 | 0.03 | 0.07 | 0.13 | 0.04 | 0.24 | 0.52 | 0.02 |
| Total Saturation Flow Adjustment | 0.86 | 0.91 | 0.88 | 0.69 | 0.73 | 0.60 | 0.88 | 1.02 | 0.76 | 0.86 | 1.03 | 0.85 |
| s, saturation flow rate [veh/h] | 1628 | 3472 | 3362 | 1313 | 2772 | 1149 | 3351 | 5836 | 1438 | 3285 | 5846 | 1615 |
| c, Capacity [veh/h] | 238 | 507 | 2121 | 40 | 85 | 35 | 284 | 1437 | 354 | 1491 | 3598 | 994 |
| d1, Uniform Delay [s] | 51.88 | 53.87 | 10.05 | 61.91 | 62.53 | 62.64 | 58.63 | 42.67 | 38.38 | 25.67 | 20.14 | 9.77 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 10.42 | 14.08 | 0.20 | 31.78 | 46.98 | 102.38 | 24.71 | 1.49 | 0.91 | 1.40 | 2.71 | 0.05 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.59 | 0.82 | 0.19 | 0.45 | 0.76 | 0.82 | 0.84 | 0.55 | 0.15 | 0.54 | 0.85 | 0.03 |
| d, Delay for Lane Group [s/veh] | 62.30 | 67.96 | 10.24 | 93.69 | 109.50 | 165.03 | 83.34 | 44.17 | 39.29 | 27.07 | 22.85 | 9.82 |
| Lane Group LOS | E | E | B | F | F | F | F | D | D | C | C | A |
| Critical Lane Group | no | yes | no | no | no | yes | yes | no | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 5.50 | 9.73 | 3.78 | 0.76 | 1.63 | 1.46 | 5.73 | 10.15 | 1.66 | 12.20 | 40.34 | 0.41 |
| 50th-Percentile Queue Length [ft] | 137.54 | 243.22 | 94.40 | 18.98 | 40.87 | 36.62 | 143.23 | 253.63 | 41.39 | 305.10 | 1008.57 | 10.16 |
| 95th-Percentile Queue Length [veh] | 10.63 | 16.96 | 7.82 | 1.87 | 3.79 | 3.44 | 10.99 | 17.57 | 3.84 | 20.59 | 64.56 | 1.03 |
| 95th-Percentile Queue Length [ft] | 265.83 | 423.90 | 195.40 | 46.67 | 94.86 | 85.90 | 274.72 | 439.14 | 95.94 | 514.74 | 1614.03 | 25.63 |

**Movement, Approach, & Intersection Results**

| d_M, Delay for Movement [s/veh] | 62.30 | 67.96 | 10.24 | 93.69 | 109.50 | 165.03 | 83.34 | 44.17 | 39.29 | 27.07 | 22.85 | 9.82 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | E | E | B | F | F | F | F | D | D | C | C | A |
| d_A, Approach Delay [s/veh] | 43.16 | | | 121.34 | | | 52.59 | | | 23.64 | | |
| Approach LOS | D | | | F | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 33.71 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.814 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | 8 | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#17: Willow Rd (SR 114)/Hamilton Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 27.6 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.557 |

**Intersection Setup**

| Name | Willow Road (SR 114) | | | Willow Road (SR 114) | | | Hamilton Avenue | | | Hamilton Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 190.00 | 100.00 | 100.00 | 115.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 40.00 | | | 30.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road (SR 114) | | | Willow Road (SR 114) | | | Hamilton Avenue | | | Hamilton Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 124 | 807 | 71 | 88 | 795 | 57 | 78 | 22 | 50 | 26 | 24 | 23 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.60 | 6.30 | 7.00 | 9.10 | 8.40 | 10.50 | 1.30 | 4.50 | 6.00 | 23.10 | 12.50 | 30.40 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 124 | 807 | 71 | 88 | 795 | 57 | 78 | 22 | 50 | 26 | 24 | 23 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 36 | 237 | 21 | 26 | 234 | 17 | 23 | 6 | 15 | 8 | 7 | 7 |
| Total Analysis Volume [veh/h] | 146 | 949 | 84 | 104 | 935 | 67 | 92 | 26 | 59 | 31 | 28 | 27 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 11 | | | 16 | | | 10 | | | 7 | | |
| Bicycle Volume [bicycles/h] | 15 | | | 7 | | | 8 | | | 1 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 4 | 4 | 4 | 8 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 4 | 16 | 16 | 4 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 23 | 77 | 77 | 19 | 73 | 73 | 34 | 34 | 34 | 34 | 34 | 34 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | no | | no | no | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | C |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 19 | 73 | 15 | 69 | 30 | 30 |
| g / C, Green / Cycle | 0.15 | 0.56 | 0.12 | 0.53 | 0.23 | 0.23 |
| (v / s)_i Volume / Saturation Flow Rate | 0.08 | 0.31 | 0.06 | 0.30 | 0.13 | 0.06 |
| Total Saturation Flow Adjustment | 0.94 | 0.88 | 0.87 | 0.87 | 0.70 | 0.73 |
| s, saturation flow rate [veh/h] | 1777 | 3362 | 1654 | 3304 | 1330 | 1381 |
| c, Capacity [veh/h] | 260 | 1888 | 191 | 1754 | 307 | 319 |
| d1, Uniform Delay [s] | 51.63 | 18.04 | 54.28 | 20.54 | 44.36 | 41.02 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 8.54 | 1.15 | 10.72 | 1.36 | 7.68 | 2.07 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| X, volume / capacity | 0.56 | 0.55 | 0.54 | 0.57 | 0.58 | 0.27 |
|---|---|---|---|---|---|---|
| d, Delay for Lane Group [s/veh] | 60.17 | 19.19 | 65.00 | 21.90 | 52.04 | 43.09 |
| Lane Group LOS | E | B | E | C | D | D |
| Critical Lane Group | yes | no | no | yes | yes | no |
| 50th-Percentile Queue Length [veh] | 5.61 | 14.12 | 4.07 | 14.59 | 6.51 | 2.79 |
| 50th-Percentile Queue Length [ft] | 140.21 | 353.08 | 101.85 | 364.83 | 162.71 | 69.77 |
| 95th-Percentile Queue Length [veh] | 10.80 | 23.43 | 8.32 | 24.14 | 12.18 | 6.06 |
| 95th-Percentile Queue Length [ft] | 270.01 | 585.87 | 208.06 | 603.43 | 304.60 | 151.56 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 60.17 | 19.19 | 19.19 | 65.00 | 21.90 | 21.90 | 52.04 | 52.04 | 52.04 | 43.09 | 43.09 | 43.09 |
| Movement LOS | E | B | B | E | C | C | D | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 24.26 | | | 25.95 | | | 52.04 | | | 43.09 | | |
| Approach LOS | C | | | C | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 27.56 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.557 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#18: Willow Rd (SR 114)/Ivy Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 19.0 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.543 |

**Intersection Setup**

| Name | Willow Road (SR 114) | | Willow Road (SR 114) | | Ivy Drive | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Eastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 1 | 0 |
| Pocket Length [ft] | 85.00 | 100.00 | 100.00 | 100.00 | 135.00 | 100.00 |
| Speed [mph] | 40.00 | | 40.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Willow Road (SR 114) | | Willow Road (SR 114) | | Ivy Drive | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 129 | 1141 | 842 | 9 | 17 | 147 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.30 | 5.70 | 10.30 | 22.20 | 0.00 | 6.10 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 129 | 1141 | 842 | 9 | 17 | 147 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 38 | 336 | 248 | 3 | 5 | 43 |
| Total Analysis Volume [veh/h] | 152 | 1342 | 991 | 11 | 20 | 173 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 14 | | 18 | | 7 | |
| Bicycle Volume [bicycles/h] | 16 | | 6 | | 3 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 6 | 6 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lag | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 4 | 24 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 24 | 99 | 75 | 75 | 31 | 31 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 1 | 1 | 1 | 1 | 1 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | no | | no | |
| Maximum Recall | no | no | no | | no | |
| Pedestrian Recall | no | no | no | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 6.0 | 6.0 | 6.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | C | L | R |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 95 | 71 | 27 | 27 |
| g / C, Green / Cycle | 0.15 | 0.73 | 0.55 | 0.21 | 0.21 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.39 | 0.31 | 0.01 | 0.11 |
| Total Saturation Flow Adjustment | 0.93 | 0.90 | 0.86 | 0.95 | 0.80 |
| s, saturation flow rate [veh/h] | 1764 | 3423 | 3274 | 1805 | 1522 |
| c, Capacity [veh/h] | 271 | 2501 | 1788 | 375 | 316 |
| d1, Uniform Delay [s] | 50.93 | 7.75 | 19.29 | 41.26 | 46.04 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 8.11 | 0.83 | 1.27 | 0.27 | 6.66 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.56 | 0.54 | 0.56 | 0.05 | 0.55 |
| d, Delay for Lane Group [s/veh] | 59.03 | 8.58 | 20.57 | 41.53 | 52.70 |
| Lane Group LOS | E | A | C | D | D |
| Critical Lane Group | yes | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 5.80 | 13.29 | 14.17 | 0.62 | 6.35 |
| 50th-Percentile Queue Length [ft] | 145.06 | 332.24 | 354.28 | 15.51 | 158.73 |
| 95th-Percentile Queue Length [veh] | 11.10 | 22.20 | 23.51 | 1.54 | 11.94 |
| 95th-Percentile Queue Length [ft] | 277.54 | 554.88 | 587.66 | 38.52 | 298.55 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 59.03 | 8.58 | 20.57 | 20.57 | 41.53 | 52.70 |
| Movement LOS | E | A | C | C | D | D |
| d_A, Approach Delay [s/veh] | 13.71 | | 20.57 | | 51.54 | |
| Approach LOS | B | | C | | D | |
| d_I, Intersection Delay [s/veh] | 18.98 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.543 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#19: Willow Rd (SR 114)/O'Brien Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 14.5 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.547 |

**Intersection Setup**

| Name | Willow Road (SR 114) | | Willow Road (SR 114) | | O'Brien Drive | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 1 | 1 | 0 | 1 | 0 |
| Pocket Length [ft] | 100.00 | 60.00 | 100.00 | 100.00 | 50.00 | 100.00 |
| Speed [mph] | 40.00 | | 40.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Willow Road (SR 114) | | Willow Road (SR 114) | | O'Brien Drive | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 1201 | 304 | 54 | 969 | 195 | 58 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 5.40 | 5.30 | 7.40 | 9.70 | 10.30 | 8.60 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1201 | 304 | 54 | 969 | 195 | 58 |
| Peak Hour Factor | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 330 | 84 | 15 | 266 | 54 | 16 |
| Total Analysis Volume [veh/h] | 1320 | 334 | 59 | 1065 | 214 | 64 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 1 | | 21 | |
| Bicycle Volume [bicycles/h] | 27 | | 1 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Protected | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 1 | 6 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | Lead | - | Lag | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 4 | 24 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 92 | 92 | 13 | 105 | 25 | 25 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 0 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 1 | 1 | 0 | 1 | 1 | 1 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | | no | no | no | |
| Maximum Recall | no | | no | no | no | |
| Pedestrian Recall | no | | no | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 20.0 | 6.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | L | C | C |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 88 | 88 | 9 | 101 | 21 |
| g / C, Green / Cycle | 0.68 | 0.68 | 0.07 | 0.78 | 0.16 |
| (v / s)_i Volume / Saturation Flow Rate | 0.38 | 0.22 | 0.04 | 0.32 | 0.09 |
| Total Saturation Flow Adjustment | 0.90 | 0.81 | 0.88 | 0.87 | 0.81 |
| s, saturation flow rate [veh/h] | 3432 | 1534 | 1681 | 3298 | 3097 |
| c, Capacity [veh/h] | 2323 | 1038 | 116 | 2562 | 500 |
| d1, Uniform Delay [s] | 11.02 | 8.67 | 58.36 | 4.78 | 50.20 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.01 | 0.82 | 14.91 | 0.50 | 4.40 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| X, volume / capacity | 0.57 | 0.32 | 0.51 | 0.42 | 0.56 |
|---|---|---|---|---|---|
| d, Delay for Lane Group [s/veh] | 12.04 | 9.49 | 73.27 | 5.28 | 54.61 |
| Lane Group LOS | B | A | E | A | D |
| Critical Lane Group | yes | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 15.31 | 5.70 | 2.38 | 7.93 | 5.55 |
| 50th-Percentile Queue Length [ft] | 382.65 | 142.38 | 59.45 | 198.31 | 138.73 |
| 95th-Percentile Queue Length [veh] | 25.21 | 10.94 | 5.28 | 14.32 | 10.71 |
| 95th-Percentile Queue Length [ft] | 630.16 | 273.38 | 132.06 | 357.88 | 267.69 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 12.04 | 9.49 | 73.27 | 5.28 | 54.61 | 54.61 |
| Movement LOS | B | A | E | A | D | D |
| d_A, Approach Delay [s/veh] | 11.52 | | 8.85 | | 54.61 | |
| Approach LOS | B | | A | | D | |
| d_I, Intersection Delay [s/veh] | 14.46 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.547 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#20: Willow Rd (SR 114)/Newbridge St**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 40.6 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.785 |

**Intersection Setup**

| Name | Willow Road (SR 114) | | | Willow Road (SR 114) | | | Newbridge Street | | | Newbridge Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Pocket Length [ft] | 390.00 | 100.00 | 100.00 | 185.00 | 100.00 | 100.00 | 100.00 | 100.00 | 175.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 40.00 | | | 25.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road (SR 114) | | | Willow Road (SR 114) | | | Newbridge Street | | | Newbridge Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 151 | 1407 | 166 | 51 | 1132 | 10 | 37 | 169 | 281 | 273 | 120 | 42 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 5.70 | 6.60 | 2.00 | 10.00 | 30.00 | 10.80 | 4.10 | 1.80 | 2.90 | 7.50 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 0 | 0 | 34 |
| Total Hourly Volume [veh/h] | 151 | 1407 | 166 | 51 | 1132 | 10 | 37 | 169 | 237 | 273 | 120 | 8 |
| Peak Hour Factor | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 41 | 378 | 45 | 14 | 304 | 3 | 10 | 45 | 64 | 73 | 32 | 2 |
| Total Analysis Volume [veh/h] | 162 | 1513 | 178 | 55 | 1217 | 11 | 40 | 182 | 255 | 294 | 129 | 9 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 24 | | | 39 | | | 14 | | | 15 | | |
| Bicycle Volume [bicycles/h] | 11 | | | 5 | | | 6 | | | 1 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 4 | 4 | 4 | 8 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 4 | 16 | 16 | 4 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 19 | 72 | 72 | 10 | 63 | 63 | 30 | 30 | 30 | 18 | 18 | 18 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | no | | no | no | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 68 | 6 | 59 | 26 | 26 | 26 | 14 | 14 | 14 |
| g / C, Green / Cycle | 0.12 | 0.52 | 0.05 | 0.45 | 0.20 | 0.20 | 0.20 | 0.11 | 0.11 | 0.11 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.35 | 0.03 | 0.37 | 0.02 | 0.10 | 0.16 | 0.09 | 0.07 | 0.01 |
| Total Saturation Flow Adjustment | 0.93 | 0.85 | 0.93 | 0.86 | 0.86 | 0.96 | 0.83 | 0.90 | 0.93 | 0.85 |
| s, saturation flow rate [veh/h] | 1770 | 4819 | 1770 | 3284 | 1629 | 1825 | 1586 | 3407 | 1767 | 1615 |
| c, Capacity [veh/h] | 204 | 2521 | 82 | 1491 | 326 | 365 | 317 | 367 | 190 | 174 |
| d1, Uniform Delay [s] | 55.99 | 22.78 | 61.04 | 30.97 | 42.65 | 46.21 | 49.57 | 56.64 | 55.83 | 52.04 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 26.37 | 1.44 | 36.42 | 5.29 | 0.77 | 4.80 | 19.10 | 16.68 | 17.72 | 0.56 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

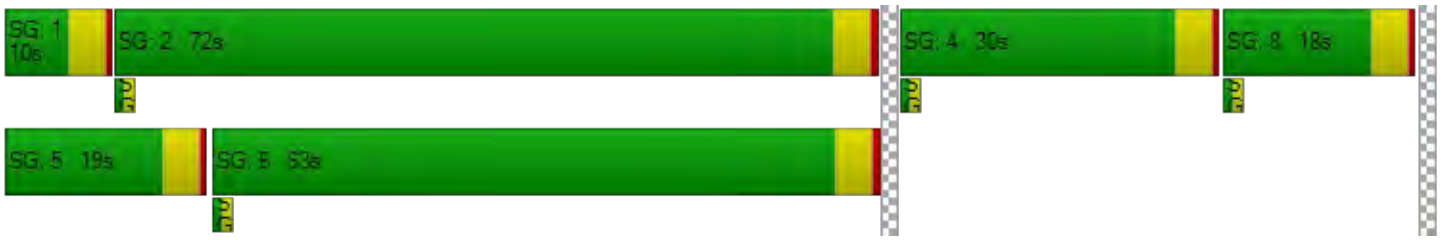
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.79 | 0.67 | 0.67 | 0.82 | 0.12 | 0.50 | 0.80 | 0.80 | 0.68 | 0.05 |
| d, Delay for Lane Group [s/veh] | 82.36 | 24.22 | 97.45 | 36.26 | 43.42 | 51.01 | 68.66 | 73.33 | 73.55 | 52.61 |
| Lane Group LOS | F | C | F | D | D | D | E | E | E | D |
| Critical Lane Group | yes | no | no | yes | no | no | yes | yes | no | no |
| 50th-Percentile Queue Length [veh] | 7.16 | 19.14 | 2.42 | 24.91 | 1.28 | 6.54 | 10.90 | 6.76 | 5.36 | 0.32 |
| 50th-Percentile Queue Length [ft] | 178.94 | 478.40 | 60.46 | 622.81 | 31.97 | 163.60 | 272.62 | 169.08 | 133.93 | 7.88 |
| 95th-Percentile Queue Length [veh] | 13.16 | 31.03 | 5.36 | 40.03 | 3.04 | 12.24 | 18.68 | 12.57 | 10.41 | 0.80 |
| 95th-Percentile Queue Length [ft] | 329.06 | 775.85 | 134.01 | 1000.77 | 75.90 | 305.96 | 466.97 | 314.24 | 260.17 | 20.01 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 82.36 | 24.22 | 24.22 | 97.45 | 36.26 | 36.26 | 43.42 | 51.01 | 68.66 | 73.33 | 73.55 | 52.61 |
| Movement LOS | F | C | C | F | D | D | D | D | E | E | E | D |
| d_A, Approach Delay [s/veh] | 29.30 | | | 38.88 | | | 59.81 | | | 72.96 | | |
| Approach LOS | C | | | D | | | E | | | E | | |
| d_I, Intersection Delay [s/veh] | 40.60 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.785 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | 8 | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#21: Willow Rd/Bay Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 20.7 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.675 |

**Intersection Setup**

| Name | Willow Road | | Willow Road | | Bay Road | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 1 | 0 |
| Pocket Length [ft] | 80.00 | 100.00 | 100.00 | 100.00 | 175.00 | 100.00 |
| Speed [mph] | 30.00 | | 35.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Willow Road | | Willow Road | | Bay Road | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 67 | 1278 | 1161 | 445 | 363 | 60 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.50 | 2.40 | 3.00 | 1.80 | 3.30 | 1.40 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 299 | 0 | 77 |
| Total Hourly Volume [veh/h] | 67 | 1278 | 1161 | 146 | 363 | 0 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 17 | 329 | 299 | 38 | 94 | 0 |
| Total Analysis Volume [veh/h] | 69 | 1318 | 1197 | 151 | 374 | 0 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 2 | | 9 | |
| Bicycle Volume [bicycles/h] | 14 | | 6 | | 2 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 6 | 6 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lag | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 4 | 24 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 10 | 64 | 54 | 54 | 36 | 36 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 1 | 1 | 1 | 1 | 1 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | no | | no | |
| Maximum Recall | no | no | no | | no | |
| Pedestrian Recall | no | no | no | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 6.0 | 6.0 | 6.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | C | R | L | R |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 6 | 60 | 50 | 50 | 32 | 32 |
| g / C, Green / Cycle | 0.06 | 0.60 | 0.50 | 0.50 | 0.32 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.04 | 0.37 | 0.34 | 0.10 | 0.21 | 0.00 |
| Total Saturation Flow Adjustment | 0.94 | 0.93 | 0.92 | 0.83 | 0.92 | 0.84 |
| s, saturation flow rate [veh/h] | 1778 | 3533 | 3512 | 1586 | 1747 | 1593 |
| c, Capacity [veh/h] | 107 | 2120 | 1756 | 793 | 559 | 510 |
| d1, Uniform Delay [s] | 45.96 | 12.76 | 18.96 | 13.81 | 29.42 | 23.12 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 26.47 | 1.38 | 2.16 | 0.53 | 6.24 | 0.00 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

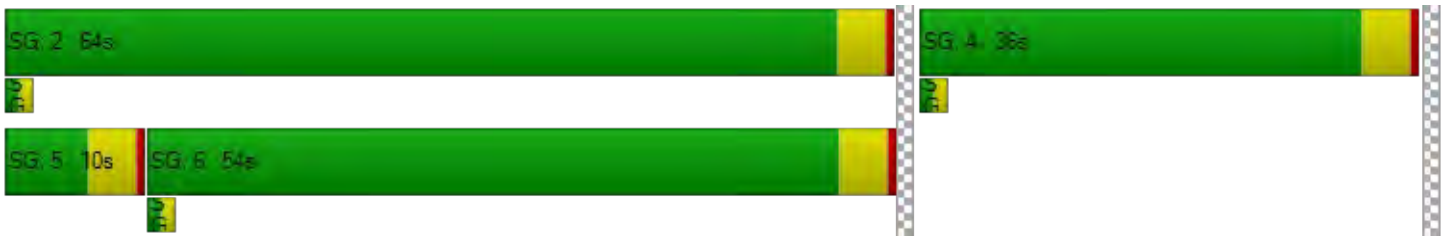
| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.65 | 0.62 | 0.68 | 0.19 | 0.67 | 0.00 |
| d, Delay for Lane Group [s/veh] | 72.43 | 14.15 | 21.12 | 14.35 | 35.66 | 23.12 |
| Lane Group LOS | E | B | C | B | D | C |
| Critical Lane Group | yes | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 2.30 | 14.36 | 15.58 | 2.56 | 10.54 | 0.00 |
| 50th-Percentile Queue Length [ft] | 57.62 | 359.11 | 389.61 | 64.07 | 263.45 | 0.00 |
| 95th-Percentile Queue Length [veh] | 5.14 | 23.79 | 25.63 | 5.64 | 18.14 | 0.00 |
| 95th-Percentile Queue Length [ft] | 128.54 | 594.87 | 640.64 | 140.89 | 453.54 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 72.43 | 14.15 | 21.12 | 14.35 | 35.66 | 23.12 |
| Movement LOS | E | B | C | B | D | C |
| d_A, Approach Delay [s/veh] | 17.05 | | 20.37 | | 35.66 | |
| Approach LOS | B | | C | | D | |
| d_I, Intersection Delay [s/veh] | 20.72 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.675 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#22: Willow Rd/Durham St-VA Med Entrance**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 14.3 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.761 |

**Intersection Setup**

| Name | Willow Road | | | Willow Road | | | VA Medical Center | | | Durham Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 90.00 | 100.00 | 100.00 | 170.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 50.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 10.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road | | | Willow Road | | | VA Medical Center | | | Durham Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 26 | 1040 | 16 | 36 | 925 | 89 | 40 | 3 | 10 | 48 | 12 | 70 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 26 | 1040 | 16 | 36 | 925 | 89 | 40 | 3 | 4 | 48 | 12 | 70 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 7 | 274 | 4 | 9 | 243 | 23 | 11 | 1 | 1 | 13 | 3 | 18 |
| Total Analysis Volume [veh/h] | 27 | 1095 | 17 | 38 | 974 | 94 | 42 | 3 | 4 | 51 | 13 | 74 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 14 | | | 10 | | | 10 | | | 20 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 4 | 4 | 4 | 8 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 5 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 30 | 16 | 16 | 30 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 9 | 79 | 79 | 9 | 79 | 79 | 12 | 12 | 12 | 12 | 12 | 12 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | no | | no | no | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 6.0 | 6.0 | 6.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | R | L | C |
|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 5 | 75 | 5 | 75 | 8 | 8 | 8 | 8 |
| g / C, Green / Cycle | 0.05 | 0.75 | 0.05 | 0.75 | 0.08 | 0.08 | 0.08 | 0.08 |
| (v / s)_i Volume / Saturation Flow Rate | 0.01 | 0.31 | 0.02 | 0.57 | 0.04 | 0.00 | 0.06 | 0.05 |
| Total Saturation Flow Adjustment | 0.95 | 0.95 | 0.95 | 0.99 | 0.54 | 0.85 | 0.49 | 0.87 |
| s, saturation flow rate [veh/h] | 1805 | 3609 | 1805 | 1875 | 1026 | 1615 | 926 | 1658 |
| c, Capacity [veh/h] | 90 | 2707 | 90 | 1406 | 82 | 129 | 74 | 133 |
| d1, Uniform Delay [s] | 45.81 | 4.52 | 46.10 | 7.26 | 44.26 | 42.43 | 44.79 | 44.66 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 8.30 | 0.46 | 13.78 | 3.90 | 23.79 | 0.44 | 41.43 | 22.60 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.30 | 0.41 | 0.42 | 0.76 | 0.55 | 0.03 | 0.69 | 0.66 |
| d, Delay for Lane Group [s/veh] | 54.11 | 4.98 | 59.87 | 11.16 | 68.05 | 42.87 | 86.21 | 67.26 |
| Lane Group LOS | D | A | E | B | E | D | F | E |
| Critical Lane Group | yes | no | no | yes | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 0.82 | 6.95 | 1.19 | 21.69 | 1.45 | 0.11 | 1.77 | 2.87 |
| 50th-Percentile Queue Length [ft] | 20.49 | 173.68 | 29.66 | 542.31 | 36.22 | 2.80 | 44.17 | 71.72 |
| 95th-Percentile Queue Length [veh] | 2.01 | 12.85 | 2.83 | 34.99 | 3.40 | 0.29 | 4.07 | 6.21 |
| 95th-Percentile Queue Length [ft] | 50.18 | 321.17 | 70.85 | 874.77 | 85.06 | 7.21 | 101.68 | 155.16 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 54.11 | 4.98 | 4.98 | 59.87 | 11.16 | 11.16 | 68.05 | 68.05 | 42.87 | 86.21 | 67.26 | 67.26 |
| Movement LOS | D | A | A | E | B | B | E | E | D | F | E | E |
| d_A, Approach Delay [s/veh] | 6.14 | | | 12.84 | | | 66.00 | | | 74.26 | | |
| Approach LOS | A | | | B | | | E | | | E | | |
| d_I, Intersection Delay [s/veh] | 14.26 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.761 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#23: Willow Rd/Coleman Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 33.8 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.954 |

**Intersection Setup**

| Name | Willow Road | | | Willow Road | | | Coleman Avenue | | | Coleman Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 85.00 | 100.00 | 100.00 | 115.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road | | | Willow Road | | | Coleman Avenue | | | Coleman Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 22 | 864 | 3 | 1 | 805 | 120 | 191 | 6 | 51 | 4 | 4 | 5 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 4.50 | 4.70 | 0.00 | 0.00 | 3.90 | 3.30 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 20.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 22 | 864 | 3 | 1 | 805 | 120 | 191 | 6 | 51 | 4 | 4 | 5 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 6 | 227 | 1 | 0 | 212 | 32 | 50 | 2 | 13 | 1 | 1 | 1 |
| Total Analysis Volume [veh/h] | 23 | 909 | 3 | 1 | 847 | 126 | 201 | 6 | 54 | 4 | 4 | 5 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 13 | | | 64 | | | 10 | | | 11 | | |
| Bicycle Volume [bicycles/h] | 24 | | | 12 | | | 10 | | | 1 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 126 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 2 | 6 | 6 | 6 | 4 | 4 | 4 | 8 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 81 | 81 | 81 | 81 | 81 | 81 | 45 | 45 | 45 | 45 | 45 | 45 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | | no | | | no | |
| Maximum Recall | | no | | | no | | | no | | | no | |
| Pedestrian Recall | | no | | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | C |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 | 2.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 77 | 77 | 77 | 77 | 41 | 41 |
| g / C, Green / Cycle | 0.61 | 0.61 | 0.61 | 0.61 | 0.33 | 0.33 |
| (v / s)_i Volume / Saturation Flow Rate | 0.14 | 0.50 | 0.00 | 0.54 | 0.29 | 0.01 |
| Total Saturation Flow Adjustment | 0.09 | 0.95 | 0.13 | 0.94 | 0.47 | 0.89 |
| s, saturation flow rate [veh/h] | 170 | 1814 | 248 | 1793 | 900 | 1687 |
| c, Capacity [veh/h] | 104 | 1108 | 151 | 1096 | 293 | 549 |
| d1, Uniform Delay [s] | 11.02 | 19.16 | 9.57 | 20.83 | 40.38 | 28.89 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.84 | 6.94 | 0.08 | 10.73 | 30.83 | 0.08 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.22 | 0.82 | 0.01 | 0.89 | 0.89 | 0.02 |
| d, Delay for Lane Group [s/veh] | 15.85 | 26.10 | 9.65 | 31.56 | 71.20 | 28.97 |
| Lane Group LOS | B | C | A | C | E | C |
| Critical Lane Group | no | no | no | yes | yes | no |
| 50th-Percentile Queue Length [veh] | 0.45 | 30.80 | 0.02 | 36.98 | 11.58 | 0.33 |
| 50th-Percentile Queue Length [ft] | 11.13 | 769.89 | 0.41 | 924.38 | 289.40 | 8.31 |
| 95th-Percentile Queue Length [veh] | 1.12 | 49.34 | 0.04 | 59.18 | 19.66 | 0.84 |
| 95th-Percentile Queue Length [ft] | 28.00 | 1233.46 | 1.05 | 1479.57 | 491.62 | 21.07 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 15.85 | 26.10 | 26.10 | 9.65 | 31.56 | 31.56 | 71.20 | 71.20 | 71.20 | 28.97 | 28.97 | 28.97 |
| Movement LOS | B | C | C | A | C | C | E | E | E | C | C | C |
| d_A, Approach Delay [s/veh] | 25.85 | | | 31.54 | | | 71.20 | | | 28.97 | | |
| Approach LOS | C | | | C | | | E | | | C | | |
| d_I, Intersection Delay [s/veh] | 33.83 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.954 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#24: Willow Rd/Gilbert Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 18.3 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.683 |

**Intersection Setup**

| Name | Willow Road | | | Willow Road | | | Gilbert Avenue | | | Gilbert Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 75.00 | 100.00 | 100.00 | 90.00 | 100.00 | 100.00 | 55.00 | 100.00 | 100.00 | 90.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road | | | Willow Road | | | Gilbert Avenue | | | Gilbert Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3 | 745 | 40 | 27 | 826 | 4 | 37 | 70 | 17 | 78 | 112 | 100 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 5.20 | 10.00 | 7.40 | 3.60 | 0.00 | 2.70 | 0.00 | 0.00 | 2.60 | 0.00 | 2.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3 | 745 | 40 | 27 | 826 | 4 | 37 | 70 | 17 | 78 | 112 | 100 |
| Peak Hour Factor | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 194 | 10 | 7 | 215 | 1 | 10 | 18 | 4 | 20 | 29 | 26 |
| Total Analysis Volume [veh/h] | 3 | 776 | 42 | 28 | 860 | 4 | 39 | 73 | 18 | 81 | 117 | 104 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 3 | | | 20 | | | 4 | | | 5 | | |
| Bicycle Volume [bicycles/h] | 23 | | | 28 | | | 16 | | | 15 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 126 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 2 | 6 | 6 | 6 | 4 | 4 | 4 | 8 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 97 | 97 | 97 | 97 | 97 | 97 | 29 | 29 | 29 | 29 | 29 | 29 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | | no | | | no | |
| Maximum Recall | | no | | | no | | | no | | | no | |
| Pedestrian Recall | | no | | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | L | C | L | C |
|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 93 | 93 | 93 | 93 | 25 | 25 | 25 | 25 |
| g / C, Green / Cycle | 0.74 | 0.74 | 0.74 | 0.74 | 0.20 | 0.20 | 0.20 | 0.20 |
| (v / s)_i Volume / Saturation Flow Rate | 0.01 | 0.46 | 0.06 | 0.47 | 0.06 | 0.05 | 0.07 | 0.13 |
| Total Saturation Flow Adjustment | 0.24 | 0.94 | 0.25 | 0.96 | 0.36 | 0.97 | 0.61 | 0.93 |
| s, saturation flow rate [veh/h] | 465 | 1792 | 472 | 1833 | 682 | 1844 | 1155 | 1766 |
| c, Capacity [veh/h] | 343 | 1323 | 349 | 1353 | 135 | 366 | 229 | 350 |
| d1, Uniform Delay [s] | 4.35 | 7.95 | 4.59 | 8.18 | 42.93 | 42.58 | 43.53 | 46.27 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.05 | 2.18 | 0.45 | 2.32 | 5.29 | 1.62 | 4.24 | 8.36 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.01 | 0.62 | 0.08 | 0.64 | 0.29 | 0.25 | 0.35 | 0.63 |
| d, Delay for Lane Group [s/veh] | 4.40 | 10.13 | 5.04 | 10.50 | 48.23 | 44.20 | 47.77 | 54.63 |
| Lane Group LOS | A | B | A | B | D | D | D | D |
| Critical Lane Group | no | no | no | yes | no | no | no | yes |
| 50th-Percentile Queue Length [veh] | 0.03 | 16.53 | 0.33 | 17.99 | 1.30 | 2.92 | 2.72 | 8.20 |
| 50th-Percentile Queue Length [ft] | 0.84 | 413.14 | 8.33 | 449.83 | 32.58 | 73.02 | 68.04 | 204.91 |
| 95th-Percentile Queue Length [veh] | 0.09 | 27.05 | 0.84 | 29.28 | 3.09 | 6.30 | 5.93 | 14.71 |
| 95th-Percentile Queue Length [ft] | 2.19 | 676.18 | 21.12 | 732.03 | 77.23 | 157.54 | 148.34 | 367.63 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 4.40 | 10.13 | 10.13 | 5.04 | 10.50 | 10.50 | 48.23 | 44.20 | 44.20 | 47.77 | 54.63 | 54.63 |
| Movement LOS | A | B | B | A | B | B | D | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 10.11 | | | 10.32 | | | 45.41 | | | 52.79 | | |
| Approach LOS | B | | | B | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 18.35 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.683 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#25: Middlefield Rd-Willow Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 48.7 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.623 |

**Intersection Setup**

| Name | Willow Road | | | Willow Road | | | Middlefield Road | | | Middlefield Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Pocket Length [ft] | 75.00 | 100.00 | 215.00 | 155.00 | 100.00 | 160.00 | 125.00 | 100.00 | 70.00 | 270.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 25.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road | | | Willow Road | | | Middlefield Road | | | Middlefield Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 28 | 201 | 139 | 458 | 75 | 391 | 80 | 368 | 256 | 320 | 356 | 15 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 5.00 | 3.60 | 2.60 | 2.70 | 3.80 | 2.50 | 0.50 | 5.50 | 5.30 | 3.70 | 13.30 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 119 | 0 | 0 | 1000 | 0 | 0 | 1000 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 28 | 201 | 20 | 458 | 75 | 0 | 80 | 368 | 0 | 320 | 356 | 15 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 7 | 53 | 5 | 122 | 20 | 0 | 21 | 98 | 0 | 85 | 95 | 4 |
| Total Analysis Volume [veh/h] | 30 | 214 | 21 | 487 | 80 | 0 | 85 | 391 | 0 | 340 | 379 | 16 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 3 | | | 7 | | | 11 | | | 3 | | |
| Bicycle Volume [bicycles/h] | 33 | | | 43 | | | 24 | | | 24 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 8 | 8 | 8 | 4 | 7 | 4 | 6 | 6 | 6 | 2 | 5 | 2 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | - | - | - | Lag | - | - | - | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 0 | 5 | 0 | 4 | 4 | 4 | 0 | 5 | 0 |
| Maximum Green [s] | 16 | 16 | 16 | 0 | 30 | 0 | 16 | 16 | 16 | 0 | 30 | 0 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 0.0 | 3.0 | 0.0 | 3.5 | 3.5 | 3.5 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.0 | 1.0 | 0.0 | 0.5 | 0.5 | 0.5 | 0.0 | 1.0 | 0.0 |
| Split [s] | 29 | 29 | 29 | 0 | 39 | 0 | 27 | 27 | 27 | 0 | 35 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | no | | | no | | | no | | | no | |
| Maximum Recall | | no | | | no | | | no | | | no | |
| Pedestrian Recall | | no | | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | R | C | R | L | C | R | C |
|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 25 | 25 | 25 | 35 | 35 | 23 | 23 | 23 | 31 |
| g / C, Green / Cycle | 0.19 | 0.19 | 0.19 | 0.27 | 0.27 | 0.18 | 0.18 | 0.18 | 0.24 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02 | 0.12 | 0.01 | 0.17 | 0.00 | 0.05 | 0.11 | 0.00 | 0.15 |
| Total Saturation Flow Adjustment | 0.95 | 0.95 | 0.82 | 0.89 | 0.82 | 0.93 | 0.95 | 0.81 | 0.85 |
| s, saturation flow rate [veh/h] | 1805 | 1810 | 1559 | 3377 | 1556 | 1761 | 3600 | 1531 | 4862 |
| c, Capacity [veh/h] | 347 | 348 | 300 | 909 | 419 | 312 | 637 | 271 | 1159 |
| d1, Uniform Delay [s] | 43.12 | 48.09 | 42.98 | 41.71 | 34.71 | 46.27 | 49.40 | 44.03 | 44.41 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.49 | 7.90 | 0.45 | 3.22 | 0.00 | 2.15 | 4.38 | 0.00 | 2.65 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.09 | 0.61 | 0.07 | 0.62 | 0.00 | 0.27 | 0.61 | 0.00 | 0.63 |
| d, Delay for Lane Group [s/veh] | 43.61 | 55.99 | 43.43 | 44.93 | 34.71 | 48.42 | 53.79 | 44.03 | 47.06 |
| Lane Group LOS | D | E | D | D | C | D | D | D | D |
| Critical Lane Group | no | yes | no | yes | no | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 0.96 | 8.14 | 0.67 | 10.82 | 0.00 | 2.90 | 7.87 | 0.00 | 10.06 |
| 50th-Percentile Queue Length [ft] | 23.91 | 203.47 | 16.72 | 270.47 | 0.00 | 72.44 | 196.85 | 0.00 | 251.49 |
| 95th-Percentile Queue Length [veh] | 2.32 | 14.62 | 1.65 | 18.55 | 0.00 | 6.26 | 14.23 | 0.00 | 17.44 |
| 95th-Percentile Queue Length [ft] | 58.00 | 365.51 | 41.37 | 463.82 | 0.00 | 156.48 | 355.71 | 0.00 | 436.01 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 43.61 | 55.99 | 43.43 | 44.93 | 44.93 | 34.71 | 48.42 | 53.79 | 44.03 | 47.06 | 47.06 | 47.06 |
| Movement LOS | D | E | D | D | D | C | D | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 53.60 | | | 44.93 | | | 52.83 | | | 47.06 | | |
| Approach LOS | D | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 48.66 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.623 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 5 | - | 6 | - | 7 | - | 8 | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#26: Ravenswood Ave/Laurel St**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 20.4 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.958 |

**Intersection Setup**

| Name | Ravenswood Avenue | | | Ravenswood Avenue | | | Laurel Street | | | Laurel Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 85.00 | 100.00 | 100.00 | 75.00 | 100.00 | 100.00 | 95.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Ravenswood Avenue | | | Ravenswood Avenue | | | Laurel Street | | | Laurel Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 15 | 618 | 67 | 20 | 471 | 11 | 138 | 113 | 13 | 136 | 188 | 65 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 1.30 | 3.00 | 0.00 | 4.90 | 0.00 | 6.50 | 0.90 | 7.70 | 11.00 | 2.10 | 3.10 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 15 | 618 | 67 | 20 | 471 | 11 | 138 | 113 | 13 | 136 | 188 | 65 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 4 | 159 | 17 | 5 | 121 | 3 | 36 | 29 | 3 | 35 | 48 | 17 |
| Total Analysis Volume [veh/h] | 15 | 637 | 69 | 21 | 486 | 11 | 142 | 116 | 13 | 140 | 194 | 67 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 36 | | | 37 | | | 51 | | | 41 | | |
| Bicycle Volume [bicycles/h] | 52 | | | 17 | | | 11 | | | 37 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 2 | 6 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 32 | 32 | 32 | 32 | 32 | 32 | 28 | 28 | 28 | 28 | 28 | 28 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | no | no | | | no | |
| Maximum Recall | | no | | | no | | no | no | | | no | |
| Pedestrian Recall | | no | | | no | | no | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 6.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | L | C | C |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 28 | 28 | 28 | 28 | 24 | 24 | 24 |
| g / C, Green / Cycle | 0.47 | 0.47 | 0.47 | 0.47 | 0.40 | 0.40 | 0.40 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02 | 0.38 | 0.07 | 0.28 | 0.17 | 0.07 | 0.32 |
| Total Saturation Flow Adjustment | 0.34 | 0.97 | 0.16 | 0.95 | 0.44 | 0.98 | 0.66 |
| s, saturation flow rate [veh/h] | 647 | 1848 | 306 | 1805 | 842 | 1855 | 1251 |
| c, Capacity [veh/h] | 302 | 862 | 143 | 842 | 337 | 742 | 501 |
| d1, Uniform Delay [s] | 8.74 | 13.81 | 9.16 | 11.78 | 12.99 | 11.61 | 15.89 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.31 | 8.53 | 2.17 | 3.02 | 3.84 | 0.51 | 12.68 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.05 | 0.82 | 0.15 | 0.59 | 0.42 | 0.17 | 0.80 |
| d, Delay for Lane Group [s/veh] | 9.05 | 22.34 | 11.33 | 14.80 | 16.84 | 12.12 | 28.57 |
| Lane Group LOS | A | C | B | B | B | B | C |
| Critical Lane Group | no | yes | no | no | no | no | yes |
| 50th-Percentile Queue Length [veh] | 0.16 | 13.18 | 0.24 | 7.17 | 2.00 | 1.53 | 7.76 |
| 50th-Percentile Queue Length [ft] | 3.90 | 329.60 | 5.96 | 179.17 | 49.94 | 38.33 | 193.93 |
| 95th-Percentile Queue Length [veh] | 0.40 | 22.04 | 0.61 | 13.18 | 4.54 | 3.58 | 14.06 |
| 95th-Percentile Queue Length [ft] | 10.02 | 550.96 | 15.21 | 329.41 | 113.39 | 89.53 | 351.38 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.05 | 22.34 | 22.34 | 11.33 | 14.80 | 14.80 | 16.84 | 12.12 | 12.12 | 28.57 | 28.57 | 28.57 |
| Movement LOS | A | C | C | B | B | B | B | B | B | C | C | C |
| d_A, Approach Delay [s/veh] | 22.06 | | | 14.66 | | | 14.59 | | | 28.57 | | |
| Approach LOS | C | | | B | | | B | | | C | | |
| d_I, Intersection Delay [s/veh] | 20.36 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.958 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#28: Oak Grove Ave/Laurel St**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 15.6 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.751 |

**Intersection Setup**

| Name | Oak Grove Avenue | | | Oak Grove Avenue | | | Laurel Street | | | Laurel Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 25.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Oak Grove Avenue | | | Oak Grove Avenue | | | Laurel Street | | | Laurel Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 258 | 85 | 30 | 345 | 61 | 30 | 107 | 16 | 72 | 200 | 52 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 9.10 | 3.10 | 16.50 | 0.00 | 1.40 | 0.00 | 0.00 | 2.00 | 3.80 | 6.70 | 3.70 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 258 | 85 | 30 | 345 | 61 | 30 | 107 | 16 | 72 | 200 | 52 |
| Peak Hour Factor | 0.8200 | 0.8200 | 0.8200 | 0.8200 | 0.8200 | 0.8200 | 0.8200 | 0.8200 | 0.8200 | 0.8200 | 0.8200 | 0.8200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 79 | 26 | 9 | 105 | 19 | 9 | 33 | 5 | 22 | 61 | 16 |
| Total Analysis Volume [veh/h] | 13 | 315 | 104 | 37 | 421 | 74 | 37 | 130 | 20 | 88 | 244 | 63 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 24 | | | 51 | | | 27 | | | 65 | | |
| Bicycle Volume [bicycles/h] | 28 | | | 39 | | | 21 | | | 32 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 2 | 6 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 33 | 33 | 33 | 33 | 33 | 33 | 27 | 27 | 27 | 27 | 27 | 27 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | | no | | | no | |
| Maximum Recall | | no | | | no | | | no | | | no | |
| Pedestrian Recall | | no | | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | C | C |
|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 29 | 29 | 23 | 23 |
| g / C, Green / Cycle | 0.48 | 0.48 | 0.38 | 0.38 |
| (v / s)_i Volume / Saturation Flow Rate | 0.25 | 0.30 | 0.11 | 0.25 |
| Total Saturation Flow Adjustment | 0.92 | 0.92 | 0.86 | 0.84 |
| s, saturation flow rate [veh/h] | 1753 | 1756 | 1636 | 1596 |
| c, Capacity [veh/h] | 847 | 849 | 627 | 612 |
| d1, Uniform Delay [s] | 10.63 | 11.49 | 12.88 | 15.16 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.19 | 3.49 | 1.21 | 5.19 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

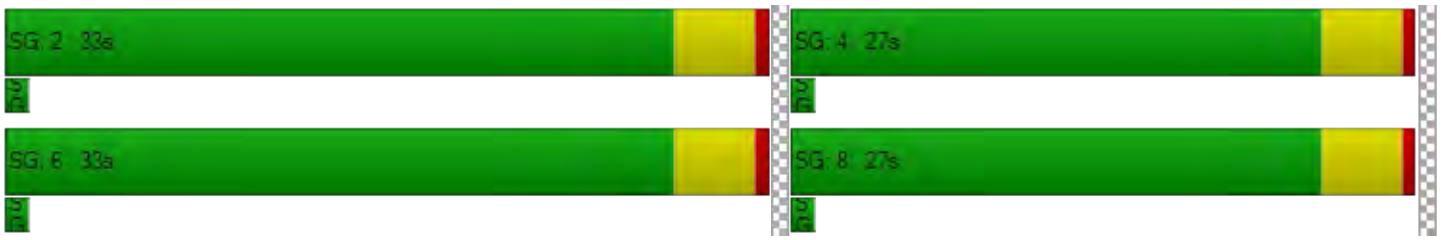
| | | | | |
|---|---|---|---|---|
| X, volume / capacity | 0.51 | 0.63 | 0.30 | 0.65 |
| d, Delay for Lane Group [s/veh] | 12.81 | 14.98 | 14.10 | 20.35 |
| Lane Group LOS | B | B | B | C |
| Critical Lane Group | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 5.72 | 7.82 | 2.43 | 6.46 |
| 50th-Percentile Queue Length [ft] | 143.02 | 195.52 | 60.81 | 161.59 |
| 95th-Percentile Queue Length [veh] | 10.98 | 14.15 | 5.39 | 12.12 |
| 95th-Percentile Queue Length [ft] | 274.38 | 353.75 | 134.68 | 302.91 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 12.81 | 12.81 | 12.81 | 14.98 | 14.98 | 14.98 | 14.10 | 14.10 | 14.10 | 20.35 | 20.35 | 20.35 |
| Movement LOS | B | B | B | B | B | B | B | B | B | C | C | C |
| d_A, Approach Delay [s/veh] | 12.81 | | | 14.98 | | | 14.10 | | | 20.35 | | |
| Approach LOS | B | | | B | | | B | | | C | | |
| d_I, Intersection Delay [s/veh] | 15.64 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.751 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#29: El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 18.1 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.646 |

**Intersection Setup**

| Name | Menlo College | | | Encinal Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 140.00 | 100.00 | 150.00 | 135.00 | 100.00 | 100.00 |
| Speed [mph] | 15.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Menlo College | | | Encinal Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 8 | 57 | 9 | 156 | 14 | 149 | 16 | 840 | 113 | 169 | 1838 | 71 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 3.20 | 0.00 | 2.70 | 0.00 | 3.60 | 0.90 | 0.60 | 3.30 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 124 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 8 | 57 | 9 | 156 | 14 | 149 | 16 | 840 | 0 | 169 | 1838 | 71 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 2 | 15 | 2 | 42 | 4 | 40 | 4 | 228 | 0 | 46 | 499 | 19 |
| Total Analysis Volume [veh/h] | 9 | 62 | 10 | 170 | 15 | 162 | 17 | 913 | 0 | 184 | 1998 | 77 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 2 | | | 2 | | | 0 | | | 11 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 4 | | | 2 | | | 4 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 8 | 0 | 1 | 6 | 0 | 5 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 5 | 0 | 0 | 5 | 0 | 5 | 5 | 0 | 5 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 35 | 0 | 0 | 35 | 0 | 9 | 75 | 0 | 26 | 92 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 50.0 | 50.0 | 0.0 | 50.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | C | R | L | C | R | L | C |
|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 31 | 31 | 31 | 31 | 5 | 71 | 71 | 22 | 88 |
| g / C, Green / Cycle | 0.23 | 0.23 | 0.23 | 0.23 | 0.04 | 0.52 | 0.52 | 0.16 | 0.65 |
| (v / s)_i Volume / Saturation Flow Rate | 0.01 | 0.04 | 0.14 | 0.10 | 0.01 | 0.26 | 0.00 | 0.10 | 0.42 |
| Total Saturation Flow Adjustment | 0.46 | 0.98 | 0.68 | 0.83 | 0.95 | 0.92 | 0.84 | 0.94 | 0.87 |
| s, saturation flow rate [veh/h] | 868 | 1860 | 1284 | 1573 | 1805 | 3492 | 1601 | 1794 | 4982 |
| c, Capacity [veh/h] | 198 | 424 | 293 | 358 | 66 | 1823 | 836 | 290 | 3224 |
| d1, Uniform Delay [s] | 40.96 | 42.16 | 47.36 | 45.19 | 63.69 | 21.03 | 15.53 | 53.24 | 14.52 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.43 | 0.87 | 9.97 | 4.07 | 9.09 | 0.99 | 0.00 | 10.12 | 1.00 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.73 | 0.73 | 1.00 | 0.45 |

**Lane Group Results**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.05 | 0.17 | 0.63 | 0.45 | 0.26 | 0.50 | 0.00 | 0.63 | 0.64 |
| d, Delay for Lane Group [s/veh] | 41.39 | 43.03 | 57.33 | 49.26 | 72.79 | 16.38 | 11.37 | 63.36 | 7.50 |
| Lane Group LOS | D | D | E | D | E | B | B | E | A |
| Critical Lane Group | no | no | yes | no | yes | no | no | no | yes |
| 50th-Percentile Queue Length [veh] | 0.29 | 2.35 | 7.33 | 5.87 | 0.70 | 9.90 | 0.00 | 7.35 | 11.83 |
| 50th-Percentile Queue Length [ft] | 7.22 | 58.87 | 183.36 | 146.66 | 17.40 | 247.62 | 0.00 | 183.66 | 295.71 |
| 95th-Percentile Queue Length [veh] | 0.73 | 5.24 | 13.43 | 11.20 | 1.72 | 17.21 | 0.00 | 13.44 | 20.04 |
| 95th-Percentile Queue Length [ft] | 18.35 | 130.96 | 335.67 | 280.02 | 42.99 | 430.35 | 0.00 | 336.12 | 500.90 |

**Movement, Approach, & Intersection Results**

| d_M, Delay for Movement [s/veh] | 41.39 | 43.03 | 43.03 | 57.33 | 57.33 | 49.26 | 72.79 | 16.38 | 11.37 | 63.36 | 7.50 | 7.50 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | D | D | D | E | E | D | E | B | B | E | A | A |
| d_A, Approach Delay [s/veh] | 42.85 | | | 53.56 | | | 17.41 | | | 12.05 | | |
| Approach LOS | D | | | D | | | B | | | B | | |
| d_I, Intersection Delay [s/veh] | 18.10 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.646 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#30: El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 35.4 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.823 |

**Intersection Setup**

| Name | Valparaiso Avenue | | | Glenwood Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| Pocket Length [ft] | 205.00 | 100.00 | 130.00 | 120.00 | 100.00 | 100.00 | 190.00 | 100.00 | 105.00 | 180.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 25.00 | | | 35.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Valparaiso Avenue | | | Glenwood Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 255 | 126 | 124 | 84 | 177 | 16 | 101 | 700 | 35 | 54 | 1349 | 547 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.40 | 2.40 | 1.60 | 0.00 | 2.80 | 0.00 | 0.00 | 3.90 | 0.00 | 1.90 | 3.90 | 3.30 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 74 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 285 |
| Total Hourly Volume [veh/h] | 255 | 126 | 50 | 84 | 177 | 16 | 101 | 700 | 6 | 54 | 1349 | 262 |
| Peak Hour Factor | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 70 | 35 | 14 | 23 | 49 | 4 | 28 | 192 | 2 | 15 | 371 | 72 |
| Total Analysis Volume [veh/h] | 280 | 138 | 55 | 92 | 195 | 18 | 111 | 769 | 7 | 59 | 1482 | 288 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 4 | | | 12 | | | 10 | | | 5 | | |
| Bicycle Volume [bicycles/h] | 18 | | | 15 | | | 4 | | | 9 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 121.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 8 | 0 | 1 | 6 | 0 | 5 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 5 | 0 | 0 | 5 | 0 | 5 | 5 | 0 | 5 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 24 | 0 | 0 | 23 | 0 | 15 | 77 | 0 | 12 | 74 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 50.0 | 0.0 | 0.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | L | C | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 20 | 19 | 19 | 11 | 73 | 73 | 8 | 70 | 70 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.14 | 0.14 | 0.08 | 0.54 | 0.54 | 0.06 | 0.51 | 0.51 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.03 | 0.05 | 0.12 | 0.06 | 0.22 | 0.00 | 0.03 | 0.43 | 0.18 |
| Total Saturation Flow Adjustment | 0.90 | 0.84 | 0.95 | 0.96 | 0.95 | 0.92 | 0.85 | 0.93 | 0.92 | 0.82 |
| s, saturation flow rate [veh/h] | 3418 | 1590 | 1805 | 1825 | 1805 | 3482 | 1615 | 1771 | 3482 | 1563 |
| c, Capacity [veh/h] | 503 | 234 | 252 | 255 | 146 | 1869 | 867 | 104 | 1792 | 805 |
| d1, Uniform Delay [s] | 56.36 | 51.24 | 53.03 | 56.98 | 61.21 | 18.73 | 14.66 | 62.31 | 27.88 | 19.63 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 14.79 | 2.35 | 4.04 | 26.43 | 30.49 | 0.67 | 0.02 | 20.42 | 4.54 | 1.24 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.71 | 0.71 | 1.00 | 0.74 | 0.74 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.83 | 0.24 | 0.36 | 0.84 | 0.76 | 0.41 | 0.01 | 0.57 | 0.83 | 0.36 |
| d, Delay for Lane Group [s/veh] | 71.15 | 53.60 | 57.07 | 83.40 | 91.70 | 13.90 | 10.37 | 82.73 | 25.28 | 15.84 |
| Lane Group LOS | E | D | E | F | F | B | B | F | C | B |
| Critical Lane Group | yes | no | no | yes | yes | no | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 10.20 | 2.00 | 3.48 | 9.96 | 5.10 | 7.19 | 0.09 | 2.53 | 26.83 | 5.25 |
| 50th-Percentile Queue Length [ft] | 254.98 | 50.10 | 86.98 | 248.90 | 127.38 | 179.74 | 2.17 | 63.31 | 670.87 | 131.22 |
| 95th-Percentile Queue Length [veh] | 17.64 | 4.55 | 7.30 | 17.29 | 9.99 | 13.21 | 0.22 | 5.58 | 43.06 | 10.24 |
| 95th-Percentile Queue Length [ft] | 441.12 | 113.72 | 182.54 | 432.23 | 249.79 | 330.25 | 5.61 | 139.45 | 1076.52 | 255.88 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 71.15 | 71.15 | 53.60 | 57.07 | 83.40 | 83.40 | 91.70 | 13.90 | 10.37 | 82.73 | 25.28 | 15.84 |
| Movement LOS | E | E | D | E | F | F | F | B | B | F | C | B |
| d_A, Approach Delay [s/veh] | 69.11 | | | 75.46 | | | 23.61 | | | 25.64 | | |
| Approach LOS | E | | | E | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 35.36 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.823 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#31: El Camino Real (SR 82)/Oak Grove Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 30.6 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.728 |

**Intersection Setup**

| Name | Oak Grove Avenue | | | Oak Grove Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| Pocket Length [ft] | 90.00 | 100.00 | 110.00 | 115.00 | 100.00 | 110.00 | 280.00 | 100.00 | 110.00 | 200.00 | 100.00 | 140.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Oak Grove Avenue | | | Oak Grove Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 57 | 196 | 53 | 117 | 254 | 63 | 89 | 731 | 73 | 125 | 1365 | 85 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 8.80 | 1.00 | 1.90 | 0.90 | 2.80 | 3.20 | 4.50 | 5.20 | 4.10 | 1.60 | 4.30 | 9.40 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 58 | 0 | 0 | 50 | 0 | 0 | 69 | 0 | 0 | 69 |
| Total Hourly Volume [veh/h] | 57 | 196 | 0 | 117 | 254 | 13 | 89 | 731 | 4 | 125 | 1365 | 16 |
| Peak Hour Factor | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 15 | 51 | 0 | 30 | 66 | 3 | 23 | 190 | 1 | 33 | 355 | 4 |
| Total Analysis Volume [veh/h] | 59 | 204 | 0 | 122 | 265 | 14 | 93 | 761 | 4 | 130 | 1422 | 17 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 8 | | | 4 | | | 25 | | | 11 | | |
| Bicycle Volume [bicycles/h] | 19 | | | 38 | | | 0 | | | 2 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 98.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 0 | 3 | 8 | 0 | 1 | 6 | 0 | 5 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 5 | 5 | 0 | 5 | 5 | 0 | 5 | 5 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 11 | 25 | 0 | 17 | 31 | 0 | 14 | 74 | 0 | 20 | 80 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | no | no | | no | no | | no | no | | no | no | |
| Maximum Recall | no | no | | no | no | | no | no | | no | no | |
| Pedestrian Recall | no | no | | no | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 7 | 21 | 21 | 13 | 27 | 27 | 10 | 70 | 70 | 16 | 76 | 76 |
| g / C, Green / Cycle | 0.05 | 0.15 | 0.15 | 0.10 | 0.20 | 0.20 | 0.07 | 0.51 | 0.51 | 0.12 | 0.56 | 0.56 |
| (v / s)_i Volume / Saturation Flow Rate | 0.04 | 0.11 | 0.00 | 0.07 | 0.14 | 0.01 | 0.05 | 0.22 | 0.00 | 0.07 | 0.41 | 0.01 |
| Total Saturation Flow Adjustment | 0.87 | 0.99 | 0.83 | 0.94 | 0.97 | 0.82 | 0.91 | 0.90 | 0.82 | 0.94 | 0.91 | 0.78 |
| s, saturation flow rate [veh/h] | 1659 | 1881 | 1585 | 1789 | 1848 | 1565 | 1727 | 3439 | 1551 | 1777 | 3468 | 1476 |
| c, Capacity [veh/h] | 85 | 290 | 245 | 171 | 367 | 311 | 127 | 1770 | 799 | 209 | 1938 | 825 |
| d1, Uniform Delay [s] | 63.44 | 54.54 | 48.62 | 59.69 | 50.99 | 44.07 | 61.69 | 20.57 | 16.06 | 57.12 | 22.43 | 13.39 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 37.19 | 13.30 | 0.00 | 22.34 | 11.66 | 0.27 | 30.86 | 0.76 | 0.01 | 13.15 | 2.51 | 0.05 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 1.67 | 1.33 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.29 | 0.29 | 1.00 | 0.66 | 0.66 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.69 | 0.70 | 0.00 | 0.71 | 0.72 | 0.05 | 0.73 | 0.43 | 0.01 | 0.62 | 0.73 | 0.02 |
| d, Delay for Lane Group [s/veh] | 100.62 | 67.83 | 48.62 | 82.03 | 62.66 | 44.35 | 89.28 | 6.78 | 4.71 | 70.27 | 17.42 | 8.95 |
| Lane Group LOS | F | E | D | F | E | D | F | A | A | E | B | A |
| Critical Lane Group | yes | no | no | no | yes | no | yes | no | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 2.72 | 8.66 | 0.00 | 5.43 | 11.10 | 0.46 | 4.21 | 4.47 | 0.03 | 5.37 | 19.69 | 0.19 |
| 50th-Percentile Queue Length [ft] | 67.94 | 216.39 | 0.00 | 135.69 | 277.42 | 11.49 | 105.27 | 111.81 | 0.70 | 134.15 | 492.31 | 4.86 |
| 95th-Percentile Queue Length [veh] | 5.93 | 15.38 | 0.00 | 10.52 | 18.96 | 1.15 | 8.55 | 8.98 | 0.07 | 10.42 | 31.89 | 0.50 |
| 95th-Percentile Queue Length [ft] | 148.15 | 384.55 | 0.00 | 262.93 | 474.02 | 28.85 | 213.77 | 224.61 | 1.82 | 260.51 | 797.29 | 12.45 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 100.62 | 67.83 | 48.62 | 82.03 | 62.66 | 44.35 | 89.28 | 6.78 | 4.71 | 70.27 | 17.42 | 8.95 |
| Movement LOS | F | E | D | F | E | D | F | A | A | E | B | A |
| d_A, Approach Delay [s/veh] | 75.19 | | | 67.91 | | | 15.71 | | | 21.71 | | |
| Approach LOS | E | | | E | | | B | | | C | | |
| d_I, Intersection Delay [s/veh] | 30.59 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.728 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#32: El Camino Real (SR 82)/Santa Cruz Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 11.3 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.658 |

**Intersection Setup**

| Name | Santa Cruz Avenue | | | Santa Cruz Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Pocket Length [ft] | 140.00 | 100.00 | 140.00 | 50.00 | 100.00 | 100.00 | 100.00 | 100.00 | 280.00 | 100.00 | 100.00 | 105.00 |
| Speed [mph] | 30.00 | | | 25.00 | | | 35.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Santa Cruz Avenue | | | Santa Cruz Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 78 | 54 | 76 | 41 | 44 | 30 | 0 | 818 | 39 | 0 | 1420 | 16 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 3.80 | 18.50 | 7.90 | 2.40 | 20.50 | 3.30 | 0.00 | 3.80 | 5.10 | 0.00 | 3.50 | 8.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 0 | 0 | 84 |
| Total Hourly Volume [veh/h] | 78 | 54 | 76 | 41 | 44 | 30 | 0 | 818 | 0 | 0 | 1420 | 0 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 1.0000 | 0.9700 | 0.9700 | 1.0000 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 20 | 14 | 20 | 11 | 11 | 8 | 0 | 211 | 0 | 0 | 366 | 0 |
| Total Analysis Volume [veh/h] | 80 | 56 | 78 | 42 | 45 | 31 | 0 | 843 | 0 | 0 | 1464 | 0 |
| Presence of On-Street Parking | no | | no | no | | no | | | no | | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 19 | | | 15 | | | 43 | | | 20 | | |
| Bicycle Volume [bicycles/h] | 14 | | | 36 | | | 2 | | | 4 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | yes |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 92.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 8 | 0 | 0 | 6 | 0 | 0 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 102 | 0 | 0 | 102 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | no | | | no | | | no | | | no | |
| Maximum Recall | | no | | | no | | | no | | | no | |
| Pedestrian Recall | | no | | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | C | R | C | R |
|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 13 | 13 | 13 | 13 | 13 | 98 | 98 | 98 | 98 |
| g / C, Green / Cycle | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.72 | 0.72 | 0.72 | 0.72 |
| (v / s)_i Volume / Saturation Flow Rate | 0.05 | 0.04 | 0.06 | 0.03 | 0.06 | 0.27 | 0.00 | 0.47 | 0.00 |
| Total Saturation Flow Adjustment | 0.82 | 0.76 | 0.71 | 0.83 | 0.70 | 0.83 | 0.73 | 0.83 | 0.71 |
| s, saturation flow rate [veh/h] | 1565 | 1443 | 1347 | 1586 | 1332 | 3137 | 1383 | 3146 | 1346 |
| c, Capacity [veh/h] | 150 | 138 | 129 | 152 | 127 | 2260 | 997 | 2267 | 970 |
| d1, Uniform Delay [s] | 58.62 | 57.87 | 59.04 | 57.13 | 58.99 | 7.26 | 5.31 | 9.93 | 5.31 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 13.02 | 8.64 | 19.36 | 4.49 | 18.94 | 0.47 | 0.00 | 1.44 | 0.00 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.15 | 0.15 | 0.15 | 0.15 |

**Lane Group Results**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.53 | 0.41 | 0.61 | 0.28 | 0.60 | 0.37 | 0.00 | 0.65 | 0.00 |
| d, Delay for Lane Group [s/veh] | 71.64 | 66.51 | 78.40 | 61.62 | 77.93 | 1.60 | 0.82 | 2.97 | 0.82 |
| Lane Group LOS | E | E | E | E | E | A | A | A | A |
| Critical Lane Group | no | no | yes | no | yes | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 3.32 | 2.24 | 3.34 | 1.63 | 3.25 | 2.14 | 0.00 | 6.26 | 0.00 |
| 50th-Percentile Queue Length [ft] | 83.05 | 56.12 | 83.62 | 40.71 | 81.22 | 53.40 | 0.00 | 156.53 | 0.00 |
| 95th-Percentile Queue Length [veh] | 7.02 | 5.02 | 7.07 | 3.78 | 6.89 | 4.81 | 0.00 | 11.81 | 0.00 |
| 95th-Percentile Queue Length [ft] | 175.61 | 125.61 | 176.63 | 94.52 | 172.37 | 120.28 | 0.00 | 295.19 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 71.64 | 66.51 | 78.40 | 61.62 | 77.93 | 77.93 | 0.00 | 1.60 | 0.82 | 0.00 | 2.97 | 0.82 |
| Movement LOS | E | E | E | E | E | E | | A | A | | A | A |
| d_A, Approach Delay [s/veh] | 72.76 | | | 72.12 | | | 1.60 | | | 2.97 | | |
| Approach LOS | E | | | E | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 11.28 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.658 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | 4 | - | 8 | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#33: El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 37.8 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.824 |

**Intersection Setup**

| Name | Menlo Avenue | | | Ravenswood Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 240.00 | 100.00 | 135.00 | 320.00 | 100.00 | 100.00 | 240.00 | 100.00 | 65.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 35.00 | | | 35.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Menlo Avenue | | | Ravenswood Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 24 | 345 | 60 | 417 | 214 | 44 | 88 | 779 | 396 | 161 | 1420 | 16 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 4.20 | 1.20 | 1.70 | 2.20 | 1.40 | 6.80 | 10.20 | 3.10 | 2.50 | 3.10 | 3.50 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 377 | 0 | 0 | 14 |
| Total Hourly Volume [veh/h] | 24 | 345 | 60 | 417 | 214 | 0 | 88 | 779 | 19 | 161 | 1420 | 2 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 6 | 89 | 15 | 107 | 55 | 0 | 23 | 201 | 5 | 41 | 366 | 1 |
| Total Analysis Volume [veh/h] | 25 | 356 | 62 | 430 | 221 | 0 | 91 | 803 | 20 | 166 | 1464 | 2 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 23 | | | 3 | | | 1 | | | 20 | | |
| Bicycle Volume [bicycles/h] | 41 | | | 11 | | | 1 | | | 4 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 109.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 8 | 8 | 8 | 4 | 4 | 4 | 1 | 6 | 6 | 5 | 2 | 2 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 4 | 16 | 16 | 4 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 25 | 25 | 25 | 25 | 25 | 25 | 14 | 64 | 64 | 22 | 72 | 72 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 6.0 | 20.0 | 20.0 | 20.0 | 20.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 21 | 10 | 60 | 60 | 18 | 68 | 68 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.15 | 0.15 | 0.07 | 0.44 | 0.44 | 0.13 | 0.50 | 0.50 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.13 | 0.12 | 0.00 | 0.06 | 0.23 | 0.01 | 0.09 | 0.42 | 0.00 |
| Total Saturation Flow Adjustment | 0.92 | 0.90 | 0.99 | 0.80 | 0.86 | 0.92 | 0.83 | 0.92 | 0.92 | 0.85 |
| s, saturation flow rate [veh/h] | 3490 | 3430 | 1874 | 1512 | 1638 | 3509 | 1576 | 1751 | 3495 | 1615 |
| c, Capacity [veh/h] | 539 | 530 | 289 | 233 | 120 | 1548 | 695 | 232 | 1748 | 807 |
| d1, Uniform Delay [s] | 55.69 | 55.59 | 55.12 | 48.62 | 61.80 | 27.54 | 21.51 | 56.55 | 29.25 | 17.02 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 13.24 | 12.75 | 17.30 | 0.00 | 35.04 | 1.25 | 0.08 | 17.28 | 4.98 | 0.01 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.67 | 1.67 | 1.67 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.85 | 0.90 | 0.33 | 0.33 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.82 | 0.81 | 0.76 | 0.00 | 0.76 | 0.52 | 0.03 | 0.72 | 0.84 | 0.00 |
| d, Delay for Lane Group [s/veh] | 68.94 | 68.34 | 72.43 | 48.62 | 96.84 | 24.59 | 18.31 | 68.08 | 14.72 | 5.67 |
| Lane Group LOS | E | E | E | D | F | C | B | E | B | A |
| Critical Lane Group | yes | yes | no | no | yes | no | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 10.68 | 10.10 | 9.73 | 0.00 | 4.22 | 10.83 | 0.35 | 7.01 | 21.71 | 0.02 |
| 50th-Percentile Queue Length [ft] | 266.99 | 252.59 | 243.16 | 0.00 | 105.40 | 270.66 | 8.79 | 175.30 | 542.67 | 0.40 |
| 95th-Percentile Queue Length [veh] | 18.35 | 17.51 | 16.95 | 0.00 | 8.56 | 18.56 | 0.89 | 12.94 | 35.01 | 0.04 |
| 95th-Percentile Queue Length [ft] | 458.73 | 437.63 | 423.81 | 0.00 | 213.99 | 464.11 | 22.26 | 323.60 | 875.34 | 1.03 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 68.94 | 68.94 | 68.94 | 68.34 | 72.43 | 48.62 | 96.84 | 24.59 | 18.31 | 68.08 | 14.72 | 5.67 |
| Movement LOS | E | E | E | E | E | D | F | C | B | E | B | A |
| d_A, Approach Delay [s/veh] | 68.94 | | | 69.73 | | | 31.64 | | | 20.14 | | |
| Approach LOS | E | | | E | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 37.83 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.824 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | 8 | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#34: El Camino Real (SR 82)/Roble Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 8.7 |
| Analysis Method: | HCM2000 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.569 |

**Intersection Setup**

| Name | Roble Avenue | | | Roble Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 200.00 | 100.00 | 100.00 | 115.00 | 100.00 | 210.00 |
| Speed [mph] | 25.00 | | | 15.00 | | | 35.00 | | | 35.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Roble Avenue | | | Roble Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 65 | 8 | 68 | 6 | 3 | 10 | 43 | 1188 | 25 | 43 | 1755 | 43 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.50 | 0.00 | 0.00 | 0.00 | 0.00 | 10.00 | 0.00 | 2.90 | 0.00 | 2.30 | 2.60 | 2.30 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 65 | 8 | 68 | 6 | 3 | 1 | 43 | 1188 | 25 | 43 | 1755 | 43 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 17 | 2 | 18 | 2 | 1 | 0 | 11 | 313 | 7 | 11 | 462 | 11 |
| Total Analysis Volume [veh/h] | 68 | 8 | 72 | 6 | 3 | 1 | 45 | 1251 | 26 | 45 | 1847 | 45 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 11 | | | 8 | | | 0 | | | 2 | | |
| Bicycle Volume [bicycles/h] | 16 | | | 0 | | | 3 | | | 5 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 65.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 8 | 8 | 8 | 4 | 4 | 4 | 1 | 6 | 6 | 5 | 2 | 2 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 4 | 16 | 16 | 4 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 29 | 29 | 29 | 29 | 29 | 29 | 11 | 96 | 96 | 11 | 96 | 96 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | R | L | C | L | C |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 25 | 25 | 25 | 7 | 92 | 7 | 92 |
| g / C, Green / Cycle | 0.18 | 0.18 | 0.18 | 0.05 | 0.68 | 0.05 | 0.68 |
| (v / s)_i Volume / Saturation Flow Rate | 0.10 | 0.01 | 0.00 | 0.02 | 0.25 | 0.03 | 0.38 |
| Total Saturation Flow Adjustment | 0.77 | 0.87 | 0.77 | 0.95 | 0.88 | 0.93 | 0.88 |
| s, saturation flow rate [veh/h] | 1463 | 1655 | 1468 | 1805 | 5014 | 1764 | 5026 |
| c, Capacity [veh/h] | 269 | 304 | 270 | 93 | 3392 | 91 | 3400 |
| d1, Uniform Delay [s] | 50.39 | 45.55 | 45.33 | 62.74 | 9.55 | 62.78 | 11.41 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 7.88 | 0.18 | 0.02 | 16.96 | 0.32 | 18.03 | 0.66 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.35 | 1.00 | 0.35 |

**Lane Group Results**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.55 | 0.03 | 0.00 | 0.48 | 0.38 | 0.50 | 0.56 |
| d, Delay for Lane Group [s/veh] | 58.27 | 45.73 | 45.35 | 79.70 | 3.66 | 80.82 | 4.65 |
| Lane Group LOS | E | D | D | E | A | F | A |
| Critical Lane Group | yes | no | no | yes | no | no | yes |
| 50th-Percentile Queue Length [veh] | 5.79 | 0.30 | 0.03 | 1.90 | 3.70 | 1.91 | 7.34 |
| 50th-Percentile Queue Length [ft] | 144.68 | 7.48 | 0.83 | 47.45 | 92.41 | 47.65 | 183.53 |
| 95th-Percentile Queue Length [veh] | 11.08 | 0.76 | 0.09 | 4.34 | 7.68 | 4.35 | 13.44 |
| 95th-Percentile Queue Length [ft] | 276.96 | 19.01 | 2.15 | 108.38 | 191.98 | 108.79 | 335.92 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 58.27 | 58.27 | 58.27 | 45.73 | 45.73 | 45.35 | 79.70 | 3.66 | 3.66 | 80.82 | 4.65 | 4.65 |
| Movement LOS | E | E | E | D | D | D | E | A | A | F | A | A |
| d_A, Approach Delay [s/veh] | 58.27 | | | 45.69 | | | 6.24 | | | 6.42 | | |
| Approach LOS | E | | | D | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 8.71 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |
| Intersection V/C | 0.569 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#35: El Camino Real (SR 82)/Middle Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 16.8 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.685 |

**Intersection Setup**

| Name | Middle Avenue | | El Camino Real (SR 82) | | El Camino Real (SR 82) | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Northwestbound | | Southeastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 1 | 1 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 55.00 | 275.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | no | | yes | |

**Volumes**

| Name | Middle Avenue | | El Camino Real (SR 82) | | El Camino Real (SR 82) | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 185 | 285 | 182 | 1040 | 1753 | 68 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.20 | 0.70 | 2.20 | 4.80 | 3.60 | 2.90 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 183 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 185 | 102 | 182 | 1040 | 1753 | 68 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 50 | 28 | 49 | 283 | 476 | 18 |
| Total Analysis Volume [veh/h] | 201 | 111 | 198 | 1130 | 1905 | 74 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 13 | | 0 | | 8 | |
| Bicycle Volume [bicycles/h] | 5 | | 3 | | 4 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 76.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 4 | 0 | 1 | 6 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 5 | 0 | 5 | 5 | 5 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 27 | 0 | 26 | 109 | 83 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 1 | 0 | 0 | 1 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | no | | no | no | no | |
| Maximum Recall | no | | no | no | no | |
| Pedestrian Recall | no | | no | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 23 | 23 | 22 | 105 | 79 |
| g / C, Green / Cycle | 0.17 | 0.17 | 0.16 | 0.77 | 0.58 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.07 | 0.11 | 0.23 | 0.40 |
| Total Saturation Flow Adjustment | 0.93 | 0.84 | 0.93 | 0.87 | 0.87 |
| s, saturation flow rate [veh/h] | 1766 | 1604 | 1766 | 4939 | 4968 |
| c, Capacity [veh/h] | 299 | 271 | 286 | 3813 | 2886 |
| d1, Uniform Delay [s] | 52.97 | 50.44 | 53.81 | 4.58 | 19.85 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 11.50 | 4.52 | 13.00 | 0.20 | 1.35 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.33 | 1.24 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 0.23 | 0.62 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.67 | 0.41 | 0.69 | 0.30 | 0.69 |
| d, Delay for Lane Group [s/veh] | 64.47 | 54.96 | 66.81 | 1.27 | 13.64 |
| Lane Group LOS | E | D | E | A | B |
| Critical Lane Group | yes | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 8.34 | 4.16 | 8.18 | 1.82 | 16.42 |
| 50th-Percentile Queue Length [ft] | 208.58 | 103.96 | 204.51 | 45.49 | 410.61 |
| 95th-Percentile Queue Length [veh] | 14.92 | 8.46 | 14.68 | 4.18 | 26.89 |
| 95th-Percentile Queue Length [ft] | 373.05 | 211.59 | 367.04 | 104.39 | 672.36 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 64.47 | 54.96 | 66.81 | 1.27 | 13.64 | 13.64 |
| Movement LOS | E | D | E | A | B | B |
| d_A, Approach Delay [s/veh] | 61.09 | | 11.04 | | 13.64 | |
| Approach LOS | E | | B | | B | |
| d_I, Intersection Delay [s/veh] | 16.78 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.685 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#36: El Camino Real (SR 82)/Cambridge Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 4.3 |
| Analysis Method: | HCM2000 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.591 |

**Intersection Setup**

| Name | Cambridge Avenue | | | | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 370.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 15.00 | | | 35.00 | | | 35.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Cambridge Avenue | | | | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 28 | 0 | 50 | 1 | 0 | 0 | 119 | 1204 | 1 | 30 | 2068 | 15 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 3.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.80 | 3.70 | 0.00 | 6.70 | 2.60 | 6.70 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 28 | 0 | 0 | 1 | 0 | 0 | 119 | 1204 | 1 | 30 | 2068 | 15 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 7 | 0 | 0 | 0 | 0 | 0 | 31 | 317 | 0 | 8 | 544 | 4 |
| Total Analysis Volume [veh/h] | 29 | 0 | 0 | 1 | 0 | 0 | 125 | 1267 | 1 | 32 | 2177 | 16 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 6 | | | 0 | | | 0 | | | 6 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 5 | | | 5 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 111.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 8 | 0 | 1 | 6 | 0 | 5 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 5 | 0 | 0 | 5 | 0 | 5 | 5 | 0 | 5 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 9 | 0 | 0 | 9 | 0 | 21 | 108 | 0 | 19 | 106 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 50.0 | 0.0 | 0.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | L | L | C | L | C |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 5 | 5 | 5 | 17 | 104 | 15 | 102 |
| g / C, Green / Cycle | 0.04 | 0.04 | 0.04 | 0.13 | 0.76 | 0.11 | 0.75 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02 | 0.00 | 0.00 | 0.07 | 0.25 | 0.02 | 0.44 |
| Total Saturation Flow Adjustment | 0.92 | 0.85 | 0.80 | 0.94 | 0.88 | 0.89 | 0.88 |
| s, saturation flow rate [veh/h] | 1742 | 1615 | 1520 | 1791 | 4990 | 1692 | 5039 |
| c, Capacity [veh/h] | 64 | 59 | 56 | 224 | 3816 | 187 | 3779 |
| d1, Uniform Delay [s] | 64.16 | 63.09 | 63.13 | 55.97 | 5.05 | 54.87 | 7.52 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 21.39 | 0.00 | 0.59 | 9.70 | 0.23 | 1.99 | 0.66 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.25 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.22 | 1.00 | 0.00 |

**Lane Group Results**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.45 | 0.00 | 0.02 | 0.56 | 0.33 | 0.17 | 0.58 |
| d, Delay for Lane Group [s/veh] | 85.55 | 63.09 | 63.72 | 65.67 | 1.37 | 56.85 | 0.66 |
| Lane Group LOS | F | E | E | E | A | E | A |
| Critical Lane Group | yes | no | no | yes | no | no | yes |
| 50th-Percentile Queue Length [veh] | 1.25 | 0.00 | 0.04 | 4.98 | 2.13 | 1.15 | 2.58 |
| 50th-Percentile Queue Length [ft] | 31.26 | 0.00 | 1.00 | 124.55 | 53.36 | 28.87 | 64.48 |
| 95th-Percentile Queue Length [veh] | 2.97 | 0.00 | 0.10 | 9.81 | 4.81 | 2.76 | 5.67 |
| 95th-Percentile Queue Length [ft] | 74.35 | 0.00 | 2.60 | 245.27 | 120.20 | 69.11 | 141.67 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 85.55 | 85.55 | 63.09 | 63.72 | 63.72 | 63.72 | 65.67 | 1.37 | 1.37 | 56.85 | 0.66 | 0.66 |
| Movement LOS | F | F | E | E | E | E | E | A | A | E | A | A |
| d_A, Approach Delay [s/veh] | 85.55 | | | 63.72 | | | 7.14 | | | 1.47 | | |
| Approach LOS | F | | | E | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 4.32 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |
| Intersection V/C | 0.591 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#38: Santa Cruz Ave/University Dr (S)**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 16.9 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.601 |

**Intersection Setup**

| Name | Santa Cruz Avenue | | Santa Cruz Avenue | | University Drive | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Northwestbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 1 | 1 | 0 | 1 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 60.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 25.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Santa Cruz Avenue | | Santa Cruz Avenue | | University Drive | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 397 | 386 | 59 | 340 | 302 | 67 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.93 | 1.92 | 2.00 | 1.94 | 1.90 | 1.74 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 397 | 386 | 59 | 340 | 302 | 67 |
| Peak Hour Factor | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 107 | 104 | 16 | 91 | 81 | 18 |
| Total Analysis Volume [veh/h] | 427 | 415 | 63 | 366 | 325 | 72 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 21 | | 23 | |
| Bicycle Volume [bicycles/h] | 11 | | 91 | | 16 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Protected | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 1 | 6 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 4 | 4 | 5 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 30 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 |
| Split [s] | 29 | 29 | 9 | 38 | 22 | 22 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 0 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | | no | no | no | |
| Maximum Recall | yes | | no | yes | no | |
| Pedestrian Recall | yes | | no | yes | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | L | C | L | R |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 25 | 25 | 5 | 34 | 18 | 18 |
| g / C, Green / Cycle | 0.42 | 0.42 | 0.08 | 0.57 | 0.30 | 0.30 |
| (v / s)_i Volume / Saturation Flow Rate | 0.23 | 0.26 | 0.04 | 0.20 | 0.18 | 0.05 |
| Total Saturation Flow Adjustment | 0.98 | 0.83 | 0.93 | 0.98 | 0.93 | 0.84 |
| s, saturation flow rate [veh/h] | 1864 | 1585 | 1770 | 1864 | 1771 | 1587 |
| c, Capacity [veh/h] | 777 | 660 | 147 | 1056 | 531 | 476 |
| d1, Uniform Delay [s] | 13.24 | 13.83 | 26.14 | 7.01 | 18.00 | 15.40 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.79 | 4.49 | 8.80 | 0.90 | 5.18 | 0.67 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.55 | 0.63 | 0.43 | 0.35 | 0.61 | 0.15 |
| d, Delay for Lane Group [s/veh] | 16.03 | 18.32 | 34.94 | 7.91 | 23.18 | 16.07 |
| Lane Group LOS | B | B | C | A | C | B |
| Critical Lane Group | no | yes | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 6.25 | 6.52 | 1.16 | 3.76 | 5.49 | 0.97 |
| 50th-Percentile Queue Length [ft] | 156.20 | 162.97 | 29.09 | 94.01 | 137.15 | 24.27 |
| 95th-Percentile Queue Length [veh] | 11.79 | 12.20 | 2.78 | 7.79 | 10.61 | 2.35 |
| 95th-Percentile Queue Length [ft] | 294.68 | 304.99 | 69.58 | 194.73 | 265.22 | 58.82 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 16.03 | 18.32 | 34.94 | 7.91 | 23.18 | 16.07 |
| Movement LOS | B | B | C | A | C | B |
| d_A, Approach Delay [s/veh] | 17.16 | | 11.88 | | 21.89 | |
| Approach LOS | B | | B | | C | |
| d_I, Intersection Delay [s/veh] | 16.93 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.601 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#39: Santa Cruz Ave/Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 52.6 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.782 |

**Intersection Setup**

| Name | Sand Hill Road | | | Sand Hill Road | | | Santa Cruz Avenue | | | Santa Cruz Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 2 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 1 |
| Pocket Length [ft] | 210.00 | 100.00 | 240.00 | 135.00 | 100.00 | 140.00 | 100.00 | 100.00 | 100.00 | 150.00 | 100.00 | 180.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 35.00 | | | 35.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Sand Hill Road | | | Sand Hill Road | | | Santa Cruz Avenue | | | Santa Cruz Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 231 | 1143 | 261 | 331 | 559 | 51 | 94 | 615 | 389 | 223 | 669 | 236 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 3.50 | 1.40 | 4.20 | 1.50 | 3.40 | 3.90 | 8.50 | 3.90 | 1.50 | 0.90 | 3.40 | 4.70 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 144 | 0 | 0 | 38 | 0 | 0 | 288 | 0 | 0 | 281 |
| Total Hourly Volume [veh/h] | 231 | 1143 | 117 | 331 | 559 | 13 | 94 | 615 | 101 | 223 | 669 | 0 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 61 | 304 | 31 | 88 | 149 | 3 | 25 | 164 | 27 | 59 | 178 | 0 |
| Total Analysis Volume [veh/h] | 246 | 1216 | 124 | 352 | 595 | 14 | 100 | 654 | 107 | 237 | 712 | 0 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 3 | | | 7 | | | 5 | | | 7 | | |
| Bicycle Volume [bicycles/h] | 33 | | | 33 | | | 29 | | | 49 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 150 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Protecte |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 |
| Maximum Green [s] | 30 | 16 | 16 | 30 | 16 | 16 | 30 | 16 | 16 | 30 | 16 | 16 |
| Amber [s] | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 |
| All red [s] | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 |
| Split [s] | 35 | 72 | 72 | 22 | 59 | 59 | 13 | 39 | 39 | 17 | 43 | 43 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | | no | no | | no | no | | no | no | no |
| Maximum Recall | no | yes | | no | yes | | no | no | | no | no | no |
| Pedestrian Recall | no | yes | | no | yes | | no | no | | no | no | no |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 31 | 68 | 68 | 18 | 55 | 55 | 9 | 35 | 35 | 13 | 39 | 39 |
| g / C, Green / Cycle | 0.21 | 0.45 | 0.45 | 0.12 | 0.37 | 0.37 | 0.06 | 0.23 | 0.23 | 0.09 | 0.26 | 0.26 |
| (v / s)_i Volume / Saturation Flow Rate | 0.07 | 0.34 | 0.08 | 0.10 | 0.17 | 0.01 | 0.03 | 0.19 | 0.07 | 0.07 | 0.20 | 0.00 |
| Total Saturation Flow Adjustment | 0.89 | 0.94 | 0.82 | 0.91 | 0.92 | 0.82 | 0.85 | 0.92 | 0.84 | 0.91 | 0.92 | 0.81 |
| s, saturation flow rate [veh/h] | 3387 | 3568 | 1550 | 3454 | 3499 | 1554 | 3231 | 3482 | 1591 | 3474 | 3499 | 1543 |
| c, Capacity [veh/h] | 700 | 1617 | 703 | 414 | 1283 | 570 | 194 | 812 | 371 | 301 | 910 | 401 |
| d1, Uniform Delay [s] | 50.90 | 34.00 | 24.36 | 64.67 | 36.25 | 30.36 | 68.39 | 54.28 | 47.26 | 67.14 | 51.56 | 41.07 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.39 | 3.28 | 0.55 | 19.11 | 1.21 | 0.08 | 9.48 | 8.35 | 1.95 | 18.53 | 6.67 | 0.00 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.35 | 0.75 | 0.18 | 0.85 | 0.46 | 0.02 | 0.52 | 0.81 | 0.29 | 0.79 | 0.78 | 0.00 |
| d, Delay for Lane Group [s/veh] | 52.29 | 37.28 | 24.91 | 83.78 | 37.46 | 30.44 | 77.87 | 62.63 | 49.21 | 85.67 | 58.24 | 41.07 |
| Lane Group LOS | D | D | C | F | D | C | E | E | D | F | E | D |
| Critical Lane Group | no | yes | no | yes | no | no | no | yes | no | yes | no | no |
| 50th-Percentile Queue Length [veh] | 4.94 | 25.92 | 3.34 | 9.46 | 10.98 | 0.40 | 2.41 | 16.41 | 3.99 | 6.24 | 17.35 | 0.00 |
| 50th-Percentile Queue Length [ft] | 123.56 | 648.01 | 83.56 | 236.60 | 274.59 | 10.01 | 60.25 | 410.35 | 99.79 | 156.00 | 433.71 | 0.00 |
| 95th-Percentile Queue Length [veh] | 9.75 | 41.62 | 7.06 | 16.57 | 18.79 | 1.01 | 5.34 | 26.88 | 8.18 | 11.78 | 28.30 | 0.00 |
| 95th-Percentile Queue Length [ft] | 243.67 | 1040.45 | 176.52 | 414.21 | 469.87 | 25.26 | 133.61 | 671.95 | 204.58 | 294.39 | 707.43 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 52.29 | 37.28 | 24.91 | 83.78 | 37.46 | 30.44 | 77.87 | 62.63 | 49.21 | 85.67 | 58.24 | 41.07 |
| Movement LOS | D | D | C | F | D | C | E | E | D | F | E | D |
| d_A, Approach Delay [s/veh] | 38.64 | | | 54.32 | | | 62.73 | | | 65.09 | | |
| Approach LOS | D | | | D | | | E | | | E | | |
| d_I, Intersection Delay [s/veh] | 52.62 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.782 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#58: University Avenue and Adams Drive**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 146.8 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.196 |

**Intersection Setup**

| Name | University Avenue | | | University Avenue | | | Adams Drive | | | Adams Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 270.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | no | | | no | | | no | | | no | | |

**Volumes**

| Name | University Avenue | | | University Avenue | | | Adams Drive | | | Adams Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 42 | 508 | 0 | 0 | 1449 | 140 | 6 | 0 | 1 | 0 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 14.30 | 4.70 | 2.00 | 2.00 | 2.60 | 4.30 | 5.00 | 0.00 | 0.00 | 2.00 | 2.00 | 2.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 42 | 508 | 0 | 0 | 1449 | 140 | 6 | 0 | 1 | 0 | 0 | 0 |
| Peak Hour Factor | 0.9300 | 0.9300 | 1.0000 | 1.0000 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 11 | 137 | 0 | 0 | 390 | 38 | 2 | 0 | 0 | 0 | 0 | 0 |
| Total Analysis Volume [veh/h] | 45 | 546 | 0 | 0 | 1558 | 151 | 6 | 0 | 1 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| Flared Lane | | | no | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | no | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.14 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 18.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 146.82 | 131.34 | 40.78 | 0.00 | 0.00 | 0.00 |
| Movement LOS | C | A | | | A | A | F | F | E | | | |
| 95th-Percentile Queue Length [veh] | 0.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.63 | 0.63 | 0.63 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft] | 12.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.84 | 15.84 | 15.84 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 1.39 | | | 0.00 | | | 131.67 | | | 0.00 | | |
| Approach LOS | A | | | A | | | F | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.75 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |

**Intersection Level Of Service Report**
**#74: University Ave/O'Brien Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 3.7 |
| Analysis Method: | HCM2000 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.569 |

**Intersection Setup**

| Name | University Avenue | | University Avenue | | O'Brien Drive | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Eastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 1 | 0 |
| Pocket Length [ft] | 90.00 | 100.00 | 100.00 | 100.00 | 45.00 | 100.00 |
| Speed [mph] | 25.00 | | 25.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | University Avenue | | University Avenue | | O'Brien Drive | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 67 | 532 | 1284 | 142 | 16 | 25 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.50 | 5.10 | 2.90 | 3.50 | 18.80 | 4.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 67 | 532 | 1284 | 142 | 16 | 25 |
| Peak Hour Factor | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 17 | 139 | 334 | 37 | 4 | 7 |
| Total Analysis Volume [veh/h] | 70 | 554 | 1338 | 148 | 17 | 26 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 1 | | 0 | |
| Bicycle Volume [bicycles/h] | 7 | | 5 | | 1 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | yes |
| Signal Coordination Group | - |
| Cycle Length [s] | 85 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 11.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 6 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | - | - | Lead | - |
| Minimum Green [s] | 0 | 5 | 5 | 0 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 30 | 0 | 30 | 0 |
| Amber [s] | 0.0 | 3.5 | 3.5 | 0.0 | 3.5 | 0.0 |
| All red [s] | 0.0 | 0.5 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 75 | 75 | 0 | 10 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 2.5 | 0.0 | 2.5 | 0.0 |
| Minimum Recall | | no | no | | no | |
| Maximum Recall | | yes | yes | | no | |
| Pedestrian Recall | | no | no | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | L | R |
|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.50 | 4.50 | 4.50 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.50 | 2.50 | 2.50 |
| g_i, Effective Green Time [s] | 71 | 71 | 6 | 6 |
| g / C, Green / Cycle | 0.84 | 0.83 | 0.06 | 0.06 |
| (v / s)_i Volume / Saturation Flow Rate | 0.18 | 0.48 | 0.01 | 0.02 |
| Total Saturation Flow Adjustment | 0.82 | 0.82 | 0.72 | 0.74 |
| s, saturation flow rate [veh/h] | 3098 | 3117 | 1367 | 1398 |
| c, Capacity [veh/h] | 2588 | 2585 | 88 | 90 |
| d1, Uniform Delay [s] | 1.40 | 2.36 | 37.65 | 37.88 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.19 | 0.94 | 4.78 | 7.84 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | |
|---|---|---|---|---|
| X, volume / capacity | 0.21 | 0.57 | 0.19 | 0.29 |
| d, Delay for Lane Group [s/veh] | 1.59 | 3.30 | 42.42 | 45.72 |
| Lane Group LOS | A | A | D | D |
| Critical Lane Group | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 1.75 | 7.80 | 0.43 | 0.67 |
| 50th-Percentile Queue Length [ft] | 43.69 | 195.03 | 10.69 | 16.66 |
| 95th-Percentile Queue Length [veh] | 4.03 | 14.12 | 1.08 | 1.65 |
| 95th-Percentile Queue Length [ft] | 100.70 | 353.02 | 26.92 | 41.25 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 1.59 | 3.30 | 3.30 | 42.42 | 45.72 |
| Movement LOS | | A | A | A | D | D |
| d_A, Approach Delay [s/veh] | 1.59 | | 3.30 | | 44.42 | |
| Approach LOS | A | | A | | D | |
| d_I, Intersection Delay [s/veh] | 3.70 | | | | | |
| Intersection LOS | A | | | | | |
| Intersection V/C | 0.569 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#88: Valparaiso Ave/ University Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 19.8 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.675 |

**Intersection Setup**

| Name | Valparaiso Ave | | | Valparaiso Ave | | | University Drive (North) | | | University Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 75.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 35.00 | 100.00 | 100.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Valparaiso Ave | | | Valparaiso Ave | | | University Drive (North) | | | University Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 152 | 429 | 122 | 42 | 550 | 59 | 56 | 85 | 33 | 71 | 51 | 62 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 1.90 | 0.80 | 2.40 | 4.20 | 0.00 | 0.00 | 8.70 | 0.00 | 0.00 | 13.70 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 152 | 429 | 122 | 42 | 550 | 59 | 56 | 85 | 33 | 71 | 51 | 62 |
| Peak Hour Factor | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 45 | 128 | 36 | 13 | 164 | 18 | 17 | 25 | 10 | 21 | 15 | 18 |
| Total Analysis Volume [veh/h] | 181 | 511 | 145 | 50 | 655 | 70 | 67 | 101 | 39 | 85 | 61 | 74 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 54 | | | 1 | | | 12 | | | 21 | | |
| Bicycle Volume [bicycles/h] | 26 | | | 2 | | | 7 | | | 1 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 85 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 4.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 1 | 6 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 5 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 9 | 53 | 0 | 9 | 53 | 0 | 0 | 23 | 0 | 0 | 23 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | yes | | no | yes | | | no | | | no | |
| Pedestrian Recall | no | yes | | no | yes | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | L | C |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 2.00 | 0.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 58 | 49 | 58 | 49 | 19 | 19 | 19 |
| g / C, Green / Cycle | 0.68 | 0.58 | 0.68 | 0.58 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.30 | 0.36 | 0.07 | 0.40 | 0.16 | 0.09 | 0.09 |
| Total Saturation Flow Adjustment | 0.32 | 0.95 | 0.35 | 0.95 | 0.69 | 0.50 | 0.81 |
| s, saturation flow rate [veh/h] | 610 | 1803 | 670 | 1797 | 1312 | 943 | 1534 |
| c, Capacity [veh/h] | 416 | 1039 | 457 | 1036 | 293 | 211 | 343 |
| d1, Uniform Delay [s] | 7.97 | 11.98 | 6.16 | 12.78 | 30.43 | 28.16 | 28.10 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.28 | 2.91 | 0.48 | 3.94 | 13.39 | 5.65 | 3.37 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

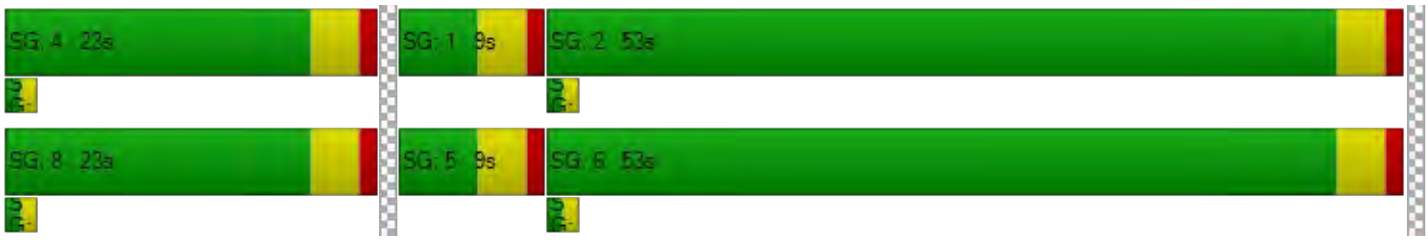
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.43 | 0.63 | 0.11 | 0.70 | 0.71 | 0.40 | 0.39 |
| d, Delay for Lane Group [s/veh] | 11.25 | 14.90 | 6.64 | 16.72 | 43.81 | 33.82 | 31.47 |
| Lane Group LOS | B | B | A | B | D | C | C |
| Critical Lane Group | no | no | no | yes | yes | no | no |
| 50th-Percentile Queue Length [veh] | 2.38 | 12.17 | 0.48 | 14.62 | 5.53 | 1.96 | 3.05 |
| 50th-Percentile Queue Length [ft] | 59.51 | 304.26 | 12.08 | 365.49 | 138.15 | 48.96 | 76.16 |
| 95th-Percentile Queue Length [veh] | 5.29 | 20.54 | 1.21 | 24.18 | 10.67 | 4.46 | 6.53 |
| 95th-Percentile Queue Length [ft] | 132.18 | 513.49 | 30.29 | 604.42 | 266.79 | 111.42 | 163.28 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 11.25 | 14.90 | 14.90 | 6.64 | 16.72 | 16.72 | 43.81 | 43.81 | 43.81 | 33.82 | 31.47 | 31.47 |
| Movement LOS | B | B | B | A | B | B | D | D | D | C | C | C |
| d_A, Approach Delay [s/veh] | 14.11 | | | 16.07 | | | 43.81 | | | 32.37 | | |
| Approach LOS | B | | | B | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 19.84 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.675 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 4 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 8 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#103: Addison Wesley/Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 155.5 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.668 |

**Intersection Setup**

| Name | Addsion-Wesley | | | Addison-Wesley | | | Sand Hill Rd | | | Sand Hill Rd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 230.00 | 100.00 | 230.00 | 240.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 40.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Addsion-Wesley | | | Addison-Wesley | | | Sand Hill Rd | | | Sand Hill Rd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 23 | 2 | 41 | 2 | 2 | 7 | 103 | 1888 | 233 | 113 | 852 | 39 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 23 | 2 | 41 | 2 | 2 | 7 | 103 | 1888 | 233 | 113 | 852 | 39 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 6 | 1 | 11 | 1 | 1 | 2 | 27 | 502 | 62 | 30 | 227 | 10 |
| Total Analysis Volume [veh/h] | 24 | 2 | 44 | 2 | 2 | 7 | 110 | 2009 | 248 | 120 | 906 | 41 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 4 | | | 2 | | | 1 | | | 6 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 27 | | | 22 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 9.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 8 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lag | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 4 | 10 | 0 | 4 | 10 | 0 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 4.0 | 0.0 | 3.0 | 4.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 13 | 0 | 0 | 10 | 0 | 11 | 41 | 0 | 8 | 38 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 6.0 | 0.0 | 3.0 | 6.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 19 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | yes | | no | yes | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | L | C | L | C | R | L | C |
|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 11 | 11 | 8 | 8 | 9 | 39 | 39 | 6 | 36 |
| g / C, Green / Cycle | 0.11 | 0.11 | 0.08 | 0.08 | 0.09 | 0.39 | 0.39 | 0.06 | 0.36 |
| (v / s)_i Volume / Saturation Flow Rate | 0.01 | 0.03 | 0.00 | 0.01 | 0.06 | 0.57 | 0.16 | 0.07 | 0.27 |
| Total Saturation Flow Adjustment | 0.89 | 0.83 | 0.93 | 0.87 | 0.93 | 0.93 | 0.80 | 0.93 | 0.93 |
| s, saturation flow rate [veh/h] | 3390 | 1577 | 1770 | 1645 | 1770 | 3547 | 1522 | 1770 | 3519 |
| c, Capacity [veh/h] | 373 | 173 | 142 | 132 | 159 | 1383 | 594 | 106 | 1267 |
| d1, Uniform Delay [s] | 39.91 | 40.74 | 42.37 | 42.55 | 44.15 | 30.50 | 22.23 | 47.00 | 28.02 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.36 | 3.49 | 0.18 | 1.00 | 21.82 | 207.69 | 2.16 | 126.66 | 4.06 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

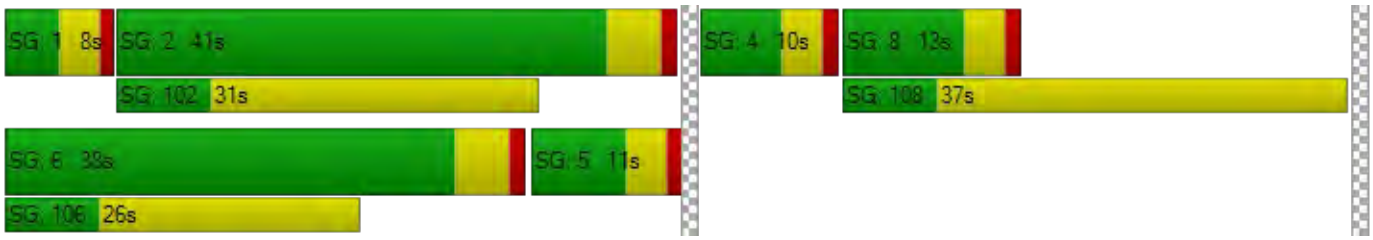
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.07 | 0.25 | 0.01 | 0.07 | 0.69 | 1.45 | 0.42 | 1.13 | 0.75 |
| d, Delay for Lane Group [s/veh] | 40.27 | 44.23 | 42.55 | 43.55 | 65.97 | 238.19 | 24.38 | 173.66 | 32.08 |
| Lane Group LOS | D | D | D | D | E | F | C | F | C |
| Critical Lane Group | no | yes | no | yes | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 0.37 | 1.24 | 0.06 | 0.25 | 3.65 | 73.34 | 5.62 | 6.34 | 14.55 |
| 50th-Percentile Queue Length [ft] | 9.24 | 31.02 | 1.39 | 6.33 | 91.20 | 1833.48 | 140.60 | 158.46 | 363.73 |
| 95th-Percentile Queue Length [veh] | 0.93 | 2.95 | 0.14 | 0.65 | 7.60 | 117.34 | 10.82 | 11.93 | 24.07 |
| 95th-Percentile Queue Length [ft] | 23.37 | 73.83 | 3.60 | 16.14 | 189.88 | 2933.57 | 270.61 | 298.14 | 601.79 |

**Movement, Approach, & Intersection Results**

| d_M, Delay for Movement [s/veh] | 40.27 | 40.27 | 44.23 | 42.55 | 43.55 | 43.55 | 65.97 | 238.19 | 24.38 | 173.66 | 32.08 | 32.08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | D | D | D | D | D | D | E | F | C | F | C | C |
| d_A, Approach Delay [s/veh] | 42.76 | | | 43.37 | | | 207.78 | | | 48.01 | | |
| Approach LOS | D | | | D | | | F | | | D | | |
| d_I, Intersection Delay [s/veh] | 155.48 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |
| Intersection V/C | 0.668 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#107: Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 46.4 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.784 |

**Intersection Setup**

| Name | Santa Cruz Avenue | | Junipero Serra Blvd | | Alpine Road | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Westbound | | Northeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Left | Right | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 0 | 0 | 0 |
| Pocket Length [ft] | 210.00 | 100.00 | 300.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 40.00 | | 35.00 | | 40.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Santa Cruz Avenue | | Junipero Serra Blvd | | Alpine Road | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 663 | 556 | 65 | 172 | 852 | 517 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.10 | 4.00 | 3.10 | 1.70 | 2.70 | 0.20 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 663 | 556 | 65 | 172 | 852 | 517 |
| Peak Hour Factor | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 178 | 149 | 17 | 46 | 229 | 139 |
| Total Analysis Volume [veh/h] | 713 | 598 | 70 | 185 | 916 | 556 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 1 | | 1 | |
| Bicycle Volume [bicycles/h] | 43 | | 21 | | 15 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 150 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 0 | 7 | 1 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | Lead | - | - | - |
| Minimum Green [s] | 0 | 5 | 5 | 0 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 30 | 0 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 55 | 26 | 0 | 69 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 1 | 1 | 0 | 1 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | no | no | | no | |
| Maximum Recall | | no | no | | no | |
| Pedestrian Recall | | no | no | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | L | R | C | R |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 51 | 22 | 22 | 65 | 65 |
| g / C, Green / Cycle | 0.34 | 0.15 | 0.15 | 0.43 | 0.43 |
| (v / s)_i Volume / Saturation Flow Rate | 0.27 | 0.04 | 0.12 | 0.26 | 0.34 |
| Total Saturation Flow Adjustment | 0.85 | 0.92 | 0.84 | 0.93 | 0.85 |
| s, saturation flow rate [veh/h] | 4845 | 1751 | 1588 | 3522 | 1612 |
| c, Capacity [veh/h] | 1647 | 257 | 233 | 1526 | 698 |
| d1, Uniform Delay [s] | 44.79 | 56.89 | 61.81 | 32.55 | 36.77 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.08 | 2.61 | 23.75 | 1.75 | 9.15 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.80 | 0.27 | 0.79 | 0.60 | 0.80 |
| d, Delay for Lane Group [s/veh] | 48.87 | 59.49 | 85.56 | 34.30 | 45.91 |
| Lane Group LOS | D | E | F | C | D |
| Critical Lane Group | yes | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 21.77 | 2.83 | 9.20 | 17.35 | 24.08 |
| 50th-Percentile Queue Length [ft] | 544.28 | 70.66 | 230.08 | 433.77 | 602.07 |
| 95th-Percentile Queue Length [veh] | 35.11 | 6.13 | 16.19 | 28.30 | 38.73 |
| 95th-Percentile Queue Length [ft] | 877.84 | 153.21 | 404.65 | 707.53 | 968.18 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 48.87 | 48.87 | 59.49 | 85.56 | 34.30 | 45.91 |
| Movement LOS | D | D | E | F | C | D |
| d_A, Approach Delay [s/veh] | 48.87 | | 78.41 | | 38.69 | |
| Approach LOS | D | | E | | D | |
| d_I, Intersection Delay [s/veh] | 46.42 | | | | | |
| Intersection LOS | D | | | | | |
| Intersection V/C | 0.784 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 3 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#110: Marsh Road and US 101 NB Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 17.1 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.681 |

**Intersection Setup**

| Name | Marsh Road | | Marsh Road | | | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Northwestbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 1 | 1 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 500.00 | 360.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | no | | yes | | yes | |

**Volumes**

| Name | Marsh Road | | Marsh Road | | | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 1097 | 0 | 0 | 1261 | 848 | 349 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 4.50 | 0.00 | 0.00 | 5.20 | 1.90 | 4.30 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1097 | 0 | 0 | 1261 | 848 | 349 |
| Peak Hour Factor | 0.9000 | 1.0000 | 1.0000 | 0.9000 | 0.9000 | 0.9000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 305 | 0 | 0 | 350 | 236 | 97 |
| Total Analysis Volume [veh/h] | 1219 | 0 | 0 | 1401 | 942 | 388 |
| Presence of On-Street Parking | no | | | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 80 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 35.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Permissive | Permissive | Protected | Overlap |
|---|---|---|---|---|---|---|
| Signal Group | 2 | 0 | 0 | 6 | 8 | 1 |
| Auxiliary Signal Groups | | | | | | 1,6,8 |
| Lead / Lag | - | - | - | - | Lag | - |
| Minimum Green [s] | 8 | 0 | 0 | 8 | 6 | 4 |
| Maximum Green [s] | 16 | 0 | 0 | 16 | 16 | 30 |
| Amber [s] | 3.6 | 0.0 | 0.0 | 3.6 | 3.2 | 3.2 |
| All red [s] | 0.5 | 0.0 | 0.0 | 0.5 | 1.0 | 0.0 |
| Split [s] | 41 | 0 | 0 | 50 | 30 | 9 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 2.0 |
| Walk [s] | 7 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 18 | 0 | 0 | 0 | 20 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | yes | | | yes | no | no |
| Maximum Recall | no | | | no | no | no |
| Pedestrian Recall | no | | | no | no | no |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 0.0 | 0.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | L | R |
|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 39 | 48 | 28 | 78 |
| g / C, Green / Cycle | 0.49 | 0.60 | 0.35 | 0.98 |
| (v / s)_i Volume / Saturation Flow Rate | 0.35 | 0.41 | 0.27 | 0.25 |
| Total Saturation Flow Adjustment | 0.91 | 0.90 | 0.91 | 0.81 |
| s, saturation flow rate [veh/h] | 3462 | 3439 | 3440 | 1548 |
| c, Capacity [veh/h] | 1688 | 2063 | 1204 | 1510 |
| d1, Uniform Delay [s] | 16.22 | 10.80 | 23.27 | 0.03 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.72 | 1.82 | 5.11 | 0.41 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | |
|---|---|---|---|---|
| X, volume / capacity | 0.72 | 0.68 | 0.78 | 0.26 |
| d, Delay for Lane Group [s/veh] | 18.93 | 12.62 | 28.38 | 0.45 |
| Lane Group LOS | B | B | C | A |
| Critical Lane Group | no | yes | yes | no |
| 50th-Percentile Queue Length [veh] | 13.59 | 13.28 | 12.02 | 0.77 |
| 50th-Percentile Queue Length [ft] | 339.79 | 331.90 | 300.53 | 19.28 |
| 95th-Percentile Queue Length [veh] | 22.64 | 22.17 | 20.32 | 1.90 |
| 95th-Percentile Queue Length [ft] | 566.08 | 554.36 | 508.00 | 47.38 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 18.93 | 0.00 | 0.00 | 12.62 | 28.38 | 0.45 |
| Movement LOS | B | | | B | C | A |
| d_A, Approach Delay [s/veh] | 18.93 | | 12.62 | | 20.23 | |
| Approach LOS | B | | B | | C | |
| d_I, Intersection Delay [s/veh] | 17.13 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.681 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#132: Oak Ave/Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 18.2 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.789 |

**Intersection Setup**

| Name | Sand Hill Road | | Sand Hill Road | | Oak Avenue | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 1 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 95.00 | 100.00 |
| Speed [mph] | 35.00 | | 35.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Sand Hill Road | | Sand Hill Road | | Oak Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 1794 | 740 | 38 | 77 | 189 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 1.20 | 1.90 | 2.60 | 0.00 | 0.50 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 1794 | 740 | 38 | 77 | 189 |
| Peak Hour Factor | 1.0000 | 0.8900 | 0.8900 | 0.8900 | 0.8900 | 0.8900 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 504 | 208 | 11 | 22 | 53 |
| Total Analysis Volume [veh/h] | 0 | 2016 | 831 | 43 | 87 | 212 |
| Presence of On-Street Parking | | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 27 | | 0 | | 5 | |
| Bicycle Volume [bicycles/h] | 31 | | 28 | | 9 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | yes |
| Signal Coordination Group | - |
| Cycle Length [s] | 150 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fixed time |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 3.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 6 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | - | - | Lead | - |
| Minimum Green [s] | 0 | 5 | 5 | 0 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 30 | 0 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 117 | 117 | 0 | 33 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 1 | 1 | 0 | 1 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | no | no | | no | |
| Maximum Recall | | yes | yes | | no | |
| Pedestrian Recall | | yes | yes | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 20.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | L | R |
|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 113 | 113 | 29 | 29 |
| g / C, Green / Cycle | 0.75 | 0.75 | 0.19 | 0.19 |
| (v / s)_i Volume / Saturation Flow Rate | 0.63 | 0.28 | 0.05 | 0.15 |
| Total Saturation Flow Adjustment | 0.85 | 0.83 | 0.86 | 0.76 |
| s, saturation flow rate [veh/h] | 3217 | 3172 | 1625 | 1446 |
| c, Capacity [veh/h] | 2424 | 2389 | 314 | 280 |
| d1, Uniform Delay [s] | 12.22 | 6.30 | 51.56 | 57.19 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.51 | 0.43 | 2.18 | 17.40 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | |
|---|---|---|---|---|
| X, volume / capacity | 0.83 | 0.37 | 0.28 | 0.76 |
| d, Delay for Lane Group [s/veh] | 15.73 | 6.73 | 53.75 | 74.59 |
| Lane Group LOS | B | A | D | E |
| Critical Lane Group | yes | no | no | yes |
| 50th-Percentile Queue Length [veh] | 36.62 | 7.60 | 3.37 | 10.09 |
| 50th-Percentile Queue Length [ft] | 915.53 | 190.12 | 84.13 | 252.24 |
| 95th-Percentile Queue Length [veh] | 58.62 | 13.83 | 7.10 | 17.48 |
| 95th-Percentile Queue Length [ft] | 1465.45 | 345.73 | 177.52 | 437.12 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 15.73 | 6.73 | 6.73 | 53.75 | 74.59 |
| Movement LOS | | B | A | A | D | E |
| d_A, Approach Delay [s/veh] | 15.73 | | 6.73 | | 68.52 | |
| Approach LOS | B | | A | | E | |
| d_I, Intersection Delay [s/veh] | 18.22 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.789 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#156: Saga Ln/Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 54.3 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.605 |

**Intersection Setup**

| Name | Saga Ln | | | Saga Ln | | | Sand Hill Road | | | Sand Hill Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 200.00 | 100.00 | 100.00 | 230.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Saga Ln | | | Saga Ln | | | Sand Hill Road | | | Sand Hill Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 10 | 0 | 33 | 14 | 1 | 9 | 211 | 1594 | 117 | 73 | 760 | 50 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 10 | 0 | 33 | 14 | 1 | 9 | 211 | 1594 | 117 | 73 | 760 | 50 |
| Peak Hour Factor | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 0 | 9 | 4 | 0 | 2 | 58 | 438 | 32 | 20 | 209 | 14 |
| Total Analysis Volume [veh/h] | 11 | 0 | 36 | 15 | 1 | 10 | 232 | 1752 | 129 | 80 | 835 | 55 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 2 | | | 10 | | | 7 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 1 | | | 7 | | | 23 | | | 14 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 62.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 12 | 0 | 0 | 12 | 0 | 4 | 10 | 0 | 6 | 10 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 4.0 | 0.0 | 3.0 | 4.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 28 | 0 | 0 | 28 | 0 | 25 | 55 | 0 | 17 | 47 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 5.0 | 0.0 | 3.0 | 5.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 27 | 0 | 0 | 27 | 0 | 0 | 20 | 0 | 0 | 15 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | yes | | no | yes | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | C | R | L | C | L | C |
|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 26 | 26 | 26 | 26 | 23 | 53 | 15 | 45 |
| g / C, Green / Cycle | 0.25 | 0.25 | 0.25 | 0.25 | 0.22 | 0.50 | 0.14 | 0.42 |
| (v / s)_i Volume / Saturation Flow Rate | 0.01 | 0.02 | 0.01 | 0.01 | 0.13 | 0.54 | 0.05 | 0.25 |
| Total Saturation Flow Adjustment | 0.73 | 0.82 | 0.86 | 0.81 | 0.93 | 0.92 | 0.93 | 0.92 |
| s, saturation flow rate [veh/h] | 1382 | 1564 | 1630 | 1547 | 1770 | 3506 | 1770 | 3508 |
| c, Capacity [veh/h] | 339 | 384 | 400 | 380 | 384 | 1753 | 250 | 1489 |
| d1, Uniform Delay [s] | 30.43 | 30.90 | 30.49 | 30.39 | 37.40 | 26.50 | 40.91 | 23.52 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.18 | 0.49 | 0.19 | 0.13 | 6.89 | 44.15 | 3.34 | 1.78 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

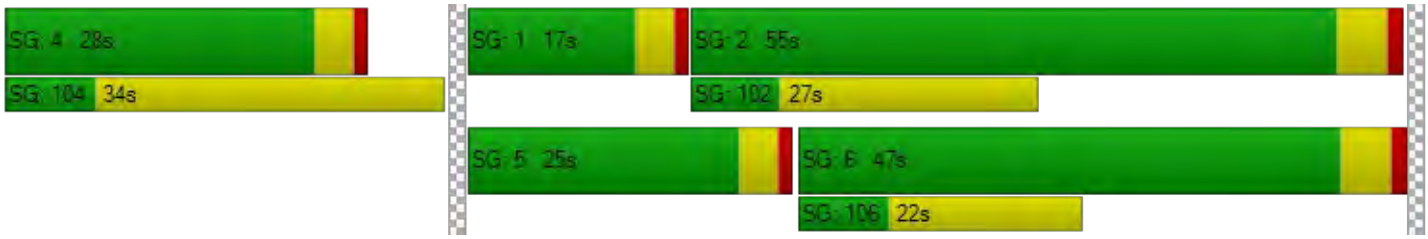
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.03 | 0.09 | 0.04 | 0.03 | 0.60 | 1.07 | 0.32 | 0.60 |
| d, Delay for Lane Group [s/veh] | 30.61 | 31.38 | 30.68 | 30.51 | 44.29 | 70.65 | 44.25 | 25.29 |
| Lane Group LOS | C | C | C | C | D | E | D | C |
| Critical Lane Group | no | yes | no | no | no | yes | yes | no |
| 50th-Percentile Queue Length [veh] | 0.27 | 0.89 | 0.39 | 0.24 | 7.11 | 46.22 | 2.34 | 12.15 |
| 50th-Percentile Queue Length [ft] | 6.66 | 22.16 | 9.68 | 6.03 | 177.72 | 1155.50 | 58.59 | 303.84 |
| 95th-Percentile Queue Length [veh] | 0.68 | 2.16 | 0.98 | 0.62 | 13.09 | 73.96 | 5.22 | 20.51 |
| 95th-Percentile Queue Length [ft] | 16.98 | 54.02 | 24.44 | 15.40 | 327.23 | 1848.91 | 130.41 | 512.87 |

**Movement, Approach, & Intersection Results**

| d_M, Delay for Movement [s/veh] | 30.61 | 30.61 | 31.38 | 30.68 | 30.68 | 30.51 | 44.29 | 70.65 | 70.65 | 44.25 | 25.29 | 25.29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | C | C | C | C | C | C | D | E | E | D | C | C |
| d_A, Approach Delay [s/veh] | 31.20 | | | 30.61 | | | 67.76 | | | 26.86 | | |
| Approach LOS | C | | | C | | | E | | | C | | |
| d_I, Intersection Delay [s/veh] | 54.34 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.605 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 4 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#157: Branner Dr/Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 44.3 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.575 |

**Intersection Setup**

| Name | Branner Drive | | | Branner Drive | | | Sand Hill Road | | | Sand Hill Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 160.00 | 100.00 | 100.00 | 155.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 40.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Branner Drive | | | Branner Drive | | | Sand Hill Road | | | Sand Hill Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 7 | 1 | 29 | 12 | 1 | 8 | 37 | 1666 | 12 | 17 | 867 | 21 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 7 | 1 | 29 | 12 | 1 | 8 | 37 | 1666 | 12 | 17 | 867 | 21 |
| Peak Hour Factor | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 2 | 0 | 8 | 3 | 0 | 2 | 11 | 473 | 3 | 5 | 246 | 6 |
| Total Analysis Volume [veh/h] | 8 | 1 | 33 | 14 | 1 | 9 | 42 | 1893 | 14 | 19 | 985 | 24 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 1 | | | 6 | | | 0 | | | 11 | | |
| Bicycle Volume [bicycles/h] | 2 | | | 0 | | | 32 | | | 53 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 92.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lag | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 4 | 10 | 0 | 4 | 10 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 4.0 | 0.0 | 3.0 | 4.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 34 | 0 | 0 | 34 | 0 | 13 | 54 | 0 | 12 | 53 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 2.0 | 5.0 | 0.0 | 2.0 | 5.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 28 | 0 | 0 | 28 | 0 | 0 | 20 | 0 | 0 | 20 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | yes | | no | yes | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | L | C | L | C |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 32 | 32 | 11 | 52 | 10 | 51 |
| g / C, Green / Cycle | 0.32 | 0.32 | 0.11 | 0.51 | 0.10 | 0.50 |
| (v / s)_i Volume / Saturation Flow Rate | 0.03 | 0.01 | 0.02 | 0.54 | 0.01 | 0.29 |
| Total Saturation Flow Adjustment | 0.84 | 0.84 | 0.93 | 0.93 | 0.93 | 0.93 |
| s, saturation flow rate [veh/h] | 1596 | 1601 | 1770 | 3542 | 1770 | 3531 |
| c, Capacity [veh/h] | 506 | 507 | 193 | 1824 | 175 | 1783 |
| d1, Uniform Delay [s] | 24.21 | 23.93 | 41.07 | 24.50 | 41.44 | 17.33 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.32 | 0.18 | 2.58 | 34.15 | 1.25 | 1.31 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

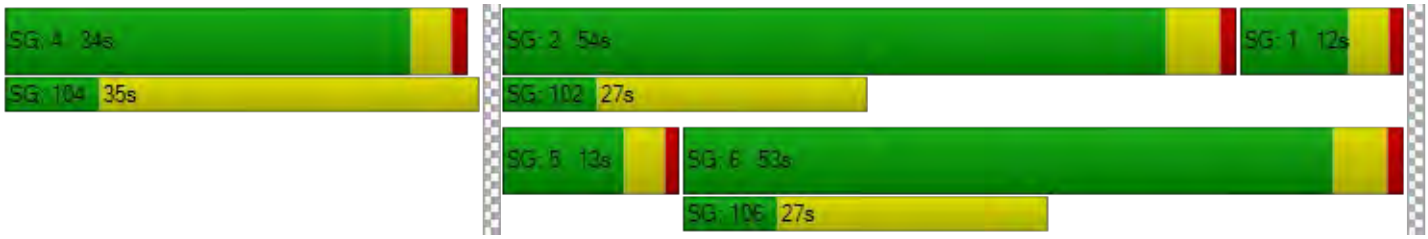
| X, volume / capacity | 0.08 | 0.05 | 0.22 | 1.05 | 0.11 | 0.57 |
|---|---|---|---|---|---|---|
| d, Delay for Lane Group [s/veh] | 24.53 | 24.10 | 43.66 | 58.65 | 42.69 | 18.63 |
| Lane Group LOS | C | C | D | E | D | B |
| Critical Lane Group | yes | no | no | yes | yes | no |
| 50th-Percentile Queue Length [veh] | 0.90 | 0.51 | 1.18 | 43.40 | 0.53 | 11.80 |
| 50th-Percentile Queue Length [ft] | 22.41 | 12.63 | 29.60 | 1084.98 | 13.25 | 295.05 |
| 95th-Percentile Queue Length [veh] | 2.18 | 1.27 | 2.83 | 69.45 | 1.32 | 20.00 |
| 95th-Percentile Queue Length [ft] | 54.58 | 31.63 | 70.71 | 1736.16 | 33.11 | 499.93 |

**Movement, Approach, & Intersection Results**

| d_M, Delay for Movement [s/veh] | 24.53 | 24.53 | 24.53 | 24.10 | 24.10 | 24.10 | 43.66 | 58.65 | 58.65 | 42.69 | 18.63 | 18.63 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | C | C | C | C | C | C | D | E | E | D | B | B |
| d_A, Approach Delay [s/veh] | 24.53 | | | 24.10 | | | 58.33 | | | 19.08 | | |
| Approach LOS | C | | | C | | | E | | | B | | |
| d_I, Intersection Delay [s/veh] | 44.33 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.575 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 4 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#162: Sharon Park Dr/ Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 29.4 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.650 |

**Intersection Setup**

| Name | Sand Hill Road | | | Sand Hill Road | | | Sharon Park Drive | | | Sharon Park Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Pocket Length [ft] | 250.00 | 100.00 | 100.00 | 150.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 130.00 |
| Speed [mph] | 40.00 | | | 35.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Sand Hill Road | | | Sand Hill Road | | | Sharon Park Drive | | | Sharon Park Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 145 | 1496 | 17 | 27 | 732 | 136 | 2 | 0 | 9 | 215 | 3 | 174 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 145 | 1496 | 17 | 27 | 732 | 136 | 2 | 0 | 9 | 215 | 3 | 174 |
| Peak Hour Factor | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 39 | 402 | 5 | 7 | 197 | 37 | 1 | 0 | 2 | 58 | 1 | 47 |
| Total Analysis Volume [veh/h] | 156 | 1609 | 18 | 29 | 787 | 146 | 2 | 0 | 10 | 231 | 3 | 187 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 15 | | | 0 | | | 4 | | | 3 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 32 | | | 20 | | | 61 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 99.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 1 | 6 | 0 | 0 | 4 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 4 | 10 | 0 | 5 | 10 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 4.0 | 0.0 | 3.0 | 4.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 22 | 53 | 0 | 12 | 43 | 0 | 0 | 35 | 0 | 0 | 35 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 4 | 0 | 0 | 4 | 0 |
| Pedestrian Clearance [s] | 0 | 19 | 0 | 0 | 19 | 0 | 0 | 27 | 0 | 0 | 27 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | yes | | no | yes | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | C | R |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 20 | 51 | 10 | 41 | 33 | 33 | 33 |
| g / C, Green / Cycle | 0.20 | 0.51 | 0.10 | 0.41 | 0.33 | 0.33 | 0.33 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.46 | 0.02 | 0.27 | 0.01 | 0.17 | 0.13 |
| Total Saturation Flow Adjustment | 0.93 | 0.93 | 0.93 | 0.91 | 0.83 | 0.71 | 0.78 |
| s, saturation flow rate [veh/h] | 1770 | 3541 | 1770 | 3446 | 1584 | 1343 | 1491 |
| c, Capacity [veh/h] | 354 | 1806 | 177 | 1413 | 523 | 443 | 492 |
| d1, Uniform Delay [s] | 35.09 | 22.21 | 41.17 | 23.87 | 22.62 | 27.18 | 25.66 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.95 | 7.73 | 1.98 | 2.44 | 0.08 | 4.45 | 2.22 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

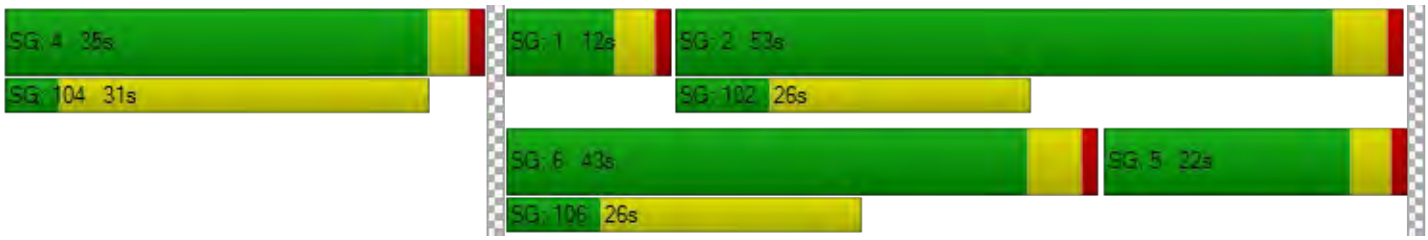
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.44 | 0.90 | 0.16 | 0.66 | 0.02 | 0.53 | 0.38 |
| d, Delay for Lane Group [s/veh] | 39.04 | 29.94 | 43.16 | 26.30 | 22.70 | 31.63 | 27.89 |
| Lane Group LOS | D | C | D | C | C | C | C |
| Critical Lane Group | no | yes | yes | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 4.26 | 28.34 | 0.81 | 12.85 | 0.24 | 6.03 | 4.43 |
| 50th-Percentile Queue Length [ft] | 106.54 | 708.51 | 20.21 | 321.14 | 6.08 | 150.74 | 110.82 |
| 95th-Percentile Queue Length [veh] | 8.64 | 45.44 | 1.98 | 21.54 | 0.62 | 11.45 | 8.92 |
| 95th-Percentile Queue Length [ft] | 215.90 | 1136.07 | 49.54 | 538.43 | 15.53 | 286.32 | 222.98 |

**Movement, Approach, & Intersection Results**

| d_M, Delay for Movement [s/veh] | 39.04 | 29.94 | 29.94 | 43.16 | 26.30 | 26.30 | 22.70 | 22.70 | 22.70 | 31.63 | 31.63 | 27.89 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | D | C | C | D | C | C | C | C | C | C | C | C |
| d_A, Approach Delay [s/veh] | 30.74 | | | 26.81 | | | 22.70 | | | 29.97 | | |
| Approach LOS | C | | | C | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 29.42 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.650 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 4 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#163: Bayfront Expy/Marsh Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 140.9 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.173 |

**Intersection Setup**

| Name | | | | Haven Avenue | | | Bayfront Expressway | | | Marsh Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Eastbound | | | Westbound | | | Southwestbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | | | | Haven Avenue | | | Bayfront Expressway | | | Marsh Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 143 | 35 | 1141 | 5 | 66 | 209 | 2636 | 407 | 12 | 6 | 35 | 8 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 7.00 | 0.00 | 4.60 | 0.00 | 18.20 | 9.10 | 4.70 | 4.90 | 0.00 | 0.00 | 0.00 | 16.70 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 143 | 35 | 1141 | 5 | 66 | 209 | 2636 | 407 | 12 | 6 | 35 | 8 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 38 | 9 | 300 | 1 | 17 | 55 | 694 | 107 | 3 | 2 | 9 | 2 |
| Total Analysis Volume [veh/h] | 151 | 37 | 1201 | 5 | 69 | 220 | 2775 | 428 | 13 | 6 | 37 | 8 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 1 | | | 2 | | | 0 | | | 9 | | |
| Bicycle Volume [bicycles/h] | 1 | | | 14 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 160 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 125.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Overlap | Split | Split | Split | Split | Split | Split | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 3 | 2 | 4 | 1 | 4 | 8 | 2 | 8 | 6 | 4 | 6 |
| Auxiliary Signal Groups | | | 2,3 | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 10 | 6 | 10 | 4 | 12 | 4 | 0 | 10 | 0 | 0 | 4 | 0 |
| Maximum Green [s] | 50 | 26 | 50 | 30 | 30 | 30 | 0 | 50 | 0 | 0 | 30 | 0 |
| Amber [s] | 4.7 | 3.6 | 4.7 | 3.6 | 3.6 | 3.6 | 0.0 | 4.7 | 0.0 | 0.0 | 3.6 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 0.5 | 0.0 | 0.5 | 0.0 | 1.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| Split [s] | 71 | 20 | 71 | 34 | 35 | 34 | 0 | 71 | 0 | 0 | 34 | 0 |
| Vehicle Extension [s] | 4.5 | 2.5 | 4.5 | 2.8 | 2.5 | 2.8 | 0.0 | 4.5 | 0.0 | 0.0 | 2.8 | 0.0 |
| Walk [s] | 7 | 5 | 7 | 7 | 5 | 7 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 16 | 10 | 16 | 22 | 26 | 22 | 0 | 16 | 0 | 0 | 22 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 3.7 | 2.6 | 3.7 | 2.1 | 1.6 | 2.1 | 0.0 | 3.7 | 0.0 | 0.0 | 2.1 | 0.0 |
| Minimum Recall | | no | no | | no | | | no | | | no | |
| Maximum Recall | | no | yes | | no | | | yes | | | no | |
| Pedestrian Recall | | no | no | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | C | R | L | C | C |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.60 | 4.60 | 3.60 | 3.60 | 5.70 | 5.70 | 4.10 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.60 | 2.60 | 1.60 | 1.60 | 3.70 | 3.70 | 2.10 |
| g_i, Effective Green Time [s] | 15 | 86 | 31 | 31 | 65 | 65 | 30 |
| g / C, Green / Cycle | 0.10 | 0.54 | 0.20 | 0.20 | 0.41 | 0.41 | 0.19 |
| (v / s)_i Volume / Saturation Flow Rate | 0.10 | 0.44 | 0.02 | 0.15 | 0.55 | 0.24 | 0.03 |
| Total Saturation Flow Adjustment | 0.96 | 0.72 | 0.80 | 0.76 | 0.88 | 0.95 | 0.97 |
| s, saturation flow rate [veh/h] | 1827 | 2728 | 3050 | 1440 | 5022 | 1803 | 1847 |
| c, Capacity [veh/h] | 176 | 1473 | 599 | 283 | 2050 | 736 | 345 |
| d1, Uniform Delay [s] | 72.30 | 30.24 | 52.97 | 61.00 | 47.35 | 37.10 | 54.40 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 87.49 | 5.08 | 0.42 | 18.82 | 162.56 | 3.59 | 0.90 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| X, volume / capacity | 1.07 | 0.82 | 0.12 | 0.78 | 1.35 | 0.60 | 0.15 |
|---|---|---|---|---|---|---|---|
| d, Delay for Lane Group [s/veh] | 159.79 | 35.33 | 53.39 | 79.82 | 209.91 | 40.69 | 55.30 |
| Lane Group LOS | F | D | D | E | F | D | E |
| Critical Lane Group | no | yes | no | yes | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 12.65 | 30.00 | 1.53 | 11.25 | 77.94 | 17.32 | 2.04 |
| 50th-Percentile Queue Length [ft] | 316.22 | 750.05 | 38.24 | 281.35 | 1948.41 | 432.90 | 50.89 |
| 95th-Percentile Queue Length [veh] | 21.25 | 48.08 | 3.57 | 19.19 | 124.70 | 28.25 | 4.61 |
| 95th-Percentile Queue Length [ft] | 531.15 | 1201.94 | 89.35 | 479.79 | 3117.46 | 706.20 | 115.29 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 159.79 | 159.79 | 35.33 | 53.39 | 53.39 | 79.82 | 209.91 | 40.69 | 40.69 | 55.30 | 55.30 | 55.30 |
| Movement LOS | F | F | D | D | D | E | F | D | D | E | E | E |
| d_A, Approach Delay [s/veh] | 52.18 | | | 73.16 | | | 186.71 | | | 55.30 | | |
| Approach LOS | D | | | E | | | F | | | E | | |
| d_I, Intersection Delay [s/veh] | 140.86 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |
| Intersection V/C | 1.173 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#181: Santa Cruz Ave/Elder Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 15.4 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.545 |

**Intersection Setup**

| Name | Santa Cruz Avenue | | Santa Cruz Avenue | | Elder Ave | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 0 | 1 |
| Pocket Length [ft] | 60.00 | 100.00 | 100.00 | 100.00 | 100.00 | 105.00 |
| Speed [mph] | 25.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Santa Cruz Avenue | | Santa Cruz Avenue | | Elder Ave | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 64 | 636 | 403 | 112 | 100 | 74 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 1.90 | 3.20 | 5.40 | 1.00 | 1.40 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 64 | 636 | 403 | 112 | 100 | 74 |
| Peak Hour Factor | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 18 | 181 | 114 | 32 | 28 | 21 |
| Total Analysis Volume [veh/h] | 73 | 723 | 458 | 127 | 114 | 84 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 20 | | 20 | |
| Bicycle Volume [bicycles/h] | 24 | | 13 | | 11 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | yes |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 8.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 6 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lead | - |
| Minimum Green [s] | 5 | 5 | 5 | 0 | 5 | 0 |
| Maximum Green [s] | 30 | 30 | 30 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 13 | 83 | 70 | 0 | 17 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 1 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 1 | 0 | 1 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | no | no | no | | no | |
| Maximum Recall | no | yes | yes | | no | |
| Pedestrian Recall | no | no | no | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | C | L | R |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 9 | 79 | 66 | 13 | 13 |
| g / C, Green / Cycle | 0.09 | 0.79 | 0.66 | 0.13 | 0.13 |
| (v / s)_i Volume / Saturation Flow Rate | 0.04 | 0.43 | 0.36 | 0.07 | 0.06 |
| Total Saturation Flow Adjustment | 0.86 | 0.88 | 0.85 | 0.85 | 0.75 |
| s, saturation flow rate [veh/h] | 1625 | 1678 | 1608 | 1608 | 1433 |
| c, Capacity [veh/h] | 146 | 1326 | 1062 | 209 | 186 |
| d1, Uniform Delay [s] | 43.35 | 3.87 | 9.08 | 40.73 | 40.20 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 11.67 | 1.62 | 2.06 | 9.85 | 7.69 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.50 | 0.55 | 0.55 | 0.55 | 0.45 |
| d, Delay for Lane Group [s/veh] | 55.03 | 5.49 | 11.14 | 50.58 | 47.89 |
| Lane Group LOS | E | A | B | D | D |
| Critical Lane Group | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 2.24 | 9.17 | 10.22 | 3.44 | 2.46 |
| 50th-Percentile Queue Length [ft] | 56.02 | 229.15 | 255.44 | 85.98 | 61.51 |
| 95th-Percentile Queue Length [veh] | 5.02 | 16.13 | 17.67 | 7.23 | 5.44 |
| 95th-Percentile Queue Length [ft] | 125.42 | 403.28 | 441.80 | 180.79 | 136.02 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 55.03 | 5.49 | 11.14 | 11.14 | 50.58 | 47.89 |
| Movement LOS | E | A | B | B | D | D |
| d_A, Approach Delay [s/veh] | 10.03 | | 11.14 | | 49.44 | |
| Approach LOS | B | | B | | D | |
| d_I, Intersection Delay [s/veh] | 15.39 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.545 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#195: Bayfront Expy/Chilco St**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 18.9 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.843 |

**Intersection Setup**

| Name | Chilco Street | | Bayfront Expy | | Bayfront Expy | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Westbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 0 | 0 | 1 |
| Pocket Length [ft] | 80.00 | 100.00 | 520.00 | 100.00 | 100.00 | 660.00 |
| Speed [mph] | 30.00 | | 45.00 | | 50.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Chilco Street | | Bayfront Expy | | Bayfront Expy | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 205 | 26 | 176 | 2726 | 933 | 169 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 3.40 | 23.10 | 6.30 | 3.80 | 5.10 | 5.30 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 205 | 26 | 176 | 2726 | 933 | 169 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 55 | 7 | 47 | 725 | 248 | 45 |
| Total Analysis Volume [veh/h] | 218 | 28 | 187 | 2900 | 993 | 180 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 2 | | 2 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | yes |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 0 | 7 | 4 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 5 | 0 | 5 | 5 | 5 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 26 | 0 | 26 | 104 | 78 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 1 | 0 | 0 | 1 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | no | | no | no | no | |
| Maximum Recall | no | | no | yes | yes | |
| Pedestrian Recall | no | | no | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 0.0 | 0.0 | 20.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 22 | 22 | 22 | 100 | 74 | 74 |
| g / C, Green / Cycle | 0.17 | 0.17 | 0.17 | 0.77 | 0.57 | 0.57 |
| (v / s)_i Volume / Saturation Flow Rate | 0.14 | 0.02 | 0.12 | 0.65 | 0.22 | 0.13 |
| Total Saturation Flow Adjustment | 0.83 | 0.62 | 0.80 | 0.79 | 0.78 | 0.73 |
| s, saturation flow rate [veh/h] | 1571 | 1181 | 1528 | 4488 | 4432 | 1380 |
| c, Capacity [veh/h] | 266 | 200 | 259 | 3452 | 2523 | 786 |
| d1, Uniform Delay [s] | 52.09 | 45.95 | 51.12 | 9.78 | 15.54 | 13.87 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 23.82 | 1.46 | 16.09 | 2.64 | 0.46 | 0.68 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.82 | 0.14 | 0.72 | 0.84 | 0.39 | 0.23 |
| d, Delay for Lane Group [s/veh] | 75.91 | 47.41 | 67.21 | 12.43 | 16.01 | 14.55 |
| Lane Group LOS | E | D | E | B | B | B |
| Critical Lane Group | yes | no | no | yes | no | no |
| 50th-Percentile Queue Length [veh] | 9.59 | 0.94 | 7.70 | 32.22 | 8.21 | 3.59 |
| 50th-Percentile Queue Length [ft] | 239.74 | 23.45 | 192.46 | 805.62 | 205.13 | 89.72 |
| 95th-Percentile Queue Length [veh] | 16.75 | 2.28 | 13.97 | 51.61 | 14.72 | 7.49 |
| 95th-Percentile Queue Length [ft] | 418.81 | 56.97 | 349.21 | 1290.27 | 367.96 | 187.33 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 75.91 | 47.41 | 67.21 | 12.43 | 16.01 | 14.55 |
| Movement LOS | E | D | E | B | B | B |
| d_A, Approach Delay [s/veh] | 72.67 | | 15.75 | | 15.78 | |
| Approach LOS | E | | B | | B | |
| d_I, Intersection Delay [s/veh] | 18.86 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.843 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#196: Bayfront Expy/Chrysler Drive**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 15.1 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.883 |

**Intersection Setup**

| Name | Chrysler Drive | | Bayfront Expy | | Bayfront Expy | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Thru | Right | Left | Thru |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 1 | 0 |
| Pocket Length [ft] | 140.00 | 100.00 | 100.00 | 290.00 | 345.00 | 100.00 |
| Speed [mph] | 25.00 | | 45.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Chrysler Drive | | Bayfront Expy | | Bayfront Expy | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 179 | 12 | 1106 | 56 | 22 | 2914 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 12.30 | 8.30 | 5.30 | 7.10 | 0.00 | 3.70 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 179 | 12 | 1106 | 56 | 22 | 2914 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 48 | 3 | 294 | 15 | 6 | 775 |
| Total Analysis Volume [veh/h] | 190 | 13 | 1177 | 60 | 23 | 3100 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 4 | |
| Bicycle Volume [bicycles/h] | 1 | | 1 | | 1 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | yes |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Split | Split | Permissive | Permissive | Protected | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 0 | 8 | 0 | 7 | 4 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lead | - |
| Minimum Green [s] | 5 | 0 | 5 | 0 | 5 | 5 |
| Maximum Green [s] | 30 | 0 | 30 | 0 | 30 | 30 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 |
| Split [s] | 24 | 0 | 97 | 0 | 9 | 106 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 0 | 1 | 0 | 0 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 |
| Minimum Recall | no | | no | | no | no |
| Maximum Recall | no | | yes | | no | yes |
| Pedestrian Recall | no | | no | | no | no |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | C | R | L | C |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 20 | 93 | 93 | 5 | 102 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.72 | 0.72 | 0.04 | 0.78 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.01 | 0.27 | 0.04 | 0.01 | 0.69 |
| Total Saturation Flow Adjustment | 0.76 | 0.71 | 0.78 | 0.71 | 0.86 | 0.79 |
| s, saturation flow rate [veh/h] | 1447 | 1342 | 4424 | 1357 | 1625 | 4492 |
| c, Capacity [veh/h] | 223 | 206 | 3165 | 971 | 62 | 3524 |
| d1, Uniform Delay [s] | 53.58 | 46.99 | 7.17 | 5.51 | 60.96 | 9.73 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 31.82 | 0.58 | 0.34 | 0.12 | 15.89 | 3.50 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.85 | 0.06 | 0.37 | 0.06 | 0.37 | 0.88 |
| d, Delay for Lane Group [s/veh] | 85.40 | 47.58 | 7.51 | 5.63 | 76.85 | 13.24 |
| Lane Group LOS | F | D | A | A | E | B |
| Critical Lane Group | yes | no | no | no | no | yes |
| 50th-Percentile Queue Length [veh] | 8.70 | 0.43 | 7.01 | 0.74 | 0.93 | 37.44 |
| 50th-Percentile Queue Length [ft] | 217.46 | 10.85 | 175.31 | 18.51 | 23.27 | 936.10 |
| 95th-Percentile Queue Length [veh] | 15.44 | 1.09 | 12.94 | 1.82 | 2.26 | 59.93 |
| 95th-Percentile Queue Length [ft] | 386.11 | 27.31 | 323.62 | 45.58 | 56.54 | 1498.28 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 85.40 | 47.58 | 7.51 | 5.63 | 76.85 | 13.24 |
| Movement LOS | F | D | A | A | E | B |
| d_A, Approach Delay [s/veh] | 82.98 | | 7.42 | | 13.70 | |
| Approach LOS | F | | A | | B | |
| d_I, Intersection Delay [s/veh] | 15.08 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.883 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#207: Chilco St/Constitution Dr**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 11.6 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Chilco Street | | | Chilco Street | | | Constitution Drive | | | Constitution Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Northwestbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Chilco Street | | | Chilco Street | | | Constitution Drive | | | Constitution Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 114 | 148 | 74 | 133 | 204 | 8 | 5 | 5 | 17 | 14 | 8 | 28 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 4.40 | 10.10 | 6.80 | 2.30 | 3.40 | 0.00 | 40.00 | 40.00 | 29.40 | 14.30 | 37.50 | 7.10 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 114 | 148 | 74 | 133 | 204 | 8 | 5 | 5 | 17 | 14 | 8 | 28 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 31 | 40 | 20 | 36 | 55 | 2 | 1 | 1 | 5 | 4 | 2 | 8 |
| Total Analysis Volume [veh/h] | 124 | 161 | 80 | 145 | 222 | 9 | 5 | 5 | 18 | 15 | 9 | 30 |
| Pedestrian Volume [ped/h] | 0 | | | 1 | | | 0 | | | 1 | | |

**Intersection Settings**

**Lanes**

**Movement, Approach, & Intersection Results**

| | | | | |
|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 2.54 | 2.71 | 0.14 | 0.28 |
| 95th-Percentile Queue Length [ft] | 63.46 | 67.76 | 3.62 | 6.88 |
| Approach Delay [s/veh] | 11.69 | 12.04 | 9.22 | 9.14 |
| Approach LOS | B | B | A | A |
| Intersection Delay [s/veh] | 11.60 | | | |
| Intersection LOS | B | | | |

**Intersection Level Of Service Report**
**#209: Jefferson Dr/Constitution Dr**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.6 |
| Analysis Method: | HCM2000 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.000 |

**Intersection Setup**

| Name | | | | Constitution Drive | | | Constitution Drive | | | Jefferson Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | | | | Constitution Drive | | | Constitution Drive | | | Jefferson Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 1 | 0 | 0 | 1 | 53 | 0 | 2 | 17 | 1 | 1 | 0 | 11 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 1.90 | 0.00 | 0.00 | 5.90 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1 | 0 | 0 | 1 | 53 | 0 | 2 | 17 | 1 | 1 | 0 | 11 |
| Peak Hour Factor | 0.7500 | 0.7500 | 0.7500 | 0.7500 | 0.7500 | 0.7500 | 0.7500 | 0.7500 | 0.7500 | 0.7500 | 0.7500 | 0.7500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 0 | 18 | 0 | 1 | 6 | 0 | 0 | 0 | 4 |
| Total Analysis Volume [veh/h] | 1 | 0 | 0 | 1 | 71 | 0 | 3 | 23 | 1 | 1 | 0 | 15 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Free | Free | Stop |
|---|---|---|---|---|
| Flared Lane | no | | | no |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | no | | | no |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.20 | 9.57 | 8.40 | 7.25 | 0.00 | 0.00 | 7.34 | 0.00 | 0.00 | 9.15 | 9.62 | 8.67 |
| Movement LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.00 | 0.00 | 0.00 | 0.14 | 0.14 | 0.14 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| 95th-Percentile Queue Length [ft] | 0.09 | 0.09 | 0.09 | 3.52 | 3.52 | 3.52 | 1.34 | 1.34 | 1.34 | 1.23 | 1.23 | 1.23 |
| d_A, Approach Delay [s/veh] | 9.20 | | | 0.10 | | | 0.82 | | | 8.70 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.53 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**#213: Chrysler Dr/Independence Dr**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 10.1 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.016 |

**Intersection Setup**

| Name | Chrysler Drive | | | Chrysler Drive | | | | | | Independence Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Chrysler Drive | | | Chrysler Drive | | | | | | Independence Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 8 | 33 | 5 | 1 | 6 | 0 | 29 | 11 | 91 | 0 | 0 | 1 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 9.10 | 20.00 | 100.00 | 33.30 | 0.00 | 10.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 8 | 33 | 5 | 1 | 6 | 0 | 29 | 11 | 91 | 0 | 0 | 1 |
| Peak Hour Factor | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 | 0.8400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 2 | 10 | 1 | 0 | 2 | 0 | 9 | 3 | 27 | 0 | 0 | 0 |
| Total Analysis Volume [veh/h] | 10 | 39 | 6 | 1 | 7 | 0 | 35 | 13 | 108 | 0 | 0 | 1 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| Flared Lane | | | no | no |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | no | no |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.02 | 0.10 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 7.23 | 0.00 | 0.00 | 8.24 | 0.00 | 0.00 | 9.72 | 10.10 | 9.18 | 9.84 | 9.42 | 8.33 |
| Movement LOS | A | A | A | A | A | A | A | B | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.10 | 0.10 | 0.10 | 0.02 | 0.02 | 0.02 | 0.57 | 0.57 | 0.57 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft] | 2.62 | 2.62 | 2.62 | 0.54 | 0.54 | 0.54 | 14.15 | 14.15 | 14.15 | 0.07 | 0.07 | 0.07 |
| d_A, Approach Delay [s/veh] | 1.31 | | | 1.03 | | | 9.38 | | | 8.33 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 7.05 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**#214: Chrysler Dr/Jefferson Dr**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 12.2 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.000 |

**Intersection Setup**

| Name | Chrysler Drive | | | Chrysler Drive | | | Jefferson Drive | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Southbound | | | Northeastbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 25.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Chrysler Drive | | | Chrysler Drive | | | Jefferson Drive | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 111 | 39 | 0 | 0 | 23 | 14 | 7 | 0 | 11 | 0 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.70 | 10.30 | 2.00 | 2.00 | 26.10 | 7.10 | 0.00 | 0.00 | 18.20 | 2.00 | 2.00 | 2.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 111 | 39 | 0 | 0 | 23 | 14 | 7 | 0 | 11 | 0 | 0 | 0 |
| Peak Hour Factor | 0.7800 | 0.7800 | 1.0000 | 1.0000 | 0.7800 | 0.7800 | 0.7800 | 0.7800 | 0.7800 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 36 | 13 | 0 | 0 | 7 | 4 | 2 | 0 | 4 | 0 | 0 | 0 |
| Total Analysis Volume [veh/h] | 142 | 50 | 0 | 0 | 29 | 18 | 9 | 0 | 14 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| Flared Lane | | | no | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | no | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 7.55 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.74 | 12.23 | 8.79 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | | | A | A | B | B | A | | | |
| 95th-Percentile Queue Length [veh] | 0.42 | 0.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.09 | 0.09 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft] | 10.53 | 10.53 | 0.00 | 0.00 | 0.00 | 0.00 | 2.37 | 2.37 | 2.37 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 5.58 | | | 0.00 | | | 9.95 | | | 0.00 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 4.96 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**#215: Chrysler Dr/Constitution Dr**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 8.8 |
| Analysis Method: | HCM2000 | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Chrysler Drive | | | | | | Constitution Drive | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Chrysler Drive | | | | | | Constitution Drive | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 23 | 47 | 12 | 19 | 127 | 97 | 19 | 5 | 102 | 1 | 28 | 2 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 13.00 | 8.50 | 8.30 | 21.10 | 0.80 | 3.10 | 5.30 | 40.00 | 9.80 | 0.00 | 17.90 | 100.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 23 | 47 | 12 | 19 | 127 | 97 | 19 | 5 | 102 | 1 | 28 | 2 |
| Peak Hour Factor | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 6 | 13 | 3 | 5 | 35 | 27 | 5 | 1 | 28 | 0 | 8 | 1 |
| Total Analysis Volume [veh/h] | 26 | 52 | 13 | 21 | 141 | 108 | 21 | 6 | 113 | 1 | 31 | 2 |
| Pedestrian Volume [ped/h] | 0 | | | 1 | | | 1 | | | 1 | | |

**Intersection Settings**

**Lanes**

**Movement, Approach, & Intersection Results**

| | | | | |
|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 0.43 | 1.36 | 0.59 | 0.16 |
| 95th-Percentile Queue Length [ft] | 10.76 | 34.03 | 14.72 | 3.93 |
| Approach Delay [s/veh] | 8.70 | 9.15 | 8.08 | 8.56 |
| Approach LOS | A | A | A | A |
| Intersection Delay [s/veh] | 8.76 | | | |
| Intersection LOS | A | | | |

**Intersection Level Of Service Report**
**#233: Sand Hill Road and Sand Hill Circle**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 63.7 |
| Analysis Method: | HCM2000 | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.435 |

**Intersection Setup**

| Name | Hwy 280 NB Off-Ramp | | | | | | Sand Hill Road | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | |
| Grade [%] | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | |
| Crosswalk | | yes | | | yes | | | yes | | | yes | |

**Volumes**

| Name | Hwy 280 NB Off-Ramp | | | | | | Sand Hill Road | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 4 | 293 | 0 | 0 | 51 | 40 | 0 | 0 | 0 | 0 | 795 | 32 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 26.60 | 2.00 | 2.00 | 5.90 | 7.50 | 2.00 | 2.00 | 2.00 | 3.00 | 3.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 293 | 0 | 0 | 51 | 40 | 0 | 0 | 0 | 0 | 795 | 32 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 73 | 0 | 0 | 13 | 10 | 0 | 0 | 0 | 0 | 199 | 8 |
| Total Analysis Volume [veh/h] | 4 | 293 | 0 | 0 | 51 | 40 | 0 | 0 | 0 | 0 | 795 | 32 |
| Presence of On-Street Parking | no | | | | | no | | | | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | | 1 | | | 0 | | | 0 | | | 0 | |
| Bicycle Volume [bicycles/h] | | 0 | | | 1 | | | 0 | | | 1 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Free Running |
| Actuation Type | Fixed time |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Protecte | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| Maximum Green [s] | 0 | 13 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 0.5 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| Split [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vehicle Extension [s] | 0.0 | 2.5 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 14 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | | no | | | | | | yes | |
| Maximum Recall | | no | | | no | | | | | | no | |
| Pedestrian Recall | | no | | | no | | | | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | R | | C |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | | 0.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 15 | | 32 |
| g / C, Green / Cycle | 0.16 | 0.16 | 0.16 | | 0.35 |
| (v / s)_i Volume / Saturation Flow Rate | 0.20 | 0.03 | 0.03 | | 0.24 |
| Total Saturation Flow Adjustment | 0.79 | 0.94 | 0.78 | | 0.92 |
| s, saturation flow rate [veh/h] | 1498 | 1794 | 1485 | | 3490 |
| c, Capacity [veh/h] | 241 | 289 | 239 | | 1222 |
| d1, Uniform Delay [s] | 37.75 | 32.59 | 32.54 | | 24.92 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | | 1.00 |
| d2, Incremental Delay [s] | 134.53 | 1.33 | 1.50 | | 3.03 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | | 1.00 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 1.23 | 0.18 | 0.17 | | 0.68 |
| d, Delay for Lane Group [s/veh] | 172.28 | 33.92 | 34.05 | | 27.94 |
| Lane Group LOS | F | C | C | | C |
| Critical Lane Group | yes | no | no | | yes |
| 50th-Percentile Queue Length [veh] | 16.18 | 1.20 | 0.95 | | 10.90 |
| 50th-Percentile Queue Length [ft] | 404.41 | 30.08 | 23.65 | | 272.49 |
| 95th-Percentile Queue Length [veh] | 26.52 | 2.87 | 2.30 | | 18.67 |
| 95th-Percentile Queue Length [ft] | 662.96 | 71.77 | 57.42 | | 466.79 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 172.28 | 172.28 | 0.00 | 0.00 | 33.92 | 34.05 | 0.00 | 0.00 | 0.00 | 27.94 | 27.94 | 27.94 |
| Movement LOS | F | F | | | C | C | | | | C | C | C |
| d_A, Approach Delay [s/veh] | 172.28 | | | 33.98 | | | 0.00 | | | 27.94 | | |
| Approach LOS | F | | | C | | | A | | | C | | |
| d_I, Intersection Delay [s/veh] | 63.68 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.435 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#234: Sand Hill Rd/Hwy 280 NB Off-Ramp**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 233.2 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.731 |

**Intersection Setup**

| Name | Hwy 280 NB Off-Ramp | | | Hwy 280 NB Off-Ramp | | | Sand Hill Road | | | Sand Hill Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 300.00 | 100.00 | 100.00 | 100.00 | 270.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Hwy 280 NB Off-Ramp | | | Hwy 280 NB Off-Ramp | | | Sand Hill Road | | | Sand Hill Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 112 | 478 | 48 | 0 | 0 | 156 | 1696 | 0 | 0 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.70 | 3.60 | 4.20 | 2.00 | 2.00 | 2.60 | 1.50 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 112 | 478 | 48 | 0 | 0 | 156 | 1696 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.0000 | 0.9500 | 0.9500 | 0.9500 | 1.0000 | 1.0000 | 0.9500 | 0.9500 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 29 | 126 | 13 | 0 | 0 | 41 | 446 | 0 | 0 | 0 | 0 |
| Total Analysis Volume [veh/h] | 0 | 118 | 503 | 51 | 0 | 0 | 164 | 1785 | 0 | 0 | 0 | 0 |
| Presence of On-Street Parking | | | no | no | | | no | | | | | |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 40 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Free Running |
| Actuation Type | Fixed time |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Split | Split | Split | Protecte | Permiss | Protecte | Permiss | Permiss | Protecte | Protecte | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 8 | 0 | 7 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | Lag | - | - | Lead | - | - | - | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 6 | 0 | 0 | 4 | 8 | 0 | 0 | 0 | 0 |
| Maximum Green [s] | 0 | 13 | 0 | 25 | 0 | 0 | 16 | 30 | 0 | 0 | 0 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Split [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Walk [s] | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 10 | 0 | 10 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | no | | | no | yes | | | | |
| Maximum Recall | | no | | no | | | no | no | | | | |
| Pedestrian Recall | | no | | no | | | no | no | | | | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | L | L | C | |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | |
| g_i, Effective Green Time [s] | 13 | 25 | 30 | 30 | |
| g / C, Green / Cycle | 0.14 | 0.28 | 0.33 | 0.33 | |
| (v / s)_i Volume / Saturation Flow Rate | 0.20 | 0.03 | 0.09 | 0.50 | |
| Total Saturation Flow Adjustment | 0.81 | 0.91 | 0.93 | 0.94 | |
| s, saturation flow rate [veh/h] | 3095 | 1732 | 1759 | 3564 | |
| c, Capacity [veh/h] | 447 | 481 | 586 | 1188 | |
| d1, Uniform Delay [s] | 38.50 | 24.18 | 22.06 | 30.00 | |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | |
| d2, Incremental Delay [s] | 188.54 | 0.44 | 1.19 | 230.55 | |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | |

**Lane Group Results**

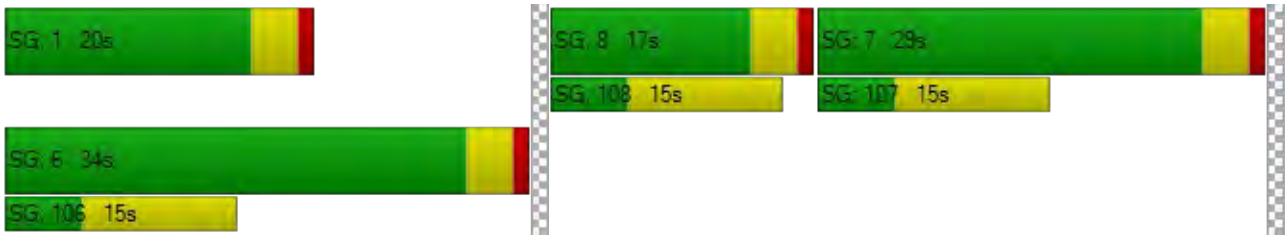
| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 1.39 | 0.11 | 0.28 | 1.50 | |
| d, Delay for Lane Group [s/veh] | 227.04 | 24.63 | 23.24 | 260.55 | |
| Lane Group LOS | F | C | C | F | |
| Critical Lane Group | yes | yes | no | yes | |
| 50th-Percentile Queue Length [veh] | 20.90 | 1.03 | 3.32 | 64.95 | |
| 50th-Percentile Queue Length [ft] | 522.57 | 25.74 | 82.94 | 1623.66 | |
| 95th-Percentile Queue Length [veh] | 33.76 | 2.49 | 7.02 | 103.91 | |
| 95th-Percentile Queue Length [ft] | 844.09 | 62.14 | 175.43 | 2597.85 | |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 227.04 | 227.04 | 24.63 | 0.00 | 0.00 | 23.24 | 260.55 | 0.00 | 0.00 | 0.00 | 0.00 |
| Movement LOS | | F | F | C | | | C | F | | | | |
| d_A, Approach Delay [s/veh] | 227.04 | | | 24.63 | | | 240.58 | | | 0.00 | | |
| Approach LOS | F | | | C | | | F | | | A | | |
| d_I, Intersection Delay [s/veh] | 233.17 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |
| Intersection V/C | 0.731 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Menlo Park GP Circulation Update

Vistro File: J:\...\Menlo Park AM_update.vistro
Report File: J:\...\Menlo Park_AM Results.pdf

Scenario 1: Existing AM
1/9/2015

## Turning Movement Volume: Summary

| ID | Intersection Name | Northeastbound | Southwestbound | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|
| | | Thru | Thru | Left | Right | |
| 1 | Marsh Rd (SR 84)/US 101 SB Offramp | 784 | 1747 | 953 | 320 | 3804 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 2 | Marsh Rd/Rolison Rd-Scott Dr | 28 | 1184 | 14 | 439 | 1422 | 296 | 15 | 4 | 71 | 239 | 12 | 5 | 3729 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 3 | Marsh Rd/Florence St-Bohannon Dr | 99 | 767 | 90 | 27 | 1068 | 435 | 447 | 47 | 198 | 27 | 16 | 25 | 3246 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 4 | Marsh Rd/Bay Rd | 1 | 803 | 82 | 268 | 867 | 31 | 114 | 78 | 7 | 45 | 19 | 173 | 2488 |

| ID | Intersection Name | Northeastbound | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Right | Left | Thru | Thru | Right | |
| 9 | Middlefield Rd/Ravenswood Ave | 85 | 522 | 446 | 364 | 420 | 75 | 1912 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 10 | Middlefield Rd/Ringswood Ave | 5 | 3 | 12 | 136 | 44 | 251 | 55 | 559 | 84 | 216 | 653 | 62 | 2080 |

| ID | Intersection Name | Northeastbound | | Southwestbound | | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Thru | Right | Left | Thru | Left | Right | |
| 15 | Bayfront Expy (SR 84)/University Ave (SR 109) | 873 | 85 | 1495 | 3915 | 185 | 359 | 6912 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 16 | Bayfront Expy (SR 84)/Willow Rd (SR 114) | 128 | 380 | 361 | 16 | 59 | 42 | 217 | 713 | 155 | 732 | 2780 | 24 | 5607 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 17 | Willow Rd (SR 114)/Hamilton Ave | 124 | 807 | 71 | 88 | 795 | 57 | 78 | 22 | 50 | 26 | 24 | 23 | 2165 |

| ID | Intersection Name | Northbound | | Southbound | | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Right | |
| 18 | Willow Rd (SR 114)/Ivy Dr | 129 | 1141 | 842 | 9 | 17 | 147 | 2285 |

| ID | Intersection Name | Northbound | | Southbound | | Westbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Thru | Right | Left | Thru | Left | Right | |
| 19 | Willow Rd (SR 114)/O'Brien Dr | 1201 | 304 | 54 | 969 | 195 | 58 | 2781 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 20 | Willow Rd (SR 114)/Newbridge St | 151 | 1407 | 166 | 51 | 1132 | 10 | 37 | 169 | 281 | 273 | 120 | 42 | 3839 |

| ID | Intersection Name | Northeastbound | | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Right | |
| 21 | Willow Rd/Bay Rd | 67 | 1278 | 1161 | 445 | 363 | 60 | 3374 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 22 | Willow Rd/Durham St-VA Med Entrance | 26 | 1040 | 16 | 36 | 925 | 89 | 40 | 3 | 10 | 48 | 12 | 70 | 2315 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 23 | Willow Rd/Coleman Ave | 22 | 864 | 3 | 1 | 805 | 120 | 191 | 6 | 51 | 4 | 4 | 5 | 2076 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 24 | Willow Rd/Gilbert Ave | 3 | 745 | 40 | 27 | 826 | 4 | 37 | 70 | 17 | 78 | 112 | 100 | 2059 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 25 | Middlefield Rd-Willow Rd | 28 | 201 | 139 | 458 | 75 | 391 | 80 | 368 | 256 | 320 | 356 | 15 | 2687 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 26 | Ravenswood Ave/Laurel St | 15 | 618 | 67 | 20 | 471 | 11 | 138 | 113 | 13 | 136 | 188 | 65 | 1855 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 28 | Oak Grove Ave/Laurel St | 11 | 258 | 85 | 30 | 345 | 61 | 30 | 107 | 16 | 72 | 200 | 52 | 1267 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 29 | El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance | 8 | 57 | 9 | 156 | 14 | 149 | 16 | 840 | 113 | 169 | 1838 | 71 | 3440 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 30 | El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave | 255 | 126 | 124 | 84 | 177 | 16 | 101 | 700 | 35 | 54 | 1349 | 547 | 3568 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 31 | El Camino Real (SR 82)/Oak Grove Ave | 57 | 196 | 53 | 117 | 254 | 63 | 89 | 731 | 73 | 125 | 1365 | 85 | 3208 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Thru | Right | Thru | Right | |
| 32 | El Camino Real (SR 82)/Santa Cruz Ave | 78 | 54 | 76 | 41 | 44 | 30 | 818 | 39 | 1420 | 16 | 2616 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 33 | El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave | 24 | 345 | 60 | 417 | 214 | 44 | 88 | 779 | 396 | 161 | 1420 | 16 | 3964 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 34 | El Camino Real (SR 82)/Roble Ave | 65 | 8 | 68 | 6 | 3 | 10 | 43 | 1188 | 25 | 43 | 1755 | 43 | 3257 |

| ID | Intersection Name | Northeastbound | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Right | Left | Thru | Thru | Right | |
| 35 | El Camino Real (SR 82)/Middle Ave | 185 | 285 | 182 | 1040 | 1753 | 68 | 3513 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 36 | El Camino Real (SR 82)/Cambridge Ave | 28 | 0 | 50 | 1 | 0 | 0 | 119 | 1204 | 1 | 30 | 2068 | 15 | 3516 |

| ID | Intersection Name | Northeastbound | | Southwestbound | | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Thru | Right | Left | Thru | Left | Right | |
| 38 | Santa Cruz Ave/University Dr (S) | 397 | 386 | 59 | 340 | 302 | 67 | 1551 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 39 | Santa Cruz Ave/Sand Hill Rd | 231 | 1143 | 261 | 331 | 559 | 51 | 94 | 615 | 389 | 223 | 669 | 236 | 4802 |

| ID | Intersection Name | Northbound | | Southbound | | Eastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Thru | Right | |
| 58 | University Avenue and Adams Drive | 42 | 508 | 1449 | 140 | 6 | 0 | 1 | 2146 |

| ID | Intersection Name | Northbound | | Southbound | | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Right | |
| 74 | University Ave/O'Brien Dr | 67 | 532 | 1284 | 142 | 16 | 25 | 2066 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 88 | Valparaiso Ave/ University Dr | 152 | 429 | 122 | 42 | 550 | 59 | 56 | 85 | 33 | 71 | 51 | 62 | 1712 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 103 | Addison Wesley/Sand Hill Rd | 23 | 2 | 41 | 2 | 2 | 7 | 103 | 1888 | 233 | 113 | 852 | 39 | 3305 |

| ID | Intersection Name | Southbound | | Westbound | | Northeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Left | Right | Thru | Right | |
| 107 | Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd | 663 | 556 | 65 | 172 | 852 | 517 | 2825 |

| ID | Intersection Name | Northbound | Southbound | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|
| | | Thru | Thru | Left | Right | |
| 110 | Marsh Road and US 101 NB Ramps | 1097 | 1261 | 848 | 349 | 3555 |

| ID | Intersection Name | Northeastbound | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|
| | | Thru | Thru | Right | Left | Right | |
| 132 | Oak Ave/Sand Hill Rd | 1794 | 740 | 38 | 77 | 189 | 2838 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 156 | Saga Ln/Sand Hill Rd | 10 | 0 | 33 | 14 | 1 | 9 | 211 | 1594 | 117 | 73 | 760 | 50 | 2872 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 157 | Branner Dr/Sand Hill Rd | 7 | 1 | 29 | 12 | 1 | 8 | 37 | 1666 | 12 | 17 | 867 | 21 | 2678 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 162 | Sharon Park Dr/ Sand Hill Rd | 145 | 1496 | 17 | 27 | 732 | 136 | 2 | 0 | 9 | 215 | 3 | 174 | 2956 |

| ID | Intersection Name | Northbound | | | Eastbound | | | Westbound | | | Southwestbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 163 | Bayfront Expy/Marsh Rd | 143 | 35 | 1141 | 5 | 66 | 209 | 2636 | 407 | 12 | 6 | 35 | 8 | 4703 |

| ID | Intersection Name | Northeastbound | | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Right | |
| 181 | Santa Cruz Ave/Elder Ave | 64 | 636 | 403 | 112 | 100 | 74 | 1389 |

| ID | Intersection Name | Northbound | | Westbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Right | Left | Thru | Thru | Right | |
| 195 | Bayfront Expy/Chilco St | 205 | 26 | 176 | 2726 | 933 | 169 | 4235 |

| ID | Intersection Name | Northbound | | Eastbound | | Westbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Right | Thru | Right | Left | Thru | |
| 196 | Bayfront Expy/Chrysler Drive | 179 | 12 | 1106 | 56 | 22 | 2914 | 4289 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Northwestbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 207 | Chilco St/Constitution Dr | 114 | 148 | 74 | 133 | 204 | 8 | 5 | 5 | 17 | 14 | 8 | 28 | 758 |

| ID | Intersection Name | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 209 | Jefferson Dr/Constitution Dr | 1 | 0 | 0 | 1 | 53 | 0 | 2 | 17 | 1 | 1 | 0 | 11 | 87 |

| ID | Intersection Name | Northbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 213 | Chrysler Dr/Independence Dr | 8 | 33 | 5 | 1 | 6 | 0 | 29 | 11 | 91 | 0 | 0 | 1 | 185 |

| ID | Intersection Name | Southbound | | Northeastbound | | Northwestbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Thru | Right | |
| 214 | Chrysler Dr/Jefferson Dr | 111 | 39 | 23 | 14 | 7 | 0 | 11 | 205 |

| ID | Intersection Name | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 215 | Chrysler Dr/Constitution Dr | 23 | 47 | 12 | 19 | 127 | 97 | 19 | 5 | 102 | 1 | 28 | 2 | 482 |

| ID | Intersection Name | Northbound | | Southbound | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Thru | Right | |
| 233 | Sand Hill Road and Sand Hill Circle | 4 | 293 | 51 | 40 | 0 | 795 | 32 | 1215 |

| ID | Intersection Name | Northbound | | Southbound | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|
| | | Thru | Right | Left | Left | Thru | |
| 234 | Sand Hill Rd/Hwy 280 NB Off-Ramp | 112 | 478 | 48 | 156 | 1696 | 2490 |

Menlo Park GP Circulation Update

Vistro File: J:\...\Menlo Park AM_update.vistro
Report File: J:\...\Menlo Park_AM Results.pdf

Scenario 1: Existing AM
1/9/2015

## Turning Movement Volume: Detail

| ID | Intersection Name | Volume Type | Northeastbound | Southwestbound | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|
| | | | Thru | Thru | Left | Right | |
| 1 | Marsh Rd (SR 84)/US 101 SB Offramp | Final Base | 784 | 1747 | 953 | 320 | 3804 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **784** | **1747** | **953** | **320** | **3804** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 2 | Marsh Rd/Rolison Rd-Scott Dr | Final Base | 28 | 1184 | 14 | 439 | 1422 | 296 | 15 | 4 | 71 | 239 | 12 | 5 | 3729 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **28** | **1184** | **14** | **439** | **1422** | **296** | **15** | **4** | **71** | **239** | **12** | **5** | **3729** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 3 | Marsh Rd/Florence St-Bohannon Dr | Final Base | 99 | 767 | 90 | 27 | 1068 | 435 | 447 | 47 | 198 | 27 | 16 | 25 | 3246 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **99** | **767** | **90** | **27** | **1068** | **435** | **447** | **47** | **198** | **27** | **16** | **25** | **3246** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 4 | Marsh Rd/Bay Rd | Final Base | 1 | 803 | 82 | 268 | 867 | 31 | 114 | 78 | 7 | 45 | 19 | 173 | 2488 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **1** | **803** | **82** | **268** | **867** | **31** | **114** | **78** | **7** | **45** | **19** | **173** | **2488** |

| ID | Intersection Name | Volume Type | Northeastbound | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Right | Left | Thru | Thru | Right | |
| 9 | Middlefield Rd/Ravenswood Ave | Final Base | 85 | 522 | 446 | 364 | 420 | 75 | 1912 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **85** | **522** | **446** | **364** | **420** | **75** | **1912** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 10 | Middlefield Rd/Ringswood Ave | Final Base | 5 | 3 | 12 | 136 | 44 | 251 | 55 | 559 | 84 | 216 | 653 | 62 | 2080 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **5** | **3** | **12** | **136** | **44** | **251** | **55** | **559** | **84** | **216** | **653** | **62** | **2080** |

| ID | Intersection Name | Volume Type | Northeastbound | | Southwestbound | | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Thru | Right | Left | Thru | Left | Right | |
| 15 | Bayfront Expy (SR 84)/University Ave (SR 109) | Final Base | 873 | 85 | 1495 | 3915 | 185 | 359 | 6912 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **873** | **85** | **1495** | **3915** | **185** | **359** | **6912** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 16 | Bayfront Expy (SR 84)/Willow Rd (SR 114) | Final Base | 128 | 380 | 361 | 16 | 59 | 42 | 217 | 713 | 155 | 732 | 2780 | 24 | 5607 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **128** | **380** | **361** | **16** | **59** | **42** | **217** | **713** | **155** | **732** | **2780** | **24** | **5607** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 17 | Willow Rd (SR 114)/Hamilton Ave | Final Base | 124 | 807 | 71 | 88 | 795 | 57 | 78 | 22 | 50 | 26 | 24 | 23 | 2165 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **124** | **807** | **71** | **88** | **795** | **57** | **78** | **22** | **50** | **26** | **24** | **23** | **2165** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Right | |
| 18 | Willow Rd (SR 114)/Ivy Dr | Final Base | 129 | 1141 | 842 | 9 | 17 | 147 | 2285 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **129** | **1141** | **842** | **9** | **17** | **147** | **2285** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | | Westbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Thru | Right | Left | Thru | Left | Right | |
| 19 | Willow Rd (SR 114)/O'Brien Dr | Final Base | 1201 | 304 | 54 | 969 | 195 | 58 | 2781 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **1201** | **304** | **54** | **969** | **195** | **58** | **2781** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 20 | Willow Rd (SR 114)/Newbridge St | Final Base | 151 | 1407 | 166 | 51 | 1132 | 10 | 37 | 169 | 281 | 273 | 120 | 42 | 3839 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **151** | **1407** | **166** | **51** | **1132** | **10** | **37** | **169** | **281** | **273** | **120** | **42** | **3839** |

| ID | Intersection Name | Volume Type | Northeastbound | | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Right | |
| 21 | Willow Rd/Bay Rd | Final Base | 67 | 1278 | 1161 | 445 | 363 | 60 | 3374 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **67** | **1278** | **1161** | **445** | **363** | **60** | **3374** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 22 | Willow Rd/Durham St-VA Med Entrance | Final Base | 26 | 1040 | 16 | 36 | 925 | 89 | 40 | 3 | 10 | 48 | 12 | 70 | 2315 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **26** | **1040** | **16** | **36** | **925** | **89** | **40** | **3** | **10** | **48** | **12** | **70** | **2315** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 23 | Willow Rd/Coleman Ave | Final Base | 22 | 864 | 3 | 1 | 805 | 120 | 191 | 6 | 51 | 4 | 4 | 5 | 2076 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **22** | **864** | **3** | **1** | **805** | **120** | **191** | **6** | **51** | **4** | **4** | **5** | **2076** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 24 | Willow Rd/Gilbert Ave | Final Base | 3 | 745 | 40 | 27 | 826 | 4 | 37 | 70 | 17 | 78 | 112 | 100 | 2059 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **3** | **745** | **40** | **27** | **826** | **4** | **37** | **70** | **17** | **78** | **112** | **100** | **2059** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 25 | Middlefield Rd-Willow Rd | Final Base | 28 | 201 | 139 | 458 | 75 | 391 | 80 | 368 | 256 | 320 | 356 | 15 | 2687 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **28** | **201** | **139** | **458** | **75** | **391** | **80** | **368** | **256** | **320** | **356** | **15** | **2687** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 26 | Ravenswood Ave/Laurel St | Final Base | 15 | 618 | 67 | 20 | 471 | 11 | 138 | 113 | 13 | 136 | 188 | 65 | 1855 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **15** | **618** | **67** | **20** | **471** | **11** | **138** | **113** | **13** | **136** | **188** | **65** | **1855** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 28 | Oak Grove Ave/Laurel St | Final Base | 11 | 258 | 85 | 30 | 345 | 61 | 30 | 107 | 16 | 72 | 200 | 52 | 1267 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **11** | **258** | **85** | **30** | **345** | **61** | **30** | **107** | **16** | **72** | **200** | **52** | **1267** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 29 | El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance | Final Base | 8 | 57 | 9 | 156 | 14 | 149 | 16 | 840 | 113 | 169 | 1838 | 71 | 3440 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **8** | **57** | **9** | **156** | **14** | **149** | **16** | **840** | **113** | **169** | **1838** | **71** | **3440** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 30 | El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave | Final Base | 255 | 126 | 124 | 84 | 177 | 16 | 101 | 700 | 35 | 54 | 1349 | 547 | 3568 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **255** | **126** | **124** | **84** | **177** | **16** | **101** | **700** | **35** | **54** | **1349** | **547** | **3568** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 31 | El Camino Real (SR 82)/Oak Grove Ave | Final Base | 57 | 196 | 53 | 117 | 254 | 63 | 89 | 731 | 73 | 125 | 1365 | 85 | 3208 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **57** | **196** | **53** | **117** | **254** | **63** | **89** | **731** | **73** | **125** | **1365** | **85** | **3208** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Thru | Right | Thru | Right | |
| 32 | El Camino Real (SR 82)/Santa Cruz Ave | Final Base | 78 | 54 | 76 | 41 | 44 | 30 | 818 | 39 | 1420 | 16 | 2616 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **78** | **54** | **76** | **41** | **44** | **30** | **818** | **39** | **1420** | **16** | **2616** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 33 | El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave | Final Base | 24 | 345 | 60 | 417 | 214 | 44 | 88 | 779 | 396 | 161 | 1420 | 16 | 3964 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **24** | **345** | **60** | **417** | **214** | **44** | **88** | **779** | **396** | **161** | **1420** | **16** | **3964** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 34 | El Camino Real (SR 82)/Roble Ave | Final Base | 65 | 8 | 68 | 6 | 3 | 10 | 43 | 1188 | 25 | 43 | 1755 | 43 | 3257 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **65** | **8** | **68** | **6** | **3** | **10** | **43** | **1188** | **25** | **43** | **1755** | **43** | **3257** |

| ID | Intersection Name | Volume Type | Northeastbound | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Right | Left | Thru | Thru | Right | |
| 35 | El Camino Real (SR 82)/Middle Ave | Final Base | 185 | 285 | 182 | 1040 | 1753 | 68 | 3513 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **185** | **285** | **182** | **1040** | **1753** | **68** | **3513** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 36 | El Camino Real (SR 82)/Cambridge Ave | Final Base | 28 | 0 | 50 | 1 | 0 | 0 | 119 | 1204 | 1 | 30 | 2068 | 15 | 3516 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **28** | **0** | **50** | **1** | **0** | **0** | **119** | **1204** | **1** | **30** | **2068** | **15** | **3516** |

| ID | Intersection Name | Volume Type | Northeastbound | | Southwestbound | | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Thru | Right | Left | Thru | Left | Right | |
| 38 | Santa Cruz Ave/University Dr (S) | Final Base | 397 | 386 | 59 | 340 | 302 | 67 | 1551 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **397** | **386** | **59** | **340** | **302** | **67** | **1551** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 39 | Santa Cruz Ave/Sand Hill Rd | Final Base | 231 | 1143 | 261 | 331 | 559 | 51 | 94 | 615 | 389 | 223 | 669 | 236 | 4802 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **231** | **1143** | **261** | **331** | **559** | **51** | **94** | **615** | **389** | **223** | **669** | **236** | **4802** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | | Eastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Thru | Right | |
| 58 | University Avenue and Adams Drive | Final Base | 42 | 508 | 1449 | 140 | 6 | 0 | 1 | 2146 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **42** | **508** | **1449** | **140** | **6** | **0** | **1** | **2146** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Right | |
| 74 | University Ave/O'Brien Dr | Final Base | 67 | 532 | 1284 | 142 | 16 | 25 | 2066 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **67** | **532** | **1284** | **142** | **16** | **25** | **2066** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 88 | Valparaiso Ave/ University Dr | Final Base | 152 | 429 | 122 | 42 | 550 | 59 | 56 | 85 | 33 | 71 | 51 | 62 | 1712 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **152** | **429** | **122** | **42** | **550** | **59** | **56** | **85** | **33** | **71** | **51** | **62** | **1712** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 103 | Addison Wesley/Sand Hill Rd | Final Base | 23 | 2 | 41 | 2 | 2 | 7 | 103 | 1888 | 233 | 113 | 852 | 39 | 3305 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **23** | **2** | **41** | **2** | **2** | **7** | **103** | **1888** | **233** | **113** | **852** | **39** | **3305** |

| ID | Intersection Name | Volume Type | Southbound | | Westbound | | Northeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Left | Right | Thru | Right | |
| 107 | Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd | Final Base | 663 | 556 | 65 | 172 | 852 | 517 | 2825 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **663** | **556** | **65** | **172** | **852** | **517** | **2825** |

| ID | Intersection Name | Volume Type | Northbound | Southbound | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|
| | | | Thru | Thru | Left | Right | |
| 110 | Marsh Road and US 101 NB Ramps | Final Base | 1097 | 1261 | 848 | 349 | 3555 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **1097** | **1261** | **848** | **349** | **3555** |

| ID | Intersection Name | Volume Type | Northeastbound | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | | Thru | Thru | Right | Left | Right | |
| 132 | Oak Ave/Sand Hill Rd | Final Base | 1794 | 740 | 38 | 77 | 189 | 2838 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **1794** | **740** | **38** | **77** | **189** | **2838** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 156 | Saga Ln/Sand Hill Rd | Final Base | 10 | 0 | 33 | 14 | 1 | 9 | 211 | 1594 | 117 | 73 | 760 | 50 | 2872 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **10** | **0** | **33** | **14** | **1** | **9** | **211** | **1594** | **117** | **73** | **760** | **50** | **2872** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 157 | Branner Dr/Sand Hill Rd | Final Base | 7 | 1 | 29 | 12 | 1 | 8 | 37 | 1666 | 12 | 17 | 867 | 21 | 2678 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **7** | **1** | **29** | **12** | **1** | **8** | **37** | **1666** | **12** | **17** | **867** | **21** | **2678** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 162 | Sharon Park Dr/ Sand Hill Rd | Final Base | 145 | 1496 | 17 | 27 | 732 | 136 | 2 | 0 | 9 | 215 | 3 | 174 | 2956 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **145** | **1496** | **17** | **27** | **732** | **136** | **2** | **0** | **9** | **215** | **3** | **174** | **2956** |

| ID | Intersection Name | Volume Type | Northbound | | | Eastbound | | | Westbound | | | Southwestbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 163 | Bayfront Expy/Marsh Rd | Final Base | 143 | 35 | 1141 | 5 | 66 | 209 | 2636 | 407 | 12 | 6 | 35 | 8 | 4703 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **143** | **35** | **1141** | **5** | **66** | **209** | **2636** | **407** | **12** | **6** | **35** | **8** | **4703** |

| ID | Intersection Name | Volume Type | Northeastbound | | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Right | |
| 181 | Santa Cruz Ave/Elder Ave | Final Base | 64 | 636 | 403 | 112 | 100 | 74 | 1389 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **64** | **636** | **403** | **112** | **100** | **74** | **1389** |

| ID | Intersection Name | Volume Type | Northbound | | Westbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Right | Left | Thru | Thru | Right | |
| 195 | Bayfront Expy/Chilco St | Final Base | 205 | 26 | 176 | 2726 | 933 | 169 | 4235 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **205** | **26** | **176** | **2726** | **933** | **169** | **4235** |

| ID | Intersection Name | Volume Type | Northbound | | Eastbound | | Westbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Right | Thru | Right | Left | Thru | |
| 196 | Bayfront Expy/Chrysler Drive | Final Base | 179 | 12 | 1106 | 56 | 22 | 2914 | 4289 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **179** | **12** | **1106** | **56** | **22** | **2914** | **4289** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Northwestbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 207 | Chilco St/Constitution Dr | Final Base | 114 | 148 | 74 | 133 | 204 | 8 | 5 | 5 | 17 | 14 | 8 | 28 | 758 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **114** | **148** | **74** | **133** | **204** | **8** | **5** | **5** | **17** | **14** | **8** | **28** | **758** |

| ID | Intersection Name | Volume Type | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 209 | Jefferson Dr/Constitution Dr | Final Base | 1 | 0 | 0 | 1 | 53 | 0 | 2 | 17 | 1 | 1 | 0 | 11 | 87 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **1** | **0** | **0** | **1** | **53** | **0** | **2** | **17** | **1** | **1** | **0** | **11** | **87** |

| ID | Intersection Name | Volume Type | Northbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 213 | Chrysler Dr/Independence Dr | Final Base | 8 | 33 | 5 | 1 | 6 | 0 | 29 | 11 | 91 | 0 | 0 | 1 | 185 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **8** | **33** | **5** | **1** | **6** | **0** | **29** | **11** | **91** | **0** | **0** | **1** | **185** |

| ID | Intersection Name | Volume Type | Southbound | | Northeastbound | | Northwestbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Thru | Right | |
| 214 | Chrysler Dr/Jefferson Dr | Final Base | 111 | 39 | 23 | 14 | 7 | 0 | 11 | 205 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **111** | **39** | **23** | **14** | **7** | **0** | **11** | **205** |

| ID | Intersection Name | Volume Type | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 215 | Chrysler Dr/Constitution Dr | Final Base | 23 | 47 | 12 | 19 | 127 | 97 | 19 | 5 | 102 | 1 | 28 | 2 | 482 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **23** | **47** | **12** | **19** | **127** | **97** | **19** | **5** | **102** | **1** | **28** | **2** | **482** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Thru | Right | |
| 233 | Sand Hill Road and Sand Hill Circle | Final Base | 4 | 293 | 51 | 40 | 0 | 795 | 32 | 1215 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **4** | **293** | **51** | **40** | **0** | **795** | **32** | **1215** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | | Thru | Right | Left | Left | Thru | |
| 234 | Sand Hill Rd/Hwy 280 NB Off-Ramp | Final Base | 112 | 478 | 48 | 156 | 1696 | 2490 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **112** | **478** | **48** | **156** | **1696** | **2490** |

# Signal Warrants Report For Intersection #58: University Avenue and Adams Drive

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | S, N |
| Minor Approaches | W |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | S | N | W |
| 1 | 11 | 32 | 0 |
| 2 | 11 | 32 | 0 |
| 3 | 17 | 48 | 0 |
| 4 | 17 | 48 | 0 |
| 5 | 22 | 64 | 0 |
| 6 | 55 | 159 | 1 |
| 7 | 61 | 175 | 1 |
| 8 | 110 | 318 | 1 |
| 9 | 193 | 556 | 2 |
| 10 | 198 | 572 | 3 |
| 11 | 198 | 572 | 3 |
| 12 | 215 | 620 | 3 |
| 13 | 237 | 683 | 3 |
| 14 | 248 | 715 | 3 |
| 15 | 248 | 715 | 3 |
| 16 | 264 | 763 | 3 |
| 17 | 330 | 953 | 4 |
| 18 | 347 | 1001 | 4 |
| 19 | 374 | 1081 | 5 |
| 20 | 418 | 1208 | 5 |
| 21 | 440 | 1271 | 6 |
| 22 | 517 | 1494 | 7 |
| 23 | 528 | 1525 | 7 |
| 24 | 550 | 1589 | 7 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 5 | 43 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 2 | 5 | 43 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 3 | 5 | 65 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 4 | 5 | 65 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 5 | 5 | 86 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 6 | 5 | 214 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 7 | 5 | 236 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 8 | 5 | 428 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 9 | 5 | 749 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 10 | 5 | 770 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 11 | 5 | 770 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 12 | 5 | 835 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 13 | 5 | 920 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 14 | 5 | 963 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 15 | 5 | 963 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 16 | 5 | 1027 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 17 | 5 | 1283 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 18 | 5 | 1348 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 19 | 5 | 1455 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 20 | 5 | 1626 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 21 | 5 | 1711 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 22 | 5 | 2011 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 23 | 5 | 2053 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 24 | 5 | 2139 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | W |
|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 131.7 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:15 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 7 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 2146 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| **Warrant Met for Intersection** | **No** |

# Signal Warrants Report For Intersection #207: Chilco St/Constitution Dr

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | SE, W |
| Minor Approaches | N, S |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | SE | W | N | S |
| 1 | 1 | 1 | 7 | 7 |
| 2 | 1 | 1 | 7 | 7 |
| 3 | 2 | 1 | 10 | 10 |
| 4 | 2 | 1 | 10 | 10 |
| 5 | 2 | 1 | 14 | 13 |
| 6 | 5 | 3 | 35 | 34 |
| 7 | 6 | 3 | 38 | 37 |
| 8 | 10 | 5 | 69 | 67 |
| 9 | 18 | 9 | 121 | 118 |
| 10 | 18 | 10 | 124 | 121 |
| 11 | 18 | 10 | 124 | 121 |
| 12 | 20 | 11 | 135 | 131 |
| 13 | 22 | 12 | 148 | 144 |
| 14 | 23 | 12 | 155 | 151 |
| 15 | 23 | 12 | 155 | 151 |
| 16 | 24 | 13 | 166 | 161 |
| 17 | 30 | 16 | 207 | 202 |
| 18 | 32 | 17 | 217 | 212 |
| 19 | 34 | 18 | 235 | 228 |
| 20 | 38 | 21 | 262 | 255 |
| 21 | 40 | 22 | 276 | 269 |
| 22 | 47 | 25 | 324 | 316 |
| 23 | 48 | 26 | 331 | 323 |
| 24 | 50 | 27 | 345 | 336 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 2 | 2 | 14 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 2 | 2 | 14 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 3 | 2 | 20 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 3 | 2 | 20 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 3 | 2 | 27 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 8 | 2 | 69 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 9 | 2 | 75 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 15 | 2 | 136 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 27 | 2 | 239 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 28 | 2 | 245 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 28 | 2 | 245 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 31 | 2 | 266 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 34 | 2 | 292 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 35 | 2 | 306 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 35 | 2 | 306 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 37 | 2 | 327 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 46 | 2 | 409 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 49 | 2 | 429 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 52 | 2 | 463 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 59 | 2 | 517 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 62 | 2 | 545 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 72 | 2 | 640 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 74 | 2 | 654 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 77 | 2 | 681 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | N | S |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 12 | 11.7 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 1:09 | 1:05 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 345 | 336 |
| High Minor Volume Condition Met | Yes | Yes |
| Total Entering Volume on All Approaches During Same Hour | 758 | 758 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | No | No |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Signal Warrants Report For Intersection #209: Jefferson Dr/Constitution Dr

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | E, W |
| Minor Approaches | N, SW |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | E | W | N | SW |
| 1 | 0 | 1 | 0 | 0 |
| 2 | 0 | 1 | 0 | 0 |
| 3 | 1 | 2 | 0 | 0 |
| 4 | 1 | 2 | 0 | 0 |
| 5 | 1 | 2 | 0 | 0 |
| 6 | 2 | 5 | 0 | 1 |
| 7 | 2 | 6 | 0 | 1 |
| 8 | 4 | 11 | 0 | 2 |
| 9 | 7 | 19 | 0 | 4 |
| 10 | 7 | 19 | 0 | 4 |
| 11 | 7 | 19 | 0 | 4 |
| 12 | 8 | 21 | 0 | 5 |
| 13 | 9 | 23 | 0 | 5 |
| 14 | 9 | 24 | 0 | 5 |
| 15 | 9 | 24 | 0 | 5 |
| 16 | 10 | 26 | 0 | 6 |
| 17 | 12 | 32 | 1 | 7 |
| 18 | 13 | 34 | 1 | 8 |
| 19 | 14 | 37 | 1 | 8 |
| 20 | 15 | 41 | 1 | 9 |
| 21 | 16 | 43 | 1 | 10 |
| 22 | 19 | 51 | 1 | 11 |
| 23 | 19 | 52 | 1 | 12 |
| 24 | 20 | 54 | 1 | 12 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1 | 2 | 0 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1 | 2 | 0 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 3 | 2 | 0 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 3 | 2 | 0 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 3 | 2 | 0 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 7 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 8 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 15 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 26 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 26 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 26 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 29 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 32 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 33 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 33 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 36 | 2 | 6 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 44 | 2 | 8 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 47 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 51 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 56 | 2 | 10 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 59 | 2 | 11 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 70 | 2 | 12 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 71 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 74 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | N | SW |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 9.2 | 8.7 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:00 | 0:01 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 1 | 12 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 87 | 87 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | No | No |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Signal Warrants Report For Intersection #213: Chrysler Dr/Independence Dr

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | NE, S |
| Minor Approaches | SE, NW |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | NE | S | SE | NW |
| 1 | 0 | 1 | 3 | 0 |
| 2 | 0 | 1 | 3 | 0 |
| 3 | 0 | 1 | 4 | 0 |
| 4 | 0 | 1 | 4 | 0 |
| 5 | 0 | 2 | 5 | 0 |
| 6 | 1 | 5 | 13 | 0 |
| 7 | 1 | 5 | 14 | 0 |
| 8 | 1 | 9 | 26 | 0 |
| 9 | 2 | 16 | 46 | 0 |
| 10 | 3 | 17 | 47 | 0 |
| 11 | 3 | 17 | 47 | 0 |
| 12 | 3 | 18 | 51 | 0 |
| 13 | 3 | 20 | 56 | 0 |
| 14 | 3 | 21 | 59 | 0 |
| 15 | 3 | 21 | 59 | 0 |
| 16 | 3 | 22 | 63 | 0 |
| 17 | 4 | 28 | 79 | 1 |
| 18 | 4 | 29 | 83 | 1 |
| 19 | 5 | 31 | 89 | 1 |
| 20 | 5 | 35 | 100 | 1 |
| 21 | 6 | 37 | 105 | 1 |
| 22 | 7 | 43 | 123 | 1 |
| 23 | 7 | 44 | 126 | 1 |
| 24 | 7 | 46 | 131 | 1 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 1 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 1 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 2 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 6 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 6 | 2 | 14 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 10 | 2 | 26 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 18 | 2 | 46 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 20 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 20 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 21 | 2 | 51 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 23 | 2 | 56 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 24 | 2 | 59 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 24 | 2 | 59 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 25 | 2 | 63 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 32 | 2 | 80 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 33 | 2 | 84 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 36 | 2 | 90 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 40 | 2 | 101 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 43 | 2 | 106 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 50 | 2 | 124 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 51 | 2 | 127 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 53 | 2 | 132 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | SE | NW |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 9.4 | 8.3 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:20 | 0:00 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 131 | 1 |
| High Minor Volume Condition Met | Yes | No |
| Total Entering Volume on All Approaches During Same Hour | 185 | 185 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | No | No |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Signal Warrants Report For Intersection #214: Chrysler Dr/Jefferson Dr

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | N, SW |
| Minor Approaches | SE |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | N | SW | SE |
| 1 | 3 | 1 | 0 |
| 2 | 3 | 1 | 0 |
| 3 | 5 | 1 | 1 |
| 4 | 5 | 1 | 1 |
| 5 | 6 | 1 | 1 |
| 6 | 15 | 4 | 2 |
| 7 | 17 | 4 | 2 |
| 8 | 30 | 7 | 4 |
| 9 | 53 | 13 | 6 |
| 10 | 54 | 13 | 6 |
| 11 | 54 | 13 | 6 |
| 12 | 59 | 14 | 7 |
| 13 | 65 | 16 | 8 |
| 14 | 68 | 17 | 8 |
| 15 | 68 | 17 | 8 |
| 16 | 72 | 18 | 9 |
| 17 | 90 | 22 | 11 |
| 18 | 95 | 23 | 11 |
| 19 | 102 | 25 | 12 |
| 20 | 114 | 28 | 14 |
| 21 | 120 | 30 | 14 |
| 22 | 141 | 35 | 17 |
| 23 | 144 | 36 | 17 |
| 24 | 150 | 37 | 18 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 4 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 4 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 6 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 6 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 7 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 19 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 21 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 37 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 66 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 67 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 67 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 73 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 81 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 85 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 85 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 90 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 112 | 1 | 11 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 118 | 1 | 11 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 127 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 142 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 150 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 176 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 180 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 187 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | SE |
|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 9.9 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:02 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 18 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 205 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | No |
| Warrant Met for Approach | No |
| **Warrant Met for Intersection** | **No** |

# Signal Warrants Report For Intersection #215: Chrysler Dr/Constitution Dr

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | E, W |
| Minor Approaches | N, SW |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | E | W | N | SW |
| 1 | 3 | 5 | 2 | 1 |
| 2 | 3 | 5 | 2 | 1 |
| 3 | 4 | 7 | 2 | 1 |
| 4 | 4 | 7 | 2 | 1 |
| 5 | 5 | 10 | 3 | 1 |
| 6 | 13 | 24 | 8 | 3 |
| 7 | 14 | 27 | 9 | 3 |
| 8 | 25 | 49 | 16 | 6 |
| 9 | 44 | 85 | 29 | 11 |
| 10 | 45 | 87 | 30 | 11 |
| 11 | 45 | 87 | 30 | 11 |
| 12 | 49 | 95 | 32 | 12 |
| 13 | 54 | 104 | 35 | 13 |
| 14 | 57 | 109 | 37 | 14 |
| 15 | 57 | 109 | 37 | 14 |
| 16 | 60 | 117 | 39 | 15 |
| 17 | 76 | 146 | 49 | 19 |
| 18 | 79 | 153 | 52 | 20 |
| 19 | 86 | 165 | 56 | 21 |
| 20 | 96 | 185 | 62 | 24 |
| 21 | 101 | 194 | 66 | 25 |
| 22 | 118 | 228 | 77 | 29 |
| 23 | 121 | 233 | 79 | 30 |
| 24 | 126 | 243 | 82 | 31 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 8 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 8 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 11 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 11 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 15 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 37 | 2 | 11 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 41 | 2 | 12 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 74 | 2 | 22 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 129 | 2 | 40 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 132 | 2 | 41 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 132 | 2 | 41 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 144 | 2 | 44 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 158 | 2 | 48 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 166 | 2 | 51 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 166 | 2 | 51 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 177 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 222 | 2 | 68 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 232 | 2 | 72 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 251 | 2 | 77 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 281 | 2 | 86 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 295 | 2 | 91 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 346 | 2 | 106 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 354 | 2 | 109 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 369 | 2 | 113 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

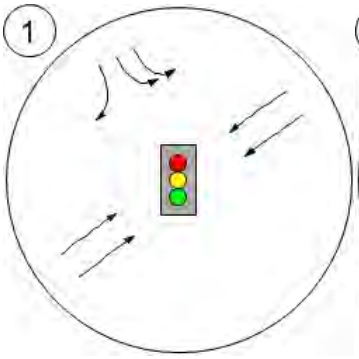
## Warrant 3 Condition A

| Orientation | N | SW |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 8.7 | 8.6 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:11 | 0:04 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 82 | 31 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 482 | 482 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | No | No |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

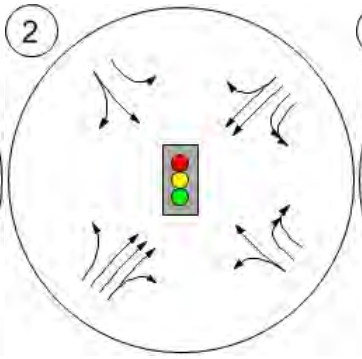
## Study Intersections

## Lane Configuration and Traffic Control

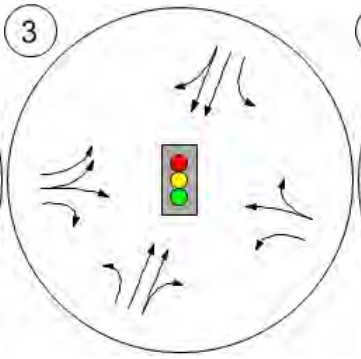

Marsh Rd (SR 84)/US 101 S



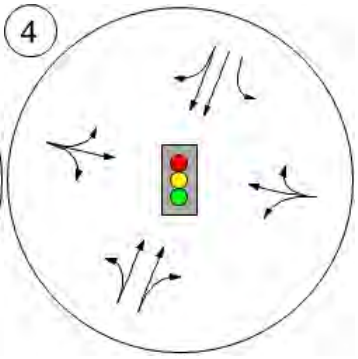

Marsh Rd/Rolison Rd-Scott D



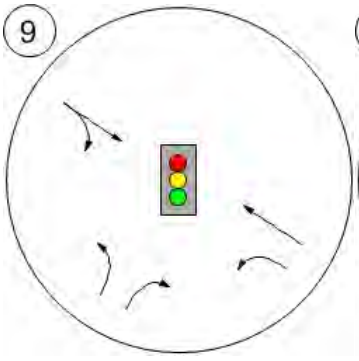

Marsh Rd/Florence St-Bohan



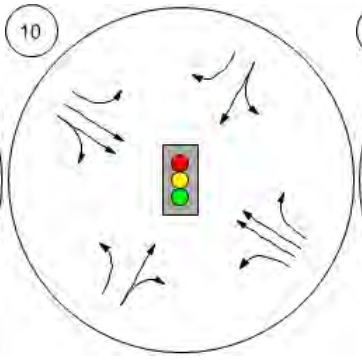

Marsh Rd/Bay Rd



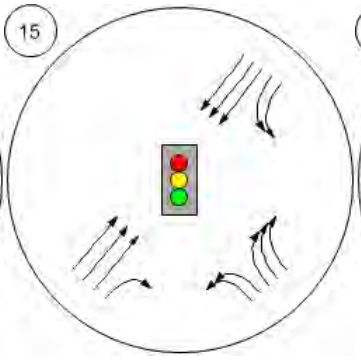

Middlefield Rd/Ravenswood



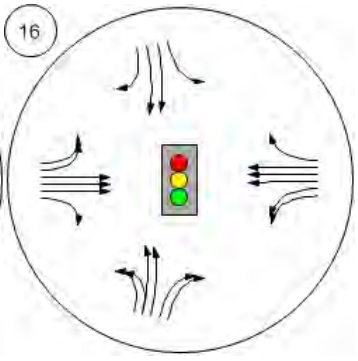

Middlefield Rd/Ringswood Av




Bayfront Expy (SR 84)/Univer

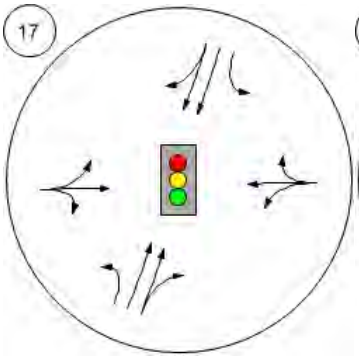



Bayfront Expy (SR 84)/Willow

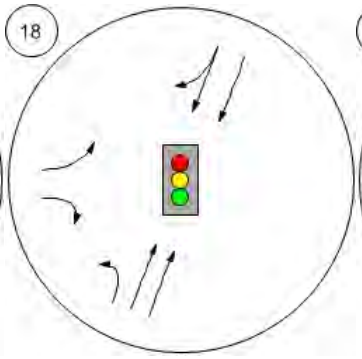


## Lane Configuration and Traffic Control

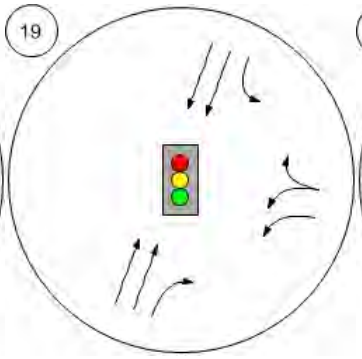

Willow Rd (SR 114)/Hamilton



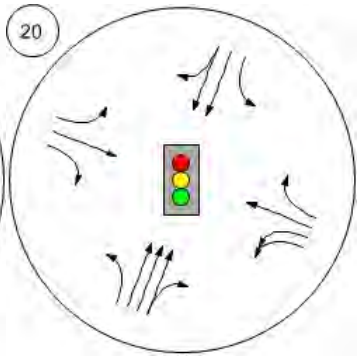

Willow Rd (SR 114)/Ivy Dr



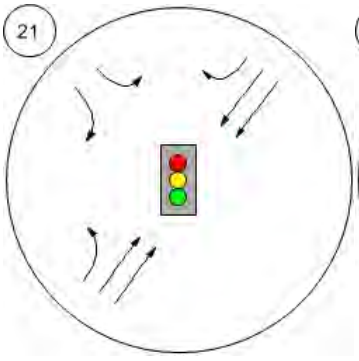

Willow Rd (SR 114)/O'Brien



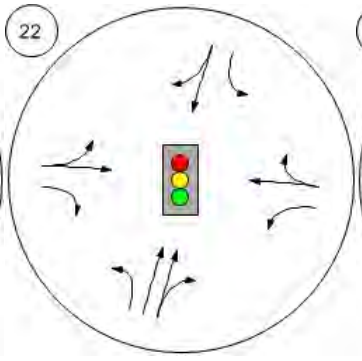

Willow Rd (SR 114)/Newbrid



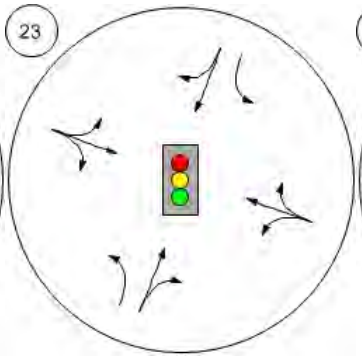

Willow Rd/Bay Rd



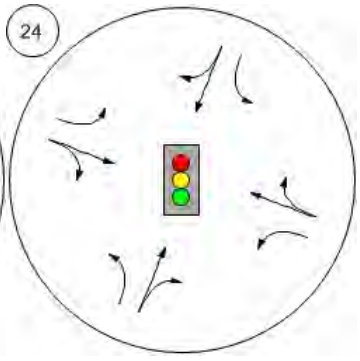

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

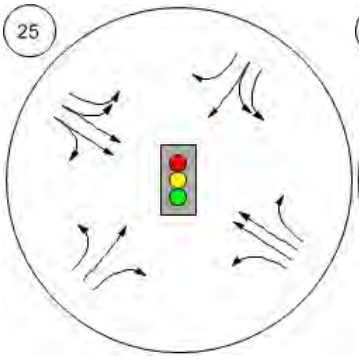



Willow Rd/Gilbert Ave

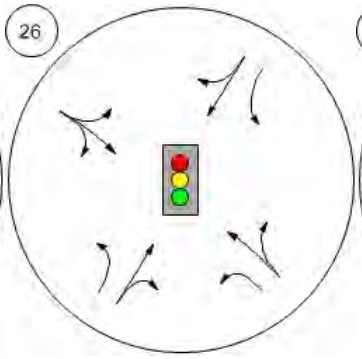


## Lane Configuration and Traffic Control

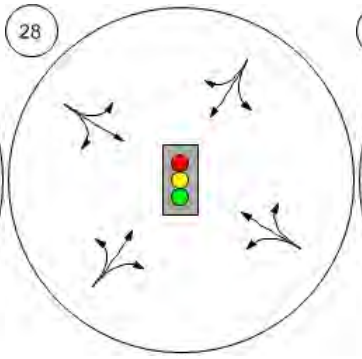

Middlefield Rd-Willow Rd



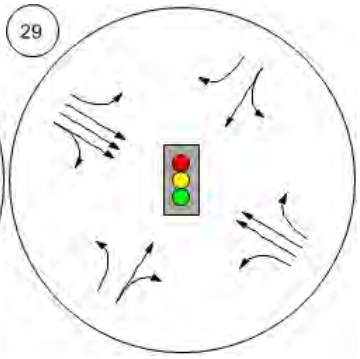

Ravenswood Ave/Laurel St



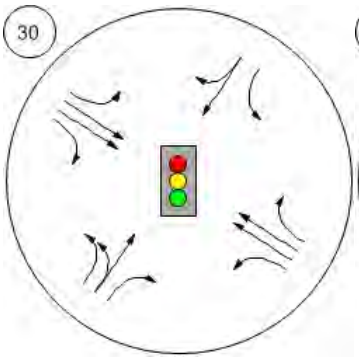

Oak Grove Ave/Laurel St



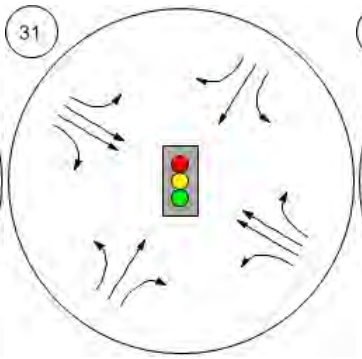

El Camino Real (SR 82)/Enci



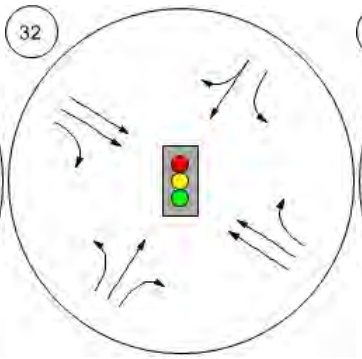

El Camino Real (SR 82)/Glen



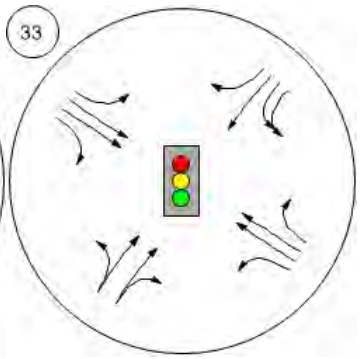

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

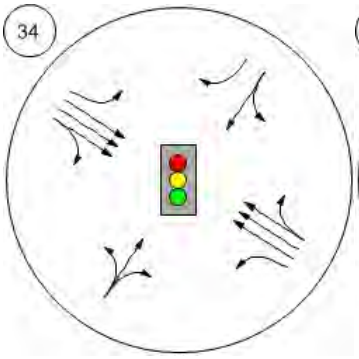



El Camino Real (SR 82)/Rav

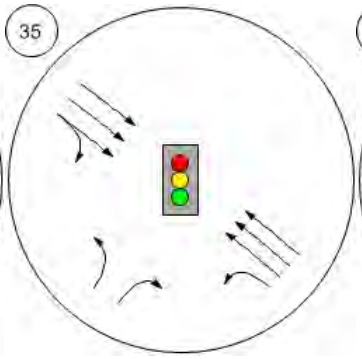


## Lane Configuration and Traffic Control

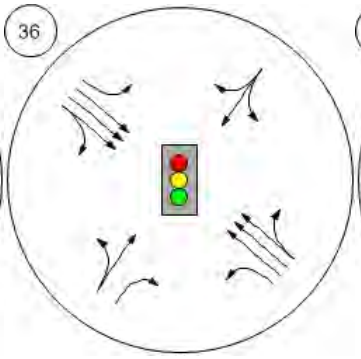

El Camino Real (SR 82)/Robl



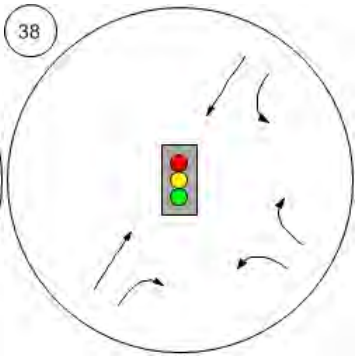

El Camino Real (SR 82)/Midd



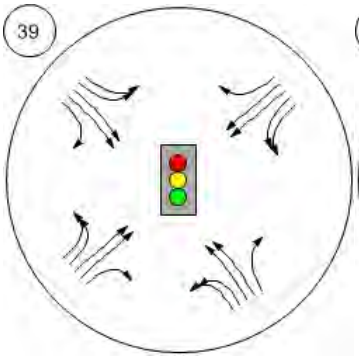

El Camino Real (SR 82)/Cam



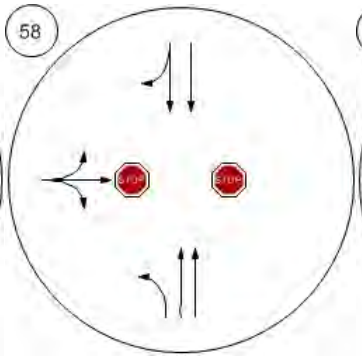

Santa Cruz Ave/University Dr



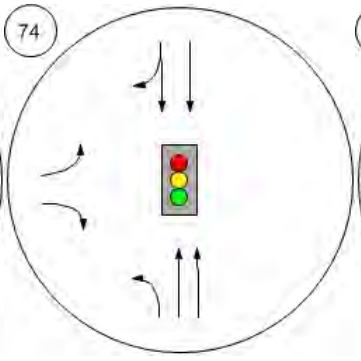

Santa Cruz Ave/Sand Hill Rd



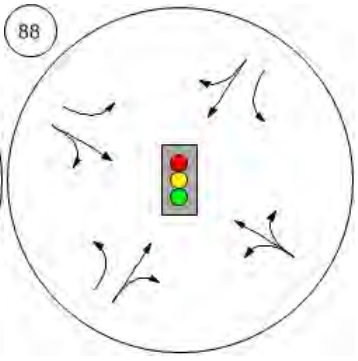

University Avenue and Adam



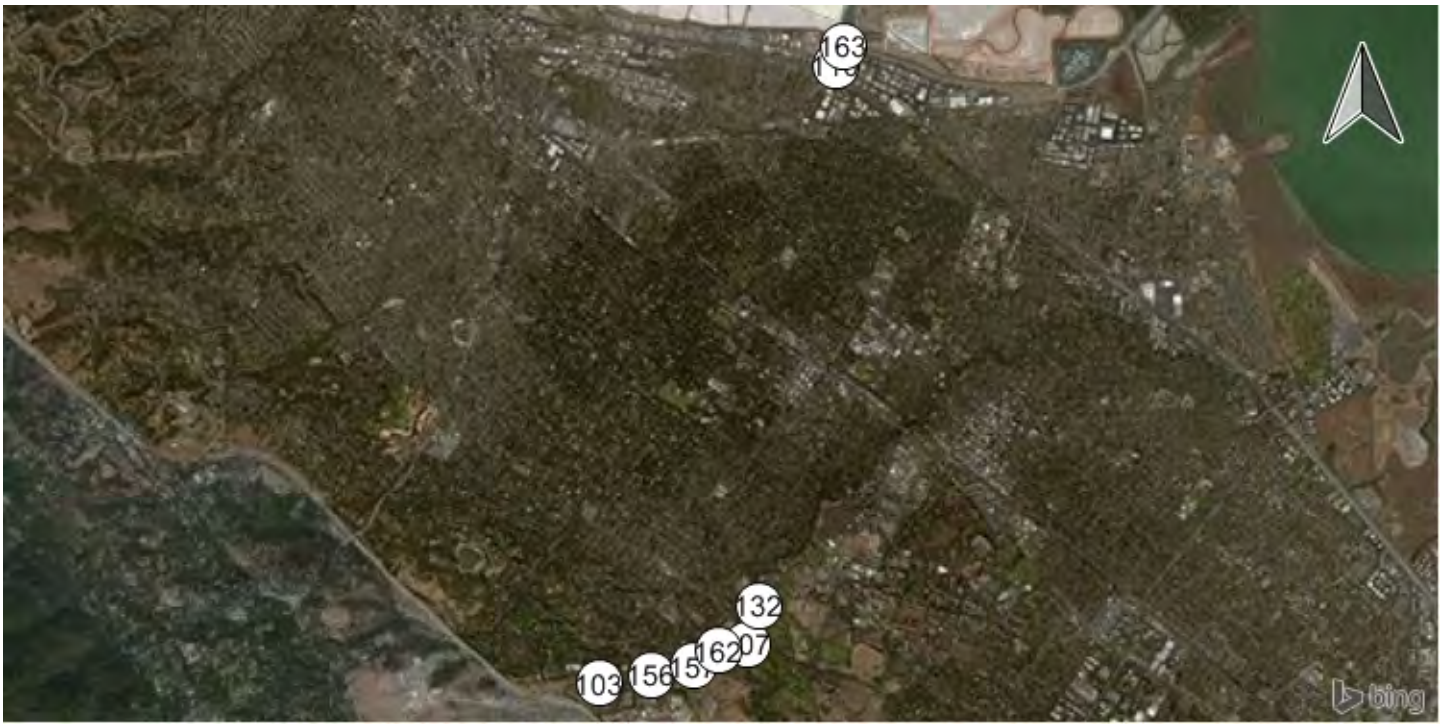

University Ave/O'Brien Dr



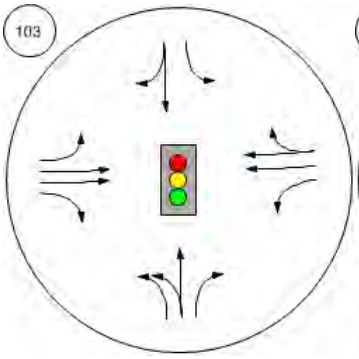

Valparaiso Ave/ University Dr



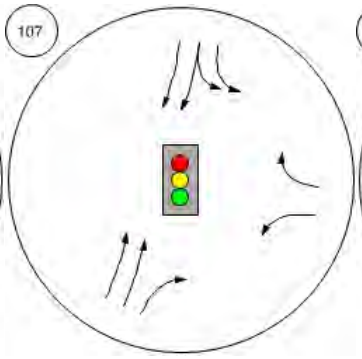
## Lane Configuration and Traffic Control



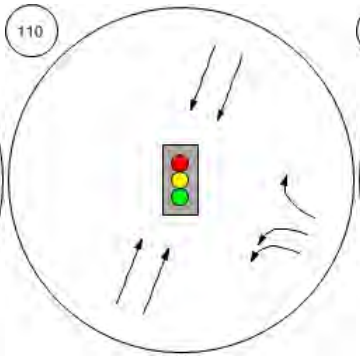

Addison Wesley/Sand Hill Rd



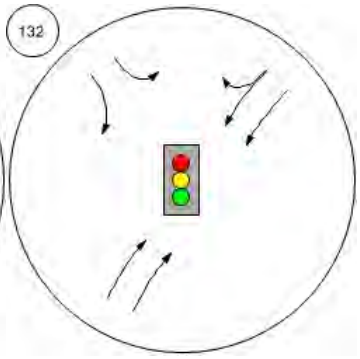

Alpine Rd/Santa Cruz Ave&J



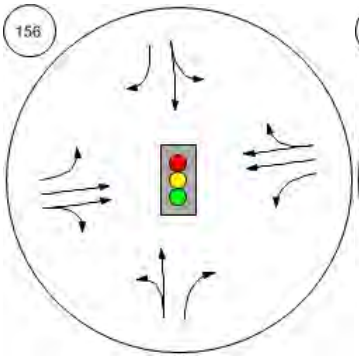

Marsh Road and US 101 NB



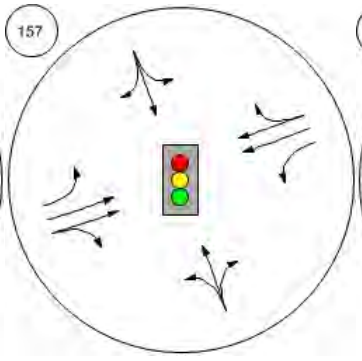

Oak Ave/Sand Hill Rd



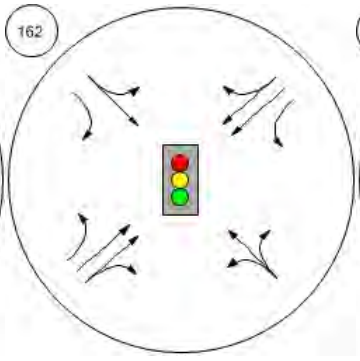

Saga Ln/Sand Hill Rd



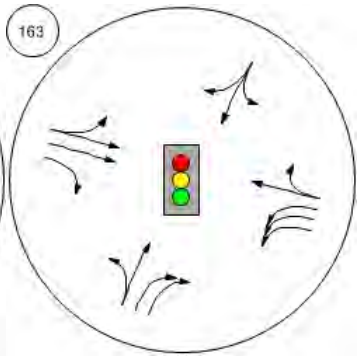

Branner Dr/Sand Hill Rd




Sharon Park Dr/ Sand Hill Rd

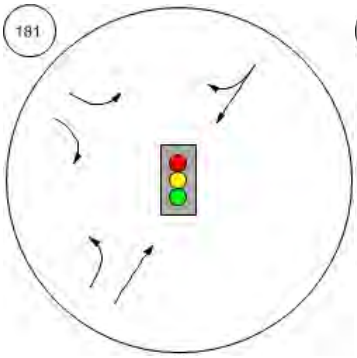



Bayfront Expy/Marsh Rd

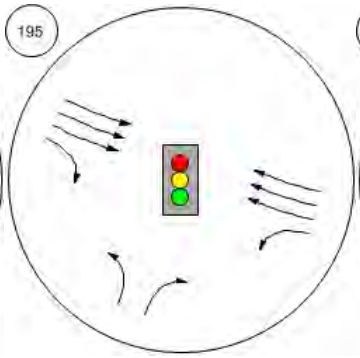


## Lane Configuration and Traffic Control

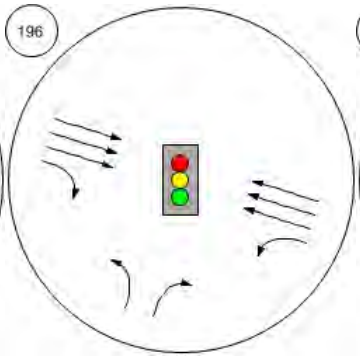

Santa Cruz Ave/Elder Ave



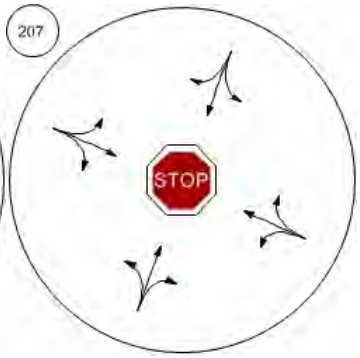

Bayfront Expy/Chilco St



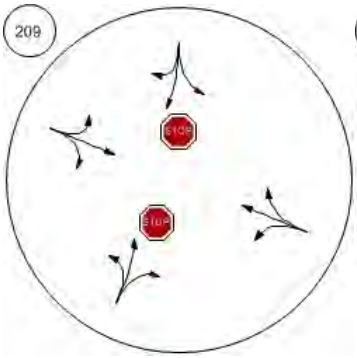

Bayfront Expy/Chrysler Drive



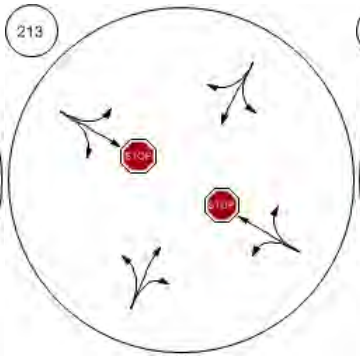

Chilco St/Constitution Dr



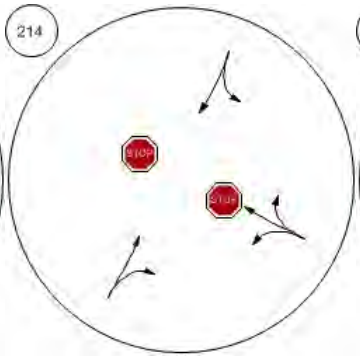

Jefferson Dr/Constitution Dr



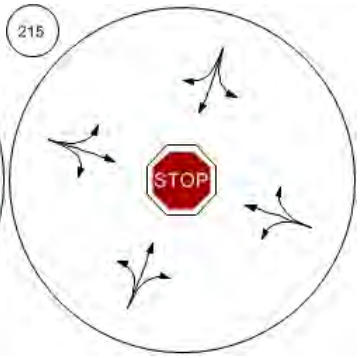

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

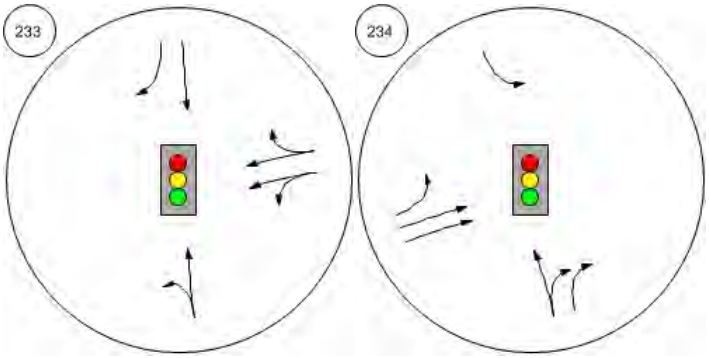



Chrysler Dr/Constitution Dr



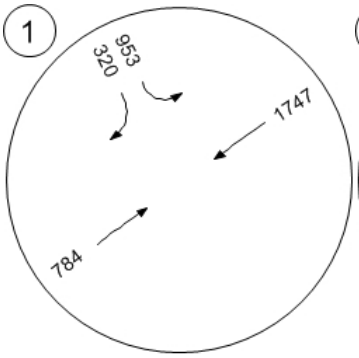
## Lane Configuration and Traffic Control


Sand Hill Road and Sand Hill Sand Hill Rd/Hwy 280 NB Off

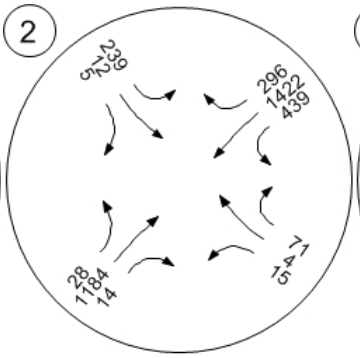


## Traffic Volume - Base Volume

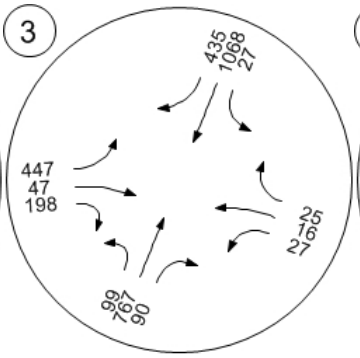

Marsh Rd (SR 84)/US 101 S



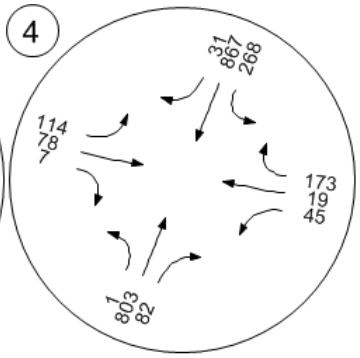

Marsh Rd/Rolison Rd-Scott D



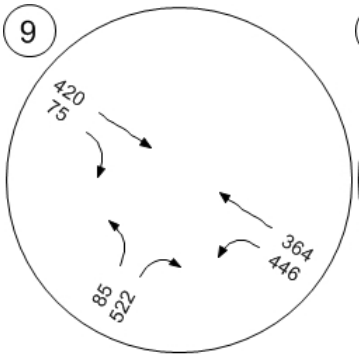

Marsh Rd/Florence St-Bohan



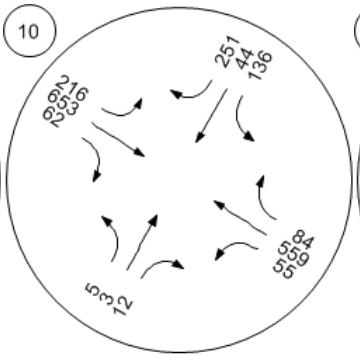

Marsh Rd/Bay Rd



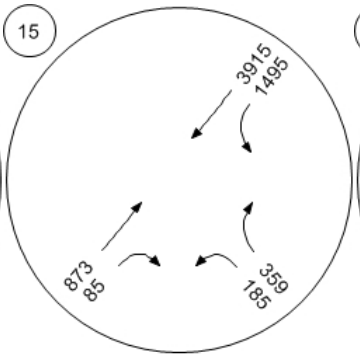

Middlefield Rd/Ravenswood

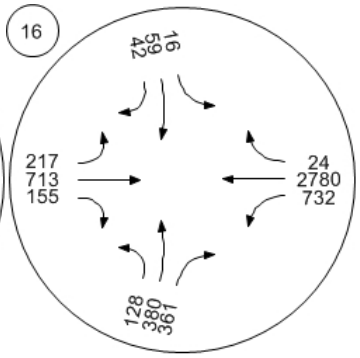



Middlefield Rd/Ringswood Av



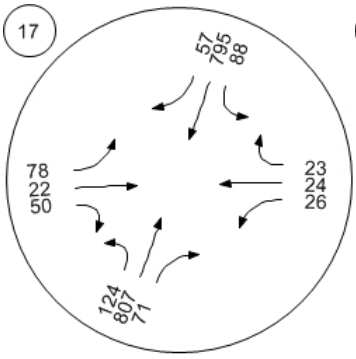

Bayfront Expy (SR 84)/UniverBayfront Expy (SR 84)/Willow



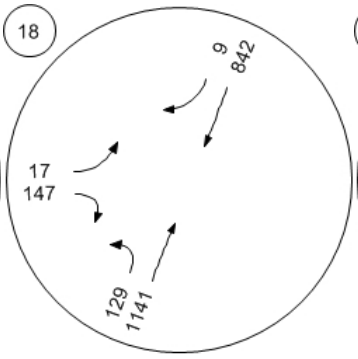



## Traffic Volume - Base Volume

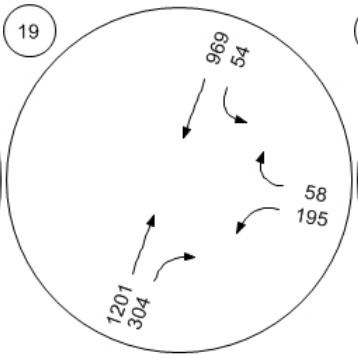

Willow Rd (SR 114)/Hamilton



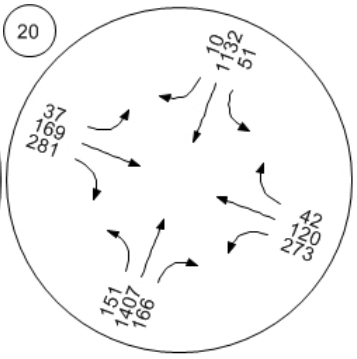

Willow Rd (SR 114)/Ivy Dr



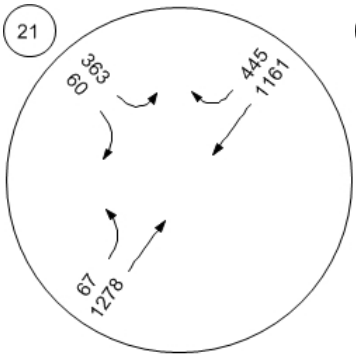

Willow Rd (SR 114)/O'Brien



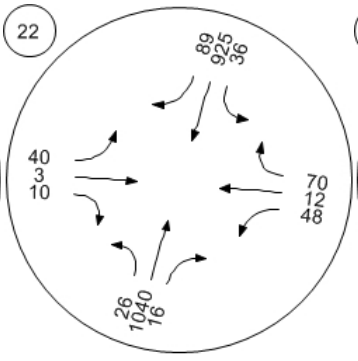

Willow Rd (SR 114)/Newbrid



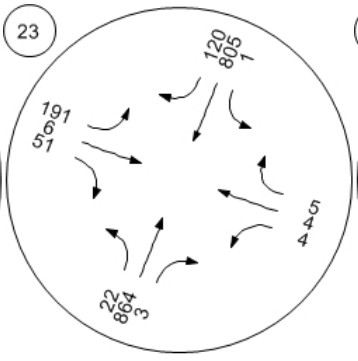

Willow Rd/Bay Rd



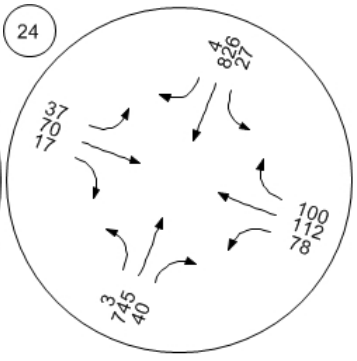

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

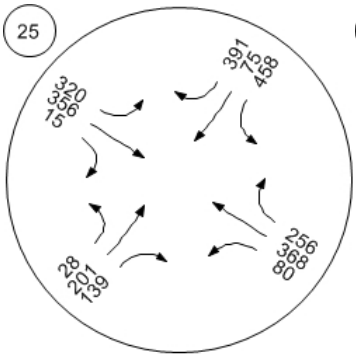



Willow Rd/Gilbert Ave

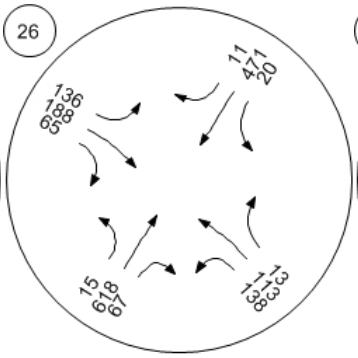


## Traffic Volume - Base Volume

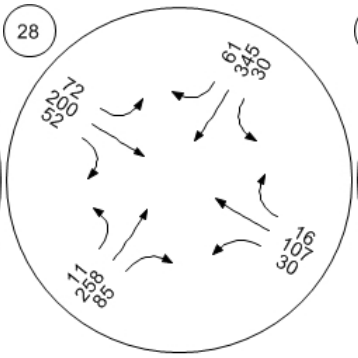

Middlefield Rd-Willow Rd



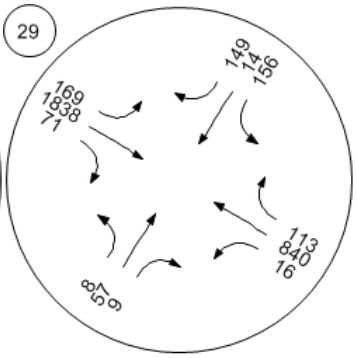

Ravenswood Ave/Laurel St



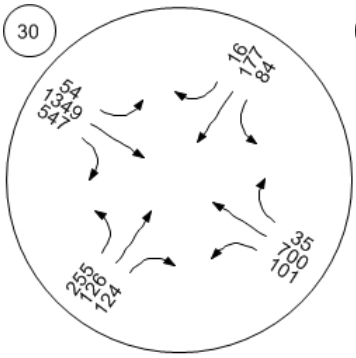

Oak Grove Ave/Laurel St



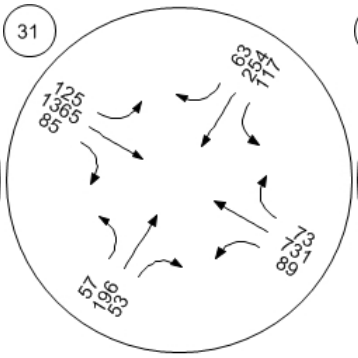

El Camino Real (SR 82)/Enci



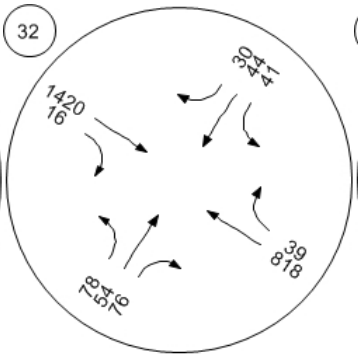

El Camino Real (SR 82)/Glen



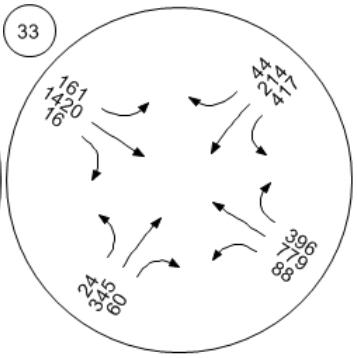

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

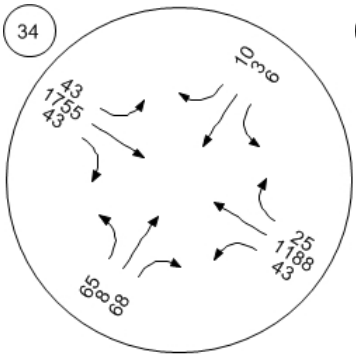



El Camino Real (SR 82)/Rav

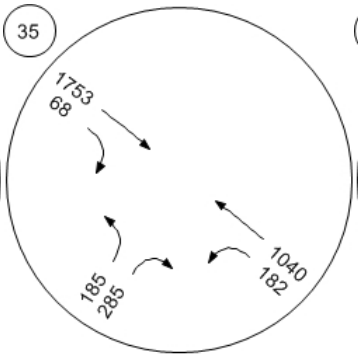


## Traffic Volume - Base Volume

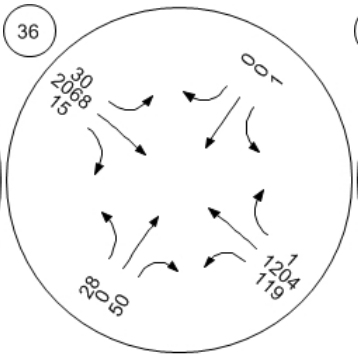

El Camino Real (SR 82)/Robl



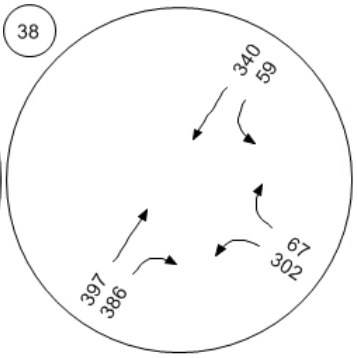

El Camino Real (SR 82)/Midd



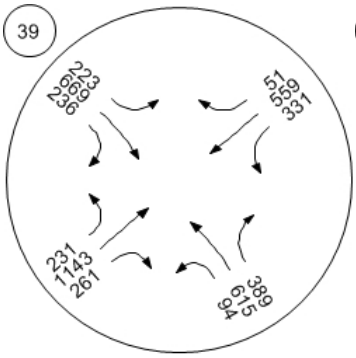

El Camino Real (SR 82)/Cam



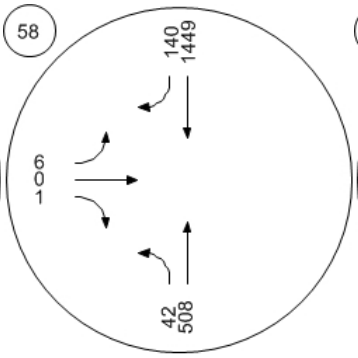

Santa Cruz Ave/University Dr



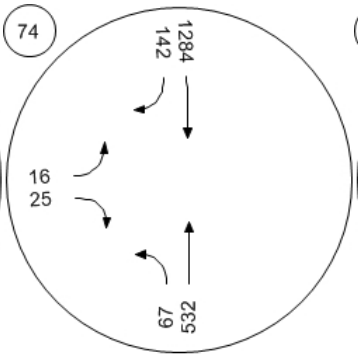

Santa Cruz Ave/Sand Hill Rd



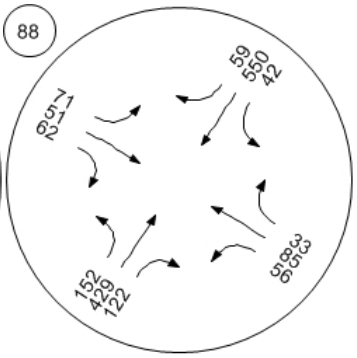

University Avenue and Adam



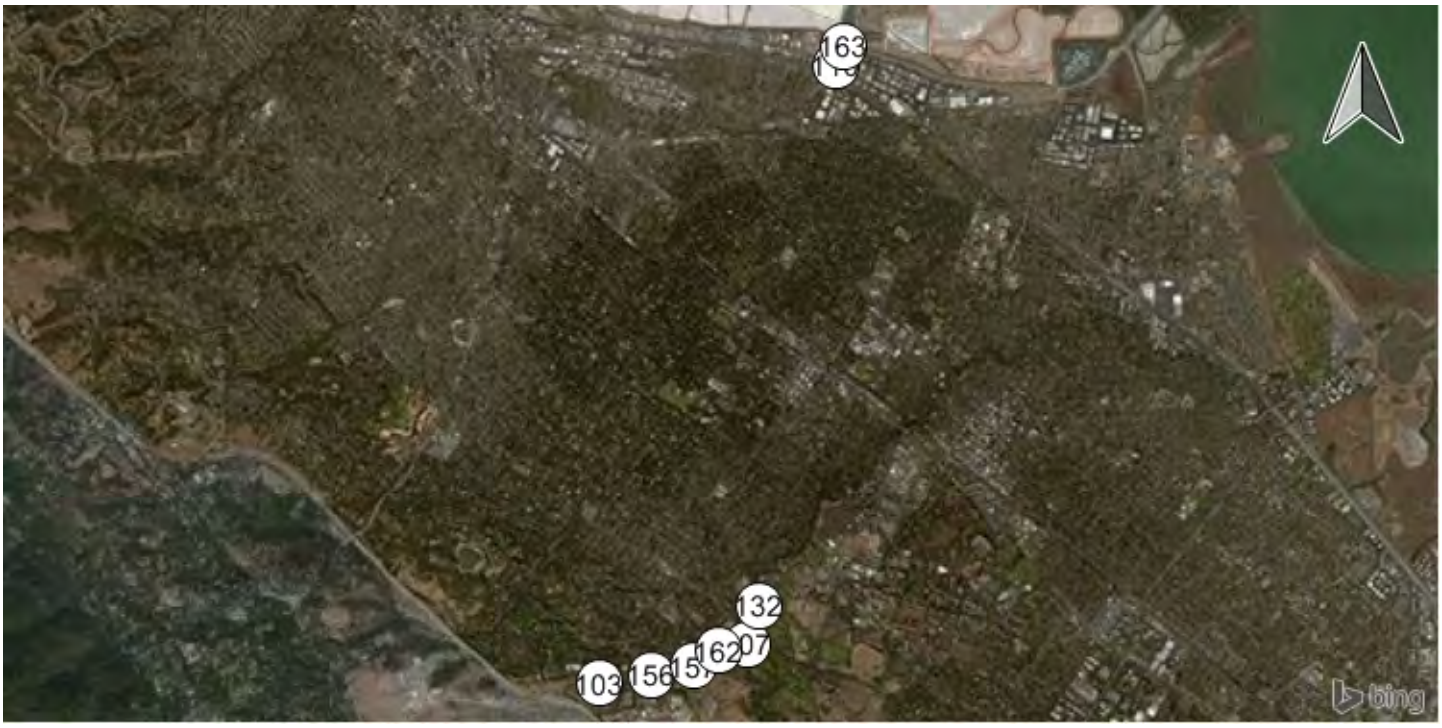

University Ave/O'Brien Dr



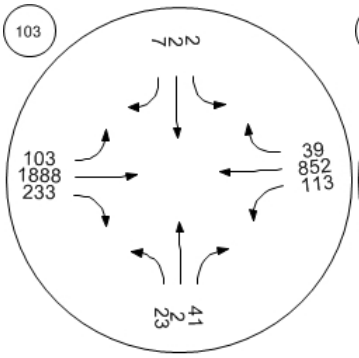

Valparaiso Ave/ University Dr



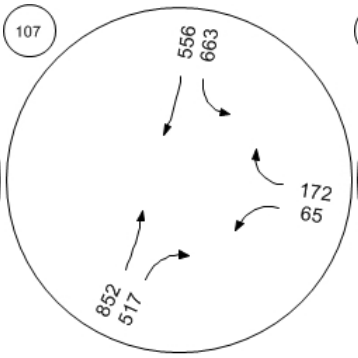
## Traffic Volume - Base Volume

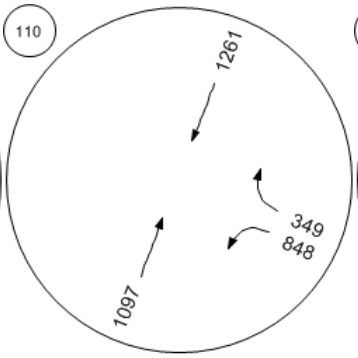



### Addison Wesley/Sand Hill Rd

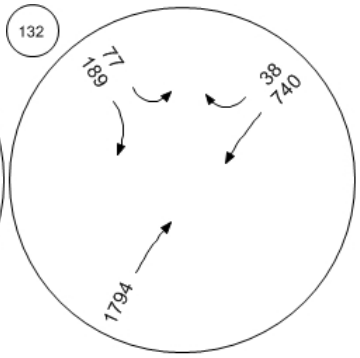



### Alpine Rd/Santa Cruz Ave&J Marsh Road and US 101 NB

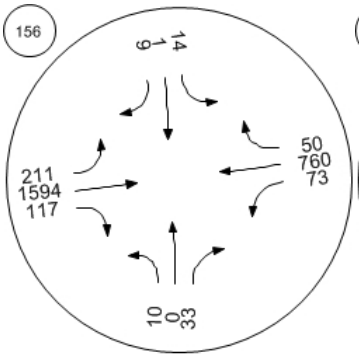


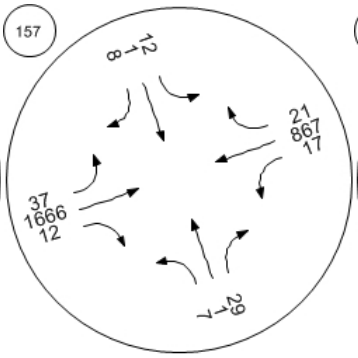

### Oak Ave/Sand Hill Rd



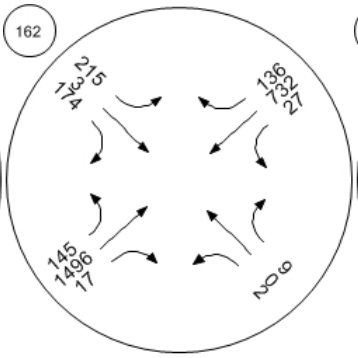

### Saga Ln/Sand Hill Rd



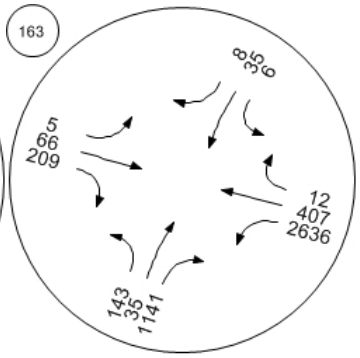

### Branner Dr/Sand Hill Rd




### Sharon Park Dr/ Sand Hill Rd

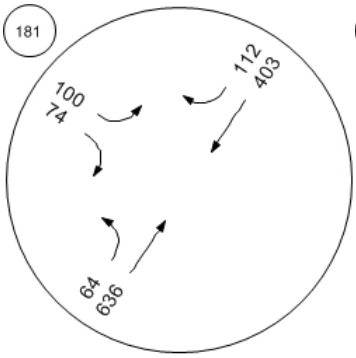



### Bayfront Expy/Marsh Rd

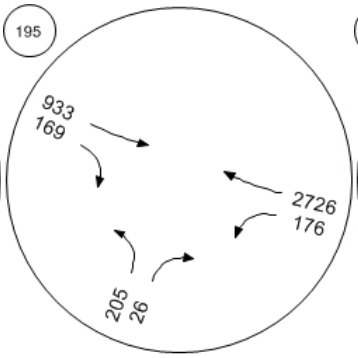


Traffic Volume - Base Volume

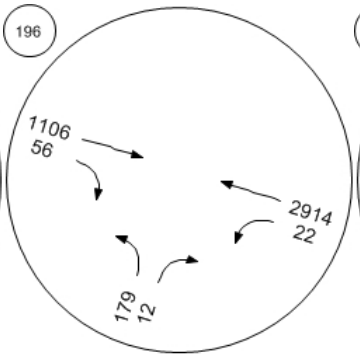

Santa Cruz Ave/Elder Ave



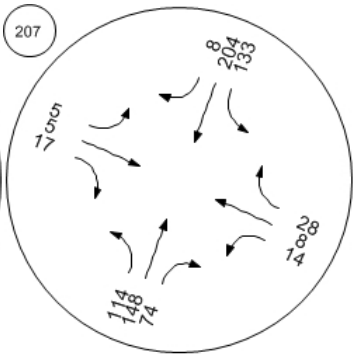

Bayfront Expy/Chilco St



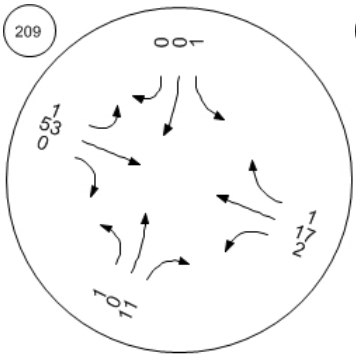

Bayfront Expy/Chrysler Drive



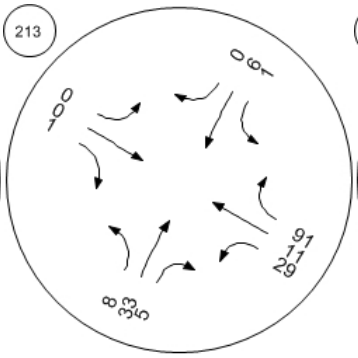

Chilco St/Constitution Dr



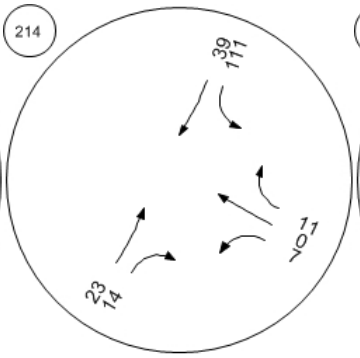

Jefferson Dr/Constitution Dr



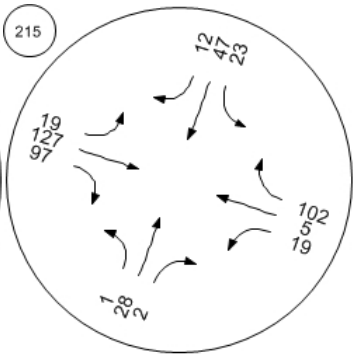

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

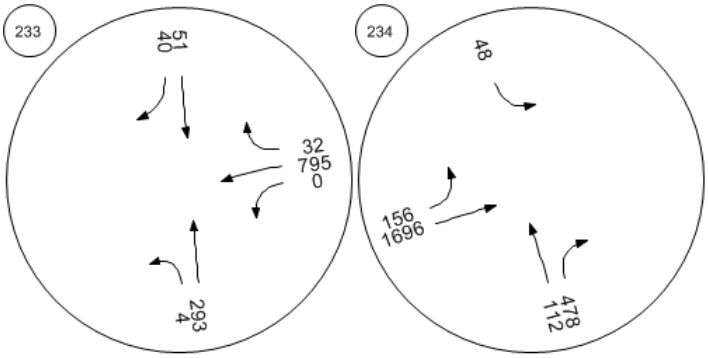



Chrysler Dr/Constitution Dr



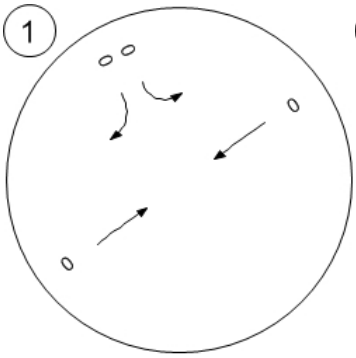
## Traffic Volume - Base Volume


Sand Hill Road and Sand Hill

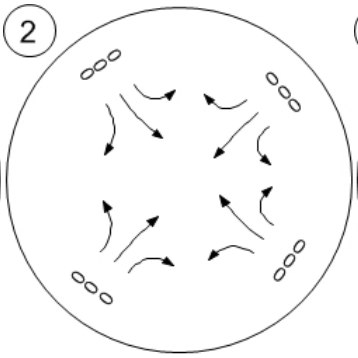


## Traffic Volume - In-Process Volume

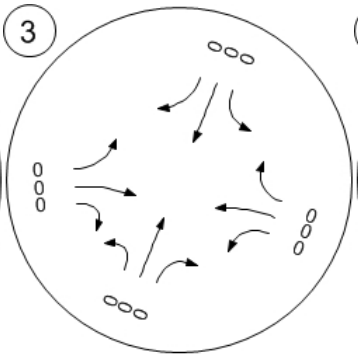

Marsh Rd (SR 84)/US 101 S



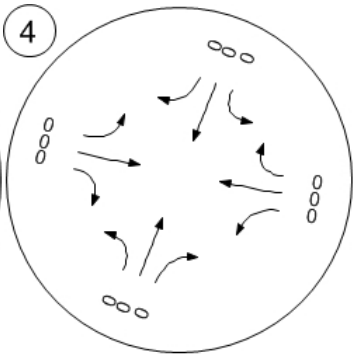

Marsh Rd/Rolison Rd-Scott D



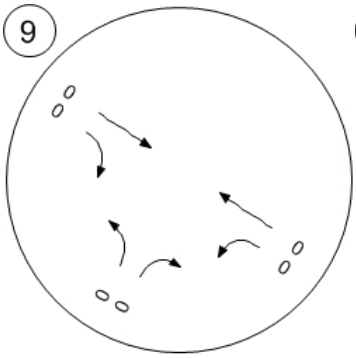

Marsh Rd/Florence St-Bohan



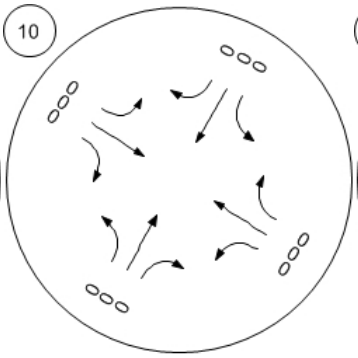

Marsh Rd/Bay Rd



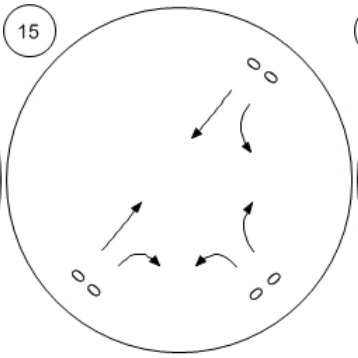

Middlefield Rd/Ravenswood



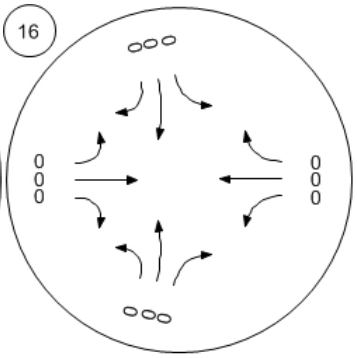

Middlefield Rd/Ringswood Av




Bayfront Expy (SR 84)/Univer

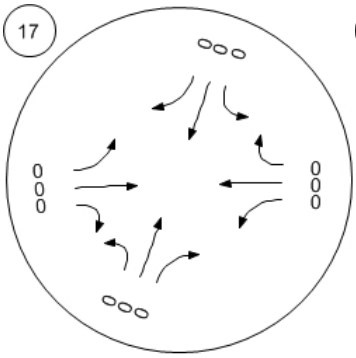



Bayfront Expy (SR 84)/Willow

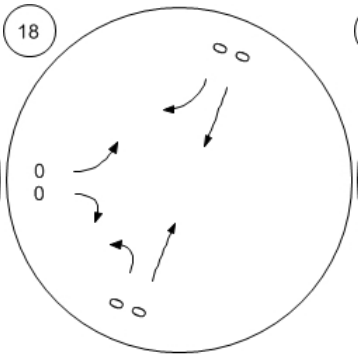


Traffic Volume - In-Process Volume

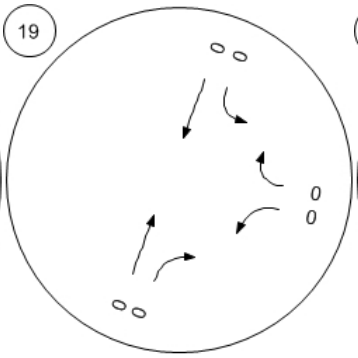

Willow Rd (SR 114)/Hamilton



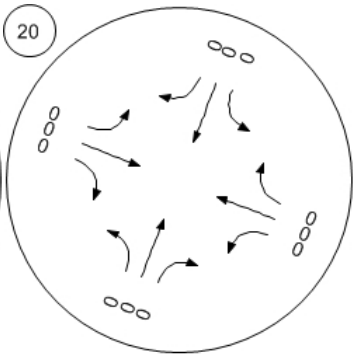

Willow Rd (SR 114)/Ivy Dr



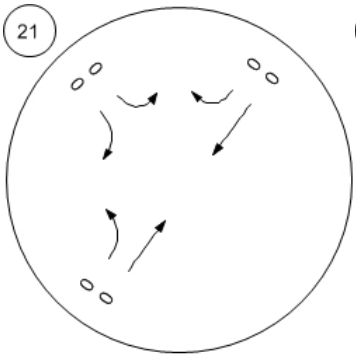

Willow Rd (SR 114)/O'Brien



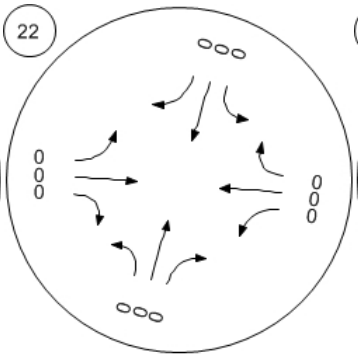

Willow Rd (SR 114)/Newbrid



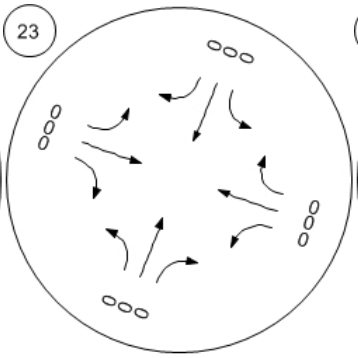

Willow Rd/Bay Rd



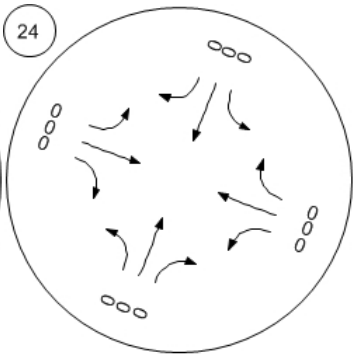

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

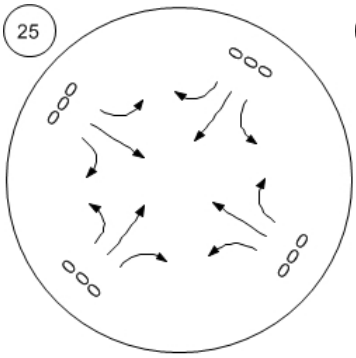



Willow Rd/Gilbert Ave

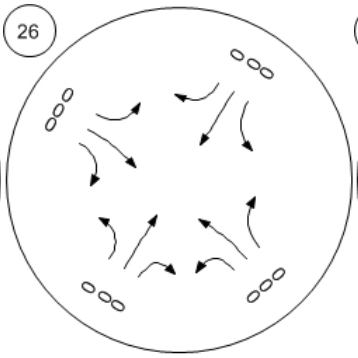


## Traffic Volume - In-Process Volume

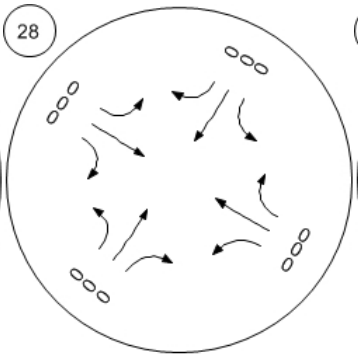

Middlefield Rd-Willow Rd



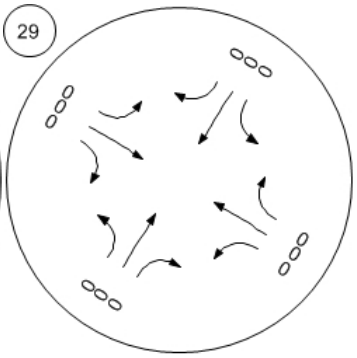

Ravenswood Ave/Laurel St



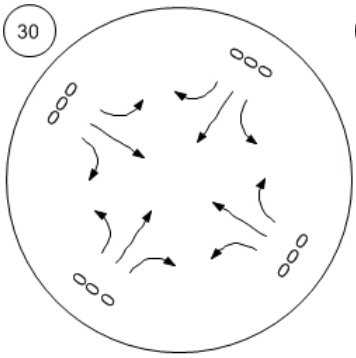

Oak Grove Ave/Laurel St



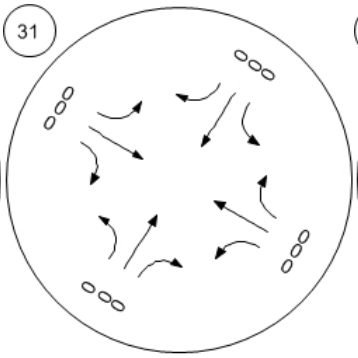

El Camino Real (SR 82)/Enci



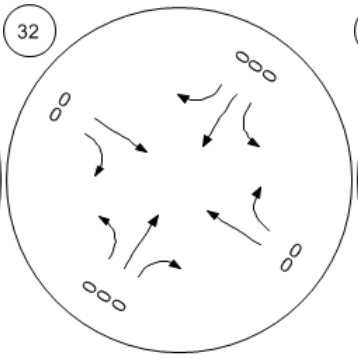

El Camino Real (SR 82)/Glen



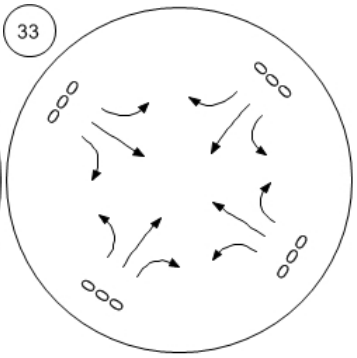

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

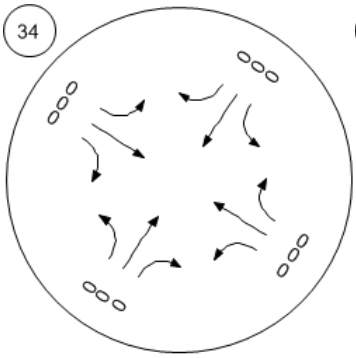



El Camino Real (SR 82)/Rav

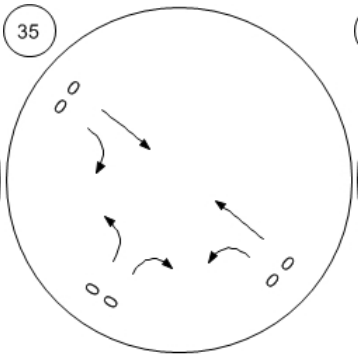


Traffic Volume - In-Process Volume

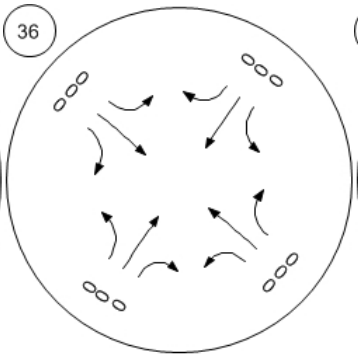

El Camino Real (SR 82)/Robl



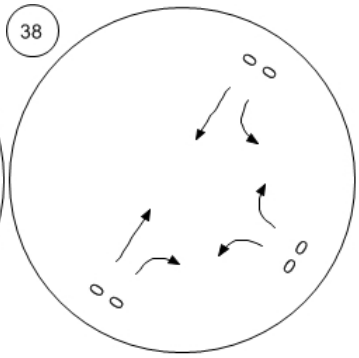

El Camino Real (SR 82)/Midd



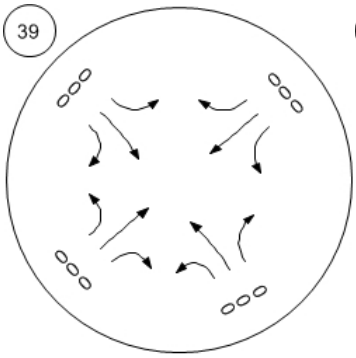

El Camino Real (SR 82)/Cam



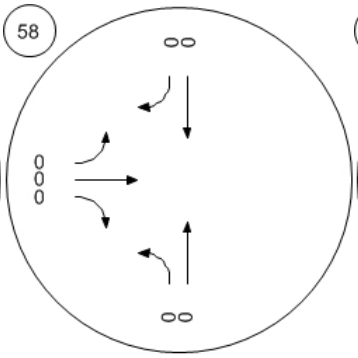

Santa Cruz Ave/University Dr



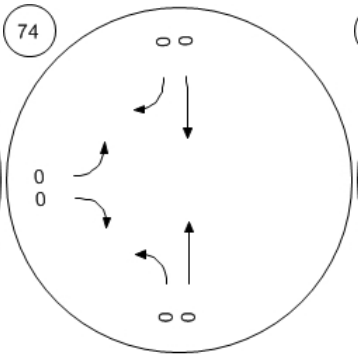

Santa Cruz Ave/Sand Hill Rd



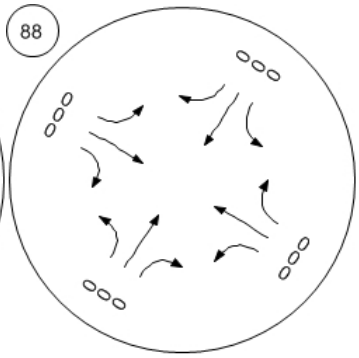

University Avenue and Adam



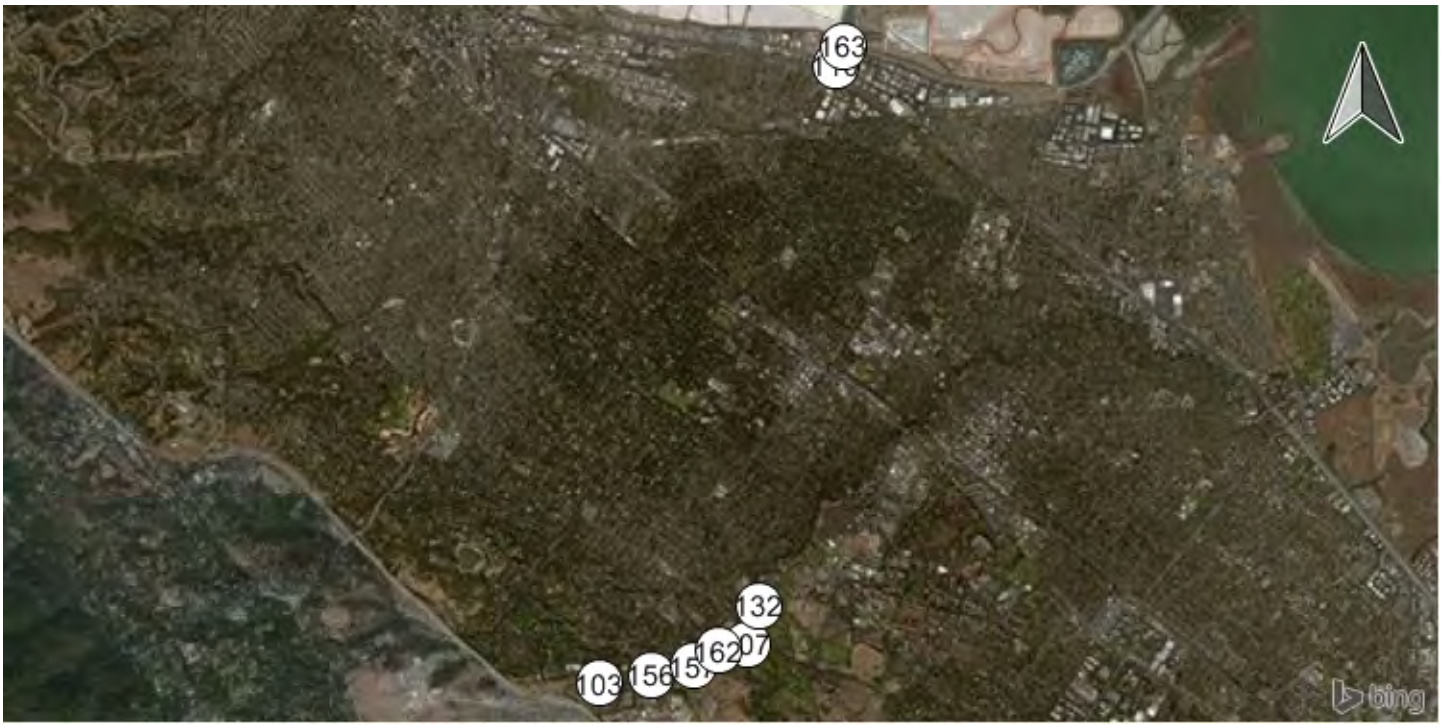

University Ave/O'Brien Dr



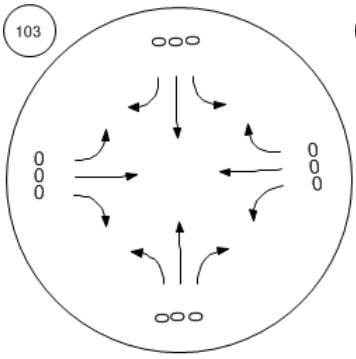

Valparaiso Ave/ University Dr



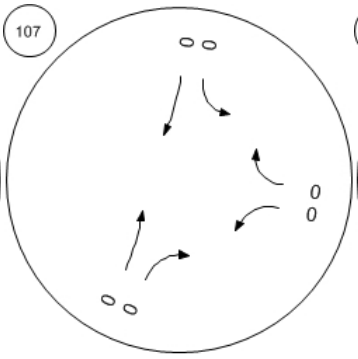
## Traffic Volume - In-Process Volume

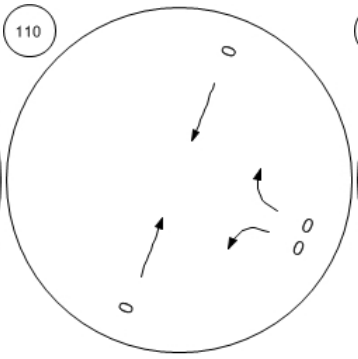



Addison Wesley/Sand Hill Rd

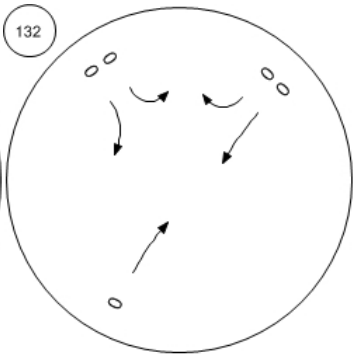



Alpine Rd/Santa Cruz Ave&J Marsh Road and US 101 NB

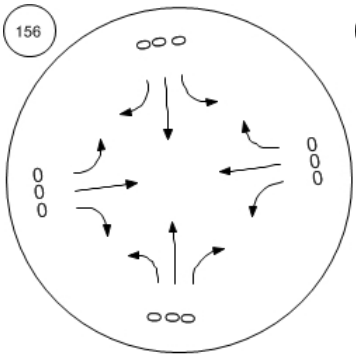


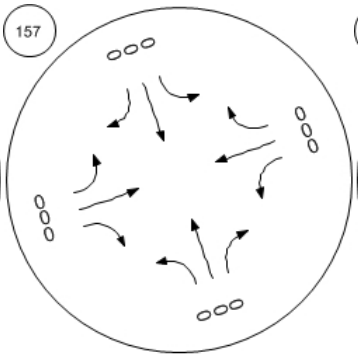

Oak Ave/Sand Hill Rd



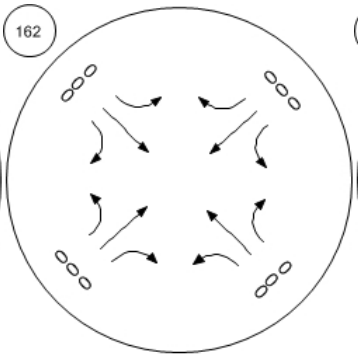

Saga Ln/Sand Hill Rd



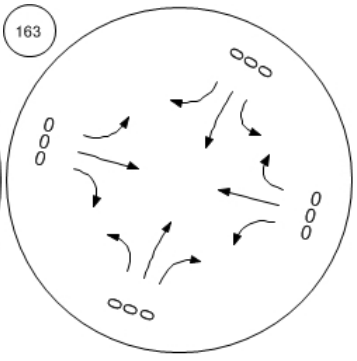

Branner Dr/Sand Hill Rd




Sharon Park Dr/ Sand Hill Rd

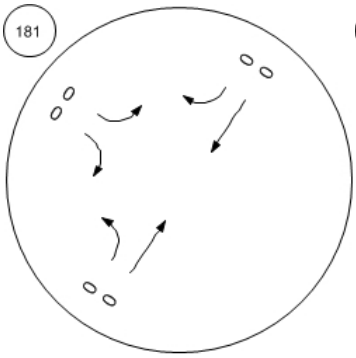



Bayfront Expy/Marsh Rd

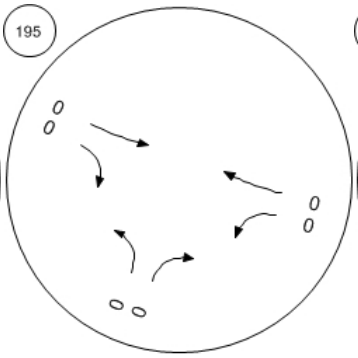


Traffic Volume - In-Process Volume

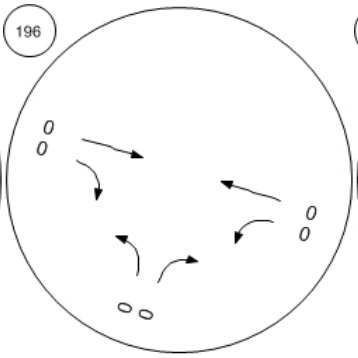

Santa Cruz Ave/Elder Ave



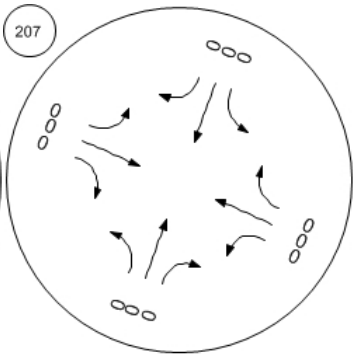

Bayfront Expy/Chilco St



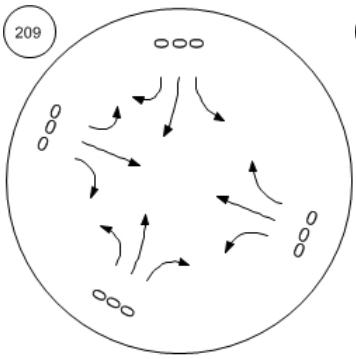

Bayfront Expy/Chrysler Drive



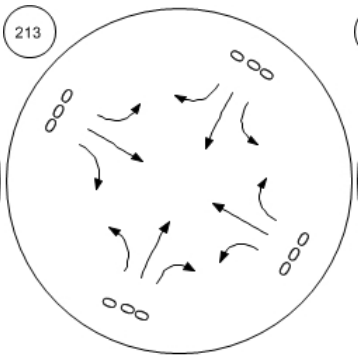

Chilco St/Constitution Dr



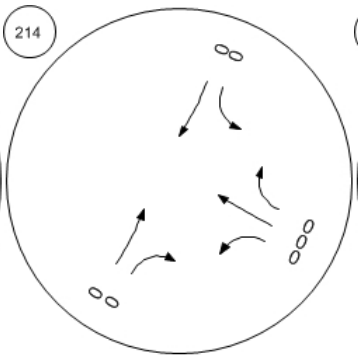

Jefferson Dr/Constitution Dr




Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

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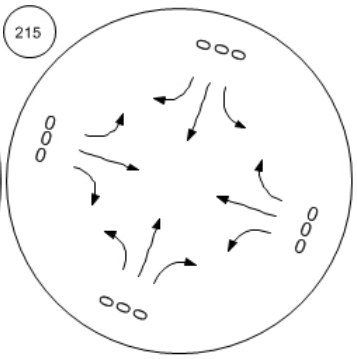
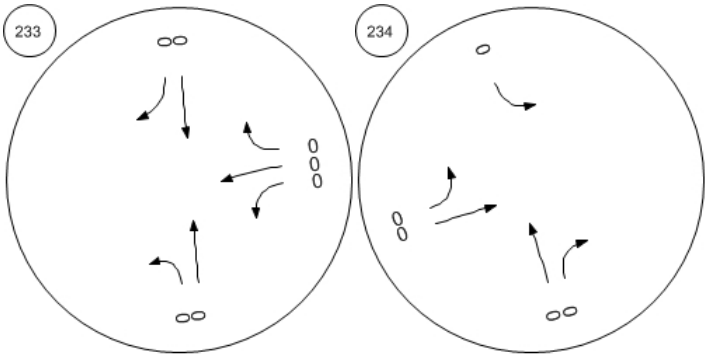


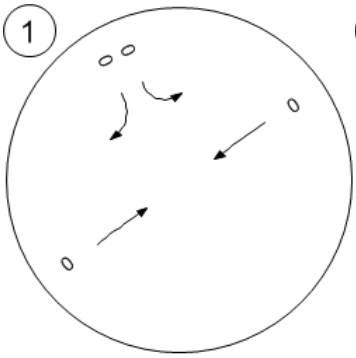
## Traffic Volume - In-Process Volume


Sand Hill Road and Sand Hill Sand Hill Rd/Hwy 280 NB Off

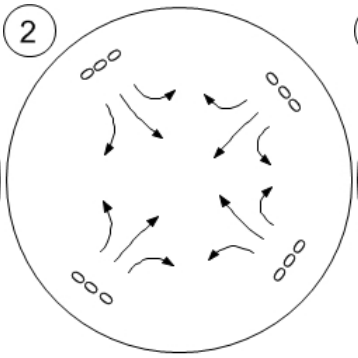


## Traffic Volume - Net New Site Trips

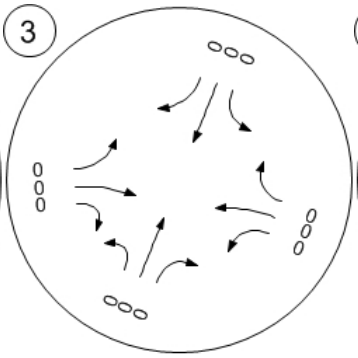

Marsh Rd (SR 84)/US 101 S



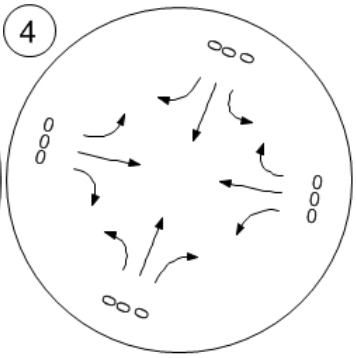

Marsh Rd/Rolison Rd-Scott D



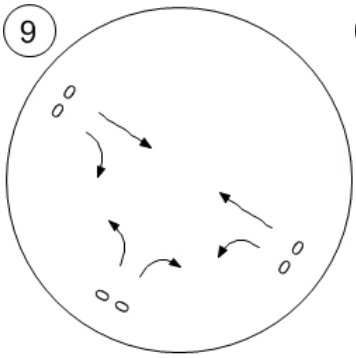

Marsh Rd/Florence St-Bohan



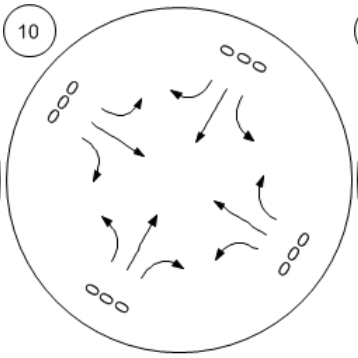

Marsh Rd/Bay Rd



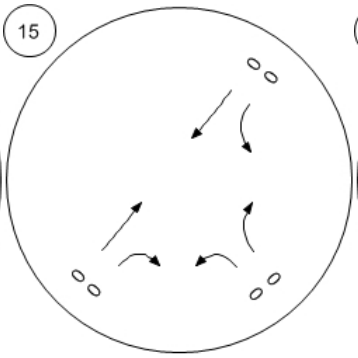

Middlefield Rd/Ravenswood



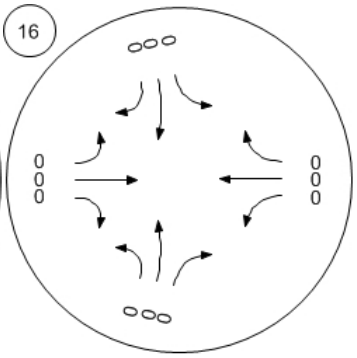

Middlefield Rd/Ringswood Av




Bayfront Expy (SR 84)/Univer

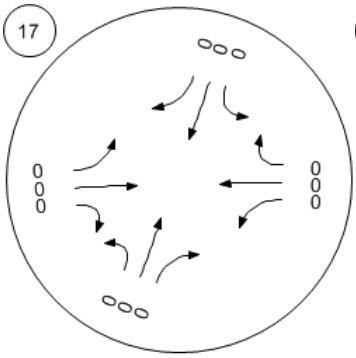



Bayfront Expy (SR 84)/Willow

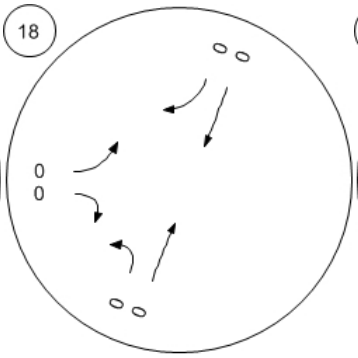


Traffic Volume - Net New Site Trips

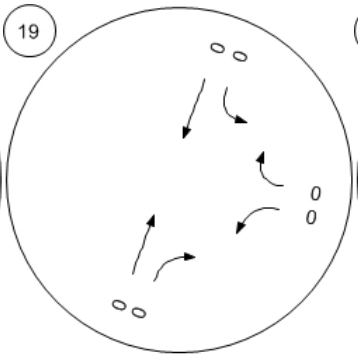

Willow Rd (SR 114)/Hamilton



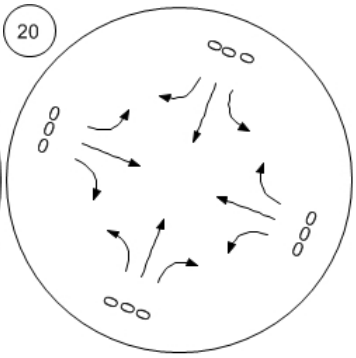

Willow Rd (SR 114)/Ivy Dr



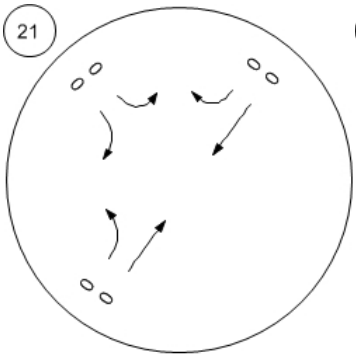

Willow Rd (SR 114)/O'Brien



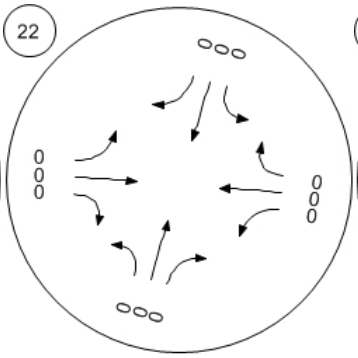

Willow Rd (SR 114)/Newbrid



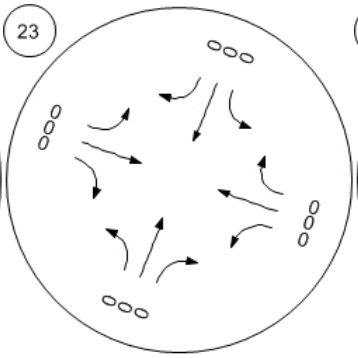

Willow Rd/Bay Rd



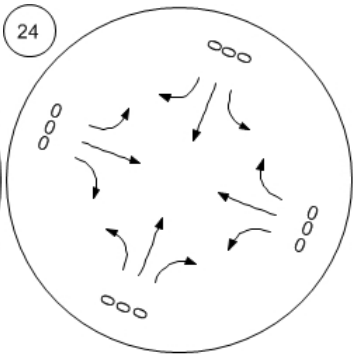

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

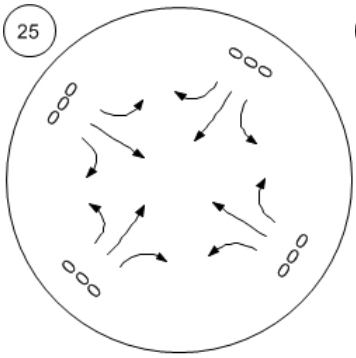



Willow Rd/Gilbert Ave

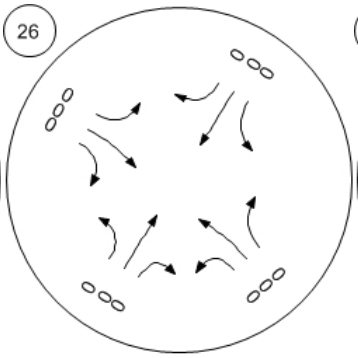


Traffic Volume - Net New Site Trips

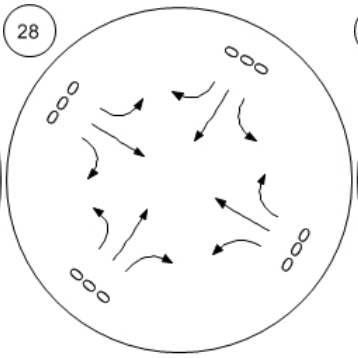

Middlefield Rd-Willow Rd



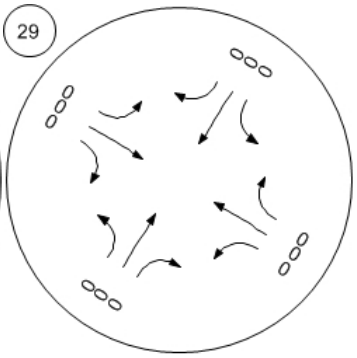

Ravenswood Ave/Laurel St



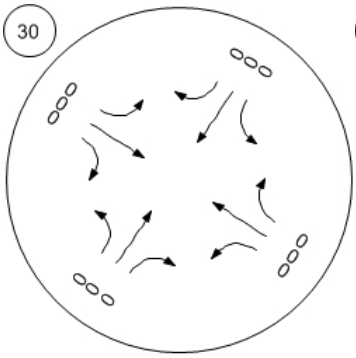

Oak Grove Ave/Laurel St



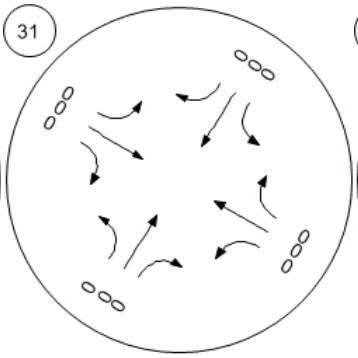

El Camino Real (SR 82)/Enci



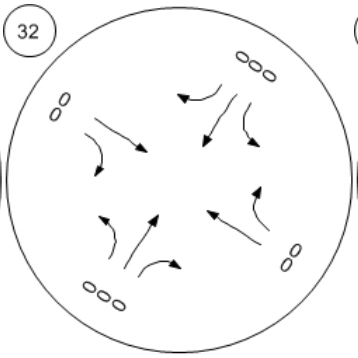

El Camino Real (SR 82)/Glen



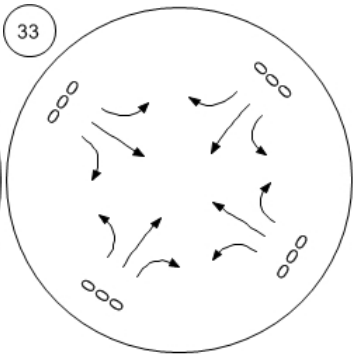

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

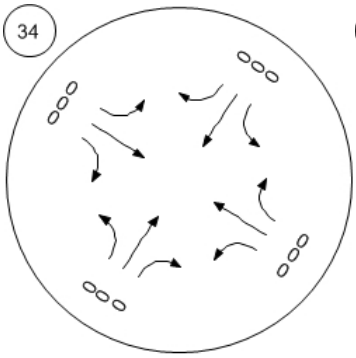



El Camino Real (SR 82)/Rav

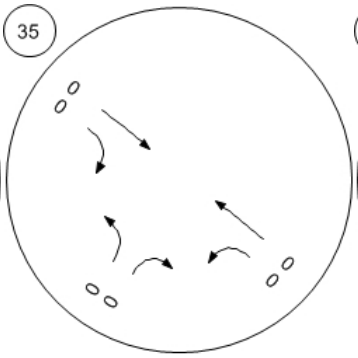


## Traffic Volume - Net New Site Trips

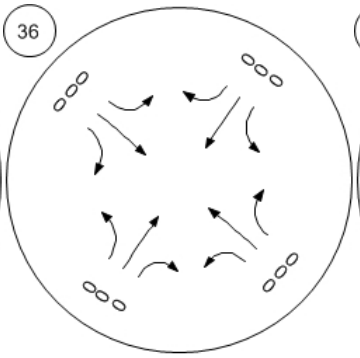

El Camino Real (SR 82)/Robl



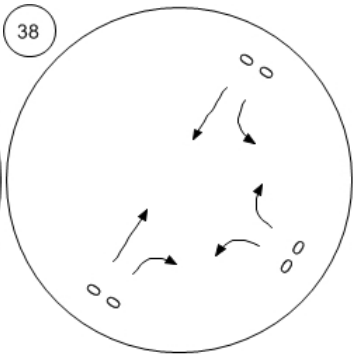

El Camino Real (SR 82)/Midd



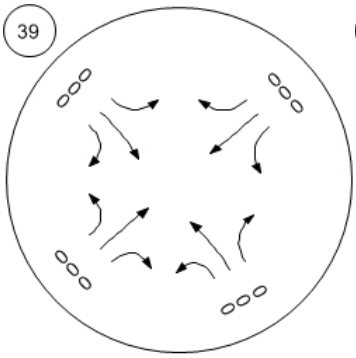

El Camino Real (SR 82)/Cam



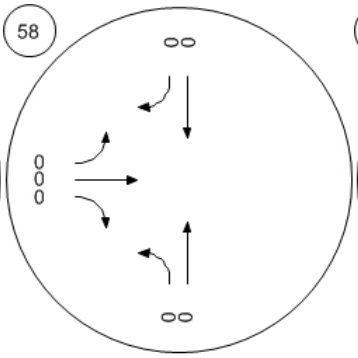

Santa Cruz Ave/University Dr



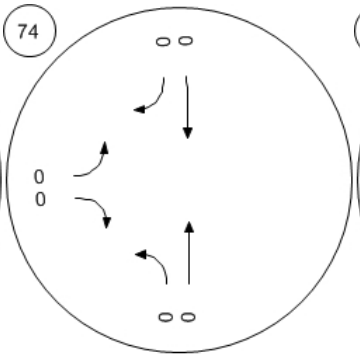

Santa Cruz Ave/Sand Hill Rd



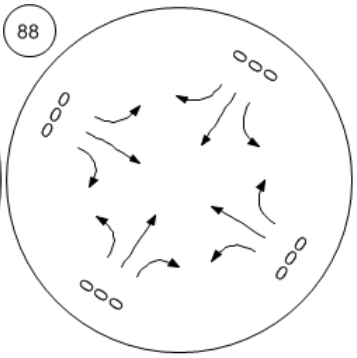

University Avenue and Adam



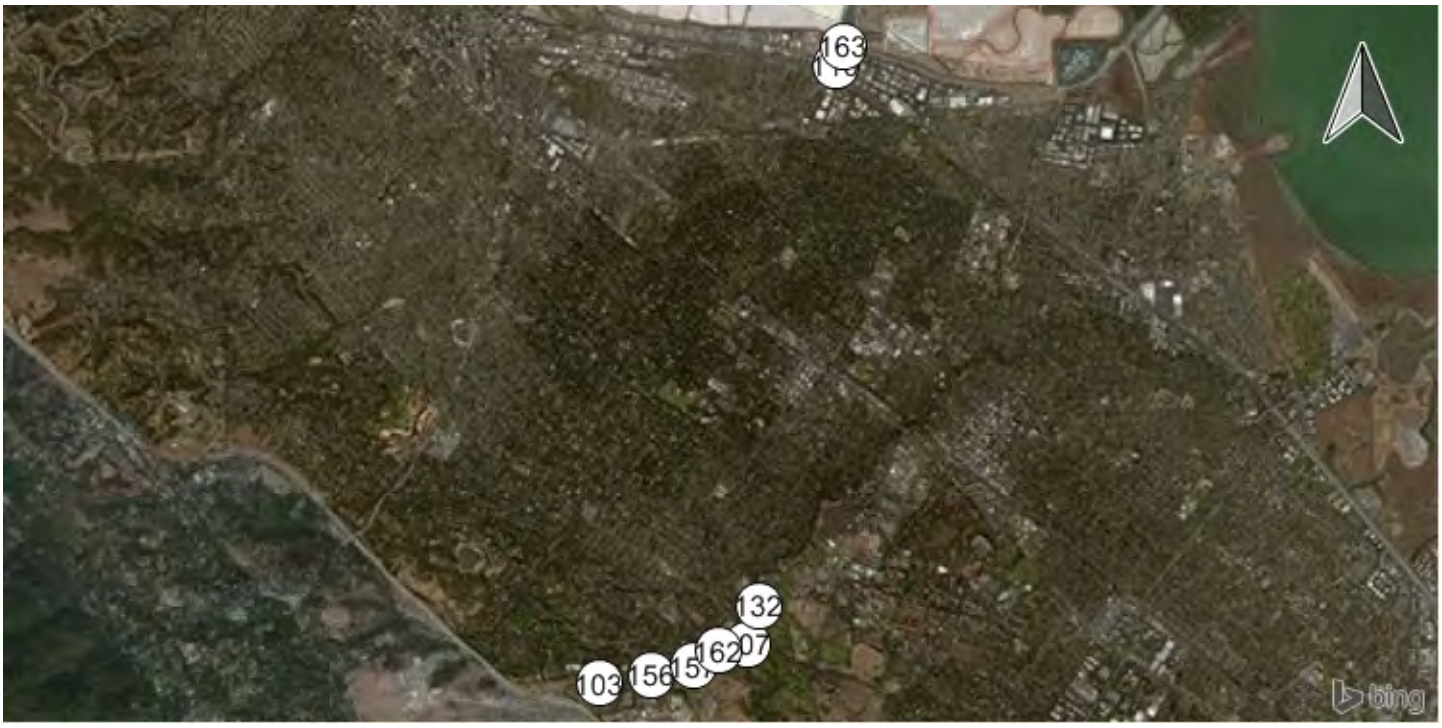

University Ave/O'Brien Dr



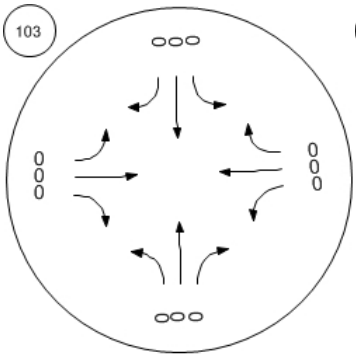

Valparaiso Ave/ University Dr



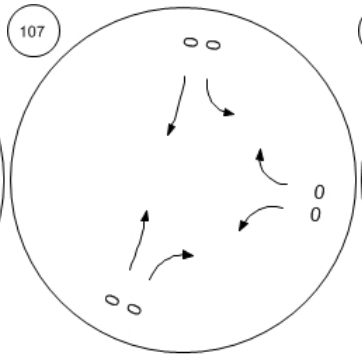
## Traffic Volume - Net New Site Trips

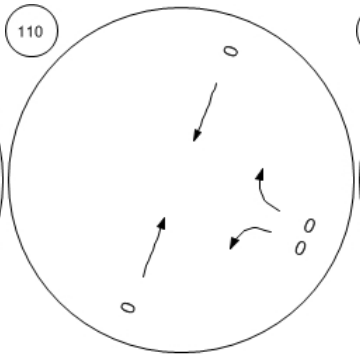



Addison Wesley/Sand Hill Rd

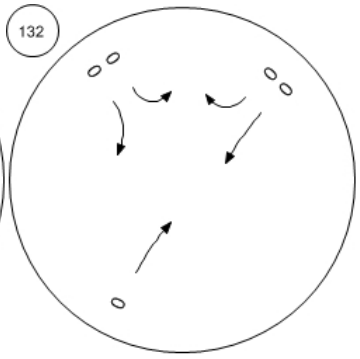



Alpine Rd/Santa Cruz Ave&J Marsh Road and US 101 NB

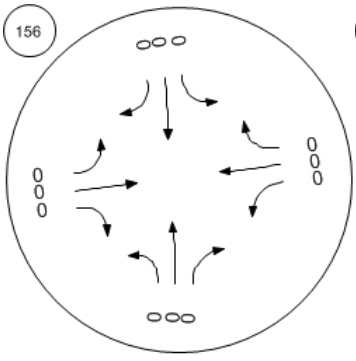


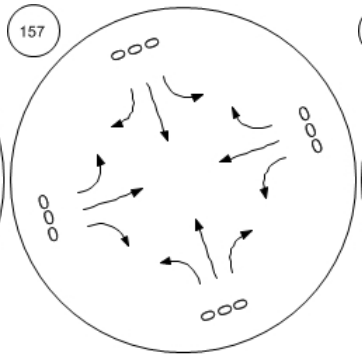

Oak Ave/Sand Hill Rd



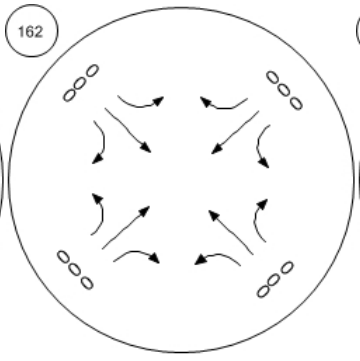

Saga Ln/Sand Hill Rd



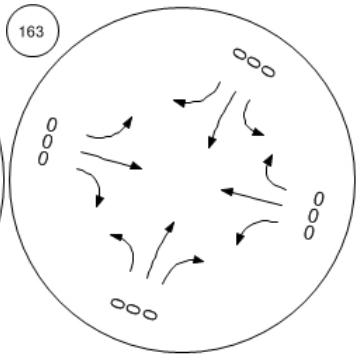

Branner Dr/Sand Hill Rd




Sharon Park Dr/ Sand Hill Rd

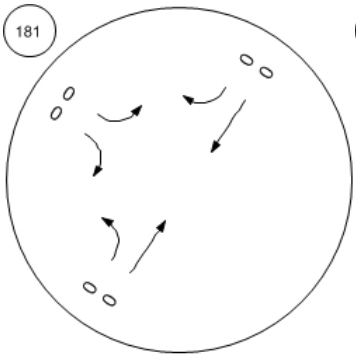



Bayfront Expy/Marsh Rd

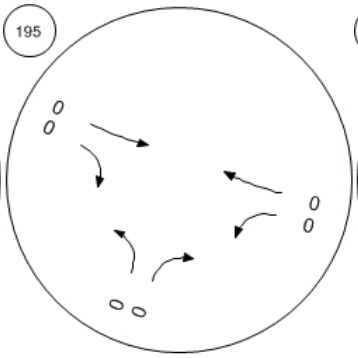


Traffic Volume - Net New Site Trips

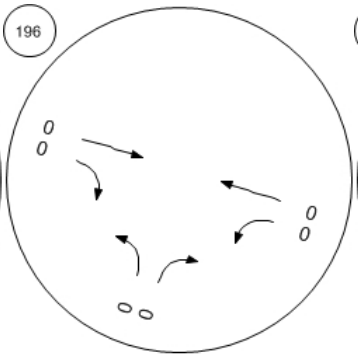

Santa Cruz Ave/Elder Ave



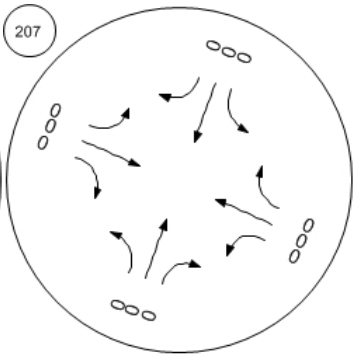

Bayfront Expy/Chilco St



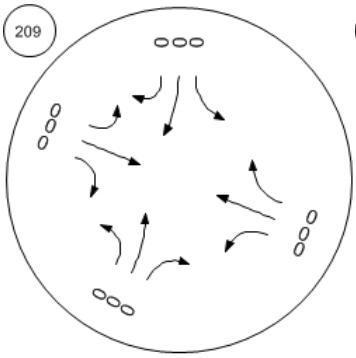

Bayfront Expy/Chrysler Drive



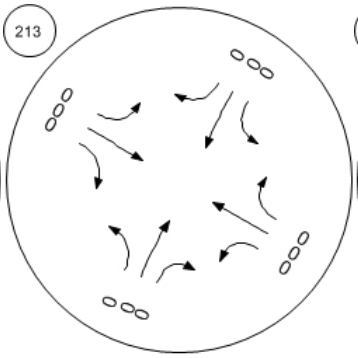

Chilco St/Constitution Dr



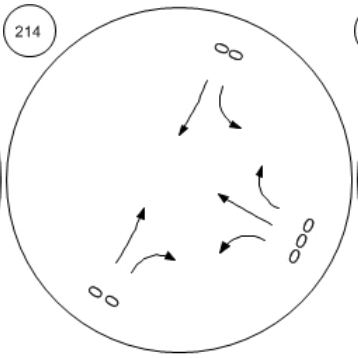

Jefferson Dr/Constitution Dr



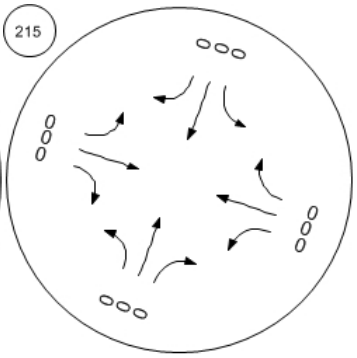

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

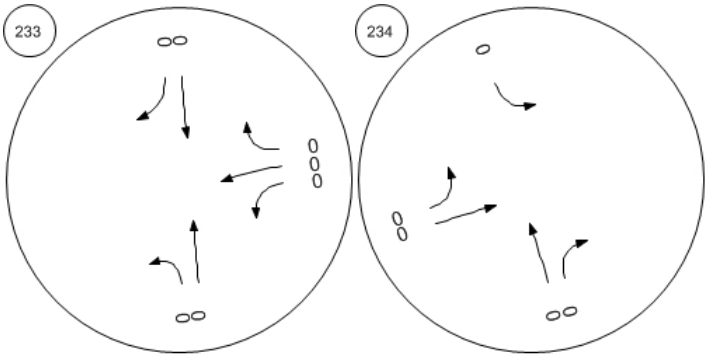



Chrysler Dr/Constitution Dr



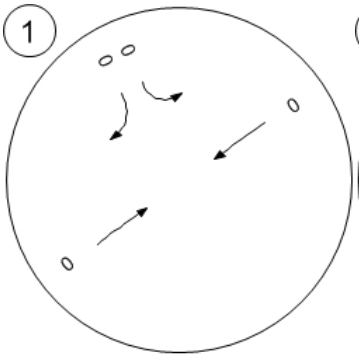
## Traffic Volume - Net New Site Trips


Sand Hill Road and Sand Hill Sand Hill Rd/Hwy 280 NB Off

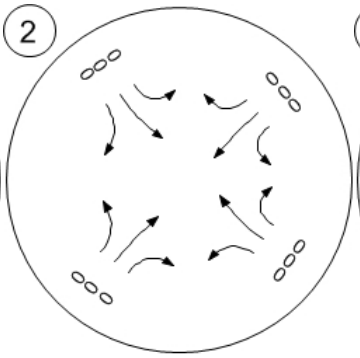


## Traffic Volume - Other Volume

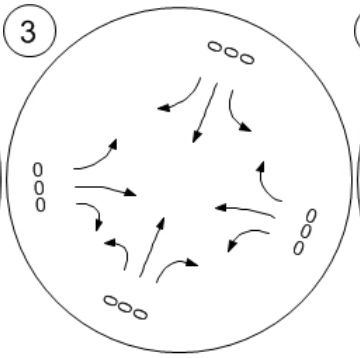

Marsh Rd (SR 84)/US 101 S



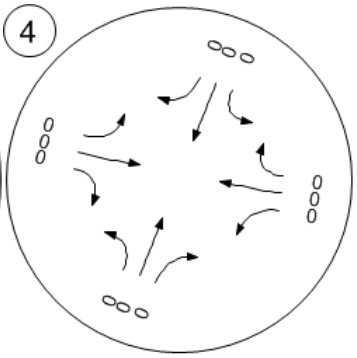

Marsh Rd/Rolison Rd-Scott D



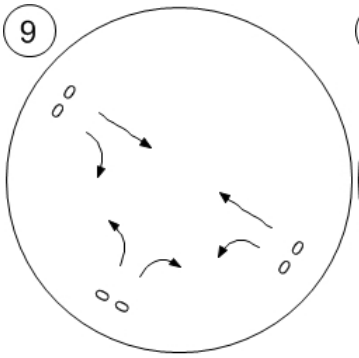

Marsh Rd/Florence St-Bohan



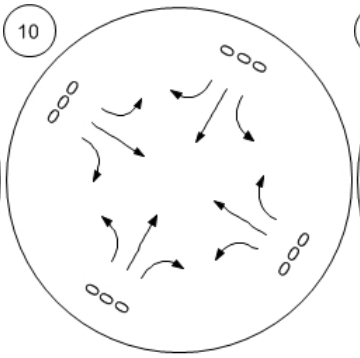

Marsh Rd/Bay Rd



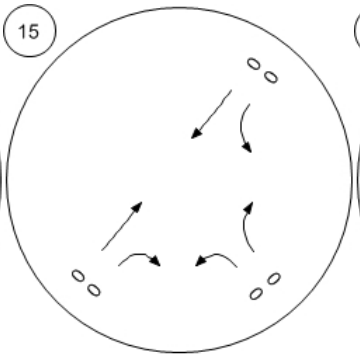

Middlefield Rd/Ravenswood



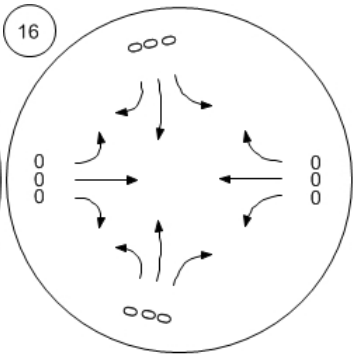

Middlefield Rd/Ringswood Av




Bayfront Expy (SR 84)/Univer

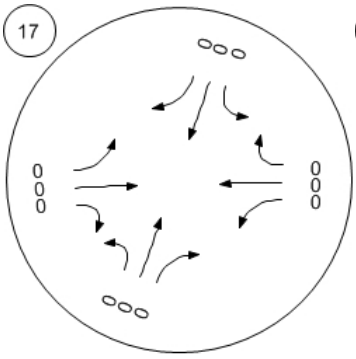



Bayfront Expy (SR 84)/Willow

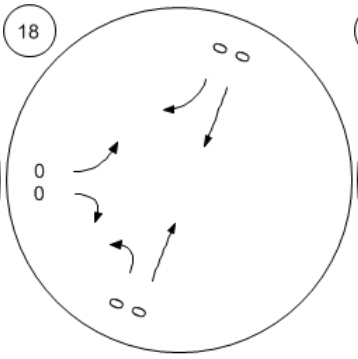


Traffic Volume - Other Volume

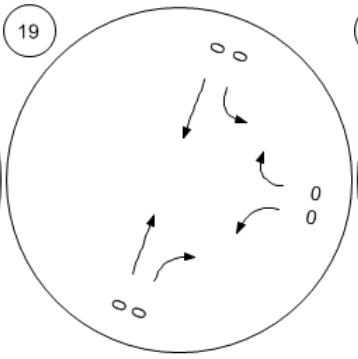

Willow Rd (SR 114)/Hamilton



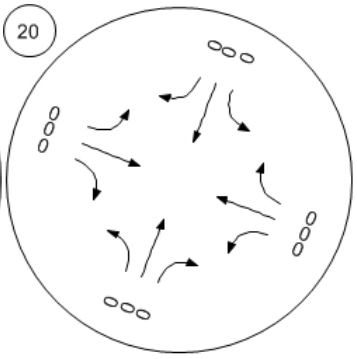

Willow Rd (SR 114)/Ivy Dr



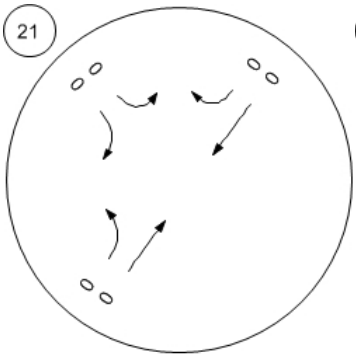

Willow Rd (SR 114)/O'Brien



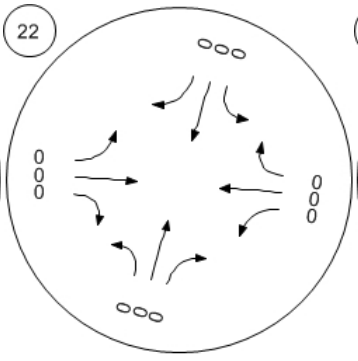

Willow Rd (SR 114)/Newbrid



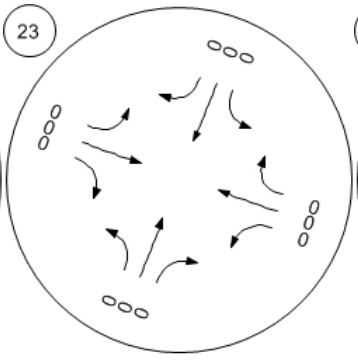

Willow Rd/Bay Rd



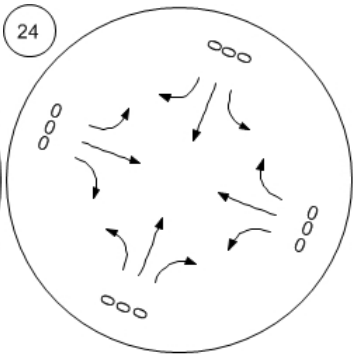

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

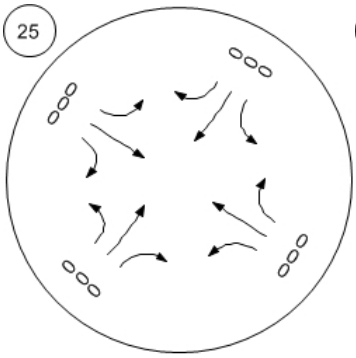



Willow Rd/Gilbert Ave

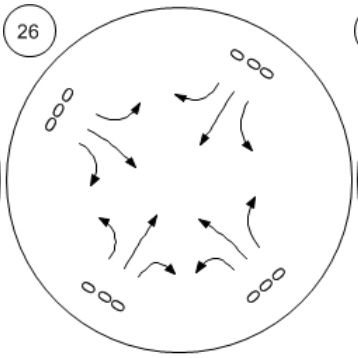


Traffic Volume - Other Volume

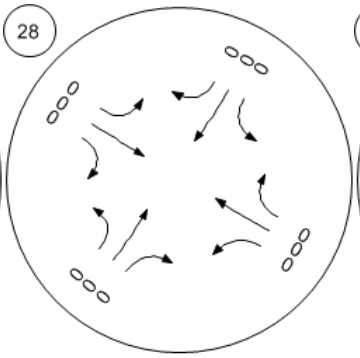

Middlefield Rd-Willow Rd



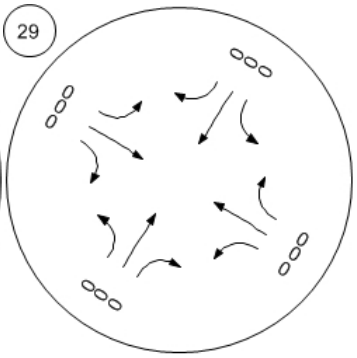

Ravenswood Ave/Laurel St



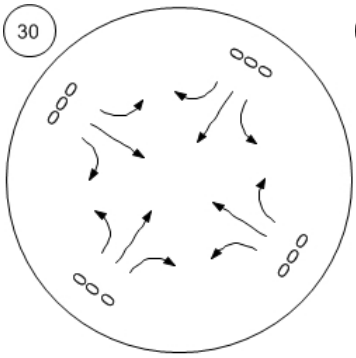

Oak Grove Ave/Laurel St



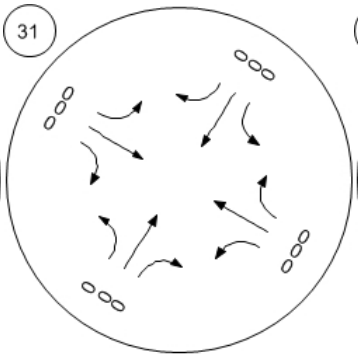

El Camino Real (SR 82)/Enci



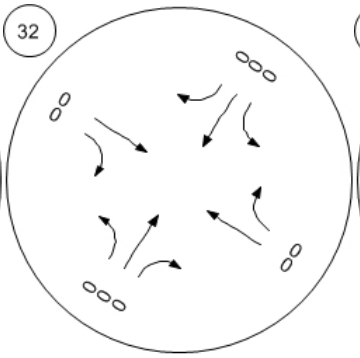

El Camino Real (SR 82)/Glen



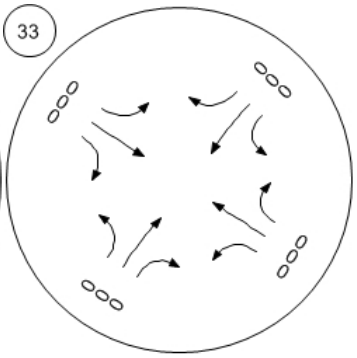

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

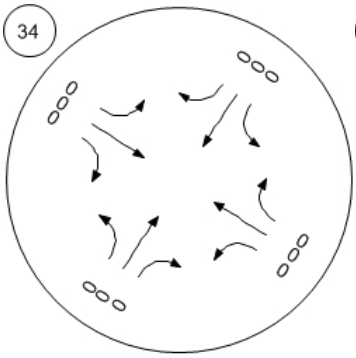



El Camino Real (SR 82)/Rav

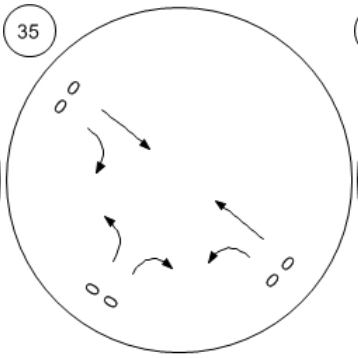


## Traffic Volume - Other Volume

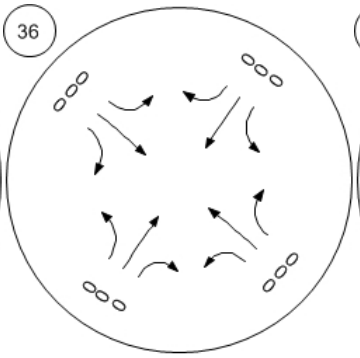

El Camino Real (SR 82)/Robl



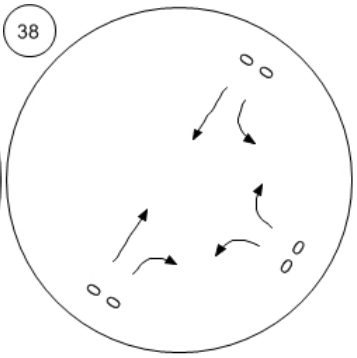

El Camino Real (SR 82)/Midd



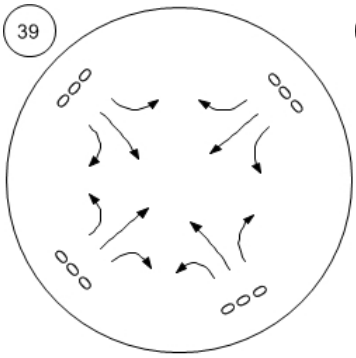

El Camino Real (SR 82)/Cam



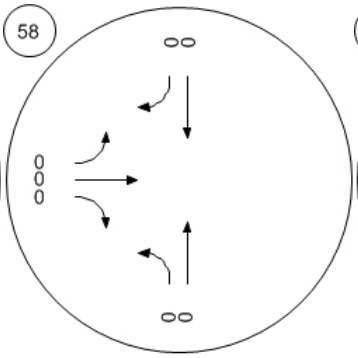

Santa Cruz Ave/University Dr



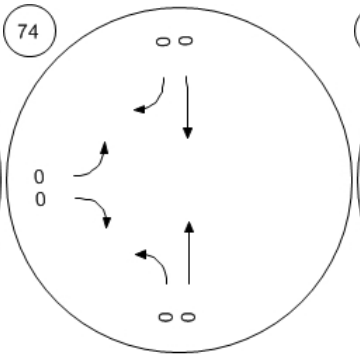

Santa Cruz Ave/Sand Hill Rd



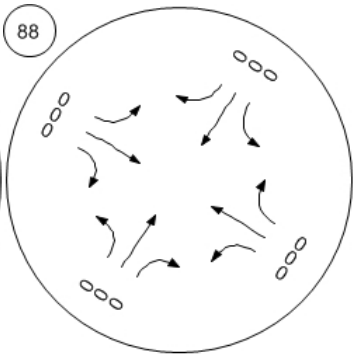

University Avenue and Adam



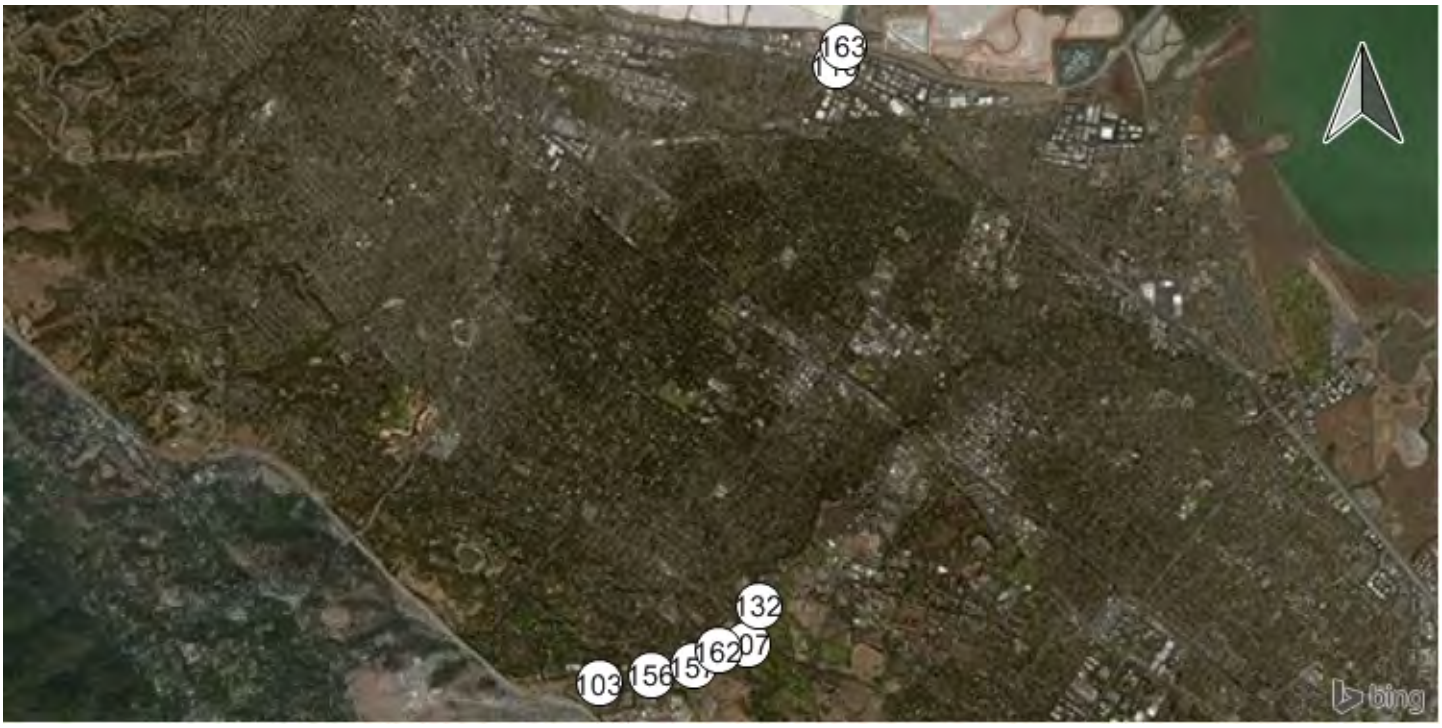

University Ave/O'Brien Dr



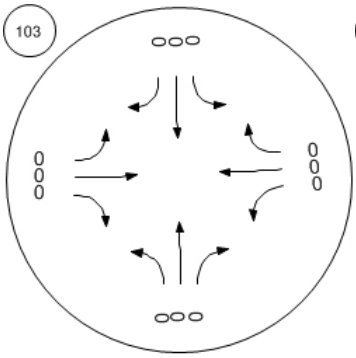

Valparaiso Ave/ University Dr



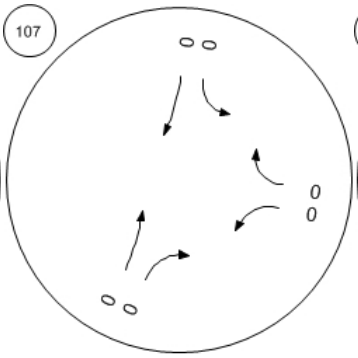
## Traffic Volume - Other Volume

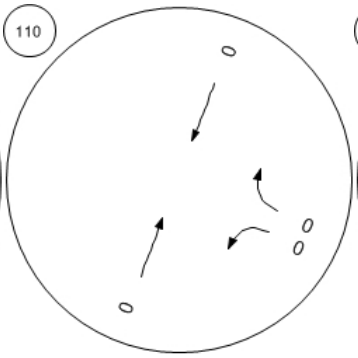



Addison Wesley/Sand Hill Rd

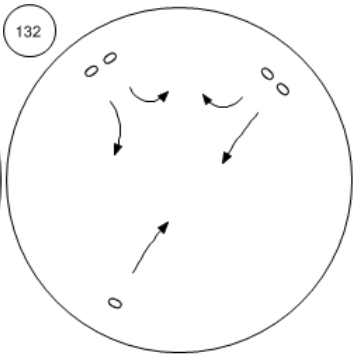



Alpine Rd/Santa Cruz Ave&J Marsh Road and US 101 NB

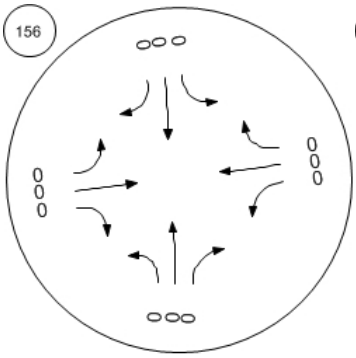


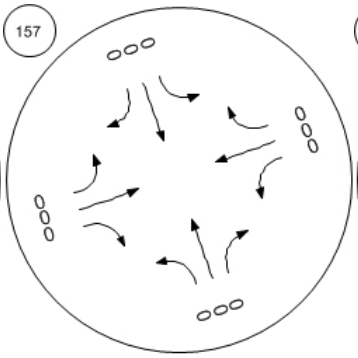

Oak Ave/Sand Hill Rd



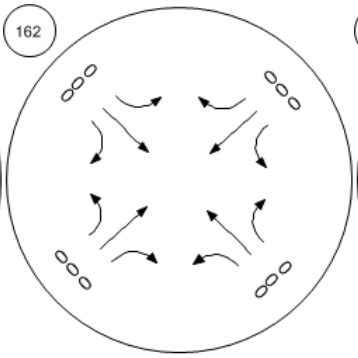

Saga Ln/Sand Hill Rd



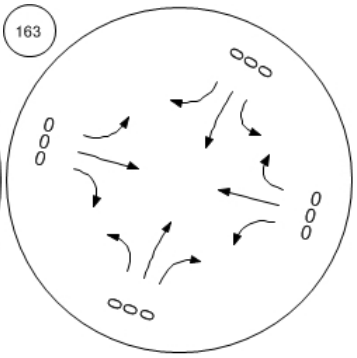

Branner Dr/Sand Hill Rd




Sharon Park Dr/ Sand Hill Rd

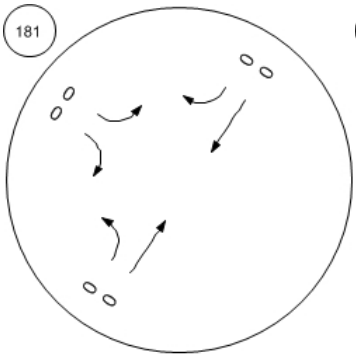



Bayfront Expy/Marsh Rd

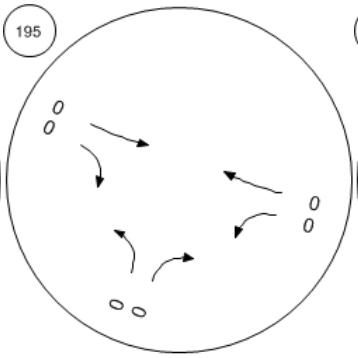


Traffic Volume - Other Volume

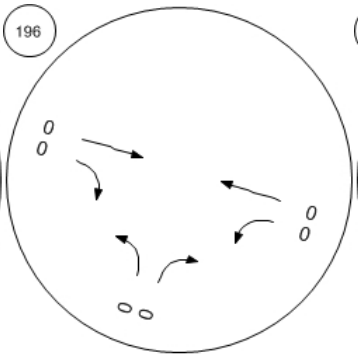

Santa Cruz Ave/Elder Ave



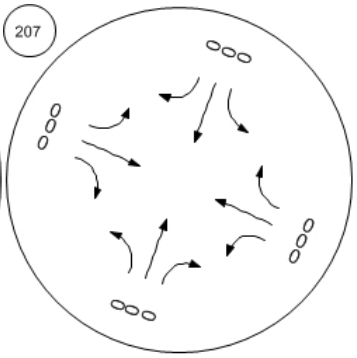

Bayfront Expy/Chilco St



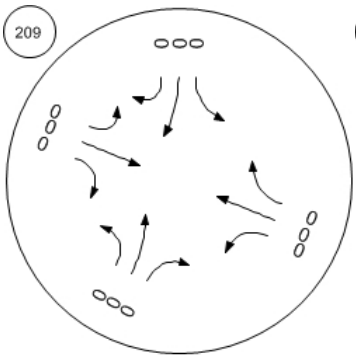

Bayfront Expy/Chrysler Drive



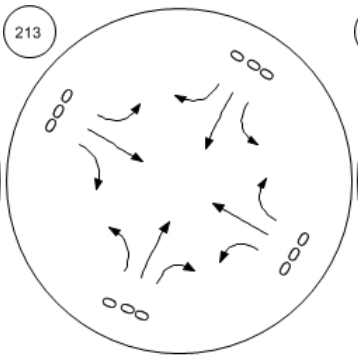

Chilco St/Constitution Dr



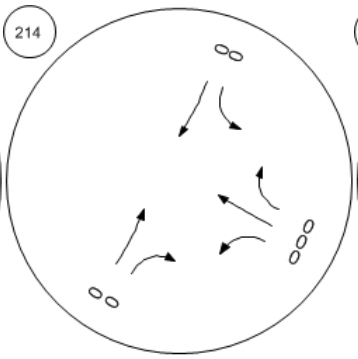

Jefferson Dr/Constitution Dr



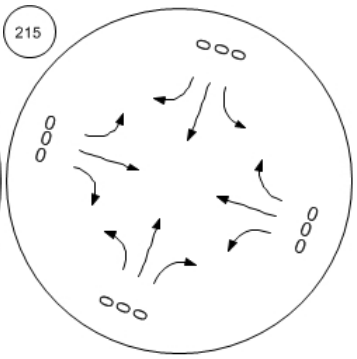

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

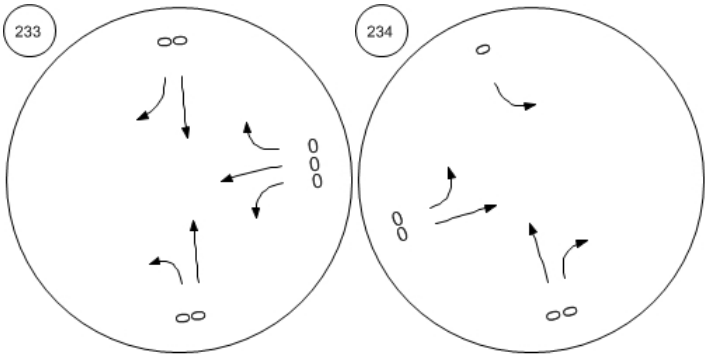



Chrysler Dr/Constitution Dr



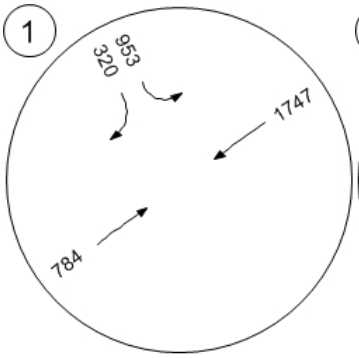
Traffic Volume - Other Volume


Sand Hill Road and Sand Hill Sand Hill Rd/Hwy 280 NB Off

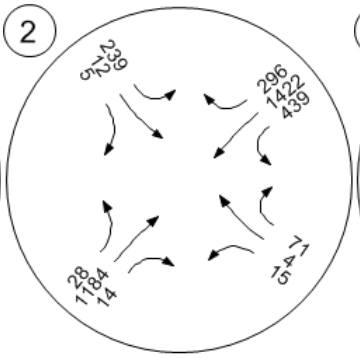


## Traffic Volume - Future Total Volume

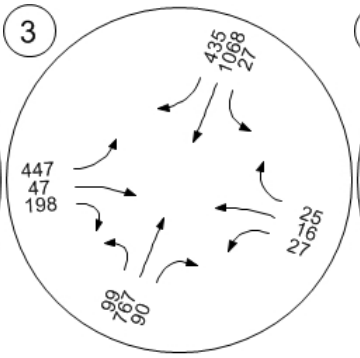

Marsh Rd (SR 84)/US 101 S



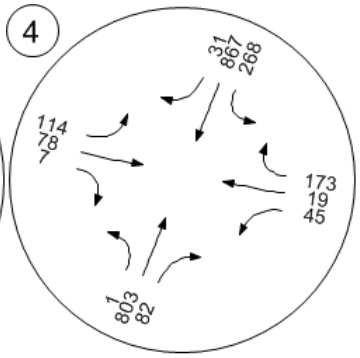

Marsh Rd/Rolison Rd-Scott D



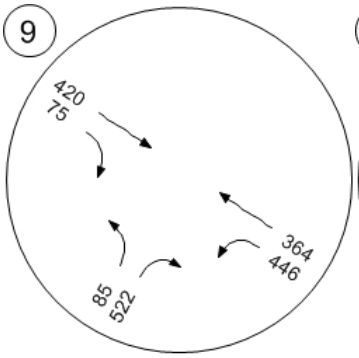

Marsh Rd/Florence St-Bohan



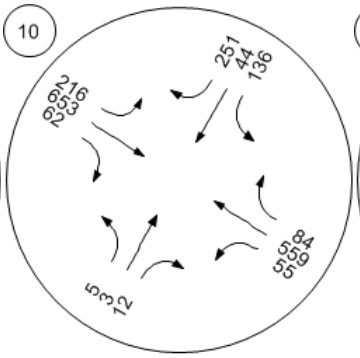

Marsh Rd/Bay Rd



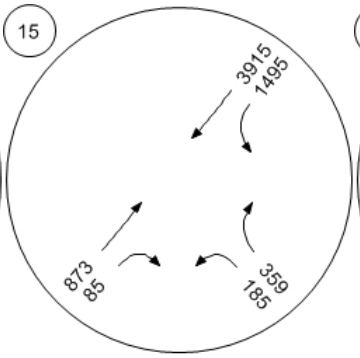

Middlefield Rd/Ravenswood

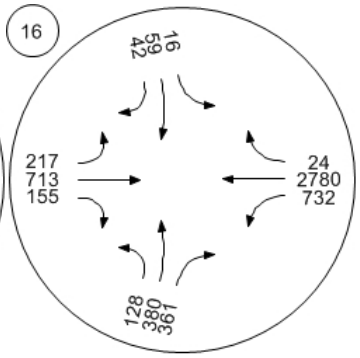



Middlefield Rd/Ringswood Av



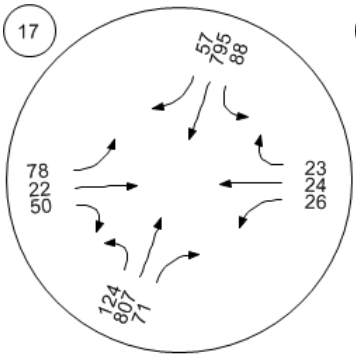

Bayfront Expy (SR 84)/UniverBayfront Expy (SR 84)/Willow



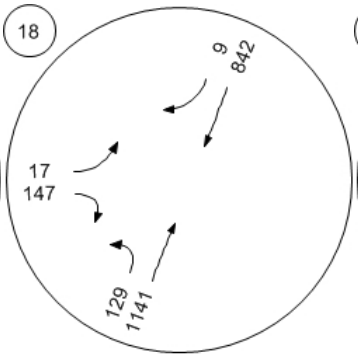



## Traffic Volume - Future Total Volume

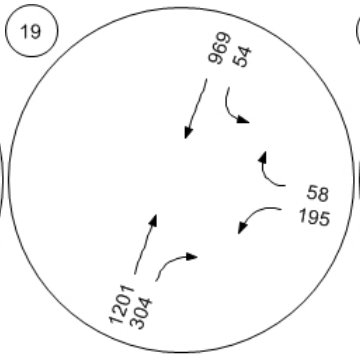

Willow Rd (SR 114)/Hamilton



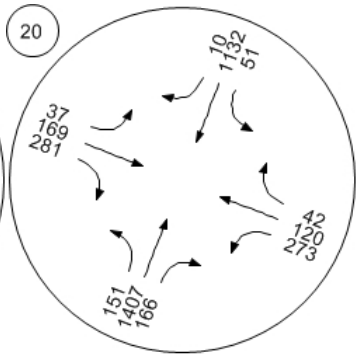

Willow Rd (SR 114)/Ivy Dr



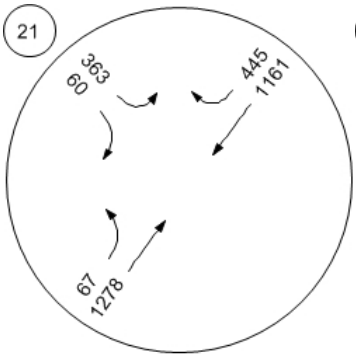

Willow Rd (SR 114)/O'Brien



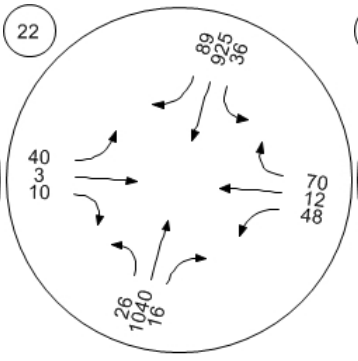

Willow Rd (SR 114)/Newbrid



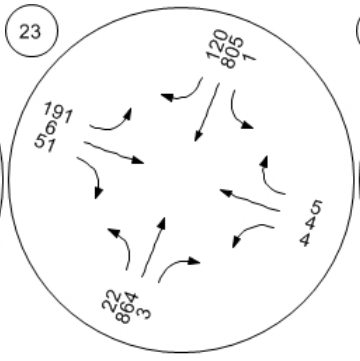

Willow Rd/Bay Rd



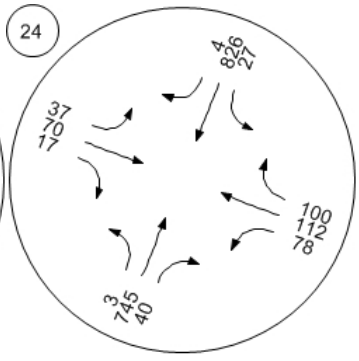

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

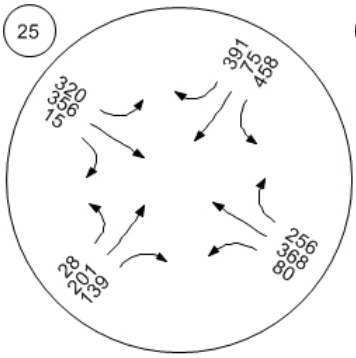



Willow Rd/Gilbert Ave

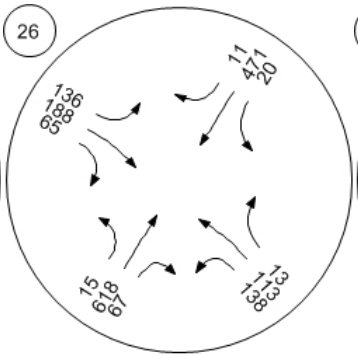


## Traffic Volume - Future Total Volume

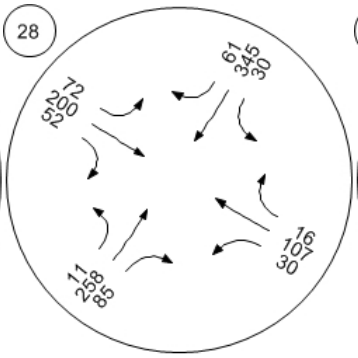

Middlefield Rd-Willow Rd



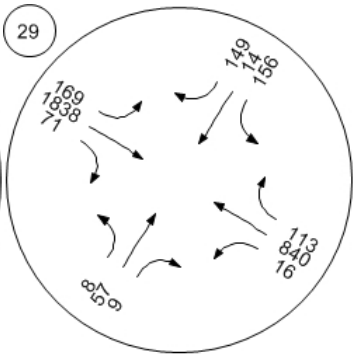

Ravenswood Ave/Laurel St



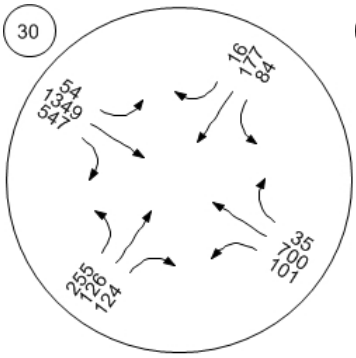

Oak Grove Ave/Laurel St



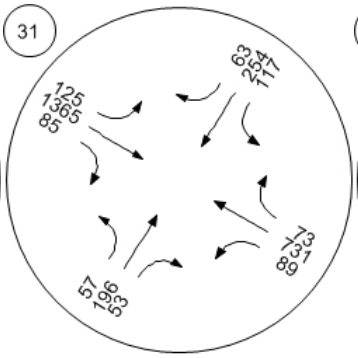

El Camino Real (SR 82)/Enci



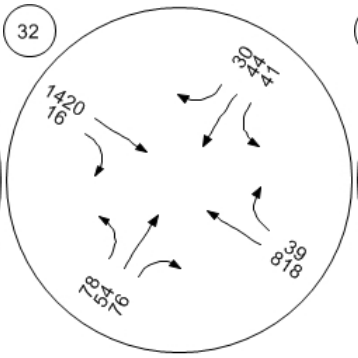

El Camino Real (SR 82)/Glen



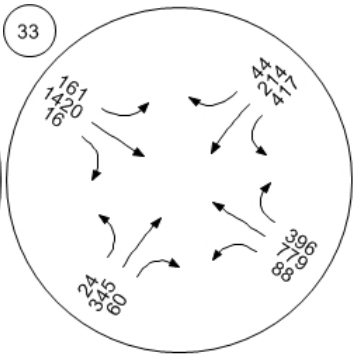

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

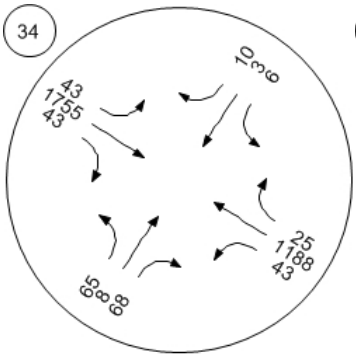



El Camino Real (SR 82)/Rav

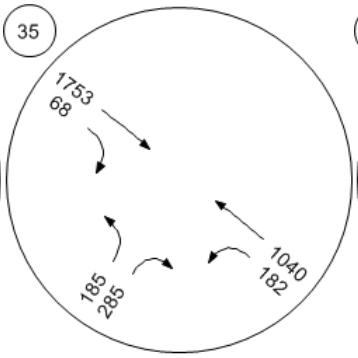


## Traffic Volume - Future Total Volume

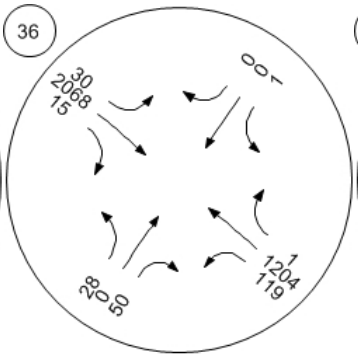

El Camino Real (SR 82)/Robl



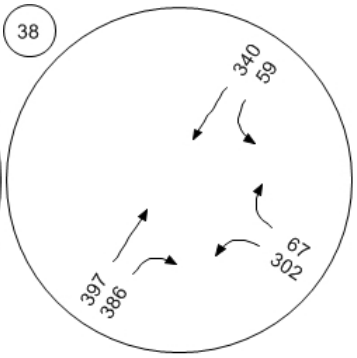

El Camino Real (SR 82)/Midd



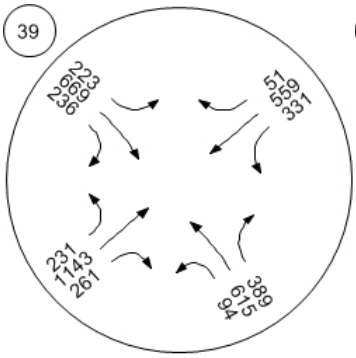

El Camino Real (SR 82)/Cam



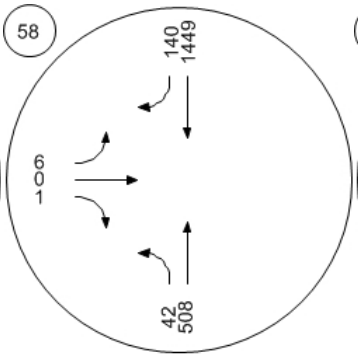

Santa Cruz Ave/University Dr



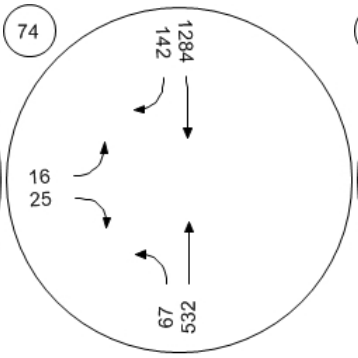

Santa Cruz Ave/Sand Hill Rd



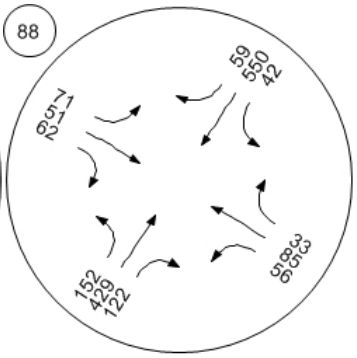

University Avenue and Adam



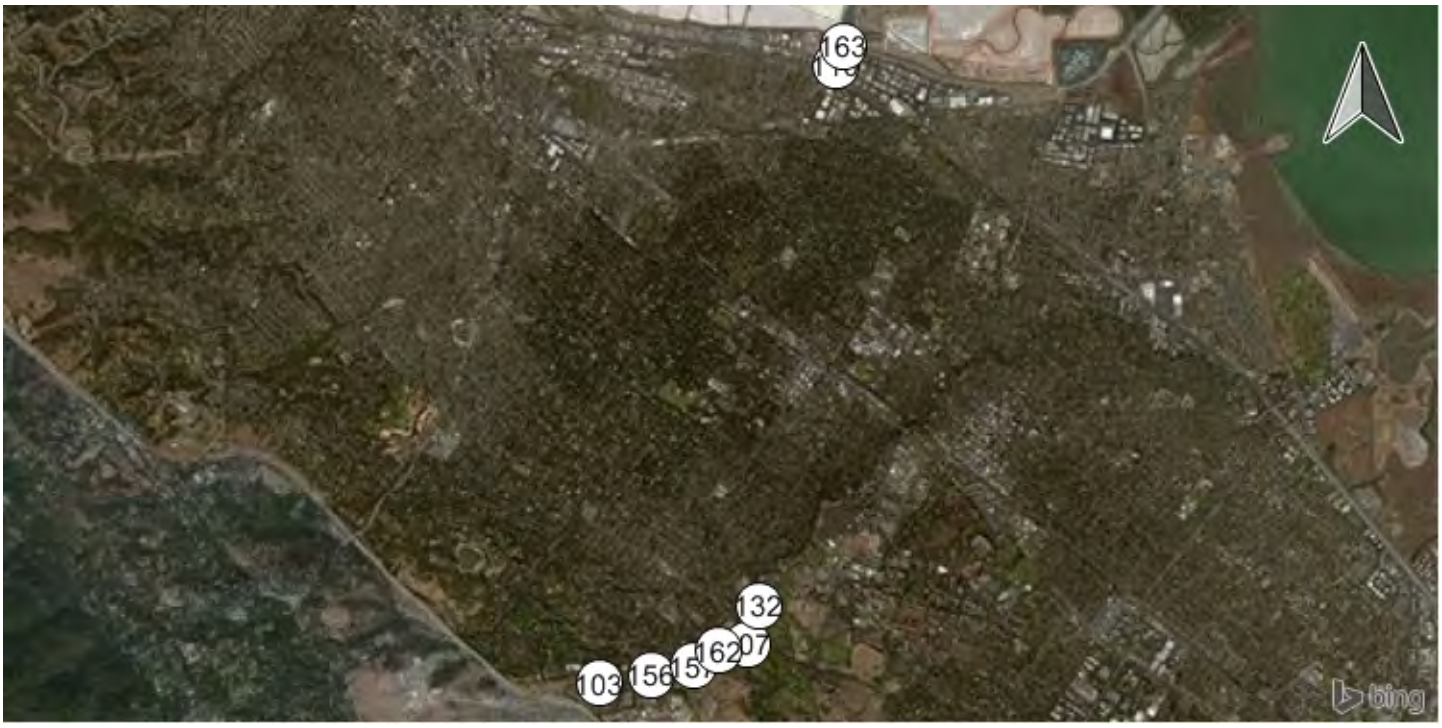

University Ave/O'Brien Dr



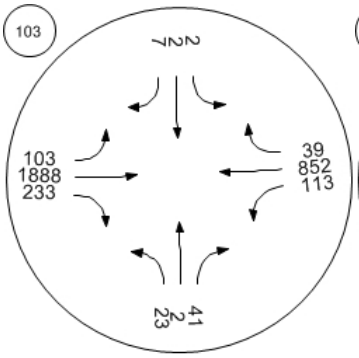

Valparaiso Ave/ University Dr



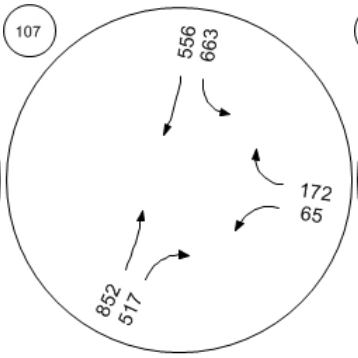
## Traffic Volume - Future Total Volume

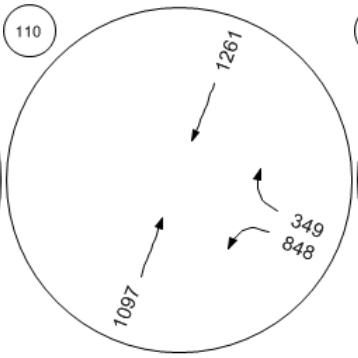



### Addison Wesley/Sand Hill Rd

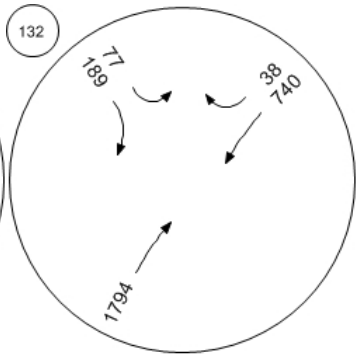



### Alpine Rd/Santa Cruz Ave&J Marsh Road and US 101 NB

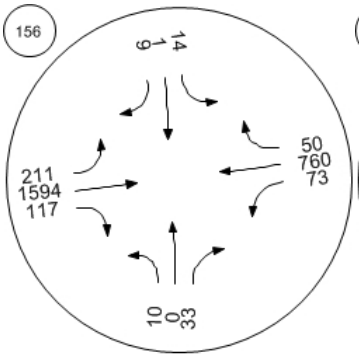


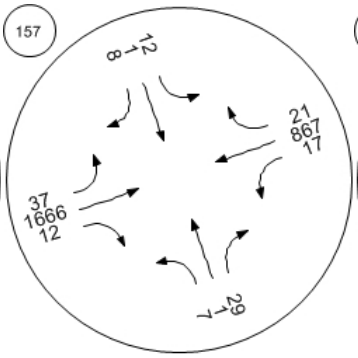

### Oak Ave/Sand Hill Rd



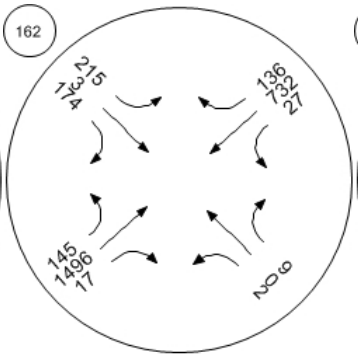

### Saga Ln/Sand Hill Rd



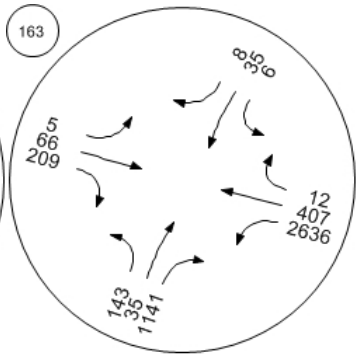

### Branner Dr/Sand Hill Rd




### Sharon Park Dr/ Sand Hill Rd

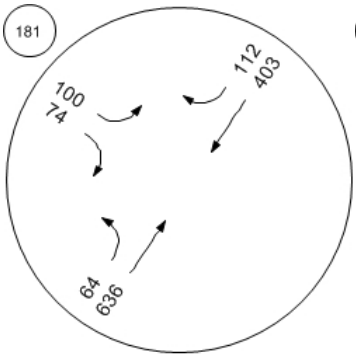



### Bayfront Expy/Marsh Rd

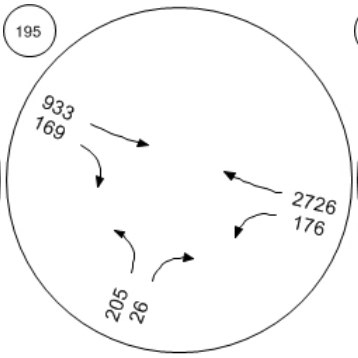


Traffic Volume - Future Total Volume

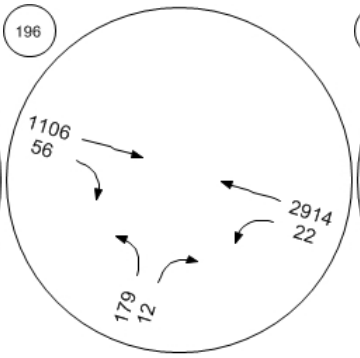

Santa Cruz Ave/Elder Ave



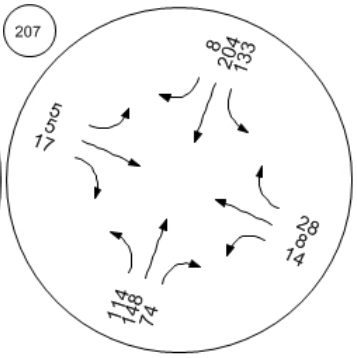

Bayfront Expy/Chilco St



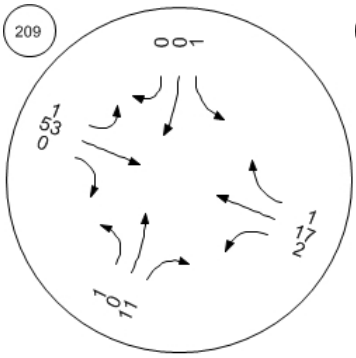

Bayfront Expy/Chrysler Drive



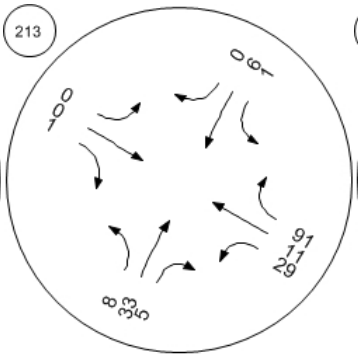

Chilco St/Constitution Dr



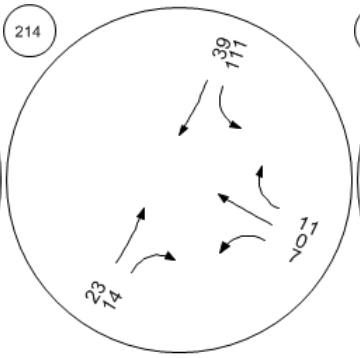

Jefferson Dr/Constitution Dr



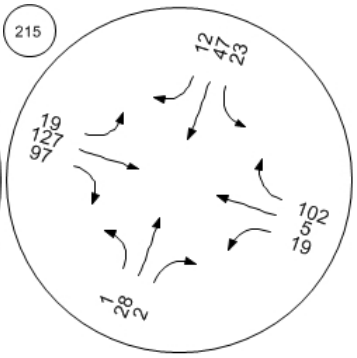

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

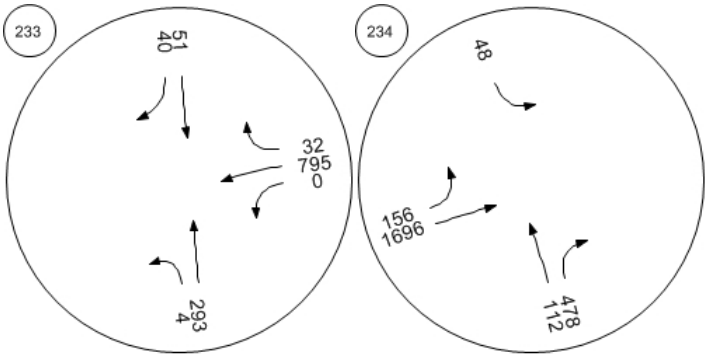



Chrysler Dr/Constitution Dr



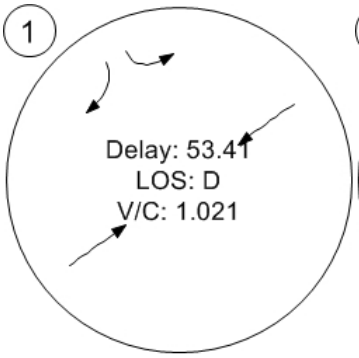
## Traffic Volume - Future Total Volume


Sand Hill Road and Sand Hill

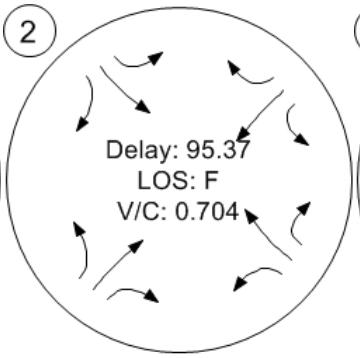


## Traffic Conditions

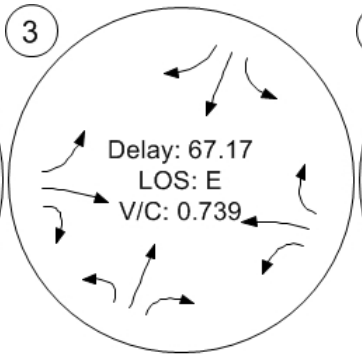

Marsh Rd (SR 84)/US 101 S



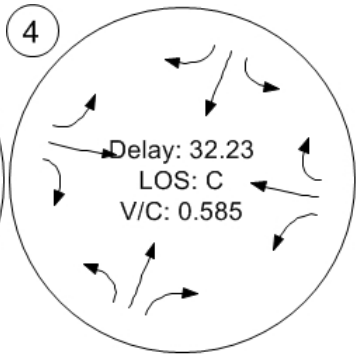

Marsh Rd/Rolison Rd-Scott D



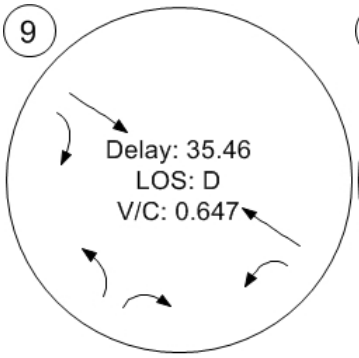

Marsh Rd/Florence St-Bohan



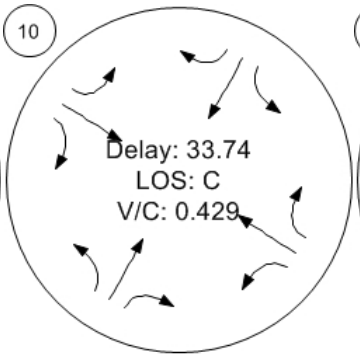

Marsh Rd/Bay Rd



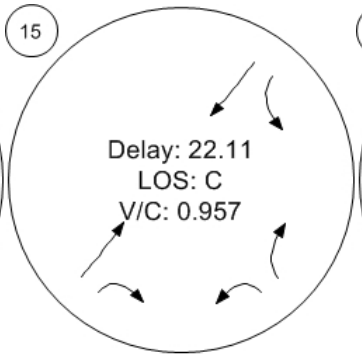

Middlefield Rd/Ravenswood



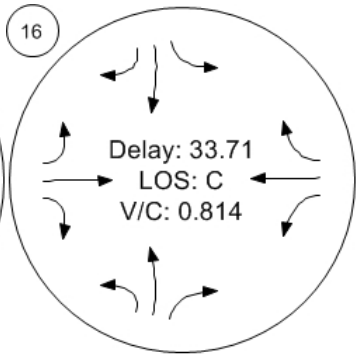

Middlefield Rd/Ringswood Av




Bayfront Expy (SR 84)/Univer

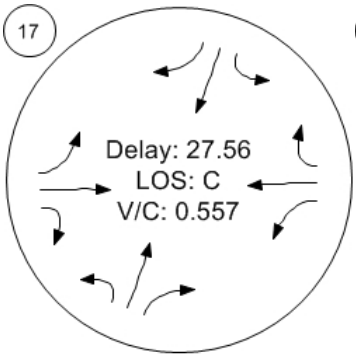



Bayfront Expy (SR 84)/Willow

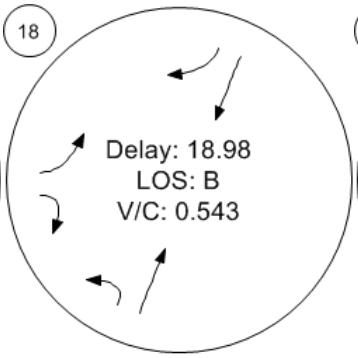


## Traffic Conditions

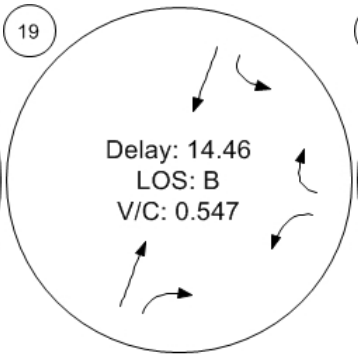

Willow Rd (SR 114)/Hamilton



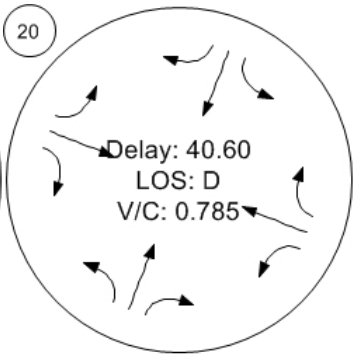

Willow Rd (SR 114)/Ivy Dr



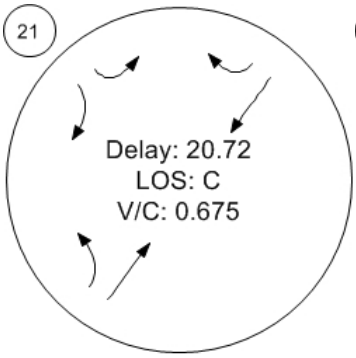

Willow Rd (SR 114)/O'Brien



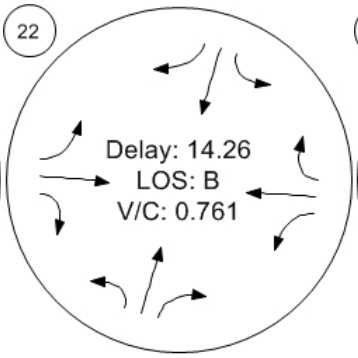

Willow Rd (SR 114)/Newbrid



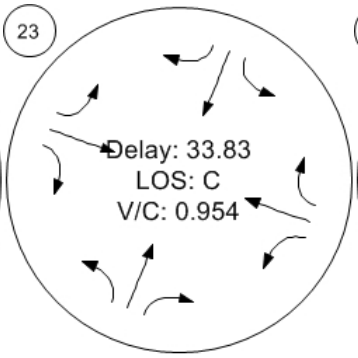

Willow Rd/Bay Rd



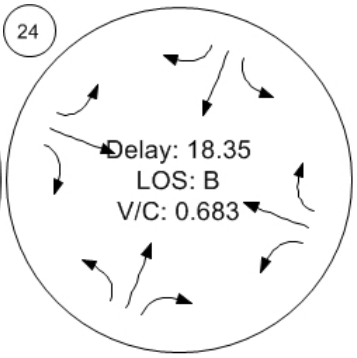

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

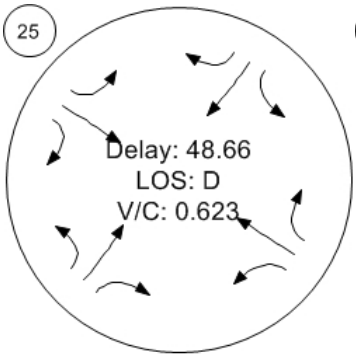



Willow Rd/Gilbert Ave

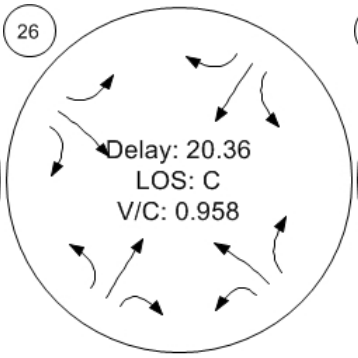


Traffic Conditions

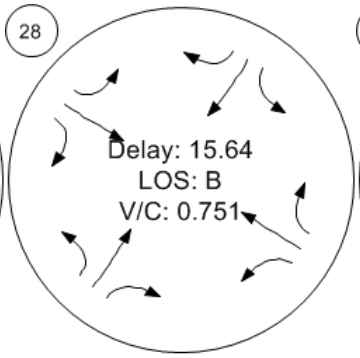

Middlefield Rd-Willow Rd



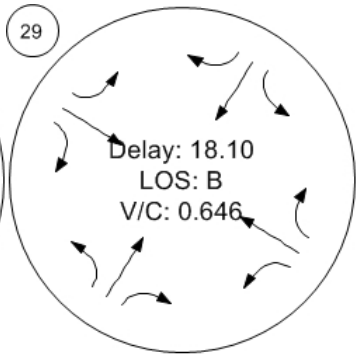

Ravenswood Ave/Laurel St



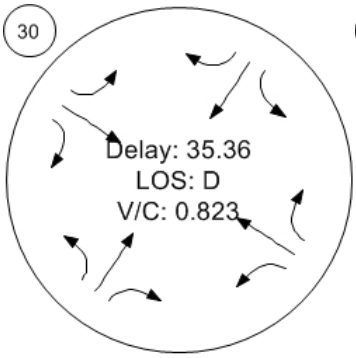

Oak Grove Ave/Laurel St



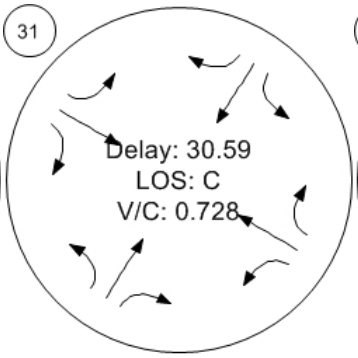

El Camino Real (SR 82)/Enci



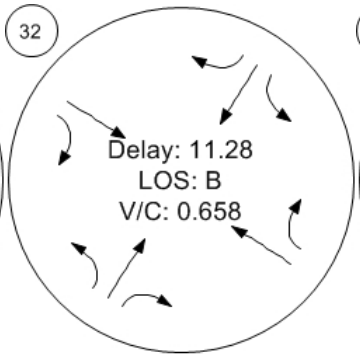

El Camino Real (SR 82)/Glen



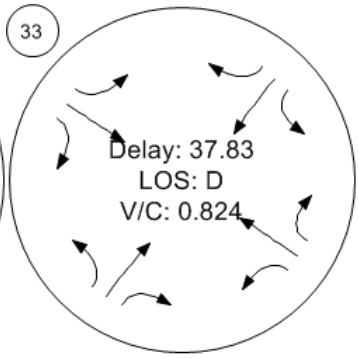

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

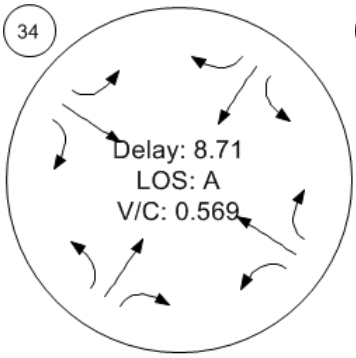



El Camino Real (SR 82)/Rav

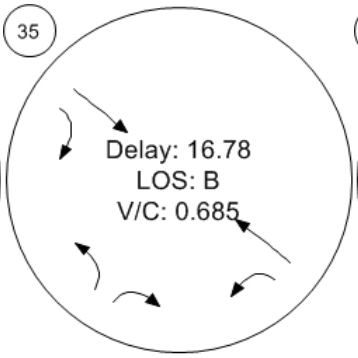


Traffic Conditions

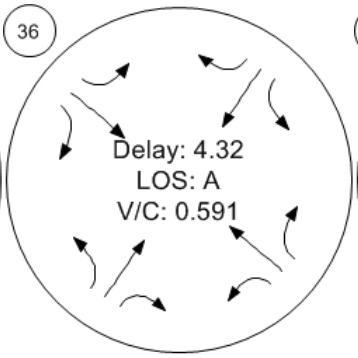

El Camino Real (SR 82)/Robl



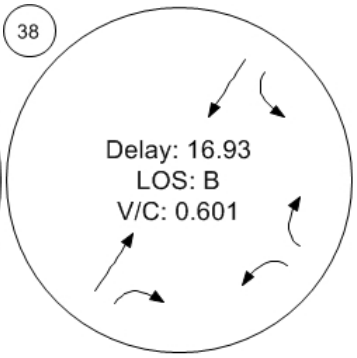

El Camino Real (SR 82)/Midd



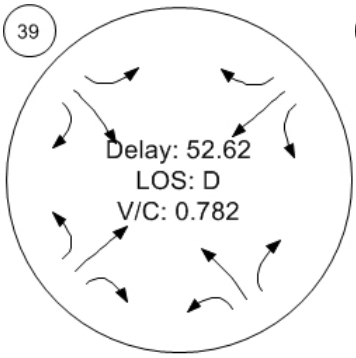

El Camino Real (SR 82)/Cam



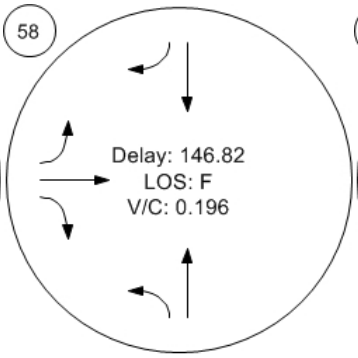

Santa Cruz Ave/University Dr



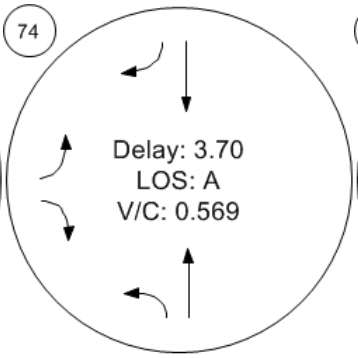

Santa Cruz Ave/Sand Hill Rd



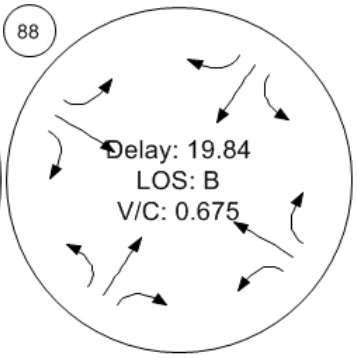

University Avenue and Adam



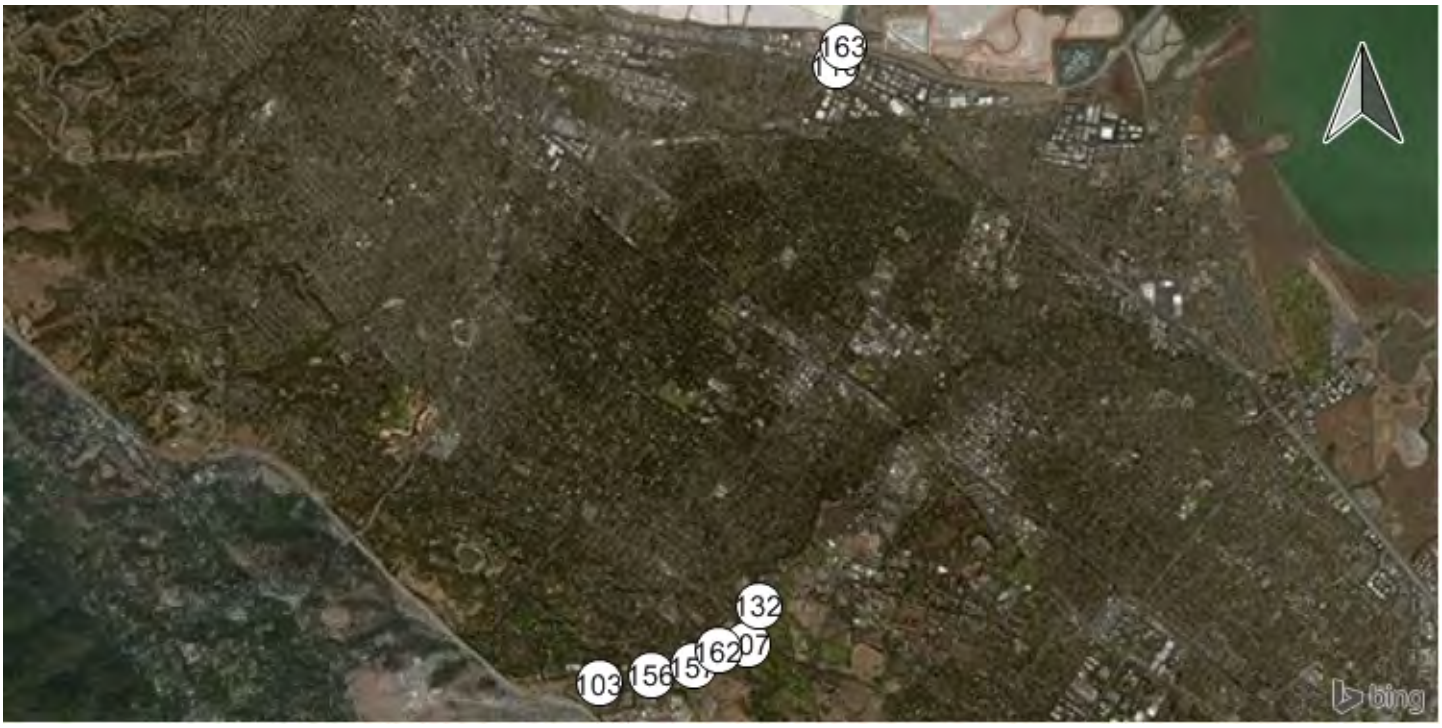

University Ave/O'Brien Dr



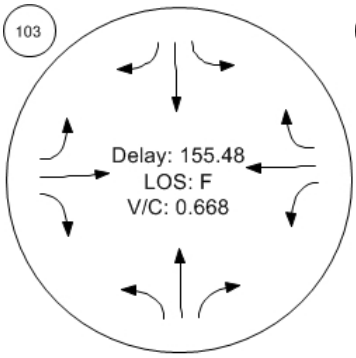

Valparaiso Ave/ University Dr



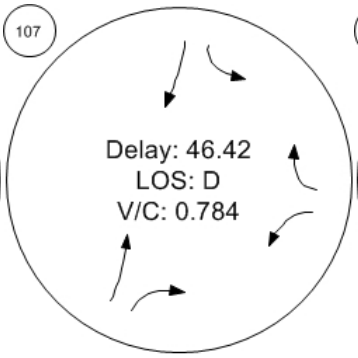
## Traffic Conditions

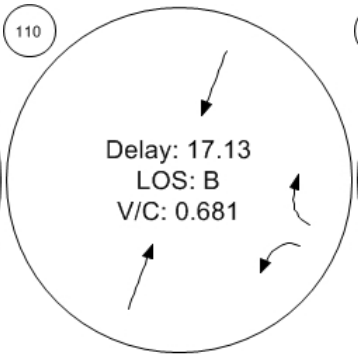



Addison Wesley/Sand Hill Rd

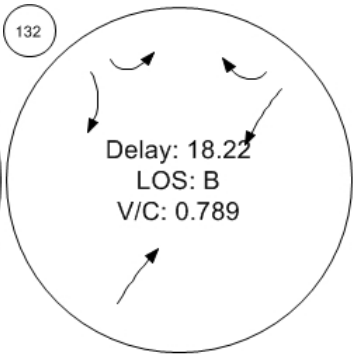



Alpine Rd/Santa Cruz Ave&J Marsh Road and US 101 NB

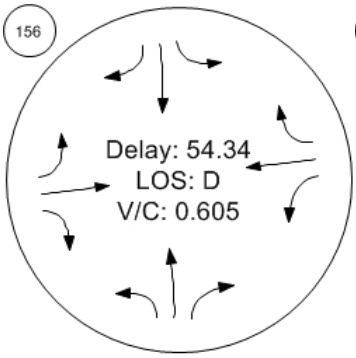


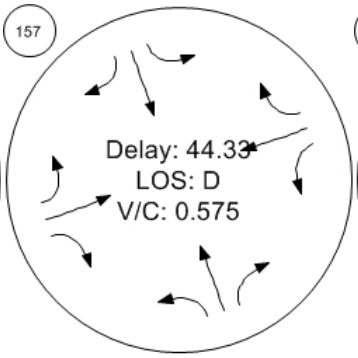

Oak Ave/Sand Hill Rd



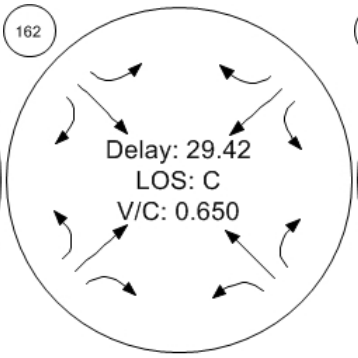

Saga Ln/Sand Hill Rd



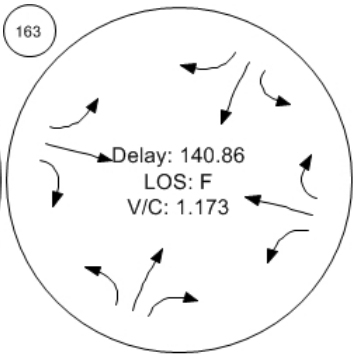

Branner Dr/Sand Hill Rd




Sharon Park Dr/ Sand Hill Rd

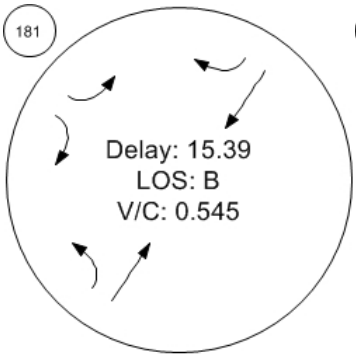



Bayfront Expy/Marsh Rd

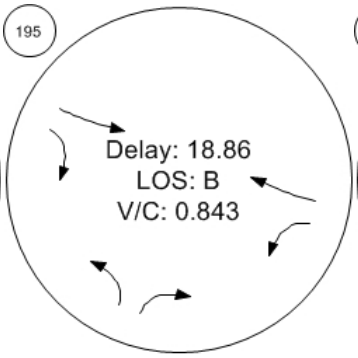


## Traffic Conditions

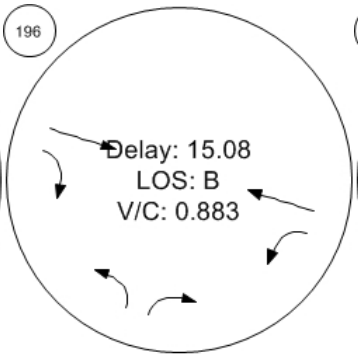

Santa Cruz Ave/Elder Ave



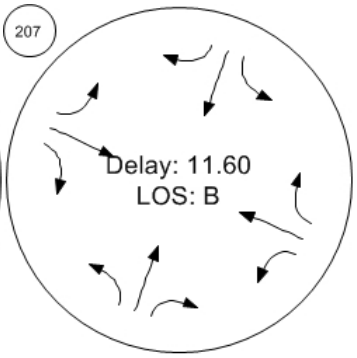

Bayfront Expy/Chilco St



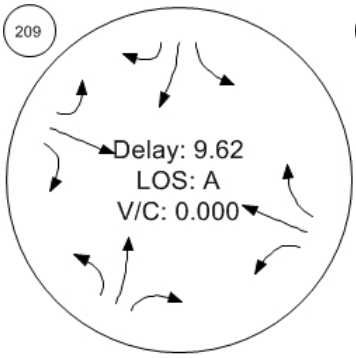

Bayfront Expy/Chrysler Drive



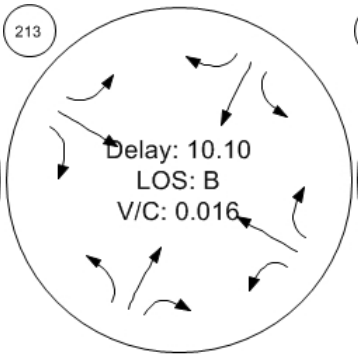

Chilco St/Constitution Dr



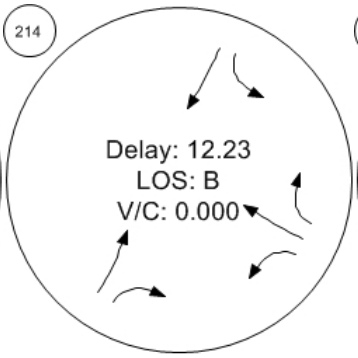

Jefferson Dr/Constitution Dr



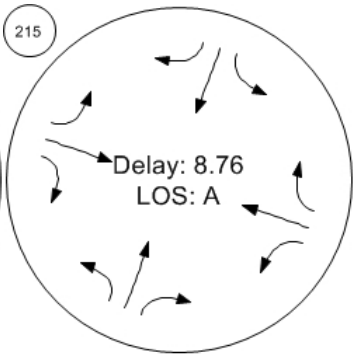

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

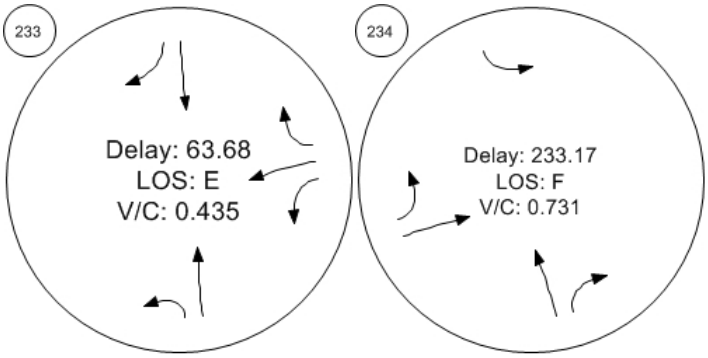



Chrysler Dr/Constitution Dr



## Traffic Conditions


### Sand Hill Road and Sand Hill Sand Hill Rd/Hwy 280 NB Off



Menlo Park GP Circulation Update

Vistro File: J:\...\Menlo Park PM_update.vistro
Report File: J:\...\Menlo Park_PM Results.pdf

Scenario 1: Existing PM
1/9/2015

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | Marsh Rd (SR 84)/US 101 SB Offramp | Signalized | HCM2000 | SWBT | 1.000 | 25.5 | C |
| 2 | Marsh Rd/Rolison Rd-Scott Dr | Signalized | HCM2000 | SWBT | 0.558 | 68.3 | E |
| 3 | Marsh Rd/Florence St-Bohannon Dr | Signalized | HCM2000 | SBR | 0.699 | 79.4 | E |
| 4 | Marsh Rd/Bay Rd | Signalized | HCM2000 | WBR | 0.584 | 26.2 | C |
| 9 | Middlefield Rd/Ravenswood Ave | Signalized | HCM2000 | NWBL | 0.628 | 139.1 | F |
| 10 | Middlefield Rd/Ringwood Ave | Signalized | HCM2000 | SEBL | 0.637 | 110.3 | F |
| 15 | Bayfront Expy (SR 84)/University Ave (SR 109) | Signalized | HCM2000 | NEBT | 1.217 | 119.7 | F |
| 16 | Bayfront Expy (SR 84)/Willow Rd (SR 114) | Signalized | HCM2000 | SBL | 0.901 | 48.4 | D |
| 17 | Willow Rd (SR 114)/Hamilton Ave | Signalized | HCM2000 | EBL | 0.665 | 29.2 | C |
| 18 | Willow Rd (SR 114)/Ivy Dr | Signalized | HCM2000 | EBR | 0.552 | 14.4 | B |
| 19 | Willow Rd (SR 114)/O'Brien Dr | Signalized | HCM2000 | SBL | 0.568 | 16.1 | B |
| 20 | Willow Rd (SR 114)/Newbridge St | Signalized | HCM2000 | WBT | 0.771 | 42.2 | D |
| 21 | Willow Rd/Bay Rd | Signalized | HCM2000 | SEBL | 0.813 | 27.0 | C |
| 22 | Willow Rd/Durham St-VA Med Entrance | Signalized | HCM2000 | EBL | 0.686 | 22.3 | C |
| 23 | Willow Rd/Coleman Ave | Signalized | HCM2000 | EBL | 0.644 | 14.1 | B |
| 24 | Willow Rd/Gilbert Ave | Signalized | HCM2000 | WBL | 0.574 | 25.6 | C |
| 25 | Middlefield Rd-Willow Rd | Signalized | HCM2000 | NEBR | 0.561 | 46.8 | D |
| 26 | Ravenswood Ave/Laurel St | Signalized | HCM2000 | NWBL | 0.972 | 23.0 | C |
| 28 | Oak Grove Ave/Laurel St | Signalized | HCM2000 | NWBT | 0.716 | 15.4 | B |
| 29 | El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance | Signalized | HCM2000 | SEBL | 0.782 | 19.5 | B |
| 30 | El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave | Signalized | HCM2000 | SEBL | 0.855 | 38.6 | D |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Ave | | | | | | |
| 31 | El Camino Real (SR 82)/Oak Grove Ave | Signalized | HCM2000 | SWBL | 0.755 | 31.9 | C |
| 32 | El Camino Real (SR 82)/Santa Cruz Ave | Signalized | HCM2000 | SWBT | 0.730 | 13.7 | B |
| 33 | El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave | Signalized | HCM2000 | SEBL | 0.872 | 44.6 | D |
| 34 | El Camino Real (SR 82)/Roble Ave | Signalized | HCM2000 | NEBL | 0.586 | 10.4 | B |
| 35 | El Camino Real (SR 82)/Middle Ave | Signalized | HCM2000 | NEBL | 0.682 | 19.5 | B |
| 36 | El Camino Real (SR 82)/Cambridge Ave | Signalized | HCM2000 | NEBL | 0.622 | 10.4 | B |
| 38 | Santa Cruz Ave/University Dr (S) | Signalized | HCM2000 | SWBL | 0.619 | 19.2 | B |
| 39 | Sand Hill Rd/Santa Cruz Ave | Signalized | HCM2000 | SEBL | 0.709 | 49.9 | D |
| 58 | University Avenue and Adams Drive | Two-way stop | HCM2000 | EBT | 0.000 | 87.6 | F |
| 74 | University Ave/O'Brien Dr | Signalized | HCM2000 | NBL | 0.710 | 9.7 | A |
| 88 | Valparaiso Ave/ University Dr | Signalized | HCM2000 | NWBL | 0.731 | 31.5 | C |
| 103 | Addison Wesley/Sand Hill Rd | Signalized | HCM2000 | WBT | 0.650 | 81.9 | F |
| 107 | Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd | Signalized | HCM2000 | NEBT | 0.732 | 51.3 | D |
| 110 | Marsh Road/101 NB Ramps | Signalized | HCM2000 | NBT | 0.851 | 49.8 | D |
| 132 | Oak Ave/Sand Hill Rd | Signalized | HCM2000 | SEBR | 0.556 | 6.2 | A |
| 156 | Saga Ln/Sand Hill Rd | Signalized | HCM2000 | WBT | 0.516 | 35.2 | D |
| 157 | Branner Dr/Sand Hill Rd | Signalized | HCM2000 | EBL | 0.451 | 21.0 | C |
| 162 | Sharon Park Dr/ Sand Hill Rd | Signalized | HCM2000 | SWBT | 0.684 | 51.3 | D |
| 163 | Bayfront Expy/Marsh Rd | Signalized | HCM2000 | NBR | 0.964 | 320.4 | F |
| 181 | Santa Cruz Ave/Elder Ave | Signalized | HCM2000 | SEBR | 0.514 | 10.0 | A |
| 195 | Bayfront Expy/Chilco St | Signalized | HCM2000 | NBR | 0.701 | 12.7 | B |
| 196 | Bayfront Expy/Chrysler Drive | Signalized | HCM2000 | WBL | 0.795 | 21.6 | C |
| 207 | Chilco St/Constitution Dr | All-way stop | HCM2000 | NWBR | | 23.6 | C |
| 209 | Jefferson Dr/Constitution Dr | Two-way stop | HCM2000 | SBL | 0.037 | 15.5 | C |
| 213 | Chrysler Dr/Independence Dr | Two-way stop | HCM2000 | SEBT | 0.004 | 10.0 | A |
| 214 | Chrysler Dr/Jefferson Dr | Two-way stop | HCM2000 | NWBL | 0.002 | 10.4 | B |
| 215 | Chrysler Dr/Constitution Dr | All-way stop | HCM2000 | EBT | | 14.4 | B |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 233 | Sand Hill Circle/Sand Hill Road | Signalized | HCM2000 | WBT | 0.712 | 361.8 | F |
| 234 | Sand Hill Rd/Hwy 280 NB Off-Ramp | Signalized | HCM2000 | NBR | 0.360 | 31.3 | C |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**
**#1: Marsh Rd (SR 84)/US 101 SB Offramp**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 25.5 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.000 |

**Intersection Setup**

| Name | Marsh Road | | Marsh Road (SR 84) | | US 101 SB Offramp | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 1 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 420.00 |
| Speed [mph] | 35.00 | | 35.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | no | | yes | | no | |

**Volumes**

| Name | Marsh Road | | Marsh Road (SR 84) | | US 101 SB Offramp | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 980 | 893 | 279 | 1547 | 401 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 2.60 | 2.70 | 2.15 | 3.60 | 0.50 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 980 | 893 | 279 | 1547 | 401 |
| Peak Hour Factor | 1.0000 | 0.9600 | 0.9600 | 1.0000 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 255 | 233 | 70 | 403 | 104 |
| Total Analysis Volume [veh/h] | 0 | 1021 | 930 | 279 | 1611 | 418 |
| Presence of On-Street Parking | | no | no | | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 55.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Permissive | Permissive | Protected | Overlap |
|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 6 | 0 | 4 | 1 |
| Auxiliary Signal Groups | | | | | | 1,2,4 |
| Lead / Lag | - | - | - | - | Lead | - |
| Minimum Green [s] | 0 | 8 | 8 | 0 | 6 | 4 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 0.0 | 3.6 | 3.6 | 0.0 | 3.1 | 3.1 |
| All red [s] | 0.0 | 0.5 | 0.5 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 41 | 33 | 0 | 59 | 8 |
| Vehicle Extension [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 1.5 |
| Walk [s] | 0 | 0 | 7 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 16 | 0 | 22 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | yes | yes | | no | no |
| Maximum Recall | | no | no | | no | no |
| Pedestrian Recall | | no | no | | no | no |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 20.0 | 0.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | L | R |
|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 39 | 31 | 57 | 97 |
| g / C, Green / Cycle | 0.39 | 0.31 | 0.57 | 0.97 |
| (v / s)_i Volume / Saturation Flow Rate | 0.26 | 0.26 | 0.48 | 0.26 |
| Total Saturation Flow Adjustment | 1.05 | 0.93 | 0.89 | 0.85 |
| s, saturation flow rate [veh/h] | 4000 | 3522 | 3384 | 1607 |
| c, Capacity [veh/h] | 1560 | 1092 | 1929 | 1559 |
| d1, Uniform Delay [s] | 24.98 | 32.34 | 17.65 | 0.06 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.16 | 8.41 | 4.47 | 0.42 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | |
|---|---|---|---|---|
| X, volume / capacity | 0.65 | 0.85 | 0.84 | 0.27 |
| d, Delay for Lane Group [s/veh] | 27.14 | 40.75 | 22.11 | 0.48 |
| Lane Group LOS | C | D | C | A |
| Critical Lane Group | no | yes | yes | yes |
| 50th-Percentile Queue Length [veh] | 14.12 | 16.30 | 23.90 | 1.08 |
| 50th-Percentile Queue Length [ft] | 353.05 | 407.49 | 597.59 | 27.07 |
| 95th-Percentile Queue Length [veh] | 23.43 | 26.70 | 38.45 | 2.60 |
| 95th-Percentile Queue Length [ft] | 585.83 | 667.62 | 961.16 | 65.12 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 27.14 | 40.75 | 0.00 | 22.11 | 0.48 |
| Movement LOS | | C | D | | C | A |
| d_A, Approach Delay [s/veh] | 27.14 | | 40.75 | | 17.66 | |
| Approach LOS | C | | D | | B | |
| d_I, Intersection Delay [s/veh] | 25.49 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 1.000 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 1 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#2: Marsh Rd/Rolison Rd-Scott Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 68.3 |
| Analysis Method: | HCM2000 | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.558 |

**Intersection Setup**

| Name | Marsh Road | | | Marsh Road | | | Scott Drive | | | Rolison Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Pocket Length [ft] | 155.00 | 100.00 | 100.00 | 350.00 | 100.00 | 100.00 | 60.00 | 100.00 | 35.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Marsh Road | | | Marsh Road | | | Scott Drive | | | Rolison Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 29 | 1083 | 4 | 66 | 1014 | 203 | 27 | 9 | 467 | 229 | 13 | 1 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 3.40 | 2.40 | 0.00 | 4.50 | 1.50 | 2.50 | 3.70 | 0.00 | 1.70 | 1.30 | 7.70 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 326 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 29 | 1083 | 4 | 66 | 1014 | 203 | 27 | 9 | 141 | 229 | 13 | 1 |
| Peak Hour Factor | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 7 | 276 | 1 | 17 | 259 | 52 | 7 | 2 | 36 | 58 | 3 | 0 |
| Total Analysis Volume [veh/h] | 30 | 1105 | 4 | 67 | 1035 | 207 | 28 | 9 | 144 | 234 | 13 | 1 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 2 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 1 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 140 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 27.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 1 | 6 | 0 | 0 | 3 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 4 | 10 | 0 | 4 | 10 | 0 | 0 | 6 | 0 | 0 | 4 | 0 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 3.0 | 4.0 | 0.0 | 3.0 | 4.0 | 0.0 | 0.0 | 3.2 | 0.0 | 0.0 | 3.2 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 14 | 50 | 0 | 12 | 48 | 0 | 0 | 41 | 0 | 0 | 37 | 0 |
| Vehicle Extension [s] | 2.5 | 3.5 | 0.0 | 2.0 | 3.5 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 8 | 0 | 0 | 8 | 0 |
| Pedestrian Clearance [s] | 0 | 21 | 0 | 0 | 21 | 0 | 0 | 28 | 0 | 0 | 24 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | yes | | no | yes | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 0.0 | 20.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | R | L | C |
|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 12 | 48 | 10 | 46 | 39 | 39 | 35 | 35 |
| g / C, Green / Cycle | 0.09 | 0.34 | 0.07 | 0.33 | 0.28 | 0.28 | 0.25 | 0.25 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02 | 0.22 | 0.02 | 0.36 | 0.02 | 0.05 | 0.13 | 0.01 |
| Total Saturation Flow Adjustment | 0.92 | 0.89 | 0.88 | 0.91 | 0.96 | 0.74 | 0.94 | 0.92 |
| s, saturation flow rate [veh/h] | 1746 | 5052 | 3354 | 3468 | 1831 | 2811 | 1782 | 1745 |
| c, Capacity [veh/h] | 150 | 1732 | 240 | 1140 | 510 | 783 | 445 | 436 |
| d1, Uniform Delay [s] | 59.54 | 38.73 | 61.59 | 47.00 | 37.18 | 38.40 | 45.33 | 39.69 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.99 | 1.83 | 2.89 | 54.65 | 0.28 | 0.52 | 4.38 | 0.14 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

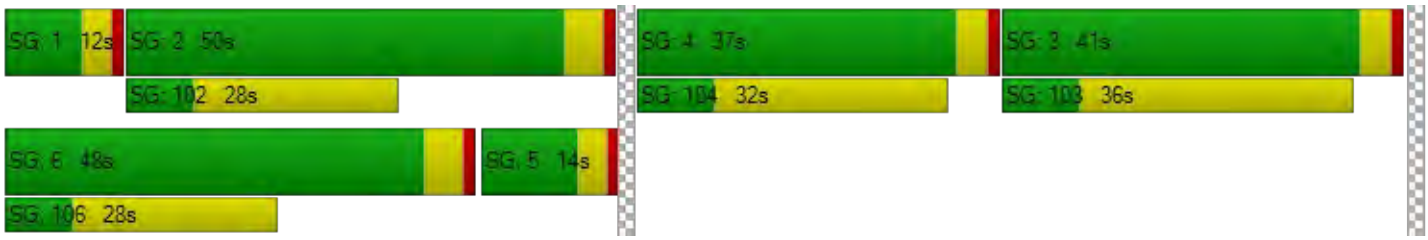
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.20 | 0.64 | 0.28 | 1.09 | 0.07 | 0.18 | 0.53 | 0.03 |
| d, Delay for Lane Group [s/veh] | 62.53 | 40.56 | 64.48 | 101.65 | 37.46 | 38.92 | 49.71 | 39.83 |
| Lane Group LOS | E | D | E | F | D | D | D | D |
| Critical Lane Group | yes | no | no | yes | no | yes | yes | no |
| 50th-Percentile Queue Length [veh] | 1.19 | 15.22 | 1.41 | 38.73 | 1.14 | 2.60 | 8.80 | 0.44 |
| 50th-Percentile Queue Length [ft] | 29.70 | 380.58 | 35.23 | 968.16 | 28.38 | 65.08 | 220.02 | 11.01 |
| 95th-Percentile Queue Length [veh] | 2.84 | 25.08 | 3.32 | 61.98 | 2.72 | 5.71 | 15.60 | 1.11 |
| 95th-Percentile Queue Length [ft] | 70.93 | 627.05 | 82.94 | 1549.48 | 68.03 | 142.79 | 389.88 | 27.70 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 62.53 | 40.56 | 40.56 | 64.48 | 101.65 | 101.65 | 37.46 | 37.46 | 38.92 | 49.71 | 39.83 | 39.83 |
| Movement LOS | E | D | D | E | F | F | D | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 41.14 | | | 99.74 | | | 38.62 | | | 49.15 | | |
| Approach LOS | D | | | F | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 68.34 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.558 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#3: Marsh Rd/Florence St-Bohannon Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 79.4 |
| Analysis Method: | HCM2000 | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.699 |

**Intersection Setup**

| Name | Marsh Road | | | Marsh Road | | | Florence Street | | | Bohannon Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 145.00 | 100.00 | 100.00 | 135.00 | 100.00 | 100.00 | 155.00 | 100.00 | 100.00 | 90.00 | 100.00 | 100.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Marsh Road | | | Marsh Road | | | Florence Street | | | Bohannon Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 185 | 720 | 84 | 30 | 697 | 377 | 475 | 15 | 130 | 98 | 41 | 72 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.70 | 3.20 | 6.00 | 6.70 | 2.20 | 4.00 | 2.50 | 0.00 | 0.80 | 4.10 | 0.00 | 6.90 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 174 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 185 | 720 | 84 | 30 | 697 | 377 | 475 | 15 | 0 | 98 | 41 | 72 |
| Peak Hour Factor | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 51 | 198 | 23 | 8 | 191 | 104 | 130 | 4 | 0 | 27 | 11 | 20 |
| Total Analysis Volume [veh/h] | 203 | 791 | 92 | 33 | 766 | 414 | 522 | 16 | 0 | 108 | 45 | 79 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 16 | | | 1 | | | 7 | | | 3 | | |
| Bicycle Volume [bicycles/h] | 3 | | | 1 | | | 1 | | | 4 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 140 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 31.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 4 | 3 | 4 | 8 | 4 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lag | - | - | Lag | - | - | - | - | - |
| Minimum Green [s] | 4 | 12 | 12 | 4 | 12 | 12 | 8 | 8 | 8 | 0 | 8 | 0 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 3.0 | 3.6 | 3.6 | 3.0 | 3.6 | 3.6 | 3.2 | 3.0 | 3.2 | 0.0 | 3.2 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 22 | 55 | 55 | 12 | 45 | 45 | 37 | 36 | 37 | 0 | 37 | 0 |
| Vehicle Extension [s] | 2.0 | 5.0 | 5.0 | 2.0 | 5.0 | 5.0 | 2.5 | 2.5 | 2.5 | 0.0 | 2.5 | 0.0 |
| Walk [s] | 0 | 7 | 7 | 0 | 7 | 7 | 7 | 7 | 7 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 19 | 19 | 0 | 16 | 16 | 25 | 25 | 25 | 0 | 25 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | yes | | no | yes | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | R | L | C |
|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 20 | 53 | 10 | 43 | 34 | 34 | 35 | 35 |
| g / C, Green / Cycle | 0.14 | 0.38 | 0.07 | 0.31 | 0.24 | 0.24 | 0.25 | 0.25 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.26 | 0.02 | 0.35 | 0.16 | 0.00 | 0.06 | 0.07 |
| Total Saturation Flow Adjustment | 0.93 | 0.91 | 0.89 | 0.88 | 0.91 | 0.84 | 0.91 | 0.90 |
| s, saturation flow rate [veh/h] | 1758 | 3446 | 1692 | 3329 | 3450 | 1602 | 1734 | 1703 |
| c, Capacity [veh/h] | 251 | 1304 | 121 | 1023 | 838 | 389 | 433 | 426 |
| d1, Uniform Delay [s] | 58.14 | 36.35 | 61.56 | 48.50 | 47.54 | 40.13 | 41.99 | 42.47 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 23.73 | 2.84 | 5.50 | 80.62 | 3.77 | 0.00 | 1.37 | 1.73 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

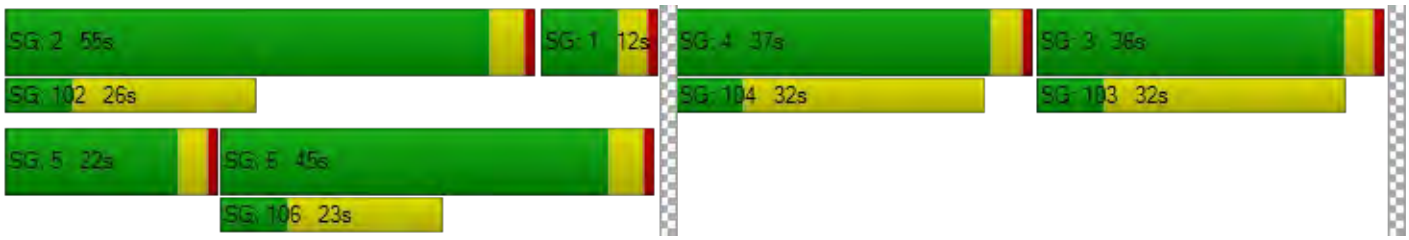
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.81 | 0.68 | 0.27 | 1.15 | 0.64 | 0.00 | 0.25 | 0.29 |
| d, Delay for Lane Group [s/veh] | 81.88 | 39.18 | 67.06 | 129.12 | 51.31 | 40.13 | 43.36 | 44.20 |
| Lane Group LOS | F | D | E | F | D | D | D | D |
| Critical Lane Group | yes | no | no | yes | yes | no | no | yes |
| 50th-Percentile Queue Length [veh] | 9.55 | 17.38 | 1.35 | 39.50 | 11.32 | 0.00 | 3.64 | 4.25 |
| 50th-Percentile Queue Length [ft] | 238.71 | 434.47 | 33.67 | 987.57 | 282.99 | 0.00 | 91.12 | 106.23 |
| 95th-Percentile Queue Length [veh] | 16.69 | 28.34 | 3.18 | 63.22 | 19.29 | 0.00 | 7.59 | 8.62 |
| 95th-Percentile Queue Length [ft] | 417.29 | 708.59 | 79.60 | 1580.48 | 482.20 | 0.00 | 189.75 | 215.39 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 81.88 | 39.18 | 39.18 | 67.06 | 129.12 | 129.12 | 51.31 | 51.31 | 40.13 | 43.36 | 44.20 | 44.20 |
| Movement LOS | F | D | D | E | F | F | D | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 47.16 | | | 127.43 | | | 51.31 | | | 43.81 | | |
| Approach LOS | D | | | F | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 79.36 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.699 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#4: Marsh Rd/Bay Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 26.2 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.584 |

**Intersection Setup**

| Name | Marsh Road | | | Marsh Road | | | Bay Road | | | Bay Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 260.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 25.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | no | | | yes | | | yes | | | no | | |

**Volumes**

| Name | Marsh Road | | | Marsh Road | | | Bay Road | | | Bay Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 681 | 108 | 194 | 841 | 54 | 45 | 29 | 6 | 84 | 18 | 143 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 2.30 | 0.90 | 1.00 | 1.00 | 0.00 | 2.20 | 6.90 | 0.00 | 1.20 | 0.00 | 2.80 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 681 | 108 | 194 | 841 | 54 | 45 | 29 | 6 | 84 | 18 | 143 |
| Peak Hour Factor | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 193 | 31 | 55 | 239 | 15 | 13 | 8 | 2 | 24 | 5 | 41 |
| Total Analysis Volume [veh/h] | 2 | 774 | 123 | 220 | 956 | 61 | 51 | 33 | 7 | 95 | 20 | 163 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 7 | | | 7 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 1 | | | 7 | | | 7 | | | 11 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 140 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 33.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 6 | 2 | 5 | 2 | 6 | 4 | 4 | 4 | 8 | 4 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lag | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 6 | 4 | 6 | 6 | 6 | 6 | 6 | 0 | 6 | 0 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 3.6 | 3.6 | 3.6 | 3.1 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 0.0 | 3.6 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 107 | 74 | 107 | 33 | 107 | 74 | 33 | 33 | 33 | 0 | 33 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 2.0 | 3.0 | 3.0 | 3.6 | 3.6 | 3.6 | 0.0 | 3.6 | 0.0 |
| Walk [s] | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 7 | 7 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 12 | 0 | 12 | 0 | 12 | 0 | 20 | 20 | 20 | 0 | 20 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | no | no | | | no | | | no | |
| Maximum Recall | | yes | | no | yes | | | no | | | no | |
| Pedestrian Recall | | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | L | C | C | C |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 2.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 72 | 31 | 105 | 31 | 31 |
| g / C, Green / Cycle | 0.51 | 0.22 | 0.75 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.27 | 0.12 | 0.29 | 0.08 | 0.19 |
| Total Saturation Flow Adjustment | 0.87 | 0.94 | 0.93 | 0.60 | 0.77 |
| s, saturation flow rate [veh/h] | 3304 | 1787 | 3548 | 1137 | 1472 |
| c, Capacity [veh/h] | 1699 | 396 | 2661 | 252 | 326 |
| d1, Uniform Delay [s] | 22.69 | 48.39 | 6.13 | 46.12 | 52.31 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.18 | 5.54 | 0.42 | 3.99 | 23.60 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

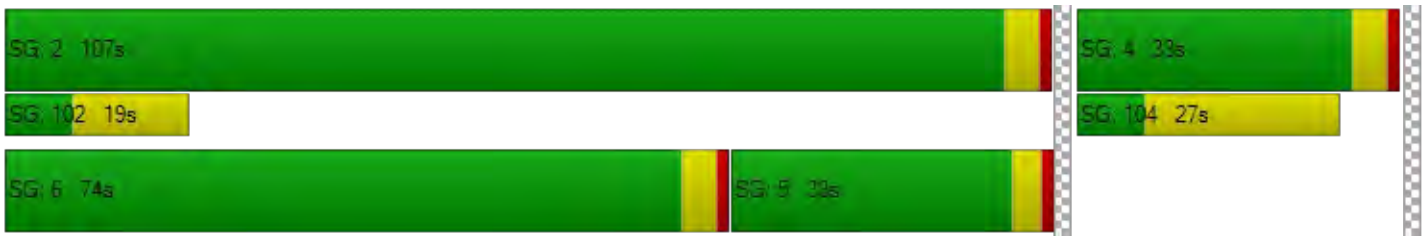
| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.53 | 0.56 | 0.38 | 0.36 | 0.85 |
| d, Delay for Lane Group [s/veh] | 23.87 | 53.93 | 6.55 | 50.11 | 75.91 |
| Lane Group LOS | C | D | A | D | E |
| Critical Lane Group | yes | yes | no | no | yes |
| 50th-Percentile Queue Length [veh] | 13.82 | 8.57 | 8.48 | 3.32 | 13.18 |
| 50th-Percentile Queue Length [ft] | 345.50 | 214.28 | 212.08 | 83.12 | 329.52 |
| 95th-Percentile Queue Length [veh] | 22.98 | 15.26 | 15.13 | 7.03 | 22.03 |
| 95th-Percentile Queue Length [ft] | 574.58 | 381.44 | 378.20 | 175.74 | 550.84 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 23.87 | 23.87 | 23.87 | 53.93 | 6.55 | 6.55 | 50.11 | 50.11 | 50.11 | 75.91 | 75.91 | 75.91 |
| Movement LOS | C | C | C | D | A | A | D | D | D | E | E | E |
| d_A, Approach Delay [s/veh] | 23.87 | | | 14.98 | | | 50.11 | | | 75.91 | | |
| Approach LOS | C | | | B | | | D | | | E | | |
| d_I, Intersection Delay [s/veh] | 26.21 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.584 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#9: Middlefield Rd/Ravenswood Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 139.1 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.628 |

**Intersection Setup**

| Name | Ravenswood Avenue | | Middlefield Road | | Middlefield Road | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Northwestbound | | Southeastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 1 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 120.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | no | |

**Volumes**

| Name | Ravenswood Avenue | | Middlefield Road | | Middlefield Road | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 199 | 610 | 457 | 673 | 357 | 60 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.10 | 1.30 | 0.60 | 1.40 | 6.70 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 1000 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 199 | 0 | 457 | 673 | 357 | 60 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 52 | 0 | 120 | 177 | 94 | 16 |
| Total Analysis Volume [veh/h] | 209 | 0 | 481 | 708 | 376 | 63 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 6 | | 13 | | 0 | |
| Bicycle Volume [bicycles/h] | 9 | | 26 | | 13 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 160 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 3 | 2 | 1 | 6 | 2 | 4 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 4 | 10 | 4 | 10 | 10 | 0 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 3.2 | 3.6 | 3.0 | 3.6 | 3.6 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 80 | 53 | 27 | 80 | 53 | 0 |
| Vehicle Extension [s] | 2.5 | 3.6 | 3.0 | 3.6 | 3.6 | 0.0 |
| Walk [s] | 7 | 7 | 0 | 7 | 7 | 0 |
| Pedestrian Clearance [s] | 12 | 12 | 0 | 12 | 12 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | | no | no | no | |
| Maximum Recall | no | | no | yes | yes | |
| Pedestrian Recall | no | | no | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 78 | 78 | 25 | 78 | 51 |
| g / C, Green / Cycle | 0.49 | 0.49 | 0.16 | 0.49 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.00 | 0.27 | 0.37 | 0.24 |
| Total Saturation Flow Adjustment | 0.93 | 0.83 | 0.94 | 0.99 | 0.96 |
| s, saturation flow rate [veh/h] | 1770 | 1582 | 1782 | 1889 | 1832 |
| c, Capacity [veh/h] | 863 | 771 | 278 | 921 | 584 |
| d1, Uniform Delay [s] | 23.83 | 21.01 | 67.50 | 33.61 | 48.83 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.67 | 0.00 | 342.14 | 6.14 | 8.66 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

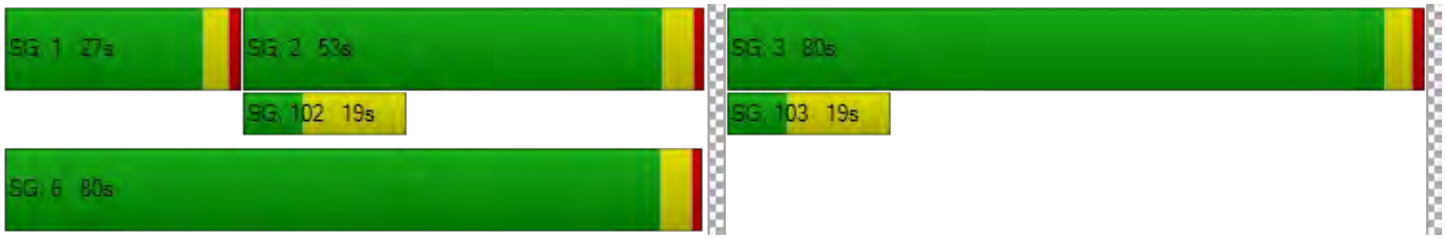
| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.24 | 0.00 | 1.73 | 0.77 | 0.75 |
| d, Delay for Lane Group [s/veh] | 24.49 | 21.01 | 409.64 | 39.76 | 57.49 |
| Lane Group LOS | C | C | F | D | E |
| Critical Lane Group | yes | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 5.89 | 0.00 | 48.26 | 30.38 | 20.52 |
| 50th-Percentile Queue Length [ft] | 147.20 | 0.00 | 1206.56 | 759.40 | 513.00 |
| 95th-Percentile Queue Length [veh] | 11.23 | 0.00 | 77.22 | 48.67 | 33.17 |
| 95th-Percentile Queue Length [ft] | 280.85 | 0.00 | 1930.58 | 1216.79 | 829.27 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 24.49 | 21.01 | 409.64 | 39.76 | 57.49 | 57.49 |
| Movement LOS | C | C | F | D | E | E |
| d_A, Approach Delay [s/veh] | 24.49 | | 189.39 | | 57.49 | |
| Approach LOS | C | | F | | E | |
| d_I, Intersection Delay [s/veh] | 139.11 | | | | | |
| Intersection LOS | F | | | | | |
| Intersection V/C | 0.628 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#10: Middlefield Rd/Ringwood Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 110.3 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.637 |

**Intersection Setup**

| Name | D Street | | | Ringwood Avenue | | | Middlefield Road | | | Middlefield Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Pocket Length [ft] | 30.00 | 100.00 | 100.00 | 100.00 | 100.00 | 250.00 | 175.00 | 100.00 | 100.00 | 125.00 | 100.00 | 100.00 |
| Speed [mph] | 20.00 | | | 30.00 | | | 35.00 | | | 35.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | D Street | | | Ringwood Avenue | | | Middlefield Road | | | Middlefield Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 58 | 70 | 38 | 63 | 1 | 272 | 10 | 775 | 97 | 379 | 568 | 5 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.70 | 0.00 | 0.00 | 0.00 | 0.00 | 2.20 | 0.00 | 1.70 | 0.00 | 2.10 | 1.80 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 57 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 58 | 70 | 38 | 63 | 1 | 264 | 10 | 775 | 40 | 379 | 568 | 5 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 15 | 18 | 10 | 17 | 0 | 69 | 3 | 204 | 11 | 100 | 149 | 1 |
| Total Analysis Volume [veh/h] | 61 | 74 | 40 | 66 | 1 | 278 | 11 | 816 | 42 | 399 | 598 | 5 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 8 | | | 14 | | | 5 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 14 | | | 14 | | | 17 | | | 16 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 160 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 58.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 8 | 2 | 6 | 8 | 6 | 5 | 2 | 8 | 1 | 6 | 4 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 10 | 6 | 10 | 10 | 6 | 10 | 4 | 10 | 6 | 4 | 10 | 0 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 3.6 | 3.2 | 3.6 | 3.6 | 3.2 | 3.6 | 3.5 | 3.6 | 3.2 | 3.0 | 3.6 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 53 | 25 | 53 | 80 | 25 | 80 | 55 | 53 | 25 | 27 | 80 | 0 |
| Vehicle Extension [s] | 3.6 | 2.9 | 3.6 | 3.6 | 2.9 | 3.6 | 3.0 | 3.6 | 2.9 | 3.0 | 3.6 | 0.0 |
| Walk [s] | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 7 | 7 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 12 | 21 | 12 | 12 | 21 | 12 | 0 | 12 | 21 | 0 | 12 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | yes | | no | yes | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | C | R | L | C | R | L | C |
|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 23 | 23 | 23 | 23 | 53 | 51 | 51 | 25 | 78 |
| g / C, Green / Cycle | 0.14 | 0.14 | 0.14 | 0.14 | 0.33 | 0.31 | 0.31 | 0.15 | 0.48 |
| (v / s)_i Volume / Saturation Flow Rate | 0.05 | 0.06 | 0.07 | 0.18 | 0.01 | 0.23 | 0.03 | 0.23 | 0.17 |
| Total Saturation Flow Adjustment | 0.59 | 0.93 | 0.51 | 0.81 | 0.95 | 0.94 | 0.82 | 0.93 | 0.93 |
| s, saturation flow rate [veh/h] | 1115 | 1776 | 971 | 1531 | 1805 | 3557 | 1562 | 1768 | 3549 |
| c, Capacity [veh/h] | 157 | 251 | 137 | 216 | 587 | 1113 | 489 | 271 | 1698 |
| d1, Uniform Delay [s] | 63.60 | 64.25 | 64.58 | 70.00 | 37.34 | 49.93 | 39.54 | 69.00 | 26.70 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 7.06 | 5.86 | 11.97 | 159.32 | 0.06 | 4.29 | 0.35 | 231.20 | 0.58 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

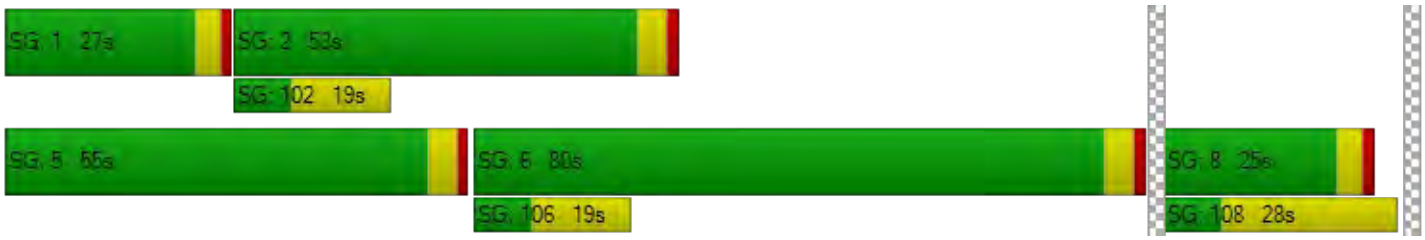
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.39 | 0.46 | 0.49 | 1.29 | 0.02 | 0.73 | 0.09 | 1.47 | 0.36 |
| d, Delay for Lane Group [s/veh] | 70.66 | 70.11 | 76.55 | 229.32 | 37.40 | 54.22 | 39.89 | 300.20 | 27.28 |
| Lane Group LOS | E | E | E | F | D | D | D | F | C |
| Critical Lane Group | no | no | no | yes | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 2.80 | 5.27 | 3.19 | 22.42 | 0.36 | 20.15 | 1.44 | 35.98 | 9.88 |
| 50th-Percentile Queue Length [ft] | 70.07 | 131.73 | 79.83 | 560.59 | 9.02 | 503.81 | 36.03 | 899.51 | 246.93 |
| 95th-Percentile Queue Length [veh] | 6.08 | 10.27 | 6.80 | 36.13 | 0.91 | 32.60 | 3.39 | 57.60 | 17.17 |
| 95th-Percentile Queue Length [ft] | 152.11 | 256.70 | 169.88 | 903.27 | 22.83 | 815.04 | 84.65 | 1439.89 | 429.34 |

**Movement, Approach, & Intersection Results**

| d_M, Delay for Movement [s/veh] | 70.66 | 70.11 | 70.11 | 76.55 | 76.55 | 229.32 | 37.40 | 54.22 | 39.89 | 300.20 | 27.28 | 27.28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | E | E | E | E | E | F | D | D | D | F | C | C |
| d_A, Approach Delay [s/veh] | 70.30 | | | 199.65 | | | 53.32 | | | 135.96 | | |
| Approach LOS | E | | | F | | | D | | | F | | |
| d_I, Intersection Delay [s/veh] | 110.31 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |
| Intersection V/C | 0.637 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#15: Bayfront Expy (SR 84)/University Ave (SR 109)**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 119.7 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.217 |

**Intersection Setup**

| Name | Bayfront Expressway (SR84) | | Bayfront Expressway (SR84) | | University Avenue (SR109) | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Northwestbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 1 | 2 | 0 | 1 | 2 |
| Pocket Length [ft] | 100.00 | 430.00 | 830.00 | 100.00 | 175.00 | 1000.00 |
| Speed [mph] | 55.00 | | 55.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | no | | yes | | yes | |

**Volumes**

| Name | Bayfront Expressway (SR84) | | Bayfront Expressway (SR84) | | University Avenue (SR109) | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 3800 | 62 | 304 | 813 | 78 | 1577 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.40 | 16.10 | 4.90 | 3.80 | 9.00 | 1.50 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 3800 | 62 | 304 | 813 | 78 | 1577 |
| Peak Hour Factor | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 969 | 16 | 78 | 207 | 20 | 402 |
| Total Analysis Volume [veh/h] | 3878 | 63 | 310 | 830 | 80 | 1609 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 8 | |
| Bicycle Volume [bicycles/h] | 1 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 160 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Protected | Permissive | Protected | Overlap |
|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 1 | 6 | 4 | 1 |
| Auxiliary Signal Groups | | | | | | 1,4 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 8 | 4 |
| Maximum Green [s] | 16 | 16 | 4 | 24 | 16 | 4 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 100 | 100 | 48 | 148 | 12 | 48 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 0 | 1 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | | no | no | no | no |
| Maximum Recall | no | | no | no | no | no |
| Pedestrian Recall | no | | no | no | no | no |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 20.0 | 6.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | L | C | L | R |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 96 | 96 | 44 | 144 | 8 | 56 |
| g / C, Green / Cycle | 0.60 | 0.60 | 0.28 | 0.90 | 0.05 | 0.35 |
| (v / s)_i Volume / Saturation Flow Rate | 0.77 | 0.05 | 0.09 | 0.17 | 0.02 | 0.38 |
| Total Saturation Flow Adjustment | 0.89 | 0.73 | 0.88 | 0.87 | 0.85 | 0.74 |
| s, saturation flow rate [veh/h] | 5054 | 1391 | 3342 | 4986 | 3216 | 4224 |
| c, Capacity [veh/h] | 3033 | 835 | 919 | 4488 | 161 | 1479 |
| d1, Uniform Delay [s] | 32.00 | 13.41 | 46.35 | 0.96 | 74.04 | 52.00 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 128.12 | 0.18 | 0.99 | 0.09 | 10.59 | 51.32 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 1.28 | 0.08 | 0.34 | 0.18 | 0.50 | 1.09 |
| d, Delay for Lane Group [s/veh] | 160.12 | 13.58 | 47.34 | 1.05 | 84.63 | 103.32 |
| Lane Group LOS | F | B | D | A | F | F |
| Critical Lane Group | yes | no | no | no | no | yes |
| 50th-Percentile Queue Length [veh] | 109.20 | 1.30 | 6.18 | 2.17 | 2.06 | 39.77 |
| 50th-Percentile Queue Length [ft] | 2730.11 | 32.40 | 154.45 | 54.32 | 51.61 | 994.25 |
| 95th-Percentile Queue Length [veh] | 174.73 | 3.07 | 11.68 | 4.88 | 4.67 | 63.65 |
| 95th-Percentile Queue Length [ft] | 4368.18 | 76.84 | 292.02 | 122.09 | 116.73 | 1591.14 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 160.12 | 13.58 | 47.34 | 1.05 | 84.63 | 103.32 |
| Movement LOS | F | B | D | A | F | F |
| d_A, Approach Delay [s/veh] | 157.77 | | 13.64 | | 102.43 | |
| Approach LOS | F | | B | | F | |
| d_I, Intersection Delay [s/veh] | 119.70 | | | | | |
| Intersection LOS | F | | | | | |
| Intersection V/C | 1.217 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#16: Bayfront Expy (SR 84)/Willow Rd (SR 114)**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 48.4 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.901 |

**Intersection Setup**

| Name | Willow Road (SR 114) | | | Willow Road | | | Ba Ex | | | Ba Ex | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 3 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 0 |
| Pocket Length [ft] | 265.00 | 100.00 | 100.00 | 45.00 | 100.00 | 80.00 | 165.00 | 100.00 | 140.00 | 1000.00 | 100.00 | 100.00 |
| Speed [mph] | 40.00 | | | 20.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | no | | | yes | | | no | | |

**Volumes**

| Name | Willow Road (SR 114) | | | Willow Road | | | Ba Ex | | | Ba Ex | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 24 | 46 | 1404 | 116 | 191 | 116 | 35 | 2362 | 75 | 359 | 675 | 10 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 4.20 | 10.90 | 3.30 | 4.30 | 1.00 | 1.70 | 37.10 | 2.50 | 12.00 | 6.40 | 5.30 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | -300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 70 | 0 | 0 | 45 | 0 | 0 | 1 |
| Total Hourly Volume [veh/h] | 24 | 46 | 1104 | 116 | 191 | 46 | 35 | 2362 | 30 | 359 | 675 | 9 |
| Peak Hour Factor | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 6 | 12 | 282 | 30 | 49 | 12 | 9 | 603 | 8 | 92 | 172 | 2 |
| Total Analysis Volume [veh/h] | 24 | 47 | 1127 | 118 | 195 | 47 | 36 | 2410 | 31 | 366 | 689 | 9 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 1 | | | 0 | | | 7 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 7 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Overlap | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 8 | 8 | 1 | 4 | 4 | 4 | 5 | 2 | 2 | 1 | 6 | 6 |
| Auxiliary Signal Groups | | | 1,8 | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 4 | 16 | 16 | 16 | 4 | 16 | 16 | 4 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 19 | 19 | 32 | 21 | 21 | 21 | 15 | 58 | 58 | 32 | 75 | 75 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | no | | no | | no | no | | no | no | |
| Maximum Recall | | no | no | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | no | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 2.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 0.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 47 | 17 | 17 | 17 | 11 | 54 | 54 | 28 | 71 | 71 |
| g / C, Green / Cycle | 0.12 | 0.12 | 0.36 | 0.13 | 0.13 | 0.13 | 0.08 | 0.42 | 0.42 | 0.22 | 0.55 | 0.55 |
| (v / s)_i Volume / Saturation Flow Rate | 0.01 | 0.02 | 0.34 | 0.07 | 0.05 | 0.03 | 0.01 | 0.41 | 0.02 | 0.11 | 0.12 | 0.01 |
| Total Saturation Flow Adjustment | 0.91 | 0.64 | 0.88 | 0.91 | 0.94 | 0.84 | 0.67 | 1.03 | 0.76 | 0.87 | 1.03 | 0.85 |
| s, saturation flow rate [veh/h] | 1732 | 2432 | 3343 | 1731 | 3582 | 1588 | 2557 | 5846 | 1442 | 3294 | 5846 | 1615 |
| c, Capacity [veh/h] | 200 | 281 | 1209 | 226 | 468 | 208 | 216 | 2428 | 599 | 710 | 3193 | 882 |
| d1, Uniform Delay [s] | 51.58 | 51.87 | 39.97 | 52.71 | 51.94 | 50.61 | 55.24 | 37.80 | 22.70 | 45.02 | 15.18 | 13.46 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.23 | 1.29 | 14.06 | 8.34 | 2.71 | 2.52 | 1.65 | 16.57 | 0.16 | 2.67 | 0.16 | 0.02 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| X, volume / capacity | 0.12 | 0.17 | 0.93 | 0.52 | 0.42 | 0.23 | 0.17 | 0.99 | 0.05 | 0.52 | 0.22 | 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d, Delay for Lane Group [s/veh] | 52.81 | 53.15 | 54.03 | 61.05 | 54.65 | 53.13 | 56.90 | 54.37 | 22.87 | 47.69 | 15.33 | 13.48 |
| Lane Group LOS | D | D | D | E | D | D | E | D | C | D | B | B |
| Critical Lane Group | no | no | yes | yes | no | no | no | yes | no | no | no | no |
| 50th-Percentile Queue Length [veh] | 0.84 | 0.88 | 29.18 | 4.52 | 3.79 | 1.66 | 0.68 | 43.64 | 0.73 | 6.76 | 5.15 | 0.16 |
| 50th-Percentile Queue Length [ft] | 21.06 | 22.04 | 729.51 | 113.04 | 94.66 | 41.58 | 17.12 | 1091.08 | 18.13 | 168.99 | 128.79 | 4.06 |
| 95th-Percentile Queue Length [veh] | 2.06 | 2.15 | 46.77 | 9.07 | 7.83 | 3.85 | 1.69 | 69.84 | 1.79 | 12.56 | 10.08 | 0.42 |
| 95th-Percentile Queue Length [ft] | 51.50 | 53.74 | 1169.35 | 226.63 | 195.84 | 96.34 | 42.31 | 1745.91 | 44.68 | 314.11 | 252.04 | 10.42 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 52.81 | 53.15 | 54.03 | 61.05 | 54.65 | 53.13 | 56.90 | 54.37 | 22.87 | 47.69 | 15.33 | 13.48 |
| Movement LOS | D | D | D | E | D | D | E | D | C | D | B | B |
| d_A, Approach Delay [s/veh] | 53.97 | | | 56.55 | | | 54.01 | | | 26.45 | | |
| Approach LOS | D | | | E | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 48.43 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.901 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | 8 | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#17: Willow Rd (SR 114)/Hamilton Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 29.2 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.665 |

**Intersection Setup**

| Name | Willow Road (SR 114) | | | Willow Road (SR 114) | | | Hamilton Avenue | | | Hamilton Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 190.00 | 100.00 | 100.00 | 115.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 40.00 | | | 30.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road (SR 114) | | | Willow Road (SR 114) | | | Hamilton Avenue | | | Hamilton Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 50 | 1299 | 3 | 13 | 623 | 30 | 163 | 15 | 39 | 139 | 17 | 61 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 3.50 | 33.30 | 7.70 | 3.50 | 0.00 | 0.60 | 26.70 | 5.10 | 0.70 | 5.90 | 1.60 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 50 | 1299 | 3 | 13 | 623 | 30 | 163 | 15 | 39 | 139 | 17 | 61 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 13 | 335 | 1 | 3 | 161 | 8 | 42 | 4 | 10 | 36 | 4 | 16 |
| Total Analysis Volume [veh/h] | 52 | 1339 | 3 | 13 | 642 | 31 | 168 | 15 | 40 | 143 | 18 | 63 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 3 | | | 1 | | | 5 | | | 3 | | |
| Bicycle Volume [bicycles/h] | 4 | | | 12 | | | 3 | | | 3 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 4 | 4 | 4 | 8 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 4 | 16 | 16 | 4 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 26 | 88 | 88 | 8 | 70 | 70 | 34 | 34 | 34 | 34 | 34 | 34 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | no | | no | no | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | C |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 22 | 84 | 4 | 66 | 30 | 30 |
| g / C, Green / Cycle | 0.17 | 0.65 | 0.03 | 0.51 | 0.23 | 0.23 |
| (v / s)_i Volume / Saturation Flow Rate | 0.03 | 0.38 | 0.01 | 0.19 | 0.23 | 0.17 |
| Total Saturation Flow Adjustment | 0.93 | 0.92 | 0.88 | 0.91 | 0.52 | 0.68 |
| s, saturation flow rate [veh/h] | 1770 | 3494 | 1676 | 3471 | 981 | 1295 |
| c, Capacity [veh/h] | 299 | 2258 | 52 | 1762 | 226 | 299 |
| d1, Uniform Delay [s] | 46.22 | 13.21 | 61.54 | 19.54 | 49.78 | 46.51 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.26 | 1.16 | 11.38 | 0.63 | 56.19 | 15.83 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.17 | 0.59 | 0.25 | 0.38 | 0.99 | 0.75 |
| d, Delay for Lane Group [s/veh] | 47.48 | 14.37 | 72.92 | 20.17 | 105.97 | 62.34 |
| Lane Group LOS | D | B | E | C | F | E |
| Critical Lane Group | no | yes | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 1.74 | 16.97 | 0.52 | 8.65 | 11.63 | 9.14 |
| 50th-Percentile Queue Length [ft] | 43.50 | 424.25 | 13.01 | 216.24 | 290.79 | 228.60 |
| 95th-Percentile Queue Length [veh] | 4.01 | 27.72 | 1.30 | 15.37 | 19.75 | 16.10 |
| 95th-Percentile Queue Length [ft] | 100.32 | 693.05 | 32.53 | 384.33 | 493.66 | 402.47 |

**Movement, Approach, & Intersection Results**

| d_M, Delay for Movement [s/veh] | 47.48 | 14.37 | 14.37 | 72.92 | 20.17 | 20.17 | 105.97 | 105.97 | 105.97 | 62.34 | 62.34 | 62.34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | D | B | B | E | C | C | F | F | F | E | E | E |
| d_A, Approach Delay [s/veh] | 15.61 | | | 21.17 | | | 105.97 | | | 62.34 | | |
| Approach LOS | B | | | C | | | F | | | E | | |
| d_I, Intersection Delay [s/veh] | 29.24 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.665 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#18: Willow Rd (SR 114)/Ivy Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 14.4 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.552 |

**Intersection Setup**

| Name | Willow Road (SR 114) | | Willow Road (SR 114) | | Ivy Drive | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Eastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 85.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 40.00 | | 40.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Willow Road (SR 114) | | Willow Road (SR 114) | | Ivy Drive | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 68 | 1339 | 885 | 15 | 33 | 141 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.50 | 3.30 | 2.80 | 0.00 | 0.00 | 2.10 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 68 | 1339 | 885 | 15 | 33 | 141 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 18 | 352 | 233 | 4 | 9 | 37 |
| Total Analysis Volume [veh/h] | 72 | 1409 | 932 | 16 | 35 | 148 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 12 | | 23 | | 13 | |
| Bicycle Volume [bicycles/h] | 7 | | 6 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 6 | 6 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lag | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 4 | 24 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 21 | 109 | 88 | 88 | 21 | 21 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | no | | no | |
| Maximum Recall | no | no | no | | no | |
| Pedestrian Recall | no | no | no | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 6.0 | 6.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | C | C |
|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 17 | 105 | 84 | 17 |
| g / C, Green / Cycle | 0.13 | 0.81 | 0.65 | 0.13 |
| (v / s)_i Volume / Saturation Flow Rate | 0.04 | 0.40 | 0.27 | 0.11 |
| Total Saturation Flow Adjustment | 0.94 | 0.92 | 0.92 | 0.86 |
| s, saturation flow rate [veh/h] | 1778 | 3502 | 3510 | 1642 |
| c, Capacity [veh/h] | 233 | 2829 | 2268 | 215 |
| d1, Uniform Delay [s] | 51.18 | 4.02 | 11.15 | 55.27 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.43 | 0.63 | 0.57 | 32.48 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | |
|---|---|---|---|---|
| X, volume / capacity | 0.31 | 0.50 | 0.42 | 0.85 |
| d, Delay for Lane Group [s/veh] | 54.62 | 4.65 | 11.72 | 87.75 |
| Lane Group LOS | D | A | B | F |
| Critical Lane Group | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 2.59 | 10.49 | 9.90 | 8.41 |
| 50th-Percentile Queue Length [ft] | 64.78 | 262.37 | 247.48 | 210.29 |
| 95th-Percentile Queue Length [veh] | 5.69 | 18.08 | 17.21 | 15.02 |
| 95th-Percentile Queue Length [ft] | 142.23 | 451.95 | 430.14 | 375.57 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 54.62 | 4.65 | 11.72 | 11.72 | 87.75 | 87.75 |
| Movement LOS | D | A | B | B | F | F |
| d_A, Approach Delay [s/veh] | 7.08 | | 11.72 | | 87.75 | |
| Approach LOS | A | | B | | F | |
| d_I, Intersection Delay [s/veh] | 14.42 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.552 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#19: Willow Rd (SR 114)/O'Brien Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 16.1 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.568 |

**Intersection Setup**

| Name | Willow Road (SR 114) | | Willow Road (SR 114) | | O'Brien Drive | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 1 | 1 | 0 | 1 | 0 |
| Pocket Length [ft] | 100.00 | 60.00 | 100.00 | 100.00 | 50.00 | 100.00 |
| Speed [mph] | 40.00 | | 40.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | no | | no | | yes | |

**Volumes**

| Name | Willow Road (SR 114) | | Willow Road (SR 114) | | O'Brien Drive | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 1368 | 217 | 72 | 966 | 218 | 44 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.90 | 6.50 | 2.80 | 2.70 | 1.80 | 6.80 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1368 | 217 | 72 | 966 | 218 | 44 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 353 | 56 | 19 | 249 | 56 | 11 |
| Total Analysis Volume [veh/h] | 1410 | 224 | 74 | 996 | 225 | 45 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 3 | |
| Bicycle Volume [bicycles/h] | 6 | | 9 | | 3 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Protected | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 1 | 6 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | Lead | - | Lag | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 4 | 24 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 100 | 100 | 9 | 109 | 21 | 21 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 0 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | | no | no | no | |
| Maximum Recall | no | | no | no | no | |
| Pedestrian Recall | no | | no | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 20.0 | 6.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | L | C | C |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 96 | 96 | 5 | 105 | 17 |
| g / C, Green / Cycle | 0.74 | 0.74 | 0.04 | 0.81 | 0.13 |
| (v / s)_i Volume / Saturation Flow Rate | 0.40 | 0.15 | 0.04 | 0.28 | 0.09 |
| Total Saturation Flow Adjustment | 0.93 | 0.80 | 0.92 | 0.93 | 0.83 |
| s, saturation flow rate [veh/h] | 3516 | 1516 | 1756 | 3522 | 3170 |
| c, Capacity [veh/h] | 2596 | 1120 | 68 | 2845 | 415 |
| d1, Uniform Delay [s] | 7.42 | 5.22 | 62.50 | 3.35 | 53.68 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.82 | 0.40 | 138.20 | 0.34 | 7.73 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.54 | 0.20 | 1.10 | 0.35 | 0.65 |
| d, Delay for Lane Group [s/veh] | 8.24 | 5.62 | 200.70 | 3.69 | 61.41 |
| Lane Group LOS | A | A | F | A | E |
| Critical Lane Group | yes | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 13.80 | 2.88 | 4.57 | 6.11 | 5.73 |
| 50th-Percentile Queue Length [ft] | 345.04 | 72.02 | 114.29 | 152.75 | 143.37 |
| 95th-Percentile Queue Length [veh] | 22.96 | 6.23 | 9.15 | 11.58 | 11.00 |
| 95th-Percentile Queue Length [ft] | 573.89 | 155.71 | 228.67 | 289.41 | 274.93 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 8.24 | 5.62 | 200.70 | 3.69 | 61.41 | 61.41 |
| Movement LOS | A | A | F | A | E | E |
| d_A, Approach Delay [s/veh] | 7.88 | | 17.32 | | 61.41 | |
| Approach LOS | A | | B | | E | |
| d_I, Intersection Delay [s/veh] | 16.14 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.568 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#20: Willow Rd (SR 114)/Newbridge St**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 42.2 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.771 |

**Intersection Setup**

| Name | Willow Road (SR 114) | | | Willow Road (SR 114) | | | Newbridge Street | | | Newbridge Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Pocket Length [ft] | 390.00 | 100.00 | 100.00 | 185.00 | 100.00 | 100.00 | 100.00 | 100.00 | 175.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 40.00 | | | 25.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road (SR 114) | | | Willow Road (SR 114) | | | Newbridge Street | | | Newbridge Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 301 | 1484 | 263 | 74 | 1016 | 22 | 28 | 137 | 210 | 210 | 249 | 76 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.30 | 4.40 | 5.30 | 0.00 | 3.40 | 0.00 | 0.00 | 4.40 | 0.50 | 3.80 | 4.40 | 1.30 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 175 | 0 | 0 | 45 |
| Total Hourly Volume [veh/h] | 301 | 1484 | 263 | 74 | 1016 | 22 | 28 | 137 | 35 | 210 | 249 | 31 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 78 | 382 | 68 | 19 | 262 | 6 | 7 | 35 | 9 | 54 | 64 | 8 |
| Total Analysis Volume [veh/h] | 310 | 1530 | 271 | 76 | 1047 | 23 | 29 | 141 | 36 | 216 | 257 | 32 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 28 | | | 47 | | | 11 | | | 1 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 4 | | | 1 | | | 2 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 4 | 4 | 4 | 8 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 4 | 16 | 16 | 4 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 32 | 79 | 79 | 13 | 60 | 60 | 18 | 18 | 18 | 20 | 20 | 20 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | no | | no | no | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 28 | 75 | 9 | 56 | 14 | 14 | 14 | 16 | 16 | 16 |
| g / C, Green / Cycle | 0.22 | 0.58 | 0.07 | 0.43 | 0.11 | 0.11 | 0.11 | 0.12 | 0.12 | 0.12 |
| (v / s)_i Volume / Saturation Flow Rate | 0.17 | 0.37 | 0.04 | 0.31 | 0.02 | 0.08 | 0.02 | 0.06 | 0.14 | 0.02 |
| Total Saturation Flow Adjustment | 0.94 | 0.85 | 0.95 | 0.92 | 0.95 | 0.96 | 0.85 | 0.89 | 0.96 | 0.84 |
| s, saturation flow rate [veh/h] | 1782 | 4846 | 1805 | 3487 | 1805 | 1820 | 1607 | 3377 | 1820 | 1594 |
| c, Capacity [veh/h] | 384 | 2796 | 125 | 1502 | 194 | 196 | 173 | 416 | 224 | 196 |
| d1, Uniform Delay [s] | 48.44 | 18.52 | 58.79 | 30.38 | 52.60 | 56.10 | 52.94 | 53.40 | 57.00 | 51.01 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 16.54 | 1.16 | 20.07 | 2.90 | 1.62 | 20.29 | 2.71 | 4.59 | 105.61 | 1.78 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.81 | 0.64 | 0.61 | 0.71 | 0.15 | 0.72 | 0.21 | 0.52 | 1.15 | 0.16 |
| d, Delay for Lane Group [s/veh] | 64.99 | 19.67 | 78.86 | 33.29 | 54.22 | 76.39 | 55.65 | 57.99 | 162.61 | 52.79 |
| Lane Group LOS | E | B | E | C | D | E | E | E | F | D |
| Critical Lane Group | yes | no | no | yes | no | yes | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 13.13 | 18.66 | 3.16 | 19.48 | 1.03 | 5.98 | 1.30 | 4.28 | 15.92 | 1.13 |
| 50th-Percentile Queue Length [ft] | 328.30 | 466.38 | 79.04 | 487.08 | 25.79 | 149.38 | 32.49 | 107.12 | 397.91 | 28.14 |
| 95th-Percentile Queue Length [veh] | 21.96 | 30.30 | 6.74 | 31.57 | 2.49 | 11.37 | 3.08 | 8.67 | 26.13 | 2.70 |
| 95th-Percentile Queue Length [ft] | 549.02 | 757.38 | 168.46 | 789.22 | 62.25 | 284.22 | 77.03 | 216.87 | 653.15 | 67.50 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 64.99 | 19.67 | 19.67 | 78.86 | 33.29 | 33.29 | 54.22 | 76.39 | 55.65 | 57.99 | 162.61 | 52.79 |
| Movement LOS | E | B | B | E | C | C | D | E | E | E | F | D |
| d_A, Approach Delay [s/veh] | 26.33 | | | 36.31 | | | 69.64 | | | 110.90 | | |
| Approach LOS | C | | | D | | | E | | | F | | |
| d_I, Intersection Delay [s/veh] | 42.22 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.771 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | 8 | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#21: Willow Rd/Bay Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 27.0 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.813 |

**Intersection Setup**

| Name | Willow Road | | Willow Road | | Bay Road | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 1 | 0 |
| Pocket Length [ft] | 80.00 | 100.00 | 100.00 | 100.00 | 175.00 | 100.00 |
| Speed [mph] | 30.00 | | 35.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | no | | no | | yes | |

**Volumes**

| Name | Willow Road | | Willow Road | | Bay Road | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 35 | 1276 | 922 | 261 | 504 | 68 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 2.60 | 2.20 | 0.00 | 1.00 | 1.50 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 223 | 0 | 47 |
| Total Hourly Volume [veh/h] | 35 | 1276 | 922 | 38 | 504 | 21 |
| Peak Hour Factor | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 10 | 354 | 256 | 11 | 140 | 6 |
| Total Analysis Volume [veh/h] | 39 | 1418 | 1024 | 42 | 560 | 23 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 7 | |
| Bicycle Volume [bicycles/h] | 8 | | 7 | | 3 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 6 | 6 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lag | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 4 | 24 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 9 | 65 | 56 | 56 | 35 | 35 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | no | | no | |
| Maximum Recall | no | no | no | | no | |
| Pedestrian Recall | no | no | no | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 6.0 | 6.0 | 6.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | C | R | L | R |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 5 | 61 | 52 | 52 | 31 | 31 |
| g / C, Green / Cycle | 0.05 | 0.61 | 0.52 | 0.52 | 0.31 | 0.31 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02 | 0.40 | 0.29 | 0.03 | 0.31 | 0.01 |
| Total Saturation Flow Adjustment | 0.95 | 0.93 | 0.93 | 0.85 | 0.94 | 0.84 |
| s, saturation flow rate [veh/h] | 1805 | 3526 | 3540 | 1615 | 1787 | 1591 |
| c, Capacity [veh/h] | 90 | 2151 | 1841 | 840 | 554 | 493 |
| d1, Uniform Delay [s] | 46.12 | 12.72 | 16.21 | 11.83 | 34.50 | 24.15 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 14.37 | 1.60 | 1.22 | 0.11 | 40.95 | 0.18 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.43 | 0.66 | 0.56 | 0.05 | 1.01 | 0.05 |
| d, Delay for Lane Group [s/veh] | 60.49 | 14.32 | 17.43 | 11.94 | 75.45 | 24.33 |
| Lane Group LOS | E | B | B | B | E | C |
| Critical Lane Group | no | yes | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 1.22 | 15.96 | 11.56 | 0.63 | 23.48 | 0.48 |
| 50th-Percentile Queue Length [ft] | 30.53 | 399.01 | 288.88 | 15.81 | 587.11 | 12.10 |
| 95th-Percentile Queue Length [veh] | 2.91 | 26.19 | 19.63 | 1.57 | 37.79 | 1.21 |
| 95th-Percentile Queue Length [ft] | 72.76 | 654.81 | 490.86 | 39.22 | 944.73 | 30.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 60.49 | 14.32 | 17.43 | 11.94 | 75.45 | 24.33 |
| Movement LOS | E | B | B | B | E | C |
| d_A, Approach Delay [s/veh] | 15.56 | | 17.21 | | 73.44 | |
| Approach LOS | B | | B | | E | |
| d_I, Intersection Delay [s/veh] | 26.99 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.813 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#22: Willow Rd/Durham St-VA Med Entrance**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 22.3 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.686 |

**Intersection Setup**

| Name | Willow Road | | | Willow Road | | | VA Medical Center | | | Durham Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 90.00 | 100.00 | 100.00 | 170.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 50.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 10.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road | | | Willow Road | | | VA Medical Center | | | Durham Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 8 | 935 | 10 | 54 | 719 | 29 | 117 | 2 | 28 | 21 | 2 | 97 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 50.00 | 2.10 | 0.00 | 0.00 | 2.60 | 27.60 | 4.30 | 0.00 | 17.90 | 0.00 | 0.00 | 6.20 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 8 | 935 | 10 | 54 | 719 | 29 | 117 | 2 | 10 | 21 | 2 | 97 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 2 | 254 | 3 | 15 | 195 | 8 | 32 | 1 | 3 | 6 | 1 | 26 |
| Total Analysis Volume [veh/h] | 9 | 1016 | 11 | 59 | 782 | 32 | 127 | 2 | 11 | 23 | 2 | 105 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 15 | | | 17 | | | 10 | | | 19 | | |
| Bicycle Volume [bicycles/h] | 5 | | | 3 | | | 1 | | | 1 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 4 | 4 | 4 | 8 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 5 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 30 | 16 | 16 | 30 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 9 | 74 | 74 | 11 | 76 | 76 | 15 | 15 | 15 | 15 | 15 | 15 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | no | | no | no | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 6.0 | 6.0 | 6.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | R | L | C |
|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 5 | 70 | 7 | 72 | 11 | 11 | 11 | 11 |
| g / C, Green / Cycle | 0.05 | 0.70 | 0.07 | 0.72 | 0.11 | 0.11 | 0.11 | 0.11 |
| (v / s)_i Volume / Saturation Flow Rate | 0.01 | 0.29 | 0.03 | 0.44 | 0.13 | 0.01 | 0.03 | 0.07 |
| Total Saturation Flow Adjustment | 0.63 | 0.93 | 0.95 | 0.97 | 0.54 | 0.72 | 0.47 | 0.85 |
| s, saturation flow rate [veh/h] | 1203 | 3538 | 1805 | 1841 | 1017 | 1370 | 898 | 1620 |
| c, Capacity [veh/h] | 60 | 2476 | 126 | 1325 | 112 | 151 | 99 | 178 |
| d1, Uniform Delay [s] | 45.47 | 6.34 | 44.71 | 7.03 | 44.50 | 39.93 | 40.65 | 42.41 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.19 | 0.51 | 11.89 | 2.14 | 132.25 | 0.94 | 5.45 | 14.07 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.15 | 0.41 | 0.47 | 0.61 | 1.15 | 0.07 | 0.23 | 0.60 |
| d, Delay for Lane Group [s/veh] | 50.66 | 6.85 | 56.60 | 9.16 | 176.75 | 40.86 | 46.09 | 56.47 |
| Lane Group LOS | D | A | E | A | F | D | D | E |
| Critical Lane Group | yes | no | no | yes | yes | no | no | no |
| 50th-Percentile Queue Length [veh] | 0.27 | 7.37 | 1.82 | 13.65 | 6.99 | 0.30 | 0.66 | 3.35 |
| 50th-Percentile Queue Length [ft] | 6.73 | 184.24 | 45.54 | 341.26 | 174.66 | 7.50 | 16.42 | 83.85 |
| 95th-Percentile Queue Length [veh] | 0.69 | 13.48 | 4.18 | 22.73 | 12.91 | 0.76 | 1.63 | 7.08 |
| 95th-Percentile Queue Length [ft] | 17.16 | 336.99 | 104.50 | 568.27 | 322.65 | 19.05 | 40.67 | 177.03 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 50.66 | 6.85 | 6.85 | 56.60 | 9.16 | 9.16 | 176.75 | 176.75 | 40.86 | 46.09 | 56.47 | 56.47 |
| Movement LOS | D | A | A | E | A | A | F | F | D | D | E | E |
| d_A, Approach Delay [s/veh] | 7.24 | | | 12.37 | | | 166.08 | | | 54.64 | | |
| Approach LOS | A | | | B | | | F | | | D | | |
| d_I, Intersection Delay [s/veh] | 22.33 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.686 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#23: Willow Rd/Coleman Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 14.1 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.644 |

**Intersection Setup**

| Name | Willow Road | | | Willow Road | | | Coleman Avenue | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 85.00 | 100.00 | 100.00 | 115.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 30.00 | | | 30.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road | | | Willow Road | | | Coleman Avenue | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 738 | 3 | 5 | 680 | 84 | 102 | 4 | 31 | 1 | 1 | 4 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 3.10 | 0.00 | 0.00 | 3.70 | 2.40 | 3.90 | 0.00 | 3.20 | 0.00 | 0.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 738 | 3 | 5 | 680 | 84 | 102 | 4 | 31 | 1 | 1 | 4 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 196 | 1 | 1 | 181 | 22 | 27 | 1 | 8 | 0 | 0 | 1 |
| Total Analysis Volume [veh/h] | 12 | 785 | 3 | 5 | 723 | 89 | 109 | 4 | 33 | 1 | 1 | 4 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 12 | | | 3 | | | 1 | | | 9 | | |
| Bicycle Volume [bicycles/h] | 16 | | | 10 | | | 7 | | | 1 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 126 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 2 | 6 | 6 | 6 | 4 | 4 | 4 | 8 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 107 | 107 | 107 | 107 | 107 | 107 | 19 | 19 | 19 | 19 | 19 | 19 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | | no | | | no | |
| Maximum Recall | | no | | | no | | | no | | | no | |
| Pedestrian Recall | | no | | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | C |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 | 2.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 103 | 103 | 103 | 103 | 15 | 15 |
| g / C, Green / Cycle | 0.82 | 0.82 | 0.82 | 0.82 | 0.12 | 0.12 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02 | 0.43 | 0.01 | 0.45 | 0.11 | 0.00 |
| Total Saturation Flow Adjustment | 0.31 | 0.97 | 0.32 | 0.95 | 0.69 | 0.88 |
| s, saturation flow rate [veh/h] | 584 | 1842 | 604 | 1802 | 1311 | 1680 |
| c, Capacity [veh/h] | 477 | 1506 | 494 | 1473 | 156 | 200 |
| d1, Uniform Delay [s] | 2.14 | 3.67 | 2.12 | 3.82 | 55.02 | 49.07 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.10 | 1.30 | 0.04 | 1.49 | 56.57 | 0.28 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.03 | 0.52 | 0.01 | 0.55 | 0.94 | 0.03 |
| d, Delay for Lane Group [s/veh] | 2.24 | 4.97 | 2.15 | 5.31 | 111.59 | 49.35 |
| Lane Group LOS | A | A | A | A | F | D |
| Critical Lane Group | no | no | no | yes | yes | no |
| 50th-Percentile Queue Length [veh] | 0.10 | 10.87 | 0.04 | 11.71 | 7.19 | 0.20 |
| 50th-Percentile Queue Length [ft] | 2.51 | 271.63 | 1.03 | 292.72 | 179.69 | 5.00 |
| 95th-Percentile Queue Length [veh] | 0.26 | 18.62 | 0.11 | 19.86 | 13.21 | 0.51 |
| 95th-Percentile Queue Length [ft] | 6.48 | 465.53 | 2.67 | 496.50 | 330.19 | 12.81 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 2.24 | 4.97 | 4.97 | 2.15 | 5.31 | 5.31 | 111.59 | 111.59 | 111.59 | 49.35 | 49.35 | 49.35 |
| Movement LOS | A | A | A | A | A | A | F | F | F | D | D | D |
| d_A, Approach Delay [s/veh] | 4.93 | | | 5.29 | | | 111.59 | | | 49.35 | | |
| Approach LOS | A | | | A | | | F | | | D | | |
| d_I, Intersection Delay [s/veh] | 14.05 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.644 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#24: Willow Rd/Gilbert Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 25.6 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.574 |

**Intersection Setup**

| Name | Willow Road | | | Willow Road | | | Gilbert Avenue | | | Gilbert Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 75.00 | 100.00 | 100.00 | 90.00 | 100.00 | 100.00 | 55.00 | 100.00 | 100.00 | 90.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road | | | Willow Road | | | Gilbert Avenue | | | Gilbert Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 30 | 671 | 13 | 26 | 597 | 6 | 61 | 51 | 69 | 56 | 43 | 28 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 3.00 | 0.00 | 0.00 | 2.70 | 0.00 | 3.30 | 2.00 | 10.10 | 0.00 | 2.30 | 3.60 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 30 | 671 | 13 | 26 | 597 | 6 | 61 | 51 | 69 | 56 | 43 | 28 |
| Peak Hour Factor | 0.8900 | 0.8900 | 0.8900 | 0.8900 | 0.8900 | 0.8900 | 0.8900 | 0.8900 | 0.8900 | 0.8900 | 0.8900 | 0.8900 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 8 | 188 | 4 | 7 | 168 | 2 | 17 | 14 | 19 | 16 | 12 | 8 |
| Total Analysis Volume [veh/h] | 34 | 754 | 15 | 29 | 671 | 7 | 69 | 57 | 78 | 63 | 48 | 31 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 2 | | | 4 | | | 3 | | | 3 | | |
| Bicycle Volume [bicycles/h] | 15 | | | 12 | | | 5 | | | 4 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 126 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 2 | 6 | 6 | 6 | 4 | 4 | 4 | 8 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 112 | 112 | 112 | 112 | 112 | 112 | 14 | 14 | 14 | 14 | 14 | 14 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | | no | | | no | |
| Maximum Recall | | no | | | no | | | no | | | no | |
| Pedestrian Recall | | no | | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | L | C | L | C |
|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 108 | 108 | 108 | 108 | 10 | 10 | 10 | 10 |
| g / C, Green / Cycle | 0.86 | 0.86 | 0.86 | 0.86 | 0.08 | 0.08 | 0.08 | 0.08 |
| (v / s)_i Volume / Saturation Flow Rate | 0.05 | 0.42 | 0.04 | 0.37 | 0.06 | 0.08 | 0.08 | 0.05 |
| Total Saturation Flow Adjustment | 0.38 | 0.97 | 0.34 | 0.97 | 0.59 | 0.90 | 0.40 | 0.92 |
| s, saturation flow rate [veh/h] | 724 | 1839 | 649 | 1847 | 1126 | 1701 | 760 | 1748 |
| c, Capacity [veh/h] | 621 | 1577 | 556 | 1583 | 89 | 135 | 60 | 139 |
| d1, Uniform Delay [s] | 1.35 | 2.21 | 1.35 | 2.03 | 56.88 | 58.00 | 58.00 | 55.92 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.17 | 1.08 | 0.18 | 0.85 | 46.85 | 77.41 | 128.86 | 15.86 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.05 | 0.49 | 0.05 | 0.43 | 0.77 | 1.00 | 1.04 | 0.57 |
| d, Delay for Lane Group [s/veh] | 1.52 | 3.29 | 1.52 | 2.88 | 103.74 | 135.40 | 186.86 | 71.79 |
| Lane Group LOS | A | A | A | A | F | F | F | E |
| Critical Lane Group | no | yes | no | no | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 0.24 | 8.47 | 0.20 | 6.83 | 3.08 | 7.17 | 3.65 | 3.12 |
| 50th-Percentile Queue Length [ft] | 5.96 | 211.67 | 5.11 | 170.75 | 76.89 | 179.35 | 91.16 | 77.96 |
| 95th-Percentile Queue Length [veh] | 0.61 | 15.10 | 0.52 | 12.67 | 6.58 | 13.19 | 7.59 | 6.66 |
| 95th-Percentile Queue Length [ft] | 15.21 | 377.59 | 13.09 | 316.76 | 164.58 | 329.68 | 189.82 | 166.52 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 1.52 | 3.29 | 3.29 | 1.52 | 2.88 | 2.88 | 103.74 | 135.40 | 135.40 | 186.86 | 71.79 | 71.79 |
| Movement LOS | A | A | A | A | A | A | F | F | F | F | E | E |
| d_A, Approach Delay [s/veh] | 3.22 | | | 2.82 | | | 124.69 | | | 122.84 | | |
| Approach LOS | A | | | A | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 25.57 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.574 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#25: Middlefield Rd-Willow Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 46.8 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.561 |

**Intersection Setup**

| Name | Willow Road | | | Willow Road | | | Middlefield Road | | | Middlefield Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Pocket Length [ft] | 75.00 | 100.00 | 215.00 | 155.00 | 100.00 | 160.00 | 125.00 | 100.00 | 70.00 | 270.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 25.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Willow Road | | | Willow Road | | | Middlefield Road | | | Middlefield Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 46 | 94 | 256 | 356 | 93 | 332 | 92 | 429 | 216 | 236 | 453 | 29 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.20 | 1.10 | 0.00 | 1.70 | 0.00 | 2.40 | 1.10 | 0.50 | 2.30 | 6.40 | 0.00 | 3.40 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 120 | 0 | 0 | 1000 | 0 | 0 | 1000 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 46 | 94 | 136 | 356 | 93 | 0 | 92 | 429 | 0 | 236 | 453 | 29 |
| Peak Hour Factor | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 12 | 24 | 35 | 93 | 24 | 0 | 24 | 112 | 0 | 61 | 118 | 8 |
| Total Analysis Volume [veh/h] | 48 | 98 | 142 | 371 | 97 | 0 | 96 | 447 | 0 | 246 | 472 | 30 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 5 | | | 0 | | | 0 | | | 6 | | |
| Bicycle Volume [bicycles/h] | 51 | | | 1 | | | 5 | | | 16 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 8 | 8 | 8 | 4 | 7 | 4 | 6 | 6 | 6 | 2 | 5 | 2 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | - | - | - | Lag | - | - | - | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 0 | 5 | 0 | 4 | 4 | 4 | 0 | 5 | 0 |
| Maximum Green [s] | 16 | 16 | 16 | 0 | 30 | 0 | 16 | 16 | 16 | 0 | 30 | 0 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 0.0 | 3.0 | 0.0 | 3.5 | 3.5 | 3.5 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.0 | 1.0 | 0.0 | 0.5 | 0.5 | 0.5 | 0.0 | 1.0 | 0.0 |
| Split [s] | 25 | 25 | 25 | 0 | 32 | 0 | 32 | 32 | 32 | 0 | 41 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | no | | | no | | | no | | | no | |
| Maximum Recall | | no | | | no | | | no | | | no | |
| Pedestrian Recall | | no | | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | R | C | R | L | C | R | L | C |
|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 28 | 28 | 28 | 28 | 28 | 37 | 37 |
| g / C, Green / Cycle | 0.16 | 0.16 | 0.16 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.28 | 0.28 |
| (v / s)_i Volume / Saturation Flow Rate | 0.03 | 0.05 | 0.09 | 0.13 | 0.00 | 0.05 | 0.12 | 0.00 | 0.15 | 0.14 |
| Total Saturation Flow Adjustment | 0.93 | 0.99 | 0.85 | 0.92 | 0.83 | 0.94 | 0.95 | 0.83 | 0.89 | 0.94 |
| s, saturation flow rate [veh/h] | 1766 | 1879 | 1615 | 3480 | 1577 | 1785 | 3600 | 1579 | 1696 | 3585 |
| c, Capacity [veh/h] | 285 | 304 | 261 | 749 | 340 | 385 | 775 | 340 | 483 | 1020 |
| d1, Uniform Delay [s] | 46.97 | 48.21 | 50.10 | 46.23 | 40.02 | 42.29 | 45.69 | 40.02 | 38.91 | 38.68 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.27 | 2.80 | 7.93 | 3.90 | 0.00 | 1.55 | 3.11 | 0.00 | 3.81 | 1.70 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.17 | 0.32 | 0.54 | 0.62 | 0.00 | 0.25 | 0.58 | 0.00 | 0.51 | 0.49 |
| d, Delay for Lane Group [s/veh] | 48.24 | 51.01 | 58.04 | 50.14 | 40.02 | 43.84 | 48.80 | 40.02 | 42.71 | 40.38 |
| Lane Group LOS | D | D | E | D | D | D | D | D | D | D |
| Critical Lane Group | no | no | yes | yes | no | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 1.62 | 3.43 | 5.37 | 9.25 | 0.00 | 3.12 | 8.62 | 0.00 | 8.33 | 8.82 |
| 50th-Percentile Queue Length [ft] | 40.44 | 85.82 | 134.34 | 231.19 | 0.00 | 78.12 | 215.47 | 0.00 | 208.19 | 220.52 |
| 95th-Percentile Queue Length [veh] | 3.76 | 7.22 | 10.43 | 16.25 | 0.00 | 6.67 | 15.33 | 0.00 | 14.90 | 15.62 |
| 95th-Percentile Queue Length [ft] | 93.97 | 180.50 | 260.81 | 406.27 | 0.00 | 166.80 | 383.19 | 0.00 | 372.47 | 390.61 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 48.24 | 51.01 | 58.04 | 50.14 | 50.14 | 40.02 | 43.84 | 48.80 | 40.02 | 42.71 | 40.38 | 40.38 |
| Movement LOS | D | D | E | D | D | D | D | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 54.01 | | | 50.14 | | | 47.92 | | | 41.15 | | |
| Approach LOS | D | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 46.81 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.561 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 5 | - | 6 | - | 7 | - | 8 | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#26: Ravenswood Ave/Laurel St**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 23.0 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.972 |

**Intersection Setup**

| Name | Ravenswood Avenue | | | Ravenswood Avenue | | | Laurel Street | | | Laurel Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 85.00 | 100.00 | 100.00 | 75.00 | 100.00 | 100.00 | 95.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Ravenswood Avenue | | | Ravenswood Avenue | | | Laurel Street | | | Laurel Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 57 | 596 | 125 | 32 | 523 | 24 | 267 | 215 | 64 | 52 | 135 | 26 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 1.00 | 0.00 | 0.00 | 2.10 | 4.20 | 0.40 | 0.50 | 0.00 | 13.50 | 0.70 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 57 | 596 | 125 | 32 | 523 | 24 | 267 | 215 | 64 | 52 | 135 | 26 |
| Peak Hour Factor | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 15 | 160 | 34 | 9 | 141 | 6 | 72 | 58 | 17 | 14 | 36 | 7 |
| Total Analysis Volume [veh/h] | 61 | 641 | 134 | 34 | 562 | 26 | 287 | 231 | 69 | 56 | 145 | 28 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 35 | | | 40 | | | 67 | | | 58 | | |
| Bicycle Volume [bicycles/h] | 1 | | | 5 | | | 20 | | | 7 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 2 | 6 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 39 | 39 | 39 | 39 | 39 | 39 | 21 | 21 | 21 | 21 | 21 | 21 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | no | no | | | no | |
| Maximum Recall | | no | | | no | | no | no | | | no | |
| Pedestrian Recall | | no | | | no | | no | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 6.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | L | C | C |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 35 | 35 | 35 | 35 | 17 | 17 | 17 |
| g / C, Green / Cycle | 0.58 | 0.58 | 0.58 | 0.58 | 0.28 | 0.28 | 0.28 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.42 | 0.08 | 0.32 | 0.29 | 0.16 | 0.16 |
| Total Saturation Flow Adjustment | 0.34 | 0.96 | 0.21 | 0.97 | 0.52 | 0.96 | 0.76 |
| s, saturation flow rate [veh/h] | 646 | 1832 | 406 | 1849 | 991 | 1825 | 1438 |
| c, Capacity [veh/h] | 377 | 1069 | 237 | 1078 | 281 | 517 | 407 |
| d1, Uniform Delay [s] | 5.75 | 9.03 | 5.68 | 7.64 | 21.50 | 18.44 | 18.33 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.92 | 4.29 | 1.27 | 1.98 | 59.53 | 4.69 | 5.52 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

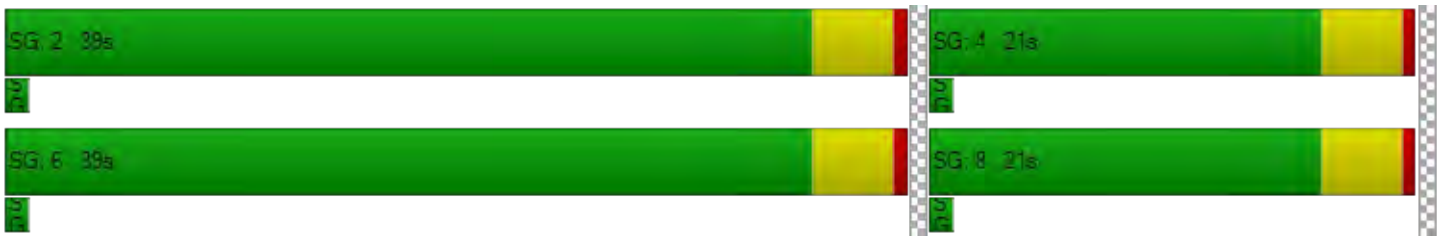
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.16 | 0.73 | 0.14 | 0.55 | 1.02 | 0.58 | 0.56 |
| d, Delay for Lane Group [s/veh] | 6.67 | 13.32 | 6.96 | 9.62 | 81.03 | 23.13 | 23.84 |
| Lane Group LOS | A | B | A | A | F | C | C |
| Critical Lane Group | no | yes | no | no | yes | no | no |
| 50th-Percentile Queue Length [veh] | 0.55 | 11.57 | 0.31 | 7.06 | 8.76 | 5.02 | 3.83 |
| 50th-Percentile Queue Length [ft] | 13.79 | 289.15 | 7.75 | 176.41 | 218.88 | 125.43 | 95.68 |
| 95th-Percentile Queue Length [veh] | 1.38 | 19.65 | 0.79 | 13.01 | 15.53 | 9.87 | 7.90 |
| 95th-Percentile Queue Length [ft] | 34.41 | 491.25 | 19.70 | 325.28 | 388.20 | 246.68 | 197.60 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 6.67 | 13.32 | 13.32 | 6.96 | 9.62 | 9.62 | 81.03 | 23.13 | 23.13 | 23.84 | 23.84 | 23.84 |
| Movement LOS | A | B | B | A | A | A | F | C | C | C | C | C |
| d_A, Approach Delay [s/veh] | 12.83 | | | 9.47 | | | 51.44 | | | 23.84 | | |
| Approach LOS | B | | | A | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 22.99 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.972 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#28: Oak Grove Ave/Laurel St**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 15.4 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.716 |

**Intersection Setup**

| Name | Oak Grove Avenue | | | Oak Grove Avenue | | | Laurel Street | | | Laurel Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 25.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Oak Grove Avenue | | | Oak Grove Avenue | | | Laurel Street | | | Laurel Street | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 13 | 335 | 94 | 30 | 262 | 48 | 78 | 232 | 38 | 28 | 116 | 29 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 3.30 | 7.40 | 0.00 | 0.80 | 0.00 | 0.00 | 0.40 | 2.60 | 0.00 | 0.00 | 6.90 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 13 | 335 | 94 | 30 | 262 | 48 | 78 | 232 | 38 | 28 | 116 | 29 |
| Peak Hour Factor | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 4 | 95 | 27 | 9 | 74 | 14 | 22 | 66 | 11 | 8 | 33 | 8 |
| Total Analysis Volume [veh/h] | 15 | 381 | 107 | 34 | 298 | 55 | 89 | 264 | 43 | 32 | 132 | 33 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 13 | | | 1 | | | 18 | | | 5 | | |
| Bicycle Volume [bicycles/h] | 16 | | | 12 | | | 20 | | | 5 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 2 | 6 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lag | - | - | Lag | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 36 | 36 | 36 | 36 | 36 | 36 | 24 | 24 | 24 | 24 | 24 | 24 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | | no | | | no | |
| Maximum Recall | | no | | | no | | | no | | | no | |
| Pedestrian Recall | | no | | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | C | C |
|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 32 | 32 | 20 | 20 |
| g / C, Green / Cycle | 0.53 | 0.53 | 0.33 | 0.33 |
| (v / s)_i Volume / Saturation Flow Rate | 0.29 | 0.22 | 0.24 | 0.12 |
| Total Saturation Flow Adjustment | 0.93 | 0.92 | 0.87 | 0.89 |
| s, saturation flow rate [veh/h] | 1763 | 1739 | 1653 | 1691 |
| c, Capacity [veh/h] | 940 | 927 | 551 | 564 |
| d1, Uniform Delay [s] | 9.14 | 8.40 | 17.54 | 15.09 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.18 | 1.38 | 7.87 | 1.70 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | |
|---|---|---|---|---|
| X, volume / capacity | 0.53 | 0.42 | 0.72 | 0.35 |
| d, Delay for Lane Group [s/veh] | 11.32 | 9.79 | 25.40 | 16.80 |
| Lane Group LOS | B | A | C | B |
| Critical Lane Group | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 6.41 | 4.45 | 7.14 | 2.78 |
| 50th-Percentile Queue Length [ft] | 160.13 | 111.27 | 178.52 | 69.62 |
| 95th-Percentile Queue Length [veh] | 12.03 | 8.95 | 13.14 | 6.05 |
| 95th-Percentile Queue Length [ft] | 300.68 | 223.72 | 328.43 | 151.27 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 11.32 | 11.32 | 11.32 | 9.79 | 9.79 | 9.79 | 25.40 | 25.40 | 25.40 | 16.80 | 16.80 | 16.80 |
| Movement LOS | B | B | B | A | A | A | C | C | C | B | B | B |
| d_A, Approach Delay [s/veh] | 11.32 | | | 9.79 | | | 25.40 | | | 16.80 | | |
| Approach LOS | B | | | A | | | C | | | B | | |
| d_I, Intersection Delay [s/veh] | 15.41 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.716 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#29: El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 19.5 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.782 |

**Intersection Setup**

| Name | Menlo College | | | Encinal Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 140.00 | 100.00 | 150.00 | 135.00 | 100.00 | 100.00 |
| Speed [mph] | 15.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | no | | | yes | | |

**Volumes**

| Name | Menlo College | | | Encinal Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 19 | 15 | 31 | 107 | 9 | 238 | 24 | 1750 | 100 | 65 | 1215 | 13 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.30 | 0.00 | 1.40 | 0.00 | 1.50 | 1.20 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 101 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 19 | 15 | 31 | 107 | 9 | 238 | 24 | 1750 | 0 | 65 | 1215 | 13 |
| Peak Hour Factor | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 5 | 4 | 8 | 27 | 2 | 61 | 6 | 446 | 0 | 17 | 310 | 3 |
| Total Analysis Volume [veh/h] | 19 | 15 | 32 | 109 | 9 | 243 | 24 | 1786 | 0 | 66 | 1240 | 13 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 12 | | | 0 | | | 17 | | |
| Bicycle Volume [bicycles/h] | 3 | | | 3 | | | 14 | | | 3 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 8 | 0 | 1 | 6 | 0 | 5 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 5 | 0 | 0 | 5 | 0 | 5 | 5 | 0 | 5 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 40 | 0 | 0 | 40 | 0 | 10 | 85 | 0 | 11 | 86 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 50.0 | 50.0 | 0.0 | 50.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | C | R | L | C | R | L | C |
|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 36 | 36 | 36 | 36 | 6 | 81 | 81 | 7 | 82 |
| g / C, Green / Cycle | 0.26 | 0.26 | 0.26 | 0.26 | 0.04 | 0.60 | 0.60 | 0.05 | 0.60 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02 | 0.02 | 0.09 | 0.15 | 0.01 | 0.50 | 0.00 | 0.04 | 0.25 |
| Total Saturation Flow Adjustment | 0.85 | 0.85 | 0.72 | 0.84 | 0.95 | 0.94 | 0.85 | 0.94 | 0.90 |
| s, saturation flow rate [veh/h] | 1619 | 1615 | 1367 | 1594 | 1805 | 3568 | 1615 | 1778 | 5106 |
| c, Capacity [veh/h] | 429 | 427 | 362 | 422 | 80 | 2125 | 962 | 92 | 3079 |
| d1, Uniform Delay [s] | 37.55 | 37.51 | 40.24 | 43.38 | 62.97 | 22.27 | 11.12 | 63.54 | 14.21 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.36 | 0.34 | 2.39 | 5.62 | 9.47 | 4.22 | 0.00 | 38.83 | 0.40 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.59 | 0.59 | 1.00 | 0.57 |

**Lane Group Results**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.08 | 0.07 | 0.33 | 0.58 | 0.30 | 0.84 | 0.00 | 0.72 | 0.41 |
| d, Delay for Lane Group [s/veh] | 37.92 | 37.85 | 42.62 | 49.00 | 72.44 | 17.27 | 6.52 | 102.36 | 8.48 |
| Lane Group LOS | D | D | D | D | E | B | A | F | A |
| Critical Lane Group | no | no | no | yes | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 1.04 | 0.97 | 3.95 | 9.04 | 0.98 | 28.63 | 0.00 | 3.06 | 6.19 |
| 50th-Percentile Queue Length [ft] | 25.93 | 24.37 | 98.63 | 226.08 | 24.47 | 715.67 | 0.00 | 76.56 | 154.85 |
| 95th-Percentile Queue Length [veh] | 2.50 | 2.36 | 8.10 | 15.95 | 2.37 | 45.90 | 0.00 | 6.56 | 11.70 |
| 95th-Percentile Queue Length [ft] | 62.56 | 59.05 | 202.62 | 398.78 | 59.28 | 1147.40 | 0.00 | 163.99 | 292.62 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 37.92 | 37.92 | 37.85 | 42.62 | 42.62 | 49.00 | 72.44 | 17.27 | 6.52 | 102.36 | 8.48 | 8.48 |
| Movement LOS | D | D | D | D | D | D | E | B | A | F | A | A |
| d_A, Approach Delay [s/veh] | 37.88 | | | 46.92 | | | 18.00 | | | 13.17 | | |
| Approach LOS | D | | | D | | | B | | | B | | |
| d_I, Intersection Delay [s/veh] | 19.51 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.782 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#30: El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 38.6 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.855 |

**Intersection Setup**

| Name | Valparaiso Avenue | | | Glenwood Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| Pocket Length [ft] | 205.00 | 100.00 | 130.00 | 120.00 | 100.00 | 100.00 | 190.00 | 100.00 | 105.00 | 180.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 25.00 | | | 35.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Valparaiso Avenue | | | Glenwood Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 363 | 144 | 79 | 59 | 171 | 41 | 98 | 1525 | 46 | 56 | 992 | 304 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 5.60 | 0.00 | 0.00 | 0.60 | 0.00 | 1.00 | 0.50 | 0.00 | 1.80 | 1.70 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 59 | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 0 | 274 |
| Total Hourly Volume [veh/h] | 363 | 144 | 20 | 59 | 171 | 41 | 98 | 1525 | 1 | 56 | 992 | 30 |
| Peak Hour Factor | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 95 | 38 | 5 | 15 | 45 | 11 | 26 | 397 | 0 | 15 | 258 | 8 |
| Total Analysis Volume [veh/h] | 378 | 150 | 21 | 61 | 178 | 43 | 102 | 1589 | 1 | 58 | 1033 | 31 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 2 | | | 9 | | | 17 | | | 3 | | |
| Bicycle Volume [bicycles/h] | 6 | | | 5 | | | 4 | | | 9 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 121.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 8 | 0 | 1 | 6 | 0 | 5 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 5 | 0 | 0 | 5 | 0 | 5 | 5 | 0 | 5 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 28 | 0 | 0 | 22 | 0 | 17 | 76 | 0 | 10 | 69 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 50.0 | 0.0 | 0.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | L | C | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 24 | 24 | 18 | 18 | 13 | 72 | 72 | 6 | 65 | 65 |
| g / C, Green / Cycle | 0.18 | 0.18 | 0.13 | 0.13 | 0.10 | 0.53 | 0.53 | 0.04 | 0.48 | 0.48 |
| (v / s)_i Volume / Saturation Flow Rate | 0.16 | 0.01 | 0.03 | 0.12 | 0.06 | 0.44 | 0.00 | 0.03 | 0.29 | 0.02 |
| Total Saturation Flow Adjustment | 0.87 | 0.85 | 0.95 | 0.97 | 0.94 | 0.95 | 0.85 | 0.93 | 0.94 | 0.85 |
| s, saturation flow rate [veh/h] | 3307 | 1615 | 1805 | 1834 | 1787 | 3600 | 1615 | 1773 | 3557 | 1615 |
| c, Capacity [veh/h] | 584 | 285 | 239 | 243 | 171 | 1906 | 855 | 78 | 1700 | 772 |
| d1, Uniform Delay [s] | 54.88 | 46.73 | 52.98 | 58.21 | 58.99 | 26.96 | 15.07 | 64.23 | 26.12 | 18.90 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 19.97 | 0.50 | 2.56 | 38.59 | 14.46 | 4.47 | 0.00 | 47.00 | 1.62 | 0.10 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.72 | 0.72 | 1.00 | 0.80 | 0.80 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.90 | 0.07 | 0.26 | 0.91 | 0.60 | 0.83 | 0.00 | 0.74 | 0.61 | 0.04 |
| d, Delay for Lane Group [s/veh] | 74.85 | 47.23 | 55.55 | 96.79 | 73.45 | 23.86 | 10.84 | 111.24 | 22.50 | 15.20 |
| Lane Group LOS | E | D | E | F | E | C | B | F | C | B |
| Critical Lane Group | yes | no | no | yes | no | yes | no | yes | no | no |
| 50th-Percentile Queue Length [veh] | 13.58 | 0.71 | 2.26 | 11.06 | 4.25 | 28.50 | 0.01 | 2.75 | 14.22 | 0.49 |
| 50th-Percentile Queue Length [ft] | 339.54 | 17.81 | 56.49 | 276.54 | 106.29 | 712.42 | 0.32 | 68.78 | 355.46 | 12.23 |
| 95th-Percentile Queue Length [veh] | 22.63 | 1.76 | 5.05 | 18.91 | 8.62 | 45.69 | 0.03 | 5.99 | 23.58 | 1.23 |
| 95th-Percentile Queue Length [ft] | 565.71 | 43.93 | 126.34 | 472.73 | 215.48 | 1142.25 | 0.83 | 149.72 | 589.43 | 30.67 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 74.85 | 74.85 | 47.23 | 55.55 | 96.79 | 96.79 | 73.45 | 23.86 | 10.84 | 111.24 | 22.50 | 15.20 |
| Movement LOS | E | E | D | E | F | F | E | C | B | F | C | B |
| d_A, Approach Delay [s/veh] | 73.79 | | | 87.87 | | | 26.84 | | | 26.89 | | |
| Approach LOS | E | | | F | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 38.65 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.855 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#31: El Camino Real (SR 82)/Oak Grove Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 31.9 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.755 |

**Intersection Setup**

| Name | Oak Grove Avenue | | | Oak Grove Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| Pocket Length [ft] | 90.00 | 100.00 | 110.00 | 115.00 | 100.00 | 110.00 | 280.00 | 100.00 | 110.00 | 200.00 | 100.00 | 140.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Oak Grove Avenue | | | Oak Grove Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 118 | 202 | 133 | 129 | 215 | 77 | 87 | 1426 | 94 | 114 | 1047 | 97 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 1.50 | 0.00 | 1.60 | 1.40 | 1.30 | 0.00 | 1.70 | 0.00 | 2.60 | 1.20 | 1.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 77 | 0 | 0 | 82 | 0 | 0 | 77 | 0 | 0 | 116 |
| Total Hourly Volume [veh/h] | 118 | 202 | 56 | 129 | 215 | 0 | 87 | 1426 | 17 | 114 | 1047 | 0 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 30 | 52 | 14 | 33 | 55 | 0 | 22 | 368 | 4 | 29 | 270 | 0 |
| Total Analysis Volume [veh/h] | 122 | 208 | 58 | 133 | 222 | 0 | 90 | 1470 | 18 | 118 | 1079 | 0 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 11 | | | 7 | | | 37 | | | 17 | | |
| Bicycle Volume [bicycles/h] | 10 | | | 10 | | | 4 | | | 6 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 98.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 0 | 3 | 8 | 0 | 1 | 6 | 0 | 5 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 5 | 5 | 0 | 5 | 5 | 0 | 5 | 5 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 19 | 30 | 0 | 13 | 24 | 0 | 16 | 77 | 0 | 16 | 77 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | no | no | | no | no | | no | no | | no | no | |
| Maximum Recall | no | no | | no | no | | no | no | | no | no | |
| Pedestrian Recall | no | no | | no | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 26 | 26 | 9 | 20 | 20 | 12 | 73 | 73 | 12 | 73 | 73 |
| g / C, Green / Cycle | 0.11 | 0.19 | 0.19 | 0.07 | 0.15 | 0.15 | 0.09 | 0.54 | 0.54 | 0.09 | 0.54 | 0.54 |
| (v / s)_i Volume / Saturation Flow Rate | 0.07 | 0.11 | 0.04 | 0.07 | 0.12 | 0.00 | 0.05 | 0.41 | 0.01 | 0.07 | 0.30 | 0.00 |
| Total Saturation Flow Adjustment | 0.95 | 0.99 | 0.85 | 0.94 | 0.99 | 0.84 | 0.95 | 0.94 | 0.85 | 0.93 | 0.94 | 0.84 |
| s, saturation flow rate [veh/h] | 1805 | 1872 | 1615 | 1777 | 1874 | 1594 | 1805 | 3557 | 1615 | 1759 | 3575 | 1599 |
| c, Capacity [veh/h] | 199 | 358 | 309 | 118 | 276 | 234 | 159 | 1909 | 867 | 155 | 1919 | 858 |
| d1, Uniform Delay [s] | 57.73 | 50.05 | 46.14 | 63.50 | 56.12 | 49.47 | 59.50 | 24.87 | 14.76 | 60.59 | 20.90 | 14.59 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 13.30 | 6.74 | 1.34 | 122.63 | 21.70 | 0.00 | 13.72 | 3.06 | 0.04 | 28.97 | 1.20 | 0.00 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 1.67 | 1.33 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.94 | 0.23 | 0.23 | 1.00 | 0.71 | 0.71 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.61 | 0.58 | 0.19 | 1.13 | 0.81 | 0.00 | 0.57 | 0.77 | 0.02 | 0.76 | 0.56 | 0.00 |
| d, Delay for Lane Group [s/veh] | 71.03 | 56.79 | 47.49 | 186.13 | 77.82 | 49.47 | 69.38 | 8.71 | 3.40 | 89.57 | 15.96 | 10.31 |
| Lane Group LOS | E | E | D | F | E | D | E | A | A | F | B | B |
| Critical Lane Group | yes | no | no | no | yes | no | no | yes | no | yes | no | no |
| 50th-Percentile Queue Length [veh] | 5.12 | 8.13 | 1.99 | 8.56 | 10.09 | 0.00 | 3.68 | 14.30 | 0.10 | 5.39 | 12.10 | 0.00 |
| 50th-Percentile Queue Length [ft] | 128.08 | 203.24 | 49.81 | 213.93 | 252.35 | 0.00 | 91.99 | 357.38 | 2.55 | 134.67 | 302.38 | 0.00 |
| 95th-Percentile Queue Length [veh] | 10.04 | 14.61 | 4.53 | 15.24 | 17.49 | 0.00 | 7.65 | 23.69 | 0.26 | 10.45 | 20.43 | 0.00 |
| 95th-Percentile Queue Length [ft] | 250.89 | 365.17 | 113.14 | 380.92 | 437.27 | 0.00 | 191.25 | 592.30 | 6.59 | 261.33 | 510.72 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 71.03 | 56.79 | 47.49 | 186.13 | 77.82 | 49.47 | 69.38 | 8.71 | 3.40 | 89.57 | 15.96 | 10.31 |
| Movement LOS | E | E | D | F | E | D | E | A | A | F | B | B |
| d_A, Approach Delay [s/veh] | 59.87 | | | 118.39 | | | 12.11 | | | 23.22 | | |
| Approach LOS | E | | | F | | | B | | | C | | |
| d_I, Intersection Delay [s/veh] | 31.88 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.755 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#32: El Camino Real (SR 82)/Santa Cruz Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 13.7 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.730 |

**Intersection Setup**

| Name | Santa Cruz Avenue | | | Santa Cruz Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Pocket Length [ft] | 140.00 | 100.00 | 140.00 | 50.00 | 100.00 | 100.00 | 100.00 | 100.00 | 280.00 | 100.00 | 100.00 | 105.00 |
| Speed [mph] | 30.00 | | | 25.00 | | | 35.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Santa Cruz Avenue | | | Santa Cruz Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 172 | 50 | 137 | 50 | 58 | 43 | 0 | 1406 | 41 | 0 | 1451 | 87 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.70 | 10.00 | 0.70 | 2.00 | 5.20 | 7.00 | 0.00 | 1.40 | 2.40 | 0.00 | 1.20 | 1.70 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 73 | 0 | 0 | 99 |
| Total Hourly Volume [veh/h] | 172 | 50 | 137 | 50 | 58 | 43 | 0 | 1406 | 0 | 0 | 1451 | 0 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 1.0000 | 0.9700 | 0.9700 | 1.0000 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 44 | 13 | 35 | 13 | 15 | 11 | 0 | 362 | 0 | 0 | 374 | 0 |
| Total Analysis Volume [veh/h] | 177 | 52 | 141 | 52 | 60 | 44 | 0 | 1449 | 0 | 0 | 1496 | 0 |
| Presence of On-Street Parking | no | | no | no | | no | | | no | | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 20 | | | 27 | | | 66 | | | 41 | | |
| Bicycle Volume [bicycles/h] | 14 | | | 12 | | | 4 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | yes |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 92.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 8 | 0 | 0 | 6 | 0 | 0 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 25 | 0 | 0 | 17 | 0 | 0 | 94 | 0 | 0 | 94 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | no | | | no | | | no | | | no | |
| Maximum Recall | | no | | | no | | | no | | | no | |
| Pedestrian Recall | | no | | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | C | R | C | R |
|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 13 | 13 | 90 | 90 | 90 | 90 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.15 | 0.10 | 0.10 | 0.66 | 0.66 | 0.66 | 0.66 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.03 | 0.10 | 0.03 | 0.07 | 0.45 | 0.00 | 0.46 | 0.00 |
| Total Saturation Flow Adjustment | 0.84 | 0.82 | 0.76 | 0.84 | 0.80 | 0.84 | 0.75 | 0.85 | 0.75 |
| s, saturation flow rate [veh/h] | 1597 | 1555 | 1443 | 1593 | 1522 | 3211 | 1419 | 3217 | 1429 |
| c, Capacity [veh/h] | 247 | 240 | 223 | 152 | 146 | 2125 | 939 | 2129 | 946 |
| d1, Uniform Delay [s] | 54.68 | 50.30 | 53.89 | 57.50 | 59.70 | 14.18 | 7.78 | 14.54 | 7.78 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 16.42 | 2.06 | 12.90 | 6.01 | 25.80 | 1.79 | 0.00 | 1.97 | 0.00 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.45 | 1.45 | 1.45 | 1.45 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.12 | 0.12 | 0.12 | 0.12 |

**Lane Group Results**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.72 | 0.22 | 0.63 | 0.34 | 0.71 | 0.68 | 0.00 | 0.70 | 0.00 |
| d, Delay for Lane Group [s/veh] | 71.10 | 52.37 | 66.79 | 63.51 | 85.50 | 3.46 | 0.91 | 3.68 | 0.91 |
| Lane Group LOS | E | D | E | E | F | A | A | A | A |
| Critical Lane Group | yes | no | no | no | yes | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 7.63 | 1.87 | 5.84 | 2.04 | 4.67 | 6.59 | 0.00 | 7.21 | 0.00 |
| 50th-Percentile Queue Length [ft] | 190.71 | 46.82 | 145.99 | 51.12 | 116.63 | 164.86 | 0.00 | 180.27 | 0.00 |
| 95th-Percentile Queue Length [veh] | 13.86 | 4.28 | 11.16 | 4.63 | 9.30 | 12.31 | 0.00 | 13.24 | 0.00 |
| 95th-Percentile Queue Length [ft] | 346.61 | 107.11 | 279.00 | 115.76 | 232.49 | 307.86 | 0.00 | 331.05 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 71.10 | 52.37 | 66.79 | 63.51 | 85.50 | 85.50 | 0.00 | 3.46 | 0.91 | 0.00 | 3.68 | 0.91 |
| Movement LOS | E | D | E | E | F | F | | A | A | | A | A |
| d_A, Approach Delay [s/veh] | 66.83 | | | 78.17 | | | 3.46 | | | 3.68 | | |
| Approach LOS | E | | | E | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 13.66 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.730 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | 4 | - | 8 | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#33: El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 44.6 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.872 |

**Intersection Setup**

| Name | Menlo Avenue | | | Ravenswood Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 240.00 | 100.00 | 135.00 | 320.00 | 100.00 | 100.00 | 240.00 | 100.00 | 65.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 35.00 | | | 35.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | no | | | yes | | |

**Volumes**

| Name | Menlo Avenue | | | Ravenswood Avenue | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 44 | 348 | 108 | 451 | 249 | 80 | 113 | 1339 | 590 | 180 | 1154 | 39 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 4.50 | 1.10 | 0.00 | 0.40 | 0.40 | 1.30 | 0.90 | 1.80 | 1.70 | 0.60 | 1.40 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 80 | 0 | 0 | 454 | 0 | 0 | 33 |
| Total Hourly Volume [veh/h] | 44 | 348 | 108 | 451 | 249 | 0 | 113 | 1339 | 136 | 180 | 1154 | 6 |
| Peak Hour Factor | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 | 0.9800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 11 | 89 | 28 | 115 | 64 | 0 | 29 | 342 | 35 | 46 | 294 | 2 |
| Total Analysis Volume [veh/h] | 45 | 355 | 110 | 460 | 254 | 0 | 115 | 1366 | 139 | 184 | 1178 | 6 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 31 | | | 12 | | | 0 | | | 37 | | |
| Bicycle Volume [bicycles/h] | 13 | | | 14 | | | 5 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 109.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 8 | 8 | 8 | 4 | 4 | 4 | 1 | 6 | 6 | 5 | 2 | 2 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 4 | 16 | 16 | 4 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 25 | 25 | 25 | 27 | 27 | 27 | 17 | 64 | 64 | 20 | 67 | 67 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 6.0 | 20.0 | 20.0 | 20.0 | 20.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 23 | 23 | 23 | 13 | 60 | 60 | 16 | 63 | 63 |
| g / C, Green / Cycle | 0.15 | 0.17 | 0.17 | 0.17 | 0.10 | 0.44 | 0.44 | 0.12 | 0.46 | 0.46 |
| (v / s)_i Volume / Saturation Flow Rate | 0.15 | 0.13 | 0.13 | 0.00 | 0.06 | 0.38 | 0.09 | 0.10 | 0.33 | 0.00 |
| Total Saturation Flow Adjustment | 0.91 | 0.92 | 1.00 | 0.84 | 0.94 | 0.94 | 0.84 | 0.94 | 0.94 | 0.85 |
| s, saturation flow rate [veh/h] | 3447 | 3491 | 1892 | 1594 | 1789 | 3554 | 1588 | 1794 | 3568 | 1615 |
| c, Capacity [veh/h] | 532 | 590 | 320 | 270 | 171 | 1568 | 701 | 211 | 1653 | 748 |
| d1, Uniform Delay [s] | 57.06 | 54.07 | 54.22 | 46.94 | 59.44 | 34.50 | 23.27 | 58.99 | 29.25 | 19.66 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 29.90 | 9.79 | 18.10 | 0.00 | 19.13 | 6.94 | 0.63 | 35.77 | 2.65 | 0.02 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.67 | 1.67 | 1.67 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.85 | 0.91 | 0.42 | 0.42 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.96 | 0.78 | 0.79 | 0.00 | 0.67 | 0.87 | 0.20 | 0.87 | 0.71 | 0.01 |
| d, Delay for Lane Group [s/veh] | 86.97 | 63.86 | 72.32 | 46.94 | 78.58 | 36.18 | 20.36 | 89.51 | 15.06 | 8.36 |
| Lane Group LOS | F | E | E | D | E | D | C | F | B | A |
| Critical Lane Group | yes | no | yes | no | no | yes | no | yes | no | no |
| 50th-Percentile Queue Length [veh] | 13.94 | 10.47 | 11.31 | 0.00 | 4.96 | 29.05 | 2.74 | 8.88 | 14.96 | 0.06 |
| 50th-Percentile Queue Length [ft] | 348.56 | 261.70 | 282.84 | 0.00 | 124.02 | 726.22 | 68.54 | 221.94 | 373.96 | 1.55 |
| 95th-Percentile Queue Length [veh] | 23.17 | 18.04 | 19.28 | 0.00 | 9.78 | 46.57 | 5.97 | 15.71 | 24.68 | 0.16 |
| 95th-Percentile Queue Length [ft] | 579.14 | 450.97 | 481.99 | 0.00 | 244.42 | 1164.13 | 149.28 | 392.70 | 617.11 | 4.01 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 86.97 | 86.97 | 86.97 | 63.86 | 72.32 | 46.94 | 78.58 | 36.18 | 20.36 | 89.51 | 15.06 | 8.36 |
| Movement LOS | F | F | F | E | E | D | E | D | C | F | B | A |
| d_A, Approach Delay [s/veh] | 86.97 | | | 66.87 | | | 37.83 | | | 25.05 | | |
| Approach LOS | F | | | E | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 44.55 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.872 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | 8 | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#34: El Camino Real (SR 82)/Roble Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 10.4 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.586 |

**Intersection Setup**

| Name | Roble Avenue | | | | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 200.00 | 100.00 | 100.00 | 115.00 | 100.00 | 210.00 |
| Speed [mph] | 25.00 | | | 15.00 | | | 35.00 | | | 35.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | no | | |

**Volumes**

| Name | Roble Avenue | | | | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 66 | 6 | 36 | 58 | 45 | 48 | 72 | 1845 | 20 | 68 | 1586 | 54 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.20 | 0.00 | 0.00 | 1.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 66 | 6 | 36 | 58 | 45 | 9 | 72 | 1845 | 20 | 68 | 1586 | 54 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 17 | 2 | 9 | 15 | 12 | 2 | 19 | 476 | 5 | 18 | 409 | 14 |
| Total Analysis Volume [veh/h] | 68 | 6 | 37 | 60 | 46 | 9 | 74 | 1902 | 21 | 70 | 1635 | 56 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 11 | | | 8 | | | 16 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 9 | | | 16 | | | 5 | | | 1 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 65.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 8 | 8 | 8 | 4 | 4 | 4 | 1 | 6 | 6 | 5 | 2 | 2 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 16 | 16 | 16 | 16 | 4 | 16 | 16 | 4 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Split [s] | 23 | 23 | 23 | 23 | 23 | 23 | 19 | 98 | 98 | 15 | 94 | 94 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 | 20.0 | 6.0 | 6.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | R | L | C | L | C |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 19 | 19 | 19 | 15 | 94 | 11 | 90 |
| g / C, Green / Cycle | 0.14 | 0.14 | 0.14 | 0.11 | 0.69 | 0.08 | 0.66 |
| (v / s)_i Volume / Saturation Flow Rate | 0.10 | 0.07 | 0.01 | 0.04 | 0.38 | 0.04 | 0.33 |
| Total Saturation Flow Adjustment | 0.58 | 0.76 | 0.85 | 0.95 | 0.90 | 0.95 | 0.89 |
| s, saturation flow rate [veh/h] | 1093 | 1441 | 1615 | 1805 | 5106 | 1805 | 5099 |
| c, Capacity [veh/h] | 153 | 201 | 226 | 199 | 3529 | 146 | 3374 |
| d1, Uniform Delay [s] | 56.01 | 54.32 | 50.61 | 56.13 | 10.40 | 59.76 | 11.64 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 25.89 | 9.52 | 0.33 | 5.25 | 0.61 | 10.85 | 0.53 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.29 | 1.00 | 0.40 |

**Lane Group Results**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.73 | 0.53 | 0.04 | 0.37 | 0.54 | 0.48 | 0.50 |
| d, Delay for Lane Group [s/veh] | 81.91 | 63.85 | 50.94 | 61.38 | 3.66 | 70.62 | 5.20 |
| Lane Group LOS | F | E | D | E | A | E | A |
| Critical Lane Group | yes | no | no | no | yes | yes | no |
| 50th-Percentile Queue Length [veh] | 4.94 | 4.25 | 0.32 | 2.81 | 6.34 | 2.84 | 6.69 |
| 50th-Percentile Queue Length [ft] | 123.49 | 106.19 | 7.91 | 70.22 | 158.50 | 71.00 | 167.37 |
| 95th-Percentile Queue Length [veh] | 9.74 | 8.61 | 0.80 | 6.10 | 11.93 | 6.15 | 12.47 |
| 95th-Percentile Queue Length [ft] | 243.57 | 215.31 | 20.08 | 152.38 | 298.21 | 153.84 | 311.66 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 81.91 | 81.91 | 81.91 | 63.85 | 63.85 | 50.94 | 61.38 | 3.66 | 3.66 | 70.62 | 5.20 | 5.20 |
| Movement LOS | F | F | F | E | E | D | E | A | A | E | A | A |
| d_A, Approach Delay [s/veh] | 81.91 | | | 62.84 | | | 5.80 | | | 7.80 | | |
| Approach LOS | F | | | E | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 10.45 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.586 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#35: El Camino Real (SR 82)/Middle Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 19.5 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.682 |

**Intersection Setup**

| Name | Middle Avenue | | El Camino Real (SR 82) | | El Camino Real (SR 82) | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Northwestbound | | Southeastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 1 | 1 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 55.00 | 275.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | no | | yes | |

**Volumes**

| Name | Middle Avenue | | El Camino Real (SR 82) | | El Camino Real (SR 82) | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 249 | 182 | 323 | 1917 | 1334 | 86 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.40 | 1.60 | 0.90 | 1.70 | 1.60 | 1.20 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 211 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 249 | 0 | 323 | 1917 | 1334 | 86 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 64 | 0 | 83 | 494 | 344 | 22 |
| Total Analysis Volume [veh/h] | 257 | 0 | 333 | 1976 | 1375 | 89 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 27 | | 0 | | 17 | |
| Bicycle Volume [bicycles/h] | 2 | | 7 | | 4 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 76.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 4 | 0 | 1 | 6 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 5 | 0 | 5 | 5 | 5 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 32 | 0 | 43 | 104 | 61 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 5 | 0 | 0 | 1 | 1 | 0 |
| Pedestrian Clearance [s] | 10 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | no | | no | no | no | |
| Maximum Recall | no | | no | no | no | |
| Pedestrian Recall | no | | no | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 50.0 | 50.0 | 50.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 28 | 28 | 39 | 100 | 57 |
| g / C, Green / Cycle | 0.21 | 0.21 | 0.29 | 0.74 | 0.42 |
| (v / s)_i Volume / Saturation Flow Rate | 0.15 | 0.00 | 0.19 | 0.39 | 0.29 |
| Total Saturation Flow Adjustment | 0.93 | 0.84 | 0.94 | 0.89 | 0.89 |
| s, saturation flow rate [veh/h] | 1763 | 1590 | 1789 | 5089 | 5048 |
| c, Capacity [veh/h] | 363 | 327 | 513 | 3742 | 2116 |
| d1, Uniform Delay [s] | 50.20 | 42.88 | 42.50 | 7.79 | 32.32 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 11.10 | 0.00 | 6.24 | 0.54 | 1.89 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 0.09 | 0.87 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.71 | 0.00 | 0.65 | 0.53 | 0.69 |
| d, Delay for Lane Group [s/veh] | 61.30 | 42.88 | 48.58 | 1.21 | 30.12 |
| Lane Group LOS | E | D | D | A | C |
| Critical Lane Group | yes | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 10.65 | 0.00 | 11.98 | 3.21 | 17.25 |
| 50th-Percentile Queue Length [ft] | 266.19 | 0.00 | 299.58 | 80.14 | 431.15 |
| 95th-Percentile Queue Length [veh] | 18.30 | 0.00 | 20.26 | 6.82 | 28.14 |
| 95th-Percentile Queue Length [ft] | 457.55 | 0.00 | 506.60 | 170.43 | 703.53 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 61.30 | 42.88 | 48.58 | 1.21 | 30.12 | 30.12 |
| Movement LOS | E | D | D | A | C | C |
| d_A, Approach Delay [s/veh] | 61.30 | | 8.04 | | 30.12 | |
| Approach LOS | E | | A | | C | |
| d_I, Intersection Delay [s/veh] | 19.46 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.682 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#36: El Camino Real (SR 82)/Cambridge Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 10.4 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.622 |

**Intersection Setup**

| Name | Cambridge Avenue | | | | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 370.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 15.00 | | | 35.00 | | | 35.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | no | | | yes | | |

**Volumes**

| Name | Cambridge Avenue | | | | | | El Camino Real (SR 82) | | | El Camino Real (SR 82) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 26 | 0 | 39 | 4 | 3 | 0 | 310 | 2332 | 6 | 30 | 1660 | 4 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 2.85 | 0.00 | 0.00 | 0.00 | 0.00 | 1.20 | 0.00 | 0.00 | 0.90 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 26 | 0 | 4 | 4 | 3 | 0 | 310 | 2332 | 6 | 30 | 1660 | 4 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 7 | 0 | 1 | 1 | 1 | 0 | 82 | 620 | 2 | 8 | 441 | 1 |
| Total Analysis Volume [veh/h] | 28 | 0 | 4 | 4 | 3 | 0 | 330 | 2481 | 6 | 32 | 1766 | 4 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 1 | | | 2 | | | 0 | | | 3 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 17 | | | 1 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | 1 - ECR |
| Cycle Length [s] | 136 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 111.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 8 | 0 | 1 | 6 | 0 | 5 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 5 | 0 | 0 | 5 | 0 | 5 | 5 | 0 | 5 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 9 | 0 | 0 | 9 | 0 | 45 | 118 | 0 | 9 | 82 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 | 50.0 | 50.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | C | L | C | L | C |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 5 | 5 | 5 | 41 | 114 | 5 | 78 |
| g / C, Green / Cycle | 0.04 | 0.04 | 0.04 | 0.30 | 0.84 | 0.04 | 0.57 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02 | 0.00 | 0.00 | 0.18 | 0.49 | 0.02 | 0.35 |
| Total Saturation Flow Adjustment | 0.70 | 0.83 | 0.82 | 0.95 | 0.90 | 0.95 | 0.90 |
| s, saturation flow rate [veh/h] | 1336 | 1570 | 1564 | 1805 | 5112 | 1805 | 5128 |
| c, Capacity [veh/h] | 53 | 58 | 57 | 544 | 4285 | 66 | 2941 |
| d1, Uniform Delay [s] | 64.34 | 63.25 | 63.38 | 40.60 | 3.47 | 64.23 | 18.89 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 33.03 | 2.31 | 4.29 | 4.96 | 0.58 | 22.99 | 0.92 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.13 | 1.33 | 1.33 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 0.98 | 0.36 | 1.00 | 0.63 |

**Lane Group Results**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.53 | 0.07 | 0.12 | 0.61 | 0.58 | 0.48 | 0.60 |
| d, Delay for Lane Group [s/veh] | 97.37 | 65.56 | 67.67 | 44.94 | 1.82 | 87.22 | 12.91 |
| Lane Group LOS | F | E | E | D | A | F | B |
| Critical Lane Group | yes | no | no | yes | no | no | yes |
| 50th-Percentile Queue Length [veh] | 1.23 | 0.16 | 0.28 | 11.32 | 6.67 | 1.38 | 13.04 |
| 50th-Percentile Queue Length [ft] | 30.86 | 4.03 | 7.11 | 282.88 | 166.64 | 34.51 | 325.96 |
| 95th-Percentile Queue Length [veh] | 2.94 | 0.41 | 0.72 | 19.28 | 12.42 | 3.26 | 21.82 |
| 95th-Percentile Queue Length [ft] | 73.49 | 10.36 | 18.09 | 482.04 | 310.56 | 81.41 | 545.56 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 97.37 | 97.37 | 65.56 | 67.67 | 67.67 | 67.67 | 44.94 | 1.82 | 1.82 | 87.22 | 12.91 | 12.91 |
| Movement LOS | F | F | E | E | E | E | D | A | A | F | B | B |
| d_A, Approach Delay [s/veh] | 93.39 | | | 67.67 | | | 6.87 | | | 14.23 | | |
| Approach LOS | F | | | E | | | A | | | B | | |
| d_I, Intersection Delay [s/veh] | 10.40 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.622 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#38: Santa Cruz Ave/University Dr (S)**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 19.2 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.619 |

**Intersection Setup**

| Name | Santa Cruz Avenue | | Santa Cruz Avenue | | University Drive | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Northwestbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 1 | 1 | 0 | 1 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 60.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 25.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Santa Cruz Avenue | | Santa Cruz Avenue | | University Drive | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 350 | 328 | 88 | 398 | 363 | 165 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.60 | 0.90 | 0.50 | 2.30 | 0.00 | 0.60 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 350 | 328 | 88 | 398 | 363 | 165 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 95 | 89 | 24 | 108 | 99 | 45 |
| Total Analysis Volume [veh/h] | 380 | 357 | 96 | 433 | 395 | 179 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 23 | | 31 | |
| Bicycle Volume [bicycles/h] | 10 | | 15 | | 8 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Protected | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 2 | 2 | 1 | 6 | 8 | 8 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 4 | 4 | 5 | 4 | 4 | 4 |
| Maximum Green [s] | 16 | 16 | 30 | 16 | 16 | 16 |
| Amber [s] | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.5 |
| All red [s] | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 |
| Split [s] | 24 | 24 | 10 | 34 | 26 | 26 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 1 | 0 | 1 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | | no | no | no | |
| Maximum Recall | yes | | no | yes | no | |
| Pedestrian Recall | yes | | no | yes | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 6.0 | 6.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | L | C | L | R |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 20 | 6 | 30 | 22 | 22 |
| g / C, Green / Cycle | 0.33 | 0.33 | 0.10 | 0.50 | 0.37 | 0.37 |
| (v / s)_i Volume / Saturation Flow Rate | 0.21 | 0.22 | 0.05 | 0.23 | 0.22 | 0.11 |
| Total Saturation Flow Adjustment | 0.97 | 0.84 | 0.95 | 0.98 | 0.95 | 0.84 |
| s, saturation flow rate [veh/h] | 1852 | 1601 | 1796 | 1857 | 1805 | 1605 |
| c, Capacity [veh/h] | 617 | 534 | 180 | 929 | 662 | 589 |
| d1, Uniform Delay [s] | 16.78 | 17.16 | 25.67 | 9.78 | 15.40 | 13.54 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.55 | 6.54 | 10.94 | 1.68 | 3.94 | 1.33 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

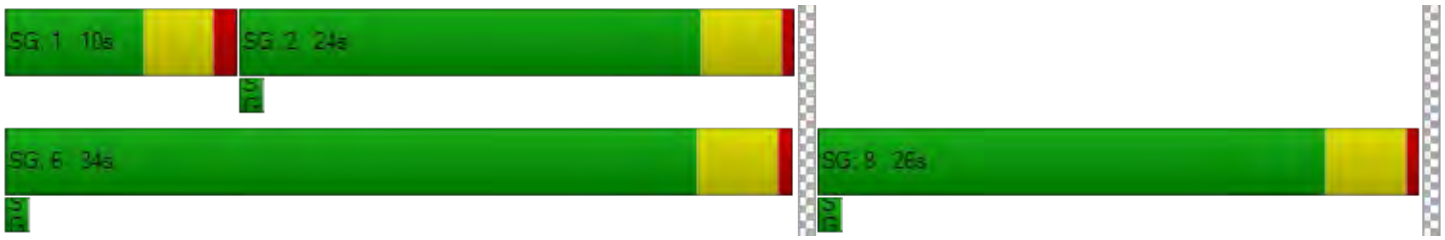
| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.62 | 0.67 | 0.53 | 0.47 | 0.60 | 0.30 |
| d, Delay for Lane Group [s/veh] | 21.33 | 23.70 | 36.61 | 11.46 | 19.34 | 14.87 |
| Lane Group LOS | C | C | D | B | B | B |
| Critical Lane Group | no | yes | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 6.26 | 6.17 | 1.81 | 5.41 | 6.27 | 2.38 |
| 50th-Percentile Queue Length [ft] | 156.61 | 154.35 | 45.25 | 135.27 | 156.63 | 59.61 |
| 95th-Percentile Queue Length [veh] | 11.81 | 11.67 | 4.16 | 10.49 | 11.81 | 5.30 |
| 95th-Percentile Queue Length [ft] | 295.31 | 291.86 | 103.92 | 262.26 | 295.35 | 132.39 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 21.33 | 23.70 | 36.61 | 11.46 | 19.34 | 14.87 |
| Movement LOS | C | C | D | B | B | B |
| d_A, Approach Delay [s/veh] | 22.47 | | 16.03 | | 17.95 | |
| Approach LOS | C | | B | | B | |
| d_I, Intersection Delay [s/veh] | 19.21 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.619 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#39: Sand Hill Rd/Santa Cruz Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 49.9 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.709 |

**Intersection Setup**

| Name | Sand Hill Road | | | Sand Hill Road | | | Santa Cruz Avenue | | | Santa Cruz Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 2 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 1 |
| Pocket Length [ft] | 210.00 | 100.00 | 240.00 | 135.00 | 100.00 | 140.00 | 100.00 | 100.00 | 100.00 | 150.00 | 100.00 | 180.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 35.00 | | | 35.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Sand Hill Road | | | Sand Hill Road | | | Santa Cruz Avenue | | | Santa Cruz Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 361 | 611 | 215 | 424 | 1038 | 208 | 158 | 691 | 188 | 101 | 526 | 178 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.10 | 0.80 | 0.90 | 0.00 | 0.80 | 1.00 | 1.90 | 0.70 | 0.50 | 0.00 | 0.20 | 1.70 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 361 | 611 | 215 | 424 | 1038 | 208 | 158 | 691 | 188 | 101 | 526 | 178 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 93 | 157 | 55 | 109 | 268 | 54 | 41 | 178 | 48 | 26 | 136 | 46 |
| Total Analysis Volume [veh/h] | 372 | 630 | 222 | 437 | 1070 | 214 | 163 | 712 | 194 | 104 | 542 | 184 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 1 | | | 12 | | | 5 | | | 3 | | |
| Bicycle Volume [bicycles/h] | 28 | | | 9 | | | 33 | | | 20 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 150 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Protecte |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | 4 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 |
| Maximum Green [s] | 30 | 16 | 16 | 30 | 16 | 16 | 30 | 16 | 16 | 30 | 16 | 16 |
| Amber [s] | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 | 3.0 | 3.5 | 3.5 |
| All red [s] | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 |
| Split [s] | 24 | 54 | 54 | 42 | 72 | 72 | 16 | 42 | 42 | 12 | 38 | 38 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Minimum Recall | no | no | | no | no | | no | no | | no | no | no |
| Maximum Recall | no | yes | | no | yes | | no | no | | no | no | no |
| Pedestrian Recall | no | yes | | no | yes | | no | no | | no | no | no |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 20.0 | 20.0 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 50 | 50 | 38 | 68 | 68 | 12 | 38 | 38 | 8 | 34 | 34 |
| g / C, Green / Cycle | 0.13 | 0.33 | 0.33 | 0.25 | 0.45 | 0.45 | 0.08 | 0.25 | 0.25 | 0.05 | 0.23 | 0.23 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.18 | 0.14 | 0.12 | 0.30 | 0.13 | 0.05 | 0.20 | 0.12 | 0.03 | 0.15 | 0.12 |
| Total Saturation Flow Adjustment | 0.91 | 0.94 | 0.84 | 0.92 | 0.94 | 0.84 | 0.91 | 0.95 | 0.85 | 0.92 | 0.95 | 0.84 |
| s, saturation flow rate [veh/h] | 3467 | 3589 | 1601 | 3505 | 3589 | 1599 | 3440 | 3592 | 1607 | 3505 | 3610 | 1588 |
| c, Capacity [veh/h] | 462 | 1196 | 534 | 888 | 1627 | 725 | 275 | 910 | 407 | 187 | 818 | 360 |
| d1, Uniform Delay [s] | 63.10 | 40.43 | 38.70 | 47.77 | 31.93 | 25.88 | 66.64 | 52.15 | 47.55 | 69.27 | 52.78 | 50.73 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 13.86 | 1.66 | 2.38 | 1.95 | 2.10 | 1.04 | 9.06 | 6.66 | 3.96 | 11.42 | 4.20 | 5.11 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.80 | 0.53 | 0.42 | 0.49 | 0.66 | 0.30 | 0.59 | 0.78 | 0.48 | 0.56 | 0.66 | 0.51 |
| d, Delay for Lane Group [s/veh] | 76.96 | 42.09 | 41.08 | 49.72 | 34.03 | 26.91 | 75.69 | 58.81 | 51.51 | 80.69 | 56.97 | 55.84 |
| Lane Group LOS | E | D | D | D | C | C | E | E | D | F | E | E |
| Critical Lane Group | yes | no | no | no | yes | no | no | yes | no | yes | no | no |
| 50th-Percentile Queue Length [veh] | 9.61 | 12.42 | 7.90 | 8.89 | 20.86 | 6.17 | 3.94 | 17.38 | 7.63 | 2.55 | 12.42 | 7.51 |
| 50th-Percentile Queue Length [ft] | 240.35 | 310.43 | 197.39 | 222.14 | 521.51 | 154.23 | 98.46 | 434.46 | 190.86 | 63.72 | 310.51 | 187.79 |
| 95th-Percentile Queue Length [veh] | 16.79 | 20.90 | 14.26 | 15.72 | 33.70 | 11.67 | 8.09 | 28.34 | 13.87 | 5.61 | 20.91 | 13.69 |
| 95th-Percentile Queue Length [ft] | 419.69 | 522.59 | 356.51 | 393.00 | 842.46 | 291.67 | 202.32 | 708.58 | 346.84 | 140.23 | 522.71 | 342.27 |

**Movement, Approach, & Intersection Results**

| d_M, Delay for Movement [s/veh] | 76.96 | 42.09 | 41.08 | 49.72 | 34.03 | 26.91 | 75.69 | 58.81 | 51.51 | 80.69 | 56.97 | 55.84 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | E | D | D | D | C | C | E | E | D | F | E | E |
| d_A, Approach Delay [s/veh] | 52.51 | | | 37.13 | | | 60.06 | | | 59.69 | | |
| Approach LOS | D | | | D | | | E | | | E | | |
| d_I, Intersection Delay [s/veh] | 49.94 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.709 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#58: University Avenue and Adams Drive**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 87.6 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.000 |

**Intersection Setup**

| Name | University Avenue | | | University Avenue | | | Adams Drive | | | Adams Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 270.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | University Avenue | | | University Avenue | | | Adams Drive | | | Adams Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 1786 | 0 | 0 | 360 | 15 | 25 | 0 | 26 | 0 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 2.40 | 2.00 | 2.00 | 2.50 | 2.00 | 4.00 | 0.00 | 0.00 | 2.00 | 2.00 | 2.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 1786 | 0 | 0 | 360 | 15 | 25 | 0 | 26 | 0 | 0 | 0 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 447 | 0 | 0 | 90 | 4 | 6 | 0 | 7 | 0 | 0 | 0 |
| Total Analysis Volume [veh/h] | 11 | 1786 | 0 | 0 | 360 | 15 | 25 | 0 | 26 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| Flared Lane | | | no | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | no | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 8.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 40.46 | 87.59 | 14.65 | 0.00 | 0.00 | 0.00 |
| Movement LOS | A | A | | | A | A | E | F | B | | | |
| 95th-Percentile Queue Length [veh] | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.91 | 0.91 | 0.91 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft] | 0.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 22.76 | 22.76 | 22.76 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 0.05 | | | 0.00 | | | 27.30 | | | 0.00 | | |
| Approach LOS | A | | | A | | | D | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.67 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |

**Intersection Level Of Service Report**
**#74: University Ave/O'Brien Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 9.7 |
| Analysis Method: | HCM2000 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.710 |

**Intersection Setup**

| Name | University Avenue | | | | O'Brien Drive | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Eastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 1 | 0 |
| Pocket Length [ft] | 90.00 | 100.00 | 100.00 | 100.00 | 45.00 | 100.00 |
| Speed [mph] | 25.00 | | 25.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | University Avenue | | | | O'Brien Drive | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 1724 | 356 | 10 | 171 | 77 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 9.10 | 2.40 | 2.50 | 0.00 | 4.70 | 1.30 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 1724 | 356 | 10 | 171 | 77 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 454 | 94 | 3 | 45 | 20 |
| Total Analysis Volume [veh/h] | 12 | 1815 | 375 | 11 | 180 | 81 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 6 | | 0 | | 1 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 85 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 11.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 6 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lead | - |
| Minimum Green [s] | 5 | 5 | 5 | 0 | 5 | 0 |
| Maximum Green [s] | 30 | 30 | 30 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 9 | 66 | 57 | 0 | 19 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | no | no | | no | |
| Maximum Recall | yes | yes | yes | | yes | |
| Pedestrian Recall | no | yes | yes | | yes | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | C | L | R |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 7 | 64 | 55 | 17 | 17 |
| g / C, Green / Cycle | 0.08 | 0.75 | 0.65 | 0.20 | 0.20 |
| (v / s)_i Volume / Saturation Flow Rate | 0.01 | 0.51 | 0.11 | 0.10 | 0.05 |
| Total Saturation Flow Adjustment | 0.87 | 0.93 | 0.92 | 0.91 | 0.84 |
| s, saturation flow rate [veh/h] | 1654 | 3533 | 3514 | 1724 | 1594 |
| c, Capacity [veh/h] | 136 | 2660 | 2274 | 345 | 319 |
| d1, Uniform Delay [s] | 36.05 | 5.34 | 5.95 | 30.37 | 28.66 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.27 | 1.44 | 0.16 | 5.56 | 1.91 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.09 | 0.68 | 0.17 | 0.52 | 0.25 |
| d, Delay for Lane Group [s/veh] | 37.32 | 6.77 | 6.11 | 35.93 | 30.57 |
| Lane Group LOS | D | A | A | D | C |
| Critical Lane Group | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 0.29 | 14.27 | 2.15 | 4.35 | 1.78 |
| 50th-Percentile Queue Length [ft] | 7.20 | 356.75 | 53.79 | 108.76 | 44.47 |
| 95th-Percentile Queue Length [veh] | 0.73 | 23.65 | 4.84 | 8.78 | 4.09 |
| 95th-Percentile Queue Length [ft] | 18.32 | 591.35 | 121.04 | 219.57 | 102.31 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 37.32 | 6.77 | 6.11 | 6.11 | 35.93 | 30.57 |
| Movement LOS | D | A | A | A | D | C |
| d_A, Approach Delay [s/veh] | 6.97 | | 6.11 | | 34.27 | |
| Approach LOS | A | | A | | C | |
| d_I, Intersection Delay [s/veh] | 9.72 | | | | | |
| Intersection LOS | A | | | | | |
| Intersection V/C | 0.710 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#88: Valparaiso Ave/ University Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 31.5 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.731 |

**Intersection Setup**

| Name | Valparaiso Ave | | | | | | University Drive (North) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 75.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 35.00 | 100.00 | 100.00 |
| Speed [mph] | 35.00 | | | 35.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Valparaiso Ave | | | | | | University Drive (North) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 24 | 467 | 105 | 44 | 456 | 29 | 182 | 24 | 57 | 45 | 41 | 72 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 1.90 | 0.00 | 0.00 | 1.80 | 0.00 | 0.50 | 8.30 | 1.80 | 0.00 | 7.30 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 24 | 467 | 105 | 44 | 456 | 29 | 182 | 24 | 57 | 45 | 41 | 72 |
| Peak Hour Factor | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 6 | 122 | 27 | 11 | 119 | 8 | 47 | 6 | 15 | 12 | 11 | 19 |
| Total Analysis Volume [veh/h] | 25 | 486 | 109 | 46 | 475 | 30 | 190 | 25 | 59 | 47 | 43 | 75 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 22 | | | 1 | | | 13 | | | 11 | | |
| Bicycle Volume [bicycles/h] | 11 | | | 7 | | | 1 | | | 8 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 85 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 4.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 0 | 2 | 0 | 0 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 5 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 9 | 37 | 0 | 9 | 37 | 0 | 0 | 39 | 0 | 0 | 39 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | yes | yes | | yes | yes | | | yes | | | yes | |
| Pedestrian Recall | no | yes | | no | yes | | | yes | | | yes | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 0.0 | 20.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | L | C |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 2.00 | 0.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 42 | 33 | 42 | 33 | 35 | 35 | 35 |
| g / C, Green / Cycle | 0.49 | 0.39 | 0.49 | 0.39 | 0.41 | 0.41 | 0.41 |
| (v / s)_i Volume / Saturation Flow Rate | 0.04 | 0.33 | 0.08 | 0.27 | 0.34 | 0.04 | 0.07 |
| Total Saturation Flow Adjustment | 0.37 | 0.95 | 0.30 | 0.97 | 0.42 | 0.61 | 0.84 |
| s, saturation flow rate [veh/h] | 706 | 1813 | 566 | 1850 | 799 | 1165 | 1602 |
| c, Capacity [veh/h] | 349 | 704 | 280 | 718 | 329 | 480 | 660 |
| d1, Uniform Delay [s] | 12.63 | 23.67 | 14.09 | 21.88 | 22.37 | 15.32 | 15.88 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.40 | 11.92 | 1.26 | 5.70 | 21.19 | 0.41 | 0.59 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.07 | 0.85 | 0.16 | 0.70 | 0.83 | 0.10 | 0.18 |
| d, Delay for Lane Group [s/veh] | 13.03 | 35.59 | 15.35 | 27.57 | 43.57 | 15.73 | 16.47 |
| Lane Group LOS | B | D | B | C | D | B | B |
| Critical Lane Group | no | yes | no | no | yes | no | no |
| 50th-Percentile Queue Length [veh] | 0.35 | 16.48 | 0.69 | 11.96 | 7.74 | 0.75 | 1.95 |
| 50th-Percentile Queue Length [ft] | 8.75 | 411.98 | 17.16 | 298.93 | 193.52 | 18.78 | 48.69 |
| 95th-Percentile Queue Length [veh] | 0.89 | 26.98 | 1.70 | 20.23 | 14.03 | 1.85 | 4.44 |
| 95th-Percentile Queue Length [ft] | 22.16 | 674.43 | 42.41 | 505.63 | 350.79 | 46.22 | 110.88 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 13.03 | 35.59 | 35.59 | 15.35 | 27.57 | 27.57 | 43.57 | 43.57 | 43.57 | 15.73 | 16.47 | 16.47 |
| Movement LOS | B | D | D | B | C | C | D | D | D | B | B | B |
| d_A, Approach Delay [s/veh] | 34.68 | | | 26.55 | | | 43.57 | | | 16.26 | | |
| Approach LOS | C | | | C | | | D | | | B | | |
| d_I, Intersection Delay [s/veh] | 31.52 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.731 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#103: Addison Wesley/Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 81.9 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.650 |

**Intersection Setup**

| Name | Addsion Wesley | | | Addison Wesley | | | Sand Hill Rd | | | Sand Hill Rd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 230.00 | 100.00 | 230.00 | 240.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 40.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | no | | | yes | | | yes | | |

**Volumes**

| Name | Addsion Wesley | | | Addison Wesley | | | Sand Hill Rd | | | Sand Hill Rd | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 209 | 3 | 108 | 19 | 3 | 66 | 18 | 794 | 93 | 69 | 1750 | 16 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.50 | 33.30 | 3.70 | 5.30 | 0.00 | 0.00 | 11.10 | 1.50 | 3.20 | 7.20 | 1.40 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 209 | 3 | 108 | 19 | 3 | 66 | 18 | 794 | 93 | 69 | 1750 | 16 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 54 | 1 | 28 | 5 | 1 | 17 | 5 | 205 | 24 | 18 | 451 | 4 |
| Total Analysis Volume [veh/h] | 215 | 3 | 111 | 20 | 3 | 68 | 19 | 819 | 96 | 71 | 1804 | 16 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 3 | | |
| Bicycle Volume [bicycles/h] | 1 | | | 0 | | | 17 | | | 19 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 60.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 8 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lag | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 4 | 10 | 0 | 4 | 10 | 0 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 4.0 | 0.0 | 3.0 | 4.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 13 | 0 | 0 | 13 | 0 | 12 | 52 | 0 | 12 | 52 | 0 |
| Vehicle Extension [s] | 0.0 | 2.9 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 6.0 | 0.0 | 2.0 | 6.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 19 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | yes | | no | yes | |
| Maximum Recall | | no | | | no | | no | no | | no | no | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 20.0 | 20.0 | 0.0 | 20.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | L | C | L | C | R | L | C |
|---|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 11 | 11 | 11 | 11 | 10 | 50 | 50 | 10 | 50 |
| g / C, Green / Cycle | 0.10 | 0.10 | 0.10 | 0.10 | 0.09 | 0.44 | 0.44 | 0.09 | 0.44 |
| (v / s)_i Volume / Saturation Flow Rate | 0.08 | 0.07 | 0.01 | 0.04 | 0.01 | 0.23 | 0.06 | 0.04 | 0.51 |
| Total Saturation Flow Adjustment | 0.68 | 0.81 | 0.90 | 0.86 | 0.86 | 0.94 | 0.81 | 0.89 | 0.94 |
| s, saturation flow rate [veh/h] | 2586 | 1536 | 1714 | 1627 | 1625 | 3564 | 1534 | 1684 | 3563 |
| c, Capacity [veh/h] | 250 | 148 | 165 | 157 | 143 | 1563 | 673 | 148 | 1563 |
| d1, Uniform Delay [s] | 50.81 | 50.16 | 47.08 | 48.65 | 48.00 | 23.32 | 19.16 | 49.53 | 32.00 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 31.92 | 28.88 | 1.49 | 9.13 | 1.93 | 1.26 | 0.44 | 10.78 | 81.50 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.75 | 0.12 | 0.45 | 0.13 | 0.52 | 0.14 | 0.48 | 1.16 |
| d, Delay for Lane Group [s/veh] | 82.73 | 79.03 | 48.57 | 57.78 | 49.93 | 24.58 | 19.61 | 60.31 | 113.50 |
| Lane Group LOS | F | E | D | E | D | C | B | E | F |
| Critical Lane Group | yes | no | no | yes | yes | no | no | no | yes |
| 50th-Percentile Queue Length [veh] | 4.93 | 4.31 | 0.63 | 2.42 | 0.61 | 11.19 | 1.99 | 2.46 | 53.26 |
| 50th-Percentile Queue Length [ft] | 123.35 | 107.77 | 15.79 | 60.51 | 15.21 | 279.70 | 49.76 | 61.45 | 1331.53 |
| 95th-Percentile Queue Length [veh] | 9.73 | 8.72 | 1.57 | 5.36 | 1.51 | 19.09 | 4.52 | 5.44 | 85.22 |
| 95th-Percentile Queue Length [ft] | 243.34 | 217.94 | 39.17 | 134.10 | 37.79 | 477.37 | 113.03 | 135.91 | 2130.49 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 82.73 | 82.73 | 79.03 | 48.57 | 57.78 | 57.78 | 49.93 | 24.58 | 19.61 | 60.31 | 113.50 | 113.50 |
| Movement LOS | F | F | E | D | E | E | D | C | B | E | F | F |
| d_A, Approach Delay [s/veh] | 81.48 | | | 55.76 | | | 24.59 | | | 111.50 | | |
| Approach LOS | F | | | E | | | C | | | F | | |
| d_I, Intersection Delay [s/veh] | 81.88 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |
| Intersection V/C | 0.650 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#107: Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 51.3 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.732 |

**Intersection Setup**

| Name | Santa Cruz Avenue | | Junipero Serra Blvd | | Alpine Road | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Westbound | | Northeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Left | Right | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 0 | 0 | 0 |
| Pocket Length [ft] | 210.00 | 100.00 | 300.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Santa Cruz Avenue | | Junipero Serra Blvd | | Alpine Road | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 373 | 638 | 423 | 398 | 535 | 100 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.30 | 1.10 | 0.00 | 0.80 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 373 | 638 | 423 | 398 | 535 | 100 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 96 | 164 | 109 | 103 | 138 | 26 |
| Total Analysis Volume [veh/h] | 385 | 658 | 436 | 410 | 552 | 103 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 29 | | 41 | | 20 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | yes |
| Signal Coordination Group | - |
| Cycle Length [s] | 150 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 7 | 0 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | Lead | - | - | - |
| Minimum Green [s] | 0 | 5 | 5 | 0 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 30 | 0 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 50 | 62 | 0 | 38 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | no | no | | no | |
| Maximum Recall | | yes | yes | | yes | |
| Pedestrian Recall | | yes | yes | | yes | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | L | R | C | R |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 46 | 58 | 58 | 34 | 34 |
| g / C, Green / Cycle | 0.31 | 0.39 | 0.39 | 0.23 | 0.23 |
| (v / s)_i Volume / Saturation Flow Rate | 0.23 | 0.27 | 0.29 | 0.17 | 0.07 |
| Total Saturation Flow Adjustment | 0.80 | 0.85 | 0.76 | 0.86 | 0.76 |
| s, saturation flow rate [veh/h] | 4574 | 1620 | 1438 | 3256 | 1442 |
| c, Capacity [veh/h] | 1403 | 626 | 556 | 738 | 327 |
| d1, Uniform Delay [s] | 46.70 | 38.61 | 39.47 | 54.01 | 48.30 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.61 | 6.30 | 8.49 | 6.83 | 2.51 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

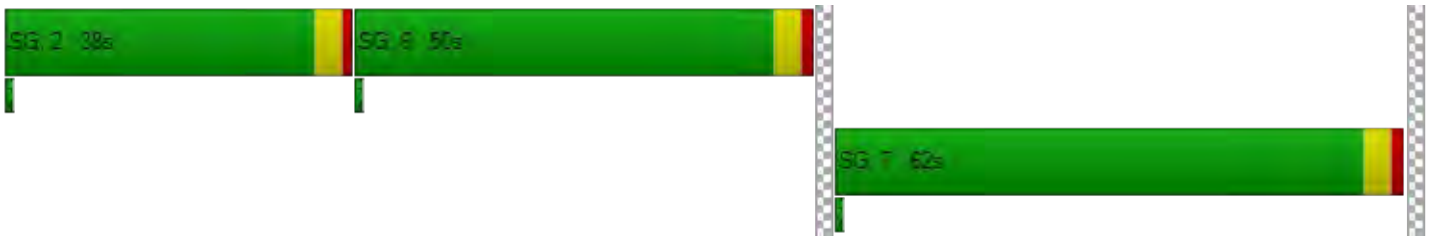
| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.74 | 0.70 | 0.74 | 0.75 | 0.32 |
| d, Delay for Lane Group [s/veh] | 50.31 | 44.90 | 47.96 | 60.84 | 50.82 |
| Lane Group LOS | D | D | D | E | D |
| Critical Lane Group | yes | no | yes | yes | no |
| 50th-Percentile Queue Length [veh] | 16.90 | 17.69 | 17.31 | 13.38 | 3.91 |
| 50th-Percentile Queue Length [ft] | 422.60 | 442.30 | 432.85 | 334.38 | 97.84 |
| 95th-Percentile Queue Length [veh] | 27.62 | 28.82 | 28.24 | 22.32 | 8.05 |
| 95th-Percentile Queue Length [ft] | 690.53 | 720.54 | 706.12 | 558.05 | 201.27 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 50.31 | 50.31 | 44.90 | 47.96 | 60.84 | 50.82 |
| Movement LOS | D | D | D | D | E | D |
| d_A, Approach Delay [s/veh] | 50.31 | | 46.38 | | 59.26 | |
| Approach LOS | D | | D | | E | |
| d_I, Intersection Delay [s/veh] | 51.31 | | | | | |
| Intersection LOS | D | | | | | |
| Intersection V/C | 0.732 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#110: Marsh Road/101 NB Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 49.8 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.851 |

**Intersection Setup**

| Name | Marsh Road | | Marsh Road | | 101 NB Ramps | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Northwestbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 1 | 1 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 500.00 | 360.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | no | | yes | |

**Volumes**

| Name | Marsh Road | | Marsh Road | | 101 NB Ramps | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2255 | 0 | 0 | 567 | 544 | 239 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 4.40 | 0.00 | 0.00 | 3.00 | 5.10 | 12.10 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2255 | 0 | 0 | 567 | 544 | 239 |
| Peak Hour Factor | 0.9600 | 1.0000 | 1.0000 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 587 | 0 | 0 | 148 | 142 | 62 |
| Total Analysis Volume [veh/h] | 2349 | 0 | 0 | 591 | 567 | 249 |
| Presence of On-Street Parking | no | | | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 1 | | 2 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 25.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Permissive | Permissive | Protected | Overlap |
|---|---|---|---|---|---|---|
| Signal Group | 2 | 0 | 0 | 6 | 8 | 1 |
| Auxiliary Signal Groups | | | | | | 1,6,8 |
| Lead / Lag | - | - | - | - | Lag | - |
| Minimum Green [s] | 8 | 0 | 0 | 8 | 6 | 4 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 3.6 | 0.0 | 0.0 | 3.6 | 3.2 | 3.2 |
| All red [s] | 0.5 | 0.0 | 0.0 | 0.5 | 1.0 | 0.0 |
| Split [s] | 64 | 0 | 0 | 72 | 28 | 8 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 2.0 |
| Walk [s] | 7 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 18 | 0 | 0 | 0 | 20 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 2.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | yes | | | yes | no | no |
| Maximum Recall | no | | | no | no | no |
| Pedestrian Recall | no | | | no | no | no |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 0.0 | 0.0 | 20.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | L | R |
|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 62 | 70 | 26 | 98 |
| g / C, Green / Cycle | 0.62 | 0.70 | 0.26 | 0.98 |
| (v / s)_i Volume / Saturation Flow Rate | 0.68 | 0.17 | 0.17 | 0.17 |
| Total Saturation Flow Adjustment | 0.91 | 0.92 | 0.88 | 0.76 |
| s, saturation flow rate [veh/h] | 3465 | 3512 | 3335 | 1441 |
| c, Capacity [veh/h] | 2148 | 2459 | 867 | 1412 |
| d1, Uniform Delay [s] | 19.00 | 5.41 | 32.99 | 0.02 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 50.23 | 0.23 | 3.83 | 0.27 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | |
|---|---|---|---|---|
| X, volume / capacity | 1.09 | 0.24 | 0.65 | 0.18 |
| d, Delay for Lane Group [s/veh] | 69.23 | 5.64 | 36.82 | 0.30 |
| Lane Group LOS | E | A | D | A |
| Critical Lane Group | yes | no | no | yes |
| 50th-Percentile Queue Length [veh] | 56.66 | 3.57 | 8.47 | 0.50 |
| 50th-Percentile Queue Length [ft] | 1416.45 | 89.34 | 211.80 | 12.54 |
| 95th-Percentile Queue Length [veh] | 90.65 | 7.47 | 15.11 | 1.26 |
| 95th-Percentile Queue Length [ft] | 2266.33 | 186.66 | 377.79 | 31.41 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 69.23 | 0.00 | 0.00 | 5.64 | 36.82 | 0.30 |
| Movement LOS | E | | | A | D | A |
| d_A, Approach Delay [s/veh] | 69.23 | | 5.64 | | 25.67 | |
| Approach LOS | E | | A | | C | |
| d_I, Intersection Delay [s/veh] | 49.76 | | | | | |
| Intersection LOS | D | | | | | |
| Intersection V/C | 0.851 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#132: Oak Ave/Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 6.2 |
| Analysis Method: | HCM2000 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.556 |

**Intersection Setup**

| Name | Sand Hill Road | | Sand Hill Road | | Oak Avenue | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 1 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 95.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Sand Hill Road | | Sand Hill Road | | Oak Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 912 | 1585 | 100 | 29 | 88 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 1.10 | 0.80 | 0.00 | 0.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 912 | 1585 | 100 | 29 | 88 |
| Peak Hour Factor | 1.0000 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 235 | 409 | 26 | 7 | 23 |
| Total Analysis Volume [veh/h] | 0 | 940 | 1634 | 103 | 30 | 91 |
| Presence of On-Street Parking | | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 23 | | 0 | | 2 | |
| Bicycle Volume [bicycles/h] | 16 | | 34 | | 1 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 150 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 3.00 |

**Phasing & Timing**

| Control Type | Permissive | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 6 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | - | - | Lead | - |
| Minimum Green [s] | 0 | 5 | 5 | 0 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 30 | 0 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 130 | 130 | 0 | 20 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | no | | no | |
| Maximum Recall | | yes | yes | | yes | |
| Pedestrian Recall | | yes | yes | | yes | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | L | R |
|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 128 | 128 | 18 | 18 |
| g / C, Green / Cycle | 0.85 | 0.85 | 0.12 | 0.12 |
| (v / s)_i Volume / Saturation Flow Rate | 0.26 | 0.49 | 0.02 | 0.06 |
| Total Saturation Flow Adjustment | 0.94 | 0.94 | 0.95 | 0.85 |
| s, saturation flow rate [veh/h] | 3578 | 3557 | 1805 | 1615 |
| c, Capacity [veh/h] | 3053 | 3035 | 217 | 194 |
| d1, Uniform Delay [s] | 2.19 | 3.15 | 59.06 | 61.55 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.26 | 0.79 | 1.33 | 7.96 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | |
|---|---|---|---|---|
| X, volume / capacity | 0.31 | 0.57 | 0.14 | 0.47 |
| d, Delay for Lane Group [s/veh] | 2.45 | 3.94 | 60.39 | 69.50 |
| Lane Group LOS | A | A | E | E |
| Critical Lane Group | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 5.10 | 13.82 | 1.21 | 3.98 |
| 50th-Percentile Queue Length [ft] | 127.39 | 345.60 | 30.21 | 99.48 |
| 95th-Percentile Queue Length [veh] | 9.99 | 22.99 | 2.88 | 8.16 |
| 95th-Percentile Queue Length [ft] | 249.81 | 574.73 | 72.05 | 204.05 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 2.45 | 3.94 | 3.94 | 60.39 | 69.50 |
| Movement LOS | | A | A | A | E | E |
| d_A, Approach Delay [s/veh] | 2.45 | | 3.94 | | 67.25 | |
| Approach LOS | A | | A | | E | |
| d_I, Intersection Delay [s/veh] | 6.18 | | | | | |
| Intersection LOS | A | | | | | |
| Intersection V/C | 0.556 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#156: Saga Ln/Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 35.2 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.516 |

**Intersection Setup**

| Name | Saga Ln | | | Saga Ln | | | Sand Hill Road | | | Sand Hill Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 200.00 | 100.00 | 100.00 | 230.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Saga Ln | | | Saga Ln | | | Sand Hill Road | | | Sand Hill Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 108 | 0 | 113 | 90 | 0 | 103 | 65 | 945 | 6 | 28 | 1307 | 20 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 4.60 | 0.00 | 2.70 | 2.20 | 0.00 | 1.90 | 3.10 | 0.50 | 0.00 | 14.30 | 0.50 | 5.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 108 | 0 | 113 | 90 | 0 | 103 | 65 | 945 | 6 | 28 | 1307 | 20 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 29 | 0 | 30 | 24 | 0 | 27 | 17 | 251 | 2 | 7 | 348 | 5 |
| Total Analysis Volume [veh/h] | 115 | 0 | 120 | 96 | 0 | 110 | 69 | 1005 | 6 | 30 | 1390 | 21 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 3 | | | 16 | | | 3 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 12 | | | 0 | | | 22 | | | 22 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 20.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 8 | 0 | 0 | 8 | 0 | 4 | 10 | 0 | 6 | 10 | 0 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 4.0 | 0.0 | 3.0 | 4.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 29 | 0 | 0 | 29 | 0 | 14 | 47 | 0 | 14 | 40 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 5.0 | 0.0 | 3.0 | 5.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 27 | 0 | 0 | 27 | 0 | 0 | 20 | 0 | 0 | 15 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | yes | | | yes | | no | yes | | yes | yes | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 20.0 | 20.0 | 0.0 | 20.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | L | R | L | C | L | C |
|---|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 27 | 27 | 27 | 27 | 12 | 45 | 12 | 38 |
| g / C, Green / Cycle | 0.28 | 0.28 | 0.28 | 0.28 | 0.13 | 0.47 | 0.13 | 0.40 |
| (v / s)_i Volume / Saturation Flow Rate | 0.08 | 0.08 | 0.07 | 0.07 | 0.04 | 0.28 | 0.02 | 0.39 |
| Total Saturation Flow Adjustment | 0.72 | 0.81 | 0.74 | 0.83 | 0.92 | 0.95 | 0.83 | 0.94 |
| s, saturation flow rate [veh/h] | 1372 | 1541 | 1408 | 1581 | 1751 | 3596 | 1579 | 3589 |
| c, Capacity [veh/h] | 390 | 438 | 400 | 449 | 221 | 1703 | 199 | 1436 |
| d1, Uniform Delay [s] | 26.56 | 26.39 | 26.12 | 26.16 | 37.75 | 18.30 | 36.96 | 28.18 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.92 | 1.54 | 1.41 | 1.29 | 3.65 | 1.53 | 1.59 | 19.98 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

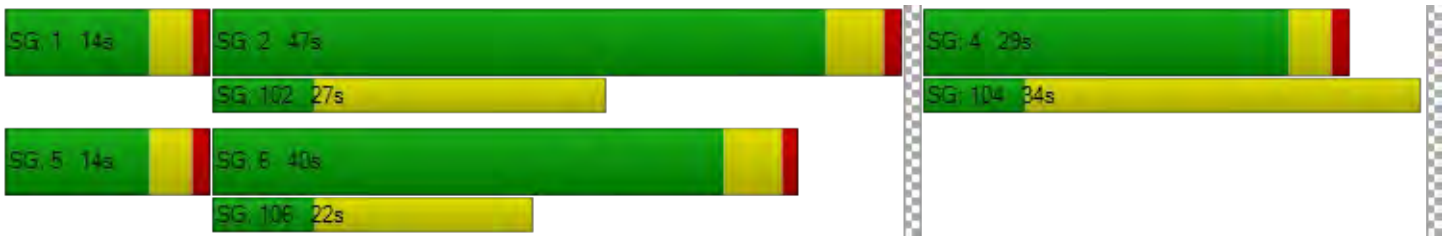
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.29 | 0.27 | 0.24 | 0.24 | 0.31 | 0.59 | 0.15 | 0.98 |
| d, Delay for Lane Group [s/veh] | 28.48 | 27.93 | 27.53 | 27.45 | 41.39 | 19.83 | 38.55 | 48.15 |
| Lane Group LOS | C | C | C | C | D | B | D | D |
| Critical Lane Group | yes | no | no | no | yes | no | no | yes |
| 50th-Percentile Queue Length [veh] | 2.63 | 2.71 | 2.14 | 2.45 | 1.84 | 11.81 | 0.77 | 28.05 |
| 50th-Percentile Queue Length [ft] | 65.64 | 67.69 | 53.56 | 61.29 | 46.03 | 295.22 | 19.32 | 701.27 |
| 95th-Percentile Queue Length [veh] | 5.75 | 5.91 | 4.82 | 5.42 | 4.22 | 20.01 | 1.90 | 44.98 |
| 95th-Percentile Queue Length [ft] | 143.85 | 147.69 | 120.58 | 135.60 | 105.51 | 500.18 | 47.46 | 1124.60 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 28.48 | 28.48 | 27.93 | 27.53 | 27.53 | 27.45 | 41.39 | 19.83 | 19.83 | 38.55 | 48.15 | 48.15 |
| Movement LOS | C | C | C | C | C | C | D | B | B | D | D | D |
| d_A, Approach Delay [s/veh] | 28.20 | | | 27.49 | | | 21.21 | | | 47.95 | | |
| Approach LOS | C | | | C | | | C | | | D | | |
| d_I, Intersection Delay [s/veh] | 35.21 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.516 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#157: Branner Dr/Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 21.0 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.451 |

**Intersection Setup**

| Name | Branner Drive | | | | | | Sand Hill Road | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 160.00 | 100.00 | 100.00 | 155.00 | 100.00 | 100.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 40.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Branner Drive | | | | | | Sand Hill Road | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 2 | 0 | 17 | 20 | 0 | 43 | 22 | 1076 | 7 | 17 | 1321 | 24 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 2.30 | 4.50 | 1.10 | 0.00 | 5.90 | 2.00 | 4.20 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 2 | 0 | 17 | 20 | 0 | 43 | 22 | 1076 | 7 | 17 | 1321 | 24 |
| Peak Hour Factor | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 0 | 4 | 5 | 0 | 11 | 6 | 280 | 2 | 4 | 344 | 6 |
| Total Analysis Volume [veh/h] | 2 | 0 | 18 | 21 | 0 | 45 | 23 | 1121 | 7 | 18 | 1376 | 25 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 4 | | | 2 | | | 0 | | | 5 | | |
| Bicycle Volume [bicycles/h] | 2 | | | 0 | | | 35 | | | 15 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 58.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 4 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lag | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 4 | 10 | 0 | 4 | 10 | 0 |
| Maximum Green [s] | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 4.0 | 0.0 | 3.0 | 4.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 20 | 0 | 0 | 20 | 0 | 12 | 58 | 0 | 12 | 58 | 0 |
| Vehicle Extension [s] | 0.0 | 2.9 | 0.0 | 0.0 | 2.9 | 0.0 | 2.0 | 5.0 | 0.0 | 2.0 | 5.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 28 | 0 | 0 | 28 | 0 | 0 | 20 | 0 | 0 | 20 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | | no | | no | no | | no | no | |
| Maximum Recall | | yes | | | yes | | yes | yes | | yes | yes | |
| Pedestrian Recall | | no | | | no | | no | no | | no | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 20.0 | 20.0 | 0.0 | 20.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | L | C | L | C |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 18 | 18 | 10 | 56 | 10 | 56 |
| g / C, Green / Cycle | 0.17 | 0.17 | 0.10 | 0.53 | 0.10 | 0.53 |
| (v / s)_i Volume / Saturation Flow Rate | 0.01 | 0.04 | 0.01 | 0.32 | 0.01 | 0.40 |
| Total Saturation Flow Adjustment | 0.86 | 0.85 | 0.91 | 0.94 | 0.90 | 0.93 |
| s, saturation flow rate [veh/h] | 1625 | 1609 | 1727 | 3574 | 1704 | 3536 |
| c, Capacity [veh/h] | 279 | 276 | 165 | 1906 | 162 | 1886 |
| d1, Uniform Delay [s] | 36.49 | 37.58 | 43.56 | 16.71 | 43.43 | 18.94 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.50 | 2.04 | 1.77 | 1.36 | 1.38 | 2.69 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

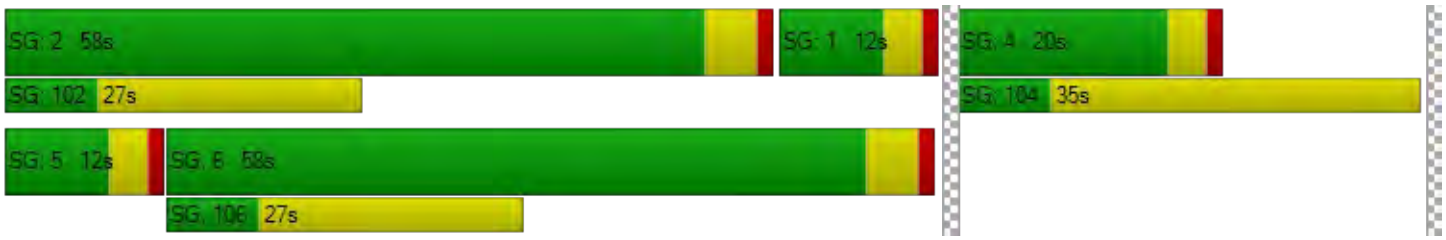
| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.07 | 0.24 | 0.14 | 0.59 | 0.11 | 0.74 |
| d, Delay for Lane Group [s/veh] | 36.99 | 39.63 | 45.33 | 18.06 | 44.81 | 21.63 |
| Lane Group LOS | D | D | D | B | D | C |
| Critical Lane Group | no | yes | yes | no | no | yes |
| 50th-Percentile Queue Length [veh] | 0.53 | 1.82 | 0.67 | 13.57 | 0.52 | 19.89 |
| 50th-Percentile Queue Length [ft] | 13.24 | 45.62 | 16.84 | 339.13 | 13.11 | 497.36 |
| 95th-Percentile Queue Length [veh] | 1.32 | 4.19 | 1.67 | 22.60 | 1.31 | 32.20 |
| 95th-Percentile Queue Length [ft] | 33.09 | 104.66 | 41.65 | 565.10 | 32.78 | 805.08 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 36.99 | 36.99 | 36.99 | 39.63 | 39.63 | 39.63 | 45.33 | 18.06 | 18.06 | 44.81 | 21.63 | 21.63 |
| Movement LOS | D | D | D | D | D | D | D | B | B | D | C | C |
| d_A, Approach Delay [s/veh] | 36.99 | | | 39.63 | | | 18.61 | | | 21.92 | | |
| Approach LOS | D | | | D | | | B | | | C | | |
| d_I, Intersection Delay [s/veh] | 21.04 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.451 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 1 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#162: Sharon Park Dr/ Sand Hill Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 51.3 |
| Analysis Method: | HCM2000 | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.684 |

**Intersection Setup**

| Name | | | | Sand Hill Road | | | | | | Sharon Park Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Pocket Length [ft] | 250.00 | 100.00 | 100.00 | 150.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 130.00 |
| Speed [mph] | 40.00 | | | 35.00 | | | 25.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | | | | Sand Hill Road | | | | | | Sharon Park Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 164 | 916 | 1 | 16 | 1220 | 252 | 12 | 6 | 17 | 178 | 3 | 172 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.60 | 1.30 | 100.00 | 0.00 | 1.10 | 0.80 | 0.00 | 0.00 | 17.60 | 0.00 | 0.00 | 0.60 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 164 | 916 | 1 | 16 | 1220 | 252 | 12 | 6 | 17 | 178 | 3 | 172 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 43 | 241 | 0 | 4 | 321 | 66 | 3 | 2 | 4 | 47 | 1 | 45 |
| Total Analysis Volume [veh/h] | 173 | 964 | 1 | 17 | 1284 | 265 | 13 | 6 | 18 | 187 | 3 | 181 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 6 | | | 6 | | | 10 | | |
| Bicycle Volume [bicycles/h] | 32 | | | 32 | | | 2 | | | 5 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 69.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 1 | 6 | 0 | 0 | 4 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 4 | 10 | 0 | 5 | 10 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Amber [s] | 3.0 | 4.0 | 0.0 | 3.0 | 4.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 0.5 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 16 | 41 | 0 | 14 | 39 | 0 | 0 | 35 | 0 | 0 | 35 | 0 |
| Vehicle Extension [s] | 3.0 | 7.0 | 0.0 | 3.0 | 7.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 4 | 0 | 0 | 4 | 0 |
| Pedestrian Clearance [s] | 0 | 19 | 0 | 0 | 19 | 0 | 0 | 27 | 0 | 0 | 27 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | no | | no | no | | | no | | | no | |
| Maximum Recall | no | yes | | no | yes | | | no | | | no | |
| Pedestrian Recall | no | no | | no | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 0.0 | 20.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | C | C | R |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 14 | 39 | 12 | 37 | 33 | 33 | 33 |
| g / C, Green / Cycle | 0.16 | 0.43 | 0.13 | 0.41 | 0.37 | 0.37 | 0.37 |
| (v / s)_i Volume / Saturation Flow Rate | 0.10 | 0.27 | 0.01 | 0.45 | 0.02 | 0.14 | 0.11 |
| Total Saturation Flow Adjustment | 0.94 | 0.94 | 0.95 | 0.91 | 0.85 | 0.71 | 0.83 |
| s, saturation flow rate [veh/h] | 1794 | 3570 | 1805 | 3461 | 1620 | 1352 | 1584 |
| c, Capacity [veh/h] | 279 | 1547 | 241 | 1423 | 594 | 496 | 581 |
| d1, Uniform Delay [s] | 35.51 | 19.80 | 34.12 | 26.50 | 18.47 | 21.00 | 20.38 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 9.94 | 1.91 | 0.57 | 51.83 | 0.20 | 2.24 | 1.40 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

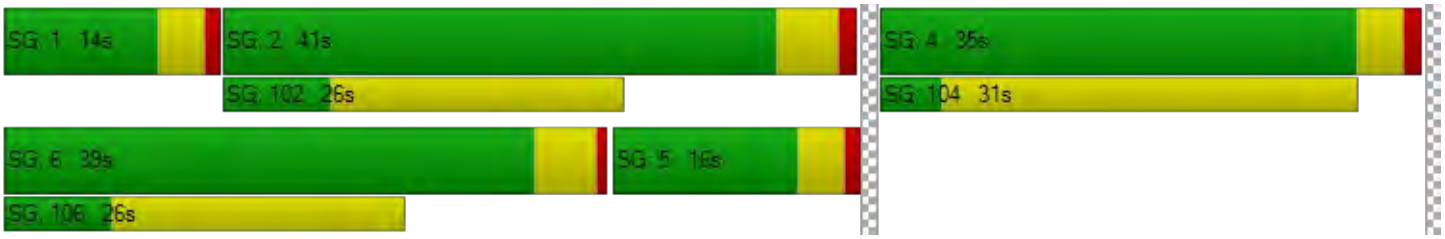
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.62 | 0.62 | 0.07 | 1.09 | 0.06 | 0.38 | 0.31 |
| d, Delay for Lane Group [s/veh] | 45.45 | 21.71 | 34.69 | 78.33 | 18.67 | 23.24 | 21.77 |
| Lane Group LOS | D | C | C | E | B | C | C |
| Critical Lane Group | yes | no | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 4.76 | 11.41 | 0.40 | 35.05 | 0.65 | 3.93 | 3.59 |
| 50th-Percentile Queue Length [ft] | 119.12 | 285.30 | 10.10 | 876.35 | 16.30 | 98.24 | 89.66 |
| 95th-Percentile Queue Length [veh] | 9.46 | 19.42 | 1.02 | 56.12 | 1.62 | 8.08 | 7.49 |
| 95th-Percentile Queue Length [ft] | 236.52 | 485.59 | 25.47 | 1402.94 | 40.40 | 201.96 | 187.22 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 45.45 | 21.71 | 21.71 | 34.69 | 78.33 | 78.33 | 18.67 | 18.67 | 18.67 | 23.24 | 23.24 | 21.77 |
| Movement LOS | D | C | C | C | E | E | B | B | B | C | C | C |
| d_A, Approach Delay [s/veh] | 25.32 | | | 77.86 | | | 18.67 | | | 22.53 | | |
| Approach LOS | C | | | E | | | B | | | C | | |
| d_I, Intersection Delay [s/veh] | 51.34 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.684 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**#163: Bayfront Expy/Marsh Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 320.4 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.964 |

**Intersection Setup**

| Name | | | | Haven Avenue | | | Bayfront Expressway | | | Marsh Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Eastbound | | | Westbound | | | Southwestbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | no | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | | | | Haven Avenue | | | Bayfront Expressway | | | Marsh Road | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 125 | 31 | 2131 | 8 | 477 | 136 | 1287 | 63 | 13 | 16 | 25 | 3 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 19.20 | 0.00 | 2.90 | 0.00 | 0.40 | 2.20 | 2.90 | 14.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 125 | 31 | 2131 | 8 | 477 | 136 | 1287 | 63 | 13 | 16 | 25 | 3 |
| Peak Hour Factor | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 | 0.9600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 33 | 8 | 555 | 2 | 124 | 35 | 335 | 16 | 3 | 4 | 7 | 1 |
| Total Analysis Volume [veh/h] | 130 | 32 | 2220 | 8 | 497 | 142 | 1341 | 66 | 14 | 17 | 26 | 3 |
| Presence of On-Street Parking | no | | no | no | | no | no | | no | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 3 | | | 0 | | | 2 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 2 | | | 2 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 40 |
| Coordination Type | Free Running |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Overlap | Split | Split | Split | Split | Split | Split | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 2 | 3 | 2 | 4 | 1 | 4 | 8 | 2 | 8 | 6 | 4 | 6 |
| Auxiliary Signal Groups | | | 2,3 | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lag | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 10 | 6 | 10 | 4 | 12 | 4 | 0 | 10 | 0 | 0 | 4 | 0 |
| Maximum Green [s] | 50 | 26 | 50 | 10 | 30 | 10 | 0 | 50 | 0 | 0 | 10 | 0 |
| Amber [s] | 4.7 | 3.6 | 4.7 | 3.6 | 3.6 | 3.6 | 0.0 | 4.7 | 0.0 | 0.0 | 3.6 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 0.5 | 0.0 | 0.5 | 0.0 | 1.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| Split [s] | 30 | 0 | 30 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 |
| Vehicle Extension [s] | 4.5 | 2.5 | 4.5 | 2.8 | 2.0 | 2.8 | 0.0 | 4.5 | 0.0 | 0.0 | 2.8 | 0.0 |
| Walk [s] | 7 | 0 | 7 | 7 | 5 | 7 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 16 | 0 | 16 | 22 | 26 | 22 | 0 | 16 | 0 | 0 | 22 | 0 |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | no | | no | | | no | | | no | |
| Maximum Recall | | no | no | | no | | | no | | | no | |
| Pedestrian Recall | | no | no | | no | | | no | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | R | C | R | L | C | C |
|---|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 29 | 54 | 32 | 32 | 54 | 54 | 12 |
| g / C, Green / Cycle | 0.19 | 0.36 | 0.21 | 0.21 | 0.36 | 0.36 | 0.08 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.80 | 0.14 | 0.09 | 0.26 | 0.05 | 0.02 |
| Total Saturation Flow Adjustment | 0.96 | 0.73 | 0.95 | 0.83 | 0.90 | 0.85 | 0.97 |
| s, saturation flow rate [veh/h] | 1827 | 2778 | 3600 | 1580 | 5110 | 1616 | 1845 |
| c, Capacity [veh/h] | 351 | 1001 | 764 | 335 | 1842 | 582 | 150 |
| d1, Uniform Delay [s] | 53.38 | 47.65 | 53.80 | 50.82 | 41.32 | 32.06 | 64.50 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.33 | 551.06 | 4.47 | 3.89 | 2.56 | 0.49 | 5.23 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.46 | 2.22 | 0.66 | 0.42 | 0.73 | 0.14 | 0.31 |
| d, Delay for Lane Group [s/veh] | 57.71 | 598.71 | 58.27 | 54.71 | 43.89 | 32.56 | 69.73 |
| Lane Group LOS | E | F | E | D | D | C | E |
| Critical Lane Group | no | yes | yes | no | no | no | yes |
| 50th-Percentile Queue Length [veh] | 6.60 | 139.93 | 11.60 | 5.63 | 19.32 | 2.40 | 1.98 |
| 50th-Percentile Queue Length [ft] | 164.94 | 3498.21 | 289.91 | 140.79 | 482.95 | 60.12 | 49.55 |
| 95th-Percentile Queue Length [veh] | 12.32 | 223.89 | 19.69 | 10.84 | 31.31 | 5.33 | 4.50 |
| 95th-Percentile Queue Length [ft] | 307.98 | 5597.14 | 492.37 | 270.92 | 782.86 | 133.36 | 112.61 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 57.71 | 57.71 | 598.71 | 58.27 | 58.27 | 54.71 | 43.89 | 32.56 | 32.56 | 69.73 | 69.73 | 69.73 |
| Movement LOS | E | E | F | E | E | D | D | C | C | E | E | E |
| d_A, Approach Delay [s/veh] | 561.92 | | | 57.49 | | | 43.25 | | | 69.73 | | |
| Approach LOS | F | | | E | | | D | | | E | | |
| d_I, Intersection Delay [s/veh] | 320.36 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |
| Intersection V/C | 0.964 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#181: Santa Cruz Ave/Elder Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 10.0 |
| Analysis Method: | HCM2000 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.514 |

**Intersection Setup**

| Name | Santa Cruz Avenue | | | | Elder Ave | |
|---|---|---|---|---|---|---|
| Approach | Northeastbound | | Southwestbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 0 | 0 | 1 |
| Pocket Length [ft] | 60.00 | 100.00 | 100.00 | 100.00 | 100.00 | 105.00 |
| Speed [mph] | 25.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Santa Cruz Avenue | | | | Elder Ave | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 61 | 669 | 641 | 79 | 46 | 41 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 1.50 | 0.20 | 0.00 | 0.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 61 | 669 | 641 | 79 | 46 | 41 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 16 | 178 | 170 | 21 | 12 | 11 |
| Total Analysis Volume [veh/h] | 65 | 712 | 682 | 84 | 49 | 44 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 2 | | 12 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 8.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Permissive | Permissive | Split | Split |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 6 | 0 | 3 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lead | - |
| Minimum Green [s] | 5 | 5 | 5 | 0 | 5 | 0 |
| Maximum Green [s] | 30 | 30 | 30 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 11 | 90 | 79 | 0 | 10 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 1 | 1 | 0 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | no | no | no | | no | |
| Maximum Recall | yes | yes | yes | | yes | |
| Pedestrian Recall | no | yes | yes | | yes | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 20.0 | 20.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | C | C | L | R |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 7 | 86 | 75 | 6 | 6 |
| g / C, Green / Cycle | 0.07 | 0.86 | 0.75 | 0.06 | 0.06 |
| (v / s)_i Volume / Saturation Flow Rate | 0.04 | 0.38 | 0.41 | 0.03 | 0.03 |
| Total Saturation Flow Adjustment | 0.95 | 0.99 | 0.98 | 0.95 | 0.85 |
| s, saturation flow rate [veh/h] | 1805 | 1872 | 1868 | 1805 | 1615 |
| c, Capacity [veh/h] | 126 | 1610 | 1401 | 108 | 97 |
| d1, Uniform Delay [s] | 44.86 | 1.58 | 5.30 | 45.41 | 45.42 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 14.17 | 0.88 | 1.54 | 13.04 | 14.58 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.51 | 0.44 | 0.55 | 0.45 | 0.45 |
| d, Delay for Lane Group [s/veh] | 59.03 | 2.47 | 6.83 | 58.46 | 60.00 |
| Lane Group LOS | E | A | A | E | E |
| Critical Lane Group | yes | no | yes | no | yes |
| 50th-Percentile Queue Length [veh] | 2.04 | 5.81 | 10.85 | 1.52 | 1.37 |
| 50th-Percentile Queue Length [ft] | 50.92 | 145.33 | 271.30 | 38.09 | 34.37 |
| 95th-Percentile Queue Length [veh] | 4.61 | 11.12 | 18.60 | 3.56 | 3.24 |
| 95th-Percentile Queue Length [ft] | 115.35 | 277.97 | 465.05 | 89.03 | 81.11 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 59.03 | 2.47 | 6.83 | 6.83 | 58.46 | 60.00 |
| Movement LOS | E | A | A | A | E | E |
| d_A, Approach Delay [s/veh] | 7.20 | | 6.83 | | 59.19 | |
| Approach LOS | A | | A | | E | |
| d_I, Intersection Delay [s/veh] | 9.98 | | | | | |
| Intersection LOS | A | | | | | |
| Intersection V/C | 0.514 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#195: Bayfront Expy/Chilco St**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 12.7 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.701 |

**Intersection Setup**

| Name | Chilco Street | | | | Bayfront Expy | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Westbound | | Southeastbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 1 | 0 | 0 | 1 |
| Pocket Length [ft] | 80.00 | 100.00 | 520.00 | 100.00 | 100.00 | 660.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Chilco Street | | | | Bayfront Expy | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 201 | 196 | 19 | 767 | 2416 | 156 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 5.50 | 3.10 | 21.10 | 4.80 | 3.10 | 1.30 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 201 | 196 | 19 | 767 | 2416 | 156 |
| Peak Hour Factor | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 | 0.9300 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 54 | 53 | 5 | 206 | 649 | 42 |
| Total Analysis Volume [veh/h] | 216 | 211 | 20 | 825 | 2598 | 168 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 2 | | 1 | |
| Bicycle Volume [bicycles/h] | 5 | | 1 | | 1 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Protected | Permissive | Permissive | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 0 | 0 | 4 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | - | - |
| Minimum Green [s] | 5 | 0 | 0 | 5 | 5 | 0 |
| Maximum Green [s] | 30 | 0 | 0 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 29 | 0 | 0 | 101 | 101 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 1 | 0 | 0 | 1 | 1 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | | | no | no | |
| Maximum Recall | yes | | | yes | yes | |
| Pedestrian Recall | yes | | | yes | yes | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 0.0 | 0.0 | 20.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 27 | 27 | 99 | 99 | 99 | 99 |
| g / C, Green / Cycle | 0.21 | 0.21 | 0.76 | 0.76 | 0.76 | 0.76 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.13 | 0.32 | 0.17 | 0.52 | 0.11 |
| Total Saturation Flow Adjustment | 0.90 | 0.82 | 0.03 | 0.87 | 0.88 | 0.84 |
| s, saturation flow rate [veh/h] | 1711 | 1566 | 63 | 4939 | 5020 | 1594 |
| c, Capacity [veh/h] | 355 | 325 | 55 | 3761 | 3823 | 1214 |
| d1, Uniform Delay [s] | 46.70 | 47.16 | 5.10 | 4.44 | 7.66 | 4.13 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 7.53 | 9.62 | 17.33 | 0.13 | 0.99 | 0.24 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.61 | 0.65 | 0.36 | 0.22 | 0.68 | 0.14 |
| d, Delay for Lane Group [s/veh] | 54.23 | 56.78 | 22.42 | 4.57 | 8.65 | 4.37 |
| Lane Group LOS | D | E | C | A | A | A |
| Critical Lane Group | no | yes | no | no | yes | no |
| 50th-Percentile Queue Length [veh] | 8.12 | 8.13 | 0.34 | 3.65 | 20.75 | 1.89 |
| 50th-Percentile Queue Length [ft] | 203.00 | 203.16 | 8.39 | 91.24 | 518.71 | 47.21 |
| 95th-Percentile Queue Length [veh] | 14.59 | 14.60 | 0.85 | 7.60 | 33.52 | 4.32 |
| 95th-Percentile Queue Length [ft] | 364.82 | 365.06 | 21.26 | 189.95 | 838.11 | 107.89 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 54.23 | 56.78 | 22.42 | 4.57 | 8.65 | 4.37 |
| Movement LOS | D | E | C | A | A | A |
| d_A, Approach Delay [s/veh] | 55.49 | | 4.99 | | 8.39 | |
| Approach LOS | E | | A | | A | |
| d_I, Intersection Delay [s/veh] | 12.66 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.701 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#196: Bayfront Expy/Chrysler Drive**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 21.6 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.795 |

**Intersection Setup**

| Name | Chrysler Drive | | | | Bayfront Expy | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Thru | Right | Left | Thru |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 1 | 0 | 0 | 1 | 1 | 0 |
| Pocket Length [ft] | 140.00 | 100.00 | 100.00 | 290.00 | 345.00 | 100.00 |
| Speed [mph] | 25.00 | | 45.00 | | 45.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Chrysler Drive | | | | Bayfront Expy | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 382 | 43 | 2516 | 107 | 5 | 978 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.80 | 0.00 | 2.80 | 0.90 | 0.00 | 4.90 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 382 | 43 | 2516 | 107 | 5 | 978 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 98 | 11 | 648 | 28 | 1 | 252 |
| Total Analysis Volume [veh/h] | 394 | 44 | 2594 | 110 | 5 | 1008 |
| Presence of On-Street Parking | no | no | no | no | no | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 2 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 130 |
| Coordination Type | Time of Day Pattern Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 9.00 |

**Phasing & Timing**

| Control Type | Split | Split | Permissive | Permissive | Protected | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 5 | 0 | 8 | 0 | 7 | 4 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | - | - | Lead | - |
| Minimum Green [s] | 5 | 0 | 5 | 0 | 5 | 5 |
| Maximum Green [s] | 30 | 0 | 30 | 0 | 30 | 30 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 |
| Split [s] | 38 | 0 | 83 | 0 | 9 | 92 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 |
| Walk [s] | 1 | 0 | 1 | 0 | 0 | 1 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 |
| l1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 |
| l2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | no | | no | | no | no |
| Maximum Recall | yes | | yes | | yes | yes |
| Pedestrian Recall | yes | | yes | | yes | yes |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 20.0 | 0.0 | 20.0 | 0.0 | 20.0 | 20.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | L | R | C | R | L | C |
|---|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| g_i, Effective Green Time [s] | 36 | 36 | 81 | 81 | 7 | 90 |
| g / C, Green / Cycle | 0.28 | 0.28 | 0.62 | 0.62 | 0.05 | 0.69 |
| (v / s)_i Volume / Saturation Flow Rate | 0.22 | 0.03 | 0.52 | 0.07 | 0.00 | 0.20 |
| Total Saturation Flow Adjustment | 0.93 | 0.85 | 0.88 | 0.84 | 0.95 | 0.87 |
| s, saturation flow rate [veh/h] | 1773 | 1615 | 5035 | 1601 | 1805 | 4934 |
| c, Capacity [veh/h] | 491 | 447 | 3137 | 997 | 97 | 3416 |
| d1, Uniform Delay [s] | 43.69 | 34.94 | 19.05 | 9.92 | 58.35 | 7.73 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 12.99 | 0.44 | 2.65 | 0.22 | 1.00 | 0.22 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.80 | 0.10 | 0.83 | 0.11 | 0.05 | 0.30 |
| d, Delay for Lane Group [s/veh] | 56.68 | 35.38 | 21.70 | 10.14 | 59.35 | 7.95 |
| Lane Group LOS | E | D | C | B | E | A |
| Critical Lane Group | yes | no | yes | no | yes | no |
| 50th-Percentile Queue Length [veh] | 16.16 | 1.27 | 32.97 | 1.79 | 0.19 | 5.89 |
| 50th-Percentile Queue Length [ft] | 404.08 | 31.82 | 824.26 | 44.76 | 4.67 | 147.18 |
| 95th-Percentile Queue Length [veh] | 26.50 | 3.02 | 52.80 | 4.12 | 0.48 | 11.23 |
| 95th-Percentile Queue Length [ft] | 662.47 | 75.57 | 1319.94 | 102.90 | 11.98 | 280.83 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 56.68 | 35.38 | 21.70 | 10.14 | 59.35 | 7.95 |
| Movement LOS | E | D | C | B | E | A |
| d_A, Approach Delay [s/veh] | 54.54 | | 21.23 | | 8.21 | |
| Approach LOS | D | | C | | A | |
| d_I, Intersection Delay [s/veh] | 21.57 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.795 | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#207: Chilco St/Constitution Dr**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 23.6 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | | | | Chilco Street | | | Constitution Drive | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Northwestbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | | | | Chilco Street | | | Constitution Drive | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 14 | 136 | 5 | 17 | 160 | 2 | 28 | 2 | 114 | 158 | 10 | 398 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 21.40 | 1.50 | 20.00 | 11.80 | 3.80 | 0.00 | 3.60 | 50.00 | 2.60 | 2.50 | 50.00 | 1.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 14 | 136 | 5 | 17 | 160 | 2 | 28 | 2 | 114 | 158 | 10 | 398 |
| Peak Hour Factor | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 4 | 37 | 1 | 5 | 44 | 1 | 8 | 1 | 31 | 43 | 3 | 109 |
| Total Analysis Volume [veh/h] | 15 | 149 | 5 | 19 | 176 | 2 | 31 | 2 | 125 | 174 | 11 | 437 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

**Lanes**

**Movement, Approach, & Intersection Results**

| | | | | |
|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 1.30 | 1.60 | 1.01 | 10.83 |
| 95th-Percentile Queue Length [ft] | 32.45 | 40.02 | 25.16 | 270.68 |
| Approach Delay [s/veh] | 12.44 | 13.06 | 10.76 | 33.32 |
| Approach LOS | B | B | B | D |
| Intersection Delay [s/veh] | 23.65 | | | |
| Intersection LOS | C | | | |

**Intersection Level Of Service Report**
**#209: Jefferson Dr/Constitution Dr**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.5 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.037 |

**Intersection Setup**

| Name | | | | | | | Constitution Drive | | | Jefferson Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | | | | | | | Constitution Drive | | | Jefferson Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 0 | 4 | 2 | 481 | 3 | 2 | 24 | 1 | 13 | 0 | 56 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 0.00 | 0.00 | 0.00 | 1.70 | 0.00 | 0.00 | 16.70 | 0.00 | 7.70 | 0.00 | 7.10 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 11 | 0 | 4 | 2 | 481 | 3 | 2 | 24 | 1 | 13 | 0 | 56 |
| Peak Hour Factor | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 0 | 1 | 1 | 137 | 1 | 1 | 7 | 0 | 4 | 0 | 16 |
| Total Analysis Volume [veh/h] | 13 | 0 | 5 | 2 | 547 | 3 | 2 | 27 | 1 | 15 | 0 | 64 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Free | Free | Stop |
|---|---|---|---|---|
| Flared Lane | no | | | no |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | no | | | no |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.04 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 15.49 | 13.85 | 8.77 | 7.25 | 0.00 | 0.00 | 8.50 | 0.00 | 0.00 | 15.13 | 14.84 | 13.19 |
| Movement LOS | C | B | A | A | A | A | A | A | A | C | B | B |
| 95th-Percentile Queue Length [veh] | 0.13 | 0.13 | 0.13 | 1.56 | 1.56 | 1.56 | 0.09 | 0.09 | 0.09 | 0.56 | 0.56 | 0.56 |
| 95th-Percentile Queue Length [ft] | 3.23 | 3.23 | 3.23 | 39.09 | 39.09 | 39.09 | 2.25 | 2.25 | 2.25 | 13.95 | 13.95 | 13.95 |
| d_A, Approach Delay [s/veh] | 13.62 | | | 0.03 | | | 0.57 | | | 13.56 | | |
| Approach LOS | B | | | A | | | A | | | B | | |
| d_I, Intersection Delay [s/veh] | 1.99 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

**Intersection Level Of Service Report**
**#213: Chrysler Dr/Independence Dr**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 10.0 |
| Analysis Method: | HCM2000 | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.004 |

**Intersection Setup**

| Name | Chrysler Drive | | | | | | | | | Independence Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Chrysler Drive | | | | | | | | | Independence Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 101 | 0 | 1 | 2 | 3 | 0 | 0 | 15 | 35 | 3 | 6 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 3.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.70 | 0.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 101 | 0 | 1 | 2 | 3 | 0 | 0 | 15 | 35 | 3 | 6 |
| Peak Hour Factor | 0.8600 | 0.8600 | 0.8600 | 0.8600 | 0.8600 | 0.8600 | 0.8600 | 0.8600 | 0.8600 | 0.8600 | 0.8600 | 0.8600 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 29 | 0 | 0 | 1 | 1 | 0 | 0 | 4 | 10 | 1 | 2 |
| Total Analysis Volume [veh/h] | 0 | 117 | 0 | 1 | 2 | 3 | 0 | 0 | 17 | 41 | 3 | 7 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 5 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| Flared Lane | | | no | no |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | no | no |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.05 | 0.00 | 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 7.21 | 0.00 | 0.00 | 8.52 | 0.00 | 0.00 | 9.40 | 9.80 | 8.94 | 9.68 | 9.99 | 8.59 |
| Movement LOS | A | A | A | A | A | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.02 | 0.06 | 0.06 | 0.06 | 0.19 | 0.19 | 0.19 |
| 95th-Percentile Queue Length [ft] | 0.00 | 0.00 | 0.00 | 0.44 | 0.44 | 0.44 | 1.39 | 1.39 | 1.39 | 4.83 | 4.83 | 4.83 |
| d_A, Approach Delay [s/veh] | 0.00 | | | 1.42 | | | 8.94 | | | 9.55 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 3.39 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**#214: Chrysler Dr/Jefferson Dr**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 10.4 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.002 |

**Intersection Setup**

| Name | Chrysler Drive | | | | Jefferson Drive | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Northeastbound | | Northwestbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | yes | | yes | | yes | |

**Volumes**

| Name | Chrysler Drive | | | | Jefferson Drive | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 9 | 7 | 132 | 7 | 2 | 134 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 22.20 | 42.90 | 0.80 | 71.40 | 0.00 | 2.20 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 9 | 7 | 132 | 7 | 2 | 134 |
| Peak Hour Factor | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 | 0.8700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 2 | 38 | 2 | 1 | 39 |
| Total Analysis Volume [veh/h] | 10 | 8 | 152 | 8 | 2 | 154 |
| Pedestrian Volume [ped/h] | 1 | | 0 | | 1 | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop |
|---|---|---|---|
| Flared Lane | | | no |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | no |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 7.78 | 0.00 | 0.00 | 0.00 | 10.36 | 9.94 |
| Movement LOS | A | A | A | A | B | A |
| 95th-Percentile Queue Length [veh] | 0.04 | 0.04 | 0.00 | 0.00 | 0.64 | 0.64 |
| 95th-Percentile Queue Length [ft] | 1.05 | 1.05 | 0.00 | 0.00 | 15.96 | 15.96 |
| d_A, Approach Delay [s/veh] | 4.32 | | 0.00 | | 9.94 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 4.88 | | | | | |
| Intersection LOS | B | | | | | |

**Intersection Level Of Service Report**
**#215: Chrysler Dr/Constitution Dr**

| | | | |
|---|---|---|---|
| Control Type: | All-way stop | Delay (sec / veh): | 14.4 |
| Analysis Method: | HCM2000 | Level Of Service: | B |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Chrysler Drive | | | | | | Constitution Drive | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Chrysler Drive | | | | | | Constitution Drive | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 190 | 6 | 1 | 66 | 285 | 9 | 2 | 2 | 78 | 1 | 234 | 14 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 1.60 | 0.00 | 100.00 | 1.50 | 1.80 | 11.10 | 50.00 | 50.00 | 5.10 | 0.00 | 0.00 | 0.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 190 | 6 | 1 | 66 | 285 | 9 | 2 | 2 | 78 | 1 | 234 | 14 |
| Peak Hour Factor | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 | 0.9000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 53 | 2 | 0 | 18 | 79 | 3 | 1 | 1 | 22 | 0 | 65 | 4 |
| Total Analysis Volume [veh/h] | 211 | 7 | 1 | 73 | 317 | 10 | 2 | 2 | 87 | 1 | 260 | 16 |
| Pedestrian Volume [ped/h] | 2 | | | 0 | | | 2 | | | 1 | | |

**Intersection Settings**

**Lanes**

**Movement, Approach, & Intersection Results**

| | | | | |
|---|---|---|---|---|
| 95th-Percentile Queue Length [veh] | 1.70 | 4.32 | 0.50 | 2.25 |
| 95th-Percentile Queue Length [ft] | 42.53 | 107.97 | 12.58 | 56.34 |
| Approach Delay [s/veh] | 12.62 | 17.35 | 9.68 | 13.19 |
| Approach LOS | B | C | A | B |
| Intersection Delay [s/veh] | 14.42 | | | |
| Intersection LOS | B | | | |

**Intersection Level Of Service Report**
**#233: Sand Hill Circle/Sand Hill Road**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 361.8 |
| Analysis Method: | HCM2000 | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.712 |

**Intersection Setup**

| Name | Sand Hill Road | | | Sand Hill Road | | | Sand Hill Circle | | | Sand Hill Circle | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | |
| Grade [%] | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | |
| Crosswalk | | yes | | | yes | | | yes | | | yes | |

**Volumes**

| Name | Sand Hill Road | | | Sand Hill Road | | | Sand Hill Circle | | | Sand Hill Circle | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 9 | 54 | 0 | 0 | 87 | 180 | 0 | 0 | 0 | 5 | 1849 | 9 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 0.00 | 3.70 | 2.00 | 2.00 | 5.70 | 1.10 | 2.00 | 2.00 | 2.00 | 0.00 | 0.90 | 11.10 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 9 | 54 | 0 | 0 | 87 | 180 | 0 | 0 | 0 | 5 | 1849 | 9 |
| Peak Hour Factor | 0.8900 | 0.8900 | 1.0000 | 1.0000 | 0.8900 | 0.8900 | 1.0000 | 1.0000 | 1.0000 | 0.8900 | 0.8900 | 0.8900 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 3 | 15 | 0 | 0 | 24 | 51 | 0 | 0 | 0 | 1 | 519 | 3 |
| Total Analysis Volume [veh/h] | 10 | 61 | 0 | 0 | 98 | 202 | 0 | 0 | 0 | 6 | 2078 | 10 |
| Presence of On-Street Parking | no | | | | | no | | | | no | | no |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | | 0 | | | 0 | | | 0 | | | 0 | |
| Bicycle Volume [bicycles/h] | | 2 | | | 1 | | | 0 | | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Free Running |
| Actuation Type | Fixed time |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Protecte | Permiss | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| Maximum Green [s] | 0 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 26 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 |
| All red [s] | 0.0 | 0.5 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| Split [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vehicle Extension [s] | 0.0 | 2.5 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 14 | 0 |
| l1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| l2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | | no | | | | | | yes | |
| Maximum Recall | | no | | | no | | | | | | no | |
| Pedestrian Recall | | no | | | no | | | | | | no | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | C | R | | C |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | | 2.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | | 0.00 |
| g_i, Effective Green Time [s] | 13 | 13 | 13 | | 29 |
| g / C, Green / Cycle | 0.14 | 0.14 | 0.14 | | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.04 | 0.05 | 0.13 | | 0.58 |
| Total Saturation Flow Adjustment | 0.93 | 0.95 | 0.83 | | 0.94 |
| s, saturation flow rate [veh/h] | 1773 | 1798 | 1579 | | 3582 |
| c, Capacity [veh/h] | 246 | 250 | 219 | | 1134 |
| d1, Uniform Delay [s] | 34.76 | 35.29 | 38.26 | | 30.75 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | | 1.00 |
| d2, Incremental Delay [s] | 2.93 | 4.58 | 43.19 | | 384.11 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | | 1.00 |

**Lane Group Results**

| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.29 | 0.39 | 0.92 | | 1.85 |
| d, Delay for Lane Group [s/veh] | 37.69 | 39.87 | 81.45 | | 414.86 |
| Lane Group LOS | D | D | F | | F |
| Critical Lane Group | no | no | yes | | yes |
| 50th-Percentile Queue Length [veh] | 1.76 | 2.51 | 7.24 | | 92.18 |
| 50th-Percentile Queue Length [ft] | 44.11 | 62.67 | 181.04 | | 2304.61 |
| 95th-Percentile Queue Length [veh] | 4.06 | 5.53 | 13.29 | | 147.49 |
| 95th-Percentile Queue Length [ft] | 101.57 | 138.23 | 332.21 | | 3687.37 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 37.69 | 37.69 | 0.00 | 0.00 | 39.87 | 81.45 | 0.00 | 0.00 | 0.00 | 414.86 | 414.86 | 414.86 |
| Movement LOS | D | D | | | D | F | | | | F | F | F |
| d_A, Approach Delay [s/veh] | 37.69 | | | 67.87 | | | 0.00 | | | 414.86 | | |
| Approach LOS | D | | | E | | | A | | | F | | |
| d_I, Intersection Delay [s/veh] | 361.76 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |
| Intersection V/C | 0.712 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**#234: Sand Hill Rd/Hwy 280 NB Off-Ramp**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 31.3 |
| Analysis Method: | HCM2000 | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.360 |

**Intersection Setup**

| Name | Hwy 280 NB Off-Ramp | | | Sand Hill Road | | | Sand Hill Road | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 300.00 | 100.00 | 100.00 | 100.00 | 270.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 40.00 | | | 40.00 | | | 40.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | yes | | | yes | | | yes | | | yes | | |

**Volumes**

| Name | Hwy 280 NB Off-Ramp | | | Sand Hill Road | | | Sand Hill Road | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 23 | 193 | 129 | 0 | 0 | 38 | 697 | 0 | 0 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 0.00 | 4.30 | 0.00 | 2.00 | 2.00 | 5.30 | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 23 | 193 | 129 | 0 | 0 | 38 | 697 | 0 | 0 | 0 | 0 |
| Peak Hour Factor | 1.0000 | 0.9300 | 0.9300 | 0.9300 | 1.0000 | 1.0000 | 0.9300 | 0.9300 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 6 | 52 | 35 | 0 | 0 | 10 | 187 | 0 | 0 | 0 | 0 |
| Total Analysis Volume [veh/h] | 0 | 25 | 208 | 139 | 0 | 0 | 41 | 749 | 0 | 0 | 0 | 0 |
| Presence of On-Street Parking | | | no | no | | | no | | | | | |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 23 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | no |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Free Running |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing**

| Control Type | Permiss | Split | Split | Split | Protecte | Permiss | Protecte | Permiss | Permiss | Protecte | Protecte | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 8 | 0 | 7 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | Lag | - | - | Lead | - | - | - | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 6 | 0 | 0 | 4 | 8 | 0 | 0 | 0 | 0 |
| Maximum Green [s] | 0 | 11 | 0 | 22 | 0 | 0 | 13 | 26 | 0 | 0 | 0 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| All red [s] | 0.0 | 0.5 | 0.0 | 0.5 | 0.0 | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Split [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vehicle Extension [s] | 0.0 | 2.5 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Walk [s] | 0 | 10 | 0 | 0 | 0 | 0 | 5 | 10 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 10 | 0 | 0 | 0 | 0 | 10 | 10 | 0 | 0 | 0 | 0 |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall | | no | | no | | | no | yes | | | | |
| Maximum Recall | | no | | no | | | no | no | | | | |
| Pedestrian Recall | | no | | no | | | no | no | | | | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 20.0 | 0.0 | 20.0 | 0.0 | 0.0 | 20.0 | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Calculations**

| Lane Group | C | L | L | C | |
|---|---|---|---|---|---|
| L, Total Lost Time per Cycle [s] | 2.00 | 2.00 | 2.00 | 2.00 | |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | |
| l2, Clearance Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | |
| g_i, Effective Green Time [s] | 13 | 24 | 29 | 29 | |
| g / C, Green / Cycle | 0.14 | 0.27 | 0.32 | 0.32 | |
| (v / s)_i Volume / Saturation Flow Rate | 0.07 | 0.08 | 0.02 | 0.21 | |
| Total Saturation Flow Adjustment | 0.82 | 0.95 | 0.90 | 0.94 | |
| s, saturation flow rate [veh/h] | 3133 | 1805 | 1714 | 3582 | |
| c, Capacity [veh/h] | 435 | 481 | 543 | 1134 | |
| d1, Uniform Delay [s] | 36.05 | 26.22 | 21.53 | 26.57 | |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | |
| d2, Incremental Delay [s] | 4.66 | 1.51 | 0.27 | 3.03 | |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | |

**Lane Group Results**

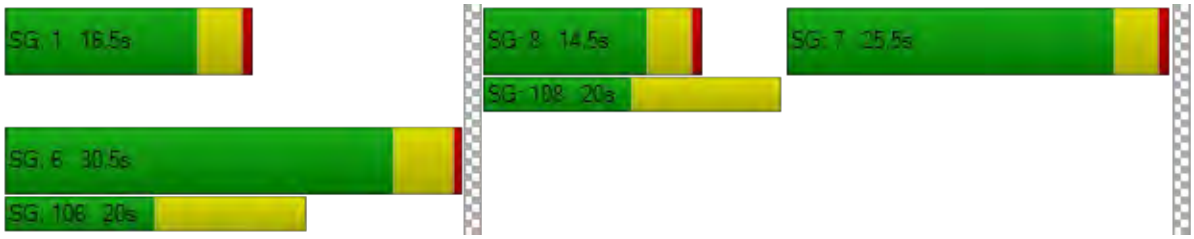
| | | | | | |
|---|---|---|---|---|---|
| X, volume / capacity | 0.54 | 0.29 | 0.08 | 0.66 | |
| d, Delay for Lane Group [s/veh] | 40.71 | 27.73 | 21.80 | 29.59 | |
| Lane Group LOS | D | C | C | C | |
| Critical Lane Group | yes | yes | no | yes | |
| 50th-Percentile Queue Length [veh] | 3.30 | 3.04 | 0.78 | 9.96 | |
| 50th-Percentile Queue Length [ft] | 82.48 | 75.93 | 19.46 | 248.95 | |
| 95th-Percentile Queue Length [veh] | 6.98 | 6.51 | 1.91 | 17.29 | |
| 95th-Percentile Queue Length [ft] | 174.60 | 162.85 | 47.79 | 432.30 | |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 40.71 | 40.71 | 27.73 | 0.00 | 0.00 | 21.80 | 29.59 | 0.00 | 0.00 | 0.00 | 0.00 |
| Movement LOS | | D | D | C | | | C | C | | | | |
| d_A, Approach Delay [s/veh] | 40.71 | | | 27.73 | | | 29.19 | | | 0.00 | | |
| Approach LOS | D | | | C | | | C | | | A | | |
| d_I, Intersection Delay [s/veh] | 31.33 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.360 | | | | | | | | | | | |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Menlo Park GP Circulation Update

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Report File: J:\...\Menlo Park_PM Results.pdf

Scenario 1: Existing PM
1/9/2015

## Turning Movement Volume: Summary

| ID | Intersection Name | Northeastbound | Southwestbound | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|
| | | Thru | Thru | Left | Right | |
| 1 | Marsh Rd (SR 84)/US 101 SB Offramp | 980 | 893 | 1547 | 401 | 3821 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 2 | Marsh Rd/Rolison Rd-Scott Dr | 29 | 1083 | 4 | 66 | 1014 | 203 | 27 | 9 | 467 | 229 | 13 | 1 | 3145 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 3 | Marsh Rd/Florence St-Bohannon Dr | 185 | 720 | 84 | 30 | 697 | 377 | 475 | 15 | 130 | 98 | 41 | 72 | 2924 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 4 | Marsh Rd/Bay Rd | 2 | 681 | 108 | 194 | 841 | 54 | 45 | 29 | 6 | 84 | 18 | 143 | 2205 |

| ID | Intersection Name | Northeastbound | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Right | Left | Thru | Thru | Right | |
| 9 | Middlefield Rd/Ravenswood Ave | 199 | 610 | 457 | 673 | 357 | 60 | 2356 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 10 | Middlefield Rd/Ringwood Ave | 58 | 70 | 38 | 63 | 1 | 272 | 10 | 775 | 97 | 379 | 568 | 5 | 2336 |

| ID | Intersection Name | Northeastbound | | Southwestbound | | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Thru | Right | Left | Thru | Left | Right | |
| 15 | Bayfront Expy (SR 84)/University Ave (SR 109) | 3800 | 62 | 304 | 813 | 78 | 1577 | 6634 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 16 | Bayfront Expy (SR 84)/Willow Rd (SR 114) | 24 | 46 | 1104 | 116 | 191 | 116 | 35 | 2362 | 75 | 359 | 675 | 10 | 5113 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 17 | Willow Rd (SR 114)/Hamilton Ave | 50 | 1299 | 3 | 13 | 623 | 30 | 163 | 15 | 39 | 139 | 17 | 61 | 2452 |

| ID | Intersection Name | Northbound | | Southbound | | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Right | |
| 18 | Willow Rd (SR 114)/Ivy Dr | 68 | 1339 | 885 | 15 | 33 | 141 | 2481 |

| ID | Intersection Name | Northbound | | Southbound | | Westbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Thru | Right | Left | Thru | Left | Right | |
| 19 | Willow Rd (SR 114)/O'Brien Dr | 1368 | 217 | 72 | 966 | 218 | 44 | 2885 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 20 | Willow Rd (SR 114)/Newbridge St | 301 | 1484 | 263 | 74 | 1016 | 22 | 28 | 137 | 210 | 210 | 249 | 76 | 4070 |

| ID | Intersection Name | Northeastbound | | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Right | |
| 21 | Willow Rd/Bay Rd | 35 | 1276 | 922 | 261 | 504 | 68 | 3066 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 22 | Willow Rd/Durham St-VA Med Entrance | 8 | 935 | 10 | 54 | 719 | 29 | 117 | 2 | 28 | 21 | 2 | 97 | 2022 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 23 | Willow Rd/Coleman Ave | 11 | 738 | 3 | 5 | 680 | 84 | 102 | 4 | 31 | 1 | 1 | 4 | 1664 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 24 | Willow Rd/Gilbert Ave | 30 | 671 | 13 | 26 | 597 | 6 | 61 | 51 | 69 | 56 | 43 | 28 | 1651 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 25 | Middlefield Rd-Willow Rd | 46 | 94 | 256 | 356 | 93 | 332 | 92 | 429 | 216 | 236 | 453 | 29 | 2632 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 26 | Ravenswood Ave/Laurel St | 57 | 596 | 125 | 32 | 523 | 24 | 267 | 215 | 64 | 52 | 135 | 26 | 2116 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 28 | Oak Grove Ave/Laurel St | 13 | 335 | 94 | 30 | 262 | 48 | 78 | 232 | 38 | 28 | 116 | 29 | 1303 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 29 | El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance | 19 | 15 | 31 | 107 | 9 | 238 | 24 | 1750 | 100 | 65 | 1215 | 13 | 3586 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 30 | El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave | 363 | 144 | 79 | 59 | 171 | 41 | 98 | 1525 | 46 | 56 | 992 | 304 | 3878 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 31 | El Camino Real (SR 82)/Oak Grove Ave | 118 | 202 | 133 | 129 | 215 | 77 | 87 | 1426 | 94 | 114 | 1047 | 97 | 3739 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Thru | Right | Thru | Right | |
| 32 | El Camino Real (SR 82)/Santa Cruz Ave | 172 | 50 | 137 | 50 | 58 | 43 | 1406 | 41 | 1451 | 87 | 3495 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 33 | El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave | 44 | 348 | 108 | 451 | 249 | 80 | 113 | 1339 | 590 | 180 | 1154 | 39 | 4695 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 34 | El Camino Real (SR 82)/Roble Ave | 66 | 6 | 36 | 58 | 45 | 48 | 72 | 1845 | 20 | 68 | 1586 | 54 | 3904 |

| ID | Intersection Name | Northeastbound | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Right | Left | Thru | Thru | Right | |
| 35 | El Camino Real (SR 82)/Middle Ave | 249 | 182 | 323 | 1917 | 1334 | 86 | 4091 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 36 | El Camino Real (SR 82)/Cambridge Ave | 26 | 0 | 39 | 4 | 3 | 0 | 310 | 2332 | 6 | 30 | 1660 | 4 | 4414 |

| ID | Intersection Name | Northeastbound | | Southwestbound | | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Thru | Right | Left | Thru | Left | Right | |
| 38 | Santa Cruz Ave/University Dr (S) | 350 | 328 | 88 | 398 | 363 | 165 | 1692 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 39 | Sand Hill Rd/Santa Cruz Ave | 361 | 611 | 215 | 424 | 1038 | 208 | 158 | 691 | 188 | 101 | 526 | 178 | 4699 |

| ID | Intersection Name | Northbound | | Southbound | | Eastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Thru | Right | |
| 58 | University Avenue and Adams Drive | 11 | 1786 | 360 | 15 | 25 | 0 | 26 | 2223 |

| ID | Intersection Name | Northbound | | Southbound | | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Right | |
| 74 | University Ave/O'Brien Dr | 11 | 1724 | 356 | 10 | 171 | 77 | 2349 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 88 | Valparaiso Ave/ University Dr | 24 | 467 | 105 | 44 | 456 | 29 | 182 | 24 | 57 | 45 | 41 | 72 | 1546 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 103 | Addison Wesley/Sand Hill Rd | 209 | 3 | 108 | 19 | 3 | 66 | 18 | 794 | 93 | 69 | 1750 | 16 | 3148 |

| ID | Intersection Name | Southbound | | Westbound | | Northeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Left | Right | Thru | Right | |
| 107 | Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd | 373 | 638 | 423 | 398 | 535 | 100 | 2467 |

| ID | Intersection Name | Northbound | Southbound | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|
| | | Thru | Thru | Left | Right | |
| 110 | Marsh Road/101 NB Ramps | 2255 | 567 | 544 | 239 | 3605 |

| ID | Intersection Name | Northeastbound | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|
| | | Thru | Thru | Right | Left | Right | |
| 132 | Oak Ave/Sand Hill Rd | 912 | 1585 | 100 | 29 | 88 | 2714 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 156 | Saga Ln/Sand Hill Rd | 108 | 0 | 113 | 90 | 0 | 103 | 65 | 945 | 6 | 28 | 1307 | 20 | 2785 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 157 | Branner Dr/Sand Hill Rd | 2 | 0 | 17 | 20 | 0 | 43 | 22 | 1076 | 7 | 17 | 1321 | 24 | 2549 |

| ID | Intersection Name | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 162 | Sharon Park Dr/ Sand Hill Rd | 164 | 916 | 1 | 16 | 1220 | 252 | 12 | 6 | 17 | 178 | 3 | 172 | 2957 |

| ID | Intersection Name | Northbound | | | Eastbound | | | Westbound | | | Southwestbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 163 | Bayfront Expy/Marsh Rd | 125 | 31 | 2131 | 8 | 477 | 136 | 1287 | 63 | 13 | 16 | 25 | 3 | 4315 |

| ID | Intersection Name | Northeastbound | | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Right | |
| 181 | Santa Cruz Ave/Elder Ave | 61 | 669 | 641 | 79 | 46 | 41 | 1537 |

| ID | Intersection Name | Northbound | | Westbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Right | Left | Thru | Thru | Right | |
| 195 | Bayfront Expy/Chilco St | 201 | 196 | 19 | 767 | 2416 | 156 | 3755 |

| ID | Intersection Name | Northbound | | Eastbound | | Westbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Right | Thru | Right | Left | Thru | |
| 196 | Bayfront Expy/Chrysler Drive | 382 | 43 | 2516 | 107 | 5 | 978 | 4031 |

| ID | Intersection Name | Northbound | | | Southbound | | | Eastbound | | | Northwestbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 207 | Chilco St/Constitution Dr | 14 | 136 | 5 | 17 | 160 | 2 | 28 | 2 | 114 | 158 | 10 | 398 | 1044 |

| ID | Intersection Name | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 209 | Jefferson Dr/Constitution Dr | 11 | 0 | 4 | 2 | 481 | 3 | 2 | 24 | 1 | 13 | 0 | 56 | 597 |

| ID | Intersection Name | Northbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 213 | Chrysler Dr/Independence Dr | 0 | 101 | 0 | 1 | 2 | 3 | 0 | 0 | 15 | 35 | 3 | 6 | 166 |

| ID | Intersection Name | Southbound | | Northeastbound | | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Right | |
| 214 | Chrysler Dr/Jefferson Dr | 9 | 7 | 132 | 7 | 2 | 134 | 291 |

| ID | Intersection Name | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 215 | Chrysler Dr/Constitution Dr | 190 | 6 | 1 | 66 | 285 | 9 | 2 | 2 | 78 | 1 | 234 | 14 | 888 |

| ID | Intersection Name | Northbound | | Southbound | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | Left | Thru | Thru | Right | Left | Thru | Right | |
| 233 | Sand Hill Circle/Sand Hill Road | 9 | 54 | 87 | 180 | 5 | 1849 | 9 | 2193 |

| ID | Intersection Name | Northbound | | Southbound | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|
| | | Thru | Right | Left | Left | Thru | |
| 234 | Sand Hill Rd/Hwy 280 NB Off-Ramp | 23 | 193 | 129 | 38 | 697 | 1080 |

Menlo Park GP Circulation Update

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Report File: J:\...\Menlo Park_PM Results.pdf

Scenario 1: Existing PM
1/9/2015

## Turning Movement Volume: Detail

| ID | Intersection Name | Volume Type | Northeastbound | Southwestbound | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|
| | | | Thru | Thru | Left | Right | |
| 1 | Marsh Rd (SR 84)/US 101 SB Offramp | Final Base | 980 | 893 | 1547 | 401 | 3821 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **980** | **893** | **1547** | **401** | **3821** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 2 | Marsh Rd/Rolison Rd-Scott Dr | Final Base | 29 | 1083 | 4 | 66 | 1014 | 203 | 27 | 9 | 467 | 229 | 13 | 1 | 3145 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **29** | **1083** | **4** | **66** | **1014** | **203** | **27** | **9** | **467** | **229** | **13** | **1** | **3145** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 3 | Marsh Rd/Florence St-Bohannon Dr | Final Base | 185 | 720 | 84 | 30 | 697 | 377 | 475 | 15 | 130 | 98 | 41 | 72 | 2924 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **185** | **720** | **84** | **30** | **697** | **377** | **475** | **15** | **130** | **98** | **41** | **72** | **2924** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 4 | Marsh Rd/Bay Rd | Final Base | 2 | 681 | 108 | 194 | 841 | 54 | 45 | 29 | 6 | 84 | 18 | 143 | 2205 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **2** | **681** | **108** | **194** | **841** | **54** | **45** | **29** | **6** | **84** | **18** | **143** | **2205** |

| ID | Intersection Name | Volume Type | Northeastbound | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Right | Left | Thru | Thru | Right | |
| 9 | Middlefield Rd/Ravenswood Ave | Final Base | 199 | 610 | 457 | 673 | 357 | 60 | 2356 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **199** | **610** | **457** | **673** | **357** | **60** | **2356** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 10 | Middlefield Rd/Ringwood Ave | Final Base | 58 | 70 | 38 | 63 | 1 | 272 | 10 | 775 | 97 | 379 | 568 | 5 | 2336 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **58** | **70** | **38** | **63** | **1** | **272** | **10** | **775** | **97** | **379** | **568** | **5** | **2336** |

| ID | Intersection Name | Volume Type | Northeastbound | | Southwestbound | | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Thru | Right | Left | Thru | Left | Right | |
| 15 | Bayfront Expy (SR 84)/University Ave (SR 109) | Final Base | 3800 | 62 | 304 | 813 | 78 | 1577 | 6634 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **3800** | **62** | **304** | **813** | **78** | **1577** | **6634** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 16 | Bayfront Expy (SR 84)/Willow Rd (SR 114) | Final Base | 24 | 46 | 1404 | 116 | 191 | 116 | 35 | 2362 | 75 | 359 | 675 | 10 | 5413 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | -300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -300 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **24** | **46** | **1104** | **116** | **191** | **116** | **35** | **2362** | **75** | **359** | **675** | **10** | **5113** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 17 | Willow Rd (SR 114)/Hamilton Ave | Final Base | 50 | 1299 | 3 | 13 | 623 | 30 | 163 | 15 | 39 | 139 | 17 | 61 | 2452 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **50** | **1299** | **3** | **13** | **623** | **30** | **163** | **15** | **39** | **139** | **17** | **61** | **2452** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Right | |
| 18 | Willow Rd (SR 114)/Ivy Dr | Final Base | 68 | 1339 | 885 | 15 | 33 | 141 | 2481 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **68** | **1339** | **885** | **15** | **33** | **141** | **2481** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | | Westbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Thru | Right | Left | Thru | Left | Right | |
| 19 | Willow Rd (SR 114)/O'Brien Dr | Final Base | 1368 | 217 | 72 | 966 | 218 | 44 | 2885 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **1368** | **217** | **72** | **966** | **218** | **44** | **2885** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 20 | Willow Rd (SR 114)/Newbridge St | Final Base | 301 | 1484 | 263 | 74 | 1016 | 22 | 28 | 137 | 210 | 210 | 249 | 76 | 4070 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **301** | **1484** | **263** | **74** | **1016** | **22** | **28** | **137** | **210** | **210** | **249** | **76** | **4070** |

| ID | Intersection Name | Volume Type | Northeastbound | | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Right | |
| 21 | Willow Rd/Bay Rd | Final Base | 35 | 1276 | 922 | 261 | 504 | 68 | 3066 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **35** | **1276** | **922** | **261** | **504** | **68** | **3066** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 22 | Willow Rd/Durham St-VA Med Entrance | Final Base | 8 | 935 | 10 | 54 | 719 | 29 | 117 | 2 | 28 | 21 | 2 | 97 | 2022 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **8** | **935** | **10** | **54** | **719** | **29** | **117** | **2** | **28** | **21** | **2** | **97** | **2022** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 23 | Willow Rd/Coleman Ave | Final Base | 11 | 738 | 3 | 5 | 680 | 84 | 102 | 4 | 31 | 1 | 1 | 4 | 1664 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **11** | **738** | **3** | **5** | **680** | **84** | **102** | **4** | **31** | **1** | **1** | **4** | **1664** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 24 | Willow Rd/Gilbert Ave | Final Base | 30 | 671 | 13 | 26 | 597 | 6 | 61 | 51 | 69 | 56 | 43 | 28 | 1651 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **30** | **671** | **13** | **26** | **597** | **6** | **61** | **51** | **69** | **56** | **43** | **28** | **1651** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 25 | Middlefield Rd-Willow Rd | Final Base | 46 | 94 | 256 | 356 | 93 | 332 | 92 | 429 | 216 | 236 | 453 | 29 | 2632 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **46** | **94** | **256** | **356** | **93** | **332** | **92** | **429** | **216** | **236** | **453** | **29** | **2632** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 26 | Ravenswood Ave/Laurel St | Final Base | 57 | 596 | 125 | 32 | 523 | 24 | 267 | 215 | 64 | 52 | 135 | 26 | 2116 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **57** | **596** | **125** | **32** | **523** | **24** | **267** | **215** | **64** | **52** | **135** | **26** | **2116** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 28 | Oak Grove Ave/Laurel St | Final Base | 13 | 335 | 94 | 30 | 262 | 48 | 78 | 232 | 38 | 28 | 116 | 29 | 1303 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **13** | **335** | **94** | **30** | **262** | **48** | **78** | **232** | **38** | **28** | **116** | **29** | **1303** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 29 | El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance | Final Base | 19 | 15 | 31 | 107 | 9 | 238 | 24 | 1750 | 100 | 65 | 1215 | 13 | 3586 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **19** | **15** | **31** | **107** | **9** | **238** | **24** | **1750** | **100** | **65** | **1215** | **13** | **3586** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 30 | El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave | Final Base | 363 | 144 | 79 | 59 | 171 | 41 | 98 | 1525 | 46 | 56 | 992 | 304 | 3878 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **363** | **144** | **79** | **59** | **171** | **41** | **98** | **1525** | **46** | **56** | **992** | **304** | **3878** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 31 | El Camino Real (SR 82)/Oak Grove Ave | Final Base | 118 | 202 | 133 | 129 | 215 | 77 | 87 | 1426 | 94 | 114 | 1047 | 97 | 3739 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **118** | **202** | **133** | **129** | **215** | **77** | **87** | **1426** | **94** | **114** | **1047** | **97** | **3739** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Thru | Right | Thru | Right | |
| 32 | El Camino Real (SR 82)/Santa Cruz Ave | Final Base | 172 | 50 | 137 | 50 | 58 | 43 | 1406 | 41 | 1451 | 87 | 3495 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **172** | **50** | **137** | **50** | **58** | **43** | **1406** | **41** | **1451** | **87** | **3495** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 33 | El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave | Final Base | 44 | 348 | 108 | 451 | 249 | 80 | 113 | 1339 | 590 | 180 | 1154 | 39 | 4695 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **44** | **348** | **108** | **451** | **249** | **80** | **113** | **1339** | **590** | **180** | **1154** | **39** | **4695** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 34 | El Camino Real (SR 82)/Roble Ave | Final Base | 66 | 6 | 36 | 58 | 45 | 48 | 72 | 1845 | 20 | 68 | 1586 | 54 | 3904 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **66** | **6** | **36** | **58** | **45** | **48** | **72** | **1845** | **20** | **68** | **1586** | **54** | **3904** |

| ID | Intersection Name | Volume Type | Northeastbound | | Northwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Right | Left | Thru | Thru | Right | |
| 35 | El Camino Real (SR 82)/Middle Ave | Final Base | 249 | 182 | 323 | 1917 | 1334 | 86 | 4091 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **249** | **182** | **323** | **1917** | **1334** | **86** | **4091** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 36 | El Camino Real (SR 82)/Cambridge Ave | Final Base | 26 | 0 | 39 | 4 | 3 | 0 | 310 | 2332 | 6 | 30 | 1660 | 4 | 4414 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **26** | **0** | **39** | **4** | **3** | **0** | **310** | **2332** | **6** | **30** | **1660** | **4** | **4414** |

| ID | Intersection Name | Volume Type | Northeastbound | | Southwestbound | | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Thru | Right | Left | Thru | Left | Right | |
| 38 | Santa Cruz Ave/University Dr (S) | Final Base | 350 | 328 | 88 | 398 | 363 | 165 | 1692 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **350** | **328** | **88** | **398** | **363** | **165** | **1692** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 39 | Sand Hill Rd/Santa Cruz Ave | Final Base | 361 | 611 | 215 | 424 | 1038 | 208 | 158 | 691 | 188 | 101 | 526 | 178 | 4699 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **361** | **611** | **215** | **424** | **1038** | **208** | **158** | **691** | **188** | **101** | **526** | **178** | **4699** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | | Eastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Thru | Right | |
| 58 | University Avenue and Adams Drive | Final Base | 11 | 1786 | 360 | 15 | 25 | 0 | 26 | 2223 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **11** | **1786** | **360** | **15** | **25** | **0** | **26** | **2223** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Right | |
| 74 | University Ave/O'Brien Dr | Final Base | 11 | 1724 | 356 | 10 | 171 | 77 | 2349 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **11** | **1724** | **356** | **10** | **171** | **77** | **2349** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 88 | Valparaiso Ave/ University Dr | Final Base | 24 | 467 | 105 | 44 | 456 | 29 | 182 | 24 | 57 | 45 | 41 | 72 | 1546 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **24** | **467** | **105** | **44** | **456** | **29** | **182** | **24** | **57** | **45** | **41** | **72** | **1546** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 103 | Addison Wesley/Sand Hill Rd | Final Base | 209 | 3 | 108 | 19 | 3 | 66 | 18 | 794 | 93 | 69 | 1750 | 16 | 3148 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **209** | **3** | **108** | **19** | **3** | **66** | **18** | **794** | **93** | **69** | **1750** | **16** | **3148** |

| ID | Intersection Name | Volume Type | Southbound | | Westbound | | Northeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Left | Right | Thru | Right | |
| 107 | Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd | Final Base | 373 | 638 | 423 | 398 | 535 | 100 | 2467 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **373** | **638** | **423** | **398** | **535** | **100** | **2467** |

| ID | Intersection Name | Volume Type | Northbound | Southbound | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|
| | | | Thru | Thru | Left | Right | |
| 110 | Marsh Road/101 NB Ramps | Final Base | 2255 | 567 | 544 | 239 | 3605 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **2255** | **567** | **544** | **239** | **3605** |

| ID | Intersection Name | Volume Type | Northeastbound | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | | Thru | Thru | Right | Left | Right | |
| 132 | Oak Ave/Sand Hill Rd | Final Base | 912 | 1585 | 100 | 29 | 88 | 2714 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **912** | **1585** | **100** | **29** | **88** | **2714** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 156 | Saga Ln/Sand Hill Rd | Final Base | 108 | 0 | 113 | 90 | 0 | 103 | 65 | 945 | 6 | 28 | 1307 | 20 | 2785 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **108** | **0** | **113** | **90** | **0** | **103** | **65** | **945** | **6** | **28** | **1307** | **20** | **2785** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 157 | Branner Dr/Sand Hill Rd | Final Base | 2 | 0 | 17 | 20 | 0 | 43 | 22 | 1076 | 7 | 17 | 1321 | 24 | 2549 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **2** | **0** | **17** | **20** | **0** | **43** | **22** | **1076** | **7** | **17** | **1321** | **24** | **2549** |

| ID | Intersection Name | Volume Type | Northeastbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 162 | Sharon Park Dr/ Sand Hill Rd | Final Base | 164 | 916 | 1 | 16 | 1220 | 252 | 12 | 6 | 17 | 178 | 3 | 172 | 2957 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **164** | **916** | **1** | **16** | **1220** | **252** | **12** | **6** | **17** | **178** | **3** | **172** | **2957** |

| ID | Intersection Name | Volume Type | Northbound | | | Eastbound | | | Westbound | | | Southwestbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 163 | Bayfront Expy/Marsh Rd | Final Base | 125 | 31 | 2131 | 8 | 477 | 136 | 1287 | 63 | 13 | 16 | 25 | 3 | 4315 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **125** | **31** | **2131** | **8** | **477** | **136** | **1287** | **63** | **13** | **16** | **25** | **3** | **4315** |

| ID | Intersection Name | Volume Type | Northeastbound | | Southwestbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Right | |
| 181 | Santa Cruz Ave/Elder Ave | Final Base | 61 | 669 | 641 | 79 | 46 | 41 | 1537 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **61** | **669** | **641** | **79** | **46** | **41** | **1537** |

| ID | Intersection Name | Volume Type | Northbound | | Westbound | | Southeastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Right | Left | Thru | Thru | Right | |
| 195 | Bayfront Expy/Chilco St | Final Base | 201 | 196 | 19 | 767 | 2416 | 156 | 3755 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **201** | **196** | **19** | **767** | **2416** | **156** | **3755** |

| ID | Intersection Name | Volume Type | Northbound | | Eastbound | | Westbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Right | Thru | Right | Left | Thru | |
| 196 | Bayfront Expy/Chrysler Drive | Final Base | 382 | 43 | 2516 | 107 | 5 | 978 | 4031 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **382** | **43** | **2516** | **107** | **5** | **978** | **4031** |

| ID | Intersection Name | Volume Type | Northbound | | | Southbound | | | Eastbound | | | Northwestbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 207 | Chilco St/Constitution Dr | Final Base | 14 | 136 | 5 | 17 | 160 | 2 | 28 | 2 | 114 | 158 | 10 | 398 | 1044 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **14** | **136** | **5** | **17** | **160** | **2** | **28** | **2** | **114** | **158** | **10** | **398** | **1044** |

| ID | Intersection Name | Volume Type | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 209 | Jefferson Dr/Constitution Dr | Final Base | 11 | 0 | 4 | 2 | 481 | 3 | 2 | 24 | 1 | 13 | 0 | 56 | 597 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **11** | **0** | **4** | **2** | **481** | **3** | **2** | **24** | **1** | **13** | **0** | **56** | **597** |

| ID | Intersection Name | Volume Type | Northbound | | | Southwestbound | | | Northwestbound | | | Southeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 213 | Chrysler Dr/Independence Dr | Final Base | 0 | 101 | 0 | 1 | 2 | 3 | 0 | 0 | 15 | 35 | 3 | 6 | 166 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **0** | **101** | **0** | **1** | **2** | **3** | **0** | **0** | **15** | **35** | **3** | **6** | **166** |

| ID | Intersection Name | Volume Type | Southbound | | Northeastbound | | Northwestbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Right | |
| 214 | Chrysler Dr/Jefferson Dr | Final Base | 9 | 7 | 132 | 7 | 2 | 134 | 291 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **9** | **7** | **132** | **7** | **2** | **134** | **291** |

| ID | Intersection Name | Volume Type | Southbound | | | Eastbound | | | Westbound | | | Northeastbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| 215 | Chrysler Dr/Constitution Dr | Final Base | 190 | 6 | 1 | 66 | 285 | 9 | 2 | 2 | 78 | 1 | 234 | 14 | 888 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **190** | **6** | **1** | **66** | **285** | **9** | **2** | **2** | **78** | **1** | **234** | **14** | **888** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | | Westbound | | | Total Volume |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Left | Thru | Thru | Right | Left | Thru | Right | |
| 233 | Sand Hill Circle/Sand Hill Road | Final Base | 9 | 54 | 87 | 180 | 5 | 1849 | 9 | 2193 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **9** | **54** | **87** | **180** | **5** | **1849** | **9** | **2193** |

| ID | Intersection Name | Volume Type | Northbound | | Southbound | Eastbound | | Total Volume |
|---|---|---|---|---|---|---|---|---|
| | | | Thru | Right | Left | Left | Thru | |
| 234 | Sand Hill Rd/Hwy 280 NB Off-Ramp | Final Base | 23 | 193 | 129 | 38 | 697 | 1080 |
| | | Growth Rate | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | - |
| | | In Process | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Net New Trips | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Other | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **Future Total** | **23** | **193** | **129** | **38** | **697** | **1080** |

# Signal Warrants Report For Intersection #58: University Avenue and Adams Drive

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | S, N |
| Minor Approaches | W |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | S | N | W |
| 1 | 36 | 8 | 1 |
| 2 | 36 | 8 | 1 |
| 3 | 54 | 11 | 2 |
| 4 | 54 | 11 | 2 |
| 5 | 72 | 15 | 2 |
| 6 | 180 | 38 | 5 |
| 7 | 198 | 41 | 6 |
| 8 | 359 | 75 | 10 |
| 9 | 629 | 131 | 18 |
| 10 | 647 | 135 | 18 |
| 11 | 647 | 135 | 18 |
| 12 | 701 | 146 | 20 |
| 13 | 773 | 161 | 22 |
| 14 | 809 | 169 | 23 |
| 15 | 809 | 169 | 23 |
| 16 | 863 | 180 | 24 |
| 17 | 1078 | 225 | 31 |
| 18 | 1132 | 236 | 32 |
| 19 | 1222 | 255 | 35 |
| 20 | 1366 | 285 | 39 |
| 21 | 1438 | 300 | 41 |
| 22 | 1689 | 353 | 48 |
| 23 | 1725 | 360 | 49 |
| 24 | 1797 | 375 | 51 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 5 | 44 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 2 | 5 | 44 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 3 | 5 | 65 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 4 | 5 | 65 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 5 | 5 | 87 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 6 | 5 | 218 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 7 | 5 | 239 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 8 | 5 | 434 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 9 | 5 | 760 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| 10 | 5 | 782 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| 11 | 5 | 782 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| 12 | 5 | 847 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 13 | 5 | 934 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 14 | 5 | 978 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 15 | 5 | 978 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 16 | 5 | 1043 | 1 | 24 | No | No | No | No | No | No | No | No | No | No |
| 17 | 5 | 1303 | 1 | 31 | No | No | No | No | No | No | No | No | No | No |
| 18 | 5 | 1368 | 1 | 32 | No | No | No | No | No | No | No | No | No | No |
| 19 | 5 | 1477 | 1 | 35 | No | No | No | No | No | No | No | No | No | No |
| 20 | 5 | 1651 | 1 | 39 | No | No | No | No | No | No | No | No | No | No |
| 21 | 5 | 1738 | 1 | 41 | No | No | No | No | No | No | No | No | No | No |
| 22 | 5 | 2042 | 1 | 48 | No | No | No | No | No | No | No | Yes | No | No |
| 23 | 5 | 2085 | 1 | 49 | No | No | No | No | No | No | No | Yes | No | No |
| 24 | 5 | 2172 | 1 | 51 | No | No | No | No | No | No | No | Yes | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | W |
|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 27.3 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:23 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 51 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 2223 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| **Warrant Met for Intersection** | **No** |

# Signal Warrants Report For Intersection #207: Chilco St/Constitution Dr

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | SE, W |
| Minor Approaches | N, S |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | SE | W | N | S |
| 1 | 11 | 3 | 4 | 3 |
| 2 | 11 | 3 | 4 | 3 |
| 3 | 17 | 4 | 5 | 5 |
| 4 | 17 | 4 | 5 | 5 |
| 5 | 23 | 6 | 7 | 6 |
| 6 | 57 | 14 | 18 | 16 |
| 7 | 62 | 16 | 20 | 17 |
| 8 | 113 | 29 | 36 | 31 |
| 9 | 198 | 50 | 63 | 54 |
| 10 | 204 | 52 | 64 | 56 |
| 11 | 204 | 52 | 64 | 56 |
| 12 | 221 | 56 | 70 | 60 |
| 13 | 243 | 62 | 77 | 67 |
| 14 | 255 | 65 | 81 | 70 |
| 15 | 255 | 65 | 81 | 70 |
| 16 | 272 | 69 | 86 | 74 |
| 17 | 340 | 86 | 107 | 93 |
| 18 | 357 | 91 | 113 | 98 |
| 19 | 385 | 98 | 122 | 105 |
| 20 | 430 | 109 | 136 | 118 |
| 21 | 453 | 115 | 143 | 124 |
| 22 | 532 | 135 | 168 | 146 |
| 23 | 543 | 138 | 172 | 149 |
| 24 | 566 | 144 | 179 | 155 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 14 | 2 | 7 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 14 | 2 | 7 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 21 | 2 | 10 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 21 | 2 | 10 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 29 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 71 | 2 | 34 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 78 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 142 | 2 | 67 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 248 | 2 | 117 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 256 | 2 | 120 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 256 | 2 | 120 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 277 | 2 | 130 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 305 | 2 | 144 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 320 | 2 | 151 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 320 | 2 | 151 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 341 | 2 | 160 | No | No | No | Yes | No | No | No | No | No | No |
| 17 | 2 | 426 | 2 | 200 | No | No | Yes | Yes | No | No | No | No | No | No |
| 18 | 2 | 448 | 2 | 211 | No | No | Yes | Yes | No | No | No | No | No | No |
| 19 | 2 | 483 | 2 | 227 | No | Yes | Yes | Yes | No | No | No | No | No | No |
| 20 | 2 | 539 | 2 | 254 | No | Yes | Yes | Yes | No | No | No | Yes | No | No |
| 21 | 2 | 568 | 2 | 267 | No | Yes | Yes | Yes | No | No | No | Yes | No | No |
| 22 | 2 | 667 | 2 | 314 | Yes | Yes | Yes | Yes | No | No | Yes | Yes | Yes | No |
| 23 | 2 | 681 | 2 | 321 | Yes | Yes | Yes | Yes | No | No | Yes | Yes | Yes | No |
| 24 | 2 | 710 | 2 | 334 | Yes | Yes | Yes | Yes | No | No | Yes | Yes | Yes | No |
| Hours Met | | | | | 3 | 6 | 8 | 9 | 0 | 0 | 3 | 5 | 3 | 0 |

## Warrant 3 Condition A

| Orientation | N | S |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 13.1 | 12.4 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:38 | 0:32 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 179 | 155 |
| High Minor Volume Condition Met | Yes | Yes |
| Total Entering Volume on All Approaches During Same Hour | 1044 | 1044 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Signal Warrants Report For Intersection #209: Jefferson Dr/Constitution Dr

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | E, W |
| Minor Approaches | N, SW |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | E | W | N | SW |
| 1 | 1 | 10 | 0 | 1 |
| 2 | 1 | 10 | 0 | 1 |
| 3 | 1 | 15 | 0 | 2 |
| 4 | 1 | 15 | 0 | 2 |
| 5 | 1 | 19 | 1 | 3 |
| 6 | 3 | 49 | 2 | 7 |
| 7 | 3 | 53 | 2 | 8 |
| 8 | 5 | 97 | 3 | 14 |
| 9 | 9 | 170 | 5 | 24 |
| 10 | 10 | 175 | 5 | 25 |
| 11 | 10 | 175 | 5 | 25 |
| 12 | 11 | 190 | 6 | 27 |
| 13 | 12 | 209 | 6 | 30 |
| 14 | 12 | 219 | 7 | 31 |
| 15 | 12 | 219 | 7 | 31 |
| 16 | 13 | 233 | 7 | 33 |
| 17 | 16 | 292 | 9 | 41 |
| 18 | 17 | 306 | 9 | 43 |
| 19 | 18 | 330 | 10 | 47 |
| 20 | 21 | 369 | 11 | 52 |
| 21 | 22 | 389 | 12 | 55 |
| 22 | 25 | 457 | 14 | 65 |
| 23 | 26 | 467 | 14 | 66 |
| 24 | 27 | 486 | 15 | 69 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 16 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 16 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 20 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 52 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 56 | 2 | 10 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 102 | 2 | 17 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 179 | 2 | 29 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 185 | 2 | 30 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 185 | 2 | 30 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 201 | 2 | 33 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 221 | 2 | 36 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 231 | 2 | 38 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 231 | 2 | 38 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 246 | 2 | 40 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 308 | 2 | 50 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 323 | 2 | 52 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 348 | 2 | 57 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 390 | 2 | 63 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 411 | 2 | 67 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 482 | 2 | 79 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 493 | 2 | 80 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 513 | 2 | 84 | No | No | No | No | No | No | No | Yes | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | N | SW |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 13.6 | 13.6 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:03 | 0:15 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 15 | 69 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 597 | 597 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | No | No |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Signal Warrants Report For Intersection #213: Chrysler Dr/Independence Dr

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | NE, S |
| Minor Approaches | SE, NW |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | NE | S | SE | NW |
| 1 | 0 | 2 | 0 | 1 |
| 2 | 0 | 2 | 0 | 1 |
| 3 | 0 | 3 | 0 | 1 |
| 4 | 0 | 3 | 0 | 1 |
| 5 | 0 | 4 | 1 | 2 |
| 6 | 1 | 10 | 2 | 4 |
| 7 | 1 | 11 | 2 | 5 |
| 8 | 1 | 20 | 3 | 9 |
| 9 | 2 | 35 | 5 | 15 |
| 10 | 2 | 36 | 5 | 16 |
| 11 | 2 | 36 | 5 | 16 |
| 12 | 2 | 39 | 6 | 17 |
| 13 | 3 | 43 | 6 | 19 |
| 14 | 3 | 45 | 7 | 20 |
| 15 | 3 | 45 | 7 | 20 |
| 16 | 3 | 48 | 7 | 21 |
| 17 | 4 | 61 | 9 | 26 |
| 18 | 4 | 64 | 9 | 28 |
| 19 | 4 | 69 | 10 | 30 |
| 20 | 5 | 77 | 11 | 33 |
| 21 | 5 | 81 | 12 | 35 |
| 22 | 6 | 95 | 14 | 41 |
| 23 | 6 | 97 | 14 | 42 |
| 24 | 6 | 101 | 15 | 44 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 2 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 2 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 3 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 3 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 4 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 11 | 2 | 6 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 12 | 2 | 7 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 21 | 2 | 12 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 37 | 2 | 20 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 38 | 2 | 21 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 38 | 2 | 21 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 41 | 2 | 23 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 46 | 2 | 25 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 48 | 2 | 27 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 48 | 2 | 27 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 51 | 2 | 28 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 65 | 2 | 35 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 68 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 73 | 2 | 40 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 82 | 2 | 44 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 86 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 101 | 2 | 55 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 103 | 2 | 56 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 107 | 2 | 59 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | SE | NW |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 8.9 | 9.6 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:02 | 0:07 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 15 | 44 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 166 | 166 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | No | No |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Signal Warrants Report For Intersection #214: Chrysler Dr/Jefferson Dr

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | N, SW |
| Minor Approaches | SE |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | N | SW | SE |
| 1 | 0 | 3 | 3 |
| 2 | 0 | 3 | 3 |
| 3 | 0 | 4 | 4 |
| 4 | 0 | 4 | 4 |
| 5 | 1 | 6 | 5 |
| 6 | 2 | 14 | 14 |
| 7 | 2 | 15 | 15 |
| 8 | 3 | 28 | 27 |
| 9 | 6 | 49 | 48 |
| 10 | 6 | 50 | 49 |
| 11 | 6 | 50 | 49 |
| 12 | 6 | 54 | 53 |
| 13 | 7 | 60 | 58 |
| 14 | 7 | 63 | 61 |
| 15 | 7 | 63 | 61 |
| 16 | 8 | 67 | 65 |
| 17 | 10 | 83 | 82 |
| 18 | 10 | 88 | 86 |
| 19 | 11 | 95 | 92 |
| 20 | 12 | 106 | 103 |
| 21 | 13 | 111 | 109 |
| 22 | 15 | 131 | 128 |
| 23 | 15 | 133 | 131 |
| 24 | 16 | 139 | 136 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 3 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 3 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 4 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 4 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 7 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 16 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 17 | 1 | 15 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 31 | 1 | 27 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 55 | 1 | 48 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 56 | 1 | 49 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 56 | 1 | 49 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 60 | 1 | 53 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 67 | 1 | 58 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 70 | 1 | 61 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 70 | 1 | 61 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 75 | 1 | 65 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 93 | 1 | 82 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 98 | 1 | 86 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 106 | 1 | 92 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 118 | 1 | 103 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 124 | 1 | 109 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 146 | 1 | 128 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 148 | 1 | 131 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 155 | 1 | 136 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Warrant 3 Condition A

| | |
|---|---|
| Orientation | SE |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 9.9 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:22 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 136 |
| High Minor Volume Condition Met | Yes |
| Total Entering Volume on All Approaches During Same Hour | 291 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | No |
| Warrant Met for Approach | No |
| **Warrant Met for Intersection** | **No** |

# Signal Warrants Report For Intersection #215: Chrysler Dr/Constitution Dr

## Warrants Summary

| Warrant | Name | Met? |
|---|---|---|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

## Intersection Warrants Parameters

| | |
|---|---|
| Major Approaches | E, W |
| Minor Approaches | N, SW |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | E | W | N | SW |
| 1 | 2 | 7 | 4 | 5 |
| 2 | 2 | 7 | 4 | 5 |
| 3 | 2 | 11 | 6 | 7 |
| 4 | 2 | 11 | 6 | 7 |
| 5 | 3 | 14 | 8 | 10 |
| 6 | 8 | 36 | 20 | 25 |
| 7 | 9 | 40 | 22 | 27 |
| 8 | 16 | 72 | 39 | 50 |
| 9 | 29 | 126 | 69 | 87 |
| 10 | 30 | 130 | 71 | 90 |
| 11 | 30 | 130 | 71 | 90 |
| 12 | 32 | 140 | 77 | 97 |
| 13 | 35 | 155 | 85 | 107 |
| 14 | 37 | 162 | 89 | 112 |
| 15 | 37 | 162 | 89 | 112 |
| 16 | 39 | 173 | 95 | 120 |
| 17 | 49 | 216 | 118 | 149 |
| 18 | 52 | 227 | 124 | 157 |
| 19 | 56 | 245 | 134 | 169 |
| 20 | 62 | 274 | 150 | 189 |
| 21 | 66 | 288 | 158 | 199 |
| 22 | 77 | 338 | 185 | 234 |
| 23 | 79 | 346 | 189 | 239 |
| 24 | 82 | 360 | 197 | 249 |

## Warrant Analysis by Hour

| Hour | Major Lanes | | Minor Lanes | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 9 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 9 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 13 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 13 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 17 | 2 | 18 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 44 | 2 | 45 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 49 | 2 | 49 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 88 | 2 | 89 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 155 | 2 | 156 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 160 | 2 | 161 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 160 | 2 | 161 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 172 | 2 | 174 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 190 | 2 | 192 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 199 | 2 | 201 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 199 | 2 | 201 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 212 | 2 | 215 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 265 | 2 | 267 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 279 | 2 | 281 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 301 | 2 | 303 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 336 | 2 | 339 | No | No | No | Yes | No | No | No | No | No | No |
| 21 | 2 | 354 | 2 | 357 | No | No | No | Yes | No | No | No | No | No | No |
| 22 | 2 | 415 | 2 | 419 | No | No | No | Yes | No | No | No | No | No | No |
| 23 | 2 | 425 | 2 | 428 | No | No | Yes | Yes | No | No | No | No | No | No |
| 24 | 2 | 442 | 2 | 446 | No | No | Yes | Yes | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |

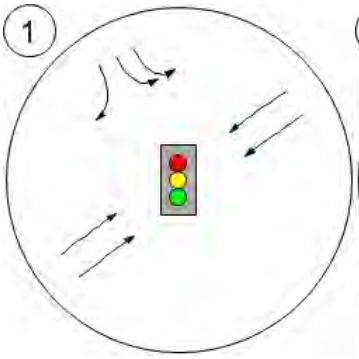
## Warrant 3 Condition A

| Orientation | N | SW |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 12.6 | 13.2 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:41 | 0:54 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 197 | 249 |
| High Minor Volume Condition Met | Yes | Yes |
| Total Entering Volume on All Approaches During Same Hour | 888 | 888 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

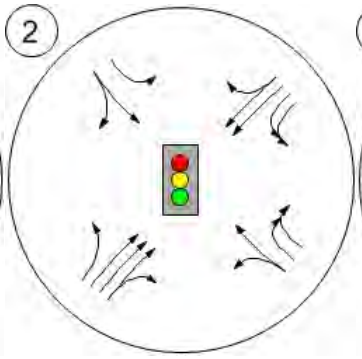
## Study Intersections

## Lane Configuration and Traffic Control

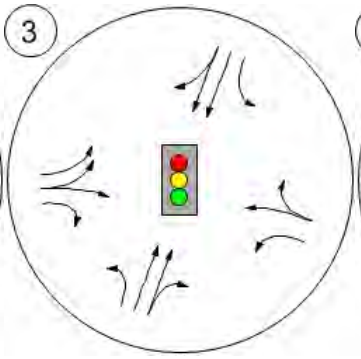

Marsh Rd (SR 84)/US 101 S



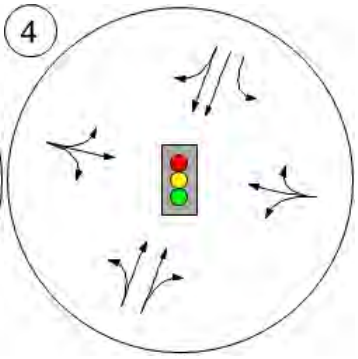

Marsh Rd/Rolison Rd-Scott D



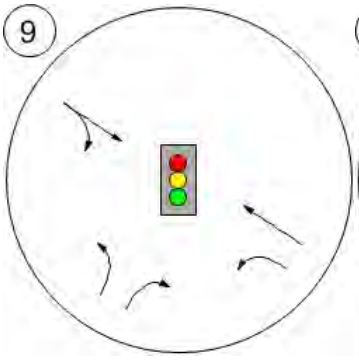

Marsh Rd/Florence St-Bohan



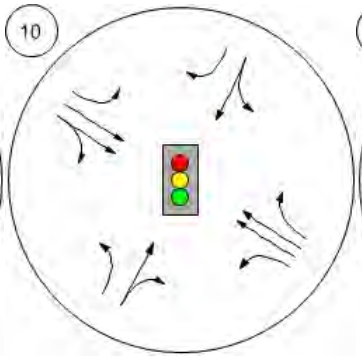

Marsh Rd/Bay Rd



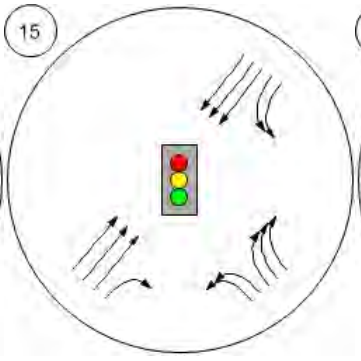

Middlefield Rd/Ravenswood



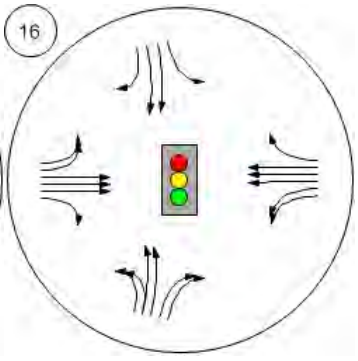

Middlefield Rd/Ringwood Ave




Bayfront Expy (SR 84)/Univer

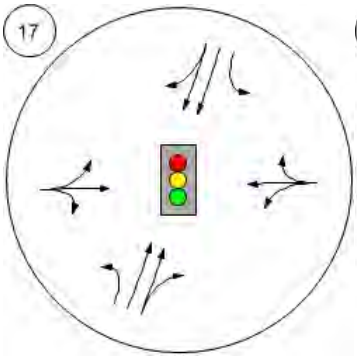



Bayfront Expy (SR 84)/Willow

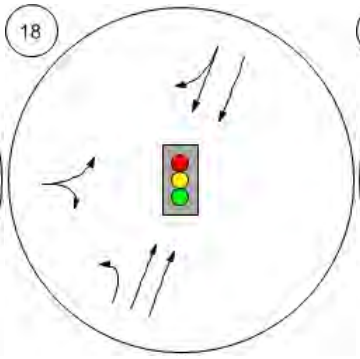


## Lane Configuration and Traffic Control

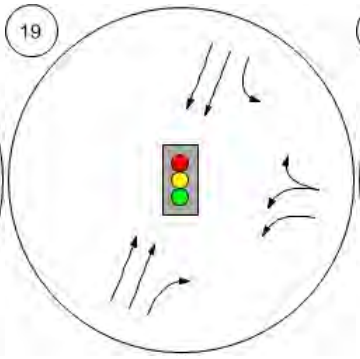

Willow Rd (SR 114)/Hamilton



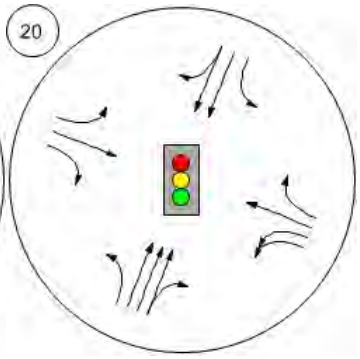

Willow Rd (SR 114)/Ivy Dr



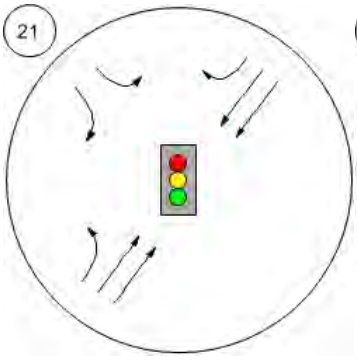

Willow Rd (SR 114)/O'Brien



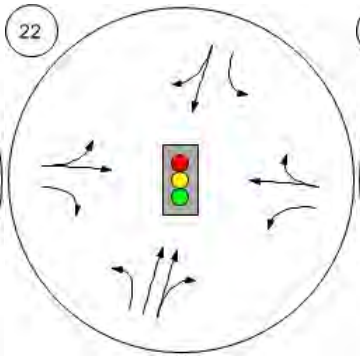

Willow Rd (SR 114)/Newbrid



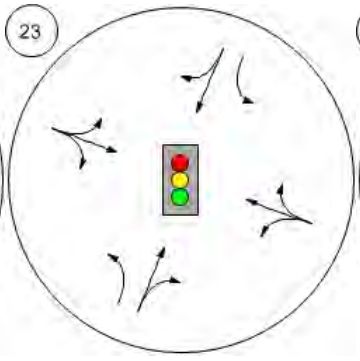

Willow Rd/Bay Rd



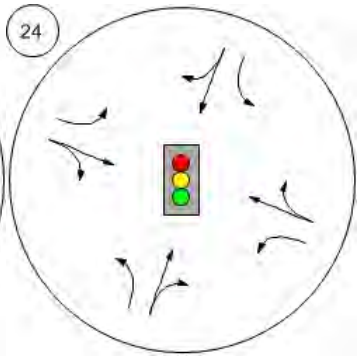

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

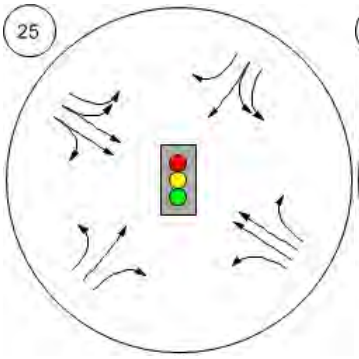



Willow Rd/Gilbert Ave

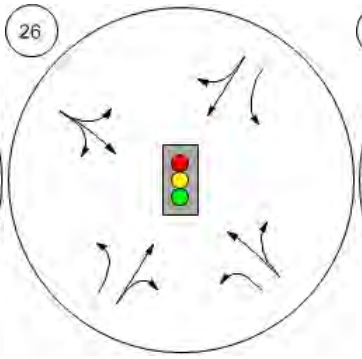


## Lane Configuration and Traffic Control

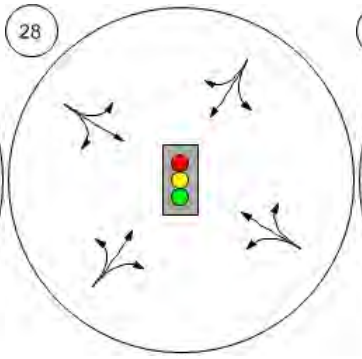

Middlefield Rd-Willow Rd



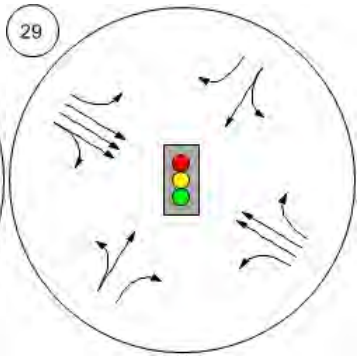

Ravenswood Ave/Laurel St



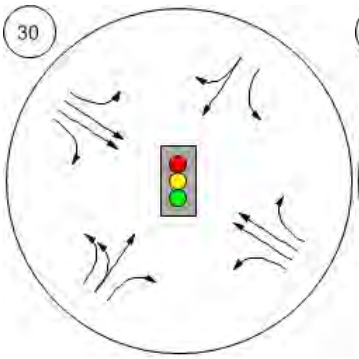

Oak Grove Ave/Laurel St



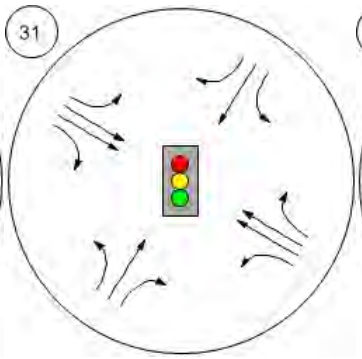

El Camino Real (SR 82)/Enci



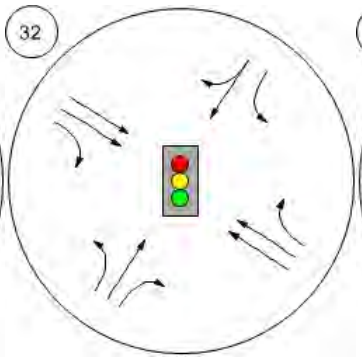

El Camino Real (SR 82)/Glen



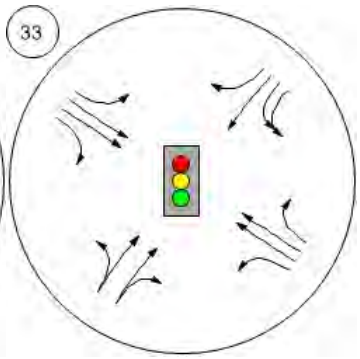

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

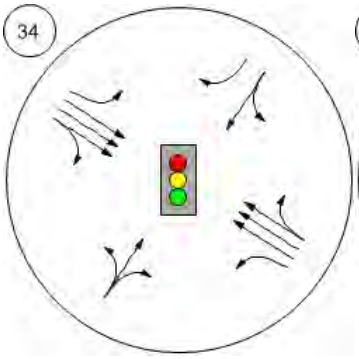



El Camino Real (SR 82)/Rav

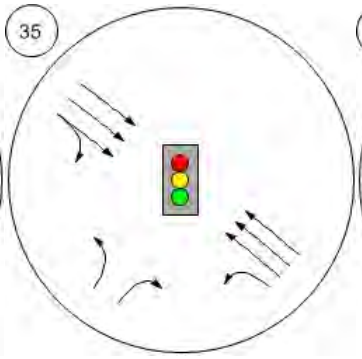


## Lane Configuration and Traffic Control

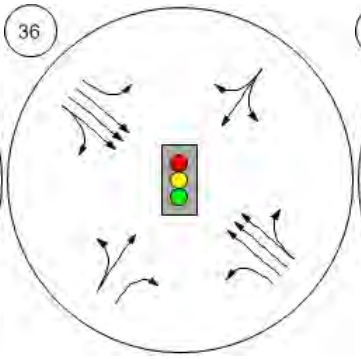

El Camino Real (SR 82)/Robl



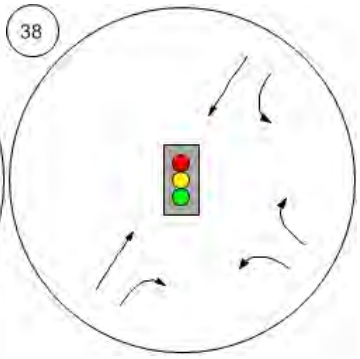

El Camino Real (SR 82)/Midd



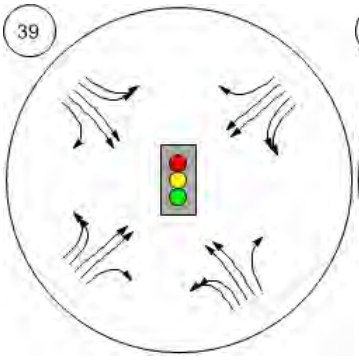

El Camino Real (SR 82)/Cam



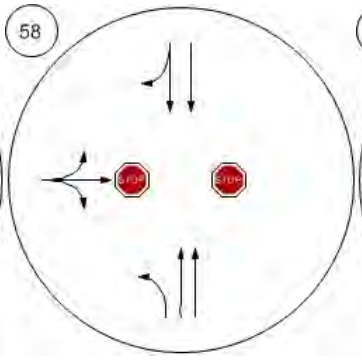

Santa Cruz Ave/University Dr



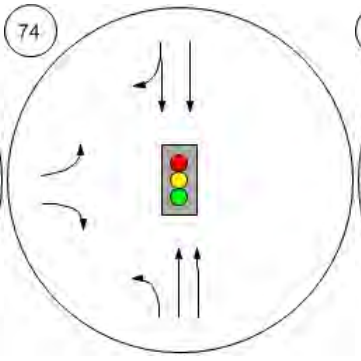

Sand Hill Rd/Santa Cruz Ave



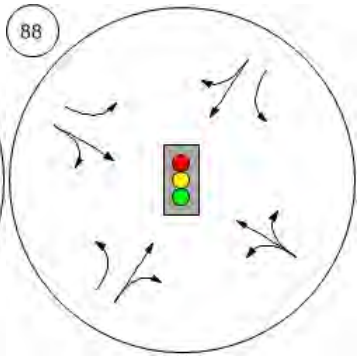

University Avenue and Adam




University Ave/O'Brien Dr

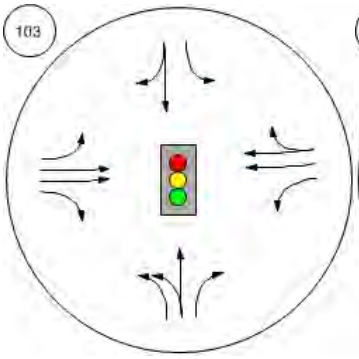



Valparaiso Ave/ University Dr

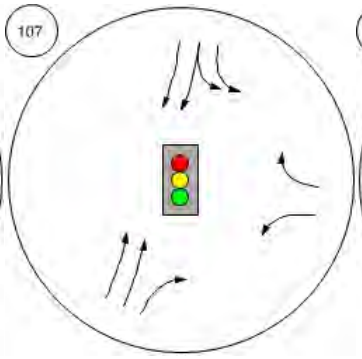


## Lane Configuration and Traffic Control

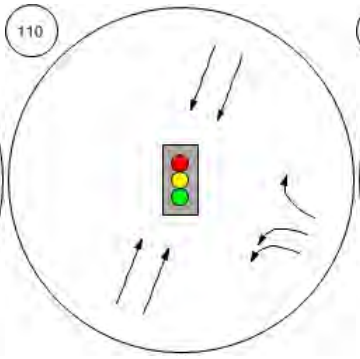

Addison Wesley/Sand Hill Rd



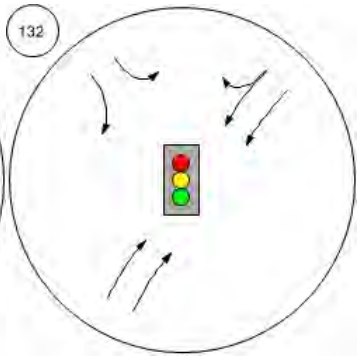

Alpine Rd/Santa Cruz Ave&J



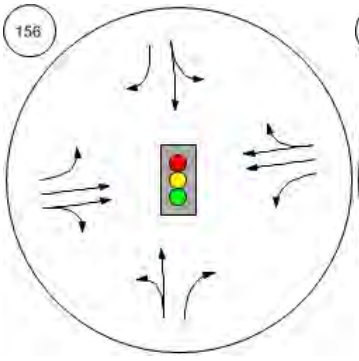

Marsh Road/101 NB Ramps



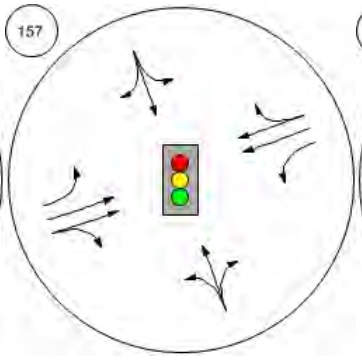

Oak Ave/Sand Hill Rd



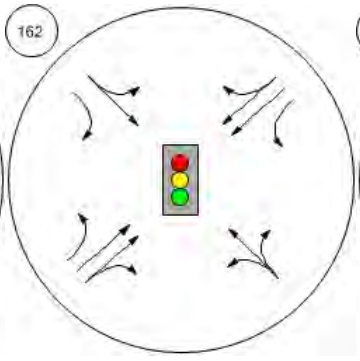

Saga Ln/Sand Hill Rd



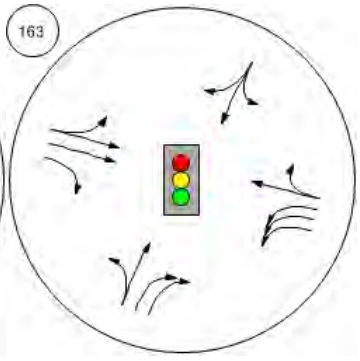

Branner Dr/Sand Hill Rd




Sharon Park Dr/ Sand Hill Rd

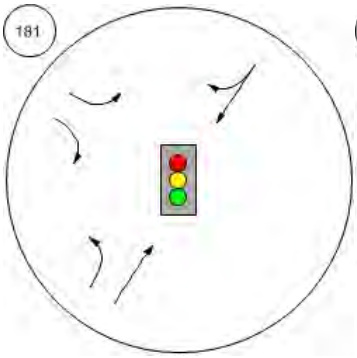



Bayfront Expy/Marsh Rd

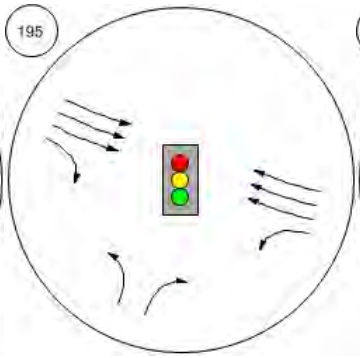


## Lane Configuration and Traffic Control

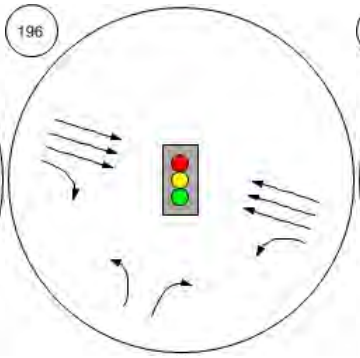

Santa Cruz Ave/Elder Ave



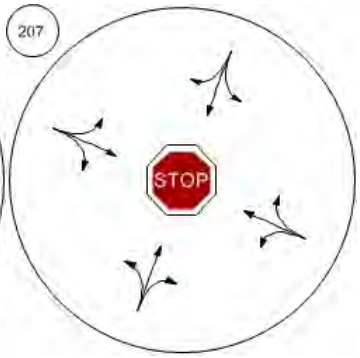

Bayfront Expy/Chilco St



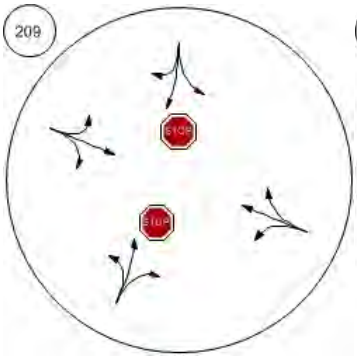

Bayfront Expy/Chrysler Drive



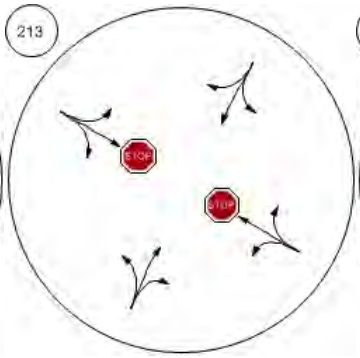

Chilco St/Constitution Dr



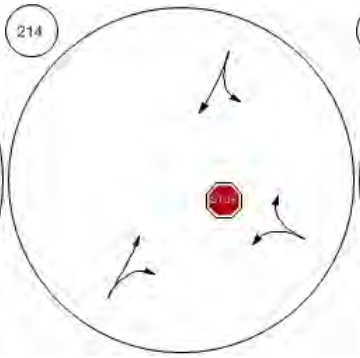

Jefferson Dr/Constitution Dr



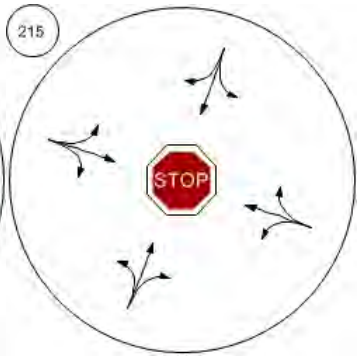

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

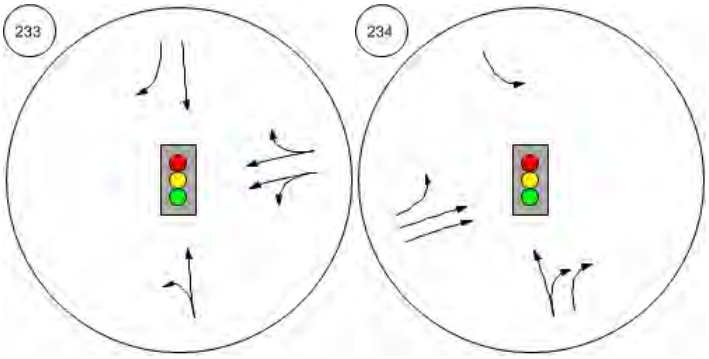



Chrysler Dr/Constitution Dr



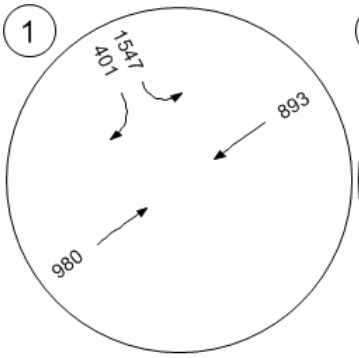
## Lane Configuration and Traffic Control


Sand Hill Circle/Sand Hill Ro Sand Hill Rd/Hwy 280 NB Off

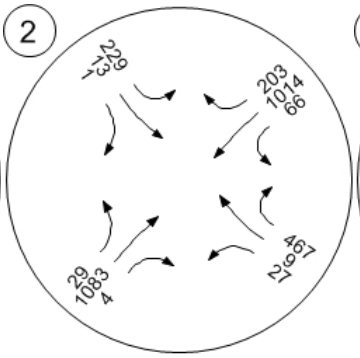


## Traffic Volume - Base Volume

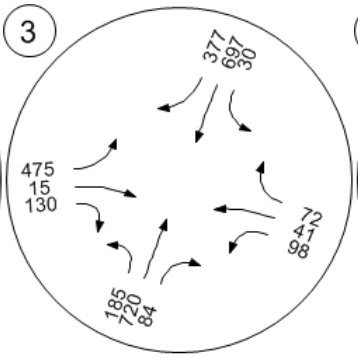

Marsh Rd (SR 84)/US 101 S



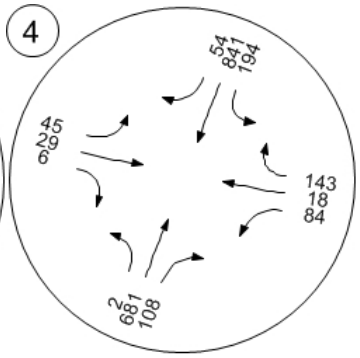

Marsh Rd/Rolison Rd-Scott D



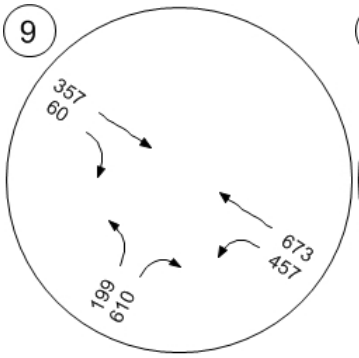

Marsh Rd/Florence St-Bohan



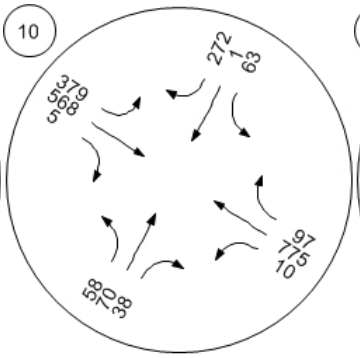

Marsh Rd/Bay Rd



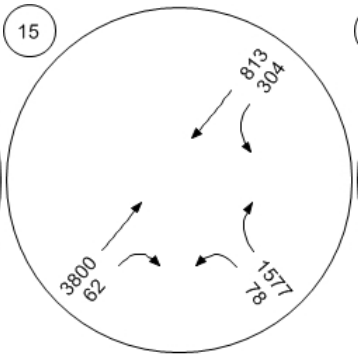

Middlefield Rd/Ravenswood



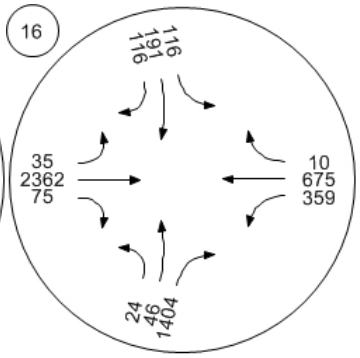

Middlefield Rd/Ringwood Ave




Bayfront Expy (SR 84)/Univer

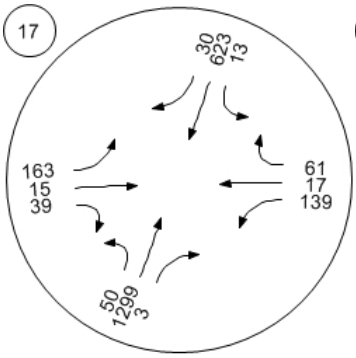



Bayfront Expy (SR 84)/Willow

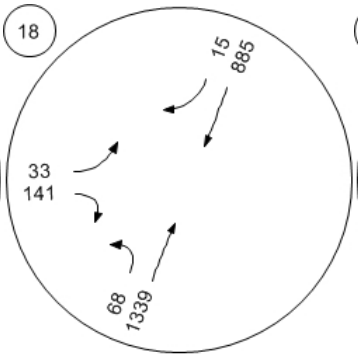


## Traffic Volume - Base Volume

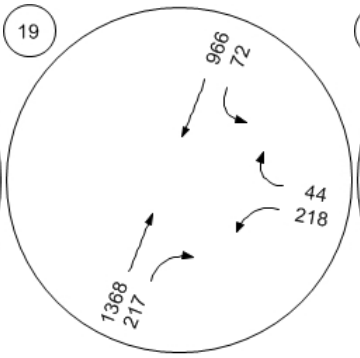

### Willow Rd (SR 114)/Hamilton



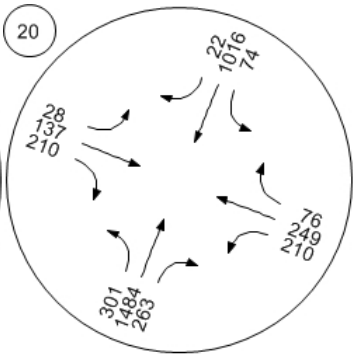

### Willow Rd (SR 114)/Ivy Dr



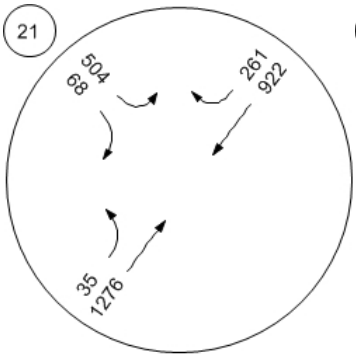

### Willow Rd (SR 114)/O'Brien



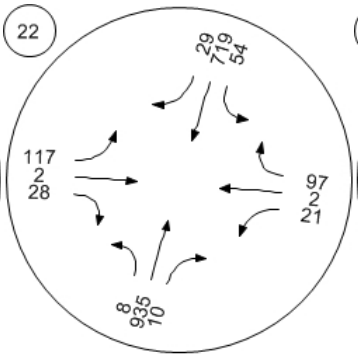

### Willow Rd (SR 114)/Newbrid



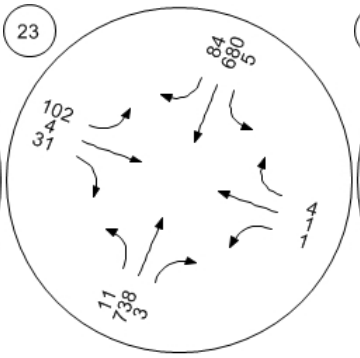

### Willow Rd/Bay Rd



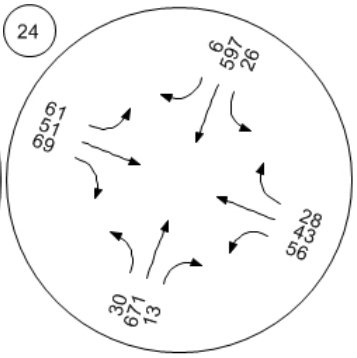

### Willow Rd/Durham St-VA Me




### Willow Rd/Coleman Ave

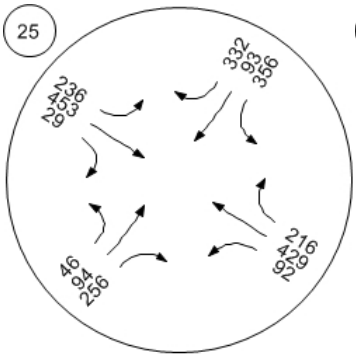



### Willow Rd/Gilbert Ave

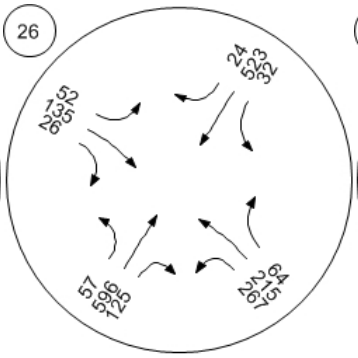


## Traffic Volume - Base Volume

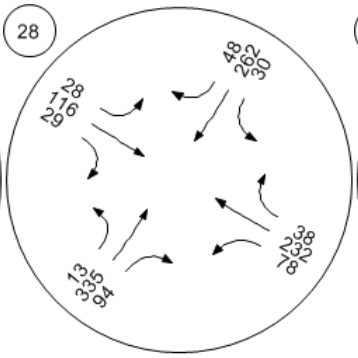

Middlefield Rd-Willow Rd



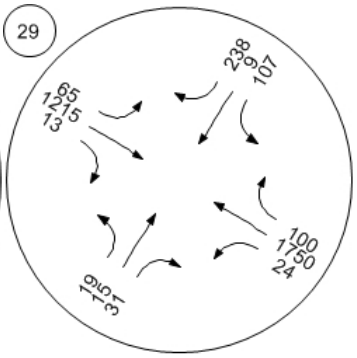

Ravenswood Ave/Laurel St



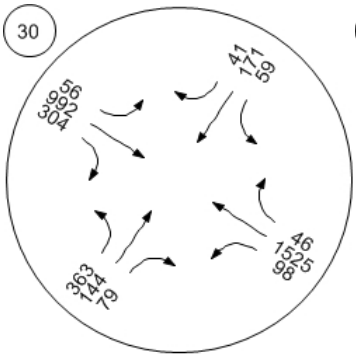

Oak Grove Ave/Laurel St



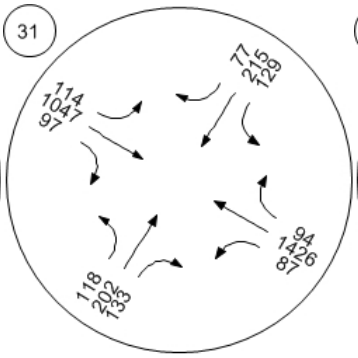

El Camino Real (SR 82)/Enci



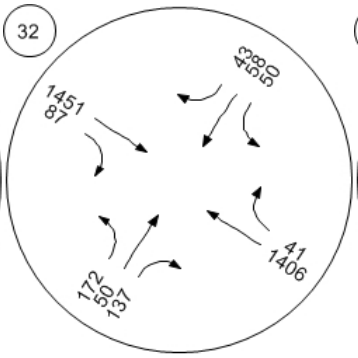

El Camino Real (SR 82)/Glen



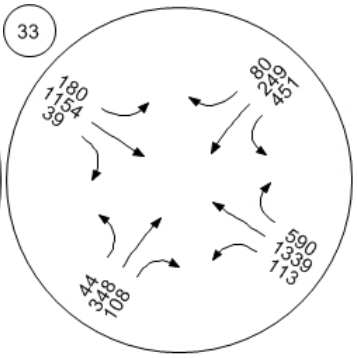

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

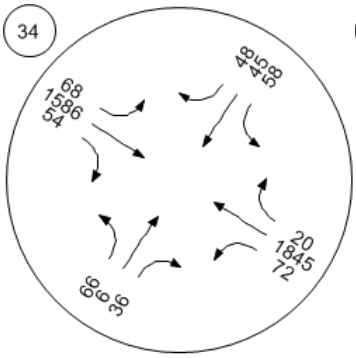



El Camino Real (SR 82)/Rav

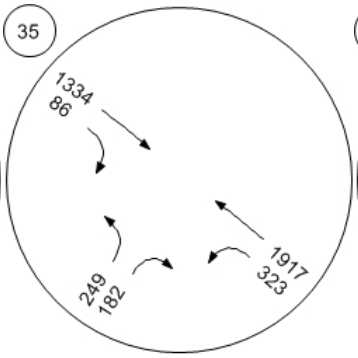


## Traffic Volume - Base Volume

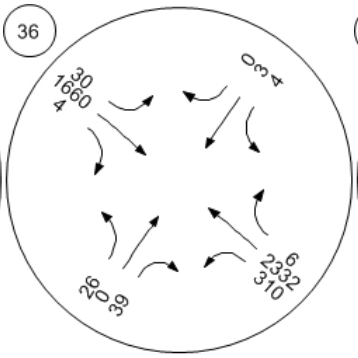

El Camino Real (SR 82)/Robl



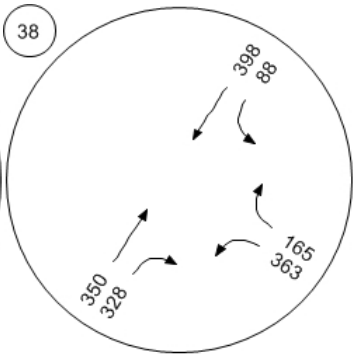

El Camino Real (SR 82)/Midd



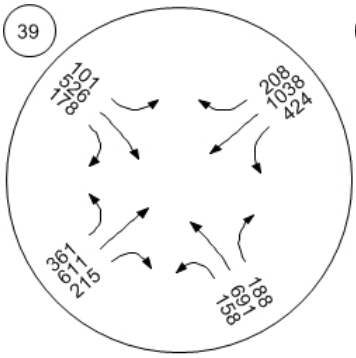

El Camino Real (SR 82)/Cam



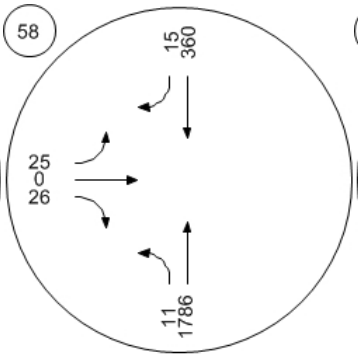

Santa Cruz Ave/University Dr



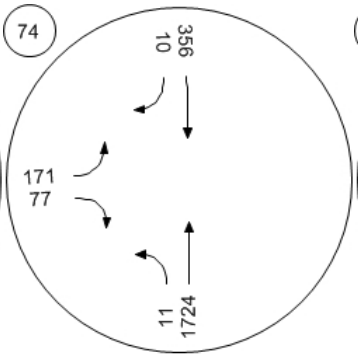

Sand Hill Rd/Santa Cruz Ave



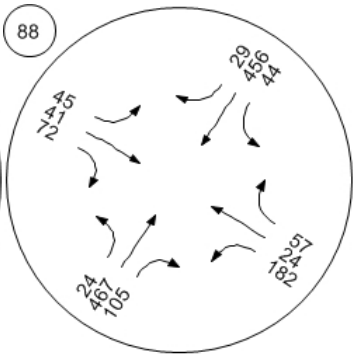

University Avenue and Adam




University Ave/O'Brien Dr

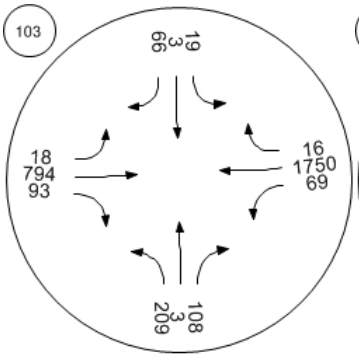



Valparaiso Ave/ University Dr

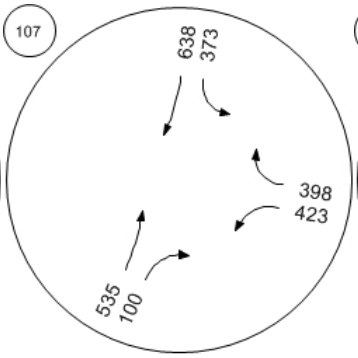


## Traffic Volume - Base Volume

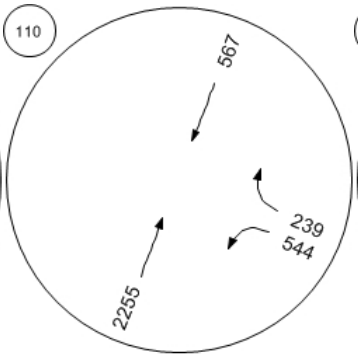

### Addison Wesley/Sand Hill Rd



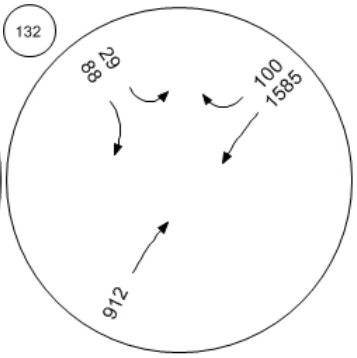

### Alpine Rd/Santa Cruz Ave&J



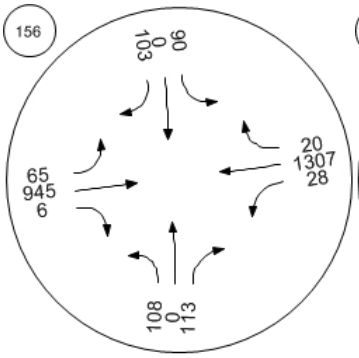

### Marsh Road/101 NB Ramps



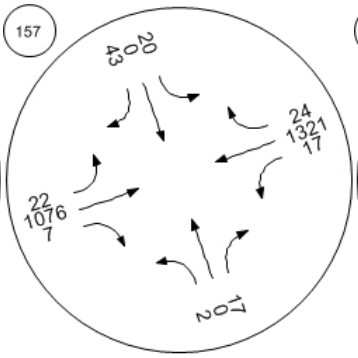

### Oak Ave/Sand Hill Rd



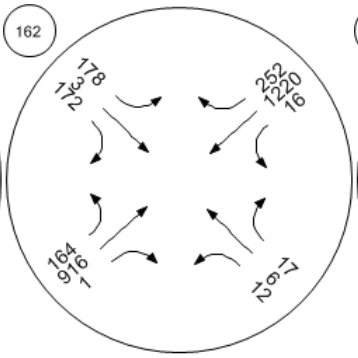

### Saga Ln/Sand Hill Rd



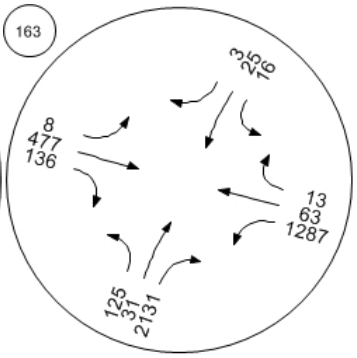

### Branner Dr/Sand Hill Rd




### Sharon Park Dr/ Sand Hill Rd

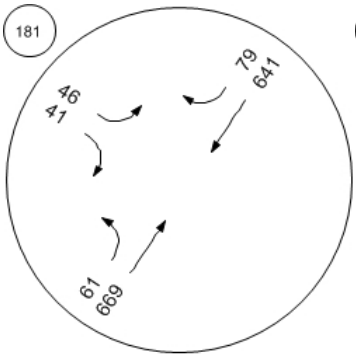



### Bayfront Expy/Marsh Rd

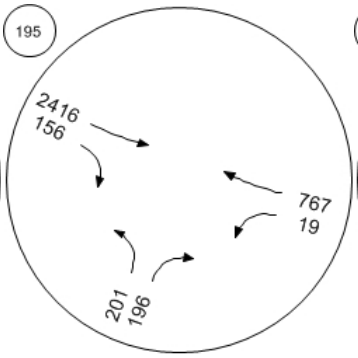


## Traffic Volume - Base Volume

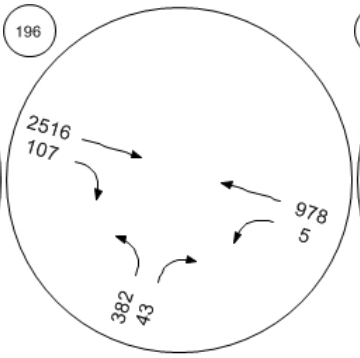

Santa Cruz Ave/Elder Ave



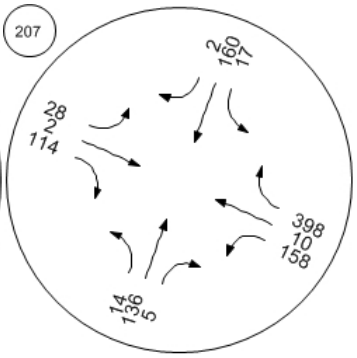

Bayfront Expy/Chilco St



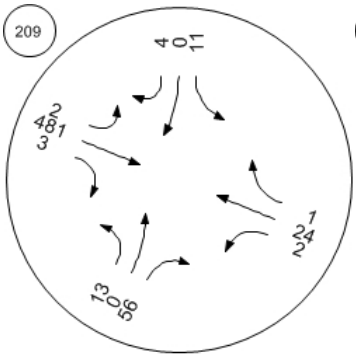

Bayfront Expy/Chrysler Drive



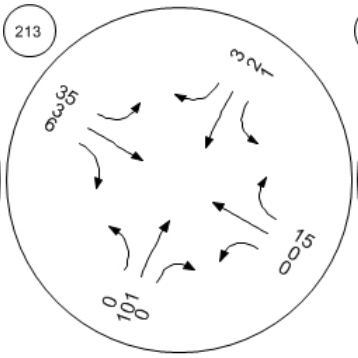

Chilco St/Constitution Dr



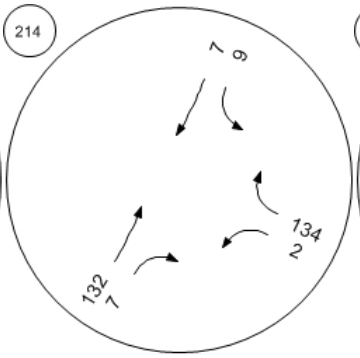

Jefferson Dr/Constitution Dr



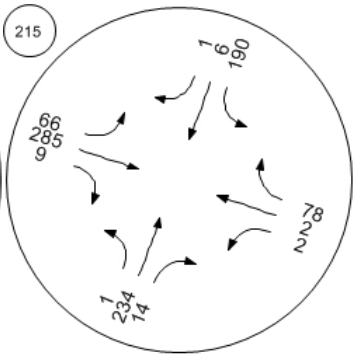

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

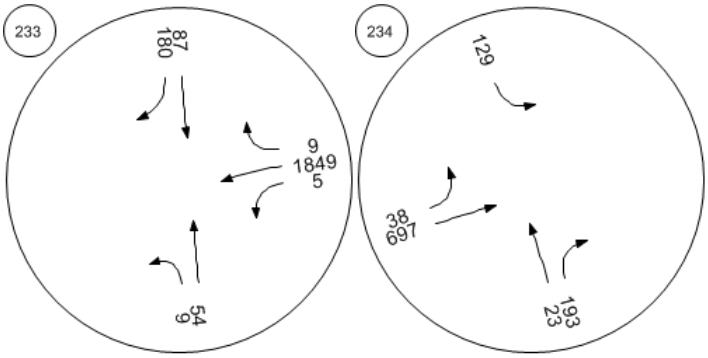



Chrysler Dr/Constitution Dr

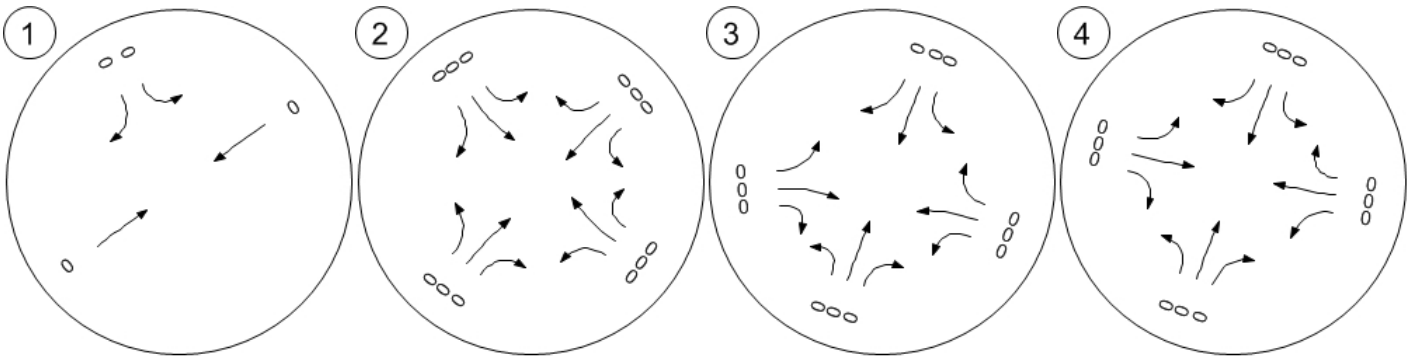


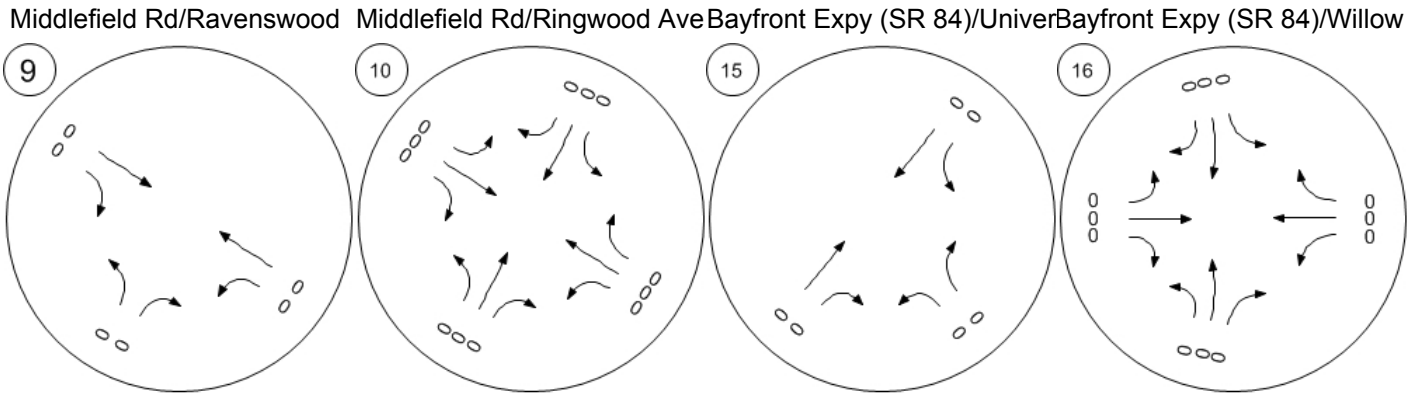
## Traffic Volume - Base Volume


Sand Hill Circle/Sand Hill Ro Sand Hill Rd/Hwy 280 NB Off



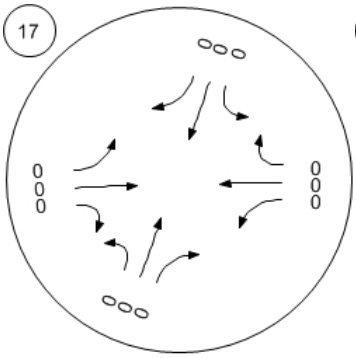
Traffic Volume - In-Process Volume

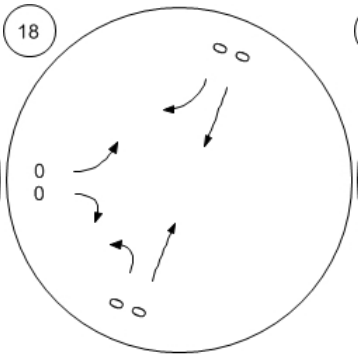



Traffic Volume - In-Process Volume

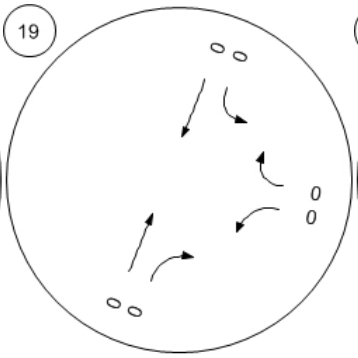

Willow Rd (SR 114)/Hamilton



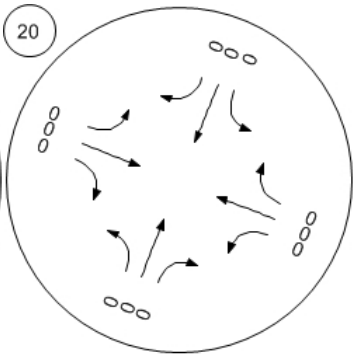

Willow Rd (SR 114)/Ivy Dr



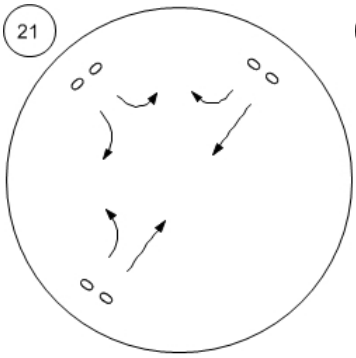

Willow Rd (SR 114)/O'Brien



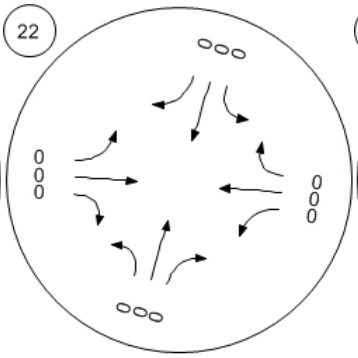

Willow Rd (SR 114)/Newbrid



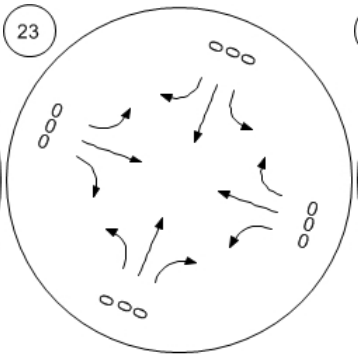

Willow Rd/Bay Rd



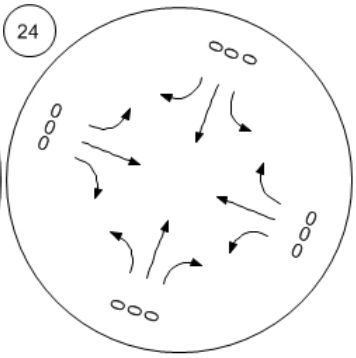

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

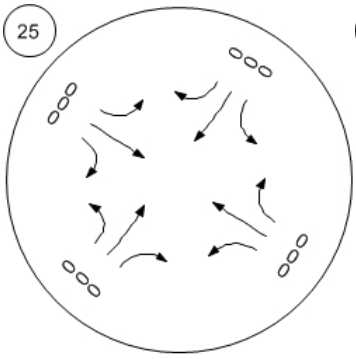



Willow Rd/Gilbert Ave

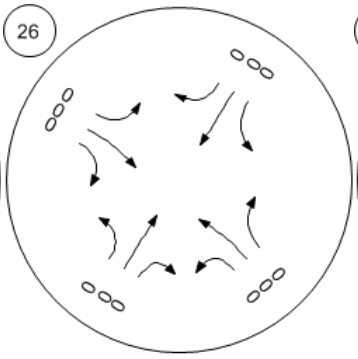


## Traffic Volume - In-Process Volume

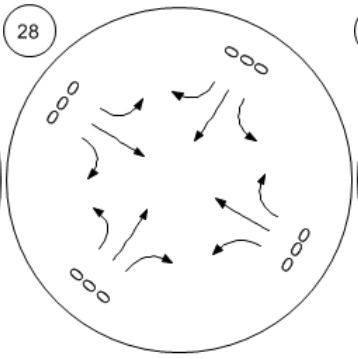

Middlefield Rd-Willow Rd



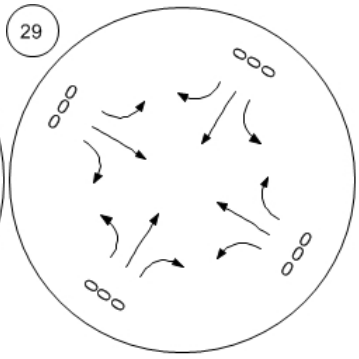

Ravenswood Ave/Laurel St



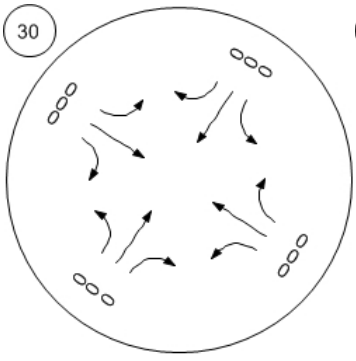

Oak Grove Ave/Laurel St



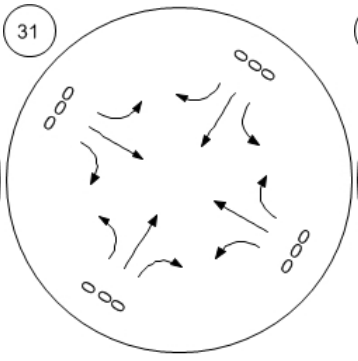

El Camino Real (SR 82)/Enci



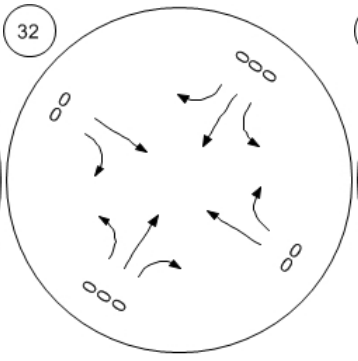

El Camino Real (SR 82)/Glen



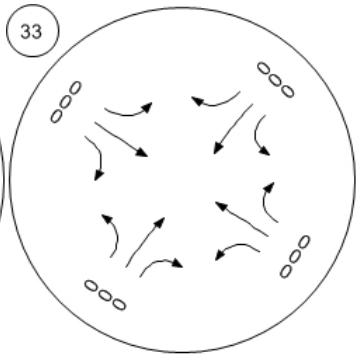

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

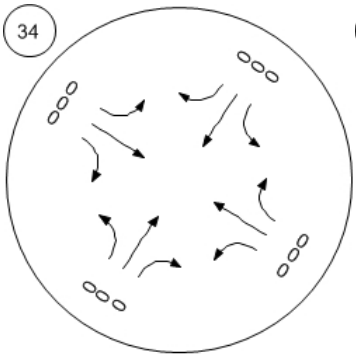



El Camino Real (SR 82)/Rav

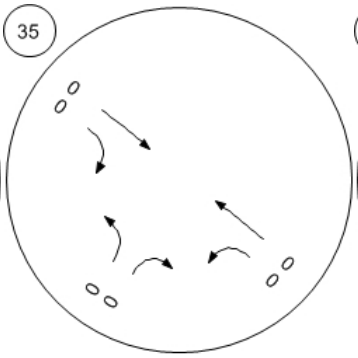


Traffic Volume - In-Process Volume

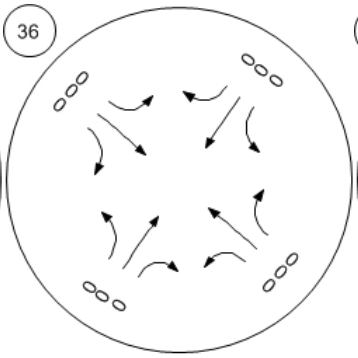

El Camino Real (SR 82)/Robl



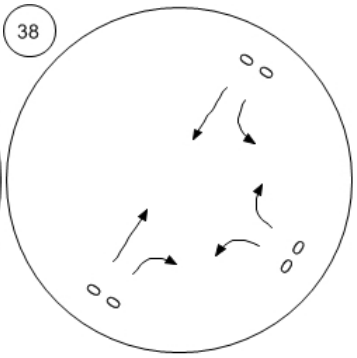

El Camino Real (SR 82)/Midd



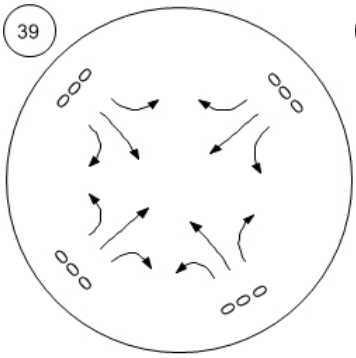

El Camino Real (SR 82)/Cam



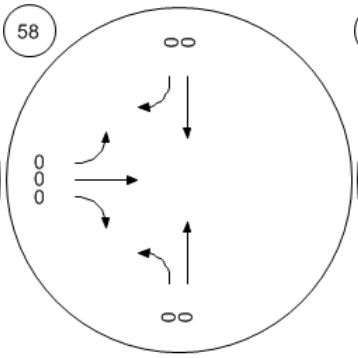

Santa Cruz Ave/University Dr



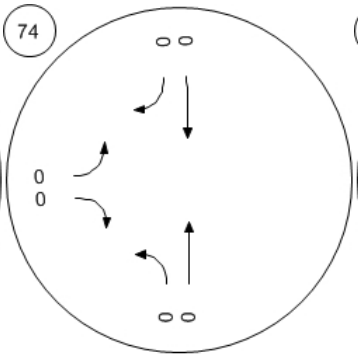

Sand Hill Rd/Santa Cruz Ave



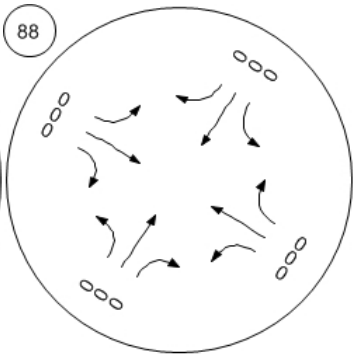

University Avenue and Adam




University Ave/O'Brien Dr

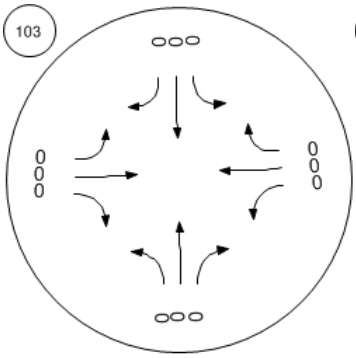



Valparaiso Ave/ University Dr

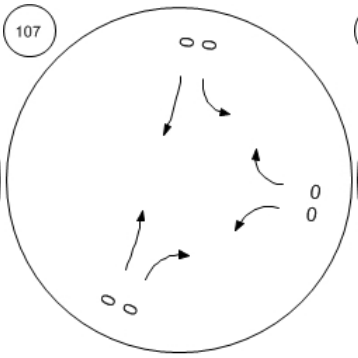


## Traffic Volume - In-Process Volume

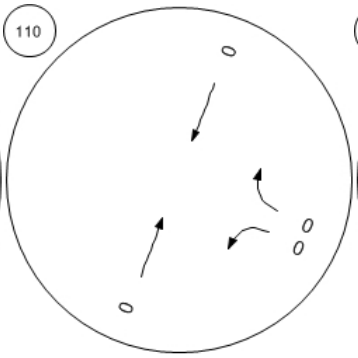

Addison Wesley/Sand Hill Rd



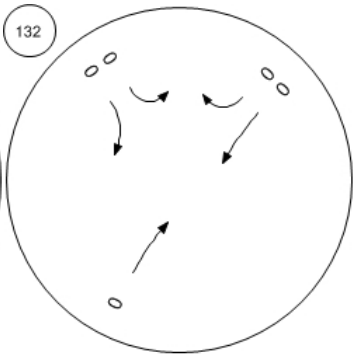

Alpine Rd/Santa Cruz Ave&J



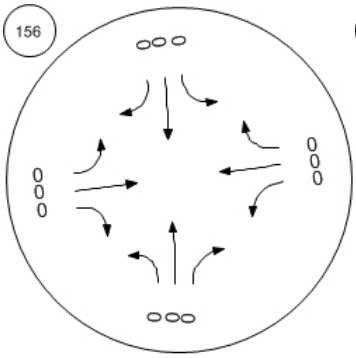

Marsh Road/101 NB Ramps



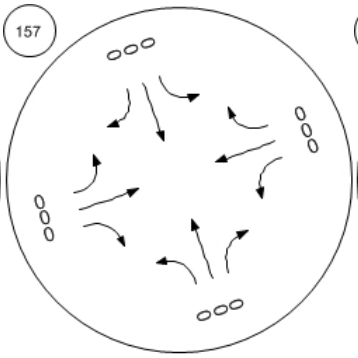

Oak Ave/Sand Hill Rd



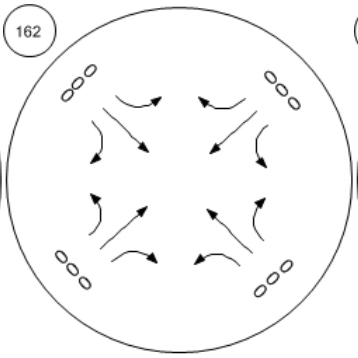

Saga Ln/Sand Hill Rd



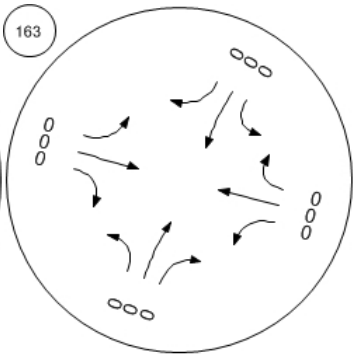

Branner Dr/Sand Hill Rd




Sharon Park Dr/ Sand Hill Rd

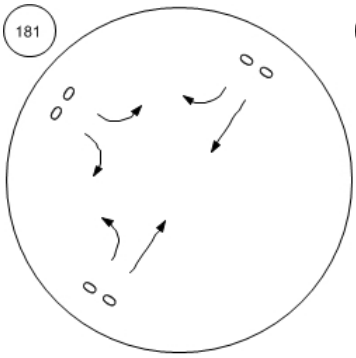



Bayfront Expy/Marsh Rd

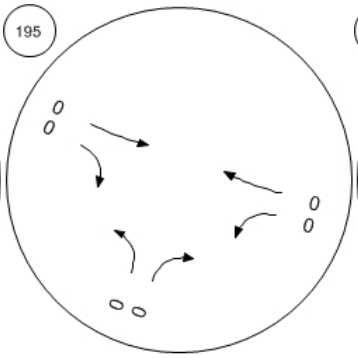


Traffic Volume - In-Process Volume

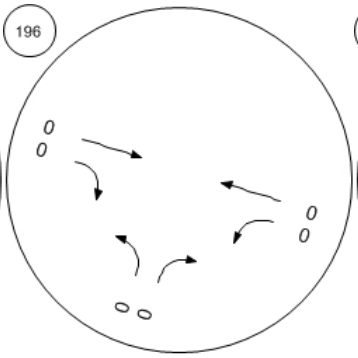

Santa Cruz Ave/Elder Ave



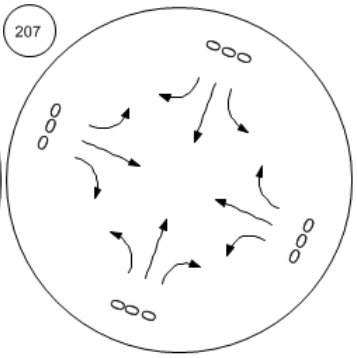

Bayfront Expy/Chilco St



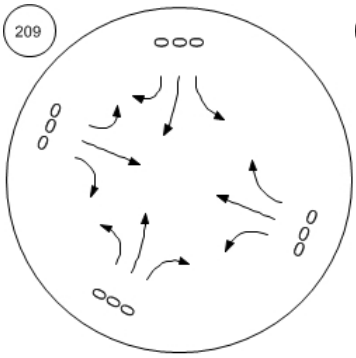

Bayfront Expy/Chrysler Drive



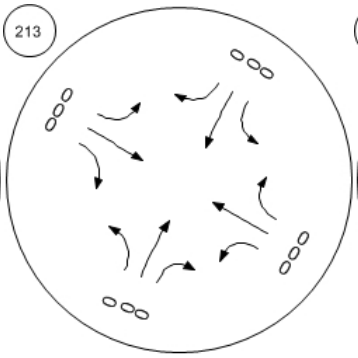

Chilco St/Constitution Dr



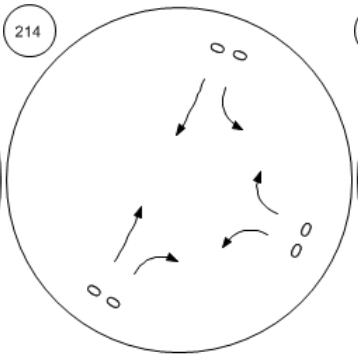

Jefferson Dr/Constitution Dr



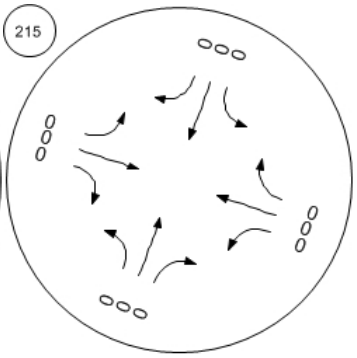

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

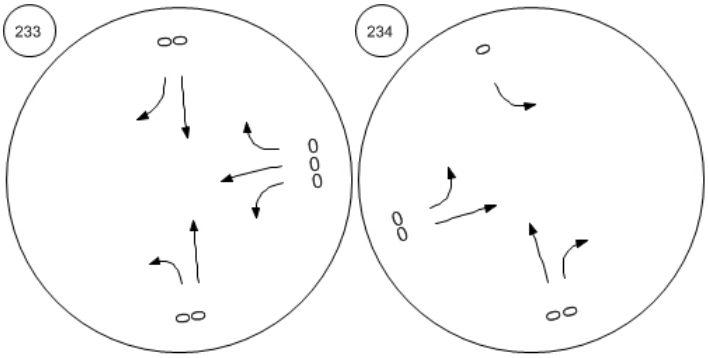



Chrysler Dr/Constitution Dr

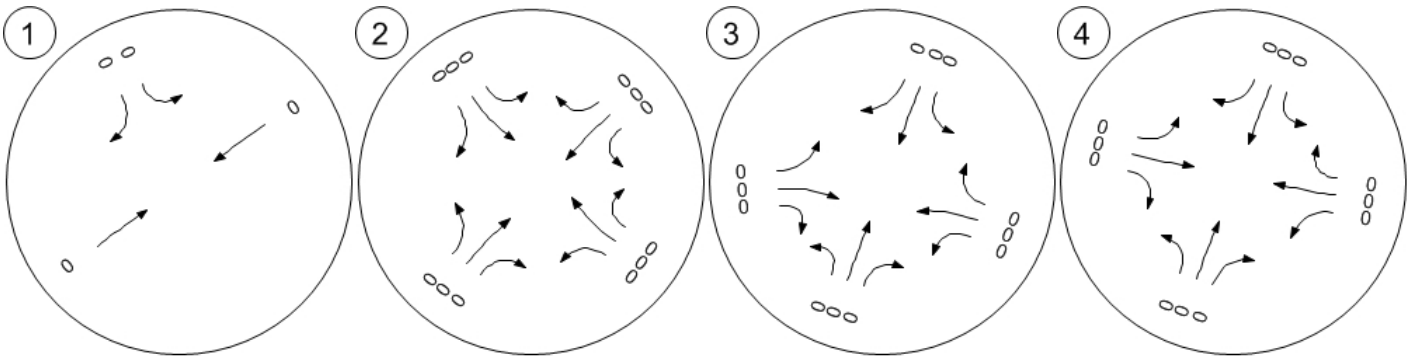


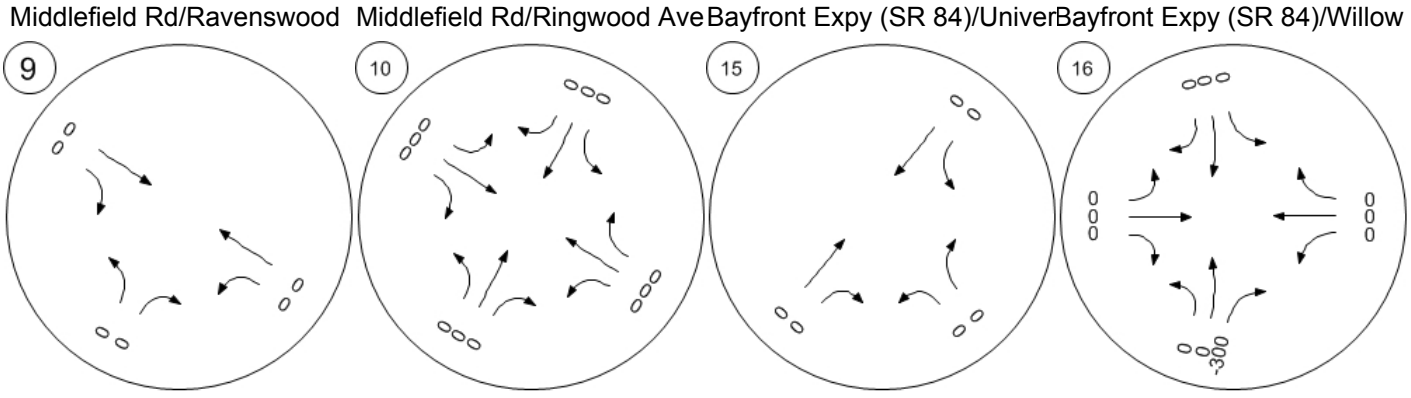
## Traffic Volume - In-Process Volume


Sand Hill Circle/Sand Hill Ro Sand Hill Rd/Hwy 280 NB Off



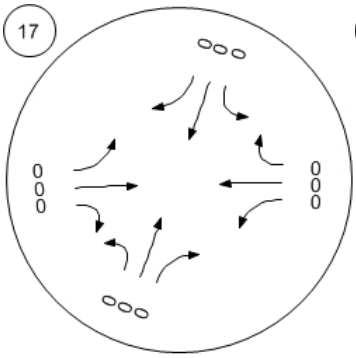
Traffic Volume - Net New Site Trips

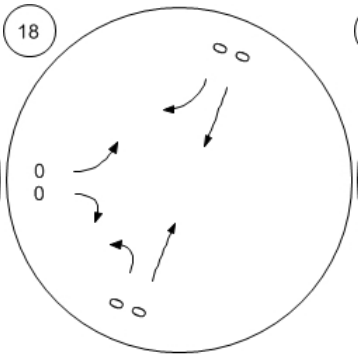



Traffic Volume - Net New Site Trips

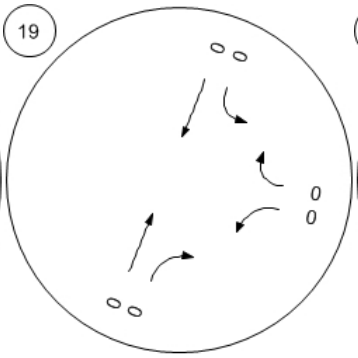

Willow Rd (SR 114)/Hamilton



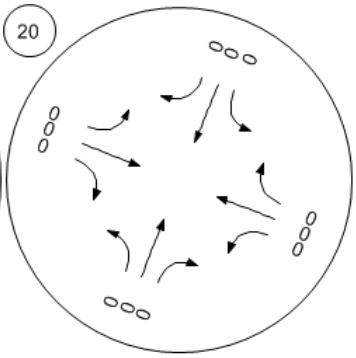

Willow Rd (SR 114)/Ivy Dr



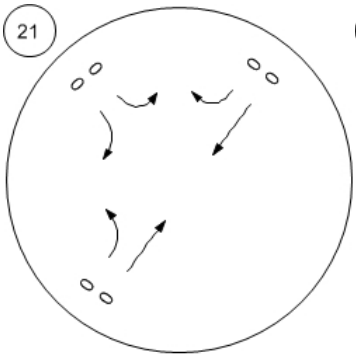

Willow Rd (SR 114)/O'Brien



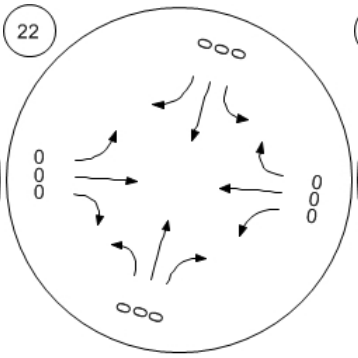

Willow Rd (SR 114)/Newbrid



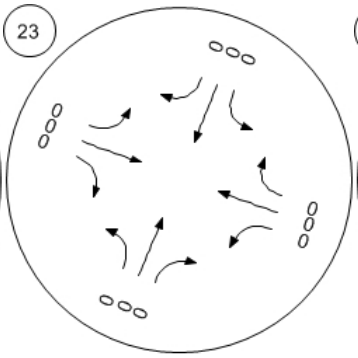

Willow Rd/Bay Rd



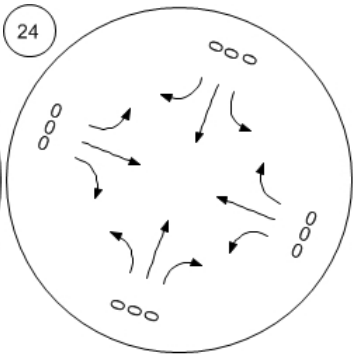

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

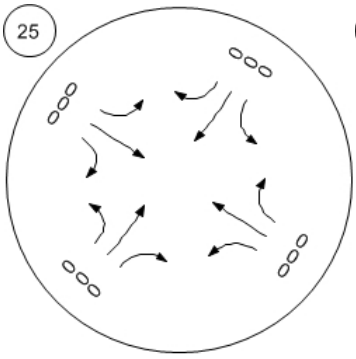



Willow Rd/Gilbert Ave

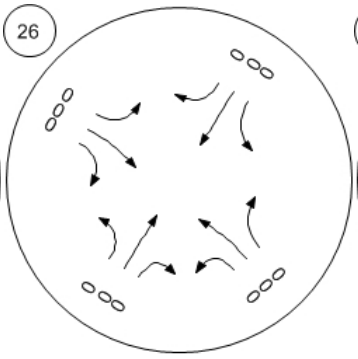


Traffic Volume - Net New Site Trips

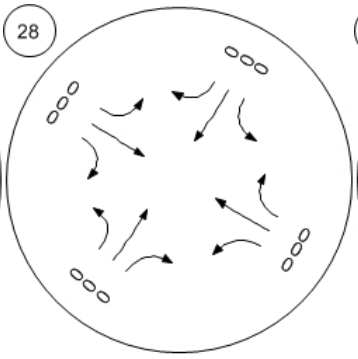

Middlefield Rd-Willow Rd



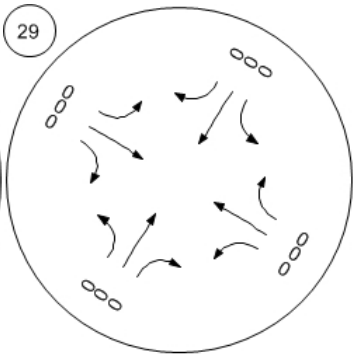

Ravenswood Ave/Laurel St



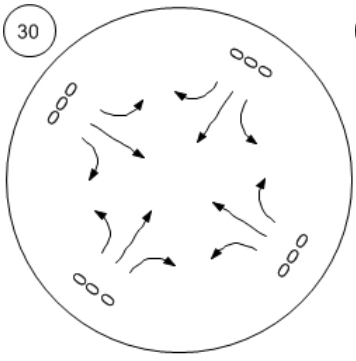

Oak Grove Ave/Laurel St



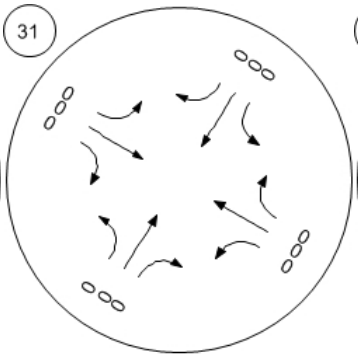

El Camino Real (SR 82)/Enci



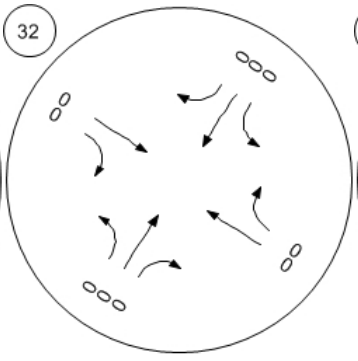

El Camino Real (SR 82)/Glen



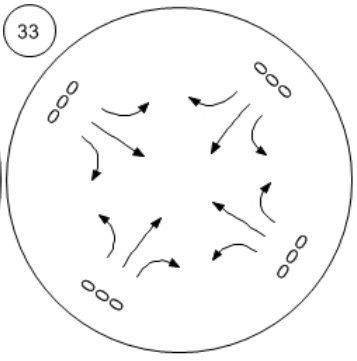

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

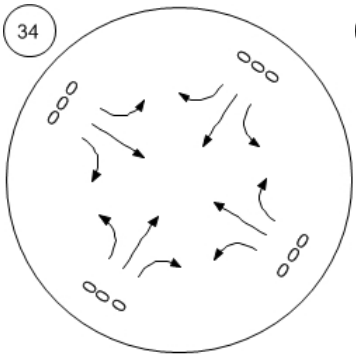



El Camino Real (SR 82)/Rav

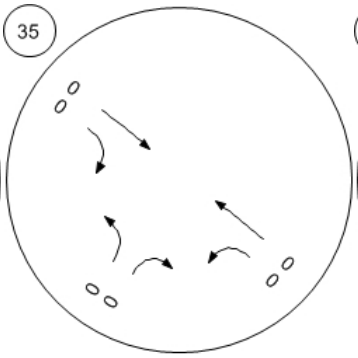


## Traffic Volume - Net New Site Trips

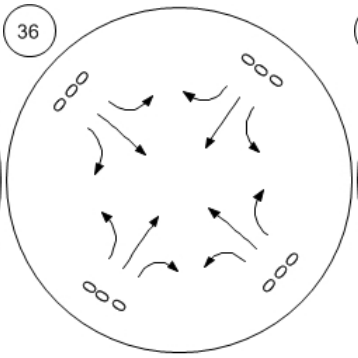

El Camino Real (SR 82)/Robl



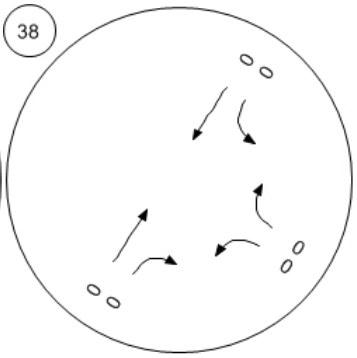

El Camino Real (SR 82)/Midd



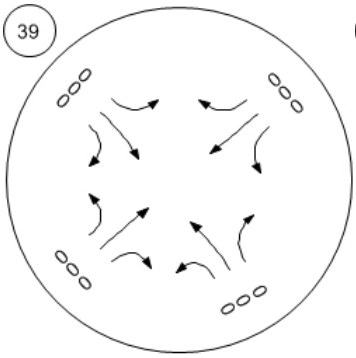

El Camino Real (SR 82)/Cam



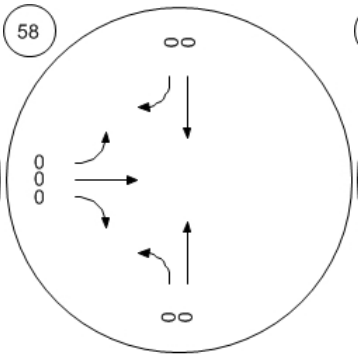

Santa Cruz Ave/University Dr



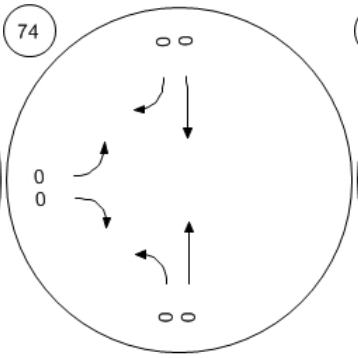

Sand Hill Rd/Santa Cruz Ave



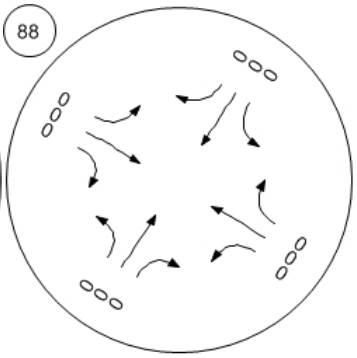

University Avenue and Adam




University Ave/O'Brien Dr

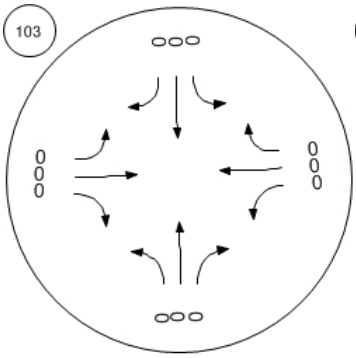



Valparaiso Ave/ University Dr

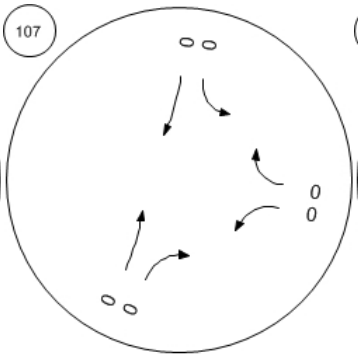


## Traffic Volume - Net New Site Trips

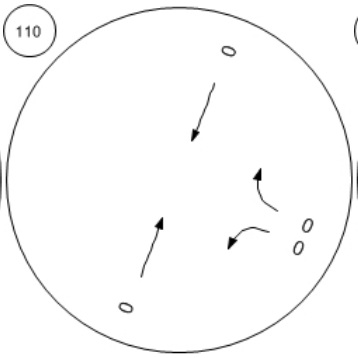

Addison Wesley/Sand Hill Rd



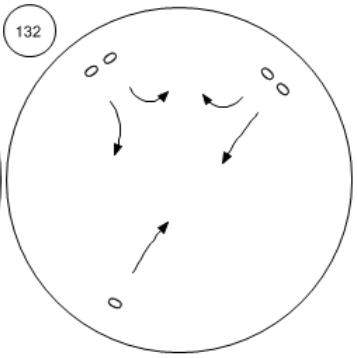

Alpine Rd/Santa Cruz Ave&J



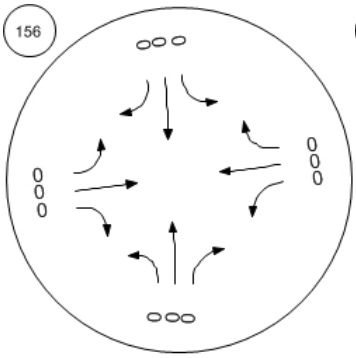

Marsh Road/101 NB Ramps



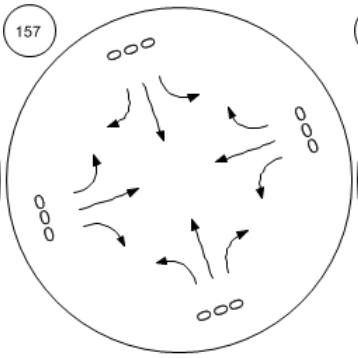

Oak Ave/Sand Hill Rd



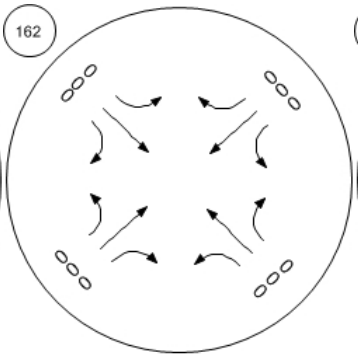

Saga Ln/Sand Hill Rd



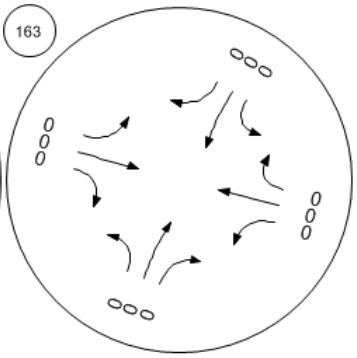

Branner Dr/Sand Hill Rd




Sharon Park Dr/ Sand Hill Rd

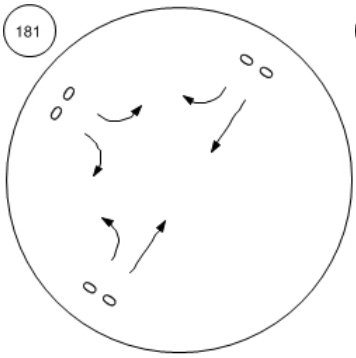



Bayfront Expy/Marsh Rd

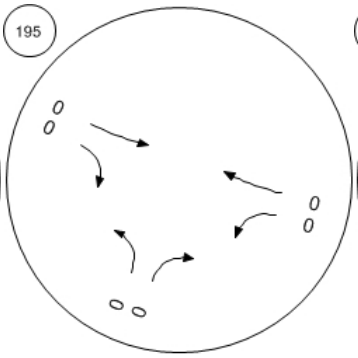


Traffic Volume - Net New Site Trips

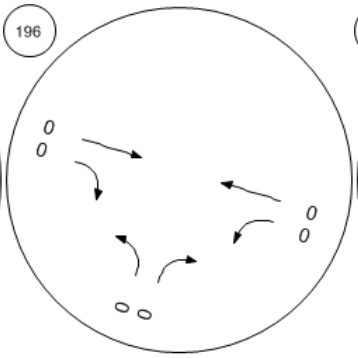

Santa Cruz Ave/Elder Ave



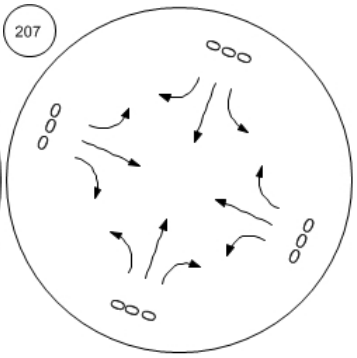

Bayfront Expy/Chilco St



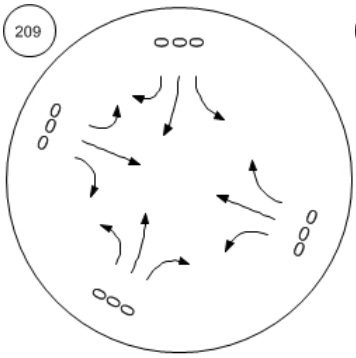

Bayfront Expy/Chrysler Drive



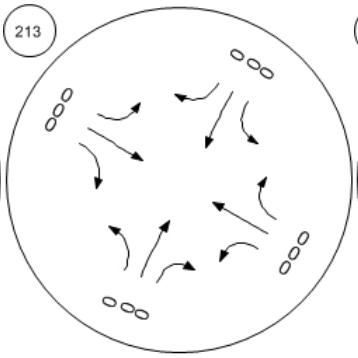

Chilco St/Constitution Dr



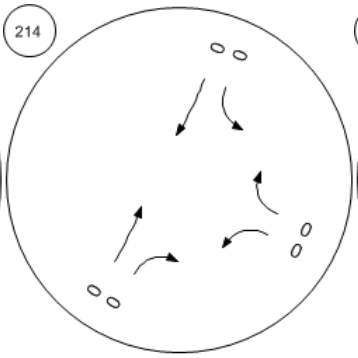

Jefferson Dr/Constitution Dr



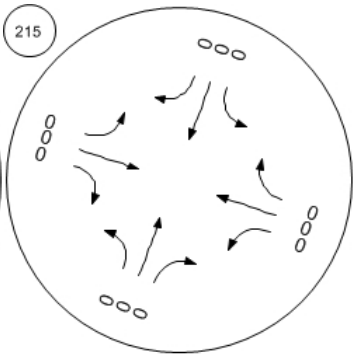

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

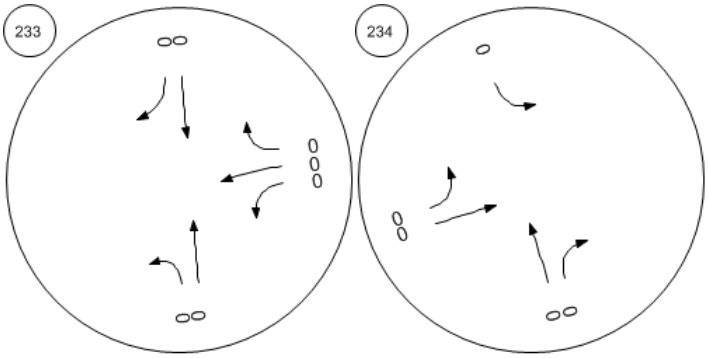



Chrysler Dr/Constitution Dr



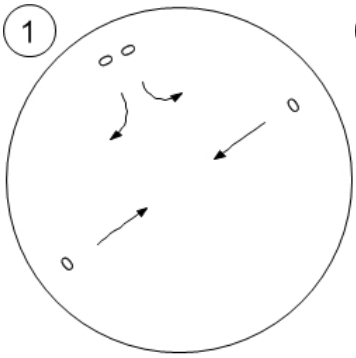
Traffic Volume - Net New Site Trips


Sand Hill Circle/Sand Hill Ro Sand Hill Rd/Hwy 280 NB Off

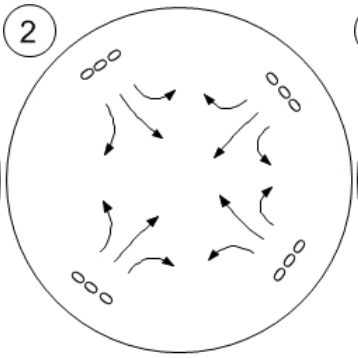


Traffic Volume - Other Volume

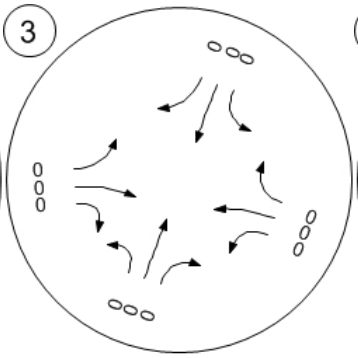

Marsh Rd (SR 84)/US 101 S



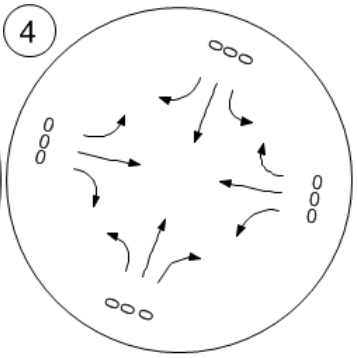

Marsh Rd/Rolison Rd-Scott D



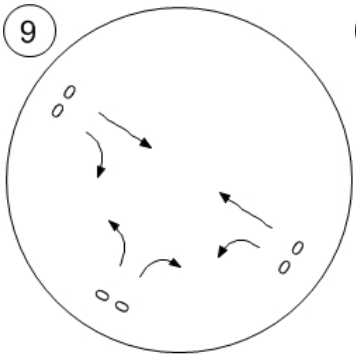

Marsh Rd/Florence St-Bohan



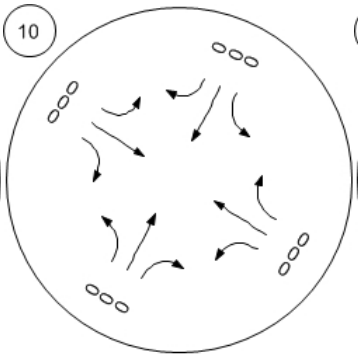

Marsh Rd/Bay Rd



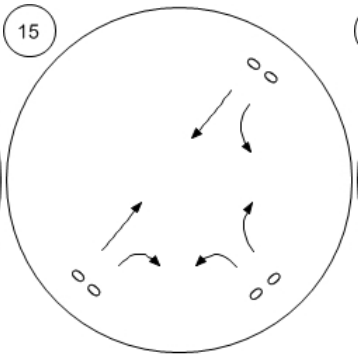

Middlefield Rd/Ravenswood



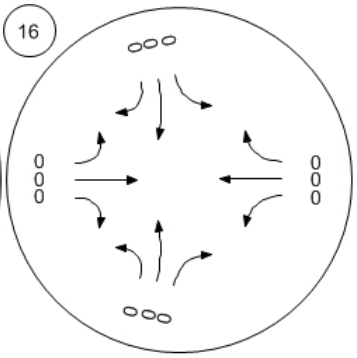

Middlefield Rd/Ringwood Ave




Bayfront Expy (SR 84)/Univer

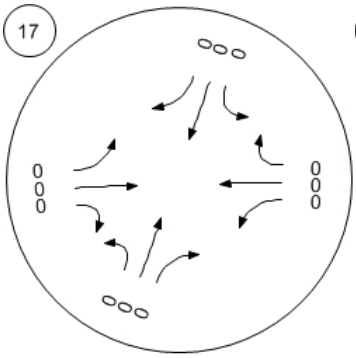



Bayfront Expy (SR 84)/Willow

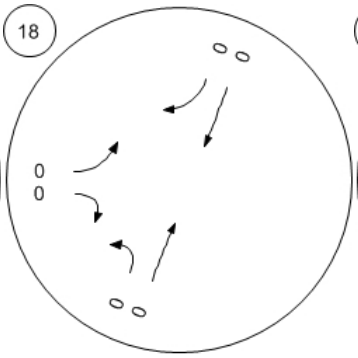


Traffic Volume - Other Volume

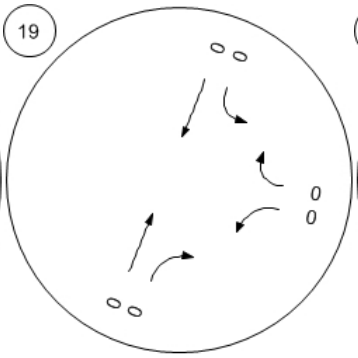

Willow Rd (SR 114)/Hamilton



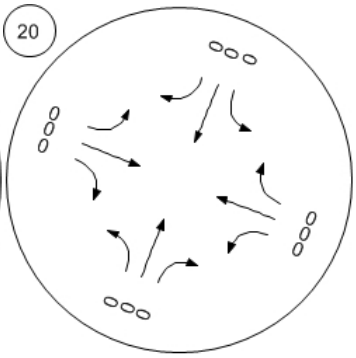

Willow Rd (SR 114)/Ivy Dr



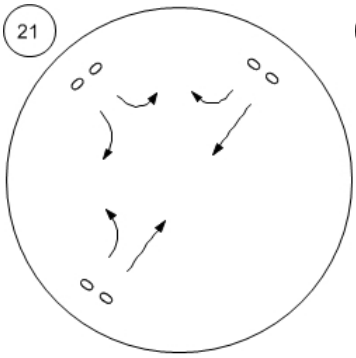

Willow Rd (SR 114)/O'Brien



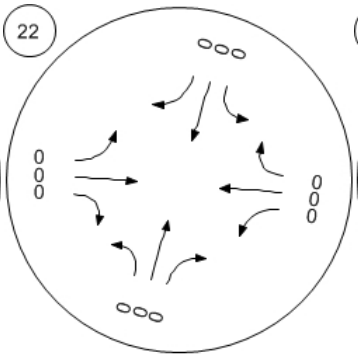

Willow Rd (SR 114)/Newbrid



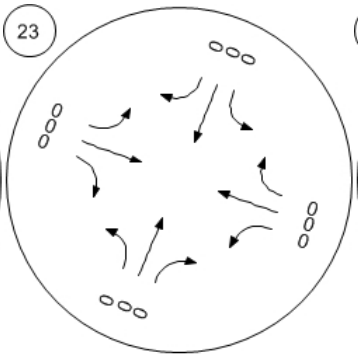

Willow Rd/Bay Rd



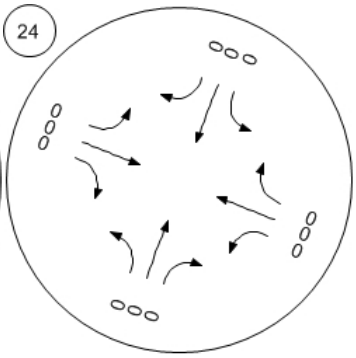

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

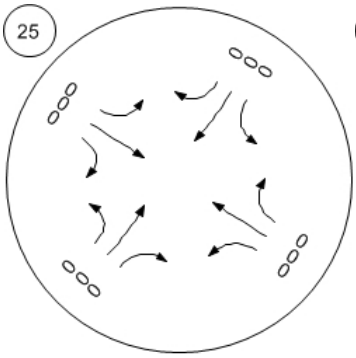



Willow Rd/Gilbert Ave

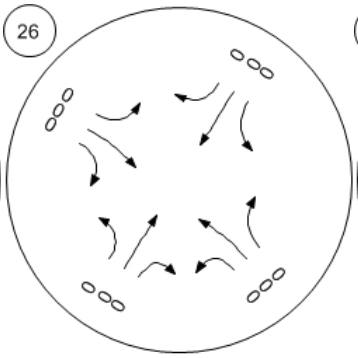


## Traffic Volume - Other Volume

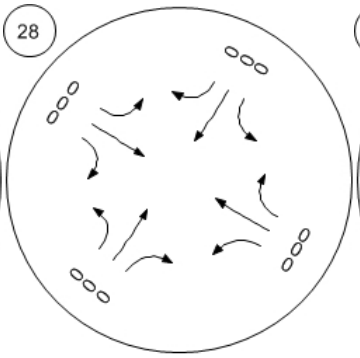

Middlefield Rd-Willow Rd



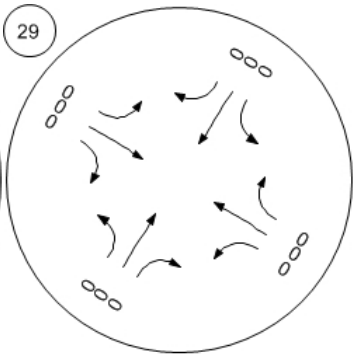

Ravenswood Ave/Laurel St



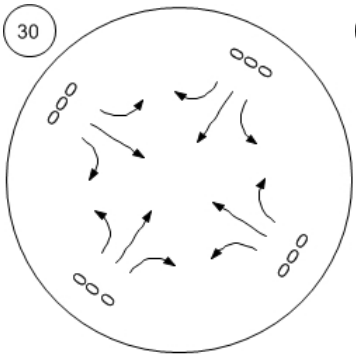

Oak Grove Ave/Laurel St



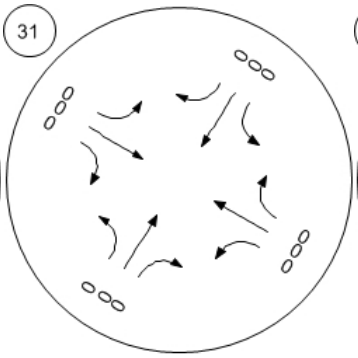

El Camino Real (SR 82)/Enci



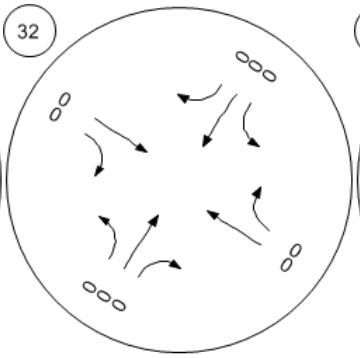

El Camino Real (SR 82)/Glen



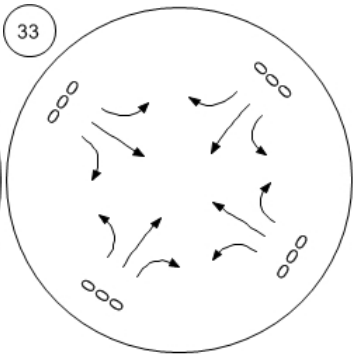

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

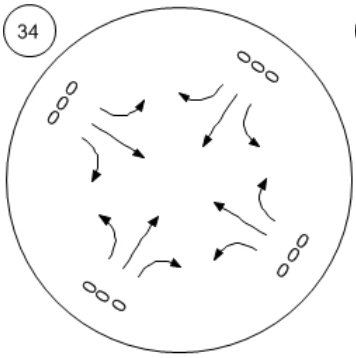



El Camino Real (SR 82)/Rav

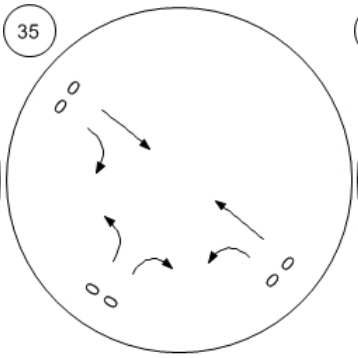


## Traffic Volume - Other Volume

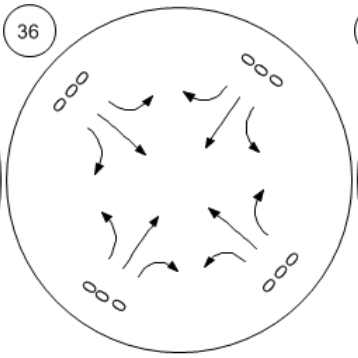

El Camino Real (SR 82)/Robl



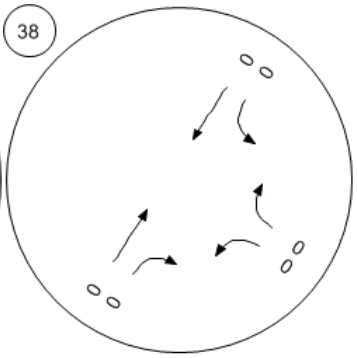

El Camino Real (SR 82)/Midd



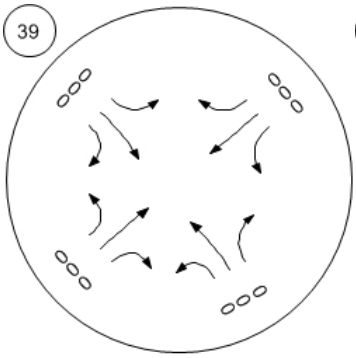

El Camino Real (SR 82)/Cam



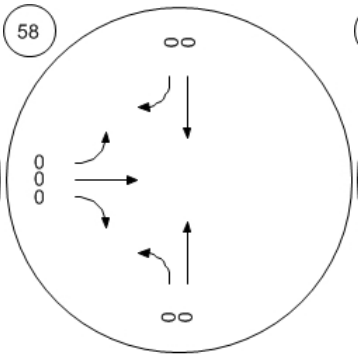

Santa Cruz Ave/University Dr



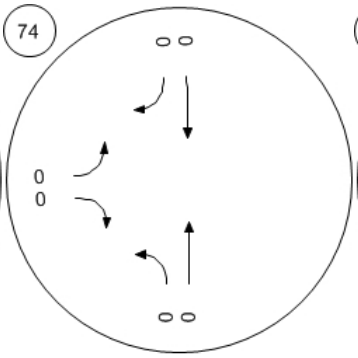

Sand Hill Rd/Santa Cruz Ave



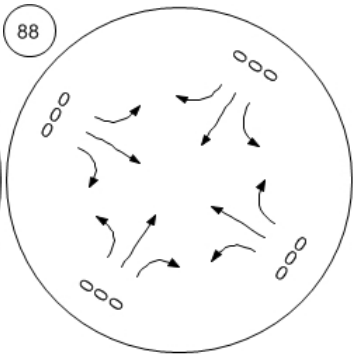

University Avenue and Adam




University Ave/O'Brien Dr

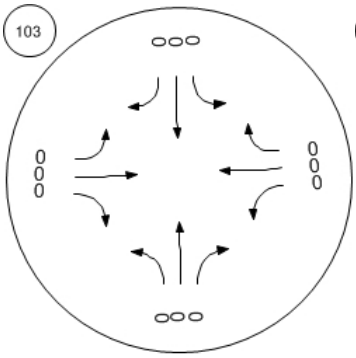



Valparaiso Ave/ University Dr

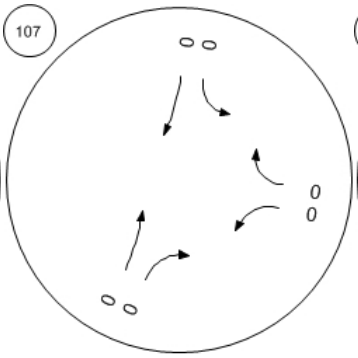


## Traffic Volume - Other Volume

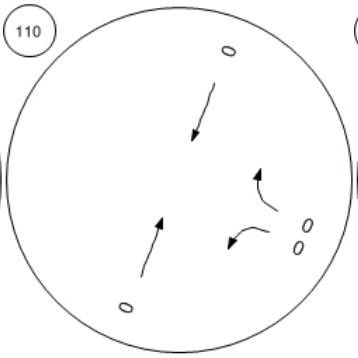

Addison Wesley/Sand Hill Rd



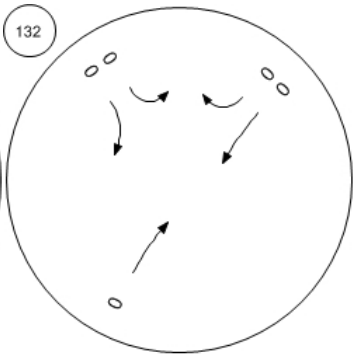

Alpine Rd/Santa Cruz Ave&J



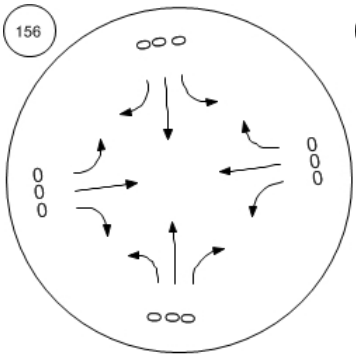

Marsh Road/101 NB Ramps



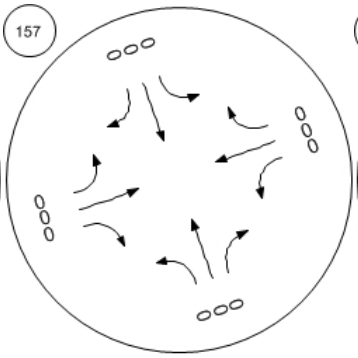

Oak Ave/Sand Hill Rd



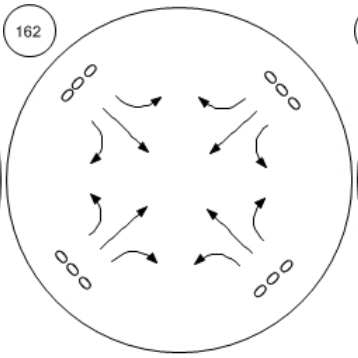

Saga Ln/Sand Hill Rd



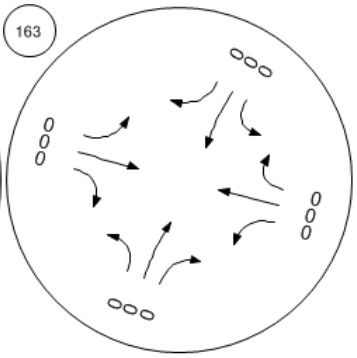

Branner Dr/Sand Hill Rd




Sharon Park Dr/ Sand Hill Rd

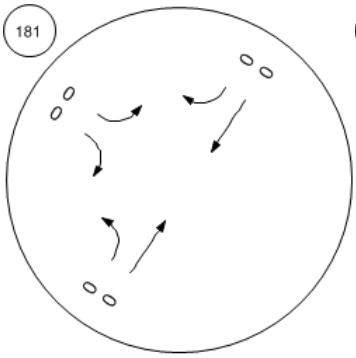



Bayfront Expy/Marsh Rd

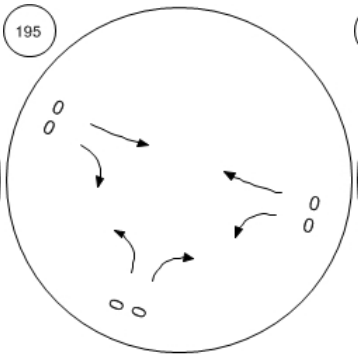


Traffic Volume - Other Volume

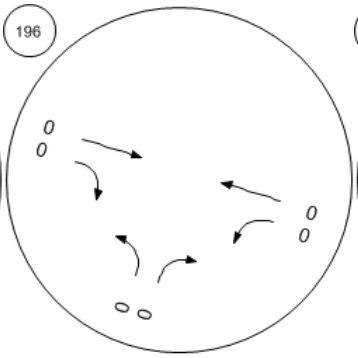

Santa Cruz Ave/Elder Ave



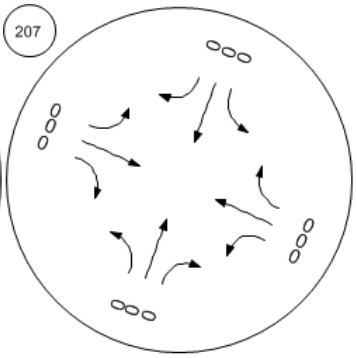

Bayfront Expy/Chilco St



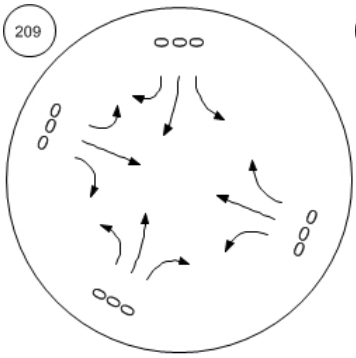

Bayfront Expy/Chrysler Drive



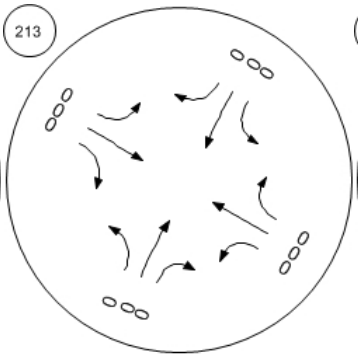

Chilco St/Constitution Dr



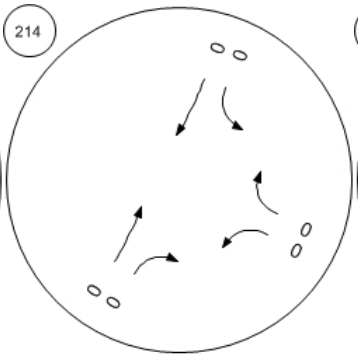

Jefferson Dr/Constitution Dr



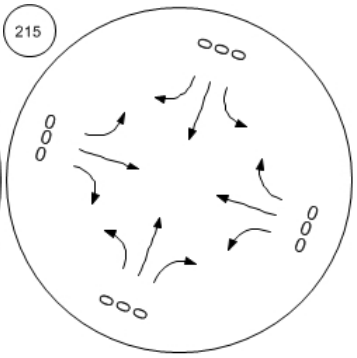

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

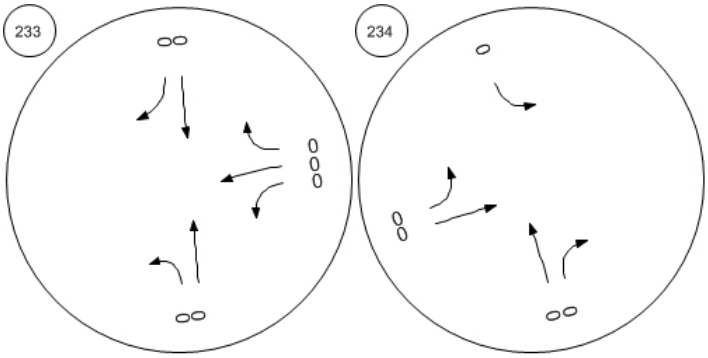



Chrysler Dr/Constitution Dr



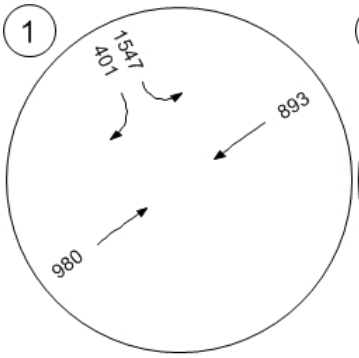
## Traffic Volume - Other Volume


Sand Hill Circle/Sand Hill Ro Sand Hill Rd/Hwy 280 NB Off

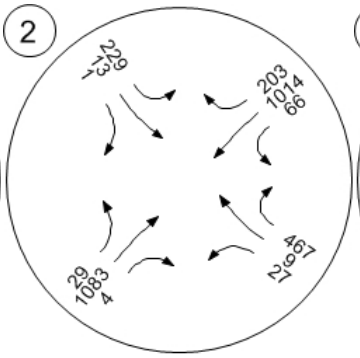


## Traffic Volume - Future Total Volume

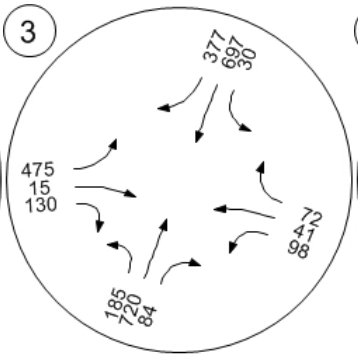

Marsh Rd (SR 84)/US 101 S



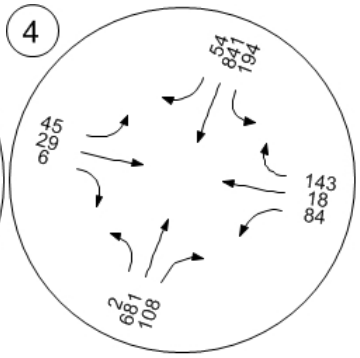

Marsh Rd/Rolison Rd-Scott D



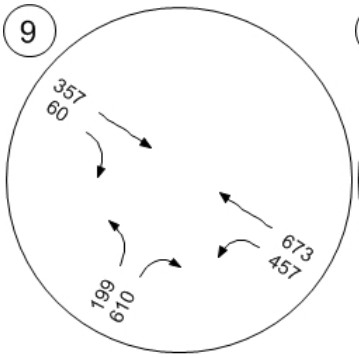

Marsh Rd/Florence St-Bohan



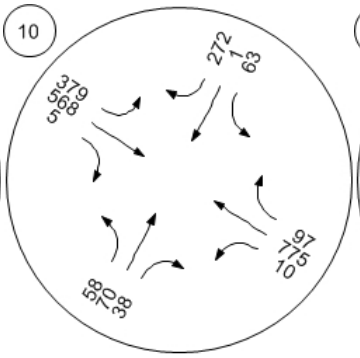

Marsh Rd/Bay Rd



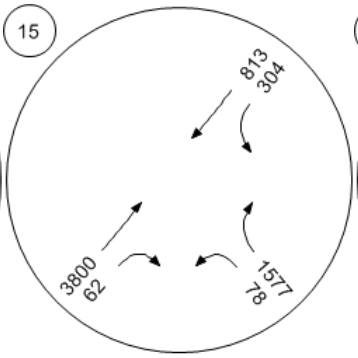

Middlefield Rd/Ravenswood



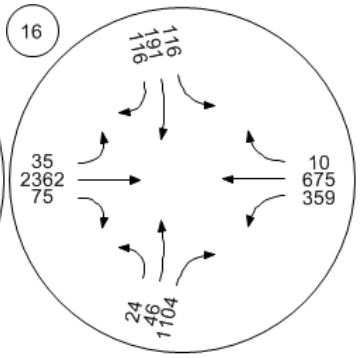

Middlefield Rd/Ringwood Ave




Bayfront Expy (SR 84)/Univer

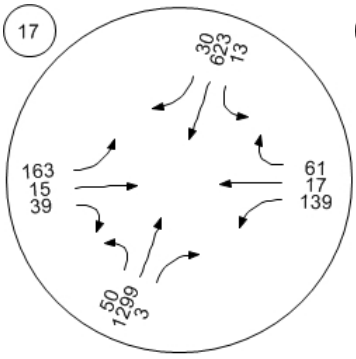



Bayfront Expy (SR 84)/Willow

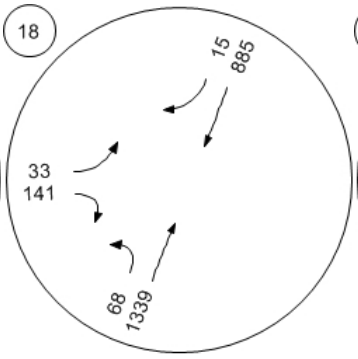


## Traffic Volume - Future Total Volume

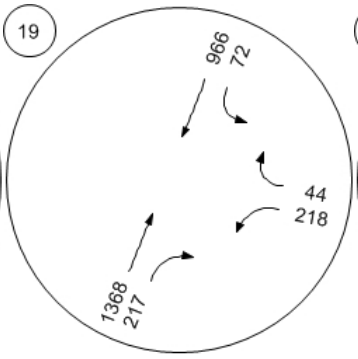

Willow Rd (SR 114)/Hamilton



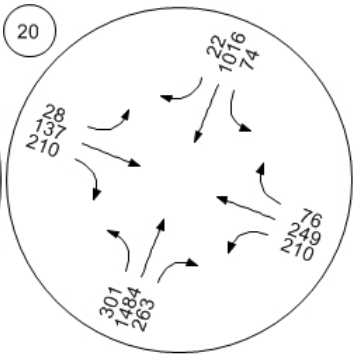

Willow Rd (SR 114)/Ivy Dr



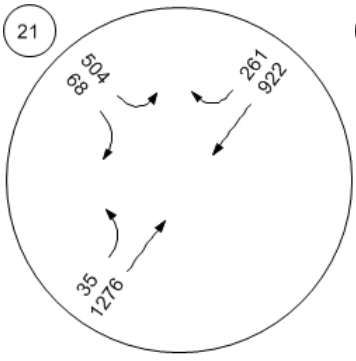

Willow Rd (SR 114)/O'Brien



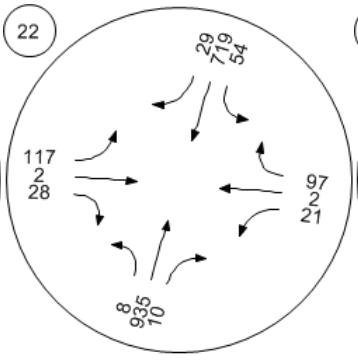

Willow Rd (SR 114)/Newbrid



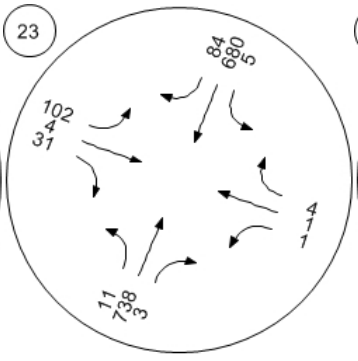

Willow Rd/Bay Rd



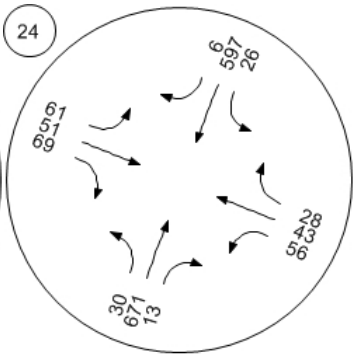

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

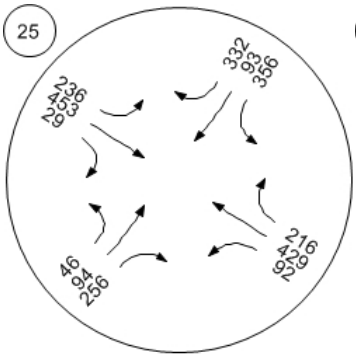



Willow Rd/Gilbert Ave

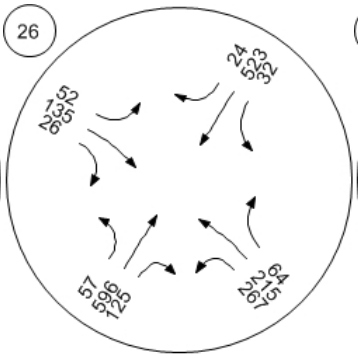


## Traffic Volume - Future Total Volume

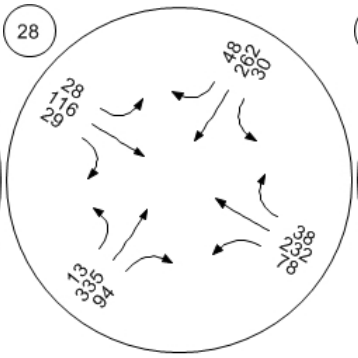

Middlefield Rd-Willow Rd



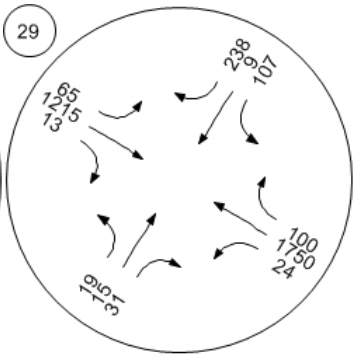

Ravenswood Ave/Laurel St



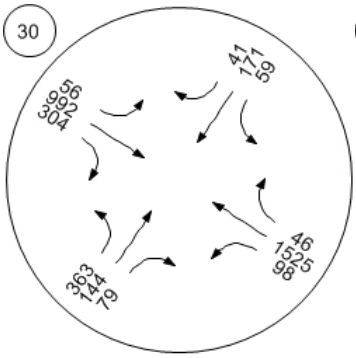

Oak Grove Ave/Laurel St



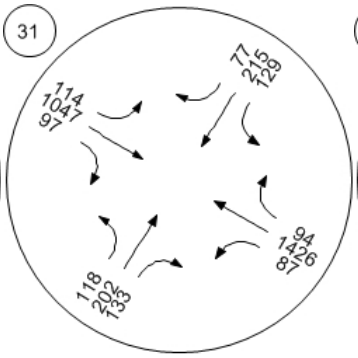

El Camino Real (SR 82)/Enci



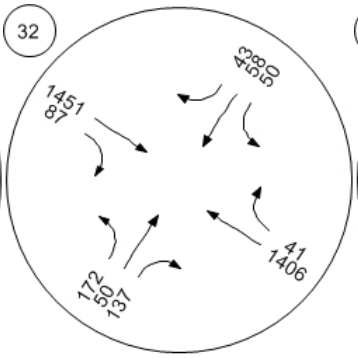

El Camino Real (SR 82)/Glen



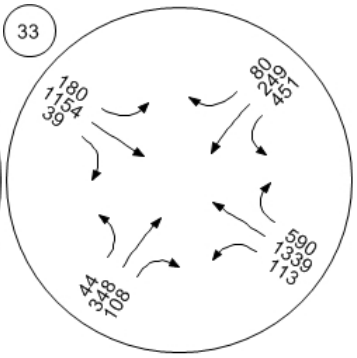

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

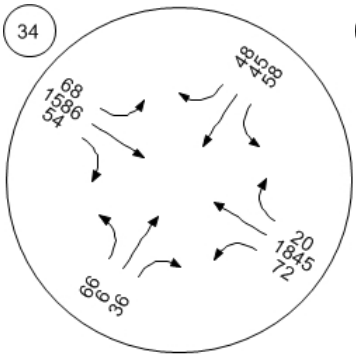



El Camino Real (SR 82)/Rav

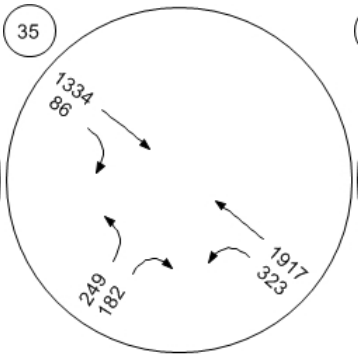


## Traffic Volume - Future Total Volume

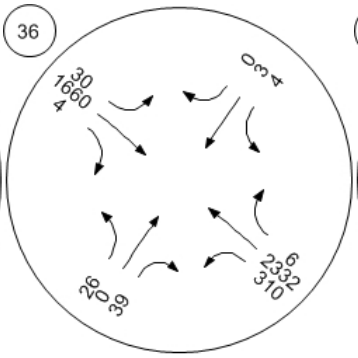

El Camino Real (SR 82)/Robl



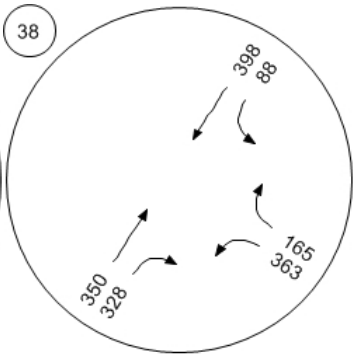

El Camino Real (SR 82)/Midd



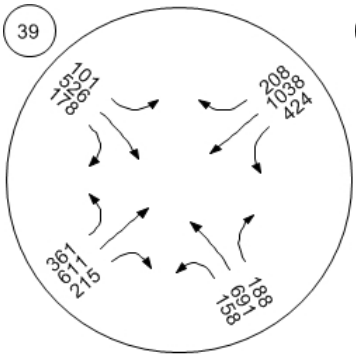

El Camino Real (SR 82)/Cam



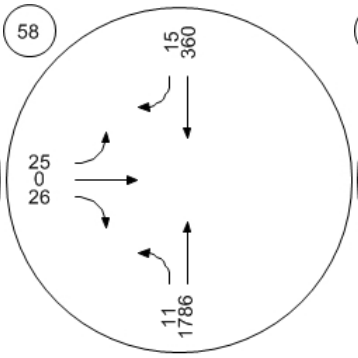

Santa Cruz Ave/University Dr



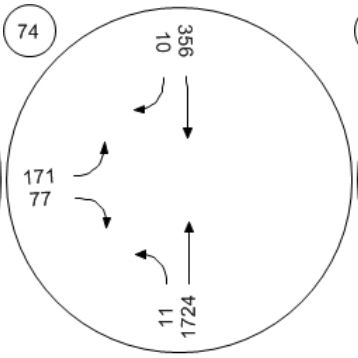

Sand Hill Rd/Santa Cruz Ave



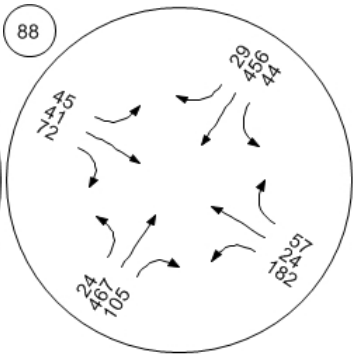

University Avenue and Adam




University Ave/O'Brien Dr

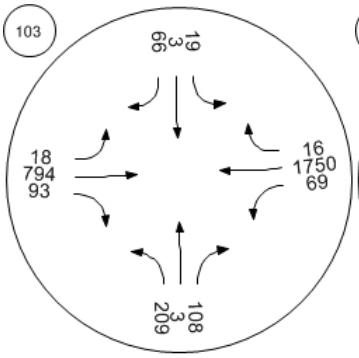



Valparaiso Ave/ University Dr

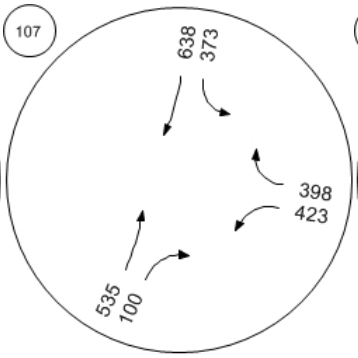


## Traffic Volume - Future Total Volume

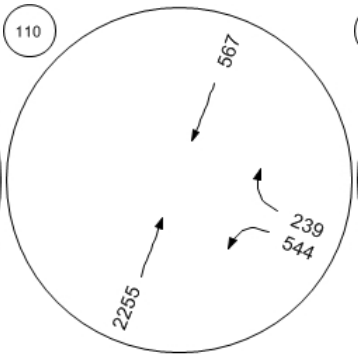

### Addison Wesley/Sand Hill Rd



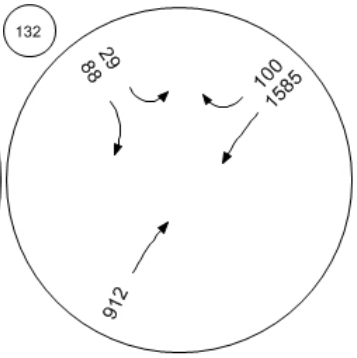

### Alpine Rd/Santa Cruz Ave&J



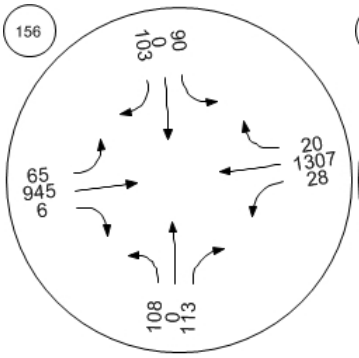

### Marsh Road/101 NB Ramps



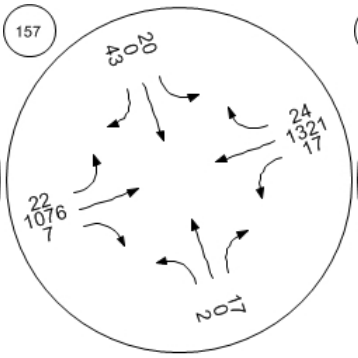

### Oak Ave/Sand Hill Rd



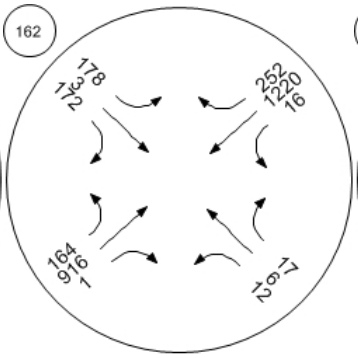

### Saga Ln/Sand Hill Rd



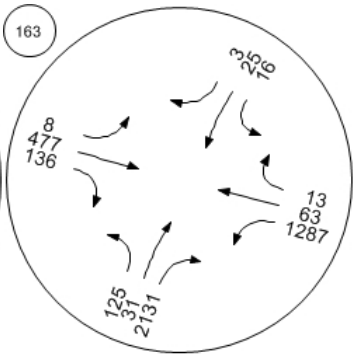

### Branner Dr/Sand Hill Rd




### Sharon Park Dr/ Sand Hill Rd

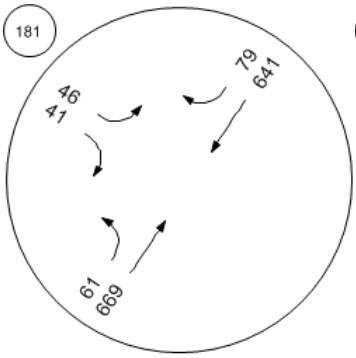



### Bayfront Expy/Marsh Rd

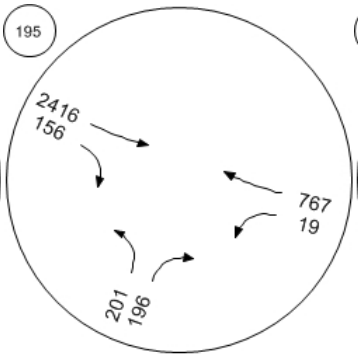


## Traffic Volume - Future Total Volume

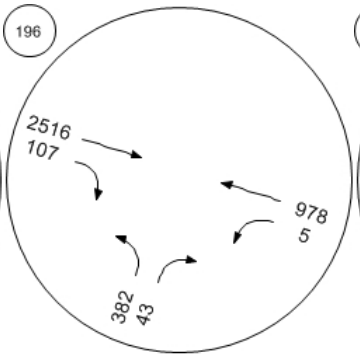

Santa Cruz Ave/Elder Ave



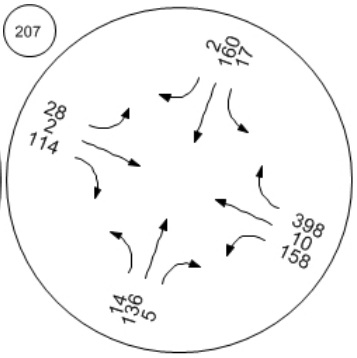

Bayfront Expy/Chilco St



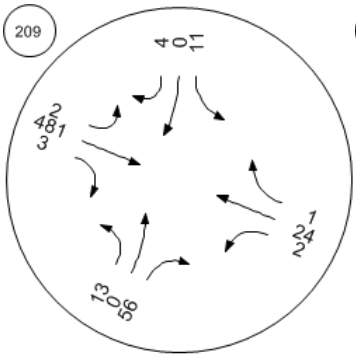

Bayfront Expy/Chrysler Drive



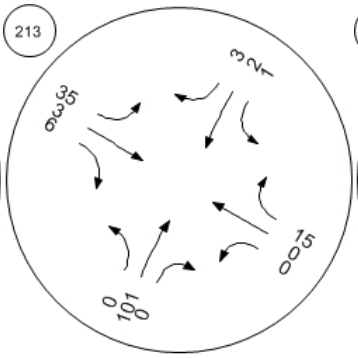

Chilco St/Constitution Dr



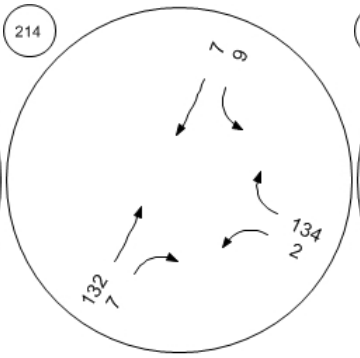

Jefferson Dr/Constitution Dr



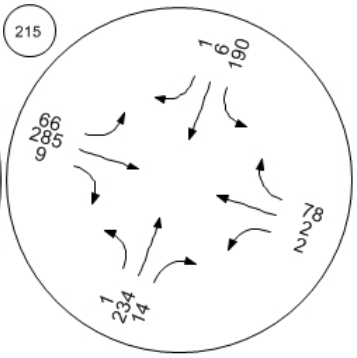

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

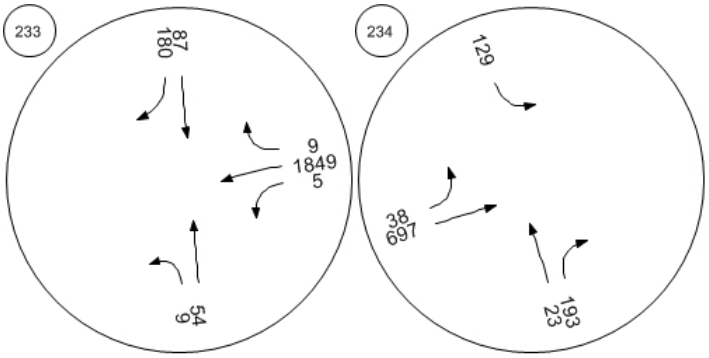



Chrysler Dr/Constitution Dr



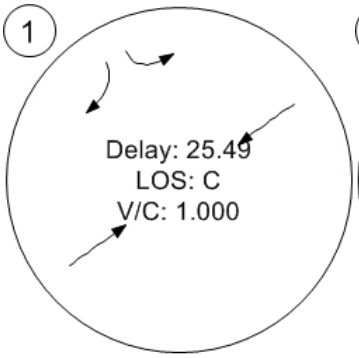
## Traffic Volume - Future Total Volume


Sand Hill Circle/Sand Hill Ro Sand Hill Rd/Hwy 280 NB Off

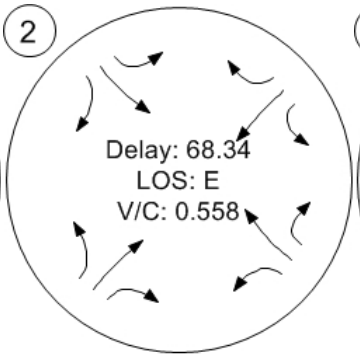


## Traffic Conditions

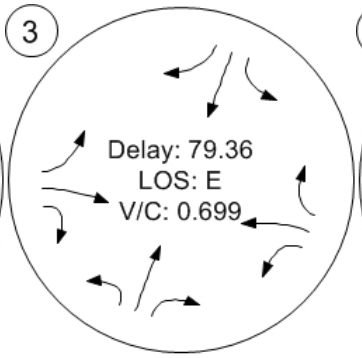

Marsh Rd (SR 84)/US 101 S



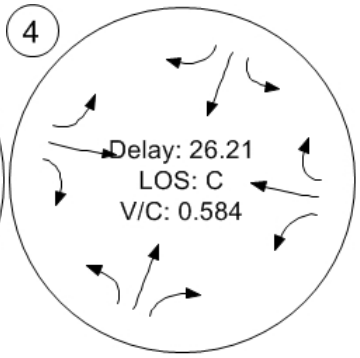

Marsh Rd/Rolison Rd-Scott D



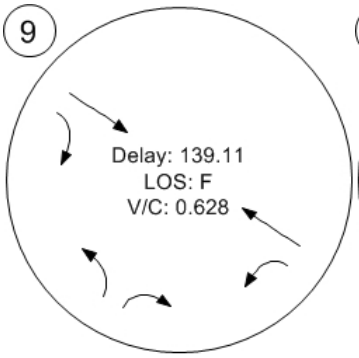

Marsh Rd/Florence St-Bohan



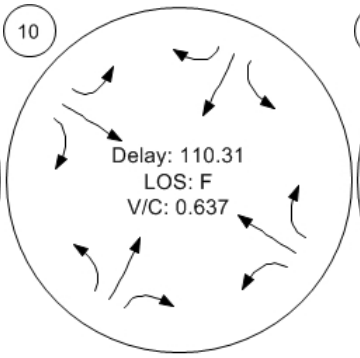

Marsh Rd/Bay Rd



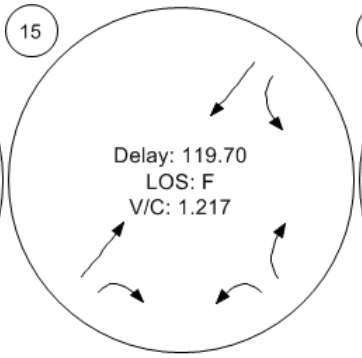

Middlefield Rd/Ravenswood



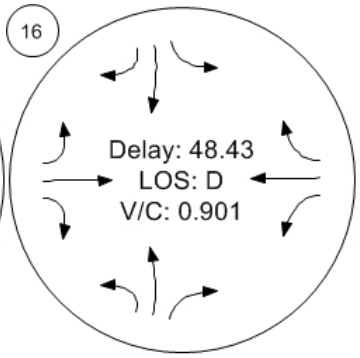

Middlefield Rd/Ringwood Ave




Bayfront Expy (SR 84)/Univer

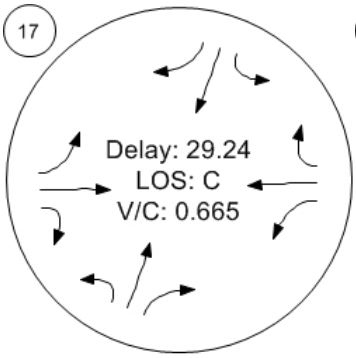



Bayfront Expy (SR 84)/Willow

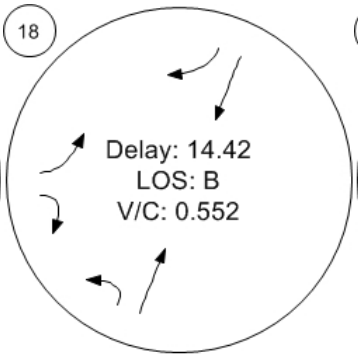


## Traffic Conditions

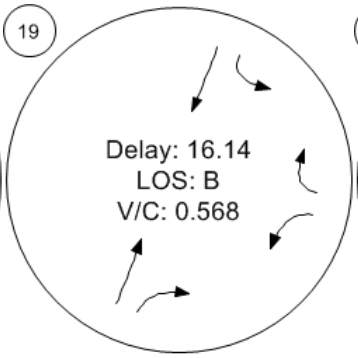

Willow Rd (SR 114)/Hamilton



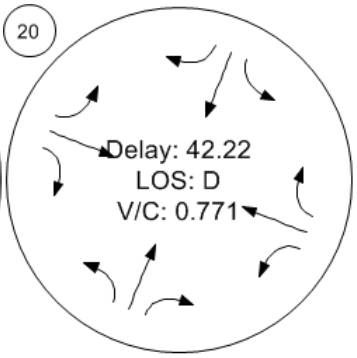

Willow Rd (SR 114)/Ivy Dr



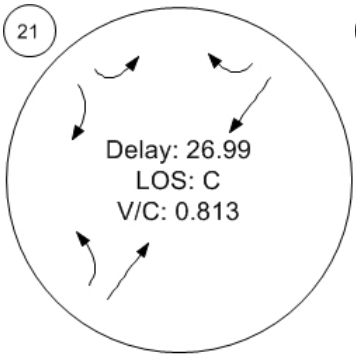

Willow Rd (SR 114)/O'Brien



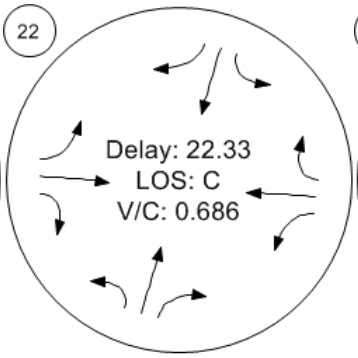

Willow Rd (SR 114)/Newbrid



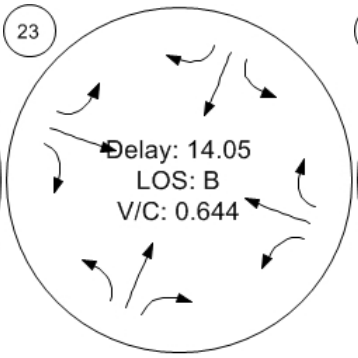

Willow Rd/Bay Rd



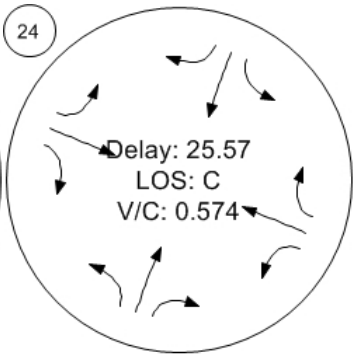

Willow Rd/Durham St-VA Me




Willow Rd/Coleman Ave

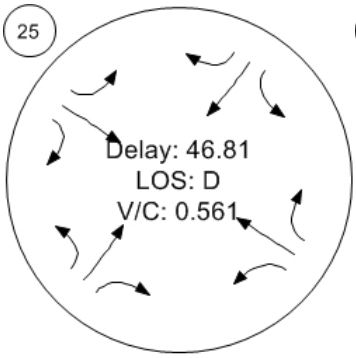



Willow Rd/Gilbert Ave

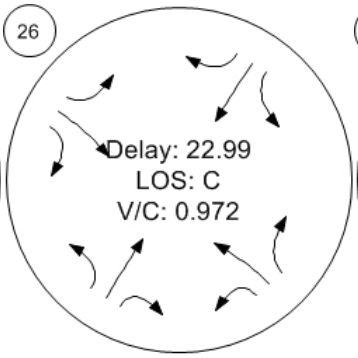


## Traffic Conditions

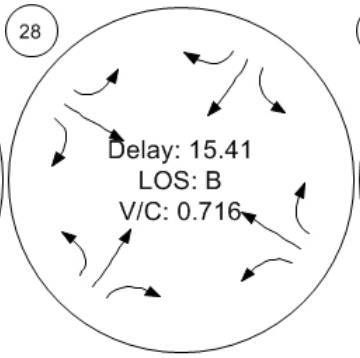

Middlefield Rd-Willow Rd



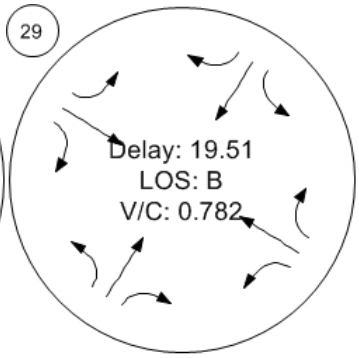

Ravenswood Ave/Laurel St



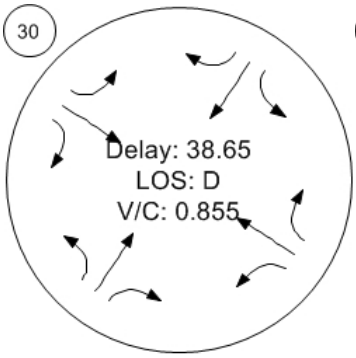

Oak Grove Ave/Laurel St



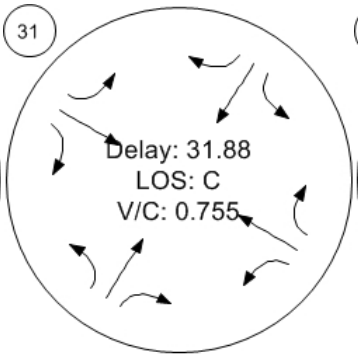

El Camino Real (SR 82)/Enci



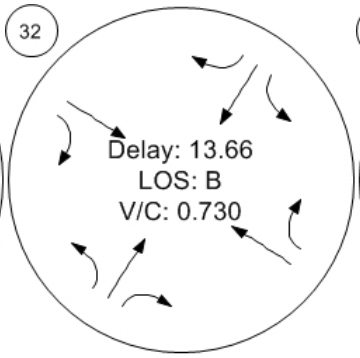

El Camino Real (SR 82)/Glen



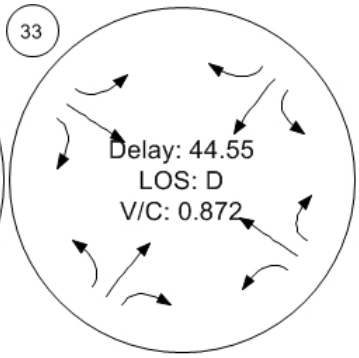

El Camino Real (SR 82)/Oak




El Camino Real (SR 82)/Sant

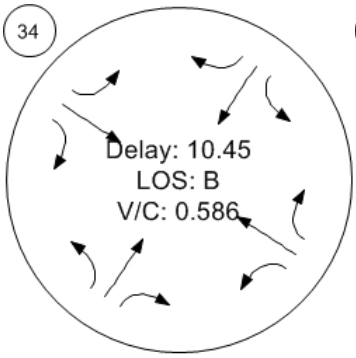



El Camino Real (SR 82)/Rav

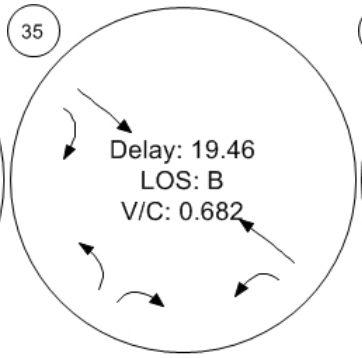


## Traffic Conditions

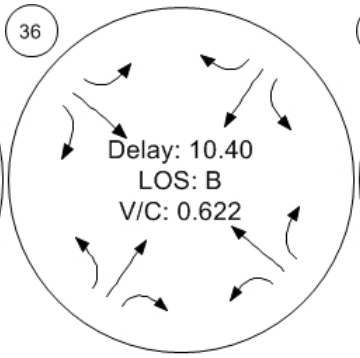

El Camino Real (SR 82)/Robl



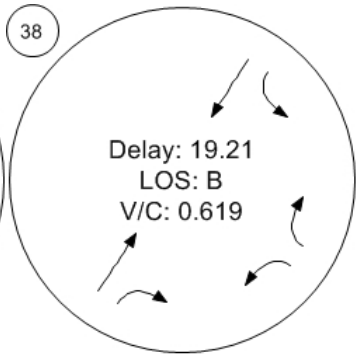

El Camino Real (SR 82)/Midd



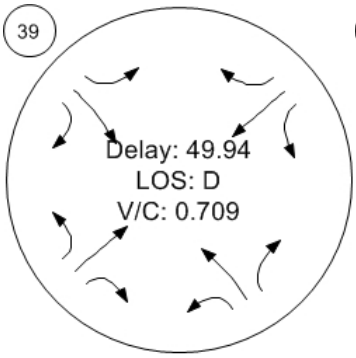

El Camino Real (SR 82)/Cam



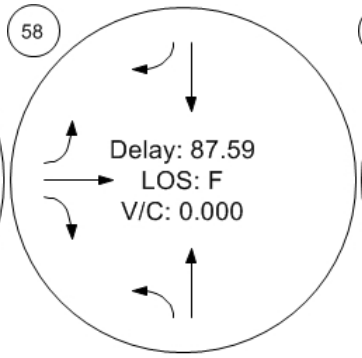

Santa Cruz Ave/University Dr



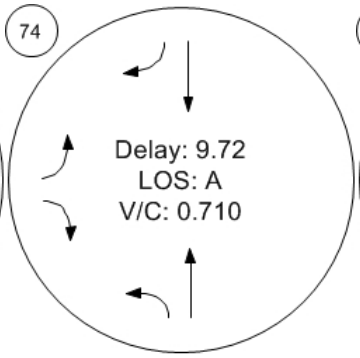

Sand Hill Rd/Santa Cruz Ave



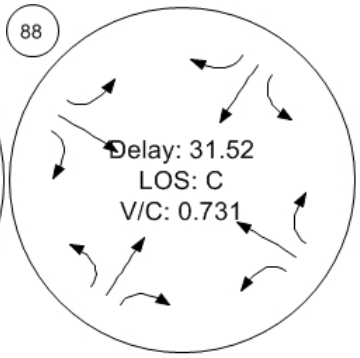

University Avenue and Adam




University Ave/O'Brien Dr

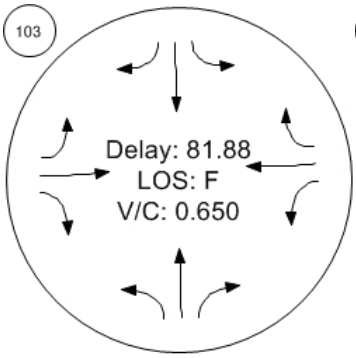



Valparaiso Ave/ University Dr

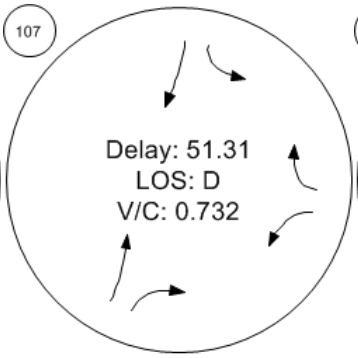


## Traffic Conditions

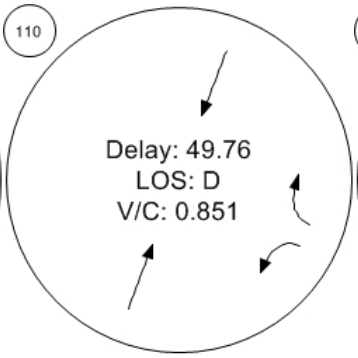

Addison Wesley/Sand Hill Rd



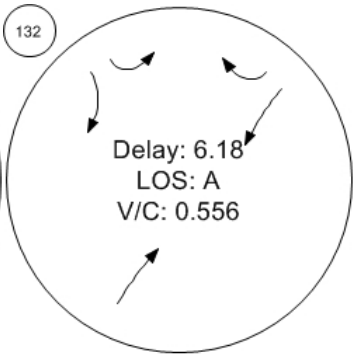

Alpine Rd/Santa Cruz Ave&J



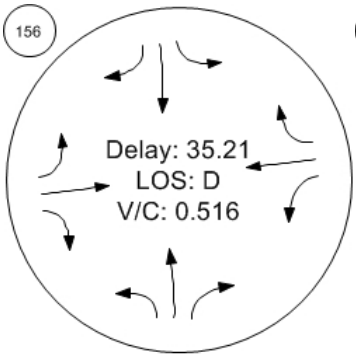

Marsh Road/101 NB Ramps



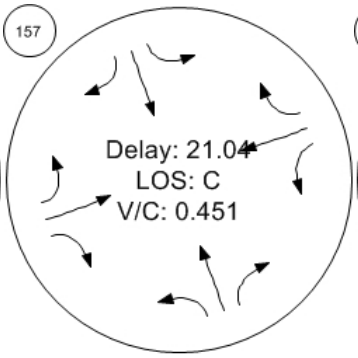

Oak Ave/Sand Hill Rd



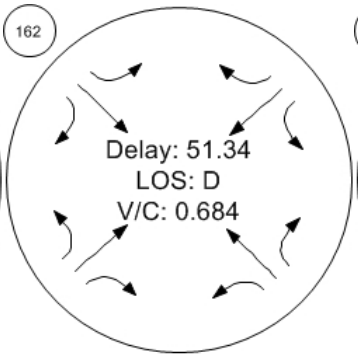

Saga Ln/Sand Hill Rd



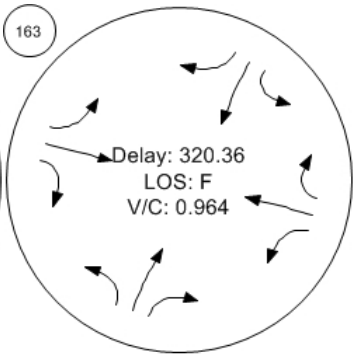

Branner Dr/Sand Hill Rd




Sharon Park Dr/ Sand Hill Rd

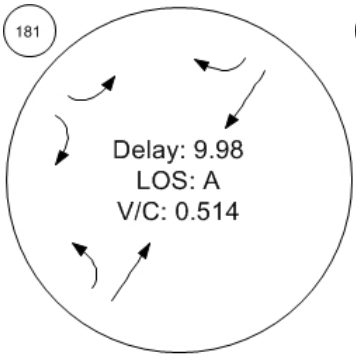



Bayfront Expy/Marsh Rd

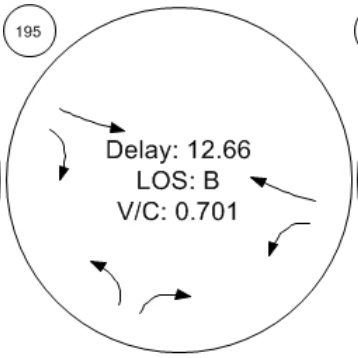


## Traffic Conditions

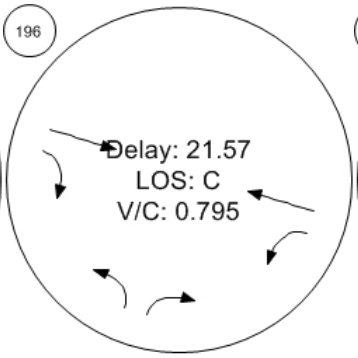

Santa Cruz Ave/Elder Ave



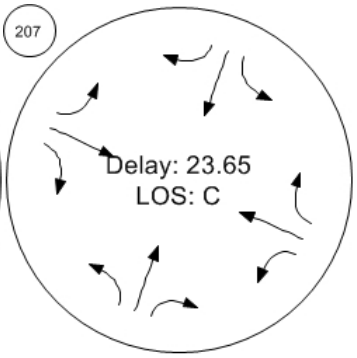

Bayfront Expy/Chilco St



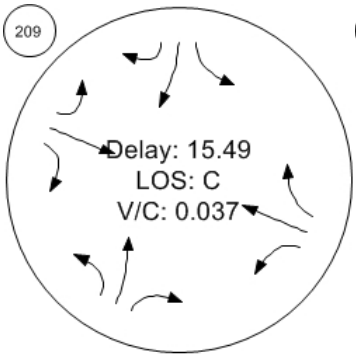

Bayfront Expy/Chrysler Drive



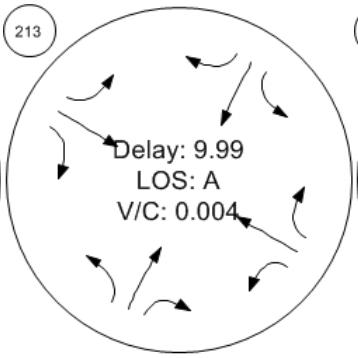

Chilco St/Constitution Dr



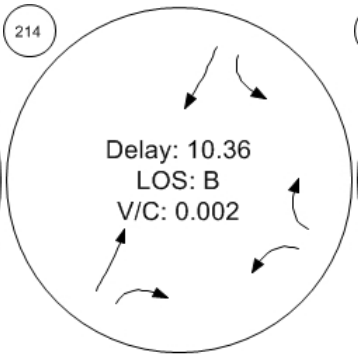

Jefferson Dr/Constitution Dr



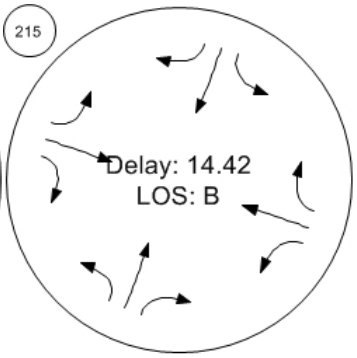

Chrysler Dr/Independence Dr




Chrysler Dr/Jefferson Dr

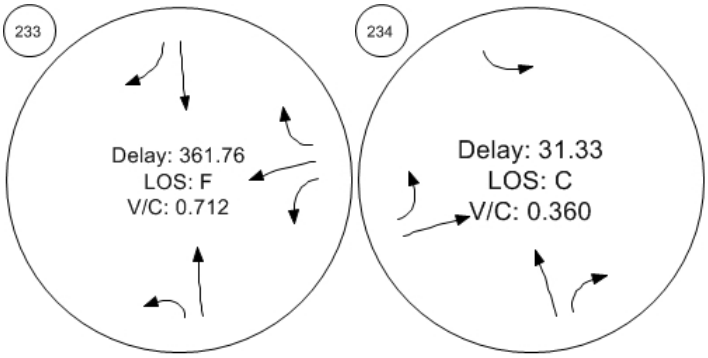



Chrysler Dr/Constitution Dr



## Traffic Conditions


### Sand Hill Circle/Sand Hill Ro Sand Hill Rd/Hwy 280 NB Off



APPENDIX C

# ADT DATA SHEETS

**LOCATION:** 1. Alameda De Las Pulgas
**QC JOB #:** 12899401
**SPECIFIC LOCATION:** 100 ft from Avy Ave
**DIRECTION:** NB/SB
**CITY/STATE:** Menlo Park, CA
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 23-Sep-14 | | | | | | | | |
| **12:00 AM** | | 39 | | | | 39 | | | 39 | |
| **1:00 AM** | | 12 | | | | 12 | | | 12 | |
| **2:00 AM** | | 11 | | | | 11 | | | 11 | |
| **3:00 AM** | | 10 | | | | 10 | | | 10 | |
| **4:00 AM** | | 26 | | | | 26 | | | 26 | |
| **5:00 AM** | | 91 | | | | 91 | | | 91 | |
| **6:00 AM** | | 252 | | | | 252 | | | 252 | |
| **7:00 AM** | | 844 | | | | 844 | | | 844 | |
| **8:00 AM** | | **1067** | | | | **1067** | | | **1067** | |
| **9:00 AM** | | 829 | | | | 829 | | | 829 | |
| **10:00 AM** | | 677 | | | | 677 | | | 677 | |
| **11:00 AM** | | 749 | | | | 749 | | | 749 | |
| **12:00 PM** | | 829 | | | | 829 | | | 829 | |
| **1:00 PM** | | 742 | | | | 742 | | | 742 | |
| **2:00 PM** | | 754 | | | | 754 | | | 754 | |
| **3:00 PM** | | 976 | | | | 976 | | | 976 | |
| **4:00 PM** | | 949 | | | | 949 | | | 949 | |
| **5:00 PM** | | **1052** | | | | **1052** | | | **1052** | |
| **6:00 PM** | | 1024 | | | | 1024 | | | 1024 | |
| **7:00 PM** | | 629 | | | | 629 | | | 629 | |
| **8:00 PM** | | 408 | | | | 408 | | | 408 | |
| **9:00 PM** | | 257 | | | | 257 | | | 257 | |
| **10:00 PM** | | 145 | | | | 145 | | | 145 | |
| **11:00 PM** | | 77 | | | | 77 | | | 77 | |
| **Day Total** | | 12449 | | | | 12449 | | | 12449 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 1067 | | | | 1067 | | | 1067 | |
| PM Peak | | 5:00 PM | | | | 5:00 PM | | | 5:00 PM | |
| Volume | | 1052 | | | | 1052 | | | 1052 | |

*Comments:* none

**LOCATION:** 2. Alameda De Las Pulgas
**QC JOB #:** 12899402
**SPECIFIC LOCATION:** 100 ft from Valparaiso Ave
**DIRECTION:** NB/SB
**CITY/STATE:** Menlo Park, CA
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 46 | | | | 46 | | | 46 | |
| **1:00 AM** | | 13 | | | | 13 | | | 13 | |
| **2:00 AM** | | 9 | | | | 9 | | | 9 | |
| **3:00 AM** | | 13 | | | | 13 | | | 13 | |
| **4:00 AM** | | 41 | | | | 41 | | | 41 | |
| **5:00 AM** | | 113 | | | | 113 | | | 113 | |
| **6:00 AM** | | 311 | | | | 311 | | | 311 | |
| **7:00 AM** | | 1026 | | | | 1026 | | | 1026 | |
| **8:00 AM** | | **1274** | | | | **1274** | | | **1274** | |
| **9:00 AM** | | 1031 | | | | 1031 | | | 1031 | |
| **10:00 AM** | | 871 | | | | 871 | | | 871 | |
| **11:00 AM** | | 893 | | | | 893 | | | 893 | |
| **12:00 PM** | | 977 | | | | 977 | | | 977 | |
| **1:00 PM** | | 907 | | | | 907 | | | 907 | |
| **2:00 PM** | | 989 | | | | 989 | | | 989 | |
| **3:00 PM** | | 1279 | | | | 1279 | | | 1279 | |
| **4:00 PM** | | 1207 | | | | 1207 | | | 1207 | |
| **5:00 PM** | | **1338** | | | | **1338** | | | **1338** | |
| **6:00 PM** | | 1202 | | | | 1202 | | | 1202 | |
| **7:00 PM** | | 757 | | | | 757 | | | 757 | |
| **8:00 PM** | | 490 | | | | 490 | | | 490 | |
| **9:00 PM** | | 304 | | | | 304 | | | 304 | |
| **10:00 PM** | | 147 | | | | 147 | | | 147 | |
| **11:00 PM** | | 91 | | | | 91 | | | 91 | |
| **Day Total** | | 15329 | | | | 15329 | | | 15329 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>1274 | | | | 8:00 AM<br>1274 | | | 8:00 AM<br>1274 | |
| PM Peak Volume | | 5:00 PM<br>1338 | | | | 5:00 PM<br>1338 | | | 5:00 PM<br>1338 | |

*Comments:* none

**LOCATION:** 3. Alameda De Las Pulgas
**QC JOB #:** 12899403
**SPECIFIC LOCATION:** 100 ft from City Limits
**DIRECTION:** NB/SB
**CITY/STATE:** Menlo Park, CA
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | | | 42 | | 42 | | | 42 | |
| 1:00 AM | | | | 22 | | 22 | | | 22 | |
| 2:00 AM | | | | 12 | | 12 | | | 12 | |
| 3:00 AM | | | | 12 | | 12 | | | 12 | |
| 4:00 AM | | | | 33 | | 33 | | | 33 | |
| 5:00 AM | | | | 107 | | 107 | | | 107 | |
| 6:00 AM | | | | 339 | | 339 | | | 339 | |
| 7:00 AM | | | | 1056 | | 1056 | | | 1056 | |
| 8:00 AM | | | | **1406** | | **1406** | | | **1406** | |
| 9:00 AM | | | | 1100 | | 1100 | | | 1100 | |
| 10:00 AM | | | | 1016 | | 1016 | | | 1016 | |
| 11:00 AM | | | | 977 | | 977 | | | 977 | |
| 12:00 PM | | | | 1034 | | 1034 | | | 1034 | |
| 1:00 PM | | | | 1051 | | 1051 | | | 1051 | |
| 2:00 PM | | | | 1136 | | 1136 | | | 1136 | |
| 3:00 PM | | | | **1398** | | **1398** | | | **1398** | |
| 4:00 PM | | | | 1289 | | 1289 | | | 1289 | |
| 5:00 PM | | | | 1349 | | 1349 | | | 1349 | |
| 6:00 PM | | | | 1094 | | 1094 | | | 1094 | |
| 7:00 PM | | | | 640 | | 640 | | | 640 | |
| 8:00 PM | | | | 439 | | 439 | | | 439 | |
| 9:00 PM | | | | 301 | | 301 | | | 301 | |
| 10:00 PM | | | | 186 | | 186 | | | 186 | |
| 11:00 PM | | | | 102 | | 102 | | | 102 | |
| **Day Total** | | | | 16141 | | 16141 | | | 16141 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 8:00 AM | | 8:00 AM | | | 8:00 AM | |
| Volume | | | | 1406 | | 1406 | | | 1406 | |
| PM Peak | | | | 3:00 PM | | 3:00 PM | | | 3:00 PM | |
| Volume | | | | 1398 | | 1398 | | | 1398 | |

*Comments:* none

**LOCATION:** 4. Alma St
**QC JOB #:** 12899404
**SPECIFIC LOCATION:** 100 ft from Ravenswood Ave
**DIRECTION:** NB/SB
**CITY/STATE:** Menlo Park, CA
**DATE:** Oct 16 2014 - Oct 16 2014

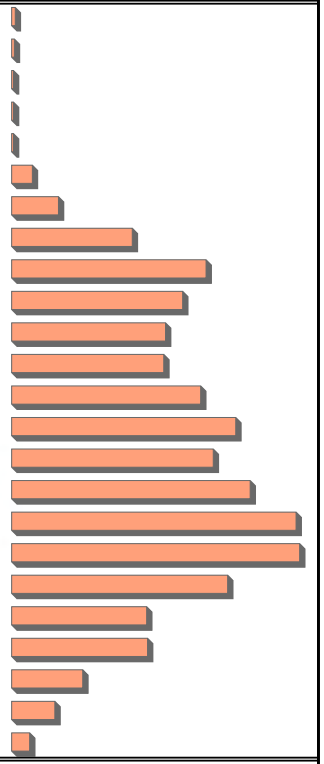
| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | | | 6 | | 6 | | | 6 | |
| 1:00 AM | | | | 3 | | 3 | | | 3 | |
| 2:00 AM | | | | 7 | | 7 | | | 7 | |
| 3:00 AM | | | | 3 | | 3 | | | 3 | |
| 4:00 AM | | | | 12 | | 12 | | | 12 | |
| 5:00 AM | | | | 21 | | 21 | | | 21 | |
| 6:00 AM | | | | 40 | | 40 | | | 40 | |
| 7:00 AM | | | | 82 | | 82 | | | 82 | |
| 8:00 AM | | | | 89 | | 89 | | | 89 | |
| 9:00 AM | | | | 94 | | 94 | | | 94 | |
| 10:00 AM | | | | 93 | | 93 | | | 93 | |
| 11:00 AM | | | | **126** | | **126** | | | **126** | |
| 12:00 PM | | | | 106 | | 106 | | | 106 | |
| 1:00 PM | | | | 122 | | 122 | | | 122 | |
| 2:00 PM | | | | 107 | | 107 | | | 107 | |
| 3:00 PM | | | | **151** | | **151** | | | **151** | |
| 4:00 PM | | | | 135 | | 135 | | | 135 | |
| 5:00 PM | | | | 123 | | 123 | | | 123 | |
| 6:00 PM | | | | 115 | | 115 | | | 115 | |
| 7:00 PM | | | | 70 | | 70 | | | 70 | |
| 8:00 PM | | | | 46 | | 46 | | | 46 | |
| 9:00 PM | | | | 39 | | 39 | | | 39 | |
| 10:00 PM | | | | 36 | | 36 | | | 36 | |
| 11:00 PM | | | | 14 | | 14 | | | 14 | |
| **Day Total** | | | | 1640 | | 1640 | | | 1640 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 11:00 AM | | 11:00 AM | | | 11:00 AM | |
| Volume | | | | 126 | | 126 | | | 126 | |
| PM Peak | | | | 3:00 PM | | 3:00 PM | | | 3:00 PM | |
| Volume | | | | 151 | | 151 | | | 151 | |

*Comments:* none

**LOCATION:** 5. Alma St
**SPECIFIC LOCATION:** 100 ft from Willow Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899405
**DIRECTION:** NB/SB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 4 | | 4 | | | 4 | |
| **1:00 AM** | | | | 3 | | 3 | | | 3 | |
| **2:00 AM** | | | | 2 | | 2 | | | 2 | |
| **3:00 AM** | | | | 2 | | 2 | | | 2 | |
| **4:00 AM** | | | | 2 | | 2 | | | 2 | |
| **5:00 AM** | | | | 23 | | 23 | | | 23 | |
| **6:00 AM** | | | | 52 | | 52 | | | 52 | |
| **7:00 AM** | | | | 134 | | 134 | | | 134 | |
| **8:00 AM** | | | | **216** | | **216** | | | **216** | |
| **9:00 AM** | | | | 190 | | 190 | | | 190 | |
| **10:00 AM** | | | | 171 | | 171 | | | 171 | |
| **11:00 AM** | | | | 169 | | 169 | | | 169 | |
| **12:00 PM** | | | | 210 | | 210 | | | 210 | |
| **1:00 PM** | | | | 249 | | 249 | | | 249 | |
| **2:00 PM** | | | | 224 | | 224 | | | 224 | |
| **3:00 PM** | | | | 265 | | 265 | | | 265 | |
| **4:00 PM** | | | | 316 | | 316 | | | 316 | |
| **5:00 PM** | | | | **320** | | **320** | | | **320** | |
| **6:00 PM** | | | | 240 | | 240 | | | 240 | |
| **7:00 PM** | | | | 150 | | 150 | | | 150 | |
| **8:00 PM** | | | | 151 | | 151 | | | 151 | |
| **9:00 PM** | | | | 79 | | 79 | | | 79 | |
| **10:00 PM** | | | | 48 | | 48 | | | 48 | |
| **11:00 PM** | | | | 20 | | 20 | | | 20 | |
| **Day Total** | | | | 3240 | | 3240 | | | 3240 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 216 | | 8:00 AM 216 | | | 8:00 AM 216 | |
| PM Peak Volume | | | | 5:00 PM 320 | | 5:00 PM 320 | | | 5:00 PM 320 | |



*Comments:* none

**LOCATION:** 6. Alpine Rd
**SPECIFIC LOCATION:** 100 ft from City Limits
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899406
**DIRECTION:** EB/WB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue 21-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 55 | | | | 55 | | | 55 | |
| **1:00 AM** | | 25 | | | | 25 | | | 25 | |
| **2:00 AM** | | 12 | | | | 12 | | | 12 | |
| **3:00 AM** | | 28 | | | | 28 | | | 28 | |
| **4:00 AM** | | 56 | | | | 56 | | | 56 | |
| **5:00 AM** | | 282 | | | | 282 | | | 282 | |
| **6:00 AM** | | 837 | | | | 837 | | | 837 | |
| **7:00 AM** | | 1681 | | | | 1681 | | | 1681 | |
| **8:00 AM** | | **1857** | | | | **1857** | | | **1857** | |
| **9:00 AM** | | 1733 | | | | 1733 | | | 1733 | |
| **10:00 AM** | | 1442 | | | | 1442 | | | 1442 | |
| **11:00 AM** | | 1278 | | | | 1278 | | | 1278 | |
| **12:00 PM** | | 1355 | | | | 1355 | | | 1355 | |
| **1:00 PM** | | 1279 | | | | 1279 | | | 1279 | |
| **2:00 PM** | | 1536 | | | | 1536 | | | 1536 | |
| **3:00 PM** | | 1721 | | | | 1721 | | | 1721 | |
| **4:00 PM** | | 1751 | | | | 1751 | | | 1751 | |
| **5:00 PM** | | **1935** | | | | **1935** | | | **1935** | |
| **6:00 PM** | | 1760 | | | | 1760 | | | 1760 | |
| **7:00 PM** | | 1099 | | | | 1099 | | | 1099 | |
| **8:00 PM** | | 627 | | | | 627 | | | 627 | |
| **9:00 PM** | | 543 | | | | 543 | | | 543 | |
| **10:00 PM** | | 267 | | | | 267 | | | 267 | |
| **11:00 PM** | | 146 | | | | 146 | | | 146 | |
| **Day Total** | | 23305 | | | | 23305 | | | 23305 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 1857 | | | | 1857 | | | 1857 | |
| PM Peak | | 5:00 PM | | | | 5:00 PM | | | 5:00 PM | |
| Volume | | 1935 | | | | 1935 | | | 1935 | |

*Comments:* none

**LOCATION:** 7. Avy Ave
**QC JOB #:** 12899407
**SPECIFIC LOCATION:** 100 ft from City Limit
**DIRECTION:** EB/WB
**CITY/STATE:** Menlo Park, CA
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue 23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 6 | | | | 6 | | | 6 | |
| **1:00 AM** | | 4 | | | | 4 | | | 4 | |
| **2:00 AM** | | 0 | | | | 0 | | | 0 | |
| **3:00 AM** | | 3 | | | | 3 | | | 3 | |
| **4:00 AM** | | 9 | | | | 9 | | | 9 | |
| **5:00 AM** | | 18 | | | | 18 | | | 18 | |
| **6:00 AM** | | 60 | | | | 60 | | | 60 | |
| **7:00 AM** | | 302 | | | | 302 | | | 302 | |
| **8:00 AM** | | **505** | | | | **505** | | | **505** | |
| **9:00 AM** | | 291 | | | | 291 | | | 291 | |
| **10:00 AM** | | 244 | | | | 244 | | | 244 | |
| **11:00 AM** | | 309 | | | | 309 | | | 309 | |
| **12:00 PM** | | 313 | | | | 313 | | | 313 | |
| **1:00 PM** | | 256 | | | | 256 | | | 256 | |
| **2:00 PM** | | 337 | | | | 337 | | | 337 | |
| **3:00 PM** | | **450** | | | | **450** | | | **450** | |
| **4:00 PM** | | 396 | | | | 396 | | | 396 | |
| **5:00 PM** | | 416 | | | | 416 | | | 416 | |
| **6:00 PM** | | 298 | | | | 298 | | | 298 | |
| **7:00 PM** | | 185 | | | | 185 | | | 185 | |
| **8:00 PM** | | 94 | | | | 94 | | | 94 | |
| **9:00 PM** | | 66 | | | | 66 | | | 66 | |
| **10:00 PM** | | 27 | | | | 27 | | | 27 | |
| **11:00 PM** | | 17 | | | | 17 | | | 17 | |
| **Day Total** | | 4606 | | | | 4606 | | | 4606 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 505 | | | | 505 | | | 505 | |
| PM Peak | | 3:00 PM | | | | 3:00 PM | | | 3:00 PM | |
| Volume | | 450 | | | | 450 | | | 450 | |

*Comments:* none

**LOCATION:** 8. Avy Ave
**SPECIFIC LOCATION:** 100 ft from Alameda de las Pulgas
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899408
**DIRECTION:** EB/WB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 6 | | | | 6 | | | 6 | |
| **1:00 AM** | | 5 | | | | 5 | | | 5 | |
| **2:00 AM** | | 1 | | | | 1 | | | 1 | |
| **3:00 AM** | | 4 | | | | 4 | | | 4 | |
| **4:00 AM** | | 8 | | | | 8 | | | 8 | |
| **5:00 AM** | | 29 | | | | 29 | | | 29 | |
| **6:00 AM** | | 73 | | | | 73 | | | 73 | |
| **7:00 AM** | | 303 | | | | 303 | | | 303 | |
| **8:00 AM** | | **507** | | | | **507** | | | **507** | |
| **9:00 AM** | | 406 | | | | 406 | | | 406 | |
| **10:00 AM** | | 331 | | | | 331 | | | 331 | |
| **11:00 AM** | | 388 | | | | 388 | | | 388 | |
| **12:00 PM** | | 417 | | | | 417 | | | 417 | |
| **1:00 PM** | | 386 | | | | 386 | | | 386 | |
| **2:00 PM** | | 383 | | | | 383 | | | 383 | |
| **3:00 PM** | | 458 | | | | 458 | | | 458 | |
| **4:00 PM** | | 459 | | | | 459 | | | 459 | |
| **5:00 PM** | | **588** | | | | **588** | | | **588** | |
| **6:00 PM** | | 524 | | | | 524 | | | 524 | |
| **7:00 PM** | | 305 | | | | 305 | | | 305 | |
| **8:00 PM** | | 166 | | | | 166 | | | 166 | |
| **9:00 PM** | | 119 | | | | 119 | | | 119 | |
| **10:00 PM** | | 42 | | | | 42 | | | 42 | |
| **11:00 PM** | | 27 | | | | 27 | | | 27 | |
| **Day Total** | | 5935 | | | | 5935 | | | 5935 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>507 | | | | 8:00 AM<br>507 | | | 8:00 AM<br>507 | |
| PM Peak Volume | | 5:00 PM<br>588 | | | | 5:00 PM<br>588 | | | 5:00 PM<br>588 | |

*Comments:* none

**LOCATION:** 9. Bay Rd
**SPECIFIC LOCATION:** 100 ft from Greenwood
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899409
**DIRECTION:** NB/SB
**DATE:** Oct 02 2014 - Oct 02 2014

| Start Time | Mon | Tue | Wed | Thu 02-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 13 | | 13 | | | 13 | |
| **1:00 AM** | | | | 6 | | 6 | | | 6 | |
| **2:00 AM** | | | | 4 | | 4 | | | 4 | |
| **3:00 AM** | | | | 4 | | 4 | | | 4 | |
| **4:00 AM** | | | | 9 | | 9 | | | 9 | |
| **5:00 AM** | | | | 33 | | 33 | | | 33 | |
| **6:00 AM** | | | | 84 | | 84 | | | 84 | |
| **7:00 AM** | | | | 470 | | 470 | | | 470 | |
| **8:00 AM** | | | | **586** | | **586** | | | **586** | |
| **9:00 AM** | | | | 446 | | 446 | | | 446 | |
| **10:00 AM** | | | | 244 | | 244 | | | 244 | |
| **11:00 AM** | | | | 259 | | 259 | | | 259 | |
| **12:00 PM** | | | | 290 | | 290 | | | 290 | |
| **1:00 PM** | | | | 277 | | 277 | | | 277 | |
| **2:00 PM** | | | | 291 | | 291 | | | 291 | |
| **3:00 PM** | | | | 441 | | 441 | | | 441 | |
| **4:00 PM** | | | | 441 | | 441 | | | 441 | |
| **5:00 PM** | | | | **617** | | **617** | | | **617** | |
| **6:00 PM** | | | | 410 | | 410 | | | 410 | |
| **7:00 PM** | | | | 299 | | 299 | | | 299 | |
| **8:00 PM** | | | | 158 | | 158 | | | 158 | |
| **9:00 PM** | | | | 98 | | 98 | | | 98 | |
| **10:00 PM** | | | | 42 | | 42 | | | 42 | |
| **11:00 PM** | | | | 26 | | 26 | | | 26 | |
| **Day Total** | | | | 5548 | | 5548 | | | 5548 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 586 | | 8:00 AM 586 | | | 8:00 AM 586 | |
| PM Peak Volume | | | | 5:00 PM 617 | | 5:00 PM 617 | | | 5:00 PM 617 | |

*Comments:* none

**LOCATION:** 10. Bay Rd
**SPECIFIC LOCATION:** 100 ft from Ringwood Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899410
**DIRECTION:** NB/SB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue 21-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 10 | | | | 10 | | | 10 | |
| **1:00 AM** | | 8 | | | | 8 | | | 8 | |
| **2:00 AM** | | 2 | | | | 2 | | | 2 | |
| **3:00 AM** | | 5 | | | | 5 | | | 5 | |
| **4:00 AM** | | 10 | | | | 10 | | | 10 | |
| **5:00 AM** | | 29 | | | | 29 | | | 29 | |
| **6:00 AM** | | 112 | | | | 112 | | | 112 | |
| **7:00 AM** | | 508 | | | | 508 | | | 508 | |
| **8:00 AM** | | **686** | | | | **686** | | | **686** | |
| **9:00 AM** | | 352 | | | | 352 | | | 352 | |
| **10:00 AM** | | 221 | | | | 221 | | | 221 | |
| **11:00 AM** | | 259 | | | | 259 | | | 259 | |
| **12:00 PM** | | 288 | | | | 288 | | | 288 | |
| **1:00 PM** | | 257 | | | | 257 | | | 257 | |
| **2:00 PM** | | 297 | | | | 297 | | | 297 | |
| **3:00 PM** | | 482 | | | | 482 | | | 482 | |
| **4:00 PM** | | 487 | | | | 487 | | | 487 | |
| **5:00 PM** | | **624** | | | | **624** | | | **624** | |
| **6:00 PM** | | 475 | | | | 475 | | | 475 | |
| **7:00 PM** | | 240 | | | | 240 | | | 240 | |
| **8:00 PM** | | 134 | | | | 134 | | | 134 | |
| **9:00 PM** | | 107 | | | | 107 | | | 107 | |
| **10:00 PM** | | 44 | | | | 44 | | | 44 | |
| **11:00 PM** | | 21 | | | | 21 | | | 21 | |
| **Day Total** | | 5658 | | | | 5658 | | | 5658 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>686 | | | | 8:00 AM<br>686 | | | 8:00 AM<br>686 | |
| PM Peak Volume | | 5:00 PM<br>624 | | | | 5:00 PM<br>624 | | | 5:00 PM<br>624 | |

*Comments:* none

**LOCATION:** 11. Bay Rd
**SPECIFIC LOCATION:** 100 ft from Willow Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899411
**DIRECTION:** NB/SB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue 21-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 9 | | | | 9 | | | 9 | |
| **1:00 AM** | | 8 | | | | 8 | | | 8 | |
| **2:00 AM** | | 2 | | | | 2 | | | 2 | |
| **3:00 AM** | | 3 | | | | 3 | | | 3 | |
| **4:00 AM** | | 12 | | | | 12 | | | 12 | |
| **5:00 AM** | | 51 | | | | 51 | | | 51 | |
| **6:00 AM** | | 194 | | | | 194 | | | 194 | |
| **7:00 AM** | | 752 | | | | 752 | | | 752 | |
| **8:00 AM** | | **815** | | | | **815** | | | **815** | |
| **9:00 AM** | | 481 | | | | 481 | | | 481 | |
| **10:00 AM** | | 303 | | | | 303 | | | 303 | |
| **11:00 AM** | | 328 | | | | 328 | | | 328 | |
| **12:00 PM** | | 383 | | | | 383 | | | 383 | |
| **1:00 PM** | | 336 | | | | 336 | | | 336 | |
| **2:00 PM** | | 454 | | | | 454 | | | 454 | |
| **3:00 PM** | | 695 | | | | 695 | | | 695 | |
| **4:00 PM** | | 767 | | | | 767 | | | 767 | |
| **5:00 PM** | | **835** | | | | **835** | | | **835** | |
| **6:00 PM** | | 583 | | | | 583 | | | 583 | |
| **7:00 PM** | | 240 | | | | 240 | | | 240 | |
| **8:00 PM** | | 144 | | | | 144 | | | 144 | |
| **9:00 PM** | | 118 | | | | 118 | | | 118 | |
| **10:00 PM** | | 41 | | | | 41 | | | 41 | |
| **11:00 PM** | | 27 | | | | 27 | | | 27 | |
| **Day Total** | | 7581 | | | | 7581 | | | 7581 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>815 | | | | 8:00 AM<br>815 | | | 8:00 AM<br>815 | |
| PM Peak Volume | | 5:00 PM<br>835 | | | | 5:00 PM<br>835 | | | 5:00 PM<br>835 | |

*Comments:* none

**LOCATION:** 16. Bohannon Dr
**SPECIFIC LOCATION:** 100 ft from Campell Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899412
**DIRECTION:** NB/SB
**DATE:** Oct 02 2014 - Oct 02 2014

| Start Time | Mon | Tue | Wed | Thu 02-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 13 | | 13 | | | 13 | |
| **1:00 AM** | | | | 1 | | 1 | | | 1 | |
| **2:00 AM** | | | | 3 | | 3 | | | 3 | |
| **3:00 AM** | | | | 13 | | 13 | | | 13 | |
| **4:00 AM** | | | | 72 | | 72 | | | 72 | |
| **5:00 AM** | | | | 64 | | 64 | | | 64 | |
| **6:00 AM** | | | | 115 | | 115 | | | 115 | |
| **7:00 AM** | | | | 217 | | 217 | | | 217 | |
| **8:00 AM** | | | | 264 | | 264 | | | 264 | |
| **9:00 AM** | | | | 282 | | 282 | | | 282 | |
| **10:00 AM** | | | | 245 | | 245 | | | 245 | |
| **11:00 AM** | | | | **295** | | **295** | | | **295** | |
| **12:00 PM** | | | | 331 | | 331 | | | 331 | |
| **1:00 PM** | | | | **377** | | **377** | | | **377** | |
| **2:00 PM** | | | | 287 | | 287 | | | 287 | |
| **3:00 PM** | | | | 270 | | 270 | | | 270 | |
| **4:00 PM** | | | | 297 | | 297 | | | 297 | |
| **5:00 PM** | | | | 367 | | 367 | | | 367 | |
| **6:00 PM** | | | | 175 | | 175 | | | 175 | |
| **7:00 PM** | | | | 78 | | 78 | | | 78 | |
| **8:00 PM** | | | | 41 | | 41 | | | 41 | |
| **9:00 PM** | | | | 31 | | 31 | | | 31 | |
| **10:00 PM** | | | | 43 | | 43 | | | 43 | |
| **11:00 PM** | | | | 27 | | 27 | | | 27 | |
| **Day Total** | | | | 3908 | | 3908 | | | 3908 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 11:00 AM 295 | | 11:00 AM 295 | | | 11:00 AM 295 | |
| PM Peak Volume | | | | 1:00 PM 377 | | 1:00 PM 377 | | | 1:00 PM 377 | |

*Comments:* none

**LOCATION:** 17. Chilco St
**SPECIFIC LOCATION:** 100 ft from Constitution Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899413
**DIRECTION:** EB/WB
**DATE:** Oct 14 2014 - Oct 14 2014

| Start Time | Mon | Tue<br>14-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 62 | | | | 62 | | | 62 | |
| **1:00 AM** | | 37 | | | | 37 | | | 37 | |
| **2:00 AM** | | 32 | | | | 32 | | | 32 | |
| **3:00 AM** | | 40 | | | | 40 | | | 40 | |
| **4:00 AM** | | 73 | | | | 73 | | | 73 | |
| **5:00 AM** | | 190 | | | | 190 | | | 190 | |
| **6:00 AM** | | 360 | | | | 360 | | | 360 | |
| **7:00 AM** | | 482 | | | | 482 | | | 482 | |
| **8:00 AM** | | **505** | | | | **505** | | | **505** | |
| **9:00 AM** | | 390 | | | | 390 | | | 390 | |
| **10:00 AM** | | 297 | | | | 297 | | | 297 | |
| **11:00 AM** | | 289 | | | | 289 | | | 289 | |
| **12:00 PM** | | 336 | | | | 336 | | | 336 | |
| **1:00 PM** | | 331 | | | | 331 | | | 331 | |
| **2:00 PM** | | 491 | | | | 491 | | | 491 | |
| **3:00 PM** | | **582** | | | | **582** | | | **582** | |
| **4:00 PM** | | 564 | | | | 564 | | | 564 | |
| **5:00 PM** | | 579 | | | | 579 | | | 579 | |
| **6:00 PM** | | 428 | | | | 428 | | | 428 | |
| **7:00 PM** | | 293 | | | | 293 | | | 293 | |
| **8:00 PM** | | 200 | | | | 200 | | | 200 | |
| **9:00 PM** | | 157 | | | | 157 | | | 157 | |
| **10:00 PM** | | 183 | | | | 183 | | | 183 | |
| **11:00 PM** | | 98 | | | | 98 | | | 98 | |
| **Day Total** | | 6999 | | | | 6999 | | | 6999 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>505 | | | | 8:00 AM<br>505 | | | 8:00 AM<br>505 | |
| PM Peak Volume | | 3:00 PM<br>582 | | | | 3:00 PM<br>582 | | | 3:00 PM<br>582 | |

*Comments:* none

**LOCATION:** 18. Chrysler Drive
**QC JOB #:** 12899414
**SPECIFIC LOCATION:** 100 ft from Constitution Dr
**DIRECTION:** EB/WB
**CITY/STATE:** Menlo Park, CA
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue (21-Oct-14) | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | 8 | | | | 8 | | | 8 | |
| 1:00 AM | | 7 | | | | 7 | | | 7 | |
| 2:00 AM | | 13 | | | | 13 | | | 13 | |
| 3:00 AM | | 11 | | | | 11 | | | 11 | |
| 4:00 AM | | 12 | | | | 12 | | | 12 | |
| 5:00 AM | | 44 | | | | 44 | | | 44 | |
| 6:00 AM | | 104 | | | | 104 | | | 104 | |
| 7:00 AM | | 207 | | | | 207 | | | 207 | |
| 8:00 AM | | 229 | | | | 229 | | | 229 | |
| 9:00 AM | | 166 | | | | 166 | | | 166 | |
| 10:00 AM | | 123 | | | | 123 | | | 123 | |
| 11:00 AM | | **246** | | | | **246** | | | **246** | |
| 12:00 PM | | 293 | | | | 293 | | | 293 | |
| 1:00 PM | | 211 | | | | 211 | | | 211 | |
| 2:00 PM | | 217 | | | | 217 | | | 217 | |
| 3:00 PM | | 338 | | | | 338 | | | 338 | |
| 4:00 PM | | 481 | | | | 481 | | | 481 | |
| 5:00 PM | | **697** | | | | **697** | | | **697** | |
| 6:00 PM | | 377 | | | | 377 | | | 377 | |
| 7:00 PM | | 134 | | | | 134 | | | 134 | |
| 8:00 PM | | 40 | | | | 40 | | | 40 | |
| 9:00 PM | | 52 | | | | 52 | | | 52 | |
| 10:00 PM | | 27 | | | | 27 | | | 27 | |
| 11:00 PM | | 31 | | | | 31 | | | 31 | |
| **Day Total** | | 4068 | | | | 4068 | | | 4068 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 11:00 AM<br>246 | | | | 11:00 AM<br>246 | | | 11:00 AM<br>246 | |
| PM Peak Volume | | 5:00 PM<br>697 | | | | 5:00 PM<br>697 | | | 5:00 PM<br>697 | |

*Comments:* none

**LOCATION:** 19. Constitution Dr
**SPECIFIC LOCATION:** 100 ft from Chilco St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899415
**DIRECTION:** NB/SB
**DATE:** Oct 14 2014 - Oct 14 2014

| Start Time | Mon | Tue 14-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 6 | | | | 6 | | | 6 | |
| **1:00 AM** | | 9 | | | | 9 | | | 9 | |
| **2:00 AM** | | 10 | | | | 10 | | | 10 | |
| **3:00 AM** | | 6 | | | | 6 | | | 6 | |
| **4:00 AM** | | 14 | | | | 14 | | | 14 | |
| **5:00 AM** | | 14 | | | | 14 | | | 14 | |
| **6:00 AM** | | 54 | | | | 54 | | | 54 | |
| **7:00 AM** | | 166 | | | | 166 | | | 166 | |
| **8:00 AM** | | **233** | | | | **233** | | | **233** | |
| **9:00 AM** | | 140 | | | | 140 | | | 140 | |
| **10:00 AM** | | 92 | | | | 92 | | | 92 | |
| **11:00 AM** | | 96 | | | | 96 | | | 96 | |
| **12:00 PM** | | 97 | | | | 97 | | | 97 | |
| **1:00 PM** | | 101 | | | | 101 | | | 101 | |
| **2:00 PM** | | 108 | | | | 108 | | | 108 | |
| **3:00 PM** | | 122 | | | | 122 | | | 122 | |
| **4:00 PM** | | 226 | | | | 226 | | | 226 | |
| **5:00 PM** | | **560** | | | | **560** | | | **560** | |
| **6:00 PM** | | 153 | | | | 153 | | | 153 | |
| **7:00 PM** | | 60 | | | | 60 | | | 60 | |
| **8:00 PM** | | 34 | | | | 34 | | | 34 | |
| **9:00 PM** | | 25 | | | | 25 | | | 25 | |
| **10:00 PM** | | 19 | | | | 19 | | | 19 | |
| **11:00 PM** | | 14 | | | | 14 | | | 14 | |
| **Day Total** | | 2359 | | | | 2359 | | | 2359 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 233 | | | | 233 | | | 233 | |
| PM Peak | | 5:00 PM | | | | 5:00 PM | | | 5:00 PM | |
| Volume | | 560 | | | | 560 | | | 560 | |

*Comments:* none

**LOCATION:** 20. Crane St
**QC JOB #:** 12899416
**SPECIFIC LOCATION:** 100 ft from Oak Grove Ave
**DIRECTION:** EB/WB
**CITY/STATE:** Menlo Park, CA
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 2 | | | | 2 | | | 2 | |
| **1:00 AM** | | 0 | | | | 0 | | | 0 | |
| **2:00 AM** | | 1 | | | | 1 | | | 1 | |
| **3:00 AM** | | 1 | | | | 1 | | | 1 | |
| **4:00 AM** | | 15 | | | | 15 | | | 15 | |
| **5:00 AM** | | 10 | | | | 10 | | | 10 | |
| **6:00 AM** | | 22 | | | | 22 | | | 22 | |
| **7:00 AM** | | 103 | | | | 103 | | | 103 | |
| **8:00 AM** | | 148 | | | | 148 | | | 148 | |
| **9:00 AM** | | 186 | | | | 186 | | | 186 | |
| **10:00 AM** | | 177 | | | | 177 | | | 177 | |
| **11:00 AM** | | **235** | | | | **235** | | | **235** | |
| **12:00 PM** | | **251** | | | | **251** | | | **251** | |
| **1:00 PM** | | 215 | | | | 215 | | | 215 | |
| **2:00 PM** | | 192 | | | | 192 | | | 192 | |
| **3:00 PM** | | 233 | | | | 233 | | | 233 | |
| **4:00 PM** | | 224 | | | | 224 | | | 224 | |
| **5:00 PM** | | 213 | | | | 213 | | | 213 | |
| **6:00 PM** | | 179 | | | | 179 | | | 179 | |
| **7:00 PM** | | 108 | | | | 108 | | | 108 | |
| **8:00 PM** | | 59 | | | | 59 | | | 59 | |
| **9:00 PM** | | 66 | | | | 66 | | | 66 | |
| **10:00 PM** | | 12 | | | | 12 | | | 12 | |
| **11:00 PM** | | 10 | | | | 10 | | | 10 | |
| **Day Total** | | 2662 | | | | 2662 | | | 2662 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 11:00 AM<br>235 | | | | 11:00 AM<br>235 | | | 11:00 AM<br>235 | |
| PM Peak Volume | | 12:00 PM<br>251 | | | | 12:00 PM<br>251 | | | 12:00 PM<br>251 | |

*Comments:* none

**LOCATION:** 21. Crane St
**SPECIFIC LOCATION:** 100 ft from Santa Cruz Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899417
**DIRECTION:** NB/SB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 2 | | | | 2 | | | 2 | |
| **1:00 AM** | | 0 | | | | 0 | | | 0 | |
| **2:00 AM** | | 2 | | | | 2 | | | 2 | |
| **3:00 AM** | | 0 | | | | 0 | | | 0 | |
| **4:00 AM** | | 6 | | | | 6 | | | 6 | |
| **5:00 AM** | | 2 | | | | 2 | | | 2 | |
| **6:00 AM** | | 19 | | | | 19 | | | 19 | |
| **7:00 AM** | | 74 | | | | 74 | | | 74 | |
| **8:00 AM** | | 146 | | | | 146 | | | 146 | |
| **9:00 AM** | | 150 | | | | 150 | | | 150 | |
| **10:00 AM** | | 144 | | | | 144 | | | 144 | |
| **11:00 AM** | | **213** | | | | **213** | | | **213** | |
| **12:00 PM** | | **252** | | | | **252** | | | **252** | |
| **1:00 PM** | | 220 | | | | 220 | | | 220 | |
| **2:00 PM** | | 194 | | | | 194 | | | 194 | |
| **3:00 PM** | | 235 | | | | 235 | | | 235 | |
| **4:00 PM** | | 183 | | | | 183 | | | 183 | |
| **5:00 PM** | | 170 | | | | 170 | | | 170 | |
| **6:00 PM** | | 174 | | | | 174 | | | 174 | |
| **7:00 PM** | | 82 | | | | 82 | | | 82 | |
| **8:00 PM** | | 83 | | | | 83 | | | 83 | |
| **9:00 PM** | | 48 | | | | 48 | | | 48 | |
| **10:00 PM** | | 12 | | | | 12 | | | 12 | |
| **11:00 PM** | | 7 | | | | 7 | | | 7 | |
| **Day Total** | | 2418 | | | | 2418 | | | 2418 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 11:00 AM<br>213 | | | | 11:00 AM<br>213 | | | 11:00 AM<br>213 | |
| PM Peak Volume | | 12:00 PM<br>252 | | | | 12:00 PM<br>252 | | | 12:00 PM<br>252 | |

*Comments:* none

**LOCATION:** 27. Encinal Ave
**SPECIFIC LOCATION:** 100 ft from El Camino Real
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899418
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 14 | | 14 | | | 14 | |
| **1:00 AM** | | | | 15 | | 15 | | | 15 | |
| **2:00 AM** | | | | 10 | | 10 | | | 10 | |
| **3:00 AM** | | | | 5 | | 5 | | | 5 | |
| **4:00 AM** | | | | 6 | | 6 | | | 6 | |
| **5:00 AM** | | | | 32 | | 32 | | | 32 | |
| **6:00 AM** | | | | 84 | | 84 | | | 84 | |
| **7:00 AM** | | | | 441 | | 441 | | | 441 | |
| **8:00 AM** | | | | **552** | | **552** | | | **552** | |
| **9:00 AM** | | | | 391 | | 391 | | | 391 | |
| **10:00 AM** | | | | 275 | | 275 | | | 275 | |
| **11:00 AM** | | | | 308 | | 308 | | | 308 | |
| **12:00 PM** | | | | 350 | | 350 | | | 350 | |
| **1:00 PM** | | | | 387 | | 387 | | | 387 | |
| **2:00 PM** | | | | 367 | | 367 | | | 367 | |
| **3:00 PM** | | | | 445 | | 445 | | | 445 | |
| **4:00 PM** | | | | 495 | | 495 | | | 495 | |
| **5:00 PM** | | | | **530** | | **530** | | | **530** | |
| **6:00 PM** | | | | 342 | | 342 | | | 342 | |
| **7:00 PM** | | | | 208 | | 208 | | | 208 | |
| **8:00 PM** | | | | 136 | | 136 | | | 136 | |
| **9:00 PM** | | | | 109 | | 109 | | | 109 | |
| **10:00 PM** | | | | 70 | | 70 | | | 70 | |
| **11:00 PM** | | | | 25 | | 25 | | | 25 | |
| **Day Total** | | | | 5597 | | 5597 | | | 5597 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 8:00 AM | | 8:00 AM | | | 8:00 AM | |
| Volume | | | | 552 | | 552 | | | 552 | |
| PM Peak | | | | 5:00 PM | | 5:00 PM | | | 5:00 PM | |
| Volume | | | | 530 | | 530 | | | 530 | |

*Comments:* none

**LOCATION:** 28. Encinal Ave
**SPECIFIC LOCATION:** 100 ft from Laurel St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899419
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 11 | | 11 | | | 11 | |
| **1:00 AM** | | | | 11 | | 11 | | | 11 | |
| **2:00 AM** | | | | 9 | | 9 | | | 9 | |
| **3:00 AM** | | | | 5 | | 5 | | | 5 | |
| **4:00 AM** | | | | 8 | | 8 | | | 8 | |
| **5:00 AM** | | | | 26 | | 26 | | | 26 | |
| **6:00 AM** | | | | 76 | | 76 | | | 76 | |
| **7:00 AM** | | | | 318 | | 318 | | | 318 | |
| **8:00 AM** | | | | **557** | | **557** | | | **557** | |
| **9:00 AM** | | | | 311 | | 311 | | | 311 | |
| **10:00 AM** | | | | 271 | | 271 | | | 271 | |
| **11:00 AM** | | | | 268 | | 268 | | | 268 | |
| **12:00 PM** | | | | 279 | | 279 | | | 279 | |
| **1:00 PM** | | | | 417 | | 417 | | | 417 | |
| **2:00 PM** | | | | 331 | | 331 | | | 331 | |
| **3:00 PM** | | | | 415 | | 415 | | | 415 | |
| **4:00 PM** | | | | 387 | | 387 | | | 387 | |
| **5:00 PM** | | | | **434** | | **434** | | | **434** | |
| **6:00 PM** | | | | 316 | | 316 | | | 316 | |
| **7:00 PM** | | | | 176 | | 176 | | | 176 | |
| **8:00 PM** | | | | 133 | | 133 | | | 133 | |
| **9:00 PM** | | | | 102 | | 102 | | | 102 | |
| **10:00 PM** | | | | 65 | | 65 | | | 65 | |
| **11:00 PM** | | | | 23 | | 23 | | | 23 | |
| **Day Total** | | | | 4949 | | 4949 | | | 4949 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 8:00 AM | | 8:00 AM | | | 8:00 AM | |
| Volume | | | | 557 | | 557 | | | 557 | |
| PM Peak | | | | 5:00 PM | | 5:00 PM | | | 5:00 PM | |
| Volume | | | | 434 | | 434 | | | 434 | |

*Comments:* none

**LOCATION:** 29. Glenwood Ave
**SPECIFIC LOCATION:** 100 ft from El Camino Real
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899420
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 17 | | 17 | | | 17 | |
| **1:00 AM** | | | | 11 | | 11 | | | 11 | |
| **2:00 AM** | | | | 5 | | 5 | | | 5 | |
| **3:00 AM** | | | | 5 | | 5 | | | 5 | |
| **4:00 AM** | | | | 9 | | 9 | | | 9 | |
| **5:00 AM** | | | | 54 | | 54 | | | 54 | |
| **6:00 AM** | | | | 127 | | 127 | | | 127 | |
| **7:00 AM** | | | | 445 | | 445 | | | 445 | |
| **8:00 AM** | | | | **470** | | **470** | | | **470** | |
| **9:00 AM** | | | | 423 | | 423 | | | 423 | |
| **10:00 AM** | | | | 337 | | 337 | | | 337 | |
| **11:00 AM** | | | | 352 | | 352 | | | 352 | |
| **12:00 PM** | | | | 356 | | 356 | | | 356 | |
| **1:00 PM** | | | | 371 | | 371 | | | 371 | |
| **2:00 PM** | | | | 479 | | 479 | | | 479 | |
| **3:00 PM** | | | | 496 | | 496 | | | 496 | |
| **4:00 PM** | | | | 467 | | 467 | | | 467 | |
| **5:00 PM** | | | | **522** | | **522** | | | **522** | |
| **6:00 PM** | | | | 389 | | 389 | | | 389 | |
| **7:00 PM** | | | | 240 | | 240 | | | 240 | |
| **8:00 PM** | | | | 148 | | 148 | | | 148 | |
| **9:00 PM** | | | | 136 | | 136 | | | 136 | |
| **10:00 PM** | | | | 69 | | 69 | | | 69 | |
| **11:00 PM** | | | | 51 | | 51 | | | 51 | |
| **Day Total** | | | | 5979 | | 5979 | | | 5979 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 470 | | 8:00 AM 470 | | | 8:00 AM 470 | |
| PM Peak Volume | | | | 5:00 PM 522 | | 5:00 PM 522 | | | 5:00 PM 522 | |

*Comments:* none

**LOCATION:** 31. Haven Avenue
**SPECIFIC LOCATION:** 100 ft from Bayfront Expy/Marsh Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899422
**DIRECTION:** NB/SB
**DATE:** Oct 02 2014 - Oct 02 2014

| Start Time | Mon | Tue | Wed | Thu 02-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 29 | | 29 | | | 29 | |
| **1:00 AM** | | | | 20 | | 20 | | | 20 | |
| **2:00 AM** | | | | 13 | | 13 | | | 13 | |
| **3:00 AM** | | | | 25 | | 25 | | | 25 | |
| **4:00 AM** | | | | 32 | | 32 | | | 32 | |
| **5:00 AM** | | | | 98 | | 98 | | | 98 | |
| **6:00 AM** | | | | 294 | | 294 | | | 294 | |
| **7:00 AM** | | | | 543 | | 543 | | | 543 | |
| **8:00 AM** | | | | **713** | | **713** | | | **713** | |
| **9:00 AM** | | | | 595 | | 595 | | | 595 | |
| **10:00 AM** | | | | 363 | | 363 | | | 363 | |
| **11:00 AM** | | | | 421 | | 421 | | | 421 | |
| **12:00 PM** | | | | 421 | | 421 | | | 421 | |
| **1:00 PM** | | | | 365 | | 365 | | | 365 | |
| **2:00 PM** | | | | 441 | | 441 | | | 441 | |
| **3:00 PM** | | | | 495 | | 495 | | | 495 | |
| **4:00 PM** | | | | 666 | | 666 | | | 666 | |
| **5:00 PM** | | | | **704** | | **704** | | | **704** | |
| **6:00 PM** | | | | 518 | | 518 | | | 518 | |
| **7:00 PM** | | | | 274 | | 274 | | | 274 | |
| **8:00 PM** | | | | 151 | | 151 | | | 151 | |
| **9:00 PM** | | | | 109 | | 109 | | | 109 | |
| **10:00 PM** | | | | 65 | | 65 | | | 65 | |
| **11:00 PM** | | | | 42 | | 42 | | | 42 | |
| **Day Total** | | | | 7397 | | 7397 | | | 7397 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 713 | | 8:00 AM 713 | | | 8:00 AM 713 | |
| PM Peak Volume | | | | 5:00 PM 704 | | 5:00 PM 704 | | | 5:00 PM 704 | |

*Comments:* none

**LOCATION:** 35. Junipero Serra Blvd
**SPECIFIC LOCATION:** 100 ft from City Limit
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899423
**DIRECTION:** NB/SB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 39 | | 39 | | | 39 | |
| **1:00 AM** | | | | 21 | | 21 | | | 21 | |
| **2:00 AM** | | | | 13 | | 13 | | | 13 | |
| **3:00 AM** | | | | 34 | | 34 | | | 34 | |
| **4:00 AM** | | | | 143 | | 143 | | | 143 | |
| **5:00 AM** | | | | 480 | | 480 | | | 480 | |
| **6:00 AM** | | | | 1094 | | 1094 | | | 1094 | |
| **7:00 AM** | | | | **1503** | | **1503** | | | **1503** | |
| **8:00 AM** | | | | 1262 | | 1262 | | | 1262 | |
| **9:00 AM** | | | | 925 | | 925 | | | 925 | |
| **10:00 AM** | | | | 872 | | 872 | | | 872 | |
| **11:00 AM** | | | | 841 | | 841 | | | 841 | |
| **12:00 PM** | | | | 878 | | 878 | | | 878 | |
| **1:00 PM** | | | | 951 | | 951 | | | 951 | |
| **2:00 PM** | | | | 1114 | | 1114 | | | 1114 | |
| **3:00 PM** | | | | 1295 | | 1295 | | | 1295 | |
| **4:00 PM** | | | | **1394** | | **1394** | | | **1394** | |
| **5:00 PM** | | | | 1109 | | 1109 | | | 1109 | |
| **6:00 PM** | | | | 644 | | 644 | | | 644 | |
| **7:00 PM** | | | | 488 | | 488 | | | 488 | |
| **8:00 PM** | | | | 399 | | 399 | | | 399 | |
| **9:00 PM** | | | | 201 | | 201 | | | 201 | |
| **10:00 PM** | | | | 180 | | 180 | | | 180 | |
| **11:00 PM** | | | | 130 | | 130 | | | 130 | |
| **Day Total** | | | | 16010 | | 16010 | | | 16010 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 7:00 AM | | 7:00 AM | | | 7:00 AM | |
| Volume | | | | 1503 | | 1503 | | | 1503 | |
| PM Peak | | | | 4:00 PM | | 4:00 PM | | | 4:00 PM | |
| Volume | | | | 1394 | | 1394 | | | 1394 | |

*Comments:* none

**LOCATION:** 36. Laurel St
**SPECIFIC LOCATION:** 100 ft from Oak Grove Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899424
**DIRECTION:** NB/SB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | | | 4 | | 4 | | | 4 | |
| 1:00 AM | | | | 3 | | 3 | | | 3 | |
| 2:00 AM | | | | 2 | | 2 | | | 2 | |
| 3:00 AM | | | | 1 | | 1 | | | 1 | |
| 4:00 AM | | | | 7 | | 7 | | | 7 | |
| 5:00 AM | | | | 26 | | 26 | | | 26 | |
| 6:00 AM | | | | 38 | | 38 | | | 38 | |
| 7:00 AM | | | | 346 | | 346 | | | 346 | |
| 8:00 AM | | | | **457** | | **457** | | | **457** | |
| 9:00 AM | | | | 333 | | 333 | | | 333 | |
| 10:00 AM | | | | 189 | | 189 | | | 189 | |
| 11:00 AM | | | | 205 | | 205 | | | 205 | |
| 12:00 PM | | | | 200 | | 200 | | | 200 | |
| 1:00 PM | | | | 262 | | 262 | | | 262 | |
| 2:00 PM | | | | 252 | | 252 | | | 252 | |
| 3:00 PM | | | | 390 | | 390 | | | 390 | |
| 4:00 PM | | | | 377 | | 377 | | | 377 | |
| 5:00 PM | | | | **474** | | **474** | | | **474** | |
| 6:00 PM | | | | 249 | | 249 | | | 249 | |
| 7:00 PM | | | | 110 | | 110 | | | 110 | |
| 8:00 PM | | | | 49 | | 49 | | | 49 | |
| 9:00 PM | | | | 50 | | 50 | | | 50 | |
| 10:00 PM | | | | 23 | | 23 | | | 23 | |
| 11:00 PM | | | | 8 | | 8 | | | 8 | |
| **Day Total** | | | | 4055 | | 4055 | | | 4055 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 457 | | 8:00 AM 457 | | | 8:00 AM 457 | |
| PM Peak Volume | | | | 5:00 PM 474 | | 5:00 PM 474 | | | 5:00 PM 474 | |

*Comments:* none

**LOCATION:** 37. Laurel St
**QC JOB #:** 12899425
**SPECIFIC LOCATION:** 100 ft from Ravenswood Ave
**DIRECTION:** NB/SB
**CITY/STATE:** Menlo Park, CA
**DATE:** Sep 24 2014 - Sep 24 2014

| Start Time | Mon | Tue | Wed 24-Sep-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 10 | | | 10 | | | 10 | |
| **1:00 AM** | | | 2 | | | 2 | | | 2 | |
| **2:00 AM** | | | 2 | | | 2 | | | 2 | |
| **3:00 AM** | | | 0 | | | 0 | | | 0 | |
| **4:00 AM** | | | 8 | | | 8 | | | 8 | |
| **5:00 AM** | | | 27 | | | 27 | | | 27 | |
| **6:00 AM** | | | 76 | | | 76 | | | 76 | |
| **7:00 AM** | | | 327 | | | 327 | | | 327 | |
| **8:00 AM** | | | **504** | | | **504** | | | **504** | |
| **9:00 AM** | | | 303 | | | 303 | | | 303 | |
| **10:00 AM** | | | 197 | | | 197 | | | 197 | |
| **11:00 AM** | | | 208 | | | 208 | | | 208 | |
| **12:00 PM** | | | 230 | | | 230 | | | 230 | |
| **1:00 PM** | | | 311 | | | 311 | | | 311 | |
| **2:00 PM** | | | 282 | | | 282 | | | 282 | |
| **3:00 PM** | | | 386 | | | 386 | | | 386 | |
| **4:00 PM** | | | 414 | | | 414 | | | 414 | |
| **5:00 PM** | | | **507** | | | **507** | | | **507** | |
| **6:00 PM** | | | 290 | | | 290 | | | 290 | |
| **7:00 PM** | | | 156 | | | 156 | | | 156 | |
| **8:00 PM** | | | 69 | | | 69 | | | 69 | |
| **9:00 PM** | | | 56 | | | 56 | | | 56 | |
| **10:00 PM** | | | 32 | | | 32 | | | 32 | |
| **11:00 PM** | | | 11 | | | 11 | | | 11 | |
| **Day Total** | | | 4408 | | | 4408 | | | 4408 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak | | | 8:00 AM | | | 8:00 AM | | | 8:00 AM | |
| Volume | | | 504 | | | 504 | | | 504 | |
| PM Peak | | | 5:00 PM | | | 5:00 PM | | | 5:00 PM | |
| Volume | | | 507 | | | 507 | | | 507 | |

*Comments:* none

**LOCATION:** 38. Laurel St
**SPECIFIC LOCATION:** 100 ft from Willow Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899426
**DIRECTION:** NB/SB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 5 | | 5 | | | 5 | |
| **1:00 AM** | | | | 4 | | 4 | | | 4 | |
| **2:00 AM** | | | | 3 | | 3 | | | 3 | |
| **3:00 AM** | | | | 4 | | 4 | | | 4 | |
| **4:00 AM** | | | | 5 | | 5 | | | 5 | |
| **5:00 AM** | | | | 45 | | 45 | | | 45 | |
| **6:00 AM** | | | | 61 | | 61 | | | 61 | |
| **7:00 AM** | | | | 280 | | 280 | | | 280 | |
| **8:00 AM** | | | | **420** | | **420** | | | **420** | |
| **9:00 AM** | | | | 280 | | 280 | | | 280 | |
| **10:00 AM** | | | | 220 | | 220 | | | 220 | |
| **11:00 AM** | | | | 260 | | 260 | | | 260 | |
| **12:00 PM** | | | | 263 | | 263 | | | 263 | |
| **1:00 PM** | | | | 292 | | 292 | | | 292 | |
| **2:00 PM** | | | | 304 | | 304 | | | 304 | |
| **3:00 PM** | | | | 393 | | 393 | | | 393 | |
| **4:00 PM** | | | | 462 | | 462 | | | 462 | |
| **5:00 PM** | | | | **547** | | **547** | | | **547** | |
| **6:00 PM** | | | | 314 | | 314 | | | 314 | |
| **7:00 PM** | | | | 151 | | 151 | | | 151 | |
| **8:00 PM** | | | | 81 | | 81 | | | 81 | |
| **9:00 PM** | | | | 41 | | 41 | | | 41 | |
| **10:00 PM** | | | | 26 | | 26 | | | 26 | |
| **11:00 PM** | | | | 10 | | 10 | | | 10 | |
| **Day Total** | | | | 4471 | | 4471 | | | 4471 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 420 | | 8:00 AM 420 | | | 8:00 AM 420 | |
| PM Peak Volume | | | | 5:00 PM 547 | | 5:00 PM 547 | | | 5:00 PM 547 | |

*Comments:* none

**LOCATION:** 39. Marsh Rd
**SPECIFIC LOCATION:** 100 ft from City Limit
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899427
**DIRECTION:** EB/WB
**DATE:** Oct 02 2014 - Oct 02 2014

| Start Time | Mon | Tue | Wed | Thu 02-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 104 | | 104 | | | 104 | |
| **1:00 AM** | | | | 52 | | 52 | | | 52 | |
| **2:00 AM** | | | | 47 | | 47 | | | 47 | |
| **3:00 AM** | | | | 48 | | 48 | | | 48 | |
| **4:00 AM** | | | | 75 | | 75 | | | 75 | |
| **5:00 AM** | | | | 269 | | 269 | | | 269 | |
| **6:00 AM** | | | | 704 | | 704 | | | 704 | |
| **7:00 AM** | | | | 1443 | | 1443 | | | 1443 | |
| **8:00 AM** | | | | **1577** | | **1577** | | | **1577** | |
| **9:00 AM** | | | | 1467 | | 1467 | | | 1467 | |
| **10:00 AM** | | | | 1293 | | 1293 | | | 1293 | |
| **11:00 AM** | | | | 1449 | | 1449 | | | 1449 | |
| **12:00 PM** | | | | 1554 | | 1554 | | | 1554 | |
| **1:00 PM** | | | | 1533 | | 1533 | | | 1533 | |
| **2:00 PM** | | | | 1470 | | 1470 | | | 1470 | |
| **3:00 PM** | | | | **1693** | | **1693** | | | **1693** | |
| **4:00 PM** | | | | 1607 | | 1607 | | | 1607 | |
| **5:00 PM** | | | | 1656 | | 1656 | | | 1656 | |
| **6:00 PM** | | | | 1523 | | 1523 | | | 1523 | |
| **7:00 PM** | | | | 1096 | | 1096 | | | 1096 | |
| **8:00 PM** | | | | 840 | | 840 | | | 840 | |
| **9:00 PM** | | | | 646 | | 646 | | | 646 | |
| **10:00 PM** | | | | 464 | | 464 | | | 464 | |
| **11:00 PM** | | | | 235 | | 235 | | | 235 | |
| **Day Total** | | | | 22845 | | 22845 | | | 22845 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 1577 | | 8:00 AM 1577 | | | 8:00 AM 1577 | |
| PM Peak Volume | | | | 3:00 PM 1693 | | 3:00 PM 1693 | | | 3:00 PM 1693 | |

*Comments:* none

**LOCATION:** 40. Marsh Rd
**SPECIFIC LOCATION:** 100 ft from Bay Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899428
**DIRECTION:** EB/WB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue<br>21-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 102 | | | | 102 | | | 102 | |
| **1:00 AM** | | 61 | | | | 61 | | | 61 | |
| **2:00 AM** | | 32 | | | | 32 | | | 32 | |
| **3:00 AM** | | 38 | | | | 38 | | | 38 | |
| **4:00 AM** | | 100 | | | | 100 | | | 100 | |
| **5:00 AM** | | 303 | | | | 303 | | | 303 | |
| **6:00 AM** | | 798 | | | | 798 | | | 798 | |
| **7:00 AM** | | 1885 | | | | 1885 | | | 1885 | |
| **8:00 AM** | | **2150** | | | | **2150** | | | **2150** | |
| **9:00 AM** | | 1652 | | | | 1652 | | | 1652 | |
| **10:00 AM** | | 1448 | | | | 1448 | | | 1448 | |
| **11:00 AM** | | 1522 | | | | 1522 | | | 1522 | |
| **12:00 PM** | | 1575 | | | | 1575 | | | 1575 | |
| **1:00 PM** | | 1600 | | | | 1600 | | | 1600 | |
| **2:00 PM** | | 1690 | | | | 1690 | | | 1690 | |
| **3:00 PM** | | **2024** | | | | **2024** | | | **2024** | |
| **4:00 PM** | | 1807 | | | | 1807 | | | 1807 | |
| **5:00 PM** | | 1703 | | | | 1703 | | | 1703 | |
| **6:00 PM** | | 1763 | | | | 1763 | | | 1763 | |
| **7:00 PM** | | 1274 | | | | 1274 | | | 1274 | |
| **8:00 PM** | | 917 | | | | 917 | | | 917 | |
| **9:00 PM** | | 740 | | | | 740 | | | 740 | |
| **10:00 PM** | | 400 | | | | 400 | | | 400 | |
| **11:00 PM** | | 244 | | | | 244 | | | 244 | |
| **Day Total** | | 25828 | | | | 25828 | | | 25828 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>2150 | | | | 8:00 AM<br>2150 | | | 8:00 AM<br>2150 | |
| PM Peak Volume | | 3:00 PM<br>2024 | | | | 3:00 PM<br>2024 | | | 3:00 PM<br>2024 | |

*Comments:* none

**LOCATION:** 41. Marsh Rd
**SPECIFIC LOCATION:** 100 ft from Bohannon Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899429
**DIRECTION:** NB/SB
**DATE:** Oct 14 2014 - Oct 14 2014

| Start Time | Mon | Tue<br>14-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 166 | | | | 166 | | | 166 | |
| **1:00 AM** | | 86 | | | | 86 | | | 86 | |
| **2:00 AM** | | 72 | | | | 72 | | | 72 | |
| **3:00 AM** | | 95 | | | | 95 | | | 95 | |
| **4:00 AM** | | 191 | | | | 191 | | | 191 | |
| **5:00 AM** | | 587 | | | | 587 | | | 587 | |
| **6:00 AM** | | 1287 | | | | 1287 | | | 1287 | |
| **7:00 AM** | | **2475** | | | | **2475** | | | **2475** | |
| **8:00 AM** | | 2432 | | | | 2432 | | | 2432 | |
| **9:00 AM** | | 2174 | | | | 2174 | | | 2174 | |
| **10:00 AM** | | 1763 | | | | 1763 | | | 1763 | |
| **11:00 AM** | | 1782 | | | | 1782 | | | 1782 | |
| **12:00 PM** | | 1843 | | | | 1843 | | | 1843 | |
| **1:00 PM** | | 1936 | | | | 1936 | | | 1936 | |
| **2:00 PM** | | 2049 | | | | 2049 | | | 2049 | |
| **3:00 PM** | | **2361** | | | | **2361** | | | **2361** | |
| **4:00 PM** | | 2192 | | | | 2192 | | | 2192 | |
| **5:00 PM** | | 1963 | | | | 1963 | | | 1963 | |
| **6:00 PM** | | 1988 | | | | 1988 | | | 1988 | |
| **7:00 PM** | | 1690 | | | | 1690 | | | 1690 | |
| **8:00 PM** | | 1206 | | | | 1206 | | | 1206 | |
| **9:00 PM** | | 1059 | | | | 1059 | | | 1059 | |
| **10:00 PM** | | 612 | | | | 612 | | | 612 | |
| **11:00 PM** | | 399 | | | | 399 | | | 399 | |
| **Day Total** | | 32408 | | | | 32408 | | | 32408 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 7:00 AM | | | | 7:00 AM | | | 7:00 AM | |
| Volume | | 2475 | | | | 2475 | | | 2475 | |
| PM Peak | | 3:00 PM | | | | 3:00 PM | | | 3:00 PM | |
| Volume | | 2361 | | | | 2361 | | | 2361 | |

*Comments:* none

**LOCATION:** 44. Menlo Ave
**SPECIFIC LOCATION:** 100 ft from Crane St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899431
**DIRECTION:** EB/WB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue (23-Sep-14) | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 12 | | | | 12 | | | 12 | |
| **1:00 AM** | | 8 | | | | 8 | | | 8 | |
| **2:00 AM** | | 9 | | | | 9 | | | 9 | |
| **3:00 AM** | | 9 | | | | 9 | | | 9 | |
| **4:00 AM** | | 19 | | | | 19 | | | 19 | |
| **5:00 AM** | | 72 | | | | 72 | | | 72 | |
| **6:00 AM** | | 148 | | | | 148 | | | 148 | |
| **7:00 AM** | | 443 | | | | 443 | | | 443 | |
| **8:00 AM** | | **695** | | | | **695** | | | **695** | |
| **9:00 AM** | | 623 | | | | 623 | | | 623 | |
| **10:00 AM** | | 460 | | | | 460 | | | 460 | |
| **11:00 AM** | | 510 | | | | 510 | | | 510 | |
| **12:00 PM** | | 523 | | | | 523 | | | 523 | |
| **1:00 PM** | | 538 | | | | 538 | | | 538 | |
| **2:00 PM** | | 575 | | | | 575 | | | 575 | |
| **3:00 PM** | | 736 | | | | 736 | | | 736 | |
| **4:00 PM** | | 707 | | | | 707 | | | 707 | |
| **5:00 PM** | | **784** | | | | **784** | | | **784** | |
| **6:00 PM** | | 702 | | | | 702 | | | 702 | |
| **7:00 PM** | | 515 | | | | 515 | | | 515 | |
| **8:00 PM** | | 311 | | | | 311 | | | 311 | |
| **9:00 PM** | | 152 | | | | 152 | | | 152 | |
| **10:00 PM** | | 68 | | | | 68 | | | 68 | |
| **11:00 PM** | | 28 | | | | 28 | | | 28 | |
| **Day Total** | | 8647 | | | | 8647 | | | 8647 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>695 | | | | 8:00 AM<br>695 | | | 8:00 AM<br>695 | |
| PM Peak Volume | | 5:00 PM<br>784 | | | | 5:00 PM<br>784 | | | 5:00 PM<br>784 | |

*Comments:* none

**LOCATION:** 45. Middle Ave
**SPECIFIC LOCATION:** 100 ft from Olive St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899432
**DIRECTION:** EB/WB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 15 | | | | 15 | | | 15 | |
| **1:00 AM** | | 4 | | | | 4 | | | 4 | |
| **2:00 AM** | | 0 | | | | 0 | | | 0 | |
| **3:00 AM** | | 1 | | | | 1 | | | 1 | |
| **4:00 AM** | | 5 | | | | 5 | | | 5 | |
| **5:00 AM** | | 34 | | | | 34 | | | 34 | |
| **6:00 AM** | | 109 | | | | 109 | | | 109 | |
| **7:00 AM** | | 477 | | | | 477 | | | 477 | |
| **8:00 AM** | | **707** | | | | **707** | | | **707** | |
| **9:00 AM** | | 514 | | | | 514 | | | 514 | |
| **10:00 AM** | | 423 | | | | 423 | | | 423 | |
| **11:00 AM** | | 426 | | | | 426 | | | 426 | |
| **12:00 PM** | | 382 | | | | 382 | | | 382 | |
| **1:00 PM** | | 431 | | | | 431 | | | 431 | |
| **2:00 PM** | | 507 | | | | 507 | | | 507 | |
| **3:00 PM** | | **697** | | | | **697** | | | **697** | |
| **4:00 PM** | | 552 | | | | 552 | | | 552 | |
| **5:00 PM** | | 657 | | | | 657 | | | 657 | |
| **6:00 PM** | | 547 | | | | 547 | | | 547 | |
| **7:00 PM** | | 333 | | | | 333 | | | 333 | |
| **8:00 PM** | | 222 | | | | 222 | | | 222 | |
| **9:00 PM** | | 119 | | | | 119 | | | 119 | |
| **10:00 PM** | | 65 | | | | 65 | | | 65 | |
| **11:00 PM** | | 22 | | | | 22 | | | 22 | |
| **Day Total** | | 7249 | | | | 7249 | | | 7249 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>707 | | | | 8:00 AM<br>707 | | | 8:00 AM<br>707 | |
| PM Peak Volume | | 3:00 PM<br>697 | | | | 3:00 PM<br>697 | | | 3:00 PM<br>697 | |

*Comments:* none

**LOCATION:** 46. Middle Ave
**SPECIFIC LOCATION:** 100 ft from University Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899433
**DIRECTION:** EB/WB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue 21-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 17 | | | | 17 | | | 17 | |
| **1:00 AM** | | 15 | | | | 15 | | | 15 | |
| **2:00 AM** | | 1 | | | | 1 | | | 1 | |
| **3:00 AM** | | 5 | | | | 5 | | | 5 | |
| **4:00 AM** | | 16 | | | | 16 | | | 16 | |
| **5:00 AM** | | 39 | | | | 39 | | | 39 | |
| **6:00 AM** | | 150 | | | | 150 | | | 150 | |
| **7:00 AM** | | 413 | | | | 413 | | | 413 | |
| **8:00 AM** | | **813** | | | | **813** | | | **813** | |
| **9:00 AM** | | 577 | | | | 577 | | | 577 | |
| **10:00 AM** | | 537 | | | | 537 | | | 537 | |
| **11:00 AM** | | 438 | | | | 438 | | | 438 | |
| **12:00 PM** | | 584 | | | | 584 | | | 584 | |
| **1:00 PM** | | 629 | | | | 629 | | | 629 | |
| **2:00 PM** | | 590 | | | | 590 | | | 590 | |
| **3:00 PM** | | 709 | | | | 709 | | | 709 | |
| **4:00 PM** | | **763** | | | | **763** | | | **763** | |
| **5:00 PM** | | 745 | | | | 745 | | | 745 | |
| **6:00 PM** | | 686 | | | | 686 | | | 686 | |
| **7:00 PM** | | 506 | | | | 506 | | | 506 | |
| **8:00 PM** | | 300 | | | | 300 | | | 300 | |
| **9:00 PM** | | 213 | | | | 213 | | | 213 | |
| **10:00 PM** | | 112 | | | | 112 | | | 112 | |
| **11:00 PM** | | 58 | | | | 58 | | | 58 | |
| **Day Total** | | 8916 | | | | 8916 | | | 8916 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 813 | | | | 813 | | | 813 | |
| PM Peak | | 4:00 PM | | | | 4:00 PM | | | 4:00 PM | |
| Volume | | 763 | | | | 763 | | | 763 | |

*Comments:* none

**LOCATION:** 47. Middlefield Rd
**SPECIFIC LOCATION:** 100 ft from Ravenswood Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899434
**DIRECTION:** NB/SB
**DATE:** Sep 30 2014 - Sep 30 2014

| Start Time | Mon | Tue 30-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 38 | | | | 38 | | | 38 | |
| **1:00 AM** | | 14 | | | | 14 | | | 14 | |
| **2:00 AM** | | 17 | | | | 17 | | | 17 | |
| **3:00 AM** | | 15 | | | | 15 | | | 15 | |
| **4:00 AM** | | 31 | | | | 31 | | | 31 | |
| **5:00 AM** | | 118 | | | | 118 | | | 118 | |
| **6:00 AM** | | 313 | | | | 313 | | | 313 | |
| **7:00 AM** | | 840 | | | | 840 | | | 840 | |
| **8:00 AM** | | **1038** | | | | **1038** | | | **1038** | |
| **9:00 AM** | | 832 | | | | 832 | | | 832 | |
| **10:00 AM** | | 781 | | | | 781 | | | 781 | |
| **11:00 AM** | | 895 | | | | 895 | | | 895 | |
| **12:00 PM** | | 1007 | | | | 1007 | | | 1007 | |
| **1:00 PM** | | 956 | | | | 956 | | | 956 | |
| **2:00 PM** | | 985 | | | | 985 | | | 985 | |
| **3:00 PM** | | 1204 | | | | 1204 | | | 1204 | |
| **4:00 PM** | | 1337 | | | | 1337 | | | 1337 | |
| **5:00 PM** | | **1498** | | | | **1498** | | | **1498** | |
| **6:00 PM** | | 1086 | | | | 1086 | | | 1086 | |
| **7:00 PM** | | 699 | | | | 699 | | | 699 | |
| **8:00 PM** | | 421 | | | | 421 | | | 421 | |
| **9:00 PM** | | 310 | | | | 310 | | | 310 | |
| **10:00 PM** | | 206 | | | | 206 | | | 206 | |
| **11:00 PM** | | 116 | | | | 116 | | | 116 | |
| **Day Total** | | 14757 | | | | 14757 | | | 14757 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM 1038 | | | | 8:00 AM 1038 | | | 8:00 AM 1038 | |
| PM Peak Volume | | 5:00 PM 1498 | | | | 5:00 PM 1498 | | | 5:00 PM 1498 | |

*Comments:* none

**LOCATION:** 48. Middlefield Rd
**SPECIFIC LOCATION:** 100 ft from Willow Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899435
**DIRECTION:** NB/SB
**DATE:** Sep 30 2014 - Sep 30 2014

| Start Time | Mon | Tue (30-Sep-14) | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 71 | | | | 71 | | | 71 | |
| **1:00 AM** | | 26 | | | | 26 | | | 26 | |
| **2:00 AM** | | 31 | | | | 31 | | | 31 | |
| **3:00 AM** | | 37 | | | | 37 | | | 37 | |
| **4:00 AM** | | 94 | | | | 94 | | | 94 | |
| **5:00 AM** | | 247 | | | | 247 | | | 247 | |
| **6:00 AM** | | 631 | | | | 631 | | | 631 | |
| **7:00 AM** | | 1206 | | | | 1206 | | | 1206 | |
| **8:00 AM** | | **1491** | | | | **1491** | | | **1491** | |
| **9:00 AM** | | 1204 | | | | 1204 | | | 1204 | |
| **10:00 AM** | | 1068 | | | | 1068 | | | 1068 | |
| **11:00 AM** | | 1157 | | | | 1157 | | | 1157 | |
| **12:00 PM** | | 1248 | | | | 1248 | | | 1248 | |
| **1:00 PM** | | 1249 | | | | 1249 | | | 1249 | |
| **2:00 PM** | | 1278 | | | | 1278 | | | 1278 | |
| **3:00 PM** | | 1431 | | | | 1431 | | | 1431 | |
| **4:00 PM** | | 1466 | | | | 1466 | | | 1466 | |
| **5:00 PM** | | **1543** | | | | **1543** | | | **1543** | |
| **6:00 PM** | | 1415 | | | | 1415 | | | 1415 | |
| **7:00 PM** | | 1022 | | | | 1022 | | | 1022 | |
| **8:00 PM** | | 683 | | | | 683 | | | 683 | |
| **9:00 PM** | | 524 | | | | 524 | | | 524 | |
| **10:00 PM** | | 371 | | | | 371 | | | 371 | |
| **11:00 PM** | | 191 | | | | 191 | | | 191 | |
| **Day Total** | | 19684 | | | | 19684 | | | 19684 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 1491 | | | | 1491 | | | 1491 | |
| PM Peak | | 5:00 PM | | | | 5:00 PM | | | 5:00 PM | |
| Volume | | 1543 | | | | 1543 | | | 1543 | |

*Comments:* none

**LOCATION:** 49. Middlefield Rd
**SPECIFIC LOCATION:** 100 ft from City Limits
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899436
**DIRECTION:** NB/SB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue (21-Oct-14) | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 73 | | | | 73 | | | 73 | |
| **1:00 AM** | | 47 | | | | 47 | | | 47 | |
| **2:00 AM** | | 18 | | | | 18 | | | 18 | |
| **3:00 AM** | | 17 | | | | 17 | | | 17 | |
| **4:00 AM** | | 57 | | | | 57 | | | 57 | |
| **5:00 AM** | | 214 | | | | 214 | | | 214 | |
| **6:00 AM** | | 580 | | | | 580 | | | 580 | |
| **7:00 AM** | | 1047 | | | | 1047 | | | 1047 | |
| **8:00 AM** | | **1382** | | | | **1382** | | | **1382** | |
| **9:00 AM** | | 1204 | | | | 1204 | | | 1204 | |
| **10:00 AM** | | 1072 | | | | 1072 | | | 1072 | |
| **11:00 AM** | | 1088 | | | | 1088 | | | 1088 | |
| **12:00 PM** | | 1182 | | | | 1182 | | | 1182 | |
| **1:00 PM** | | 1123 | | | | 1123 | | | 1123 | |
| **2:00 PM** | | 1303 | | | | 1303 | | | 1303 | |
| **3:00 PM** | | 1208 | | | | 1208 | | | 1208 | |
| **4:00 PM** | | **1453** | | | | **1453** | | | **1453** | |
| **5:00 PM** | | 1163 | | | | 1163 | | | 1163 | |
| **6:00 PM** | | 1073 | | | | 1073 | | | 1073 | |
| **7:00 PM** | | 1076 | | | | 1076 | | | 1076 | |
| **8:00 PM** | | 767 | | | | 767 | | | 767 | |
| **9:00 PM** | | 655 | | | | 655 | | | 655 | |
| **10:00 PM** | | 386 | | | | 386 | | | 386 | |
| **11:00 PM** | | 228 | | | | 228 | | | 228 | |
| **Day Total** | | 18416 | | | | 18416 | | | 18416 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 1382 | | | | 1382 | | | 1382 | |
| PM Peak | | 4:00 PM | | | | 4:00 PM | | | 4:00 PM | |
| Volume | | 1453 | | | | 1453 | | | 1453 | |

*Comments:* none

**LOCATION:** 50. Newbridge St
**SPECIFIC LOCATION:** 100 ft from Willow Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899437
**DIRECTION:** NB/SB
**DATE:** Oct 08 2014 - Oct 08 2014

| Start Time | Mon | Tue | Wed 08-Oct-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 51 | | | 51 | | | 51 | |
| **1:00 AM** | | | 30 | | | 30 | | | 30 | |
| **2:00 AM** | | | 33 | | | 33 | | | 33 | |
| **3:00 AM** | | | 21 | | | 21 | | | 21 | |
| **4:00 AM** | | | 37 | | | 37 | | | 37 | |
| **5:00 AM** | | | 95 | | | 95 | | | 95 | |
| **6:00 AM** | | | 270 | | | 270 | | | 270 | |
| **7:00 AM** | | | 431 | | | 431 | | | 431 | |
| **8:00 AM** | | | **488** | | | **488** | | | **488** | |
| **9:00 AM** | | | 295 | | | 295 | | | 295 | |
| **10:00 AM** | | | 278 | | | 278 | | | 278 | |
| **11:00 AM** | | | 297 | | | 297 | | | 297 | |
| **12:00 PM** | | | 336 | | | 336 | | | 336 | |
| **1:00 PM** | | | 426 | | | 426 | | | 426 | |
| **2:00 PM** | | | 367 | | | 367 | | | 367 | |
| **3:00 PM** | | | 509 | | | 509 | | | 509 | |
| **4:00 PM** | | | 541 | | | 541 | | | 541 | |
| **5:00 PM** | | | 582 | | | 582 | | | 582 | |
| **6:00 PM** | | | **600** | | | **600** | | | **600** | |
| **7:00 PM** | | | 492 | | | 492 | | | 492 | |
| **8:00 PM** | | | 353 | | | 353 | | | 353 | |
| **9:00 PM** | | | 252 | | | 252 | | | 252 | |
| **10:00 PM** | | | 188 | | | 188 | | | 188 | |
| **11:00 PM** | | | 93 | | | 93 | | | 93 | |
| **Day Total** | | | 7065 | | | 7065 | | | 7065 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak Volume | | | 8:00 AM<br>488 | | | 8:00 AM<br>488 | | | 8:00 AM<br>488 | |
| PM Peak Volume | | | 6:00 PM<br>600 | | | 6:00 PM<br>600 | | | 6:00 PM<br>600 | |

*Comments:* none

**LOCATION:** 51. Newbridge St
**SPECIFIC LOCATION:** 100 ft from Willow Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899438
**DIRECTION:** NB/SB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue (21-Oct-14) | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 47 | | | | 47 | | | 47 | |
| **1:00 AM** | | 41 | | | | 41 | | | 41 | |
| **2:00 AM** | | 29 | | | | 29 | | | 29 | |
| **3:00 AM** | | 24 | | | | 24 | | | 24 | |
| **4:00 AM** | | 34 | | | | 34 | | | 34 | |
| **5:00 AM** | | 108 | | | | 108 | | | 108 | |
| **6:00 AM** | | 247 | | | | 247 | | | 247 | |
| **7:00 AM** | | 525 | | | | 525 | | | 525 | |
| **8:00 AM** | | **555** | | | | **555** | | | **555** | |
| **9:00 AM** | | 408 | | | | 408 | | | 408 | |
| **10:00 AM** | | 318 | | | | 318 | | | 318 | |
| **11:00 AM** | | 384 | | | | 384 | | | 384 | |
| **12:00 PM** | | 413 | | | | 413 | | | 413 | |
| **1:00 PM** | | 422 | | | | 422 | | | 422 | |
| **2:00 PM** | | 555 | | | | 555 | | | 555 | |
| **3:00 PM** | | 667 | | | | 667 | | | 667 | |
| **4:00 PM** | | 720 | | | | 720 | | | 720 | |
| **5:00 PM** | | 733 | | | | 733 | | | 733 | |
| **6:00 PM** | | **741** | | | | **741** | | | **741** | |
| **7:00 PM** | | 608 | | | | 608 | | | 608 | |
| **8:00 PM** | | 418 | | | | 418 | | | 418 | |
| **9:00 PM** | | 352 | | | | 352 | | | 352 | |
| **10:00 PM** | | 181 | | | | 181 | | | 181 | |
| **11:00 PM** | | 96 | | | | 96 | | | 96 | |
| **Day Total** | | 8626 | | | | 8626 | | | 8626 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>555 | | | | 8:00 AM<br>555 | | | 8:00 AM<br>555 | |
| PM Peak Volume | | 6:00 PM<br>741 | | | | 6:00 PM<br>741 | | | 6:00 PM<br>741 | |

*Comments:* none

**LOCATION:** 52. Oak Grove Ave
**SPECIFIC LOCATION:** 100 ft from University Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899439
**DIRECTION:** EB/WB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 10 | | | | 10 | | | 10 | |
| **1:00 AM** | | 4 | | | | 4 | | | 4 | |
| **2:00 AM** | | 2 | | | | 2 | | | 2 | |
| **3:00 AM** | | 9 | | | | 9 | | | 9 | |
| **4:00 AM** | | 10 | | | | 10 | | | 10 | |
| **5:00 AM** | | 24 | | | | 24 | | | 24 | |
| **6:00 AM** | | 88 | | | | 88 | | | 88 | |
| **7:00 AM** | | 422 | | | | 422 | | | 422 | |
| **8:00 AM** | | **493** | | | | **493** | | | **493** | |
| **9:00 AM** | | 432 | | | | 432 | | | 432 | |
| **10:00 AM** | | 412 | | | | 412 | | | 412 | |
| **11:00 AM** | | 400 | | | | 400 | | | 400 | |
| **12:00 PM** | | 442 | | | | 442 | | | 442 | |
| **1:00 PM** | | 417 | | | | 417 | | | 417 | |
| **2:00 PM** | | 463 | | | | 463 | | | 463 | |
| **3:00 PM** | | **635** | | | | **635** | | | **635** | |
| **4:00 PM** | | 576 | | | | 576 | | | 576 | |
| **5:00 PM** | | 512 | | | | 512 | | | 512 | |
| **6:00 PM** | | 439 | | | | 439 | | | 439 | |
| **7:00 PM** | | 237 | | | | 237 | | | 237 | |
| **8:00 PM** | | 175 | | | | 175 | | | 175 | |
| **9:00 PM** | | 79 | | | | 79 | | | 79 | |
| **10:00 PM** | | 50 | | | | 50 | | | 50 | |
| **11:00 PM** | | 20 | | | | 20 | | | 20 | |
| **Day Total** | | 6351 | | | | 6351 | | | 6351 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>493 | | | | 8:00 AM<br>493 | | | 8:00 AM<br>493 | |
| PM Peak Volume | | 3:00 PM<br>635 | | | | 3:00 PM<br>635 | | | 3:00 PM<br>635 | |

*Comments:* none

**LOCATION:** 53. Oak Grove Ave
**SPECIFIC LOCATION:** 100 ft from Crane St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899440
**DIRECTION:** EB/WB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue (23-Sep-14) | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 12 | | | | 12 | | | 12 | |
| **1:00 AM** | | 6 | | | | 6 | | | 6 | |
| **2:00 AM** | | 3 | | | | 3 | | | 3 | |
| **3:00 AM** | | 10 | | | | 10 | | | 10 | |
| **4:00 AM** | | 17 | | | | 17 | | | 17 | |
| **5:00 AM** | | 38 | | | | 38 | | | 38 | |
| **6:00 AM** | | 117 | | | | 117 | | | 117 | |
| **7:00 AM** | | 442 | | | | 442 | | | 442 | |
| **8:00 AM** | | **620** | | | | **620** | | | **620** | |
| **9:00 AM** | | 527 | | | | 527 | | | 527 | |
| **10:00 AM** | | 503 | | | | 503 | | | 503 | |
| **11:00 AM** | | 496 | | | | 496 | | | 496 | |
| **12:00 PM** | | 545 | | | | 545 | | | 545 | |
| **1:00 PM** | | 524 | | | | 524 | | | 524 | |
| **2:00 PM** | | 566 | | | | 566 | | | 566 | |
| **3:00 PM** | | **731** | | | | **731** | | | **731** | |
| **4:00 PM** | | 678 | | | | 678 | | | 678 | |
| **5:00 PM** | | 627 | | | | 627 | | | 627 | |
| **6:00 PM** | | 537 | | | | 537 | | | 537 | |
| **7:00 PM** | | 290 | | | | 290 | | | 290 | |
| **8:00 PM** | | 197 | | | | 197 | | | 197 | |
| **9:00 PM** | | 120 | | | | 120 | | | 120 | |
| **10:00 PM** | | 59 | | | | 59 | | | 59 | |
| **11:00 PM** | | 32 | | | | 32 | | | 32 | |
| **Day Total** | | 7697 | | | | 7697 | | | 7697 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>620 | | | | 8:00 AM<br>620 | | | 8:00 AM<br>620 | |
| PM Peak Volume | | 3:00 PM<br>731 | | | | 3:00 PM<br>731 | | | 3:00 PM<br>731 | |

*Comments:* none

**LOCATION:** 54. Oak Grove Ave
**QC JOB #:** 12899441
**SPECIFIC LOCATION:** 100 ft from El Camino Real
**DIRECTION:** EB/WB
**CITY/STATE:** Menlo Park, CA
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue 21-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 22 | | | | 22 | | | 22 | |
| **1:00 AM** | | 15 | | | | 15 | | | 15 | |
| **2:00 AM** | | 5 | | | | 5 | | | 5 | |
| **3:00 AM** | | 7 | | | | 7 | | | 7 | |
| **4:00 AM** | | 11 | | | | 11 | | | 11 | |
| **5:00 AM** | | 77 | | | | 77 | | | 77 | |
| **6:00 AM** | | 181 | | | | 181 | | | 181 | |
| **7:00 AM** | | 580 | | | | 580 | | | 580 | |
| **8:00 AM** | | **886** | | | | **886** | | | **886** | |
| **9:00 AM** | | 606 | | | | 606 | | | 606 | |
| **10:00 AM** | | 544 | | | | 544 | | | 544 | |
| **11:00 AM** | | 584 | | | | 584 | | | 584 | |
| **12:00 PM** | | 631 | | | | 631 | | | 631 | |
| **1:00 PM** | | 653 | | | | 653 | | | 653 | |
| **2:00 PM** | | 654 | | | | 654 | | | 654 | |
| **3:00 PM** | | **868** | | | | **868** | | | **868** | |
| **4:00 PM** | | 777 | | | | 777 | | | 777 | |
| **5:00 PM** | | 784 | | | | 784 | | | 784 | |
| **6:00 PM** | | 595 | | | | 595 | | | 595 | |
| **7:00 PM** | | 441 | | | | 441 | | | 441 | |
| **8:00 PM** | | 263 | | | | 263 | | | 263 | |
| **9:00 PM** | | 229 | | | | 229 | | | 229 | |
| **10:00 PM** | | 91 | | | | 91 | | | 91 | |
| **11:00 PM** | | 66 | | | | 66 | | | 66 | |
| **Day Total** | | 9570 | | | | 9570 | | | 9570 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>886 | | | | 8:00 AM<br>886 | | | 8:00 AM<br>886 | |
| PM Peak Volume | | 3:00 PM<br>868 | | | | 3:00 PM<br>868 | | | 3:00 PM<br>868 | |

*Comments:* none

**LOCATION:** 55. Oak Grove Ave
**SPECIFIC LOCATION:** 100 ft from Laurel St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899442
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 28 | | 28 | | | 28 | |
| **1:00 AM** | | | | 16 | | 16 | | | 16 | |
| **2:00 AM** | | | | 6 | | 6 | | | 6 | |
| **3:00 AM** | | | | 5 | | 5 | | | 5 | |
| **4:00 AM** | | | | 20 | | 20 | | | 20 | |
| **5:00 AM** | | | | 74 | | 74 | | | 74 | |
| **6:00 AM** | | | | 165 | | 165 | | | 165 | |
| **7:00 AM** | | | | 584 | | 584 | | | 584 | |
| **8:00 AM** | | | | 645 | | 645 | | | 645 | |
| **9:00 AM** | | | | **713** | | **713** | | | **713** | |
| **10:00 AM** | | | | 487 | | 487 | | | 487 | |
| **11:00 AM** | | | | 506 | | 506 | | | 506 | |
| **12:00 PM** | | | | 583 | | 583 | | | 583 | |
| **1:00 PM** | | | | 595 | | 595 | | | 595 | |
| **2:00 PM** | | | | 604 | | 604 | | | 604 | |
| **3:00 PM** | | | | **792** | | **792** | | | **792** | |
| **4:00 PM** | | | | 630 | | 630 | | | 630 | |
| **5:00 PM** | | | | 655 | | 655 | | | 655 | |
| **6:00 PM** | | | | 531 | | 531 | | | 531 | |
| **7:00 PM** | | | | 392 | | 392 | | | 392 | |
| **8:00 PM** | | | | 222 | | 222 | | | 222 | |
| **9:00 PM** | | | | 222 | | 222 | | | 222 | |
| **10:00 PM** | | | | 110 | | 110 | | | 110 | |
| **11:00 PM** | | | | 66 | | 66 | | | 66 | |
| **Day Total** | | | | 8651 | | 8651 | | | 8651 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 9:00 AM 713 | | 9:00 AM 713 | | | 9:00 AM 713 | |
| PM Peak Volume | | | | 3:00 PM 792 | | 3:00 PM 792 | | | 3:00 PM 792 | |

*Comments:* none

**LOCATION:** 56. O'Brien Dr
**SPECIFIC LOCATION:** 100 ft from Kavanaugh Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899443
**DIRECTION:** NB/SB
**DATE:** Oct 08 2014 - Oct 08 2014

| Start Time | Mon | Tue | Wed 08-Oct-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 36 | | | 36 | | | 36 | |
| **1:00 AM** | | | 15 | | | 15 | | | 15 | |
| **2:00 AM** | | | 7 | | | 7 | | | 7 | |
| **3:00 AM** | | | 19 | | | 19 | | | 19 | |
| **4:00 AM** | | | 35 | | | 35 | | | 35 | |
| **5:00 AM** | | | 177 | | | 177 | | | 177 | |
| **6:00 AM** | | | 265 | | | 265 | | | 265 | |
| **7:00 AM** | | | 504 | | | 504 | | | 504 | |
| **8:00 AM** | | | **646** | | | **646** | | | **646** | |
| **9:00 AM** | | | 318 | | | 318 | | | 318 | |
| **10:00 AM** | | | 362 | | | 362 | | | 362 | |
| **11:00 AM** | | | 326 | | | 326 | | | 326 | |
| **12:00 PM** | | | 369 | | | 369 | | | 369 | |
| **1:00 PM** | | | 347 | | | 347 | | | 347 | |
| **2:00 PM** | | | 447 | | | 447 | | | 447 | |
| **3:00 PM** | | | 421 | | | 421 | | | 421 | |
| **4:00 PM** | | | **493** | | | **493** | | | **493** | |
| **5:00 PM** | | | 447 | | | 447 | | | 447 | |
| **6:00 PM** | | | 460 | | | 460 | | | 460 | |
| **7:00 PM** | | | 252 | | | 252 | | | 252 | |
| **8:00 PM** | | | 198 | | | 198 | | | 198 | |
| **9:00 PM** | | | 124 | | | 124 | | | 124 | |
| **10:00 PM** | | | 68 | | | 68 | | | 68 | |
| **11:00 PM** | | | 38 | | | 38 | | | 38 | |
| **Day Total** | | | 6374 | | | 6374 | | | 6374 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak Volume | | | 8:00 AM<br>646 | | | 8:00 AM<br>646 | | | 8:00 AM<br>646 | |
| PM Peak Volume | | | 4:00 PM<br>493 | | | 4:00 PM<br>493 | | | 4:00 PM<br>493 | |

*Comments:* none

**LOCATION:** 57. O'Brien Dr
**SPECIFIC LOCATION:** 100 ft from University Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899444
**DIRECTION:** NB/SB
**DATE:** Oct 08 2014 - Oct 08 2014

| Start Time | Mon | Tue | Wed 08-Oct-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 19 | | | 19 | | | 19 | |
| **1:00 AM** | | | 7 | | | 7 | | | 7 | |
| **2:00 AM** | | | 3 | | | 3 | | | 3 | |
| **3:00 AM** | | | 19 | | | 19 | | | 19 | |
| **4:00 AM** | | | 27 | | | 27 | | | 27 | |
| **5:00 AM** | | | 96 | | | 96 | | | 96 | |
| **6:00 AM** | | | 129 | | | 129 | | | 129 | |
| **7:00 AM** | | | 294 | | | 294 | | | 294 | |
| **8:00 AM** | | | **367** | | | **367** | | | **367** | |
| **9:00 AM** | | | 194 | | | 194 | | | 194 | |
| **10:00 AM** | | | 195 | | | 195 | | | 195 | |
| **11:00 AM** | | | 188 | | | 188 | | | 188 | |
| **12:00 PM** | | | 168 | | | 168 | | | 168 | |
| **1:00 PM** | | | 175 | | | 175 | | | 175 | |
| **2:00 PM** | | | 190 | | | 190 | | | 190 | |
| **3:00 PM** | | | 199 | | | 199 | | | 199 | |
| **4:00 PM** | | | 245 | | | 245 | | | 245 | |
| **5:00 PM** | | | **269** | | | **269** | | | **269** | |
| **6:00 PM** | | | 220 | | | 220 | | | 220 | |
| **7:00 PM** | | | 130 | | | 130 | | | 130 | |
| **8:00 PM** | | | 70 | | | 70 | | | 70 | |
| **9:00 PM** | | | 39 | | | 39 | | | 39 | |
| **10:00 PM** | | | 24 | | | 24 | | | 24 | |
| **11:00 PM** | | | 12 | | | 12 | | | 12 | |
| **Day Total** | | | 3279 | | | 3279 | | | 3279 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak Volume | | | 8:00 AM<br>367 | | | 8:00 AM<br>367 | | | 8:00 AM<br>367 | |
| PM Peak Volume | | | 5:00 PM<br>269 | | | 5:00 PM<br>269 | | | 5:00 PM<br>269 | |

*Comments:* none

**LOCATION:** 60. Ravenswood Ave
**SPECIFIC LOCATION:** 100 ft from Alma St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899446
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 36 | | 36 | | | 36 | |
| **1:00 AM** | | | | 36 | | 36 | | | 36 | |
| **2:00 AM** | | | | 36 | | 36 | | | 36 | |
| **3:00 AM** | | | | 36 | | 36 | | | 36 | |
| **4:00 AM** | | | | 71 | | 71 | | | 71 | |
| **5:00 AM** | | | | 206 | | 206 | | | 206 | |
| **6:00 AM** | | | | 500 | | 500 | | | 500 | |
| **7:00 AM** | | | | 1079 | | 1079 | | | 1079 | |
| **8:00 AM** | | | | 1242 | | 1242 | | | 1242 | |
| **9:00 AM** | | | | **1328** | | **1328** | | | **1328** | |
| **10:00 AM** | | | | 1094 | | 1094 | | | 1094 | |
| **11:00 AM** | | | | 1119 | | 1119 | | | 1119 | |
| **12:00 PM** | | | | 1219 | | 1219 | | | 1219 | |
| **1:00 PM** | | | | 1156 | | 1156 | | | 1156 | |
| **2:00 PM** | | | | 1269 | | 1269 | | | 1269 | |
| **3:00 PM** | | | | 1419 | | 1419 | | | 1419 | |
| **4:00 PM** | | | | 1455 | | 1455 | | | 1455 | |
| **5:00 PM** | | | | **1651** | | **1651** | | | **1651** | |
| **6:00 PM** | | | | 1363 | | 1363 | | | 1363 | |
| **7:00 PM** | | | | 877 | | 877 | | | 877 | |
| **8:00 PM** | | | | 648 | | 648 | | | 648 | |
| **9:00 PM** | | | | 481 | | 481 | | | 481 | |
| **10:00 PM** | | | | 276 | | 276 | | | 276 | |
| **11:00 PM** | | | | 165 | | 165 | | | 165 | |
| **Day Total** | | | | 18762 | | 18762 | | | 18762 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 9:00 AM | | 9:00 AM | | | 9:00 AM | |
| Volume | | | | 1328 | | 1328 | | | 1328 | |
| PM Peak | | | | 5:00 PM | | 5:00 PM | | | 5:00 PM | |
| Volume | | | | 1651 | | 1651 | | | 1651 | |

*Comments:* none

**LOCATION:** 61. Ravenswood Ave
**SPECIFIC LOCATION:** 100 ft from Laurel St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899447
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 38 | | 38 | | | 38 | |
| **1:00 AM** | | | | 39 | | 39 | | | 39 | |
| **2:00 AM** | | | | 38 | | 38 | | | 38 | |
| **3:00 AM** | | | | 38 | | 38 | | | 38 | |
| **4:00 AM** | | | | 68 | | 68 | | | 68 | |
| **5:00 AM** | | | | 192 | | 192 | | | 192 | |
| **6:00 AM** | | | | 484 | | 484 | | | 484 | |
| **7:00 AM** | | | | 914 | | 914 | | | 914 | |
| **8:00 AM** | | | | 1070 | | 1070 | | | 1070 | |
| **9:00 AM** | | | | **1195** | | **1195** | | | **1195** | |
| **10:00 AM** | | | | 953 | | 953 | | | 953 | |
| **11:00 AM** | | | | 952 | | 952 | | | 952 | |
| **12:00 PM** | | | | 1091 | | 1091 | | | 1091 | |
| **1:00 PM** | | | | 986 | | 986 | | | 986 | |
| **2:00 PM** | | | | 1144 | | 1144 | | | 1144 | |
| **3:00 PM** | | | | 1247 | | 1247 | | | 1247 | |
| **4:00 PM** | | | | 1250 | | 1250 | | | 1250 | |
| **5:00 PM** | | | | **1361** | | **1361** | | | **1361** | |
| **6:00 PM** | | | | 1192 | | 1192 | | | 1192 | |
| **7:00 PM** | | | | 793 | | 793 | | | 793 | |
| **8:00 PM** | | | | 594 | | 594 | | | 594 | |
| **9:00 PM** | | | | 477 | | 477 | | | 477 | |
| **10:00 PM** | | | | 276 | | 276 | | | 276 | |
| **11:00 PM** | | | | 161 | | 161 | | | 161 | |
| **Day Total** | | | | 16553 | | 16553 | | | 16553 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 9:00 AM | | 9:00 AM | | | 9:00 AM | |
| Volume | | | | 1195 | | 1195 | | | 1195 | |
| PM Peak | | | | 5:00 PM | | 5:00 PM | | | 5:00 PM | |
| Volume | | | | 1361 | | 1361 | | | 1361 | |

*Comments:* none

**LOCATION:** 63. Sand Hill Rd
**SPECIFIC LOCATION:** 100 ft from I-280
**CITY/STATE:** Menlo Park, CA

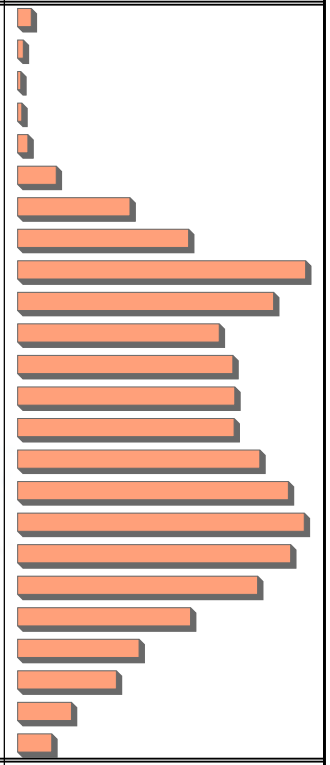
**QC JOB #:** 12899449
**DIRECTION:** EB/WB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue 21-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 80 | | | | 80 | | | 80 | |
| **1:00 AM** | | 39 | | | | 39 | | | 39 | |
| **2:00 AM** | | 16 | | | | 16 | | | 16 | |
| **3:00 AM** | | 28 | | | | 28 | | | 28 | |
| **4:00 AM** | | 87 | | | | 87 | | | 87 | |
| **5:00 AM** | | 334 | | | | 334 | | | 334 | |
| **6:00 AM** | | 1021 | | | | 1021 | | | 1021 | |
| **7:00 AM** | | 1933 | | | | 1933 | | | 1933 | |
| **8:00 AM** | | **2426** | | | | **2426** | | | **2426** | |
| **9:00 AM** | | 1994 | | | | 1994 | | | 1994 | |
| **10:00 AM** | | 1559 | | | | 1559 | | | 1559 | |
| **11:00 AM** | | 1773 | | | | 1773 | | | 1773 | |
| **12:00 PM** | | 1796 | | | | 1796 | | | 1796 | |
| **1:00 PM** | | 1818 | | | | 1818 | | | 1818 | |
| **2:00 PM** | | 1892 | | | | 1892 | | | 1892 | |
| **3:00 PM** | | **2236** | | | | **2236** | | | **2236** | |
| **4:00 PM** | | 2053 | | | | 2053 | | | 2053 | |
| **5:00 PM** | | 1706 | | | | 1706 | | | 1706 | |
| **6:00 PM** | | 1909 | | | | 1909 | | | 1909 | |
| **7:00 PM** | | 1259 | | | | 1259 | | | 1259 | |
| **8:00 PM** | | 862 | | | | 862 | | | 862 | |
| **9:00 PM** | | 676 | | | | 676 | | | 676 | |
| **10:00 PM** | | 361 | | | | 361 | | | 361 | |
| **11:00 PM** | | 190 | | | | 190 | | | 190 | |
| **Day Total** | | 28048 | | | | 28048 | | | 28048 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>2426 | | | | 8:00 AM<br>2426 | | | 8:00 AM<br>2426 | |
| PM Peak Volume | | 3:00 PM<br>2236 | | | | 3:00 PM<br>2236 | | | 3:00 PM<br>2236 | |

*Comments:* none

**LOCATION:** 64. Sand Hill Rd
**QC JOB #:** 12899450
**SPECIFIC LOCATION:** 100 ft from Santa Cruz Ave
**DIRECTION:** EB/WB
**CITY/STATE:** Menlo Park, CA
**DATE:** Sep 25 2014 - Sep 25 2014

| Start Time | Mon | Tue | Wed | Thu 25-Sep-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 118 | | 118 | | | 118 | |
| **1:00 AM** | | | | 49 | | 49 | | | 49 | |
| **2:00 AM** | | | | 27 | | 27 | | | 27 | |
| **3:00 AM** | | | | 36 | | 36 | | | 36 | |
| **4:00 AM** | | | | 89 | | 89 | | | 89 | |
| **5:00 AM** | | | | 335 | | 335 | | | 335 | |
| **6:00 AM** | | | | 975 | | 975 | | | 975 | |
| **7:00 AM** | | | | 1484 | | 1484 | | | 1484 | |
| **8:00 AM** | | | | **2500** | | **2500** | | | **2500** | |
| **9:00 AM** | | | | 2222 | | 2222 | | | 2222 | |
| **10:00 AM** | | | | 1750 | | 1750 | | | 1750 | |
| **11:00 AM** | | | | 1868 | | 1868 | | | 1868 | |
| **12:00 PM** | | | | 1885 | | 1885 | | | 1885 | |
| **1:00 PM** | | | | 1879 | | 1879 | | | 1879 | |
| **2:00 PM** | | | | 2102 | | 2102 | | | 2102 | |
| **3:00 PM** | | | | 2350 | | 2350 | | | 2350 | |
| **4:00 PM** | | | | **2488** | | **2488** | | | **2488** | |
| **5:00 PM** | | | | 2370 | | 2370 | | | 2370 | |
| **6:00 PM** | | | | 2083 | | 2083 | | | 2083 | |
| **7:00 PM** | | | | 1501 | | 1501 | | | 1501 | |
| **8:00 PM** | | | | 1054 | | 1054 | | | 1054 | |
| **9:00 PM** | | | | 857 | | 857 | | | 857 | |
| **10:00 PM** | | | | 467 | | 467 | | | 467 | |
| **11:00 PM** | | | | 296 | | 296 | | | 296 | |
| **Day Total** | | | | 30785 | | 30785 | | | 30785 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 2500 | | 8:00 AM 2500 | | | 8:00 AM 2500 | |
| PM Peak Volume | | | | 4:00 PM 2488 | | 4:00 PM 2488 | | | 4:00 PM 2488 | |



*Comments:* none

**LOCATION:** 65. Sand Hill Rd
**SPECIFIC LOCATION:** 100 ft from Santa Cruz Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899451
**DIRECTION:** EB/WB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 114 | | | | 114 | | | 114 | |
| **1:00 AM** | | 51 | | | | 51 | | | 51 | |
| **2:00 AM** | | 41 | | | | 41 | | | 41 | |
| **3:00 AM** | | 41 | | | | 41 | | | 41 | |
| **4:00 AM** | | 112 | | | | 112 | | | 112 | |
| **5:00 AM** | | 446 | | | | 446 | | | 446 | |
| **6:00 AM** | | 1286 | | | | 1286 | | | 1286 | |
| **7:00 AM** | | 2101 | | | | 2101 | | | 2101 | |
| **8:00 AM** | | **2491** | | | | **2491** | | | **2491** | |
| **9:00 AM** | | 2326 | | | | 2326 | | | 2326 | |
| **10:00 AM** | | 1940 | | | | 1940 | | | 1940 | |
| **11:00 AM** | | 1934 | | | | 1934 | | | 1934 | |
| **12:00 PM** | | 2076 | | | | 2076 | | | 2076 | |
| **1:00 PM** | | 2006 | | | | 2006 | | | 2006 | |
| **2:00 PM** | | 2357 | | | | 2357 | | | 2357 | |
| **3:00 PM** | | **2395** | | | | **2395** | | | **2395** | |
| **4:00 PM** | | 2331 | | | | 2331 | | | 2331 | |
| **5:00 PM** | | 2334 | | | | 2334 | | | 2334 | |
| **6:00 PM** | | 2221 | | | | 2221 | | | 2221 | |
| **7:00 PM** | | 1570 | | | | 1570 | | | 1570 | |
| **8:00 PM** | | 1110 | | | | 1110 | | | 1110 | |
| **9:00 PM** | | 751 | | | | 751 | | | 751 | |
| **10:00 PM** | | 439 | | | | 439 | | | 439 | |
| **11:00 PM** | | 269 | | | | 269 | | | 269 | |
| **Day Total** | | 32742 | | | | 32742 | | | 32742 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>2491 | | | | 8:00 AM<br>2491 | | | 8:00 AM<br>2491 | |
| PM Peak Volume | | 3:00 PM<br>2395 | | | | 3:00 PM<br>2395 | | | 3:00 PM<br>2395 | |

*Comments:* none

**LOCATION:** 66. Santa Cruz Ave
**QC JOB #:** 12899452
**SPECIFIC LOCATION:** 100 ft from Junipero Serra Blvd
**DIRECTION:** NB/SB
**CITY/STATE:** Menlo Park, CA
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 21-Oct-14 | | | | | | | | |
| **12:00 AM** | | 81 | | | | 81 | | | 81 | |
| **1:00 AM** | | 41 | | | | 41 | | | 41 | |
| **2:00 AM** | | 17 | | | | 17 | | | 17 | |
| **3:00 AM** | | 30 | | | | 30 | | | 30 | |
| **4:00 AM** | | 60 | | | | 60 | | | 60 | |
| **5:00 AM** | | 304 | | | | 304 | | | 304 | |
| **6:00 AM** | | 790 | | | | 790 | | | 790 | |
| **7:00 AM** | | 1759 | | | | 1759 | | | 1759 | |
| **8:00 AM** | | **2032** | | | | **2032** | | | **2032** | |
| **9:00 AM** | | 1916 | | | | 1916 | | | 1916 | |
| **10:00 AM** | | 1663 | | | | 1663 | | | 1663 | |
| **11:00 AM** | | 1597 | | | | 1597 | | | 1597 | |
| **12:00 PM** | | 1648 | | | | 1648 | | | 1648 | |
| **1:00 PM** | | 1589 | | | | 1589 | | | 1589 | |
| **2:00 PM** | | 1859 | | | | 1859 | | | 1859 | |
| **3:00 PM** | | 2030 | | | | 2030 | | | 2030 | |
| **4:00 PM** | | 1950 | | | | 1950 | | | 1950 | |
| **5:00 PM** | | **2057** | | | | **2057** | | | **2057** | |
| **6:00 PM** | | 1906 | | | | 1906 | | | 1906 | |
| **7:00 PM** | | 1209 | | | | 1209 | | | 1209 | |
| **8:00 PM** | | 800 | | | | 800 | | | 800 | |
| **9:00 PM** | | 627 | | | | 627 | | | 627 | |
| **10:00 PM** | | 339 | | | | 339 | | | 339 | |
| **11:00 PM** | | 180 | | | | 180 | | | 180 | |
| **Day Total** | | 26484 | | | | 26484 | | | 26484 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 2032 | | | | 2032 | | | 2032 | |
| PM Peak | | 5:00 PM | | | | 5:00 PM | | | 5:00 PM | |
| Volume | | 2057 | | | | 2057 | | | 2057 | |

*Comments:* none

**LOCATION:** 67. Santa Cruz Ave
**SPECIFIC LOCATION:** 100 ft from Sand Hill Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899453
**DIRECTION:** NB/SB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | | | 45 | | 45 | | | 45 | |
| 1:00 AM | | | | 26 | | 26 | | | 26 | |
| 2:00 AM | | | | 16 | | 16 | | | 16 | |
| 3:00 AM | | | | 17 | | 17 | | | 17 | |
| 4:00 AM | | | | 36 | | 36 | | | 36 | |
| 5:00 AM | | | | 158 | | 158 | | | 158 | |
| 6:00 AM | | | | 493 | | 493 | | | 493 | |
| 7:00 AM | | | | 1651 | | 1651 | | | 1651 | |
| 8:00 AM | | | | **1836** | | **1836** | | | **1836** | |
| 9:00 AM | | | | 1573 | | 1573 | | | 1573 | |
| 10:00 AM | | | | 1395 | | 1395 | | | 1395 | |
| 11:00 AM | | | | 1385 | | 1385 | | | 1385 | |
| 12:00 PM | | | | 1375 | | 1375 | | | 1375 | |
| 1:00 PM | | | | 1450 | | 1450 | | | 1450 | |
| 2:00 PM | | | | 1549 | | 1549 | | | 1549 | |
| 3:00 PM | | | | 1964 | | 1964 | | | 1964 | |
| 4:00 PM | | | | 1906 | | 1906 | | | 1906 | |
| 5:00 PM | | | | **1999** | | **1999** | | | **1999** | |
| 6:00 PM | | | | 1656 | | 1656 | | | 1656 | |
| 7:00 PM | | | | 1021 | | 1021 | | | 1021 | |
| 8:00 PM | | | | 634 | | 634 | | | 634 | |
| 9:00 PM | | | | 528 | | 528 | | | 528 | |
| 10:00 PM | | | | 306 | | 306 | | | 306 | |
| 11:00 PM | | | | 208 | | 208 | | | 208 | |
| **Day Total** | | | | 23227 | | 23227 | | | 23227 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 8:00 AM | | 8:00 AM | | | 8:00 AM | |
| Volume | | | | 1836 | | 1836 | | | 1836 | |
| PM Peak | | | | 5:00 PM | | 5:00 PM | | | 5:00 PM | |
| Volume | | | | 1999 | | 1999 | | | 1999 | |

*Comments:* none

**LOCATION:** 68. Santa Cruz Ave
**QC JOB #:** 12899454
**SPECIFIC LOCATION:** 100 ft from Alameda de las Pulgas
**DIRECTION:** NB/SB
**CITY/STATE:** Menlo Park, CA
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 22 | | | | 22 | | | 22 | |
| **1:00 AM** | | 11 | | | | 11 | | | 11 | |
| **2:00 AM** | | 3 | | | | 3 | | | 3 | |
| **3:00 AM** | | 4 | | | | 4 | | | 4 | |
| **4:00 AM** | | 8 | | | | 8 | | | 8 | |
| **5:00 AM** | | 57 | | | | 57 | | | 57 | |
| **6:00 AM** | | 203 | | | | 203 | | | 203 | |
| **7:00 AM** | | 834 | | | | 834 | | | 834 | |
| **8:00 AM** | | **921** | | | | **921** | | | **921** | |
| **9:00 AM** | | 813 | | | | 813 | | | 813 | |
| **10:00 AM** | | 657 | | | | 657 | | | 657 | |
| **11:00 AM** | | 615 | | | | 615 | | | 615 | |
| **12:00 PM** | | 605 | | | | 605 | | | 605 | |
| **1:00 PM** | | 597 | | | | 597 | | | 597 | |
| **2:00 PM** | | 689 | | | | 689 | | | 689 | |
| **3:00 PM** | | 928 | | | | 928 | | | 928 | |
| **4:00 PM** | | 892 | | | | 892 | | | 892 | |
| **5:00 PM** | | **955** | | | | **955** | | | **955** | |
| **6:00 PM** | | 865 | | | | 865 | | | 865 | |
| **7:00 PM** | | 538 | | | | 538 | | | 538 | |
| **8:00 PM** | | 338 | | | | 338 | | | 338 | |
| **9:00 PM** | | 200 | | | | 200 | | | 200 | |
| **10:00 PM** | | 96 | | | | 96 | | | 96 | |
| **11:00 PM** | | 46 | | | | 46 | | | 46 | |
| **Day Total** | | 10897 | | | | 10897 | | | 10897 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>921 | | | | 8:00 AM<br>921 | | | 8:00 AM<br>921 | |
| PM Peak Volume | | 5:00 PM<br>955 | | | | 5:00 PM<br>955 | | | 5:00 PM<br>955 | |

*Comments:* none

**LOCATION:** 69. Santa Cruz Ave
**QC JOB #:** 12899455
**SPECIFIC LOCATION:** 100 ft from Avy/Orange Ave
**DIRECTION:** EB/WB
**CITY/STATE:** Menlo Park, CA
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 16 | | 16 | | | 16 | |
| **1:00 AM** | | | | 12 | | 12 | | | 12 | |
| **2:00 AM** | | | | 5 | | 5 | | | 5 | |
| **3:00 AM** | | | | 7 | | 7 | | | 7 | |
| **4:00 AM** | | | | 17 | | 17 | | | 17 | |
| **5:00 AM** | | | | 76 | | 76 | | | 76 | |
| **6:00 AM** | | | | 260 | | 260 | | | 260 | |
| **7:00 AM** | | | | 881 | | 881 | | | 881 | |
| **8:00 AM** | | | | **1126** | | **1126** | | | **1126** | |
| **9:00 AM** | | | | 1046 | | 1046 | | | 1046 | |
| **10:00 AM** | | | | 929 | | 929 | | | 929 | |
| **11:00 AM** | | | | 872 | | 872 | | | 872 | |
| **12:00 PM** | | | | 980 | | 980 | | | 980 | |
| **1:00 PM** | | | | 1003 | | 1003 | | | 1003 | |
| **2:00 PM** | | | | 1012 | | 1012 | | | 1012 | |
| **3:00 PM** | | | | 1226 | | 1226 | | | 1226 | |
| **4:00 PM** | | | | 1190 | | 1190 | | | 1190 | |
| **5:00 PM** | | | | **1229** | | **1229** | | | **1229** | |
| **6:00 PM** | | | | 998 | | 998 | | | 998 | |
| **7:00 PM** | | | | 646 | | 646 | | | 646 | |
| **8:00 PM** | | | | 393 | | 393 | | | 393 | |
| **9:00 PM** | | | | 313 | | 313 | | | 313 | |
| **10:00 PM** | | | | 195 | | 195 | | | 195 | |
| **11:00 PM** | | | | 92 | | 92 | | | 92 | |
| **Day Total** | | | | 14524 | | 14524 | | | 14524 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 8:00 AM | | 8:00 AM | | | 8:00 AM | |
| Volume | | | | 1126 | | 1126 | | | 1126 | |
| PM Peak | | | | 5:00 PM | | 5:00 PM | | | 5:00 PM | |
| Volume | | | | 1229 | | 1229 | | | 1229 | |

*Comments:* none

**LOCATION:** 70. Santa Cruz Ave
**SPECIFIC LOCATION:** 100 ft from Olive St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899456
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 17 | | 17 | | | 17 | |
| **1:00 AM** | | | | 12 | | 12 | | | 12 | |
| **2:00 AM** | | | | 3 | | 3 | | | 3 | |
| **3:00 AM** | | | | 7 | | 7 | | | 7 | |
| **4:00 AM** | | | | 20 | | 20 | | | 20 | |
| **5:00 AM** | | | | 75 | | 75 | | | 75 | |
| **6:00 AM** | | | | 267 | | 267 | | | 267 | |
| **7:00 AM** | | | | 1000 | | 1000 | | | 1000 | |
| **8:00 AM** | | | | **1273** | | **1273** | | | **1273** | |
| **9:00 AM** | | | | 1105 | | 1105 | | | 1105 | |
| **10:00 AM** | | | | 930 | | 930 | | | 930 | |
| **11:00 AM** | | | | 955 | | 955 | | | 955 | |
| **12:00 PM** | | | | 1029 | | 1029 | | | 1029 | |
| **1:00 PM** | | | | 993 | | 993 | | | 993 | |
| **2:00 PM** | | | | 1125 | | 1125 | | | 1125 | |
| **3:00 PM** | | | | 1272 | | 1272 | | | 1272 | |
| **4:00 PM** | | | | **1293** | | **1293** | | | **1293** | |
| **5:00 PM** | | | | 1286 | | 1286 | | | 1286 | |
| **6:00 PM** | | | | 1049 | | 1049 | | | 1049 | |
| **7:00 PM** | | | | 642 | | 642 | | | 642 | |
| **8:00 PM** | | | | 408 | | 408 | | | 408 | |
| **9:00 PM** | | | | 301 | | 301 | | | 301 | |
| **10:00 PM** | | | | 172 | | 172 | | | 172 | |
| **11:00 PM** | | | | 80 | | 80 | | | 80 | |
| **Day Total** | | | | 15314 | | 15314 | | | 15314 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 1273 | | 8:00 AM 1273 | | | 8:00 AM 1273 | |
| PM Peak Volume | | | | 4:00 PM 1293 | | 4:00 PM 1293 | | | 4:00 PM 1293 | |

*Comments:* none

**LOCATION:** 71. Santa Cruz Ave
**SPECIFIC LOCATION:** 100 ft from University Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899457
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | | | 8 | | 8 | | | 8 | |
| 1:00 AM | | | | 6 | | 6 | | | 6 | |
| 2:00 AM | | | | 1 | | 1 | | | 1 | |
| 3:00 AM | | | | 8 | | 8 | | | 8 | |
| 4:00 AM | | | | 5 | | 5 | | | 5 | |
| 5:00 AM | | | | 29 | | 29 | | | 29 | |
| 6:00 AM | | | | 89 | | 89 | | | 89 | |
| 7:00 AM | | | | 335 | | 335 | | | 335 | |
| 8:00 AM | | | | 498 | | 498 | | | 498 | |
| 9:00 AM | | | | 551 | | 551 | | | 551 | |
| 10:00 AM | | | | 513 | | 513 | | | 513 | |
| 11:00 AM | | | | **562** | | **562** | | | **562** | |
| 12:00 PM | | | | 591 | | 591 | | | 591 | |
| 1:00 PM | | | | 548 | | 548 | | | 548 | |
| 2:00 PM | | | | 587 | | 587 | | | 587 | |
| 3:00 PM | | | | **646** | | **646** | | | **646** | |
| 4:00 PM | | | | 640 | | 640 | | | 640 | |
| 5:00 PM | | | | 642 | | 642 | | | 642 | |
| 6:00 PM | | | | 501 | | 501 | | | 501 | |
| 7:00 PM | | | | 349 | | 349 | | | 349 | |
| 8:00 PM | | | | 224 | | 224 | | | 224 | |
| 9:00 PM | | | | 171 | | 171 | | | 171 | |
| 10:00 PM | | | | 67 | | 67 | | | 67 | |
| 11:00 PM | | | | 43 | | 43 | | | 43 | |
| **Day Total** | | | | 7614 | | 7614 | | | 7614 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 11:00 AM<br>562 | | 11:00 AM<br>562 | | | 11:00 AM<br>562 | |
| PM Peak Volume | | | | 3:00 PM<br>646 | | 3:00 PM<br>646 | | | 3:00 PM<br>646 | |

*Comments:* none

**LOCATION:** 72. Santa Cruz Ave
**SPECIFIC LOCATION:** 100 ft from Crane St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899458
**DIRECTION:** EB/WB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue (23-Sep-14) | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 9 | | | | 9 | | | 9 | |
| **1:00 AM** | | 4 | | | | 4 | | | 4 | |
| **2:00 AM** | | 11 | | | | 11 | | | 11 | |
| **3:00 AM** | | 3 | | | | 3 | | | 3 | |
| **4:00 AM** | | 9 | | | | 9 | | | 9 | |
| **5:00 AM** | | 31 | | | | 31 | | | 31 | |
| **6:00 AM** | | 98 | | | | 98 | | | 98 | |
| **7:00 AM** | | 323 | | | | 323 | | | 323 | |
| **8:00 AM** | | 472 | | | | 472 | | | 472 | |
| **9:00 AM** | | 493 | | | | 493 | | | 493 | |
| **10:00 AM** | | 469 | | | | 469 | | | 469 | |
| **11:00 AM** | | **534** | | | | **534** | | | **534** | |
| **12:00 PM** | | 579 | | | | 579 | | | 579 | |
| **1:00 PM** | | 562 | | | | 562 | | | 562 | |
| **2:00 PM** | | 568 | | | | 568 | | | 568 | |
| **3:00 PM** | | **607** | | | | **607** | | | **607** | |
| **4:00 PM** | | 585 | | | | 585 | | | 585 | |
| **5:00 PM** | | 583 | | | | 583 | | | 583 | |
| **6:00 PM** | | 583 | | | | 583 | | | 583 | |
| **7:00 PM** | | 362 | | | | 362 | | | 362 | |
| **8:00 PM** | | 242 | | | | 242 | | | 242 | |
| **9:00 PM** | | 168 | | | | 168 | | | 168 | |
| **10:00 PM** | | 53 | | | | 53 | | | 53 | |
| **11:00 PM** | | 25 | | | | 25 | | | 25 | |
| **Day Total** | | 7373 | | | | 7373 | | | 7373 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 11:00 AM<br>534 | | | | 11:00 AM<br>534 | | | 11:00 AM<br>534 | |
| PM Peak Volume | | 3:00 PM<br>607 | | | | 3:00 PM<br>607 | | | 3:00 PM<br>607 | |

*Comments:* none

**LOCATION:** 73. Scott Dr
**SPECIFIC LOCATION:** 100 ft from Marsh Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899459
**DIRECTION:** NB/SB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue 21-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 11 | | | | 11 | | | 11 | |
| **1:00 AM** | | 7 | | | | 7 | | | 7 | |
| **2:00 AM** | | 8 | | | | 8 | | | 8 | |
| **3:00 AM** | | 19 | | | | 19 | | | 19 | |
| **4:00 AM** | | 96 | | | | 96 | | | 96 | |
| **5:00 AM** | | 146 | | | | 146 | | | 146 | |
| **6:00 AM** | | 209 | | | | 209 | | | 209 | |
| **7:00 AM** | | 381 | | | | 381 | | | 381 | |
| **8:00 AM** | | **522** | | | | **522** | | | **522** | |
| **9:00 AM** | | 455 | | | | 455 | | | 455 | |
| **10:00 AM** | | 225 | | | | 225 | | | 225 | |
| **11:00 AM** | | 197 | | | | 197 | | | 197 | |
| **12:00 PM** | | 223 | | | | 223 | | | 223 | |
| **1:00 PM** | | 317 | | | | 317 | | | 317 | |
| **2:00 PM** | | 315 | | | | 315 | | | 315 | |
| **3:00 PM** | | 261 | | | | 261 | | | 261 | |
| **4:00 PM** | | 359 | | | | 359 | | | 359 | |
| **5:00 PM** | | **486** | | | | **486** | | | **486** | |
| **6:00 PM** | | 268 | | | | 268 | | | 268 | |
| **7:00 PM** | | 119 | | | | 119 | | | 119 | |
| **8:00 PM** | | 84 | | | | 84 | | | 84 | |
| **9:00 PM** | | 33 | | | | 33 | | | 33 | |
| **10:00 PM** | | 49 | | | | 49 | | | 49 | |
| **11:00 PM** | | 25 | | | | 25 | | | 25 | |
| **Day Total** | | 4815 | | | | 4815 | | | 4815 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM 522 | | | | 8:00 AM 522 | | | 8:00 AM 522 | |
| PM Peak Volume | | 5:00 PM 486 | | | | 5:00 PM 486 | | | 5:00 PM 486 | |

*Comments:* none

**LOCATION:** 74. Sharon Park Dr
**SPECIFIC LOCATION:** 100 ft from Sand Hill Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899460
**DIRECTION:** NB/SB
**DATE:** Sep 24 2014 - Sep 24 2014

| Start Time | Mon | Tue | Wed 24-Sep-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 53 | | | 53 | | | 53 | |
| **1:00 AM** | | | 11 | | | 11 | | | 11 | |
| **2:00 AM** | | | 11 | | | 11 | | | 11 | |
| **3:00 AM** | | | 13 | | | 13 | | | 13 | |
| **4:00 AM** | | | 30 | | | 30 | | | 30 | |
| **5:00 AM** | | | 118 | | | 118 | | | 118 | |
| **6:00 AM** | | | 243 | | | 243 | | | 243 | |
| **7:00 AM** | | | 496 | | | 496 | | | 496 | |
| **8:00 AM** | | | **686** | | | **686** | | | **686** | |
| **9:00 AM** | | | 588 | | | 588 | | | 588 | |
| **10:00 AM** | | | 586 | | | 586 | | | 586 | |
| **11:00 AM** | | | 685 | | | 685 | | | 685 | |
| **12:00 PM** | | | 728 | | | 728 | | | 728 | |
| **1:00 PM** | | | 709 | | | 709 | | | 709 | |
| **2:00 PM** | | | **767** | | | **767** | | | **767** | |
| **3:00 PM** | | | 733 | | | 733 | | | 733 | |
| **4:00 PM** | | | 731 | | | 731 | | | 731 | |
| **5:00 PM** | | | 745 | | | 745 | | | 745 | |
| **6:00 PM** | | | 667 | | | 667 | | | 667 | |
| **7:00 PM** | | | 472 | | | 472 | | | 472 | |
| **8:00 PM** | | | 395 | | | 395 | | | 395 | |
| **9:00 PM** | | | 269 | | | 269 | | | 269 | |
| **10:00 PM** | | | 153 | | | 153 | | | 153 | |
| **11:00 PM** | | | 81 | | | 81 | | | 81 | |
| **Day Total** | | | 9970 | | | 9970 | | | 9970 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak Volume | | | 8:00 AM<br>686 | | | 8:00 AM<br>686 | | | 8:00 AM<br>686 | |
| PM Peak Volume | | | 2:00 PM<br>767 | | | 2:00 PM<br>767 | | | 2:00 PM<br>767 | |

*Comments:* none

**LOCATION:** 75. Sharon Rd
**SPECIFIC LOCATION:** 100 ft from Sharon Park Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899461
**DIRECTION:** NB/SB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 9 | | | | 9 | | | 9 | |
| **1:00 AM** | | 2 | | | | 2 | | | 2 | |
| **2:00 AM** | | 1 | | | | 1 | | | 1 | |
| **3:00 AM** | | 4 | | | | 4 | | | 4 | |
| **4:00 AM** | | 9 | | | | 9 | | | 9 | |
| **5:00 AM** | | 18 | | | | 18 | | | 18 | |
| **6:00 AM** | | 55 | | | | 55 | | | 55 | |
| **7:00 AM** | | 313 | | | | 313 | | | 313 | |
| **8:00 AM** | | **328** | | | | **328** | | | **328** | |
| **9:00 AM** | | 206 | | | | 206 | | | 206 | |
| **10:00 AM** | | 184 | | | | 184 | | | 184 | |
| **11:00 AM** | | 204 | | | | 204 | | | 204 | |
| **12:00 PM** | | 189 | | | | 189 | | | 189 | |
| **1:00 PM** | | 197 | | | | 197 | | | 197 | |
| **2:00 PM** | | 346 | | | | 346 | | | 346 | |
| **3:00 PM** | | **369** | | | | **369** | | | **369** | |
| **4:00 PM** | | 308 | | | | 308 | | | 308 | |
| **5:00 PM** | | 349 | | | | 349 | | | 349 | |
| **6:00 PM** | | 297 | | | | 297 | | | 297 | |
| **7:00 PM** | | 190 | | | | 190 | | | 190 | |
| **8:00 PM** | | 103 | | | | 103 | | | 103 | |
| **9:00 PM** | | 57 | | | | 57 | | | 57 | |
| **10:00 PM** | | 30 | | | | 30 | | | 30 | |
| **11:00 PM** | | 13 | | | | 13 | | | 13 | |
| **Day Total** | | 3781 | | | | 3781 | | | 3781 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 328 | | | | 328 | | | 328 | |
| PM Peak | | 3:00 PM | | | | 3:00 PM | | | 3:00 PM | |
| Volume | | 369 | | | | 369 | | | 369 | |

*Comments:* none

**LOCATION:** 76. University Dr
**SPECIFIC LOCATION:** 100 ft from Middle Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899462
**DIRECTION:** EB/WB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue (23-Sep-14) | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 11 | | | | 11 | | | 11 | |
| **1:00 AM** | | 7 | | | | 7 | | | 7 | |
| **2:00 AM** | | 8 | | | | 8 | | | 8 | |
| **3:00 AM** | | 2 | | | | 2 | | | 2 | |
| **4:00 AM** | | 3 | | | | 3 | | | 3 | |
| **5:00 AM** | | 21 | | | | 21 | | | 21 | |
| **6:00 AM** | | 81 | | | | 81 | | | 81 | |
| **7:00 AM** | | 294 | | | | 294 | | | 294 | |
| **8:00 AM** | | **431** | | | | **431** | | | **431** | |
| **9:00 AM** | | 362 | | | | 362 | | | 362 | |
| **10:00 AM** | | 295 | | | | 295 | | | 295 | |
| **11:00 AM** | | 377 | | | | 377 | | | 377 | |
| **12:00 PM** | | 381 | | | | 381 | | | 381 | |
| **1:00 PM** | | 369 | | | | 369 | | | 369 | |
| **2:00 PM** | | 386 | | | | 386 | | | 386 | |
| **3:00 PM** | | 480 | | | | 480 | | | 480 | |
| **4:00 PM** | | 521 | | | | 521 | | | 521 | |
| **5:00 PM** | | **651** | | | | **651** | | | **651** | |
| **6:00 PM** | | 510 | | | | 510 | | | 510 | |
| **7:00 PM** | | 275 | | | | 275 | | | 275 | |
| **8:00 PM** | | 192 | | | | 192 | | | 192 | |
| **9:00 PM** | | 96 | | | | 96 | | | 96 | |
| **10:00 PM** | | 57 | | | | 57 | | | 57 | |
| **11:00 PM** | | 30 | | | | 30 | | | 30 | |
| **Day Total** | | 5840 | | | | 5840 | | | 5840 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>431 | | | | 8:00 AM<br>431 | | | 8:00 AM<br>431 | |
| PM Peak Volume | | 5:00 PM<br>651 | | | | 5:00 PM<br>651 | | | 5:00 PM<br>651 | |

*Comments:* none

**LOCATION:** 77. University Dr
**SPECIFIC LOCATION:** 100 ft from Menlo Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899463
**DIRECTION:** NB/SB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue (21-Oct-14) | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 14 | | | | 14 | | | 14 | |
| **1:00 AM** | | 3 | | | | 3 | | | 3 | |
| **2:00 AM** | | 1 | | | | 1 | | | 1 | |
| **3:00 AM** | | 0 | | | | 0 | | | 0 | |
| **4:00 AM** | | 7 | | | | 7 | | | 7 | |
| **5:00 AM** | | 59 | | | | 59 | | | 59 | |
| **6:00 AM** | | 132 | | | | 132 | | | 132 | |
| **7:00 AM** | | 489 | | | | 489 | | | 489 | |
| **8:00 AM** | | **812** | | | | **812** | | | **812** | |
| **9:00 AM** | | 672 | | | | 672 | | | 672 | |
| **10:00 AM** | | 550 | | | | 550 | | | 550 | |
| **11:00 AM** | | 570 | | | | 570 | | | 570 | |
| **12:00 PM** | | 598 | | | | 598 | | | 598 | |
| **1:00 PM** | | 582 | | | | 582 | | | 582 | |
| **2:00 PM** | | 613 | | | | 613 | | | 613 | |
| **3:00 PM** | | 806 | | | | 806 | | | 806 | |
| **4:00 PM** | | 872 | | | | 872 | | | 872 | |
| **5:00 PM** | | **883** | | | | **883** | | | **883** | |
| **6:00 PM** | | 739 | | | | 739 | | | 739 | |
| **7:00 PM** | | 412 | | | | 412 | | | 412 | |
| **8:00 PM** | | 241 | | | | 241 | | | 241 | |
| **9:00 PM** | | 173 | | | | 173 | | | 173 | |
| **10:00 PM** | | 55 | | | | 55 | | | 55 | |
| **11:00 PM** | | 27 | | | | 27 | | | 27 | |
| **Day Total** | | 9310 | | | | 9310 | | | 9310 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 812 | | | | 812 | | | 812 | |
| PM Peak | | 5:00 PM | | | | 5:00 PM | | | 5:00 PM | |
| Volume | | 883 | | | | 883 | | | 883 | |

*Comments:* none

**LOCATION:** 78. University Dr
**SPECIFIC LOCATION:** 100 ft from Santa Cruz Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899464
**DIRECTION:** NB/SB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 7 | | | | 7 | | | 7 | |
| **1:00 AM** | | 7 | | | | 7 | | | 7 | |
| **2:00 AM** | | 1 | | | | 1 | | | 1 | |
| **3:00 AM** | | 5 | | | | 5 | | | 5 | |
| **4:00 AM** | | 5 | | | | 5 | | | 5 | |
| **5:00 AM** | | 20 | | | | 20 | | | 20 | |
| **6:00 AM** | | 88 | | | | 88 | | | 88 | |
| **7:00 AM** | | 450 | | | | 450 | | | 450 | |
| **8:00 AM** | | **512** | | | | **512** | | | **512** | |
| **9:00 AM** | | 507 | | | | 507 | | | 507 | |
| **10:00 AM** | | 424 | | | | 424 | | | 424 | |
| **11:00 AM** | | 487 | | | | 487 | | | 487 | |
| **12:00 PM** | | 535 | | | | 535 | | | 535 | |
| **1:00 PM** | | 467 | | | | 467 | | | 467 | |
| **2:00 PM** | | 478 | | | | 478 | | | 478 | |
| **3:00 PM** | | **657** | | | | **657** | | | **657** | |
| **4:00 PM** | | 636 | | | | 636 | | | 636 | |
| **5:00 PM** | | 654 | | | | 654 | | | 654 | |
| **6:00 PM** | | 552 | | | | 552 | | | 552 | |
| **7:00 PM** | | 266 | | | | 266 | | | 266 | |
| **8:00 PM** | | 245 | | | | 245 | | | 245 | |
| **9:00 PM** | | 91 | | | | 91 | | | 91 | |
| **10:00 PM** | | 43 | | | | 43 | | | 43 | |
| **11:00 PM** | | 21 | | | | 21 | | | 21 | |
| **Day Total** | | 7158 | | | | 7158 | | | 7158 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>512 | | | | 8:00 AM<br>512 | | | 8:00 AM<br>512 | |
| PM Peak Volume | | 3:00 PM<br>657 | | | | 3:00 PM<br>657 | | | 3:00 PM<br>657 | |

*Comments:* none

**LOCATION:** 79. University Dr
**SPECIFIC LOCATION:** 100 ft from Oak Grove Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899465
**DIRECTION:** NB/SB
**DATE:** Oct 23 2014 - Oct 23 2014

| Start Time | Mon | Tue | Wed | Thu 23-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 6 | | 6 | | | 6 | |
| **1:00 AM** | | | | 2 | | 2 | | | 2 | |
| **2:00 AM** | | | | 3 | | 3 | | | 3 | |
| **3:00 AM** | | | | 2 | | 2 | | | 2 | |
| **4:00 AM** | | | | 2 | | 2 | | | 2 | |
| **5:00 AM** | | | | 19 | | 19 | | | 19 | |
| **6:00 AM** | | | | 53 | | 53 | | | 53 | |
| **7:00 AM** | | | | 272 | | 272 | | | 272 | |
| **8:00 AM** | | | | **371** | | **371** | | | **371** | |
| **9:00 AM** | | | | 340 | | 340 | | | 340 | |
| **10:00 AM** | | | | 284 | | 284 | | | 284 | |
| **11:00 AM** | | | | 351 | | 351 | | | 351 | |
| **12:00 PM** | | | | 366 | | 366 | | | 366 | |
| **1:00 PM** | | | | 331 | | 331 | | | 331 | |
| **2:00 PM** | | | | 389 | | 389 | | | 389 | |
| **3:00 PM** | | | | **506** | | **506** | | | **506** | |
| **4:00 PM** | | | | 488 | | 488 | | | 488 | |
| **5:00 PM** | | | | 499 | | 499 | | | 499 | |
| **6:00 PM** | | | | 365 | | 365 | | | 365 | |
| **7:00 PM** | | | | 251 | | 251 | | | 251 | |
| **8:00 PM** | | | | 106 | | 106 | | | 106 | |
| **9:00 PM** | | | | 69 | | 69 | | | 69 | |
| **10:00 PM** | | | | 24 | | 24 | | | 24 | |
| **11:00 PM** | | | | 12 | | 12 | | | 12 | |
| **Day Total** | | | | 5111 | | 5111 | | | 5111 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 371 | | 8:00 AM 371 | | | 8:00 AM 371 | |
| PM Peak Volume | | | | 3:00 PM 506 | | 3:00 PM 506 | | | 3:00 PM 506 | |

*Comments:* none

**LOCATION:** 84. Valparaiso Ave
**QC JOB #:** 12899466
**SPECIFIC LOCATION:** 100 ft from Alameda de las Pulgas
**DIRECTION:** EB/WB
**CITY/STATE:** Menlo Park, CA
**DATE:** Oct 15 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed 15-Oct-14 | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 20 | | 20 | | | 20 | |
| **1:00 AM** | | | | 19 | | 19 | | | 19 | |
| **2:00 AM** | | | | 2 | | 2 | | | 2 | |
| **3:00 AM** | | | | 5 | | 5 | | | 5 | |
| **4:00 AM** | | | | 7 | | 7 | | | 7 | |
| **5:00 AM** | | | | 68 | | 68 | | | 68 | |
| **6:00 AM** | | | | 197 | | 197 | | | 197 | |
| **7:00 AM** | | | | 917 | | 917 | | | 917 | |
| **8:00 AM** | | | | **1031** | | **1031** | | | **1031** | |
| **9:00 AM** | | | | 847 | | 847 | | | 847 | |
| **10:00 AM** | | | | 744 | | 744 | | | 744 | |
| **11:00 AM** | | | | 669 | | 669 | | | 669 | |
| **12:00 PM** | | | | 658 | | 658 | | | 658 | |
| **1:00 PM** | | | | 732 | | 732 | | | 732 | |
| **2:00 PM** | | | | 936 | | 936 | | | 936 | |
| **3:00 PM** | | | | **1067** | | **1067** | | | **1067** | |
| **4:00 PM** | | | | 997 | | 997 | | | 997 | |
| **5:00 PM** | | | | 1007 | | 1007 | | | 1007 | |
| **6:00 PM** | | | | 851 | | 851 | | | 851 | |
| **7:00 PM** | | | | 490 | | 490 | | | 490 | |
| **8:00 PM** | | | **386** | | | 386 | | | 386 | |
| **9:00 PM** | | | 231 | | | 231 | | | 231 | |
| **10:00 PM** | | | 111 | | | 111 | | | 111 | |
| **11:00 PM** | | | 60 | | | 60 | | | 60 | |
| **Day Total** | | | 788 | 11264 | | 12052 | | | 12052 | |
| % Weekday Average | | | 6.5% | 93.5% | | | | | | |
| % Week Average | | | 6.5% | 93.5% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 1031 | | 8:00 AM 1031 | | | 8:00 AM 1031 | |
| PM Peak Volume | | | 8:00 PM 386 | 3:00 PM 1067 | | 3:00 PM 1067 | | | 3:00 PM 1067 | |

*Comments:* none

**LOCATION:** 85. Valparaiso Ave
**SPECIFIC LOCATION:** 100 ft from Cotton St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899467
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | | | 22 | | 22 | | | 22 | |
| 1:00 AM | | | | 21 | | 21 | | | 21 | |
| 2:00 AM | | | | 6 | | 6 | | | 6 | |
| 3:00 AM | | | | 6 | | 6 | | | 6 | |
| 4:00 AM | | | | 13 | | 13 | | | 13 | |
| 5:00 AM | | | | 98 | | 98 | | | 98 | |
| 6:00 AM | | | | 239 | | 239 | | | 239 | |
| 7:00 AM | | | | 986 | | 986 | | | 986 | |
| 8:00 AM | | | | **1162** | | **1162** | | | **1162** | |
| 9:00 AM | | | | 982 | | 982 | | | 982 | |
| 10:00 AM | | | | 932 | | 932 | | | 932 | |
| 11:00 AM | | | | 849 | | 849 | | | 849 | |
| 12:00 PM | | | | 908 | | 908 | | | 908 | |
| 1:00 PM | | | | 904 | | 904 | | | 904 | |
| 2:00 PM | | | | 1154 | | 1154 | | | 1154 | |
| 3:00 PM | | | | **1302** | | **1302** | | | **1302** | |
| 4:00 PM | | | | 1246 | | 1246 | | | 1246 | |
| 5:00 PM | | | | 1219 | | 1219 | | | 1219 | |
| 6:00 PM | | | | 949 | | 949 | | | 949 | |
| 7:00 PM | | | | 569 | | 569 | | | 569 | |
| 8:00 PM | | | | 362 | | 362 | | | 362 | |
| 9:00 PM | | | | 303 | | 303 | | | 303 | |
| 10:00 PM | | | | 135 | | 135 | | | 135 | |
| 11:00 PM | | | | 69 | | 69 | | | 69 | |
| **Day Total** | | | | 14436 | | 14436 | | | 14436 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 1162 | | 8:00 AM 1162 | | | 8:00 AM 1162 | |
| PM Peak Volume | | | | 3:00 PM 1302 | | 3:00 PM 1302 | | | 3:00 PM 1302 | |

*Comments:* none

**LOCATION:** 86. Valparaiso Ave
**SPECIFIC LOCATION:** 100 ft from University Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899468
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 29 | | 29 | | | 29 | |
| **1:00 AM** | | | | 20 | | 20 | | | 20 | |
| **2:00 AM** | | | | 9 | | 9 | | | 9 | |
| **3:00 AM** | | | | 5 | | 5 | | | 5 | |
| **4:00 AM** | | | | 12 | | 12 | | | 12 | |
| **5:00 AM** | | | | 83 | | 83 | | | 83 | |
| **6:00 AM** | | | | 216 | | 216 | | | 216 | |
| **7:00 AM** | | | | 817 | | 817 | | | 817 | |
| **8:00 AM** | | | | **1026** | | **1026** | | | **1026** | |
| **9:00 AM** | | | | 936 | | 936 | | | 936 | |
| **10:00 AM** | | | | 842 | | 842 | | | 842 | |
| **11:00 AM** | | | | 845 | | 845 | | | 845 | |
| **12:00 PM** | | | | 822 | | 822 | | | 822 | |
| **1:00 PM** | | | | 833 | | 833 | | | 833 | |
| **2:00 PM** | | | | 1076 | | 1076 | | | 1076 | |
| **3:00 PM** | | | | **1128** | | **1128** | | | **1128** | |
| **4:00 PM** | | | | 1027 | | 1027 | | | 1027 | |
| **5:00 PM** | | | | 1057 | | 1057 | | | 1057 | |
| **6:00 PM** | | | | 871 | | 871 | | | 871 | |
| **7:00 PM** | | | | 521 | | 521 | | | 521 | |
| **8:00 PM** | | | | 325 | | 325 | | | 325 | |
| **9:00 PM** | | | | 295 | | 295 | | | 295 | |
| **10:00 PM** | | | | 148 | | 148 | | | 148 | |
| **11:00 PM** | | | | 68 | | 68 | | | 68 | |
| **Day Total** | | | | 13011 | | 13011 | | | 13011 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak Volume | | | | 8:00 AM 1026 | | 8:00 AM 1026 | | | 8:00 AM 1026 | |
| PM Peak Volume | | | | 3:00 PM 1128 | | 3:00 PM 1128 | | | 3:00 PM 1128 | |

*Comments:* none

**LOCATION:** 87. Willow Rd
**SPECIFIC LOCATION:** 100 ft from Alma St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899469
**DIRECTION:** EB/WB
**DATE:** Sep 30 2014 - Sep 30 2014

| Start Time | Mon | Tue<br>30-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 6 | | | | 6 | | | 6 | |
| **1:00 AM** | | 2 | | | | 2 | | | 2 | |
| **2:00 AM** | | 3 | | | | 3 | | | 3 | |
| **3:00 AM** | | 6 | | | | 6 | | | 6 | |
| **4:00 AM** | | 8 | | | | 8 | | | 8 | |
| **5:00 AM** | | 32 | | | | 32 | | | 32 | |
| **6:00 AM** | | 51 | | | | 51 | | | 51 | |
| **7:00 AM** | | 169 | | | | 169 | | | 169 | |
| **8:00 AM** | | **247** | | | | **247** | | | **247** | |
| **9:00 AM** | | 213 | | | | 213 | | | 213 | |
| **10:00 AM** | | 216 | | | | 216 | | | 216 | |
| **11:00 AM** | | 190 | | | | 190 | | | 190 | |
| **12:00 PM** | | 175 | | | | 175 | | | 175 | |
| **1:00 PM** | | 234 | | | | 234 | | | 234 | |
| **2:00 PM** | | 234 | | | | 234 | | | 234 | |
| **3:00 PM** | | 289 | | | | 289 | | | 289 | |
| **4:00 PM** | | 299 | | | | 299 | | | 299 | |
| **5:00 PM** | | **309** | | | | **309** | | | **309** | |
| **6:00 PM** | | 245 | | | | 245 | | | 245 | |
| **7:00 PM** | | 188 | | | | 188 | | | 188 | |
| **8:00 PM** | | 129 | | | | 129 | | | 129 | |
| **9:00 PM** | | 66 | | | | 66 | | | 66 | |
| **10:00 PM** | | 42 | | | | 42 | | | 42 | |
| **11:00 PM** | | 9 | | | | 9 | | | 9 | |
| **Day Total** | | 3362 | | | | 3362 | | | 3362 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>247 | | | | 8:00 AM<br>247 | | | 8:00 AM<br>247 | |
| PM Peak Volume | | 5:00 PM<br>309 | | | | 5:00 PM<br>309 | | | 5:00 PM<br>309 | |

*Comments:* none

**LOCATION:** 88. Willow Rd
**SPECIFIC LOCATION:** 100 ft from Laurel St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899470
**DIRECTION:** EB/WB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue 21-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 7 | | | | 7 | | | 7 | |
| **1:00 AM** | | 1 | | | | 1 | | | 1 | |
| **2:00 AM** | | 3 | | | | 3 | | | 3 | |
| **3:00 AM** | | 8 | | | | 8 | | | 8 | |
| **4:00 AM** | | 57 | | | | 57 | | | 57 | |
| **5:00 AM** | | 111 | | | | 111 | | | 111 | |
| **6:00 AM** | | 295 | | | | 295 | | | 295 | |
| **7:00 AM** | | **477** | | | | **477** | | | **477** | |
| **8:00 AM** | | 307 | | | | 307 | | | 307 | |
| **9:00 AM** | | 277 | | | | 277 | | | 277 | |
| **10:00 AM** | | 295 | | | | 295 | | | 295 | |
| **11:00 AM** | | 319 | | | | 319 | | | 319 | |
| **12:00 PM** | | 315 | | | | 315 | | | 315 | |
| **1:00 PM** | | 363 | | | | 363 | | | 363 | |
| **2:00 PM** | | 464 | | | | 464 | | | 464 | |
| **3:00 PM** | | **505** | | | | **505** | | | **505** | |
| **4:00 PM** | | 502 | | | | 502 | | | 502 | |
| **5:00 PM** | | 386 | | | | 386 | | | 386 | |
| **6:00 PM** | | 227 | | | | 227 | | | 227 | |
| **7:00 PM** | | 156 | | | | 156 | | | 156 | |
| **8:00 PM** | | 89 | | | | 89 | | | 89 | |
| **9:00 PM** | | 51 | | | | 51 | | | 51 | |
| **10:00 PM** | | 22 | | | | 22 | | | 22 | |
| **11:00 PM** | | 10 | | | | 10 | | | 10 | |
| **Day Total** | | 5247 | | | | 5247 | | | 5247 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 7:00 AM<br>477 | | | | 7:00 AM<br>477 | | | 7:00 AM<br>477 | |
| PM Peak Volume | | 3:00 PM<br>505 | | | | 3:00 PM<br>505 | | | 3:00 PM<br>505 | |

*Comments:* none

**LOCATION:** 89. Willow Rd
**SPECIFIC LOCATION:** 100 ft from Middlefield Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899471
**DIRECTION:** EB/WB
**DATE:** Oct 21 2014 - Oct 21 2014

| Start Time | Mon | Tue (21-Oct-14) | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 113 | | | | 113 | | | 113 | |
| **1:00 AM** | | 62 | | | | 62 | | | 62 | |
| **2:00 AM** | | 52 | | | | 52 | | | 52 | |
| **3:00 AM** | | 55 | | | | 55 | | | 55 | |
| **4:00 AM** | | 114 | | | | 114 | | | 114 | |
| **5:00 AM** | | 495 | | | | 495 | | | 495 | |
| **6:00 AM** | | 1084 | | | | 1084 | | | 1084 | |
| **7:00 AM** | | 1553 | | | | 1553 | | | 1553 | |
| **8:00 AM** | | **1749** | | | | **1749** | | | **1749** | |
| **9:00 AM** | | 1580 | | | | 1580 | | | 1580 | |
| **10:00 AM** | | 1413 | | | | 1413 | | | 1413 | |
| **11:00 AM** | | 1442 | | | | 1442 | | | 1442 | |
| **12:00 PM** | | 1487 | | | | 1487 | | | 1487 | |
| **1:00 PM** | | 1538 | | | | 1538 | | | 1538 | |
| **2:00 PM** | | **1723** | | | | **1723** | | | **1723** | |
| **3:00 PM** | | 1485 | | | | 1485 | | | 1485 | |
| **4:00 PM** | | 1510 | | | | 1510 | | | 1510 | |
| **5:00 PM** | | 1252 | | | | 1252 | | | 1252 | |
| **6:00 PM** | | 1393 | | | | 1393 | | | 1393 | |
| **7:00 PM** | | 1413 | | | | 1413 | | | 1413 | |
| **8:00 PM** | | 1044 | | | | 1044 | | | 1044 | |
| **9:00 PM** | | 882 | | | | 882 | | | 882 | |
| **10:00 PM** | | 575 | | | | 575 | | | 575 | |
| **11:00 PM** | | 318 | | | | 318 | | | 318 | |
| **Day Total** | | 24332 | | | | 24332 | | | 24332 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 1749 | | | | 1749 | | | 1749 | |
| PM Peak | | 2:00 PM | | | | 2:00 PM | | | 2:00 PM | |
| Volume | | 1723 | | | | 1723 | | | 1723 | |

*Comments:* none

**LOCATION:** 112. Chilco St
**SPECIFIC LOCATION:** 100 ft from Hamilton Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899483
**DIRECTION:** EB/WB
**DATE:** Oct 08 2014 - Oct 08 2014

| Start Time | Mon | Tue | Wed 08-Oct-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 17 | | | 17 | | | 17 | |
| **1:00 AM** | | | 15 | | | 15 | | | 15 | |
| **2:00 AM** | | | 11 | | | 11 | | | 11 | |
| **3:00 AM** | | | 11 | | | 11 | | | 11 | |
| **4:00 AM** | | | 24 | | | 24 | | | 24 | |
| **5:00 AM** | | | 43 | | | 43 | | | 43 | |
| **6:00 AM** | | | 134 | | | 134 | | | 134 | |
| **7:00 AM** | | | **434** | | | **434** | | | **434** | |
| **8:00 AM** | | | 364 | | | 364 | | | 364 | |
| **9:00 AM** | | | 212 | | | 212 | | | 212 | |
| **10:00 AM** | | | 200 | | | 200 | | | 200 | |
| **11:00 AM** | | | 189 | | | 189 | | | 189 | |
| **12:00 PM** | | | 238 | | | 238 | | | 238 | |
| **1:00 PM** | | | 215 | | | 215 | | | 215 | |
| **2:00 PM** | | | 203 | | | 203 | | | 203 | |
| **3:00 PM** | | | 258 | | | 258 | | | 258 | |
| **4:00 PM** | | | 383 | | | 383 | | | 383 | |
| **5:00 PM** | | | **576** | | | **576** | | | **576** | |
| **6:00 PM** | | | 495 | | | 495 | | | 495 | |
| **7:00 PM** | | | 258 | | | 258 | | | 258 | |
| **8:00 PM** | | | 176 | | | 176 | | | 176 | |
| **9:00 PM** | | | 168 | | | 168 | | | 168 | |
| **10:00 PM** | | | 113 | | | 113 | | | 113 | |
| **11:00 PM** | | | 39 | | | 39 | | | 39 | |
| **Day Total** | | | 4776 | | | 4776 | | | 4776 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak | | | 7:00 AM | | | 7:00 AM | | | 7:00 AM | |
| Volume | | | 434 | | | 434 | | | 434 | |
| PM Peak | | | 5:00 PM | | | 5:00 PM | | | 5:00 PM | |
| Volume | | | 576 | | | 576 | | | 576 | |

*Comments:* none

**LOCATION:** 113. Chilco St
**SPECIFIC LOCATION:** 100 ft from Ivy Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899484
**DIRECTION:** EB/WB
**DATE:** Oct 08 2014 - Oct 08 2014

| Start Time | Mon | Tue | Wed 08-Oct-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 8 | | | 8 | | | 8 | |
| **1:00 AM** | | | 9 | | | 9 | | | 9 | |
| **2:00 AM** | | | 3 | | | 3 | | | 3 | |
| **3:00 AM** | | | 7 | | | 7 | | | 7 | |
| **4:00 AM** | | | 3 | | | 3 | | | 3 | |
| **5:00 AM** | | | 16 | | | 16 | | | 16 | |
| **6:00 AM** | | | 63 | | | 63 | | | 63 | |
| **7:00 AM** | | | 196 | | | 196 | | | 196 | |
| **8:00 AM** | | | **202** | | | **202** | | | **202** | |
| **9:00 AM** | | | 108 | | | 108 | | | 108 | |
| **10:00 AM** | | | 77 | | | 77 | | | 77 | |
| **11:00 AM** | | | 103 | | | 103 | | | 103 | |
| **12:00 PM** | | | 105 | | | 105 | | | 105 | |
| **1:00 PM** | | | 136 | | | 136 | | | 136 | |
| **2:00 PM** | | | 115 | | | 115 | | | 115 | |
| **3:00 PM** | | | 154 | | | 154 | | | 154 | |
| **4:00 PM** | | | 258 | | | 258 | | | 258 | |
| **5:00 PM** | | | **390** | | | **390** | | | **390** | |
| **6:00 PM** | | | 337 | | | 337 | | | 337 | |
| **7:00 PM** | | | 146 | | | 146 | | | 146 | |
| **8:00 PM** | | | 80 | | | 80 | | | 80 | |
| **9:00 PM** | | | 65 | | | 65 | | | 65 | |
| **10:00 PM** | | | 53 | | | 53 | | | 53 | |
| **11:00 PM** | | | 20 | | | 20 | | | 20 | |
| **Day Total** | | | 2654 | | | 2654 | | | 2654 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak Volume | | | 8:00 AM 202 | | | 8:00 AM 202 | | | 8:00 AM 202 | |
| PM Peak Volume | | | 5:00 PM 390 | | | 5:00 PM 390 | | | 5:00 PM 390 | |

*Comments:* none

**LOCATION:** 114. Chilco St
**SPECIFIC LOCATION:** 100 ft from Newbridge St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899485
**DIRECTION:** EB/WB
**DATE:** Oct 08 2014 - Oct 08 2014

| Start Time | Mon | Tue | Wed 08-Oct-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 8 | | | 8 | | | 8 | |
| **1:00 AM** | | | 13 | | | 13 | | | 13 | |
| **2:00 AM** | | | 3 | | | 3 | | | 3 | |
| **3:00 AM** | | | 7 | | | 7 | | | 7 | |
| **4:00 AM** | | | 8 | | | 8 | | | 8 | |
| **5:00 AM** | | | 10 | | | 10 | | | 10 | |
| **6:00 AM** | | | 76 | | | 76 | | | 76 | |
| **7:00 AM** | | | 151 | | | 151 | | | 151 | |
| **8:00 AM** | | | **190** | | | **190** | | | **190** | |
| **9:00 AM** | | | 82 | | | 82 | | | 82 | |
| **10:00 AM** | | | 66 | | | 66 | | | 66 | |
| **11:00 AM** | | | 87 | | | 87 | | | 87 | |
| **12:00 PM** | | | 87 | | | 87 | | | 87 | |
| **1:00 PM** | | | 148 | | | 148 | | | 148 | |
| **2:00 PM** | | | 100 | | | 100 | | | 100 | |
| **3:00 PM** | | | 121 | | | 121 | | | 121 | |
| **4:00 PM** | | | 177 | | | 177 | | | 177 | |
| **5:00 PM** | | | **251** | | | **251** | | | **251** | |
| **6:00 PM** | | | 236 | | | 236 | | | 236 | |
| **7:00 PM** | | | 112 | | | 112 | | | 112 | |
| **8:00 PM** | | | 69 | | | 69 | | | 69 | |
| **9:00 PM** | | | 53 | | | 53 | | | 53 | |
| **10:00 PM** | | | 40 | | | 40 | | | 40 | |
| **11:00 PM** | | | 19 | | | 19 | | | 19 | |
| **Day Total** | | | 2114 | | | 2114 | | | 2114 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak | | | 8:00 AM | | | 8:00 AM | | | 8:00 AM | |
| Volume | | | 190 | | | 190 | | | 190 | |
| PM Peak | | | 5:00 PM | | | 5:00 PM | | | 5:00 PM | |
| Volume | | | 251 | | | 251 | | | 251 | |

*Comments:* none

**LOCATION:** 119. Hamilton Ave
**SPECIFIC LOCATION:** 100 ft from Willow Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899486
**DIRECTION:** NB/SB
**DATE:** Oct 08 2014 - Oct 08 2014

| Start Time | Mon | Tue | Wed 08-Oct-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 14 | | | 14 | | | 14 | |
| **1:00 AM** | | | 11 | | | 11 | | | 11 | |
| **2:00 AM** | | | 12 | | | 12 | | | 12 | |
| **3:00 AM** | | | 44 | | | 44 | | | 44 | |
| **4:00 AM** | | | 20 | | | 20 | | | 20 | |
| **5:00 AM** | | | 95 | | | 95 | | | 95 | |
| **6:00 AM** | | | 103 | | | 103 | | | 103 | |
| **7:00 AM** | | | 186 | | | 186 | | | 186 | |
| **8:00 AM** | | | **215** | | | **215** | | | **215** | |
| **9:00 AM** | | | 187 | | | 187 | | | 187 | |
| **10:00 AM** | | | 167 | | | 167 | | | 167 | |
| **11:00 AM** | | | 165 | | | 165 | | | 165 | |
| **12:00 PM** | | | 200 | | | 200 | | | 200 | |
| **1:00 PM** | | | 145 | | | 145 | | | 145 | |
| **2:00 PM** | | | 201 | | | 201 | | | 201 | |
| **3:00 PM** | | | 137 | | | 137 | | | 137 | |
| **4:00 PM** | | | 208 | | | 208 | | | 208 | |
| **5:00 PM** | | | **213** | | | **213** | | | **213** | |
| **6:00 PM** | | | 146 | | | 146 | | | 146 | |
| **7:00 PM** | | | 75 | | | 75 | | | 75 | |
| **8:00 PM** | | | 42 | | | 42 | | | 42 | |
| **9:00 PM** | | | 28 | | | 28 | | | 28 | |
| **10:00 PM** | | | 18 | | | 18 | | | 18 | |
| **11:00 PM** | | | 11 | | | 11 | | | 11 | |
| **Day Total** | | | 2643 | | | 2643 | | | 2643 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak Volume | | | 8:00 AM 215 | | | 8:00 AM 215 | | | 8:00 AM 215 | |
| PM Peak Volume | | | 5:00 PM 213 | | | 5:00 PM 213 | | | 5:00 PM 213 | |

*Comments:* none

**LOCATION:** 120. Willow Rd
**SPECIFIC LOCATION:** 100 ft from Gilbert Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899487
**DIRECTION:** EB/WB
**DATE:** Oct 14 2014 - Oct 14 2014

| Start Time | Mon | Tue 14-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 101 | | | | 101 | | | 101 | |
| **1:00 AM** | | 50 | | | | 50 | | | 50 | |
| **2:00 AM** | | 30 | | | | 30 | | | 30 | |
| **3:00 AM** | | 53 | | | | 53 | | | 53 | |
| **4:00 AM** | | 123 | | | | 123 | | | 123 | |
| **5:00 AM** | | 454 | | | | 454 | | | 454 | |
| **6:00 AM** | | 1030 | | | | 1030 | | | 1030 | |
| **7:00 AM** | | 1478 | | | | 1478 | | | 1478 | |
| **8:00 AM** | | 1612 | | | | 1612 | | | 1612 | |
| **9:00 AM** | | **1696** | | | | **1696** | | | **1696** | |
| **10:00 AM** | | 1440 | | | | 1440 | | | 1440 | |
| **11:00 AM** | | 1401 | | | | 1401 | | | 1401 | |
| **12:00 PM** | | 1433 | | | | 1433 | | | 1433 | |
| **1:00 PM** | | 1482 | | | | 1482 | | | 1482 | |
| **2:00 PM** | | **1718** | | | | **1718** | | | **1718** | |
| **3:00 PM** | | 1634 | | | | 1634 | | | 1634 | |
| **4:00 PM** | | 1604 | | | | 1604 | | | 1604 | |
| **5:00 PM** | | 1614 | | | | 1614 | | | 1614 | |
| **6:00 PM** | | 1629 | | | | 1629 | | | 1629 | |
| **7:00 PM** | | 1362 | | | | 1362 | | | 1362 | |
| **8:00 PM** | | 916 | | | | 916 | | | 916 | |
| **9:00 PM** | | 760 | | | | 760 | | | 760 | |
| **10:00 PM** | | 487 | | | | 487 | | | 487 | |
| **11:00 PM** | | 246 | | | | 246 | | | 246 | |
| **Day Total** | | 24353 | | | | 24353 | | | 24353 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 9:00 AM | | | | 9:00 AM | | | 9:00 AM | |
| Volume | | 1696 | | | | 1696 | | | 1696 | |
| PM Peak | | 2:00 PM | | | | 2:00 PM | | | 2:00 PM | |
| Volume | | 1718 | | | | 1718 | | | 1718 | |

*Comments:* none

**LOCATION:** 121. Willow Rd
**SPECIFIC LOCATION:** 100 ft from Coleman Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899488
**DIRECTION:** EB/WB
**DATE:** Sep 30 2014 - Sep 30 2014

| Start Time | Mon | Tue<br>30-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 195 | | | | 195 | | | 195 | |
| **1:00 AM** | | 75 | | | | 75 | | | 75 | |
| **2:00 AM** | | 92 | | | | 92 | | | 92 | |
| **3:00 AM** | | 96 | | | | 96 | | | 96 | |
| **4:00 AM** | | 219 | | | | 219 | | | 219 | |
| **5:00 AM** | | 762 | | | | 762 | | | 762 | |
| **6:00 AM** | | 1893 | | | | 1893 | | | 1893 | |
| **7:00 AM** | | 2649 | | | | 2649 | | | 2649 | |
| **8:00 AM** | | **2924** | | | | **2924** | | | **2924** | |
| **9:00 AM** | | 2676 | | | | 2676 | | | 2676 | |
| **10:00 AM** | | 2482 | | | | 2482 | | | 2482 | |
| **11:00 AM** | | 2518 | | | | 2518 | | | 2518 | |
| **12:00 PM** | | 2526 | | | | 2526 | | | 2526 | |
| **1:00 PM** | | 2531 | | | | 2531 | | | 2531 | |
| **2:00 PM** | | **2760** | | | | **2760** | | | **2760** | |
| **3:00 PM** | | 2606 | | | | 2606 | | | 2606 | |
| **4:00 PM** | | 2372 | | | | 2372 | | | 2372 | |
| **5:00 PM** | | 2168 | | | | 2168 | | | 2168 | |
| **6:00 PM** | | 2508 | | | | 2508 | | | 2508 | |
| **7:00 PM** | | 2468 | | | | 2468 | | | 2468 | |
| **8:00 PM** | | 1726 | | | | 1726 | | | 1726 | |
| **9:00 PM** | | 1418 | | | | 1418 | | | 1418 | |
| **10:00 PM** | | 989 | | | | 989 | | | 989 | |
| **11:00 PM** | | 535 | | | | 535 | | | 535 | |
| **Day Total** | | 41188 | | | | 41188 | | | 41188 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>2924 | | | | 8:00 AM<br>2924 | | | 8:00 AM<br>2924 | |
| PM Peak Volume | | 2:00 PM<br>2760 | | | | 2:00 PM<br>2760 | | | 2:00 PM<br>2760 | |

*Comments:* none

**LOCATION:** 122. Willow Rd
**SPECIFIC LOCATION:** 100 ft from Durham St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899489
**DIRECTION:** EB/WB
**DATE:** Oct 14 2014 - Oct 14 2014

| Start Time | Mon | Tue 14-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 191 | | | | 191 | | | 191 | |
| **1:00 AM** | | 73 | | | | 73 | | | 73 | |
| **2:00 AM** | | 70 | | | | 70 | | | 70 | |
| **3:00 AM** | | 66 | | | | 66 | | | 66 | |
| **4:00 AM** | | 179 | | | | 179 | | | 179 | |
| **5:00 AM** | | 626 | | | | 626 | | | 626 | |
| **6:00 AM** | | 1604 | | | | 1604 | | | 1604 | |
| **7:00 AM** | | 2302 | | | | 2302 | | | 2302 | |
| **8:00 AM** | | **2463** | | | | **2463** | | | **2463** | |
| **9:00 AM** | | 2286 | | | | 2286 | | | 2286 | |
| **10:00 AM** | | 2098 | | | | 2098 | | | 2098 | |
| **11:00 AM** | | 2070 | | | | 2070 | | | 2070 | |
| **12:00 PM** | | 1977 | | | | 1977 | | | 1977 | |
| **1:00 PM** | | 2018 | | | | 2018 | | | 2018 | |
| **2:00 PM** | | 2214 | | | | 2214 | | | 2214 | |
| **3:00 PM** | | **2264** | | | | **2264** | | | **2264** | |
| **4:00 PM** | | 2198 | | | | 2198 | | | 2198 | |
| **5:00 PM** | | 2104 | | | | 2104 | | | 2104 | |
| **6:00 PM** | | 2179 | | | | 2179 | | | 2179 | |
| **7:00 PM** | | 1870 | | | | 1870 | | | 1870 | |
| **8:00 PM** | | 1245 | | | | 1245 | | | 1245 | |
| **9:00 PM** | | 984 | | | | 984 | | | 984 | |
| **10:00 PM** | | 648 | | | | 648 | | | 648 | |
| **11:00 PM** | | 418 | | | | 418 | | | 418 | |
| **Day Total** | | 34147 | | | | 34147 | | | 34147 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM 2463 | | | | 8:00 AM 2463 | | | 8:00 AM 2463 | |
| PM Peak Volume | | 3:00 PM 2264 | | | | 3:00 PM 2264 | | | 3:00 PM 2264 | |

*Comments:* none

**LOCATION:** 123. Chilco St
**SPECIFIC LOCATION:** 100 ft from Terminal Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899490
**DIRECTION:** EB/WB
**DATE:** Oct 14 2014 - Oct 14 2014

| Start Time | Mon | Tue<br>14-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 34 | | | | 34 | | | 34 | |
| **1:00 AM** | | 11 | | | | 11 | | | 11 | |
| **2:00 AM** | | 7 | | | | 7 | | | 7 | |
| **3:00 AM** | | 9 | | | | 9 | | | 9 | |
| **4:00 AM** | | 13 | | | | 13 | | | 13 | |
| **5:00 AM** | | 61 | | | | 61 | | | 61 | |
| **6:00 AM** | | 127 | | | | 127 | | | 127 | |
| **7:00 AM** | | **442** | | | | **442** | | | **442** | |
| **8:00 AM** | | 401 | | | | 401 | | | 401 | |
| **9:00 AM** | | 243 | | | | 243 | | | 243 | |
| **10:00 AM** | | 181 | | | | 181 | | | 181 | |
| **11:00 AM** | | 186 | | | | 186 | | | 186 | |
| **12:00 PM** | | 218 | | | | 218 | | | 218 | |
| **1:00 PM** | | 221 | | | | 221 | | | 221 | |
| **2:00 PM** | | 244 | | | | 244 | | | 244 | |
| **3:00 PM** | | 372 | | | | 372 | | | 372 | |
| **4:00 PM** | | 434 | | | | 434 | | | 434 | |
| **5:00 PM** | | **756** | | | | **756** | | | **756** | |
| **6:00 PM** | | 419 | | | | 419 | | | 419 | |
| **7:00 PM** | | 273 | | | | 273 | | | 273 | |
| **8:00 PM** | | 173 | | | | 173 | | | 173 | |
| **9:00 PM** | | 127 | | | | 127 | | | 127 | |
| **10:00 PM** | | 99 | | | | 99 | | | 99 | |
| **11:00 PM** | | 52 | | | | 52 | | | 52 | |
| **Day Total** | | 5103 | | | | 5103 | | | 5103 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 7:00 AM<br>442 | | | | 7:00 AM<br>442 | | | 7:00 AM<br>442 | |
| PM Peak Volume | | 5:00 PM<br>756 | | | | 5:00 PM<br>756 | | | 5:00 PM<br>756 | |

*Comments:* none

**LOCATION:** 124. Chrysler Dr
**SPECIFIC LOCATION:** 100 ft from Constitution Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899491
**DIRECTION:** EB/WB
**DATE:** Oct 15 2014 - Oct 15 2014

| Start Time | Mon | Tue | Wed 15-Oct-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 17 | | | 17 | | | 17 | |
| **1:00 AM** | | | 6 | | | 6 | | | 6 | |
| **2:00 AM** | | | 12 | | | 12 | | | 12 | |
| **3:00 AM** | | | 8 | | | 8 | | | 8 | |
| **4:00 AM** | | | 13 | | | 13 | | | 13 | |
| **5:00 AM** | | | 83 | | | 83 | | | 83 | |
| **6:00 AM** | | | 125 | | | 125 | | | 125 | |
| **7:00 AM** | | | 181 | | | 181 | | | 181 | |
| **8:00 AM** | | | 247 | | | 247 | | | 247 | |
| **9:00 AM** | | | **258** | | | **258** | | | **258** | |
| **10:00 AM** | | | 192 | | | 192 | | | 192 | |
| **11:00 AM** | | | 202 | | | 202 | | | 202 | |
| **12:00 PM** | | | 219 | | | 219 | | | 219 | |
| **1:00 PM** | | | 193 | | | 193 | | | 193 | |
| **2:00 PM** | | | 162 | | | 162 | | | 162 | |
| **3:00 PM** | | | 248 | | | 248 | | | 248 | |
| **4:00 PM** | | | **349** | | | **349** | | | **349** | |
| **5:00 PM** | | | 347 | | | 347 | | | 347 | |
| **6:00 PM** | | | 205 | | | 205 | | | 205 | |
| **7:00 PM** | | | 99 | | | 99 | | | 99 | |
| **8:00 PM** | | | 35 | | | 35 | | | 35 | |
| **9:00 PM** | | | 26 | | | 26 | | | 26 | |
| **10:00 PM** | | | 23 | | | 23 | | | 23 | |
| **11:00 PM** | | | 19 | | | 19 | | | 19 | |
| **Day Total** | | | 3269 | | | 3269 | | | 3269 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak Volume | | | 9:00 AM 258 | | | 9:00 AM 258 | | | 9:00 AM 258 | |
| PM Peak Volume | | | 4:00 PM 349 | | | 4:00 PM 349 | | | 4:00 PM 349 | |

*Comments:* none

**LOCATION:** 125. Chrysler Dr
**SPECIFIC LOCATION:** 100 ft from Independence Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899492
**DIRECTION:** EB/WB
**DATE:** Oct 14 2014 - Oct 14 2014

| Start Time | Mon | Tue 14-Oct-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 2 | | | | 2 | | | 2 | |
| **1:00 AM** | | 0 | | | | 0 | | | 0 | |
| **2:00 AM** | | 3 | | | | 3 | | | 3 | |
| **3:00 AM** | | 3 | | | | 3 | | | 3 | |
| **4:00 AM** | | 10 | | | | 10 | | | 10 | |
| **5:00 AM** | | 3 | | | | 3 | | | 3 | |
| **6:00 AM** | | 37 | | | | 37 | | | 37 | |
| **7:00 AM** | | 72 | | | | 72 | | | 72 | |
| **8:00 AM** | | **154** | | | | **154** | | | **154** | |
| **9:00 AM** | | 139 | | | | 139 | | | 139 | |
| **10:00 AM** | | 56 | | | | 56 | | | 56 | |
| **11:00 AM** | | 53 | | | | 53 | | | 53 | |
| **12:00 PM** | | 64 | | | | 64 | | | 64 | |
| **1:00 PM** | | 67 | | | | 67 | | | 67 | |
| **2:00 PM** | | 34 | | | | 34 | | | 34 | |
| **3:00 PM** | | 52 | | | | 52 | | | 52 | |
| **4:00 PM** | | 85 | | | | 85 | | | 85 | |
| **5:00 PM** | | **108** | | | | **108** | | | **108** | |
| **6:00 PM** | | 82 | | | | 82 | | | 82 | |
| **7:00 PM** | | 46 | | | | 46 | | | 46 | |
| **8:00 PM** | | 15 | | | | 15 | | | 15 | |
| **9:00 PM** | | 15 | | | | 15 | | | 15 | |
| **10:00 PM** | | 4 | | | | 4 | | | 4 | |
| **11:00 PM** | | 6 | | | | 6 | | | 6 | |
| **Day Total** | | 1110 | | | | 1110 | | | 1110 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 154 | | | | 154 | | | 154 | |
| PM Peak | | 5:00 PM | | | | 5:00 PM | | | 5:00 PM | |
| Volume | | 108 | | | | 108 | | | 108 | |

*Comments:* none

**LOCATION:** 126. Adams Dr
**SPECIFIC LOCATION:** 100 ft from University Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899493
**DIRECTION:** NB/SB
**DATE:** Oct 08 2014 - Oct 08 2014

| Start Time | Mon | Tue | Wed 08-Oct-14 | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | 14 | | | 14 | | | 14 | |
| **1:00 AM** | | | 9 | | | 9 | | | 9 | |
| **2:00 AM** | | | 7 | | | 7 | | | 7 | |
| **3:00 AM** | | | 36 | | | 36 | | | 36 | |
| **4:00 AM** | | | 13 | | | 13 | | | 13 | |
| **5:00 AM** | | | 32 | | | 32 | | | 32 | |
| **6:00 AM** | | | 73 | | | 73 | | | 73 | |
| **7:00 AM** | | | 113 | | | 113 | | | 113 | |
| **8:00 AM** | | | **161** | | | **161** | | | **161** | |
| **9:00 AM** | | | 89 | | | 89 | | | 89 | |
| **10:00 AM** | | | 61 | | | 61 | | | 61 | |
| **11:00 AM** | | | 51 | | | 51 | | | 51 | |
| **12:00 PM** | | | 64 | | | 64 | | | 64 | |
| **1:00 PM** | | | 65 | | | 65 | | | 65 | |
| **2:00 PM** | | | **74** | | | **74** | | | **74** | |
| **3:00 PM** | | | 62 | | | 62 | | | 62 | |
| **4:00 PM** | | | 53 | | | 53 | | | 53 | |
| **5:00 PM** | | | 64 | | | 64 | | | 64 | |
| **6:00 PM** | | | 63 | | | 63 | | | 63 | |
| **7:00 PM** | | | 59 | | | 59 | | | 59 | |
| **8:00 PM** | | | 45 | | | 45 | | | 45 | |
| **9:00 PM** | | | 26 | | | 26 | | | 26 | |
| **10:00 PM** | | | 19 | | | 19 | | | 19 | |
| **11:00 PM** | | | 10 | | | 10 | | | 10 | |
| **Day Total** | | | 1263 | | | 1263 | | | 1263 | |
| % Weekday Average | | | 100.0% | | | | | | | |
| % Week Average | | | 100.0% | | | 100.0% | | | | |
| AM Peak Volume | | | 8:00 AM<br>161 | | | 8:00 AM<br>161 | | | 8:00 AM<br>161 | |
| PM Peak Volume | | | 2:00 PM<br>74 | | | 2:00 PM<br>74 | | | 2:00 PM<br>74 | |

*Comments:* none

**LOCATION:** 133. Olive St
**SPECIFIC LOCATION:** 100 ft from Santa Cruz Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899494
**DIRECTION:** NB/SB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 4 | | | | 4 | | | 4 | |
| **1:00 AM** | | 0 | | | | 0 | | | 0 | |
| **2:00 AM** | | 0 | | | | 0 | | | 0 | |
| **3:00 AM** | | 2 | | | | 2 | | | 2 | |
| **4:00 AM** | | 0 | | | | 0 | | | 0 | |
| **5:00 AM** | | 6 | | | | 6 | | | 6 | |
| **6:00 AM** | | 24 | | | | 24 | | | 24 | |
| **7:00 AM** | | 144 | | | | 144 | | | 144 | |
| **8:00 AM** | | **223** | | | | **223** | | | **223** | |
| **9:00 AM** | | 170 | | | | 170 | | | 170 | |
| **10:00 AM** | | 167 | | | | 167 | | | 167 | |
| **11:00 AM** | | 169 | | | | 169 | | | 169 | |
| **12:00 PM** | | 151 | | | | 151 | | | 151 | |
| **1:00 PM** | | 152 | | | | 152 | | | 152 | |
| **2:00 PM** | | 148 | | | | 148 | | | 148 | |
| **3:00 PM** | | **236** | | | | **236** | | | **236** | |
| **4:00 PM** | | 159 | | | | 159 | | | 159 | |
| **5:00 PM** | | 219 | | | | 219 | | | 219 | |
| **6:00 PM** | | 197 | | | | 197 | | | 197 | |
| **7:00 PM** | | 111 | | | | 111 | | | 111 | |
| **8:00 PM** | | 79 | | | | 79 | | | 79 | |
| **9:00 PM** | | 56 | | | | 56 | | | 56 | |
| **10:00 PM** | | 23 | | | | 23 | | | 23 | |
| **11:00 PM** | | 9 | | | | 9 | | | 9 | |
| **Day Total** | | 2449 | | | | 2449 | | | 2449 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 223 | | | | 223 | | | 223 | |
| PM Peak | | 3:00 PM | | | | 3:00 PM | | | 3:00 PM | |
| Volume | | 236 | | | | 236 | | | 236 | |

*Comments:* none

**LOCATION:** 134. Olive St
**SPECIFIC LOCATION:** 100 ft from Middle Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899495
**DIRECTION:** NB/SB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue<br>23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 5 | | | | 5 | | | 5 | |
| **1:00 AM** | | 5 | | | | 5 | | | 5 | |
| **2:00 AM** | | 0 | | | | 0 | | | 0 | |
| **3:00 AM** | | 1 | | | | 1 | | | 1 | |
| **4:00 AM** | | 4 | | | | 4 | | | 4 | |
| **5:00 AM** | | 16 | | | | 16 | | | 16 | |
| **6:00 AM** | | 33 | | | | 33 | | | 33 | |
| **7:00 AM** | | 183 | | | | 183 | | | 183 | |
| **8:00 AM** | | **374** | | | | **374** | | | **374** | |
| **9:00 AM** | | 209 | | | | 209 | | | 209 | |
| **10:00 AM** | | 166 | | | | 166 | | | 166 | |
| **11:00 AM** | | 164 | | | | 164 | | | 164 | |
| **12:00 PM** | | 161 | | | | 161 | | | 161 | |
| **1:00 PM** | | 175 | | | | 175 | | | 175 | |
| **2:00 PM** | | 242 | | | | 242 | | | 242 | |
| **3:00 PM** | | **353** | | | | **353** | | | **353** | |
| **4:00 PM** | | 250 | | | | 250 | | | 250 | |
| **5:00 PM** | | 226 | | | | 226 | | | 226 | |
| **6:00 PM** | | 211 | | | | 211 | | | 211 | |
| **7:00 PM** | | 133 | | | | 133 | | | 133 | |
| **8:00 PM** | | 78 | | | | 78 | | | 78 | |
| **9:00 PM** | | 36 | | | | 36 | | | 36 | |
| **10:00 PM** | | 21 | | | | 21 | | | 21 | |
| **11:00 PM** | | 5 | | | | 5 | | | 5 | |
| **Day Total** | | 3051 | | | | 3051 | | | 3051 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 374 | | | | 374 | | | 374 | |
| PM Peak | | 3:00 PM | | | | 3:00 PM | | | 3:00 PM | |
| Volume | | 353 | | | | 353 | | | 353 | |

*Comments:* none

**LOCATION:** 135. Cambridge Ave
**SPECIFIC LOCATION:** 100 ft from University Dr
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899496
**DIRECTION:** EB/WB
**DATE:** Sep 23 2014 - Sep 23 2014

| Start Time | Mon | Tue 23-Sep-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 7 | | | | 7 | | | 7 | |
| **1:00 AM** | | 0 | | | | 0 | | | 0 | |
| **2:00 AM** | | 3 | | | | 3 | | | 3 | |
| **3:00 AM** | | 0 | | | | 0 | | | 0 | |
| **4:00 AM** | | 1 | | | | 1 | | | 1 | |
| **5:00 AM** | | 3 | | | | 3 | | | 3 | |
| **6:00 AM** | | 11 | | | | 11 | | | 11 | |
| **7:00 AM** | | 61 | | | | 61 | | | 61 | |
| **8:00 AM** | | **112** | | | | **112** | | | **112** | |
| **9:00 AM** | | 95 | | | | 95 | | | 95 | |
| **10:00 AM** | | 92 | | | | 92 | | | 92 | |
| **11:00 AM** | | 97 | | | | 97 | | | 97 | |
| **12:00 PM** | | 86 | | | | 86 | | | 86 | |
| **1:00 PM** | | 105 | | | | 105 | | | 105 | |
| **2:00 PM** | | 78 | | | | 78 | | | 78 | |
| **3:00 PM** | | 107 | | | | 107 | | | 107 | |
| **4:00 PM** | | 126 | | | | 126 | | | 126 | |
| **5:00 PM** | | **264** | | | | **264** | | | **264** | |
| **6:00 PM** | | 158 | | | | 158 | | | 158 | |
| **7:00 PM** | | 84 | | | | 84 | | | 84 | |
| **8:00 PM** | | 40 | | | | 40 | | | 40 | |
| **9:00 PM** | | 49 | | | | 49 | | | 49 | |
| **10:00 PM** | | 19 | | | | 19 | | | 19 | |
| **11:00 PM** | | 5 | | | | 5 | | | 5 | |
| **Day Total** | | 1603 | | | | 1603 | | | 1603 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>112 | | | | 8:00 AM<br>112 | | | 8:00 AM<br>112 | |
| PM Peak Volume | | 5:00 PM<br>264 | | | | 5:00 PM<br>264 | | | 5:00 PM<br>264 | |

*Comments:* none

**LOCATION:** 136. Linfield Dr
**SPECIFIC LOCATION:** 100 ft from Middlefield Rd
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899497
**DIRECTION:** EB/WB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 8 | | 8 | | | 8 | |
| **1:00 AM** | | | | 6 | | 6 | | | 6 | |
| **2:00 AM** | | | | 1 | | 1 | | | 1 | |
| **3:00 AM** | | | | 3 | | 3 | | | 3 | |
| **4:00 AM** | | | | 12 | | 12 | | | 12 | |
| **5:00 AM** | | | | 23 | | 23 | | | 23 | |
| **6:00 AM** | | | | 54 | | 54 | | | 54 | |
| **7:00 AM** | | | | 104 | | 104 | | | 104 | |
| **8:00 AM** | | | | **143** | | **143** | | | **143** | |
| **9:00 AM** | | | | 126 | | 126 | | | 126 | |
| **10:00 AM** | | | | 91 | | 91 | | | 91 | |
| **11:00 AM** | | | | 94 | | 94 | | | 94 | |
| **12:00 PM** | | | | 125 | | 125 | | | 125 | |
| **1:00 PM** | | | | 97 | | 97 | | | 97 | |
| **2:00 PM** | | | | 103 | | 103 | | | 103 | |
| **3:00 PM** | | | | **161** | | **161** | | | **161** | |
| **4:00 PM** | | | | 137 | | 137 | | | 137 | |
| **5:00 PM** | | | | 160 | | 160 | | | 160 | |
| **6:00 PM** | | | | 105 | | 105 | | | 105 | |
| **7:00 PM** | | | | 71 | | 71 | | | 71 | |
| **8:00 PM** | | | | 44 | | 44 | | | 44 | |
| **9:00 PM** | | | | 39 | | 39 | | | 39 | |
| **10:00 PM** | | | | 39 | | 39 | | | 39 | |
| **11:00 PM** | | | | 14 | | 14 | | | 14 | |
| **Day Total** | | | | 1760 | | 1760 | | | 1760 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 8:00 AM | | 8:00 AM | | | 8:00 AM | |
| Volume | | | | 143 | | 143 | | | 143 | |
| PM Peak | | | | 3:00 PM | | 3:00 PM | | | 3:00 PM | |
| Volume | | | | 161 | | 161 | | | 161 | |

*Comments:* none

**LOCATION:** 137. Waverly St
**SPECIFIC LOCATION:** 100 ft from Laurel St
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899498
**DIRECTION:** NB/SB
**DATE:** Oct 16 2014 - Oct 16 2014

| Start Time | Mon | Tue | Wed | Thu 16-Oct-14 | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | | | 2 | | 2 | | | 2 | |
| **1:00 AM** | | | | 4 | | 4 | | | 4 | |
| **2:00 AM** | | | | 4 | | 4 | | | 4 | |
| **3:00 AM** | | | | 2 | | 2 | | | 2 | |
| **4:00 AM** | | | | 6 | | 6 | | | 6 | |
| **5:00 AM** | | | | 21 | | 21 | | | 21 | |
| **6:00 AM** | | | | 50 | | 50 | | | 50 | |
| **7:00 AM** | | | | 114 | | 114 | | | 114 | |
| **8:00 AM** | | | | **155** | | **155** | | | **155** | |
| **9:00 AM** | | | | 105 | | 105 | | | 105 | |
| **10:00 AM** | | | | 106 | | 106 | | | 106 | |
| **11:00 AM** | | | | 78 | | 78 | | | 78 | |
| **12:00 PM** | | | | 100 | | 100 | | | 100 | |
| **1:00 PM** | | | | 98 | | 98 | | | 98 | |
| **2:00 PM** | | | | 92 | | 92 | | | 92 | |
| **3:00 PM** | | | | 138 | | 138 | | | 138 | |
| **4:00 PM** | | | | 122 | | 122 | | | 122 | |
| **5:00 PM** | | | | **153** | | **153** | | | **153** | |
| **6:00 PM** | | | | 121 | | 121 | | | 121 | |
| **7:00 PM** | | | | 67 | | 67 | | | 67 | |
| **8:00 PM** | | | | 41 | | 41 | | | 41 | |
| **9:00 PM** | | | | 33 | | 33 | | | 33 | |
| **10:00 PM** | | | | 28 | | 28 | | | 28 | |
| **11:00 PM** | | | | 12 | | 12 | | | 12 | |
| **Day Total** | | | | 1652 | | 1652 | | | 1652 | |
| % Weekday Average | | | | 100.0% | | | | | | |
| % Week Average | | | | 100.0% | | 100.0% | | | | |
| AM Peak | | | | 8:00 AM | | 8:00 AM | | | 8:00 AM | |
| Volume | | | | 155 | | 155 | | | 155 | |
| PM Peak | | | | 5:00 PM | | 5:00 PM | | | 5:00 PM | |
| Volume | | | | 153 | | 153 | | | 153 | |

*Comments:* none

**LOCATION:** 30. Hamilton Ave
**QC JOB #:** 12899421
**SPECIFIC LOCATION:** 100 ft from Willow Rd
**DIRECTION:** NB/SB
**CITY/STATE:** Menlo Park, CA
**DATE:** Dec 09 2014 - Dec 09 2014

| Start Time | Mon | Tue | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 09-Dec-14 | | | | | | | | |
| **12:00 AM** | | 25 | | | | 25 | | | 25 | |
| **1:00 AM** | | 8 | | | | 8 | | | 8 | |
| **2:00 AM** | | 9 | | | | 9 | | | 9 | |
| **3:00 AM** | | 5 | | | | 5 | | | 5 | |
| **4:00 AM** | | 12 | | | | 12 | | | 12 | |
| **5:00 AM** | | 31 | | | | 31 | | | 31 | |
| **6:00 AM** | | 82 | | | | 82 | | | 82 | |
| **7:00 AM** | | 216 | | | | 216 | | | 216 | |
| **8:00 AM** | | **280** | | | | **280** | | | **280** | |
| **9:00 AM** | | 118 | | | | 118 | | | 118 | |
| **10:00 AM** | | 101 | | | | 101 | | | 101 | |
| **11:00 AM** | | 151 | | | | 151 | | | 151 | |
| **12:00 PM** | | 130 | | | | 130 | | | 130 | |
| **1:00 PM** | | 112 | | | | 112 | | | 112 | |
| **2:00 PM** | | 135 | | | | 135 | | | 135 | |
| **3:00 PM** | | 183 | | | | 183 | | | 183 | |
| **4:00 PM** | | 186 | | | | 186 | | | 186 | |
| **5:00 PM** | | **292** | | | | **292** | | | **292** | |
| **6:00 PM** | | 285 | | | | 285 | | | 285 | |
| **7:00 PM** | | 128 | | | | 128 | | | 128 | |
| **8:00 PM** | | 96 | | | | 96 | | | 96 | |
| **9:00 PM** | | 106 | | | | 106 | | | 106 | |
| **10:00 PM** | | 52 | | | | 52 | | | 52 | |
| **11:00 PM** | | 30 | | | | 30 | | | 30 | |
| **Day Total** | | 2773 | | | | 2773 | | | 2773 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak | | 8:00 AM | | | | 8:00 AM | | | 8:00 AM | |
| Volume | | 280 | | | | 280 | | | 280 | |
| PM Peak | | 5:00 PM | | | | 5:00 PM | | | 5:00 PM | |
| Volume | | 292 | | | | 292 | | | 292 | |

*Comments:* none

**LOCATION:** 43. Menlo Ave
**SPECIFIC LOCATION:** 100 ft from University Ave
**CITY/STATE:** Menlo Park, CA

**QC JOB #:** 12899430
**DIRECTION:** EB/WB
**DATE:** Dec 09 2014 - Dec 09 2014

| Start Time | Mon | Tue<br>09-Dec-14 | Wed | Thu | Fri | Average Weekday Hourly Traffic | Sat | Sun | Average Week Hourly Traffic | Average Week Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| **12:00 AM** | | 9 | | | | 9 | | | 9 | |
| **1:00 AM** | | 3 | | | | 3 | | | 3 | |
| **2:00 AM** | | 5 | | | | 5 | | | 5 | |
| **3:00 AM** | | 0 | | | | 0 | | | 0 | |
| **4:00 AM** | | 14 | | | | 14 | | | 14 | |
| **5:00 AM** | | 33 | | | | 33 | | | 33 | |
| **6:00 AM** | | 105 | | | | 105 | | | 105 | |
| **7:00 AM** | | 322 | | | | 322 | | | 322 | |
| **8:00 AM** | | **605** | | | | **605** | | | **605** | |
| **9:00 AM** | | 451 | | | | 451 | | | 451 | |
| **10:00 AM** | | 450 | | | | 450 | | | 450 | |
| **11:00 AM** | | 434 | | | | 434 | | | 434 | |
| **12:00 PM** | | 499 | | | | 499 | | | 499 | |
| **1:00 PM** | | 512 | | | | 512 | | | 512 | |
| **2:00 PM** | | 510 | | | | 510 | | | 510 | |
| **3:00 PM** | | **719** | | | | **719** | | | **719** | |
| **4:00 PM** | | 702 | | | | 702 | | | 702 | |
| **5:00 PM** | | 611 | | | | 611 | | | 611 | |
| **6:00 PM** | | 530 | | | | 530 | | | 530 | |
| **7:00 PM** | | 370 | | | | 370 | | | 370 | |
| **8:00 PM** | | 239 | | | | 239 | | | 239 | |
| **9:00 PM** | | 139 | | | | 139 | | | 139 | |
| **10:00 PM** | | 68 | | | | 68 | | | 68 | |
| **11:00 PM** | | 30 | | | | 30 | | | 30 | |
| **Day Total** | | 7360 | | | | 7360 | | | 7360 | |
| % Weekday Average | | 100.0% | | | | | | | | |
| % Week Average | | 100.0% | | | | 100.0% | | | | |
| AM Peak Volume | | 8:00 AM<br>605 | | | | 8:00 AM<br>605 | | | 8:00 AM<br>605 | |
| PM Peak Volume | | 3:00 PM<br>719 | | | | 3:00 PM<br>719 | | | 3:00 PM<br>719 | |

*Comments:* none

APPENDIX D

# BRIDGE COUNTS

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
971-223-0003
www.qualitycounts.net

**Site Code:** 13113009
**Location:** Pierce Rd & Ringwood Overcrossing
**Date:** 10/14/2014

| | Pedestrians | | Bikes | | | |
|---|---|---|---|---|---|---|
| | WB | EB | WB | EB | Interval Total | Hour Total |
| 0:00 | 0 | 0 | 0 | 0 | 0 | |
| 0:15 | 0 | 0 | 0 | 0 | 0 | |
| 0:30 | 0 | 0 | 0 | 0 | 0 | |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 2 | 1 | 0 | 3 | 3 |
| 6:45 | 0 | 1 | 3 | 3 | 7 | 10 |
| 7:00 | 0 | 1 | 2 | 0 | 3 | 13 |
| 7:15 | 1 | 3 | 3 | 7 | 14 | 27 |
| 7:30 | 0 | 2 | 3 | 7 | 12 | 36 |
| 7:45 | 1 | 4 | 5 | 3 | 13 | 42 |
| 8:00 | 3 | 11 | 6 | 5 | 25 | 64 |
| 8:15 | 2 | 2 | 9 | 2 | 15 | 65 |
| 8:30 | 2 | 17 | 10 | 16 | 45 | 98 |
| 8:45 | 1 | 10 | 10 | 8 | 29 | 114 |
| 9:00 | 3 | 17 | 6 | 13 | 39 | 128 |
| 9:15 | 0 | 2 | 4 | 5 | 11 | 124 |
| 9:30 | 1 | 0 | 5 | 1 | 7 | 86 |
| 9:45 | 1 | 1 | 5 | 5 | 12 | 69 |
| 10:00 | 1 | 1 | 2 | 1 | 5 | 35 |
| 10:15 | 0 | 1 | 1 | 0 | 2 | 26 |
| 10:30 | 0 | 0 | 4 | 3 | 7 | 26 |
| 10:45 | 3 | 0 | 1 | 1 | 5 | 19 |
| 11:00 | 1 | 0 | 0 | 2 | 3 | 17 |
| 11:15 | 0 | 0 | 1 | 1 | 2 | 17 |
| 11:30 | 0 | 0 | 0 | 0 | 0 | 10 |
| 11:45 | 2 | 0 | 0 | 0 | 2 | 7 |

| | Pedestrians | | Bikes | | | |
|---|---|---|---|---|---|---|
| | WB | EB | WB | EB | Interval Total | Hour Total |
| 12:00 | 0 | 0 | 2 | 0 | 2 | 6 |
| 12:15 | 0 | 0 | 1 | 1 | 2 | 6 |
| 12:30 | 0 | 0 | 0 | 0 | 0 | 6 |
| 12:45 | 0 | 1 | 0 | 0 | 1 | 5 |
| 13:00 | 0 | 2 | 0 | 1 | 3 | 6 |
| 13:15 | 0 | 0 | 0 | 2 | 2 | 6 |
| 13:30 | 0 | 0 | 1 | 1 | 2 | 8 |
| 13:45 | 0 | 1 | 1 | 1 | 3 | 10 |
| 14:00 | 1 | 3 | 1 | 0 | 5 | 12 |
| 14:15 | 0 | 0 | 0 | 0 | 0 | 10 |
| 14:30 | 0 | 1 | 2 | 3 | 6 | 14 |
| 14:45 | 0 | 2 | 0 | 3 | 5 | 16 |
| 15:00 | 2 | 1 | 1 | 0 | 4 | 15 |
| 15:15 | 0 | 2 | 1 | 9 | 12 | 27 |
| 15:30 | 2 | 51 | 1 | 8 | 62 | 83 |
| 15:45 | 1 | 31 | 3 | 5 | 40 | 118 |
| 16:00 | 2 | 7 | 0 | 0 | 9 | 123 |
| 16:15 | 4 | 5 | 2 | 2 | 13 | 124 |
| 16:30 | 0 | 0 | 2 | 1 | 3 | 65 |
| 16:45 | 0 | 3 | 1 | 3 | 7 | 32 |
| 17:00 | 0 | 3 | 7 | 9 | 19 | 42 |
| 17:15 | 0 | 5 | 9 | 5 | 19 | 48 |
| 17:30 | 0 | 1 | 2 | 6 | 9 | 54 |
| 17:45 | 0 | 4 | 6 | 1 | 11 | 58 |
| 18:00 | 2 | 2 | 3 | 2 | 9 | 48 |
| 18:15 | 0 | 2 | 6 | 3 | 11 | 40 |
| 18:30 | 1 | 2 | 3 | 2 | 8 | 39 |
| 18:45 | 0 | 1 | 7 | 3 | 11 | 39 |
| 19:00 | 0 | 5 | 6 | 2 | 13 | 43 |
| 19:15 | 1 | 1 | 4 | 0 | 6 | 38 |
| 19:30 | 0 | 1 | 4 | 0 | 5 | 35 |
| 19:45 | 2 | 0 | 3 | 0 | 5 | 29 |
| 20:00 | 0 | 0 | 3 | 0 | 3 | 19 |
| 20:15 | 2 | 2 | 1 | 0 | 5 | 18 |
| 20:30 | 0 | 0 | 0 | 0 | 0 | 13 |
| 20:45 | 0 | 0 | 0 | 0 | 0 | 8 |
| 21:00 | 0 | 0 | 0 | 0 | 0 | 5 |
| 21:15 | 0 | 0 | 1 | 0 | 1 | 1 |
| 21:30 | 0 | 0 | 1 | 0 | 1 | 2 |
| 21:45 | 0 | 0 | 2 | 2 | 4 | 6 |
| 22:00 | 0 | 0 | 1 | 1 | 2 | 8 |
| 22:15 | 0 | 0 | 2 | 1 | 3 | 10 |
| 22:30 | 0 | 0 | 0 | 2 | 2 | 11 |
| 22:45 | 0 | 0 | 0 | 2 | 2 | 9 |
| 23:00 | 0 | 0 | 0 | 0 | 0 | 7 |
| 23:15 | 0 | 0 | 0 | 0 | 0 | 4 |
| 23:30 | 0 | 0 | 0 | 0 | 0 | 2 |
| 23:45 | 0 | 1 | 0 | 0 | 1 | 1 |
| Total | 42 | 215 | 171 | 164 | | |

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
971-223-0003
www.qualitycounts.net

**Site Code:** 13113010
**Location:** Willow Pl Bike Bridge
**Date:** 10/14/2014

| | Pedestrians | | Bikes | | | |
|---|---|---|---|---|---|---|
| | SB | NB | SB | NB | Interval Total | Hour Total |
| 0:00 | 0 | 0 | 0 | 2 | 2 | |
| 0:15 | 0 | 0 | 0 | 0 | 0 | |
| 0:30 | 0 | 0 | 0 | 0 | 0 | |
| 0:45 | 0 | 0 | 0 | 1 | 1 | 3 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1:30 | 0 | 0 | 0 | 1 | 1 | 2 |
| 1:45 | 0 | 1 | 0 | 0 | 1 | 2 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 1 | 0 | 1 | 1 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5:00 | 0 | 1 | 0 | 0 | 1 | 2 |
| 5:15 | 0 | 0 | 0 | 0 | 0 | 2 |
| 5:30 | 0 | 0 | 1 | 0 | 1 | 2 |
| 5:45 | 2 | 0 | 2 | 0 | 4 | 6 |
| 6:00 | 1 | 0 | 5 | 0 | 6 | 11 |
| 6:15 | 3 | 3 | 4 | 1 | 11 | 22 |
| 6:30 | 1 | 0 | 2 | 3 | 6 | 27 |
| 6:45 | 1 | 1 | 4 | 2 | 8 | 31 |
| 7:00 | 1 | 1 | 3 | 3 | 8 | 33 |
| 7:15 | 4 | 5 | 7 | 9 | 25 | 47 |
| 7:30 | 2 | 8 | 15 | 5 | 30 | 71 |
| 7:45 | 2 | 3 | 14 | 7 | 26 | 89 |
| 8:00 | 5 | 3 | 18 | 10 | 36 | 117 |
| 8:15 | 0 | 6 | 9 | 10 | 25 | 117 |
| 8:30 | 4 | 2 | 18 | 11 | 35 | 122 |
| 8:45 | 8 | 6 | 22 | 4 | 40 | 136 |
| 9:00 | 10 | 15 | 45 | 16 | 86 | 186 |
| 9:15 | 6 | 3 | 12 | 10 | 31 | 192 |
| 9:30 | 1 | 6 | 23 | 3 | 33 | 190 |
| 9:45 | 5 | 4 | 7 | 5 | 21 | 171 |
| 10:00 | 3 | 1 | 6 | 6 | 16 | 101 |
| 10:15 | 2 | 2 | 11 | 2 | 17 | 87 |
| 10:30 | 5 | 1 | 6 | 0 | 12 | 66 |
| 10:45 | 1 | 5 | 3 | 4 | 13 | 58 |
| 11:00 | 2 | 2 | 5 | 3 | 12 | 54 |
| 11:15 | 5 | 2 | 3 | 1 | 11 | 48 |
| 11:30 | 3 | 4 | 2 | 4 | 13 | 49 |
| 11:45 | 6 | 0 | 1 | 0 | 7 | 43 |

| | Pedestrians | | Bikes | | | |
|---|---|---|---|---|---|---|
| | SB | NB | SB | NB | Interval Total | Hour Total |
| 12:00 | 5 | 5 | 2 | 5 | 17 | 48 |
| 12:15 | 4 | 2 | 5 | 4 | 15 | 52 |
| 12:30 | 2 | 4 | 4 | 4 | 14 | 53 |
| 12:45 | 1 | 8 | 1 | 4 | 14 | 60 |
| 13:00 | 3 | 4 | 2 | 1 | 10 | 53 |
| 13:15 | 1 | 6 | 3 | 2 | 12 | 50 |
| 13:30 | 2 | 4 | 1 | 1 | 8 | 44 |
| 13:45 | 3 | 5 | 3 | 4 | 15 | 45 |
| 14:00 | 1 | 5 | 2 | 2 | 10 | 45 |
| 14:15 | 3 | 0 | 1 | 4 | 8 | 41 |
| 14:30 | 6 | 1 | 1 | 2 | 10 | 43 |
| 14:45 | 1 | 5 | 1 | 3 | 10 | 38 |
| 15:00 | 3 | 1 | 4 | 3 | 11 | 39 |
| 15:15 | 4 | 2 | 4 | 5 | 15 | 46 |
| 15:30 | 4 | 3 | 3 | 8 | 18 | 54 |
| 15:45 | 1 | 4 | 4 | 4 | 13 | 57 |
| 16:00 | 5 | 2 | 8 | 7 | 22 | 68 |
| 16:15 | 2 | 1 | 8 | 5 | 16 | 69 |
| 16:30 | 6 | 7 | 6 | 6 | 25 | 76 |
| 16:45 | 8 | 4 | 3 | 7 | 22 | 85 |
| 17:00 | 3 | 2 | 6 | 9 | 20 | 83 |
| 17:15 | 3 | 1 | 5 | 9 | 18 | 85 |
| 17:30 | 3 | 1 | 8 | 14 | 26 | 86 |
| 17:45 | 4 | 2 | 10 | 16 | 32 | 96 |
| 18:00 | 0 | 2 | 11 | 13 | 26 | 102 |
| 18:15 | 4 | 2 | 6 | 16 | 28 | 112 |
| 18:30 | 4 | 4 | 6 | 16 | 30 | 116 |
| 18:45 | 1 | 5 | 9 | 16 | 31 | 115 |
| 19:00 | 2 | 5 | 3 | 12 | 22 | 111 |
| 19:15 | 1 | 1 | 4 | 9 | 15 | 98 |
| 19:30 | 5 | 1 | 2 | 10 | 18 | 86 |
| 19:45 | 2 | 1 | 3 | 4 | 10 | 65 |
| 20:00 | 1 | 2 | 0 | 2 | 5 | 48 |
| 20:15 | 0 | 1 | 4 | 5 | 10 | 43 |
| 20:30 | 0 | 2 | 3 | 3 | 8 | 33 |
| 20:45 | 0 | 0 | 1 | 3 | 4 | 27 |
| 21:00 | 0 | 3 | 2 | 3 | 8 | 30 |
| 21:15 | 0 | 3 | 0 | 2 | 5 | 25 |
| 21:30 | 0 | 0 | 2 | 2 | 4 | 21 |
| 21:45 | 0 | 1 | 1 | 2 | 4 | 21 |
| 22:00 | 0 | 2 | 0 | 3 | 5 | 18 |
| 22:15 | 0 | 5 | 0 | 2 | 7 | 20 |
| 22:30 | 0 | 0 | 0 | 1 | 1 | 17 |
| 22:45 | 0 | 1 | 2 | 2 | 5 | 18 |
| 23:00 | 0 | 0 | 0 | 1 | 1 | 14 |
| 23:15 | 0 | 0 | 0 | 1 | 1 | 8 |
| 23:30 | 1 | 1 | 0 | 0 | 2 | 9 |
| 23:45 | 0 | 1 | 0 | 1 | 2 | 6 |
| Total | 182 | 207 | 403 | 381 | | |

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
971-223-0003
www.qualitycounts.net

**Site Code:** 13113011
**Location:** San Mateo Bike Bridge
**Date:** 10/21/2014

| | Pedestrians | | Bikes | | | |
|---|---|---|---|---|---|---|
| | NB | SB | NB | SB | Interval Total | Hour Total |
| 0:00 | 0 | 0 | 0 | 0 | 0 | |
| 0:15 | 0 | 0 | 0 | 0 | 0 | |
| 0:30 | 0 | 0 | 0 | 0 | 0 | |
| 0:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 1 | 1 | 2 | 2 |
| 5:15 | 0 | 0 | 0 | 0 | 0 | 2 |
| 5:30 | 0 | 0 | 3 | 1 | 4 | 6 |
| 5:45 | 0 | 0 | 0 | 0 | 0 | 6 |
| 6:00 | 0 | 0 | 1 | 0 | 1 | 5 |
| 6:15 | 0 | 0 | 1 | 2 | 3 | 8 |
| 6:30 | 1 | 1 | 0 | 0 | 2 | 6 |
| 6:45 | 0 | 0 | 2 | 3 | 5 | 11 |
| 7:00 | 0 | 0 | 1 | 1 | 2 | 12 |
| 7:15 | 0 | 1 | 2 | 1 | 4 | 13 |
| 7:30 | 0 | 0 | 1 | 0 | 1 | 12 |
| 7:45 | 0 | 1 | 6 | 1 | 8 | 15 |
| 8:00 | 0 | 0 | 8 | 0 | 8 | 21 |
| 8:15 | 0 | 0 | 3 | 3 | 6 | 23 |
| 8:30 | 0 | 0 | 5 | 1 | 6 | 28 |
| 8:45 | 0 | 1 | 5 | 1 | 7 | 27 |
| 9:00 | 0 | 0 | 2 | 0 | 2 | 21 |
| 9:15 | 1 | 2 | 5 | 2 | 10 | 25 |
| 9:30 | 0 | 0 | 7 | 0 | 7 | 26 |
| 9:45 | 2 | 0 | 3 | 1 | 6 | 25 |
| 10:00 | 0 | 0 | 2 | 0 | 2 | 25 |
| 10:15 | 0 | 2 | 1 | 1 | 4 | 19 |
| 10:30 | 0 | 0 | 0 | 0 | 0 | 12 |
| 10:45 | 0 | 0 | 2 | 0 | 2 | 8 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 6 |
| 11:15 | 0 | 0 | 2 | 0 | 2 | 4 |
| 11:30 | 0 | 0 | 1 | 0 | 1 | 5 |
| 11:45 | 0 | 0 | 0 | 0 | 0 | 3 |

| | Pedestrians | | Bikes | | | |
|---|---|---|---|---|---|---|
| | NB | SB | NB | SB | Interval Total | Hour Total |
| 12:00 | 1 | 0 | 0 | 0 | 1 | 4 |
| 12:15 | 0 | 0 | 0 | 0 | 0 | 2 |
| 12:30 | 0 | 0 | 0 | 1 | 1 | 2 |
| 12:45 | 1 | 0 | 0 | 2 | 3 | 5 |
| 13:00 | 0 | 0 | 0 | 0 | 0 | 4 |
| 13:15 | 2 | 0 | 2 | 0 | 4 | 8 |
| 13:30 | 0 | 0 | 0 | 0 | 0 | 7 |
| 13:45 | 0 | 2 | 0 | 0 | 2 | 6 |
| 14:00 | 0 | 0 | 0 | 0 | 0 | 6 |
| 14:15 | 0 | 0 | 0 | 0 | 0 | 2 |
| 14:30 | 0 | 0 | 0 | 0 | 0 | 2 |
| 14:45 | 0 | 1 | 0 | 1 | 2 | 2 |
| 15:00 | 0 | 0 | 1 | 2 | 3 | 5 |
| 15:15 | 0 | 0 | 0 | 0 | 0 | 5 |
| 15:30 | 0 | 0 | 0 | 1 | 1 | 6 |
| 15:45 | 0 | 0 | 0 | 1 | 1 | 5 |
| 16:00 | 0 | 2 | 0 | 0 | 2 | 4 |
| 16:15 | 2 | 0 | 0 | 2 | 4 | 8 |
| 16:30 | 0 | 0 | 2 | 1 | 3 | 10 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 9 |
| 17:00 | 0 | 0 | 1 | 1 | 2 | 9 |
| 17:15 | 0 | 0 | 3 | 5 | 8 | 13 |
| 17:30 | 0 | 0 | 0 | 9 | 9 | 19 |
| 17:45 | 0 | 0 | 3 | 10 | 13 | 32 |
| 18:00 | 0 | 1 | 0 | 3 | 4 | 34 |
| 18:15 | 0 | 0 | 4 | 5 | 9 | 35 |
| 18:30 | 0 | 1 | 0 | 4 | 5 | 31 |
| 18:45 | 2 | 0 | 0 | 2 | 4 | 22 |
| 19:00 | 0 | 0 | 1 | 3 | 4 | 22 |
| 19:15 | 0 | 0 | 0 | 2 | 2 | 15 |
| 19:30 | 0 | 0 | 0 | 0 | 0 | 10 |
| 19:45 | 0 | 0 | 0 | 0 | 0 | 6 |
| 20:00 | 0 | 0 | 0 | 1 | 1 | 3 |
| 20:15 | 1 | 0 | 0 | 1 | 2 | 3 |
| 20:30 | 0 | 0 | 1 | 0 | 1 | 4 |
| 20:45 | 0 | 0 | 0 | 0 | 0 | 4 |
| 21:00 | 0 | 0 | 0 | 0 | 0 | 3 |
| 21:15 | 0 | 0 | 0 | 0 | 0 | 1 |
| 21:30 | 0 | 1 | 0 | 0 | 1 | 1 |
| 21:45 | 0 | 0 | 0 | 1 | 1 | 2 |
| 22:00 | 0 | 0 | 0 | 0 | 0 | 2 |
| 22:15 | 0 | 0 | 0 | 0 | 0 | 2 |
| 22:30 | 0 | 0 | 0 | 0 | 0 | 1 |
| 22:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 13 | 16 | 82 | 77 | | |

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
971-223-0003
www.qualitycounts.net

**Site Code:** 13113012
**Location:** Alma St Bike Bridge
**Date:** 10/14/2014

| | Pedestrians | | Bikes | | | |
|---|---|---|---|---|---|---|
| | SB | NB | SB | NB | Interval Total | Hour Total |
| 0:00 | 0 | 0 | 0 | 2 | 2 | |
| 0:15 | 0 | 0 | 0 | 1 | 1 | |
| 0:30 | 0 | 1 | 0 | 1 | 2 | |
| 0:45 | 1 | 1 | 0 | 0 | 2 | 7 |
| 1:00 | 0 | 0 | 0 | 1 | 1 | 6 |
| 1:15 | 0 | 0 | 0 | 0 | 0 | 5 |
| 1:30 | 0 | 0 | 0 | 0 | 0 | 3 |
| 1:45 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 2 | 0 | 2 | 2 |
| 5:30 | 1 | 2 | 0 | 1 | 4 | 6 |
| 5:45 | 1 | 0 | 2 | 0 | 3 | 9 |
| 6:00 | 2 | 3 | 2 | 0 | 7 | 16 |
| 6:15 | 14 | 3 | 4 | 1 | 22 | 36 |
| 6:30 | 1 | 0 | 0 | 0 | 1 | 33 |
| 6:45 | 5 | 4 | 5 | 2 | 16 | 46 |
| 7:00 | 3 | 2 | 2 | 2 | 9 | 48 |
| 7:15 | 7 | 0 | 2 | 7 | 16 | 42 |
| 7:30 | 4 | 4 | 7 | 7 | 22 | 63 |
| 7:45 | 9 | 2 | 7 | 5 | 23 | 70 |
| 8:00 | 3 | 7 | 10 | 0 | 20 | 81 |
| 8:15 | 7 | 3 | 9 | 3 | 22 | 87 |
| 8:30 | 6 | 6 | 14 | 6 | 32 | 97 |
| 8:45 | 1 | 1 | 14 | 7 | 23 | 97 |
| 9:00 | 9 | 2 | 16 | 3 | 30 | 107 |
| 9:15 | 1 | 4 | 6 | 5 | 16 | 101 |
| 9:30 | 10 | 1 | 10 | 5 | 26 | 95 |
| 9:45 | 2 | 1 | 10 | 9 | 22 | 94 |
| 10:00 | 6 | 0 | 11 | 1 | 18 | 82 |
| 10:15 | 6 | 0 | 4 | 3 | 13 | 79 |
| 10:30 | 2 | 1 | 5 | 4 | 12 | 65 |
| 10:45 | 4 | 1 | 4 | 0 | 9 | 52 |
| 11:00 | 1 | 4 | 2 | 1 | 8 | 42 |
| 11:15 | 4 | 1 | 1 | 2 | 8 | 37 |
| 11:30 | 8 | 6 | 3 | 2 | 19 | 44 |
| 11:45 | 4 | 1 | 3 | 2 | 10 | 45 |

| | Pedestrians | | Bikes | | | |
|---|---|---|---|---|---|---|
| | SB | NB | SB | NB | Interval Total | Hour Total |
| 12:00 | 3 | 3 | 1 | 5 | 12 | 49 |
| 12:15 | 3 | 0 | 2 | 3 | 8 | 49 |
| 12:30 | 2 | 7 | 2 | 4 | 15 | 45 |
| 12:45 | 4 | 4 | 4 | 1 | 13 | 48 |
| 13:00 | 1 | 1 | 1 | 0 | 3 | 39 |
| 13:15 | 4 | 3 | 5 | 2 | 14 | 45 |
| 13:30 | 2 | 4 | 6 | 3 | 15 | 45 |
| 13:45 | 1 | 2 | 4 | 2 | 9 | 41 |
| 14:00 | 2 | 3 | 1 | 4 | 10 | 48 |
| 14:15 | 2 | 1 | 1 | 2 | 6 | 40 |
| 14:30 | 1 | 1 | 2 | 7 | 11 | 36 |
| 14:45 | 4 | 0 | 3 | 5 | 12 | 39 |
| 15:00 | 0 | 0 | 3 | 4 | 7 | 36 |
| 15:15 | 0 | 0 | 6 | 2 | 8 | 38 |
| 15:30 | 3 | 1 | 4 | 4 | 12 | 39 |
| 15:45 | 1 | 1 | 0 | 6 | 8 | 35 |
| 16:00 | 4 | 1 | 2 | 6 | 13 | 41 |
| 16:15 | 1 | 4 | 5 | 4 | 14 | 47 |
| 16:30 | 1 | 1 | 6 | 11 | 19 | 54 |
| 16:45 | 1 | 1 | 5 | 13 | 20 | 66 |
| 17:00 | 3 | 3 | 4 | 14 | 24 | 77 |
| 17:15 | 4 | 2 | 3 | 10 | 19 | 82 |
| 17:30 | 4 | 11 | 10 | 10 | 35 | 98 |
| 17:45 | 1 | 7 | 4 | 12 | 24 | 102 |
| 18:00 | 4 | 7 | 7 | 8 | 26 | 104 |
| 18:15 | 4 | 6 | 3 | 19 | 32 | 117 |
| 18:30 | 5 | 7 | 3 | 9 | 24 | 106 |
| 18:45 | 7 | 8 | 3 | 16 | 34 | 116 |
| 19:00 | 5 | 2 | 4 | 5 | 16 | 106 |
| 19:15 | 2 | 3 | 3 | 8 | 16 | 90 |
| 19:30 | 1 | 6 | 2 | 12 | 21 | 87 |
| 19:45 | 0 | 5 | 2 | 1 | 8 | 61 |
| 20:00 | 1 | 3 | 1 | 6 | 11 | 56 |
| 20:15 | 0 | 1 | 0 | 3 | 4 | 44 |
| 20:30 | 2 | 5 | 1 | 3 | 11 | 34 |
| 20:45 | 1 | 2 | 3 | 4 | 10 | 36 |
| 21:00 | 3 | 3 | 4 | 4 | 14 | 39 |
| 21:15 | 3 | 0 | 0 | 1 | 4 | 39 |
| 21:30 | 2 | 1 | 1 | 1 | 5 | 33 |
| 21:45 | 0 | 1 | 1 | 2 | 4 | 27 |
| 22:00 | 1 | 2 | 1 | 0 | 4 | 17 |
| 22:15 | 3 | 0 | 1 | 2 | 6 | 19 |
| 22:30 | 1 | 0 | 0 | 3 | 4 | 18 |
| 22:45 | 0 | 3 | 1 | 1 | 5 | 19 |
| 23:00 | 0 | 0 | 0 | 2 | 2 | 17 |
| 23:15 | 1 | 0 | 1 | 0 | 2 | 13 |
| 23:30 | 0 | 0 | 0 | 1 | 1 | 10 |
| 23:45 | 0 | 1 | 0 | 1 | 2 | 7 |
| Total | 220 | 188 | 281 | 329 | | |